UNIVERSITY OF UTAH
HPER COMPLEX EAST LAB BUILDOUT

REVIEWED FOR FIRE CODE COMPLIANCE
SUBJECT TO FIELD INSPECTION
03/21/2022
Clint Haymond
Universities Deputy Chief
Fire Marshal Division
Environmental
Health and Safety
(801) 585-9122

CONDITIONS OF FIRE APPROVAL:
1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS, UNIVERSITY DESIGN REQUIREMENTS AND/OR STATE STANDARDS.
2. DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH CHAPTER 33 OF THE INTERNATIONAL FIRE CODE AS ADOPTED.

INSPECTION REQUIREMENTS:
1. PERMIT PLANS AND SPECIFICATION SHEETS (FOR NEW EQUIPMENT) ON SITE AND STAMPED BY UTAH STATE FIRE MARSHAL OR UNIVERSITY FIRE MARSHAL.

FIRE APPROVAL CONDITIONS
1. Demolition and Construction shall comply with the requirements in Chapter 33 of the International Fire Code as adopted.
2. Deferred submittals are required for revision or extensions of the following:
- Automatic sprinkler (2016 NFPA 13) or other suppression system (per NFPA standards).
- Fire alarm system per 2016 NFPA 72.
3. Fire Watch will be required during shutdown of any of the fire protection systems. Fire protection shall be placed back in service during all periods of non-work.
4. Inspection and testing of all fire systems is required when revised or modified.

COLLEGE OF HEALTH
UNIVERSITY OF UTAH

Issue Type:
CONSTRUCTION DOCUMENTS

Issue Date:
December 22, 2021

Architect's Project Number:
21-009

University of Utah's Project Number:
22465

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DRAWING INDEX

GENERAL

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PL101	LOWER LEVEL PLUMBING PLANS
PL102	UPPER LEVEL PLUMBING PLANS
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PE602	PLUMBING SCHEDULES - KITCHEN
PE603	PLUMBING SCHEDULES - KITCHEN

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ED101	LEVELS 1 & 2 ELECTRICAL DEMOLITION PLANS
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ET504	TELECOM DETAILS
ET505	TELECOM DETAILS
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UNIVERSITY OF UTAH

UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT
250 S 1850 E
SALT LAKE CITY, UT 84112

STAMP

STATE OF UTAH
JEFFREY D. BAIRD
9142226-0301
12-22-21
LICENSED ARCHITECT

ISSUE TYPE:	DATE:
CONSTRUCTION DOCUMENTS	12/22/21
PROJECT NUMBER:	21-009
DRAWN BY:	AS
CHECKED BY:	JB

COVER SHEET

GI000

BIM 360 LIVE/RS - Exp/Desk/21-009-Lab/RS/GI Cover Ph 2.rvt
3/15/2022 11:42:24 AM

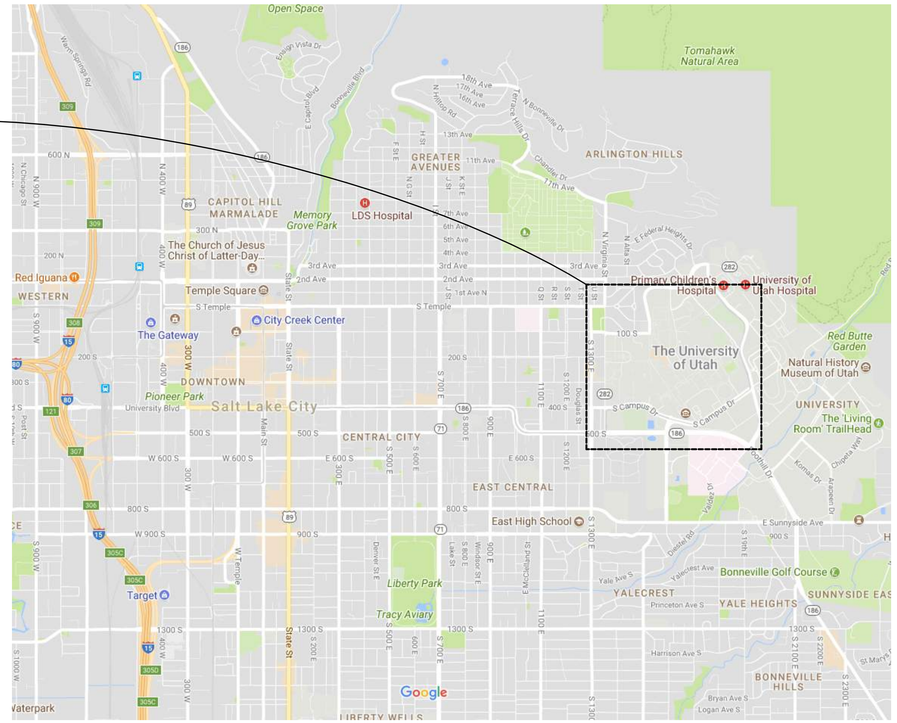
SYMBOLS LEGEND

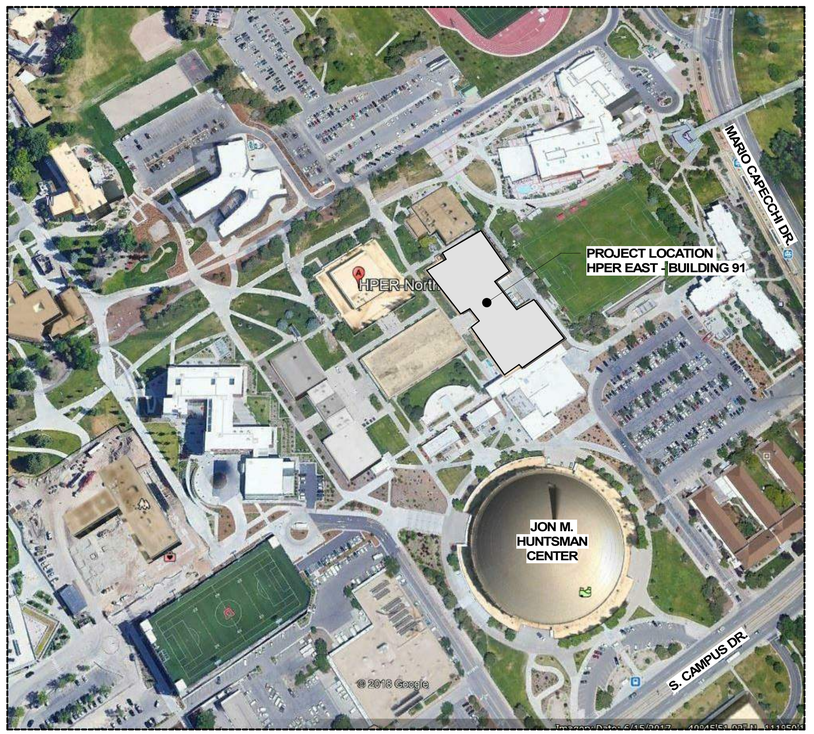
- INTERIOR ELEVATION (1 Ref / 1 Ref AE101 1 Ref / 1 Ref)
- BUILDING ELEVATION (XX / XXXX)
- BUILDING SECTION (XX / XXXX)
- WALL SECTION (XX / XXXX)
- DETAIL CALLOUT (XX / XXXX)
- CALLOUT (XX / XXXX)
- KEYNOTE (?)
- DOOR TAG (XXXX)
- WALL TYPE (XX)
- ROOM TAG (ROOM NAME / XXX)
- GLASS TYPE (A)
- ELEVATION MARKER
- WINDOW TYPE (A2)
- CENTER LINE
- GRID (0)
- NORTH ARROW (N)
- CEILING TYPE (1t / 10' - 0")
- FINISHES (ROOM NAME / XXX / F B W; BASE FINISH, FLOOR FINISH, WALL FINISH)

MATERIAL LEGEND

- CONCRETE
- MASONRY
- STEEL
- BATT INSULATION
- RIGID INSULATION
- FINISH GRADE WOOD / HARDWOOD
- PLYWOOD
- SPRAY FOAM INSULATION
- DEMOLITION, SHOWN VIA HIDDEN LINE
- WOOD STUD

UNIVERSITY OF UTAH CAMPUS





ABBREVIATIONS

A		
	ADJ	ADJUSTABLE
	AFF	ABOVE FINISH FLOOR
	AL.	ALUMINUM
	A.B.	ANCHOR BOLT
	&	AND
	L	ANGLE
	@	AT
B		
	BLKG	BLOCKING
	BLDG	BUILDING
C		
	CAB	CABINET
	CLG	CEILING
	CL	CENTER LINE
	C	CHANNEL
	COL	COLUMN
	CONC	CONCRETE
	CONT	CONTINUOUS
	CMP	CORRUGATED METAL PIPE
	C.P.C.I	CONTRACTOR PROVIDED, CONTRACTOR INSTALLED.
D		
	DIA	DIAMETER
	DBL	DOUBLE
E		
	EA	EACH
	ELEC	ELECTRICAL
	ELEV	ELEVATION
F		
	FEC	FIRE EXTINGUISHER CAB
	FD	FLOOR DRAIN
	FF	FINISH FLOOR
	FTG	FOOTING
	FDN	FOUNDATION
	FS	FINISH
G		
	GI	GALVANIZED IRON
	GA	GAUGE
	GYP BD	GYPSUM BOARD
H		
	HOR	HORIZONTAL
	HM	HOLLOW METAL
	HR	HOUR
I		
	IBC	INTERNATIONAL BUILDING CODE
	ID	INSIDE DIAMETER
	INSUL	INSULATION
J		
	JST	JOIST
L		
	LAV	LAVATORY
M		
	MAT'L	MATERIAL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MIN	MINIMUM
	MISC	MISCELLANEOUS
N		
	NOM	NOMINAL
	NIC	NOT IN CONTRACT
	NO	NUMBER
	#	NUMBER
O		
	O/C	ON CENTER
	O.C.	ON CENTER
	OPNG	OPENING
	OD	OUTSIDE DIAMETER
	OH	OVERHEAD
	O.P.C.I	OWNER PROVIDED, CONTRACTOR INSTALLED
	O.P.O.I	OWNER PROVIDED, OWNER INSTALLED
P		
	PLYWD	PLYWOOD
	PLF	POUNDS PER LINEAL FOOT
	PSF	POUNDS PER SQUARE FOOT
	PSI	POUNDS PER SQUARE INCH
R		
	REINF	REINFORCEMENT
	REQ'D	REQUIRED
S		
	SHT	SHEET
	SHTG	SHEATHING
	SIM	SIMILAR
	SGL	SINGLE
	SC	SOLID CORE
	SPEC	SPECIFICATION
	SQ	SQUARE
	SS	STAINLESS STEEL
	STD	STANDARD
	STG	STORAGE
T		
	TYP	TYPICAL
	T.O.B.	TOP OF BEAM
U		
	U.N.O.	UNLESS NOTED ORTHERWISE
V		
	VER	VERTICAL
W		
	W/	WITH
	WD	WOOD

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DRAWN BY:	AS
CHECKED BY:	JB

VICINITY MAP, SYMBOLS AND LEGENDS

GI002

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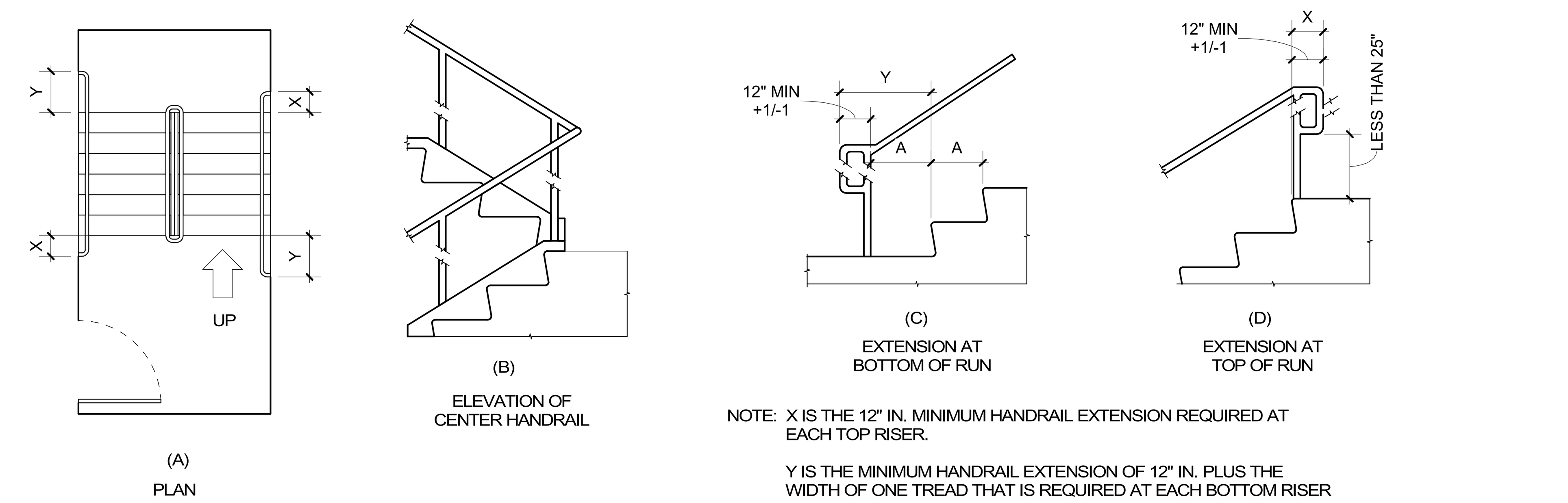
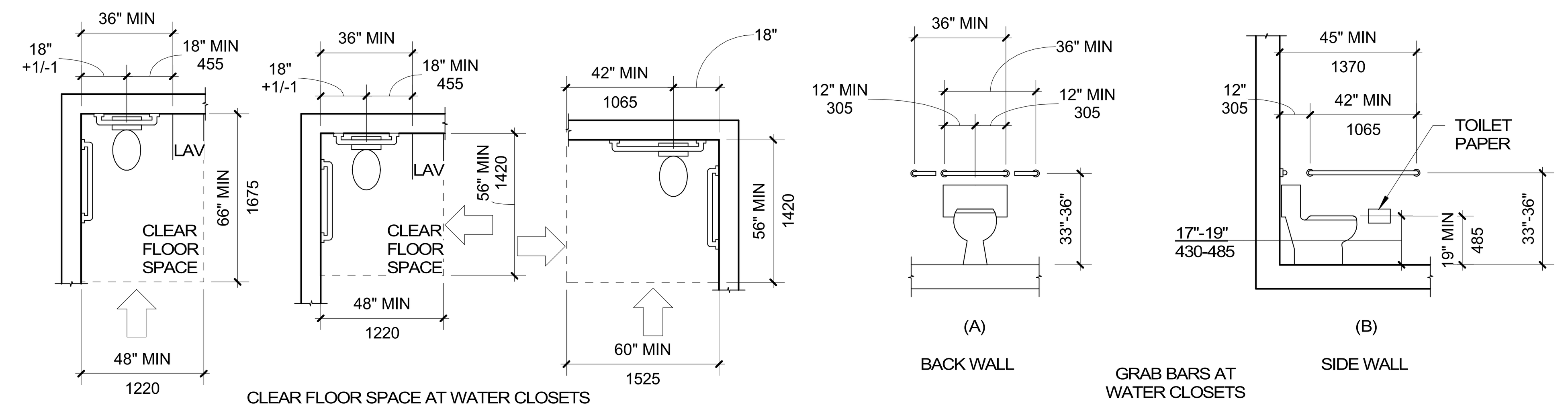


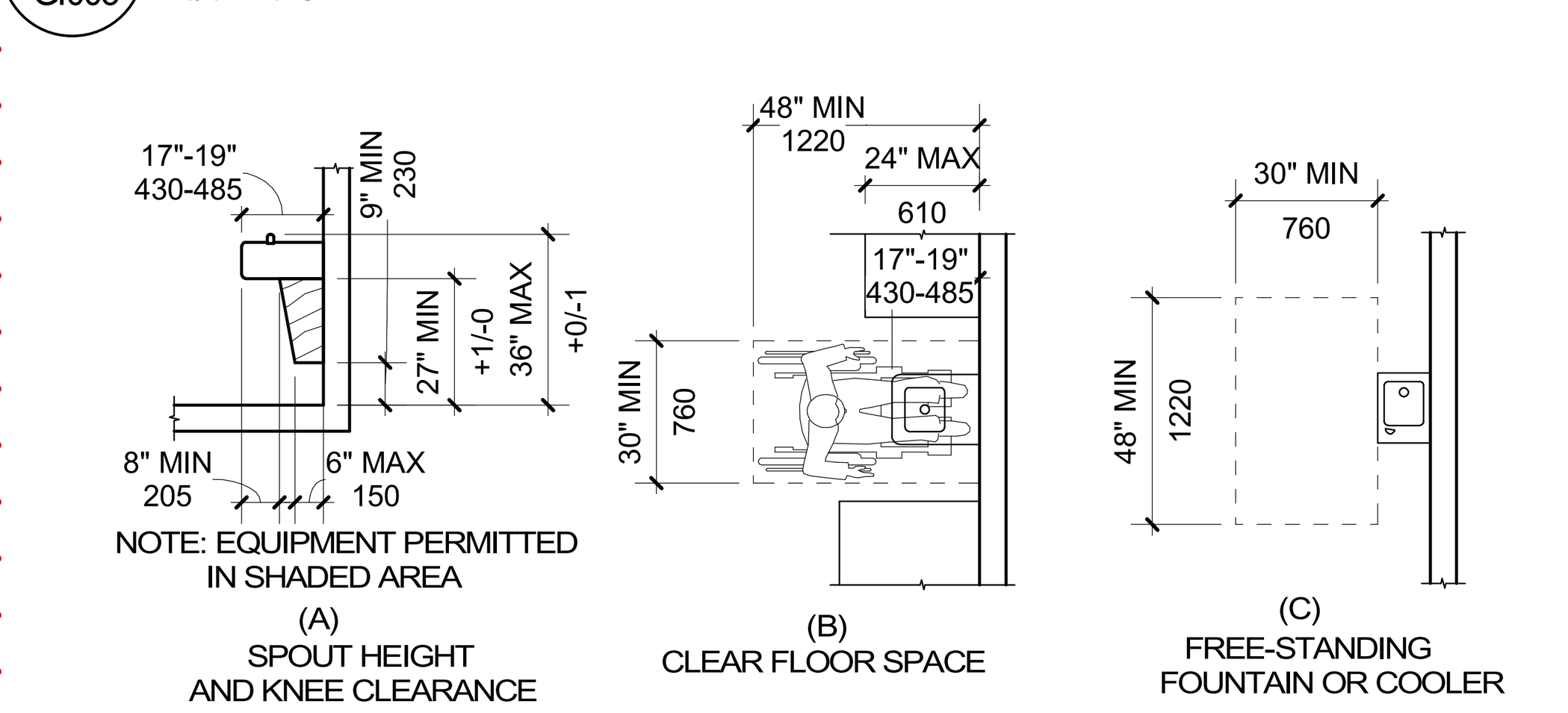
NOTE: X IS THE 12" IN. MINIMUM HANDRAIL EXTENSION REQUIRED AT EACH TOP RISER.

Y IS THE MINIMUM HANDRAIL EXTENSION OF 12" IN. PLUS THE WIDTH OF ONE TREAD THAT IS REQUIRED AT EACH BOTTOM RISER

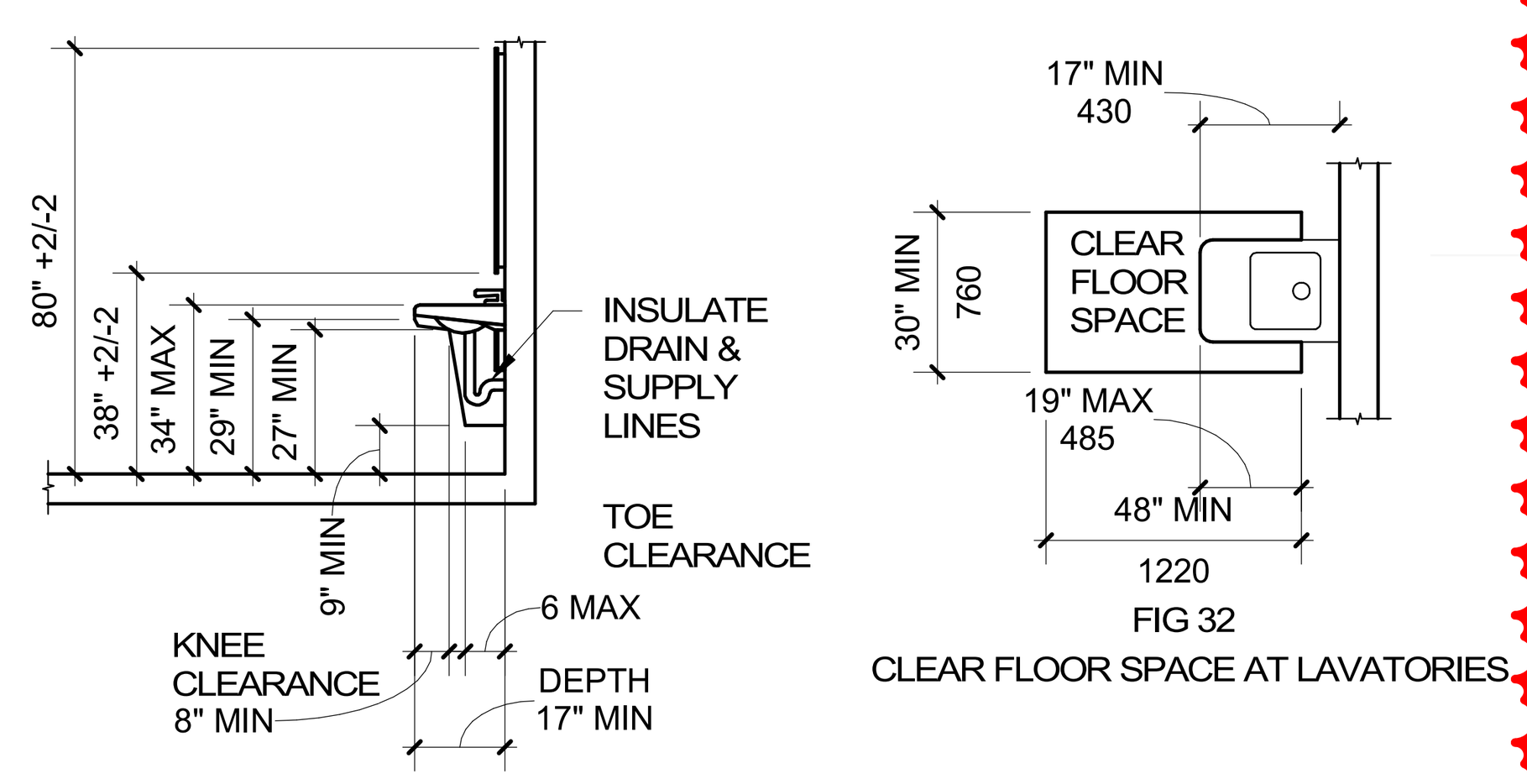
D1 / GI003 HANDRAIL DETAILS
1/4" = 1'-0"



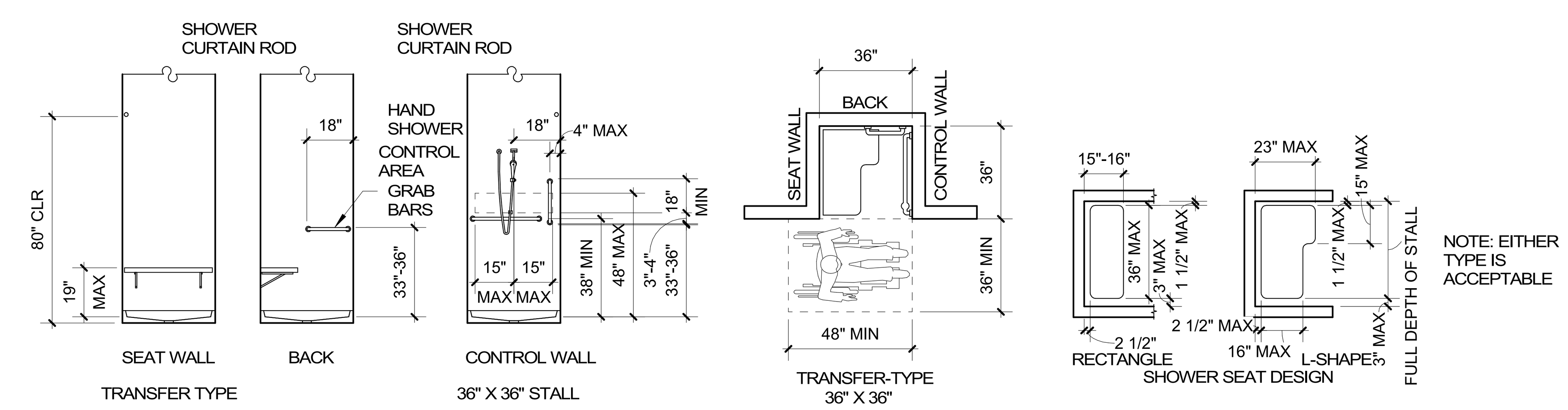
C1 / GI003 ADA TOILET DETAILS
1/4" = 1'-0"



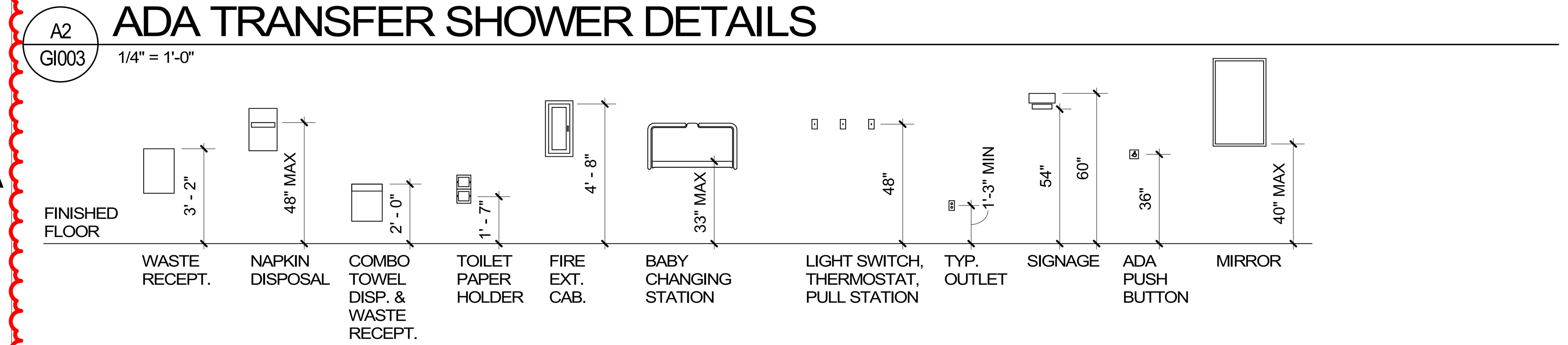
B1 / GI003 ADA DRINKING FOUNTAIN DETAILS
1/4" = 1'-0"



B2 / GI003 ADA LAVATORY DETAILS
1/4" = 1'-0"



A2 / GI003 ADA TRANSFER SHOWER DETAILS
1/4" = 1'-0"



NOTE: ALL WALL MOUNTED ITEAMS REQUIRE SOLID BLOCKING.

A1 / GI003 TYPICAL MOUNTING HEIGHTS
1/4" = 1'-0"

THE UNIVERSITY OF UTAH

CODE ANALYSIS FORM – 2018 INTERNATIONAL BUILDING CODE

BUILDING IDENTIFICATION:	*BUILDING #91 – HPER EAST – INTERIOR LABORATORY REMODEL*
CODE ANALYSIS COMPLETION DATE:	*12/22/2021*

PART 1

APPLICABLE CODE	YEAR	APPLICABLE CODE	YEAR
INTERNATIONAL BUILDING CODE (IBC)	2018	ADA (ADAAG)	2010
INTERNATIONAL EXISTING BUILDING CODE	2018	ICC/ANSI A117.1	2017
INTERNATIONAL FIRE CODE (IFC)	2018	NFPA 101 LIFE SAFETY CODE (STATE)	2018
INTERNATIONAL MECHANICAL CODE (IMC)	2018	NFPA 101 LIFE SAFETY CODE (FEDERAL)	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)	2018	NFPA 99 HEALTH CARE FACILITIES CODE	2018
INTERNATIONAL PLUMBING CODE (IBC)	2018	FGI HEALTH CARE GUIDELINES	2018
NATIONAL ELECTRIC CODE	2020		

PART 2

FLOOR LEVEL	NAME	GROUP	(T601) CONST. TYPE (*1)	AREA (506)*5 TAB. NS (T506.2)	TAB. S1 (T506.2)	Aa (*2)	ACT. FT²	HEIGHT (T504.3) *6 TAB. (T504.3) FT	ACT. FT	STORIES (T504.4) *6 TAB. (T504.4)	ACT.	(508) MIXED USE TYPE (*3)	(508.4.2) *4 AREA RATIO
01	GYMNASIUM	A-3	II-A	-	62,000	77,500	27,118	(E)	N/A	(E)	N/A	SO	0.35
01	CLASSROOM / LAB / OFFICE	B	II-A	-	150,000	187,500	26,692	(E)	N/A	(E)	N/A	NSO	0.14
01	CIRCULATION	B	II-A	-	-	-	3,603	(E)	N/A	(E)	N/A	NSO	-
01	MECHANICAL	IU	II-A	-	-	-	979	(E)	N/A	(E)	N/A	IAO	-
01	STORAGE	S-1	II-A	-	-	-	820	(E)	N/A	(E)	N/A	AO	-
LEVEL 01 TOTAL:		-	II-A	-	212,000	265,000	59,212	-	-	-	-	-	0.22
02	CLASSROOM / LAB / OFFICE	B	II-A	-	150,000	187,500	19,355	(E)	N/A	(E)	N/A	NSO	0.10
02	CIRCULATION	B	II-A	-	-	-	2,950	(E)	N/A	(E)	N/A	NSO	-
02	MECHANICAL	IU	II-A	-	-	-	1,198	(E)	N/A	(E)	N/A	IAO	-
LEVEL 02 TOTAL:		-	II-A	-	150,000	187,500	23,503	-	-	-	-	-	0.13
BUILDING TOTAL (*2):			II-A	-	362,000	452,500	82,715	-	-	-	-	-	0.18 < 1

*(*1) CONSTRUCTION TYPE SHALL BE THE MOST RESTRICTIVE OCCUPANCY REQUIREMENT FOR THE ENTIRE BUILDING (508.3 & 508.4)*
*(*2) AREA- TOTAL BUILDING AREA DEPENDENT ON SINGLE OR MIXED OCCUPANCY BUILDING (506.2.1 THROUGH 506.2.4) & FRONTAGE INCREASE (506.3)*
*(*3) MIXED USE - IAO=INCIDENTAL ACCESSORY OCCUPANCY / AO=ACCESSORY OCCUPANCY / SO=SEPARATED OCCUPANCIES / NSO=NONSEPARATED OCCUPANCIES; GSF= GROSS SQUARE FEET; NSF= NET SQUARE FEET; (E) = EXISTING*
*(*4) IBC SECTION 508.4.2: IN EACH STORY, THE BUILDING AREA SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL BUILDING AREA OF EACH SEPARATED OCCUPANCY DIVIDED BY THE ALLOWABLE BUILDING AREA OF EACH SEPARATED OCCUPANCY SHALL NOT EXCEED 1.*
*(*5) 506.2.4 MIXED-OCCUPANCY, MULTISTORY BUILDINGS MORE THAN 3 STORIES ABOVE GRADE PLAN: TOTAL BUILDING AREA SHALL BE SUCH THAT THE AGGREGATE SUM OF THE RATIOS OF THE ACTUAL AREA OF EACH STORY DIVIDED BY THE ALLOWABLE AREA OF SUCH STORIES SHALL NOT EXCEED THREE FOR NS AND FOUR FOR S.*
*(*6) IBC 504.2 MIXED OCCUPANCY: IN A BUILDING CONTAINING MIXED OCCUPANCIES IN ACCORDANCE WITH SECTION 508, NO INDIVIDUAL OCCUPANCY SHALL EXCEED THE HEIGHT AND NUMBER OF STORY LIMITS SPECIFIED IN THIS SECTION FOR THE APPLICABLE OCCUPANCIES.*

PART 3 - ALLOWABLE AREA DETERMINATION (506.2.1–506.2.4 & 506.3) - *INTERIOR REMODEL – NOT APPLICABLE*

PART 4 - GRADE PLANE ELEVATION & HEIGHT & STORIES (504) - *INTERIOR REMODEL – NOT APPLICABLE*

PART 5 - AUTOMATIC FIRE SPRINKLER (903 & T903.2.11.6)

ITEM	REFERENCE	COMMENTS
REQUIRED	*SEE ABOVE*	*PROVIDED*

PART 6 - OCCUPANCY SEPARATIONS (T508.4)

OCCUPANCY/OCCUPANCY	RATING	IBC/UL DESIGN #
A/B	*1 HR*	*11-1.1*

PART 7 - OTHER BUILDING ELEMENTS (T601 and T602)

ELEMENT	MATERIAL	RATING	IBC/UL DESIGN #
INTERIOR BEARING WALL	*REINFORCED CONCRETE/MASONRY*	*1 HR*	*5-1.1/3-1.4*
INTERIOR NON-BEARING WALL	*MASONRY/METAL STUD & GYP BD*	*1 HR*	*13-1.1/13-1.3*
STRUCTURAL FRAME	*REINFORCED CONCRETE*	*1 HR*	*5-1.1*
EXTERIOR STRUCTURAL FRAME	*REINFORCED CONCRETE*	*1 HR*	*5-1.1*
SHAFT ENCLOSURE A,B	*MASONRY/METAL STUD & GYP BD*	*1 HR*	*3-1.4/11.1.1*
FLOOR / CEILING ASSEMBLY	*CONCRETE DECK ON STEEL TRUSSES*	*1 HR*	*2-1.1*
ROOF / CEILING ASSEMBLY	*CONCRETE DECK ON STEEL TRUSSES*	*1 HR*	*2-1.1*
VERTICAL EXIT ENCLOSURE A,B	*REINFORCED CONCRETE/MASONRY*	*1 HR*	*5-1.1/3-1.4*

A. FIRE-RESISTANCE RATING NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED (713.4) (1023.2).
B. 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE AND 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES, INCLUDING BASEMENTS. (713.4) (1023.2).

PART 8 - EXTERIOR WALL & OPENING PROTECTION (T705.8) - *INTERIOR REMODEL – NOT APPLICABLE*

PART 9 - EXIT REQUIREMENTS

FLOOR LEVEL	ROOM OCCUPANCY GROUPS	AREA	OCCUPANT LOAD FACTOR (T1004.5)	# OF OCCUPANTS (1004)	# OF EXITS PER STORY (1006.3.2)	REQD EGRESS WIDTH (1005)	REQD STAIR WIDTH (1005.3)	REQD AISLE WIDTH (1018, 1029)	COMMON PATH OF TRAVEL DISTANCE (T1006.2.1)	TOTAL TRAVEL DISTANCE (1017)
01	GYMNASIUM	27,118	50	542	-	81.3"	108.4"	42"	75'	250'
01	CLASSROOM / LAB / OFFICE	26,692	150	178	-	26.7"	35.6"	44"	100'	300'
01	CIRCULATION	3,603	150	24	-	3.6"	4.8"	-	-	-
01	MECHANICAL	979	300	3	-	0.45"	0.6"	24"	75'	400'
01	STORAGE	820	300	3	-	0.45"	0.6"	44"	100'	250'
LEVEL 01 TOTAL:		59,212	-	750	3 (3)	112.5"	150"	-	-	-
02	CLASSROOM / LAB / OFFICE	19,355	150	129	-	19.35"	-	44"	100'	300'
02	CIRCULATION	2,950	150	20	-	3.0"	-	-	-	-
02	MECHANICAL	1,198	300	4	-	0.6"	-	24"	75'	400'
LEVEL 02 TOTAL:		23,503	-	153	2 (4)	22.95"	-	-	-	-
BUILDING TOTAL:		82,715	-	903	-	135.45"	-	-	-	-

PART 10 - ADDITIONAL REQUIREMENTS

ACCESSIBLE MEANS OF EGRESS (1009):	*PROVIDED.*
ACCESSIBLE ROUTE (1104 & INTERNATIONAL EXISTING BUILDING CODE):	*PROVIDED. SEE G-SERIES SHEETS.*
SPECIAL OCCUPANCY REQUIREMENTS (CHAPTER 4):	*N/A.*

PLUMBING FIXTURES (T 2902.1)

TOTAL NUMBER OF REQUIRED FIXTURES:

OCCUPANCY	OCC. LOAD	WATER CLOSETS RATIO	MEN	URINALS	RATIO	WOMEN	LAVATORIES RATIO	MEN	WOMEN	DRINKING FOUNTAINS RATIO	TOTAL	SERVICE SINKS
A-3	542	1 PER 125	0.7	1.5	1 PER 65	4.2	1 PER 200	1.4	1.4	1 PER 1000	0.542	1
B	361	1 PER 25 <50	1.0	1.0	1 PER 25 <50	2.0	1 PER 40 <80	2.0	2.0	1 PER 100	3.61	1
		1 PER 50 >50	1.3	1.3	1 PER 50 >50	2.6	1 PER 80 >80	1.3	1.3			
TOTAL REQUIRED			4	4		9		5	5		5	2
TOTAL PROVIDED			7	4		12		8	10		9	2

PART 11 – BUILDING PERFORMANCE PARAMETERS:

REFER TO MECHANICAL COMCHECK, ELECTRICAL COMCHECK & STRUCTURAL CALCULATIONS ATTACHED TO THESE DOCUMENTS.

PART 12 – DEFERRED SUBMITTALS, NONSTRUCTURAL COMPONENTS CHECKLIST & SPECIAL INSPECTIONS LIST:

LIST OF DEFERRED SUBMITTALS

ITEM	DRAWING REFERENCE	SPECIFICATION REFERENCE
FIRE SPRINKLER SYSTEM.		
FIRE ALARM SYSTEM.		
~~*SEISMIC RESTRAINT DESIGNS OF NON-STRUCTURAL COMPONENTS FOR ALL SYSTEMS LISTED*~~		
MECHANICAL EQUIPMENT ANCHORAGE.		
GLASS GUARD RAIL SYSTEM.		

NONSTRUCTURAL COMPONENT CHECKLIST

ITEM DESCRIPTION	NOT REQUIRED	ON CONST DOCUMENTS	DEFERRED SUBMITTAL	COMMENTS
ARCHITECTURAL COMPONENTS				
INTERIOR NONSTRUCTURAL WALLS AND PARTITIONS	☐	☒	☐	
CANTILEVER ELEMENTS (I.E. PARAPETS, ETC)	☐	☐	☐	
EXTERIOR NONSTRUCTURAL WALL ELEMENTS	☒	☐	☐	
VENEER	☒	☐	☐	
PENTHOUSES	☒	☐	☐	
CEILINGS (I.E. SUSPENDED GRID OR HARD-LID)	☐	☒	☐	
CABINETS (I.E. STORAGE CABINETS, EQUIP, ETC)	☐	☒	☐	
ACCESS FLOORS	☒	☐	☐	
STORAGE RACKS	☒	☐	☐	
APPENDAGES & ORNAMENTATIONS	☒	☐	☐	
SIGNS & BILLBOARDS	☒	☐	☐	
MEP COMPONENTS				
FIRE SPRINKLERS	☐	☐	☒	
MECHANICAL EQUIPMENT (I.E. HVAC, FANS, AIR HANDLER, BOILERS, FURNACES, TANKS, CHILLERS, WATER HEATERS, EVAPORATORS, ENGINES, TURBINES, PUMPS, COMPRESSORS, MFR EQUIPMENT, ETC.)	☐	☒	☐	
ELECTRICAL EQUIPMENT (I.E. GENERATORS, BATTERIES, INVERTERS, TRANSFORMERS, MCC, PANEL BOARDS, SWITCH GEARS, CABINETS, ETC.)	☐	☒	☐	
ELEVATOR & ESCALATOR COMPONENTS	☒	☐	☐	
COMMUNICATION EQUIPMENT, COMPUTERS, INSTRUMENTATION, AND CONTROLS	☐	☒	☐	
ROOF-MOUNTED CHIMNEYS STACKS, COOLING & ELECTRICAL TOWERS	☒	☐	☐	
LIGHTING FIXTURES	☐	☒	☐	
VIBRATION ISOLATED COMPONENTS	☒	☐	☐	
PIPING & CONDUIT SYSTEMS	☐	☒	☐	
DUCTWORK INCLUDING IN-LINE COMPONENTS	☐	☒	☐	
CONVEYORS	☒	☐	☐	
CABLE TRAYS	☐	☒	☐	
SEISMIC RESTRAINT DESIGN OF NONSTRUCTURAL MECHANICAL, ELECTRICAL, PLUMBING COMPONENTS	☐	☐	☒	

SPECIAL INSPECTIONS LIST

STEEL (IBC 1705.2)			
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
STRUCTURAL STEEL (1705.2.1)		☒	AISC 360
COLD-FORMED STEEL DECK (1705.2.2)		☒	SDI QA/QC

CONCRETE CONSTRUCTION (1705.3 & T1705.3)			
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
MATERIALS (1705.3.2)			
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.		☒	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3 (IBC 1908.4)
2. REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706;		☒	AWS D1.4 ACI 318: 26.6.4
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		☒	
c. INSPECT ALL OTHER WELDS.	☒		
3. INSPECTION OF ANCHORS CAST IN CONCRETE.		☒	ACI 318: 17.8.2
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	☒		ACI 318: 17.8.2.4
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A		☒	ACI 318: 17.8.2
5. VERIFYING USE OF REQUIRED DESIGN MIX.		☒	ACI 318: CH. 19, 26.4.3, 26.4.4 (IBC 1904.1, 1904.2, 1908.2, 1908.3)
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	☒		ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12 (IBC 1908.10)
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	☒		ACI 318: 26.5 (IBC 1908.6, 1908.7, 1908.8)
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		☒	ACI 318: 26.5.3-26.5.5 (IBC 1908.9)
9. INSPECTION OF PRESTRESSED CONCRETE: a) APPLICATION OF PRESTRESSING FORCES. b) GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM.	☒		ACI 318: 26.10
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.		☒	ACI 318: CH. 26.9
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		☒	ACI 318: 26.11.2
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		☒	ACI 318: 26.11.1.2(B)

MISCELLANEOUS AREAS (THESE AREAS ARE RECOMMENDED BY ARCHITECT/ENGINEER AND APPROVED BY UNIVERSITY OF UTAH BUILDING OFFICIAL)			
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
SUSPENDED CEILING GRID CLIPS	☐	☒	
SUSPENDED CEILING WIRE SPACING (SEISMIC)	☐	☒	
REINFORCEMENT FOR INTERIOR SLAB ON GRADE (SPECIFY LOCATIONS AND FREQUENCY)	☐	☒	
CONCRETE TESTING FOR INTERIOR SLAB ON GRADE (SPECIFY LOCATIONS AND FREQUENCY)	☐	☒	
SEISMIC SUPPORTS FOR DUCT WORK AND SEALING OF JOINTS FOR DUCT WORK	☐	☒	
SEISMIC SUPPORTS FOR ELECTRICAL RACEWAYS, CABLE TRAYS AND LIGHTS	☐	☒	
SEISMIC SUPPORTS FOR PLUMBING LINES INCLUDING GAS, WATER, STEAM AND CONDENSATION	☐	☒	
SEISMIC BRACING FOR MECHANICAL UNITS BOTH ON SLAB AND SUSPENDED	☐	☒	

SPECIAL INSPECTORS SHALL:

- BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO PERFORMING ANY DUTIES;
- PROVIDE PROOF OF LICENSURE AS A SPECIAL INSPECTOR BY THE STATE OF UTAH FOR EACH TYPE OF INSPECTION;
- INSPECTION REPORTS ARE TO MEET THE REQUIREMENTS OF IBC 1704.2.4 AND UNIVERSITY OF UTAH STANDARDS;
- INSPECTION REPORTS ARE TO BE SUBMITTED TO THE CODE CONSULTANT, ARCHITECT, PROJECT MANAGER, AND THE UNIVERSITY OF UTAH BUILDING OFFICIAL WITHIN 48 HRS. OF INSPECTIONS;
- A FINAL INSPECTION REPORT SHALL BE SUBMITTED FOLLOWING COMPLETION OF THE PROJECT DOCUMENTING THE TYPES OF SPECIAL INSPECTIONS PERFORMED AND A STATEMENT INDICATING THAT THE STRUCTURE IS IN COMPLIANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE CODES. IBC 1704.2.4

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9142226-0301
12-22-21
LICENSED ARCHITECT

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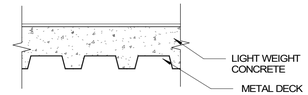
1	CODE REVIEW	3/3/2022

PROJECT NUMBER:	21-009
DRAWN BY:	AS
CHECKED BY:	JB

CODE ANALYSIS

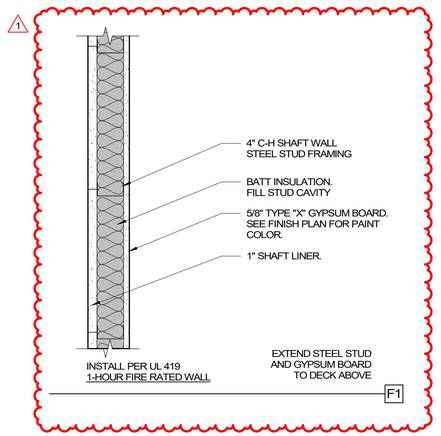
GI003



REFER TO STRUCTURAL DRAWINGS

F1

FLOOR TYPES
1 1/2" = 1'-0"



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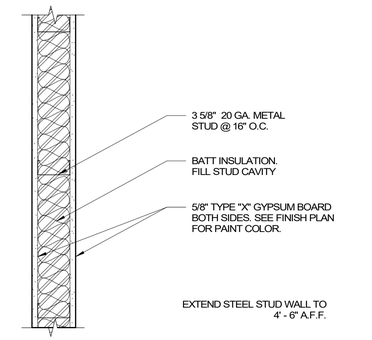

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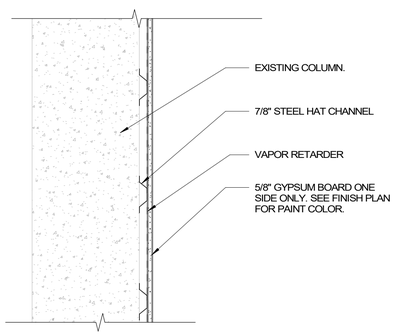

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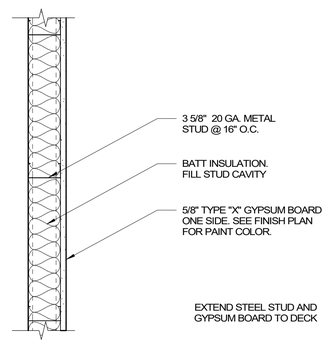

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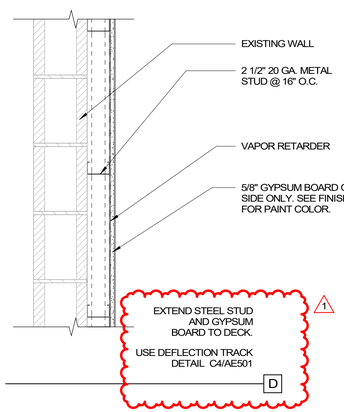

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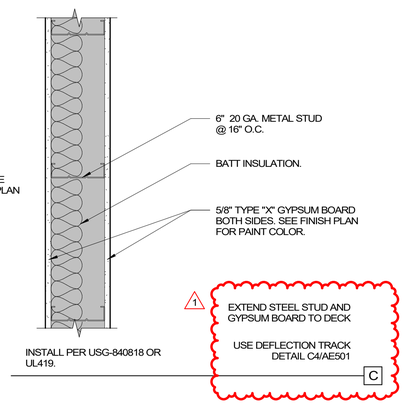

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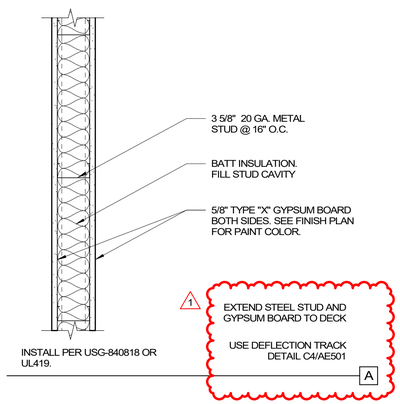

A

WALL TYPES
1 1/2" = 1'-0"

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WALL TYPES

GI010

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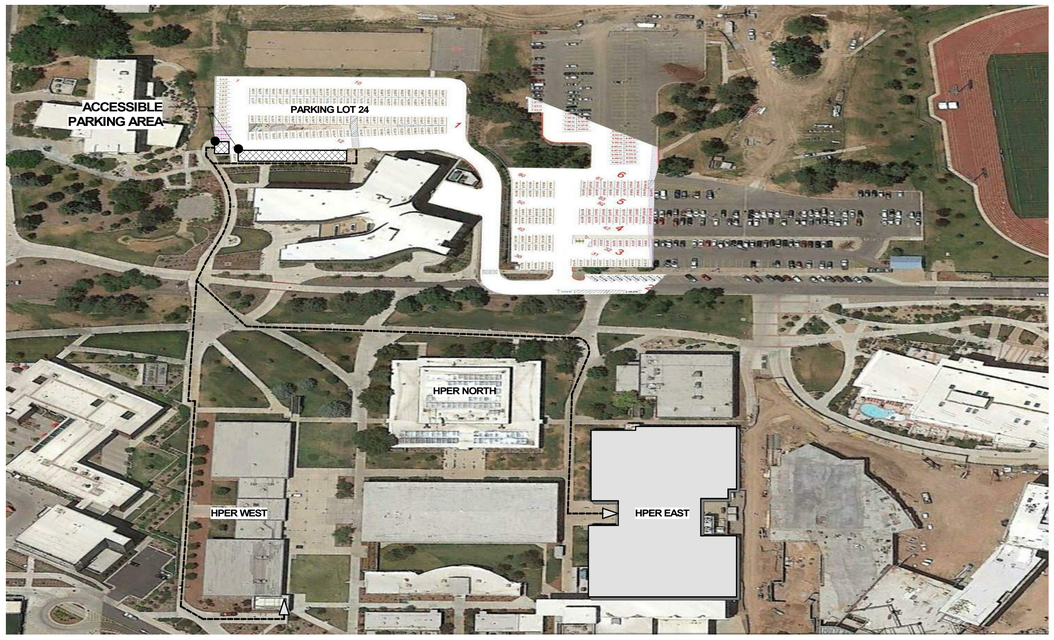
BUILDING REMODEL LOCATION
ACCESSIBLE PATH
ACCESSIBLE PARKING AREA



BUILDING REMODEL LOCATION
ACCESSIBLE PATH
ACCESSIBLE PARKING AREA



A2
GI100
ADA PARKING ACCESS PLAN
12" = 1'-0"

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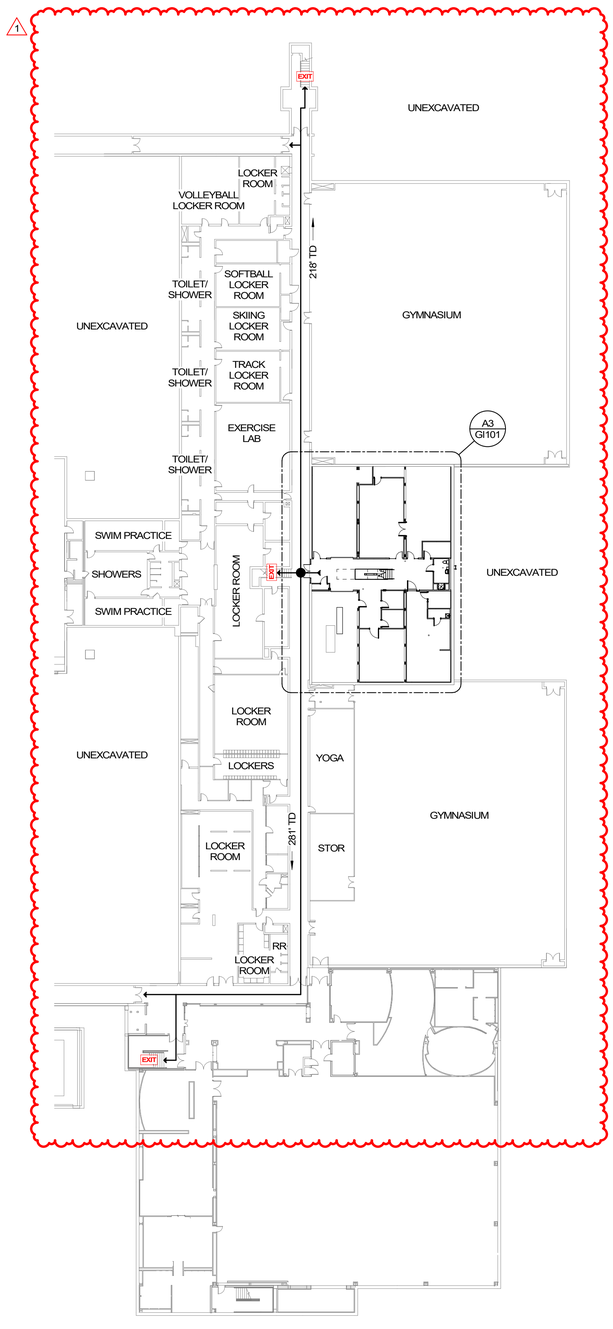
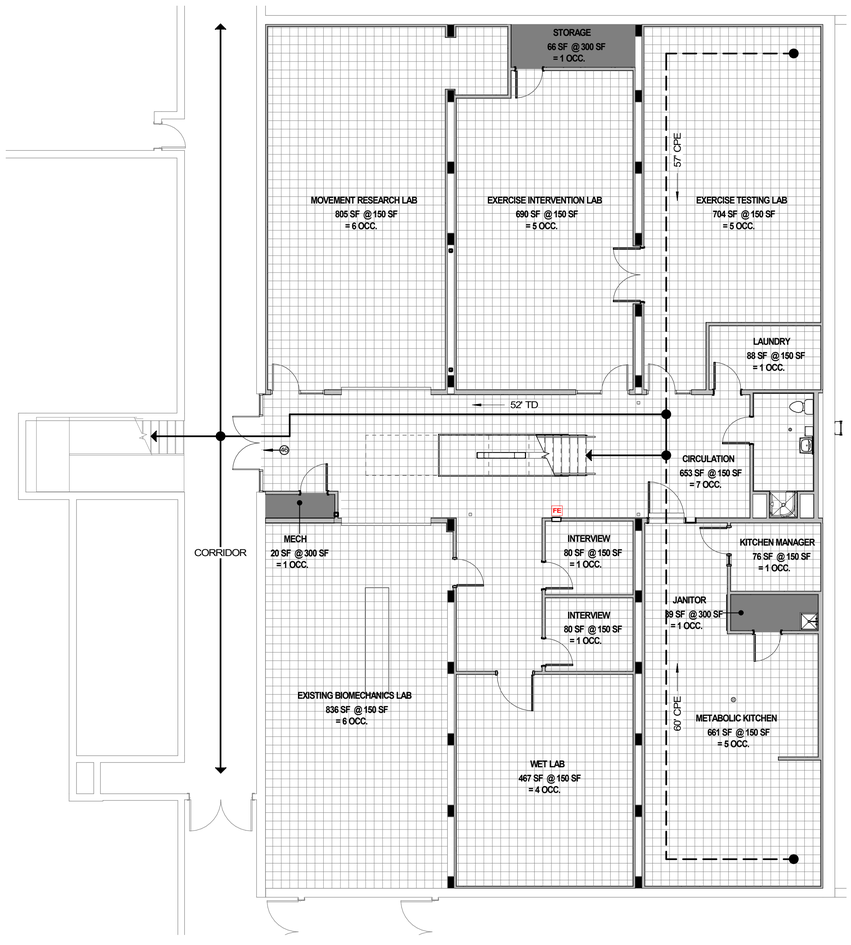
PARKING PLAN

GI100



A1 GI101 LEVEL 01 OVERALL CODE PLAN

1/32" = 1'-0"



A3 GI101 LEVEL 01 CODE PLAN

1/8" = 1'-0"

GENERAL NOTES - CODE PLANS

1

- THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED TO A LEVEL OF NOT LESS THAN ONE FOOT-CANDLE AT THE WALKING SURFACE AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED PER IBC SECTIONS 1008.1, 1008.2.

KEYNOTES

GRAPHIC LEGEND

15 OCCUPANT LOAD FACTOR
(ASSEMBLY UNCONCENTRATED)

150 OCCUPANT LOAD FACTOR
(BUSINESS AREAS)

300 OCCUPANT LOAD FACTOR
(ACCESSORY STORAGE)

FIRE EXTINGUISHER — FE

EXIT SIGNAGE

COMMON PATH OF EGRESS (CPE) — CPE

TRAVEL DISTANCE (TD) — TD

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LOWER LEVEL CODE PLAN

GI101

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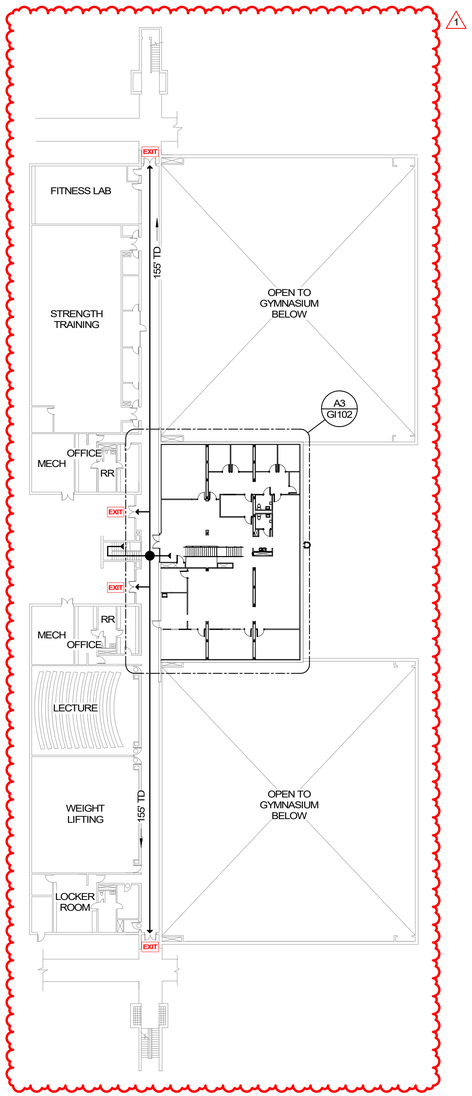
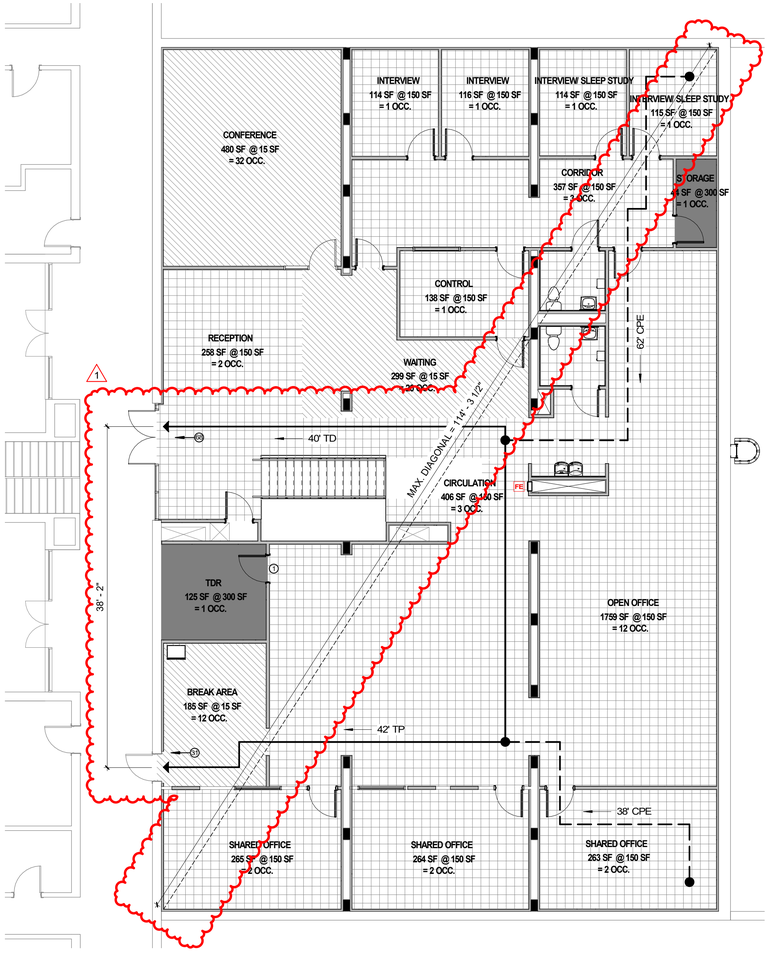


A1 GI102 LEVEL 02 OVERALL CODE PLAN

1/32" = 1'-0"



A3 GI102 LEVEL 02 CODE PLAN

1/8" = 1'-0"

GENERAL NOTES - CODE PLANS

1

- THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED TO A LEVEL OF NOT LESS THAN ONE FOOT-CANDLE AT THE WALKING SURFACE AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED PER IBC SECTIONS 1008.1, 1008.2.

KEYNOTES

GRAPHIC LEGEND

15 OCCUPANT LOAD FACTOR (ASSEMBLY UNCONCENTRATED)	
150 OCCUPANT LOAD FACTOR (BUSINESS AREAS)	
300 OCCUPANT LOAD FACTOR (ACCESSORY STORAGE)	
FIRE EXTINGUISHER	FE
EXIT SIGNAGE	
COMMON PATH OF EGRESS (CPE)	CPE
TRAVEL DISTANCE (TD)	TD

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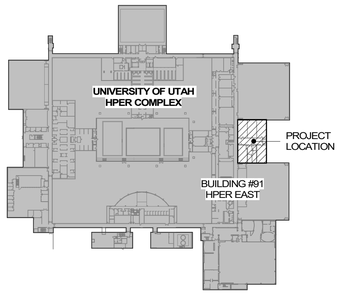
UPPER LEVEL CODE PLAN

GI102

KEY PLAN



DEMOLITION NOTES & LEGEND

- 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.

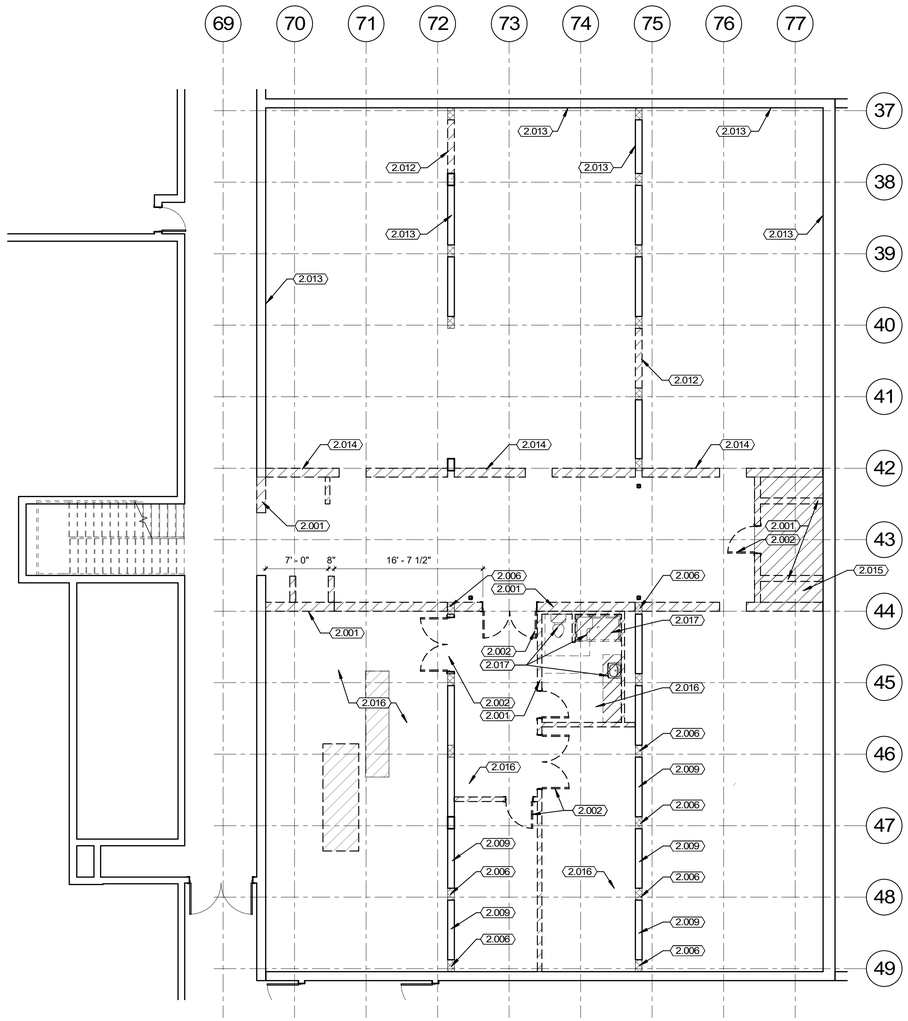
WALL TO REMAIN	
WALL TO BE DEMOLISHED	
COLUMN TO REMAIN	
PORTION OF SLAB TO BE DEMOLISHED	
DEMOLISH FLOOR FINISHES	

KEYNOTES

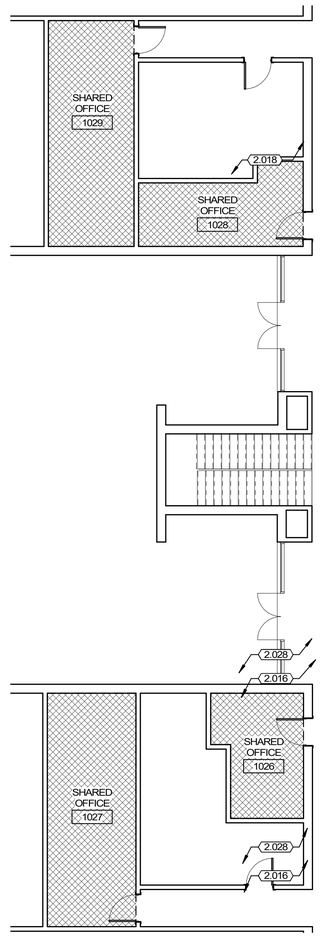
2.001	EXISTING WALL TO BE DEMOLISHED.
2.002	EXISTING DOOR AND FRAME TO BE DEMOLISHED.
2.006	EXISTING COLUMN TO REMAIN. PROTECT AND BRACE DURING DEMOLITION OF SURROUNDING WALL.
2.008	EXISTING OPENING TO REMAIN.
2.009	EXISTING WALL TO REMAIN.
2.012	REMOVE & DISPOSE OF EXISTING MASONRY WALL INFILL BETWEEN COLUMNS.
2.013	REMOVE & DISPOSE OF REMAINING RACKETBALL WALL PANELING AT ALL INTERIOR WALL FACES, TYP.
2.014	REMOVE & DISPOSE OF EXISTING MASONRY WALL.
2.015	REMOVE & DISPOSE OF EXISTING FLOOR SLAB TO EXTENTS SHOWN.
2.016	REMOVE & DISPOSE OF EXISITNG FLOORING & PREPARE SLAB FOR NEW FLOORING.
2.017	REMOVE & DISPOSE OF EXISTING PLUMBING FIXTURE. CAP LINE BELOW SLAB & REPAIR AS REQUIRED. COORDINATE W/ PLUMBING.
2.018	REMOVE & DISPOSE OF REMAINING RACKETBALL CEILING ABOVE.
2.019	REMOVE & DISPOSE OF ALL REMAINING RACKETBALL WALL PANELING AT ALL INTERIOR WALL FACES, TYP.
2.020	REMOVE & DISPOSE OF EXISTING SIDE PARTING DOOR, TRACK & SOFFIT ABOVE. NOTIFY DESIGN TEAM OF REMAINING DOOR SUPPORT STRUCTURE & COORDINATE TO DETERMINE EXTENTS OF REMOVAL.
2.024	REMOVE SLAB TO EXTENTS SHOWN. COORDINATE W/ STRUCTURAL.
2.025	DASHED LINE INDICATES CEILING ABOVE.
2.026	REMOVE & DISPOSE OF EXISTING MILLWORK.
2.027	REMOVE & DISPOSE OF EXISTING WINDOW.
2.028	REMOVE & DISPOSE OF EXISTING CEILING GRID, ACOUSTICAL CEILING TILES AND ASSOCIATED FIXTURES, GRILLES & DEVICES ABOVE. COORDINATE W/ MECHANICAL & ELECTRICAL.

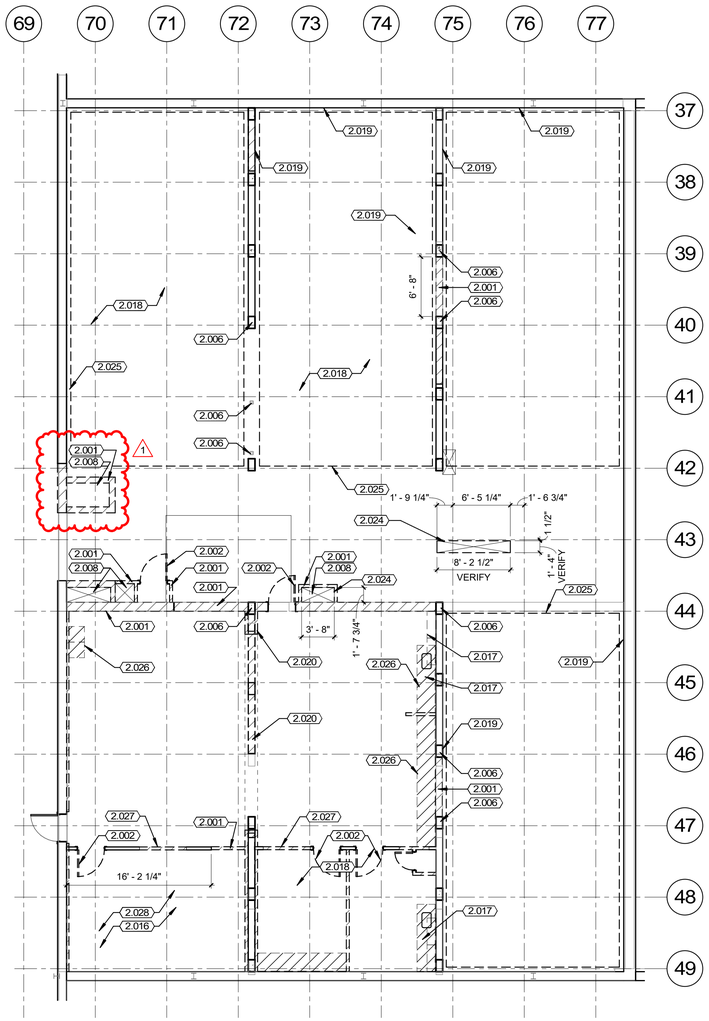
GENERAL NOTES

- 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.GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT OT THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS OR CONFLICT IN THE DRAWINGS BEFORE BEGINNING WORK.
- DO NOT SCALE DRAWINGS
- PATCH & REPAIR EXISTING FLOOR WHERE DAMAGED BY CONSTRUCTION.
- PROTECT ALL EXSITING ITEMS TO REMAIN DURING CONSTRUCTION.
- CONTRACTORS SHALL FIELD VERIFY LOCATION OF ALL FIRE EXTINGUISHERS WITHIN 75 FEET OF THE AREA OF CONSTRUCTION. NOTIFY ARCHITECT IF FIRE EXTINGUISHERS ARE MISSING OR FAIL TO COVER MINIMUM TRAVEL DISTANCE OR HAVE AN EXPIRED DATE.
- PATCH AND REPAIR EXISTING WALLS WHERE DAMAGED BY CONSTRUCTION.
- GRIND FLUSH THE TRANSITION BETWEEN EXISTING FLOOR AND INSTALLED CONCRETE FLOORS.



A1 AD101 LEVEL 1 DEMOLITION PLAN
1/8" = 1'-0"





A3 AD101 LEVEL 2 DEMOLITION PLAN
1/8" = 1'-0"

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DEMO FLOOR PLANS

AD101

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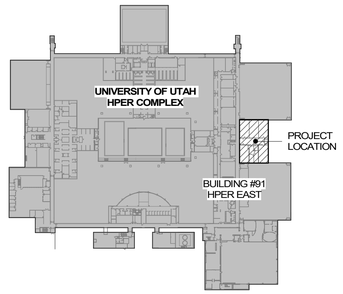
KEY PLAN



KEYNOTES

2.006	EXISTING COLUMN TO REMAIN. PROTECT AND BRACE DURING DEMOLITION OF SURROUNDING WALL.
2.021	REPAIR FLOOR SLAB WHERE DAMAGED BY MASONRY DEMOLITION.
2.022	THICKSET TILE BED OVER NEW 4" CONCRETE SLAB ON GRADE. SLOPE TO DRAIN @ 1/8" PER 1'-0".
2.023	THICKSET MORTAR BED OVER CONCRETE TOPPING SLAB. SLOPE TO DRAIN @ 1/8" PER 1'-0".
2.029	EXISTING SLAB OPENING.
3.001	INFILL CONCRETE AND RAISE LEVEL TO MATCH ADJACENT CONCRETE SLAB LEVEL FOR FLUSH TRANSITION.
3.002	REMOVE & DISPOSE OF EXISTING PIT SLAB. INFILL REMAINING OPENING WITH NEW CONCRETE SLAB-ON-GRADE.
3.003	SAWCUT NEW PIT OPENING. OVERCUT OPENING AS NECESSARY & POUR NEW SLAB-ON-GRADE FOR PIT AT 4.5" BELOW T.O. EXISTING SLAB.
3.004	GRIND EXISTING CONCRETE SLAB DOWN TO DATUM OF SLAB EDGE AT PERIMETER OF NEW PIT.
3.005	POUR NEW SELF-LEVELING COMPOUND TO RAISE SLAB LEVEL TO DATUM OF SLAB EDGE AT PERIMETER OF NEW PIT.
3.006	SAWCUT NEW OPENING IN SUSPENDED SLAB. COORDINATE WITH STRUCTURAL.
5.002	STRUCTURAL STEEL COLUMN.
5.003	STEEL STAIR STRINGER.

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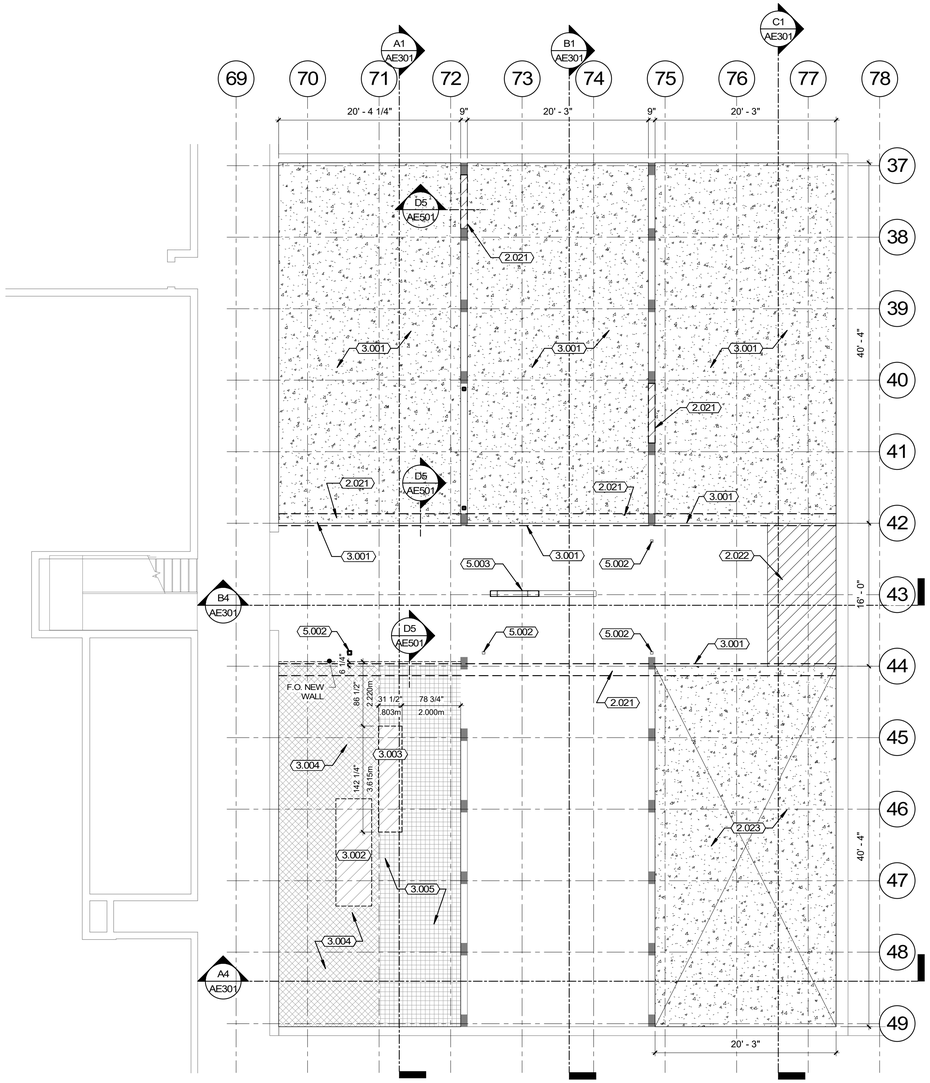
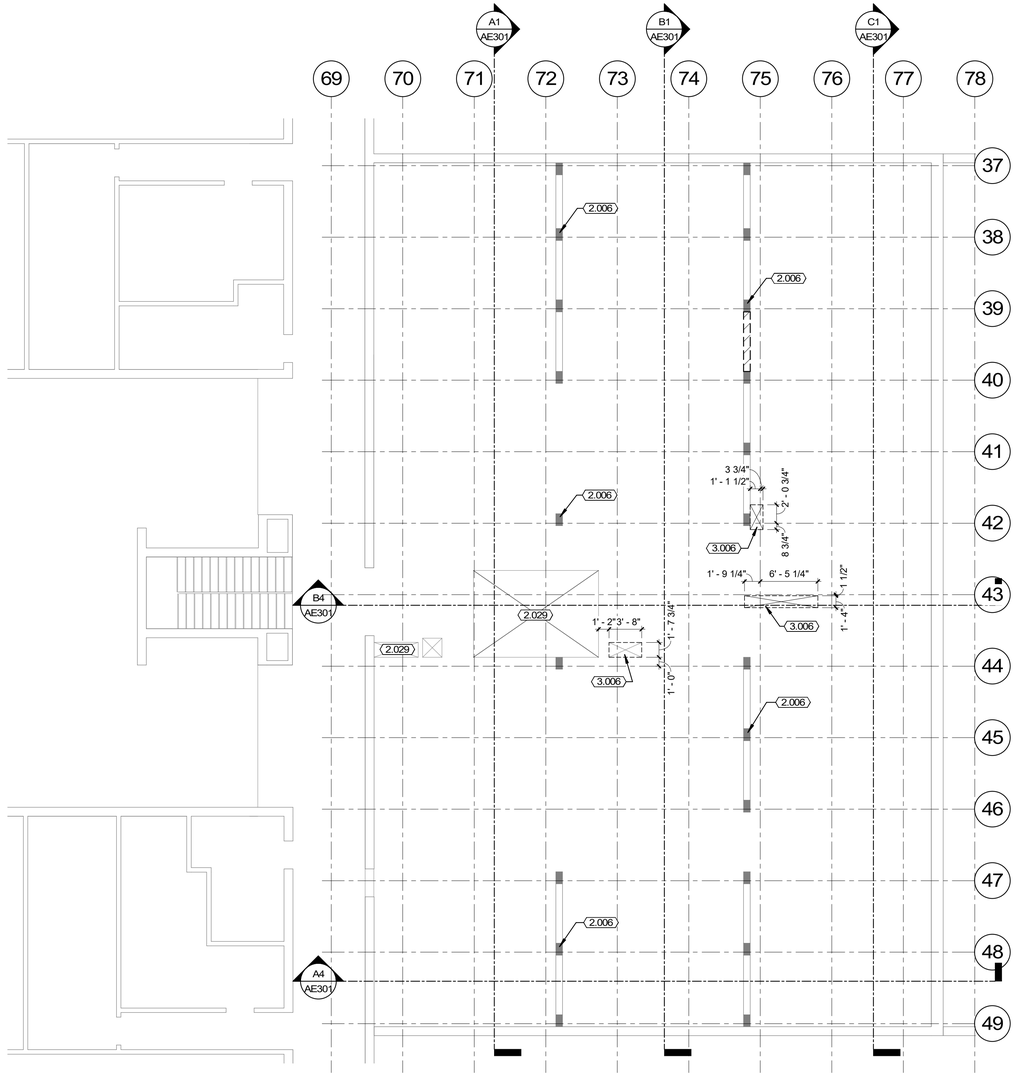


A1 AE100 LEVEL 01 SLAB PLAN
1/8" = 1'-0"



A4 AE100 LEVEL 02 SLAB PLAN
1/8" = 1'-0"

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LOWER & UPPER LEVEL CONCRETE SLAB PLAN

AE100

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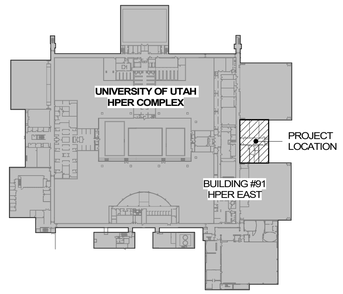
KEY PLAN



KEYNOTES

2.006	EXISTING COLUMN TO REMAIN. PROTECT AND BRACE DURING DEMOLITION OF SURROUNDING WALL.
2.009	EXISTING WALL TO REMAIN.
5.001	STEEL STUD FRAMED WALL. SEE WALL TYPES.
5.004	ROOF ACCESS LADDER TO PARAPET AT EXTERIOR FACE OF BUILDING.
8.001	ALIGN DOORS DIRECTLY ACROSS FROM EACH OTHER.
9.001	TILE WAINSOT.
11.014	EQUIPMENT CABINET. COORDINATE W/ HARNESS SYSTEM SUPPLIER.
21.001	FIRE EXTINGUISHER IN SEMI-RECESSED CABINET.

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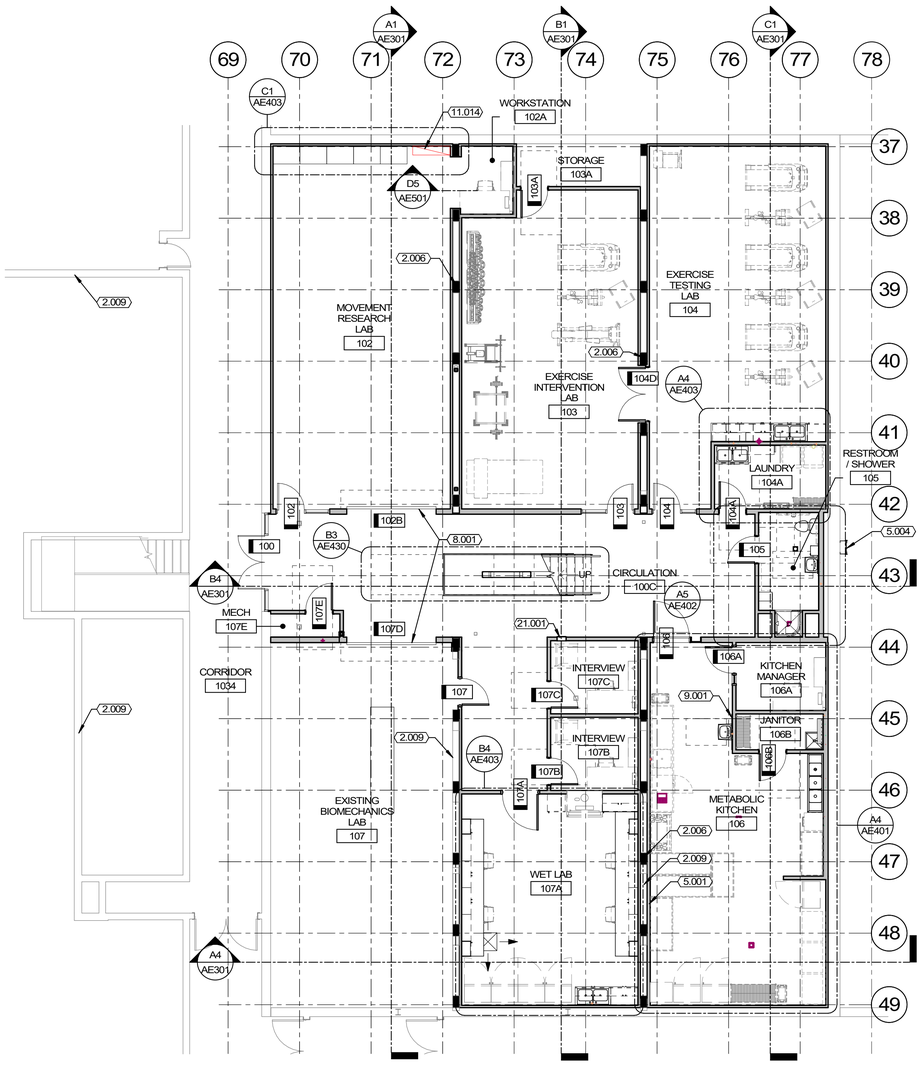
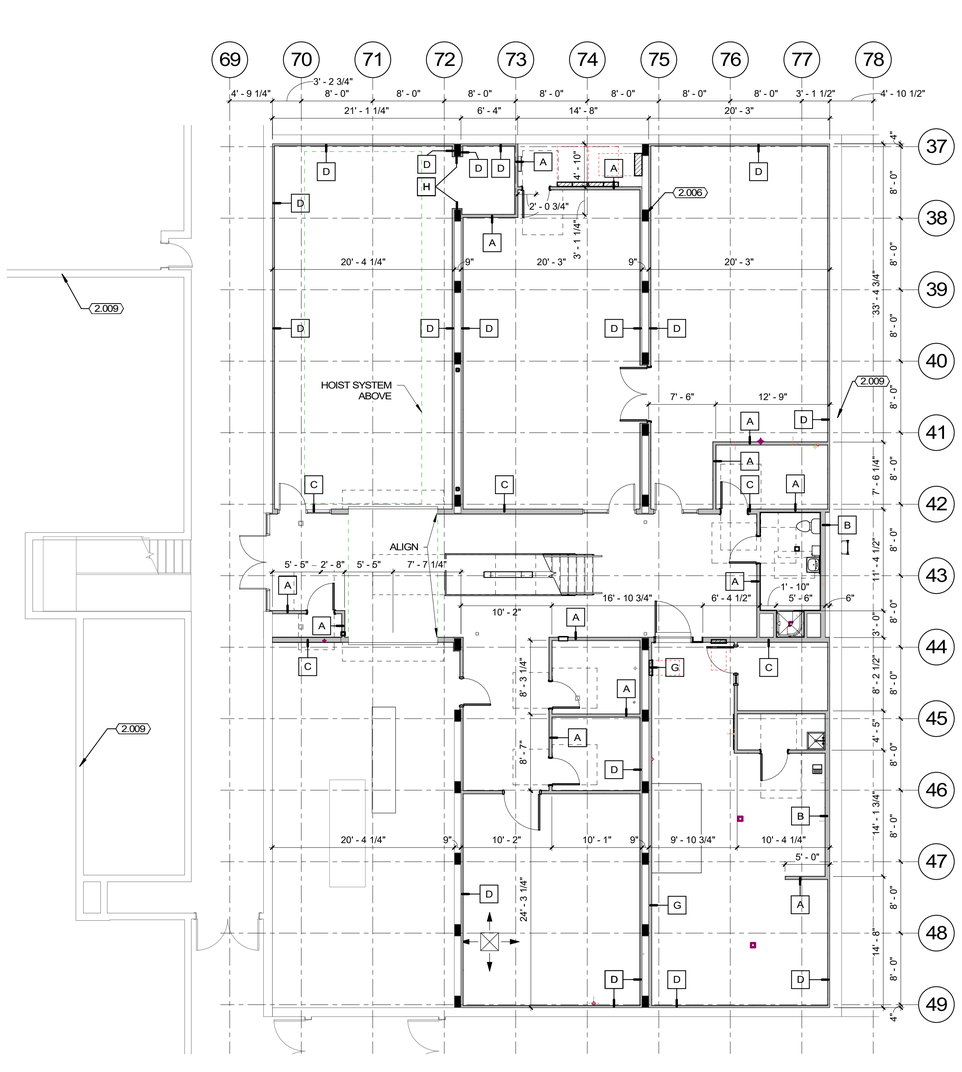


A1 AE101 LEVEL 01 FLOOR PLAN
1/8" = 1'-0"



A4 AE101 LEVEL 01 DIMENSION PLAN
1/8" = 1'-0"

N

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LOWER LEVEL FLOOR PLAN & DIMENSION PLAN

AE101

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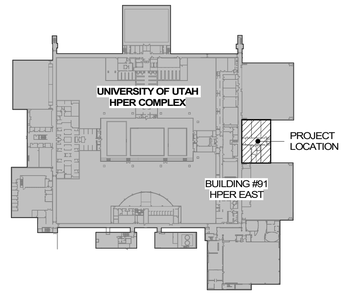
KEY PLAN



KEYNOTES

2.009	EXISTING WALL TO REMAIN.
5.001	STEEL STUD FRAMED WALL. SEE WALL TYPES.
5.004	ROOF ACCESS LADDER TO PARAPET AT EXTERIOR FACE OF BUILDING.
21.001	FIRE EXTINGUISHER IN SEMI-RECESSED CABINET.

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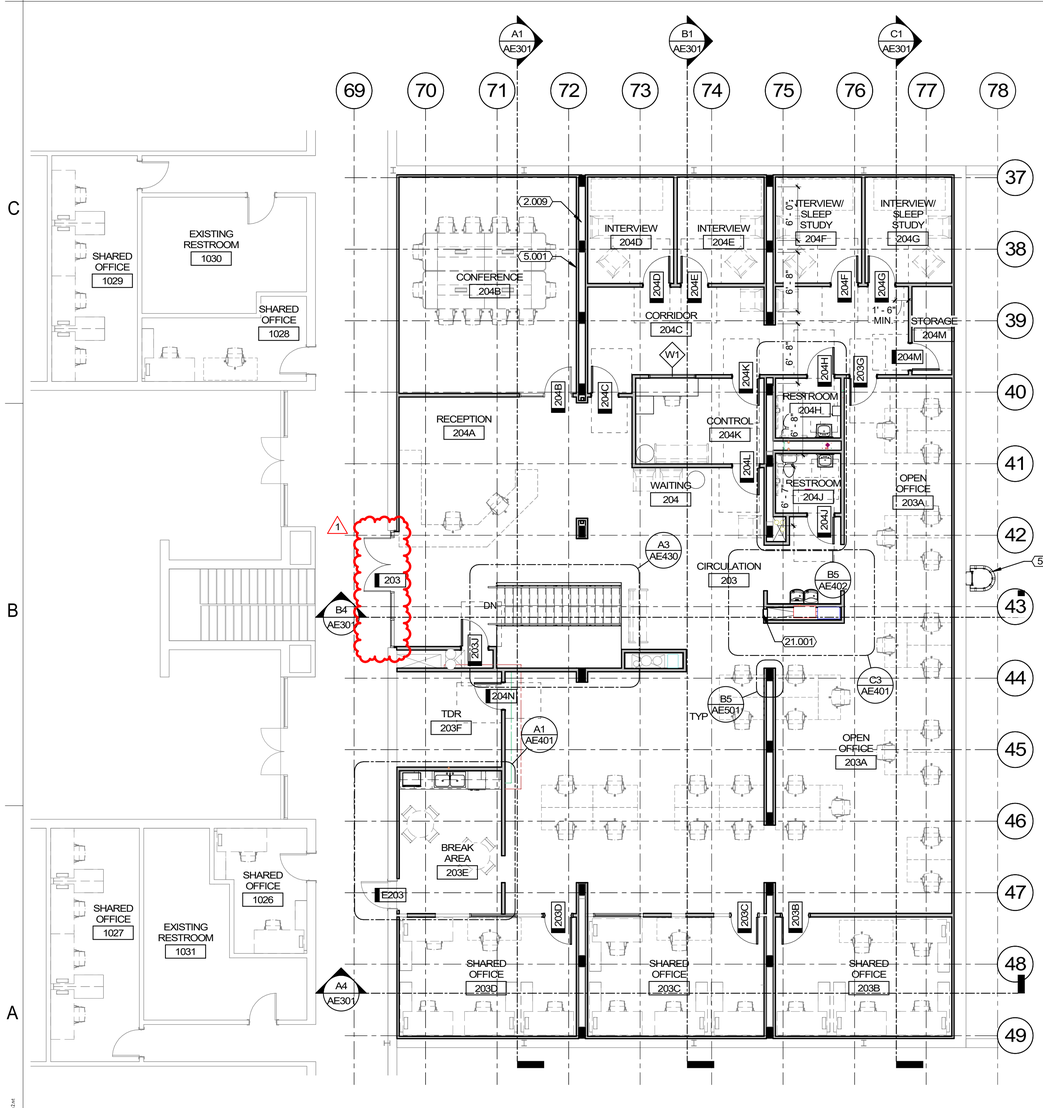
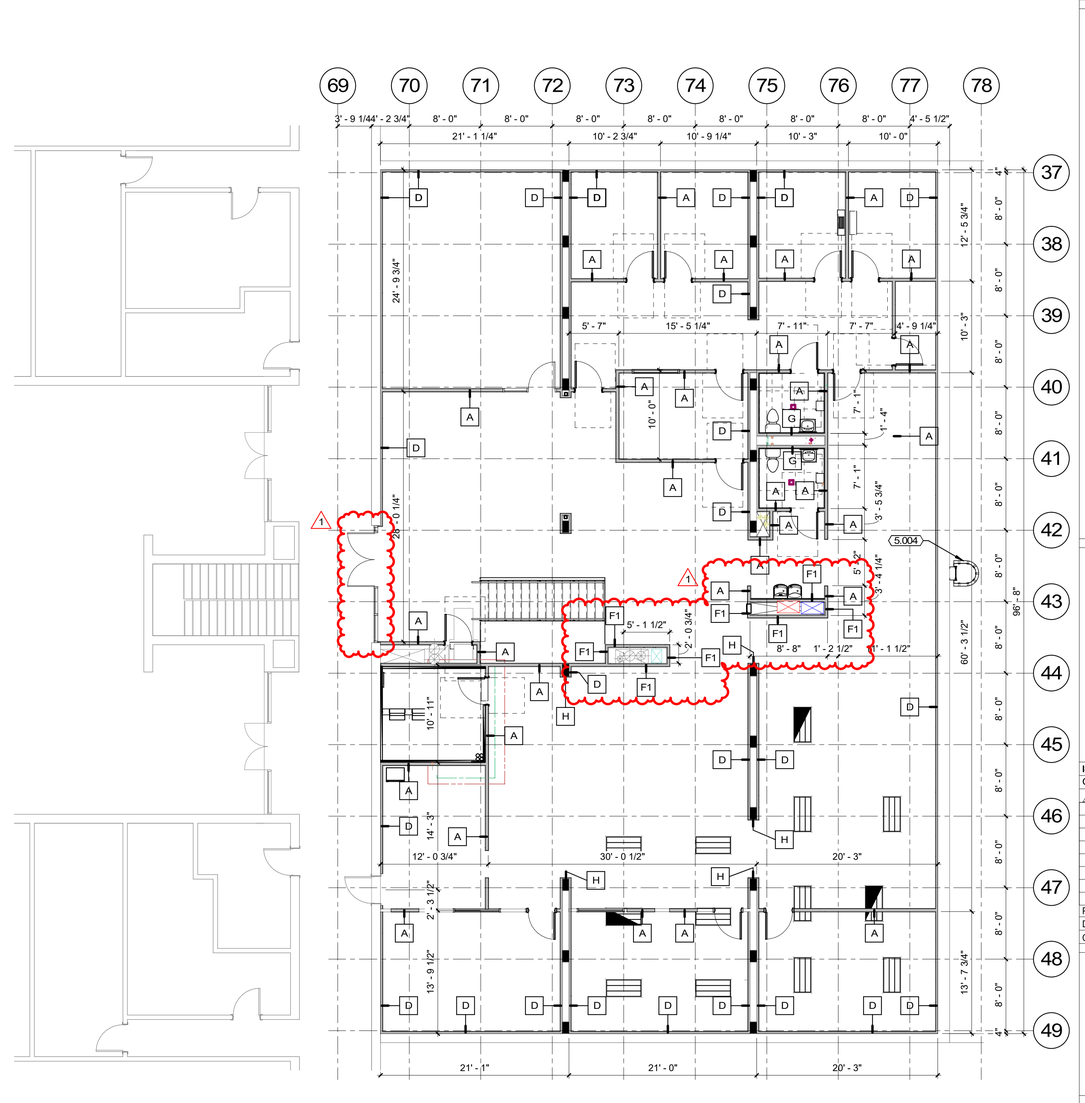


A1 AE102 LEVEL 02 FLOOR PLAN
1/8" = 1'-0"



A4 AE102 LEVEL 02 DIMENSION PLAN
1/8" = 1'-0"

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UPPER LEVEL FLOOR PLAN & DIMENSION PLAN

AE102

FLOOR FINISH KEY

RUBBER 1	F1	LVT	F7
RUBBER 2	F2	RESILIENT FLOORING	F8
CARPET TILE 1	F3	12" x 24" TILE	F9
CARPET TILE 2	F4	2" X 2" MOSAIC TILE	F10
CARPET TILE 3	F5	SEALED CONCRETE	F11
VINYL SPORT FLOORING	F6	FLOOR TRANSITION T1	
		FLOOR TRANSITION T2	
		FLOOR TRANSITION T3	
		FLOOR TRANSITION T4	
		ALUMINUM TRANSITION STRIP T5	
		CORNER GUARD	

FINISH KEY LEGEND

FLOOR FINISH
BASE FINISH
WALL FINISH

INSTALLATION DIRECTIONAL ARROW

CEILING LEGEND

PAINTED GYPSUM BOARD CEILING. AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE	C1
2' X 2' LAY-IN ACOUSTICAL PANEL AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE.	C2
2' X 2' LAY-IN WASHABLE PANELS AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE.	C3
4' X 4' ACOUSTICAL ISLAND CEILING	C4
4' X 6' ACOUSTICAL ISLAND CEILING	C6
4' X 8' ACOUSTICAL ISLAND CEILING	C8

KEYNOTES

2.009	EXISTING WALL TO REMAIN.
9.002	PAINT CEILINGS AND ALL MECHANICAL AND ELECTRICAL EQUIPMENT 'CL5' - SEE FINISH SCHEDULE.
22.006	MOP SINK.

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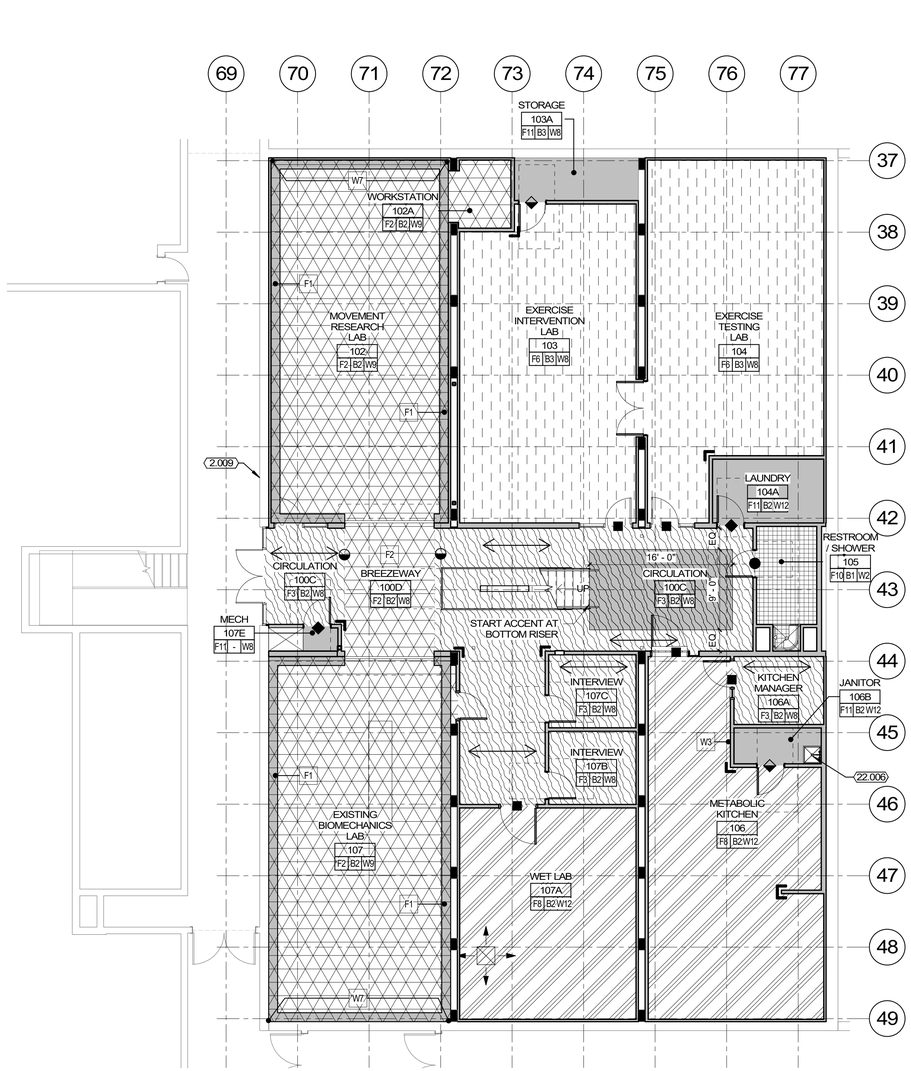
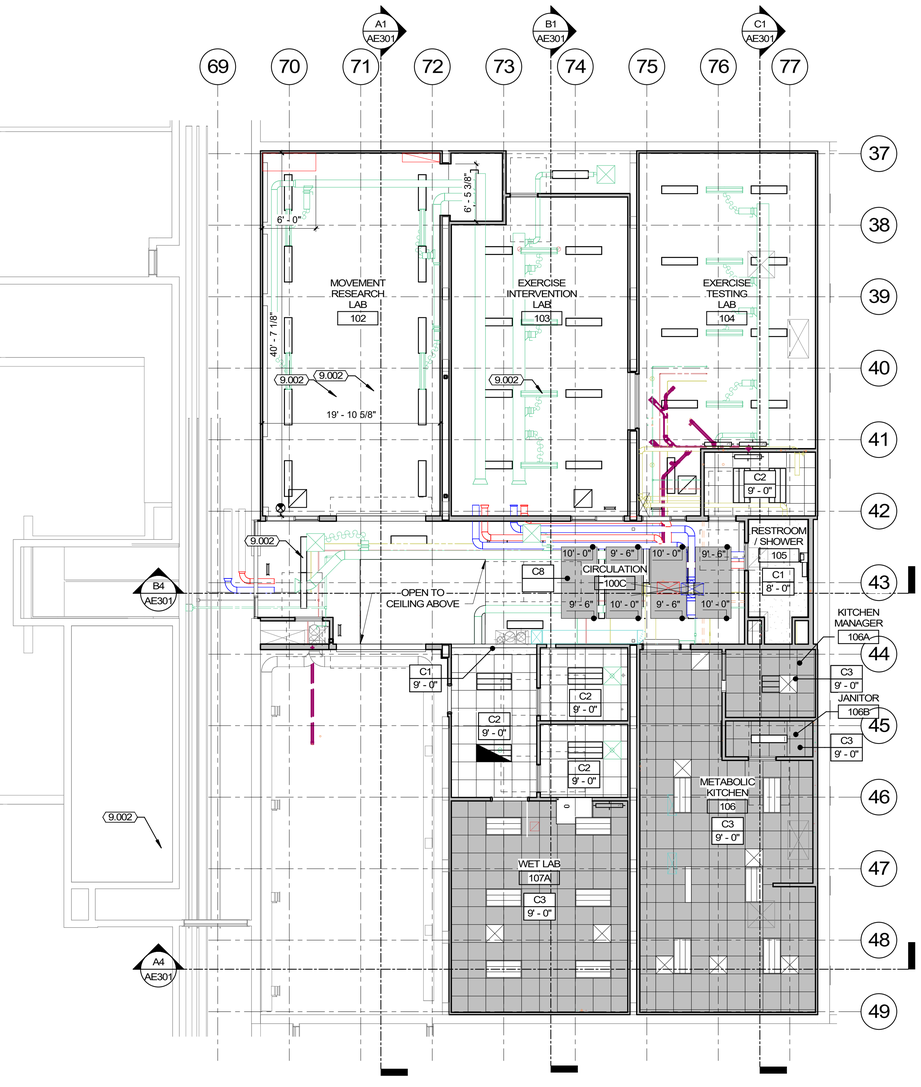


A2 AE151 LEVEL 1 FINISH PLAN
1/8" = 1'-0"



A4 AE151 LOWER LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

N

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LOWER LEVEL FINISH PLAN & REFLECTED CEILING PLAN

AE151

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FLOOR FINISH KEY

RUBBER 1	F1	LVT	F7
RUBBER 2	F2	RESILIENT FLOORING	F8
CARPET TILE 1	F3	12" x 24" TILE	F9
CARPET TILE 2	F4	2" X 2" MOSAIC TILE	F10
CARPET TILE 3	F5	SEALED CONCRETE	F11
VINYL SPORT FLOORING	F6		

FINISH KEY LEGEND

INSTALLATION DIRECTIONAL ARROW

FLOOR FINISH

BASE FINISH

WALL FINISH

FLOOR TRANSITION T1	
FLOOR TRANSITION T2	
FLOOR TRANSITION T3	
FLOOR TRANSITION T4	
ALUMINUM TRANSITION STRIP T5	
CORNER GUARD	

CEILING LEGEND

PAINTED GYPSUM BOARD CEILING. AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE	C1
2' X 2' LAY-IN ACOUSTICAL PANEL AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE.	C2
2' X 2' LAY-IN WASHABLE PANELS AT 10'-0" A.F.F. UNLESS NOTED OTHERWISE.	C3
4' X 4' ACOUSTICAL ISLAND CEILING	C4
4' X 6' ACOUSTICAL ISLAND CEILING	C6
4' X 8' ACOUSTICAL ISLAND CEILING	C8

KEYNOTES

9.002	PAINT CEILINGS AND ALL MECHANICAL AND ELECTRICAL EQUIPMENT 'CL5' - SEE FINISH SCHEDULE.

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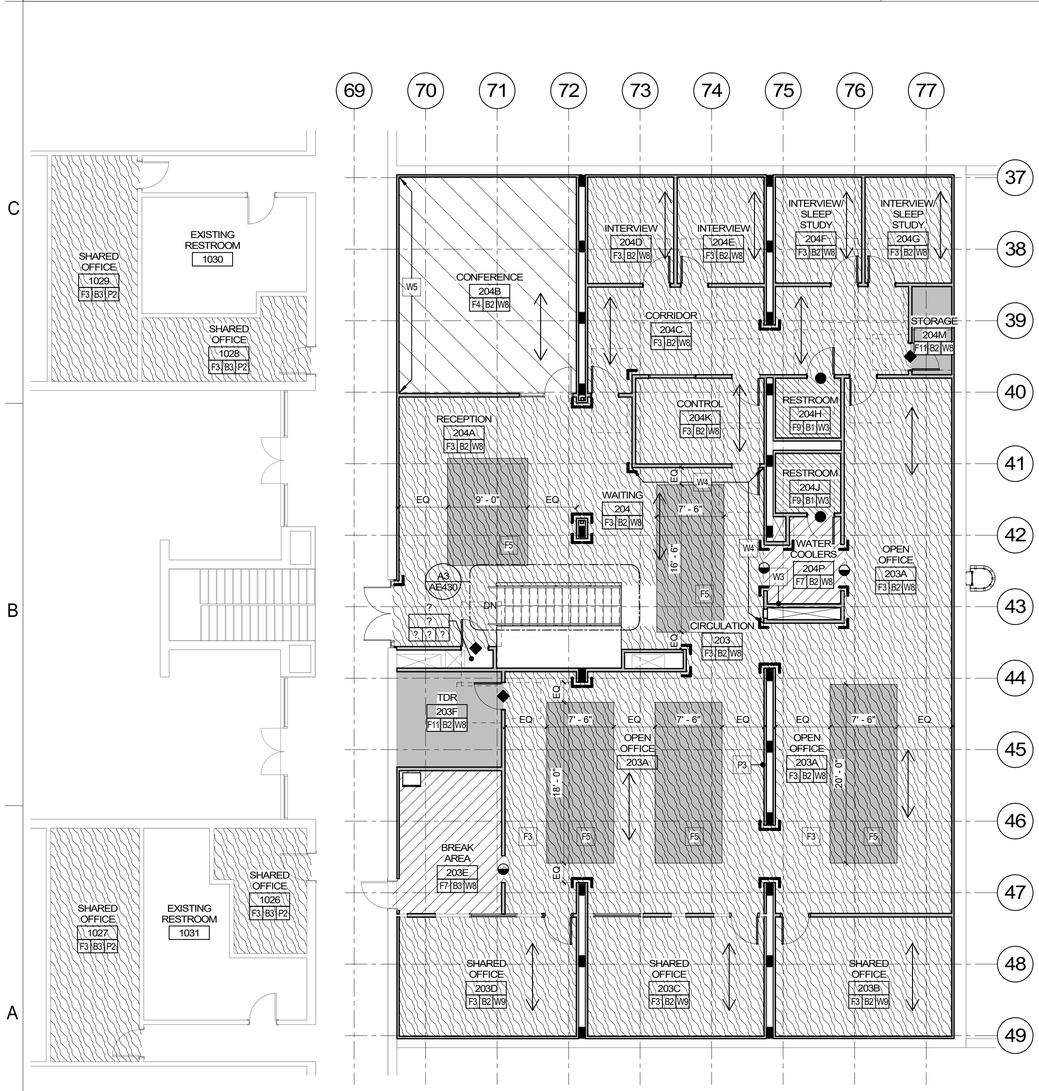

A4 AE152 LEVEL 2 FINISH PLAN

1/8" = 1'-0"



A2 AE152 UPPER LEVEL REFLECTED CEILING PLAN

1/8" = 1'-0"

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UPPER LEVEL FINISH PLAN & REFLECTED CEILING PLAN

AE152

KEYNOTES

2.009	EXISTING WALL TO REMAIN.
5.001	STEEL STUD FRAMED WALL. SEE WALL TYPES.
11.013	FLOAT HARNESS, BODY WEIGHT SUPPORT SYSTEM.

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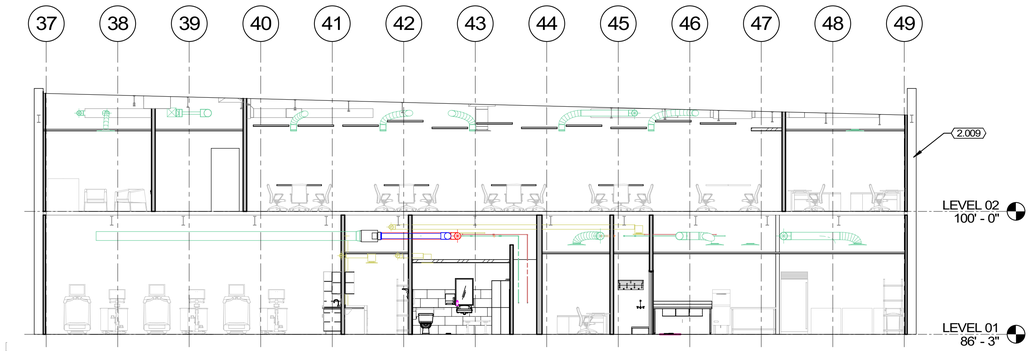
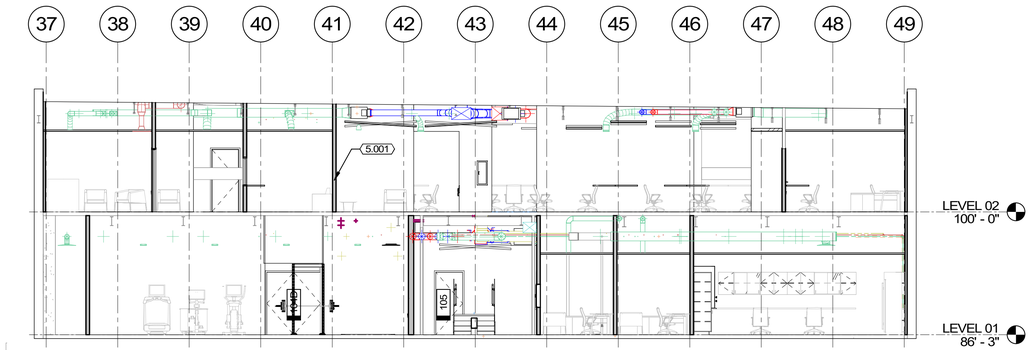
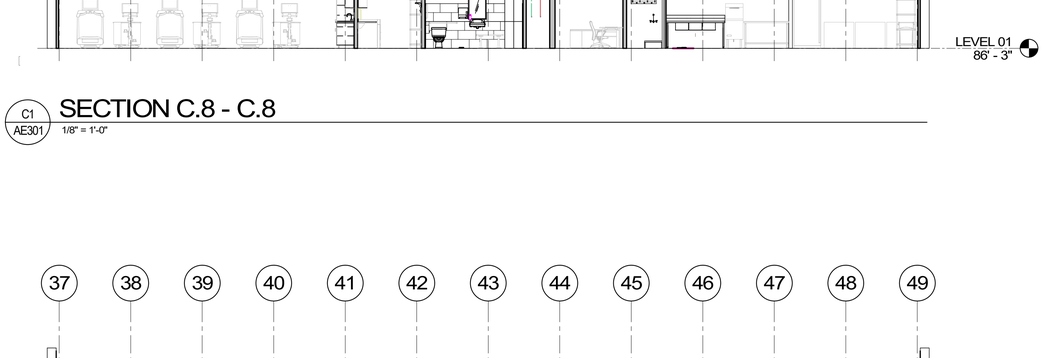


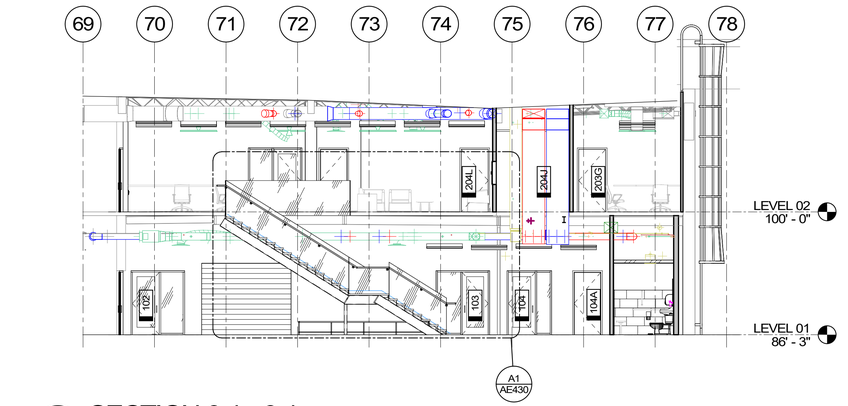
C1 / AE301 SECTION C.8 - C.8
1/8" = 1'-0"



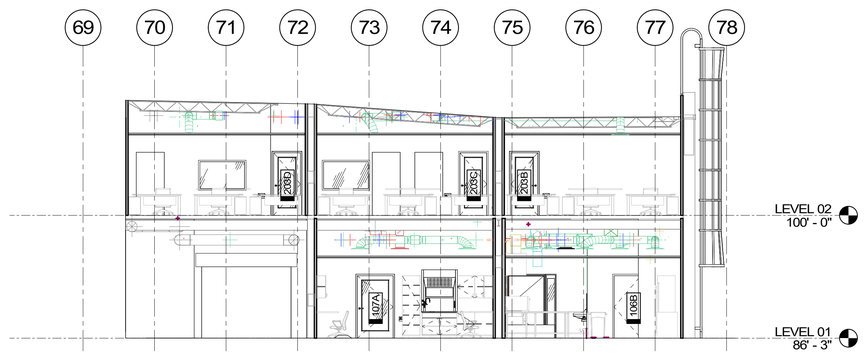
B1 / AE301 SECTION B.6 - B.6
1/8" = 1'-0"



A1 / AE301 SECTION A.7 - A.7
1/8" = 1'-0"



B4 / AE301 SECTION 6.4 - 6.4
1/8" = 1'-0"



A4 / AE301 SECTION 11.5 - 11.5
1/8" = 1'-0"

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BUILDING SECTIONS

AE301

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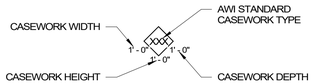
CASEWORK TAG KEY



KEYNOTES

9.001	TILE WAINSOT.
11.001	MOP/BROOM RACK.
11.007	SHELFING.
11.008	DISH WASHER.
11.015	KITCHEN EQUIPMENT, O.F.O.I.
11.016	KITCHEN HOOD, COORDINATE WITH MECHANICAL.
11.023	MICROWAVE BY OWNER.
12.001	FURNITURE BY OWNER.
12.002	MILLWORK FILLER PANEL.
21.001	FIRE EXTINGUISHER IN SEMI-RECESSED CABINET.
22.003	FLOOR DRAIN. COORDINATE WITH MECHANICAL.
22.004	DOUBLE BOWL SINK W/ DISPOSAL.
22.005	ADA COMPLIANT HI & LOW DRINKING FOUNTAINS W/ BOTTLE FILLER.
22.006	MOP SINK.
22.009	PLUMBING FIXTURE. COORDINATE WITH MECHANICAL.
26.001	LIGHT FIXTURE.

GENERAL NOTES & LEGENDS

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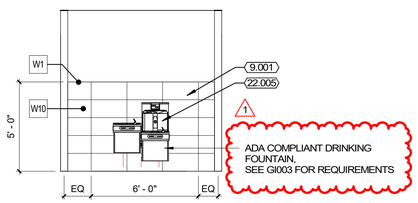
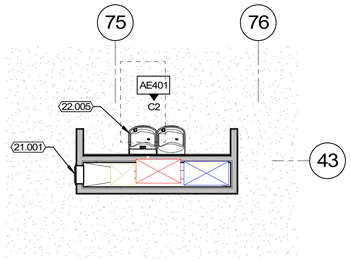
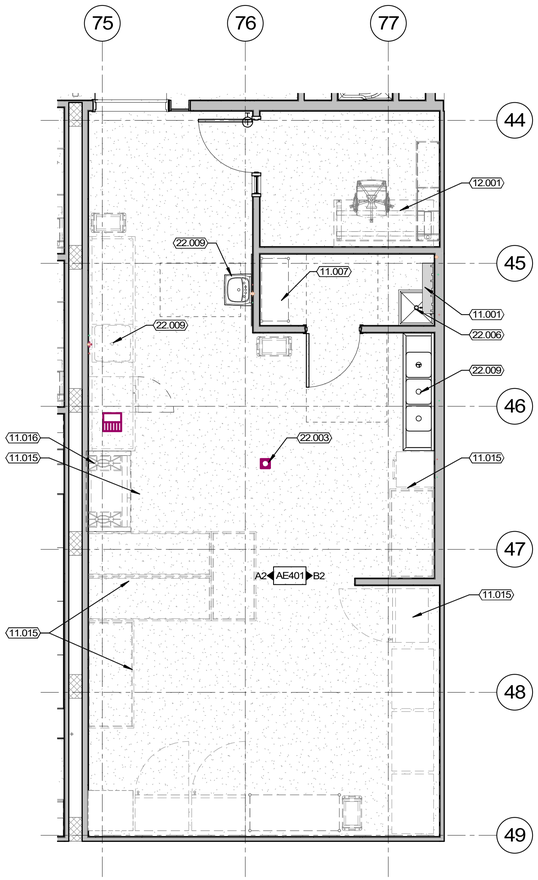


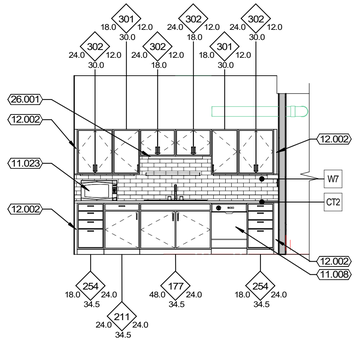
C2 AE401 LEVEL 02 DRINKING FOUNTAIN
1/4" = 1'-0"



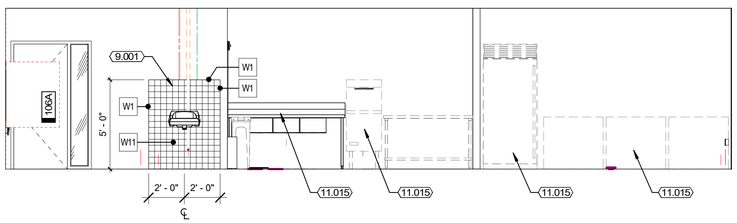
C3 AE401 LEVEL 02 DRINKING FOUNTAIN
1/4" = 1'-0"



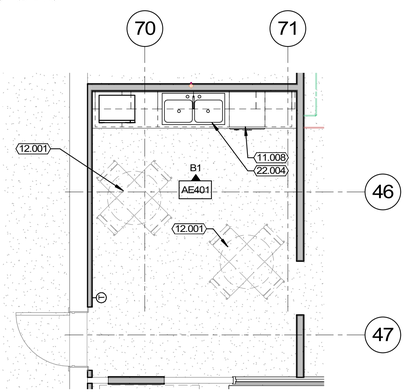
A4 AE401 METABOLIC KITCHEN ENLARGED PLAN
1/4" = 1'-0"



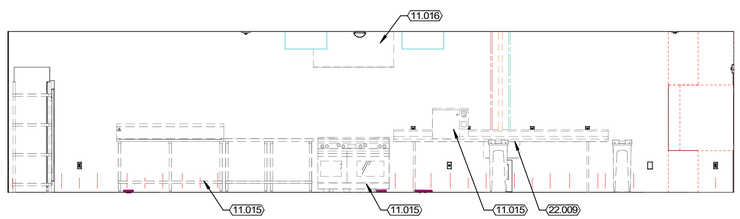
B1 AE401 BREAK AREA KITCHEN ELEV.
1/4" = 1'-0"



B2 AE401 METABOLIC KITCHEN ELEVATION
1/4" = 1'-0"



A1 AE401 BREAK ROOM KITCHEN AREA
1/4" = 1'-0"



A2 AE401 METABOLIC KITCHEN ELEVATION
1/4" = 1'-0"

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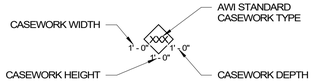
CHECKED BY:	JB

ENLARGED PLANS AND ELEVATIONS

AE401

CASEWORK TAG KEY



KEYNOTES

9.001	TILE WAINSOT.
11.002	36" HORIZONTAL GRAB BAR - ADA COMPLIANT.
11.003	42" HORIZONTAL GRAB BAR - ADA COMPLIANT.
11.004	18" VERTICAL GRAB BAR - ADA COMPLIANT.
11.005	LOCKER.
11.006	BENCH.
11.012	ADA COMPLIANT MIRROR.
11.017	SOAP DISPENSER - MIRROR MOUNTED.
11.018	TOILET PAPER DISPENSER.
11.019	PAPER TOWEL DISPENSER.
11.020	ADA COMPLIANT SHOWER SEAT.
11.021	ADA COMPLIANT SHOWER GRAB BARS.
11.022	SHOWER ROD & SHOWER CURTAIN.
22.001	ADA COMPLIANT TOILET.
22.002	ADA COMPLIANT SINK.
22.003	FLOOR DRAIN. COORDINATE WITH MECHANICAL.
22.05	
22.007	FLOOR DRAIN.
22.008	PREFORMED SINGLE PIECE ADA COMPLIANT TRANSFER SHOWER COMPARTMENT.
22.010	ADA COMPLIANT SHOWER HEAD.
26.001	LIGHT FIXTURE.

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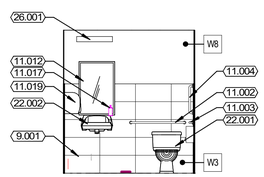
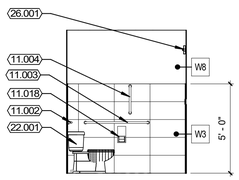
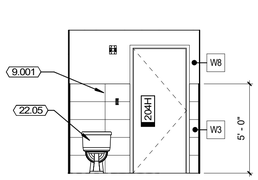


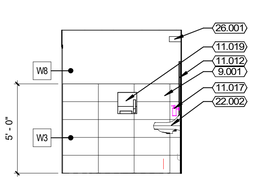
C1 AE402 RESTROOM 204H
1/4" = 1'-0"



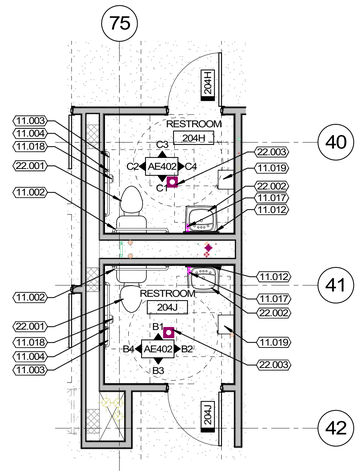
C2 AE402 RESTROOM 204H
1/4" = 1'-0"



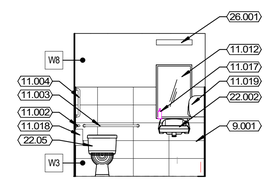
C3 AE402 RESTROOM 204H
1/4" = 1'-0"



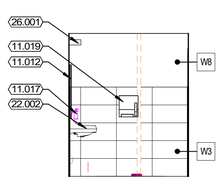
C4 AE402 RESTROOM 204H
1/4" = 1'-0"



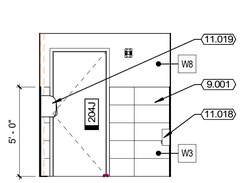
B5 AE402 UPPER LEVEL RESTROOM AREA ENLARGED PLAN
1/4" = 1'-0"



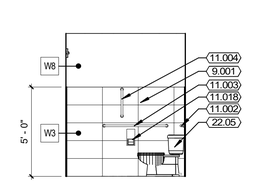
B1 AE402 RESTROOM 204J
1/4" = 1'-0"



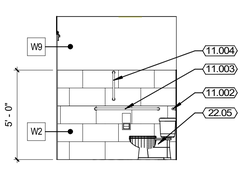
B2 AE402 RESTROOM 204J
1/4" = 1'-0"



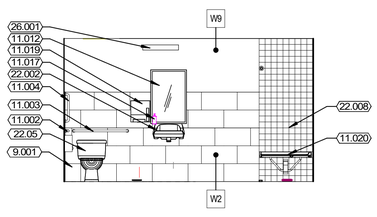
B3 AE402 RESTROOM 204J
1/4" = 1'-0"



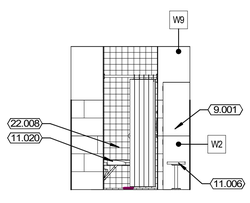
B4 AE402 RESTROOM 204J
1/4" = 1'-0"



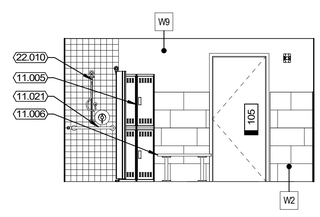
A1 AE402 RESTROOM ELEVATION
1/4" = 1'-0"



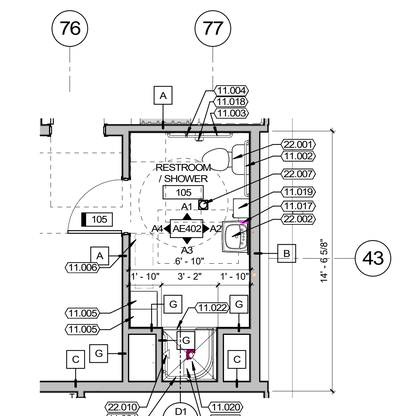
A2 AE402 RESTROOM ELEVATION
1/4" = 1'-0"



A3 AE402 RESTROOM ELEVATION
1/4" = 1'-0"



A4 AE402 RESTROOM ELEVATION
1/4" = 1'-0"



A5 AE402 LOWER LEVEL SHOWER ROOM
1/4" = 1'-0"

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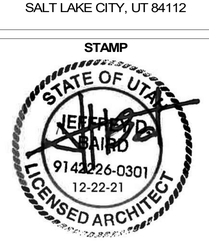

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ENLARGED PLANS AND ELEVATIONS

AE402

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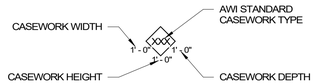

KEYNOTES

10.002	LAB BEAKER DRYING RACK.
11.001	MOP/BROOM RACK.
11.007	SHELFING.
11.009	REFRIGERATOR.
11.010	WASHER.
11.011	DRYER.
22.001	ADA COMPLIANT TOILET.
22.004	DOUBLE BOWL SINK W/ DISPOSAL.

GENERAL NOTES & LEGENDS

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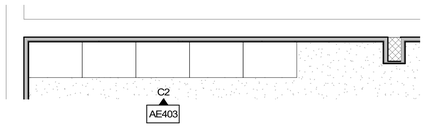
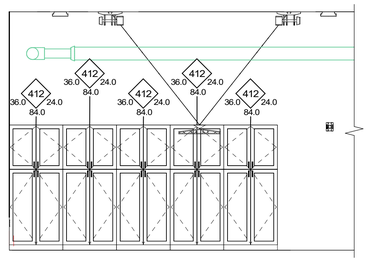
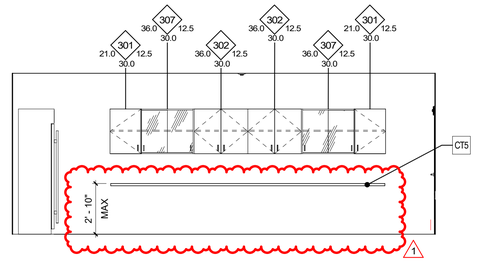


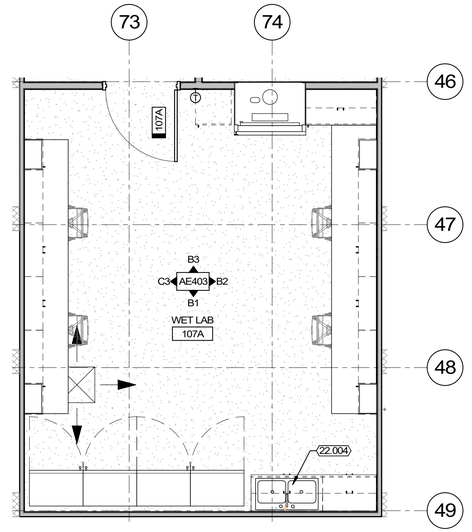
C1 AE403 MOVEMENT LAB CASEWORK
1/4" = 1'-0"



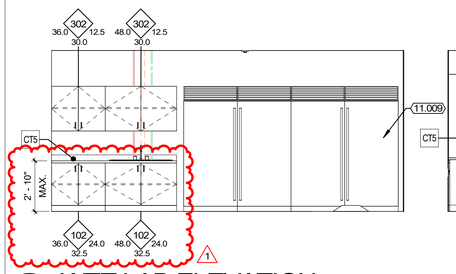
C2 AE403 MOVEMENT LAB ELEVATION
1/4" = 1'-0"



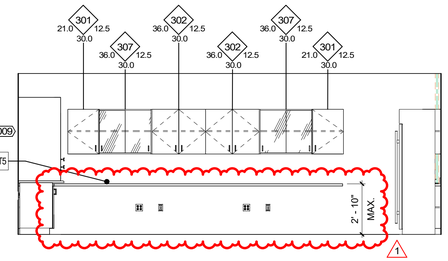
C3 AE403 WET LAB ELEVATION
1/4" = 1'-0"



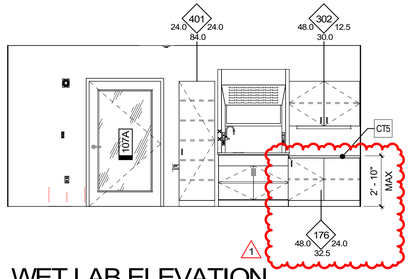
B4 AE403 WET LAB ENLARGED PLAN
1/4" = 1'-0"



B1 AE403 WET LAB ELEVATION
1/4" = 1'-0"



B2 AE403 WET LAB ELEVATION
1/4" = 1'-0"



B3 AE403 WET LAB ELEVATION
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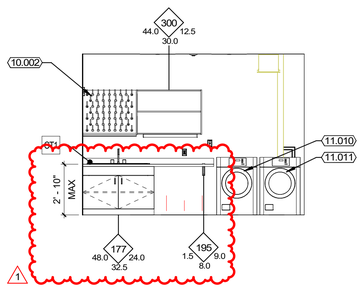

A2 AE403 LAUNDRY ROOM ELEVATION
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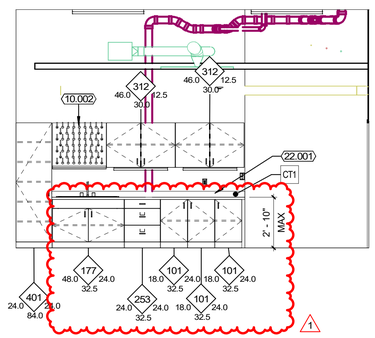
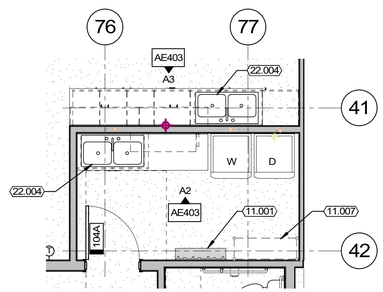


A3 AE403 EXERCISE TESTING LAB
1/4" = 1'-0"



A4 AE403 LAUNDRY RM & EXERCISE TESTING WORK AREA
1/4" = 1'-0"

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CHECKED BY:	JB

ENLARGED PLANS AND ELEVATIONS

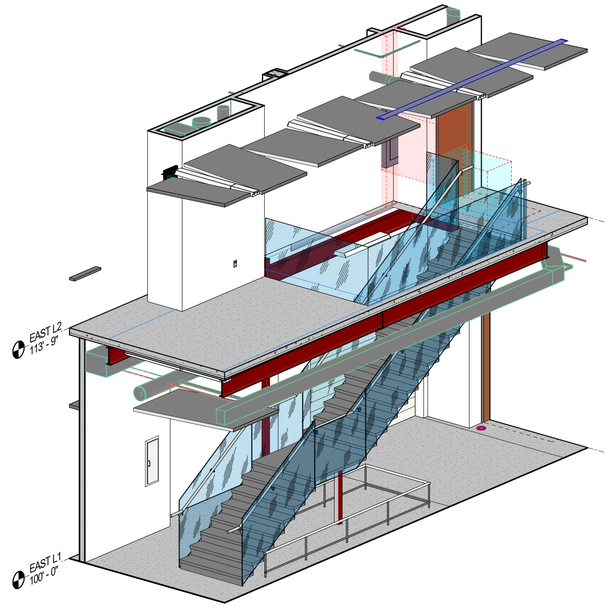
AE403

GENERAL NOTES - STAIR PLANS

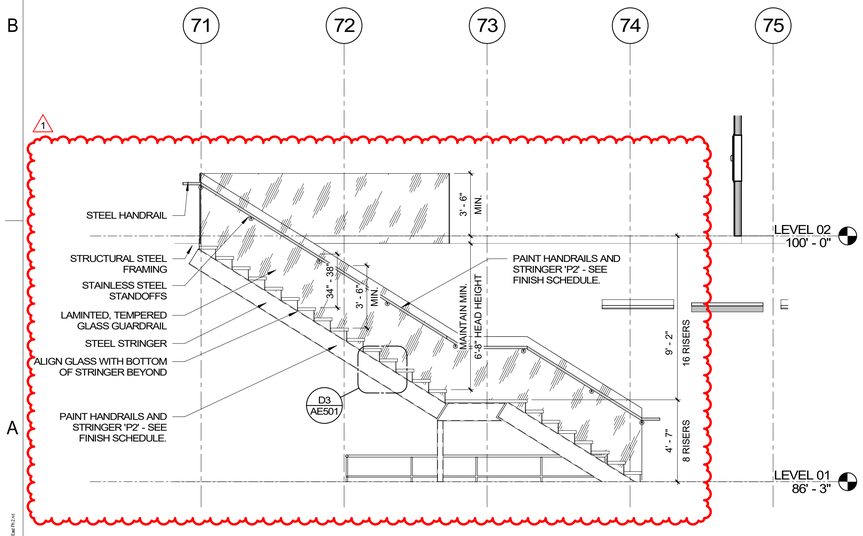
- GENERAL CONTRACTOR TO PROVIDE ENGINEERED GLASS GUARD RAIL DESIGN VIA DELEGATED DESIGN PROCESS.
- GLASS GUARD RAIL PANELS SHALL BE DESIGNED USING A SAFETY FACTOR OF FOUR PER IBC SECTION 2407.1.1.
- TOP RAIL AT GLASS GUARD RAIL SHALL BE SUPPORTED BY NOT FEWER THAN THREE GLASS BALUSTER PANELS OR SHALL BE OTHERWISE SUPPORTED TO REMAIN IN PLACE SHOULD ONE GLASS BALUSTER PANEL FIAL PER IBC SECTION 2407.1.2.
- GLASS GUARD RAIL PANELS SHALL BE LAMINATED, TEMPERED GLASS.

1

KEYNOTES



C3 AE430 — 3D VIEW



A1 AE430 — CENTRAL STAIR SECTION
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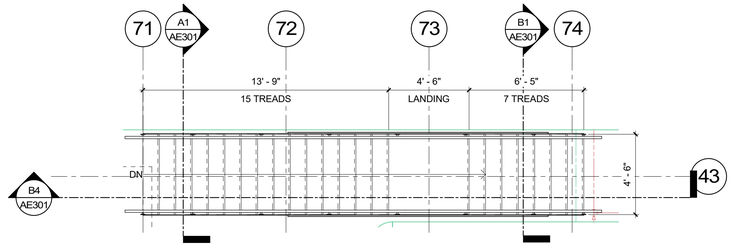

B3 AE430 — LEVEL 01 STAIR PLAN
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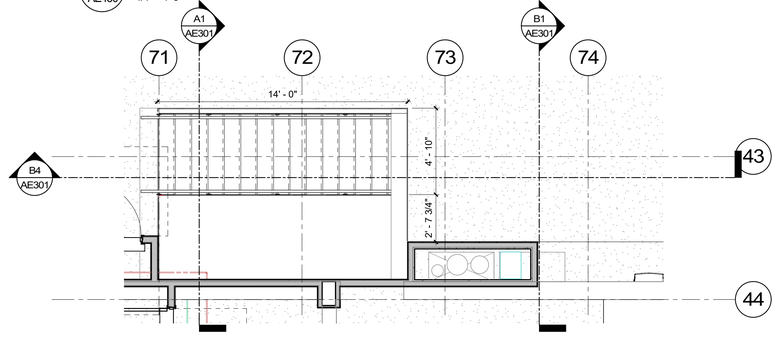

A3 AE430 — LEVEL 02 STAIR PLAN
1/4" = 1'-0"

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STATE OF UTAH
JEFFREY S. BAIRD
9142226-0301
12-22-21
LICENSED ARCHITECT

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1 CODE REVIEW	3/3/2022
PROJECT NUMBER:	21-009
DRAWN BY:	AS
CHECKED BY:	JB

STAIR PLANS AND SECTIONS

AE430

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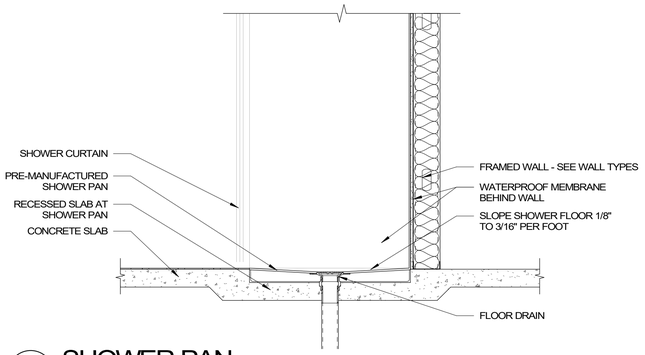
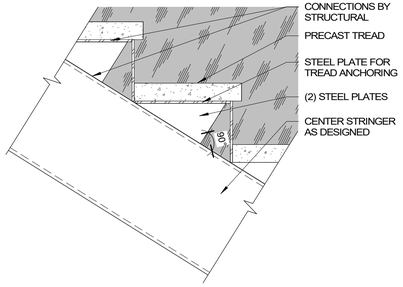
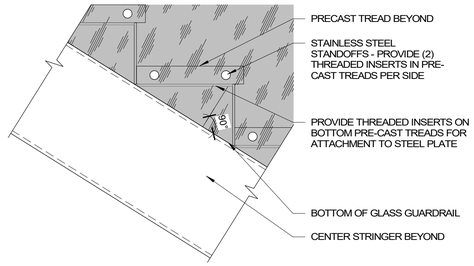


D1 / AE501 — **SHOWER PAN**
3/4" = 1'-0"



D3 / AE501 — **STAIR TREAD SECTION DETAIL**
1 1/2" = 1'-0"



D4 / AE501 — **STAIR SECTION DETAIL**
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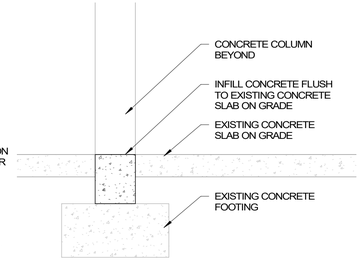
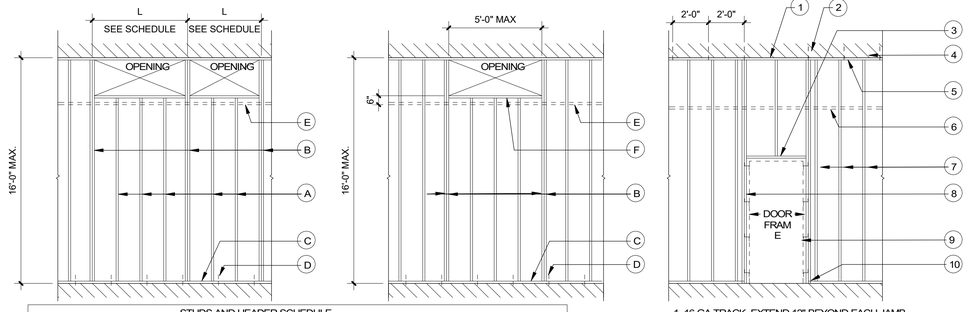


D5 / AE501 — **CONCRETE FLOOR INFILL**
3/4" = 1'-0"



STUDS AND HEADER SCHEDULE		
'L' (LENGTH)	'A' STUDS	'B' TRACKS
UP TO 4'-0"	3-5/8" SCREW STUD	3-5/8" X 1-1/4" X 16 GA. TRACK CHANNEL
4'-1" TO 8'-0"	(2) - 3-5/8" SCREW STUDS	3-5/8" X 1-1/4" X 16 GA. TRACK CHANNEL

TYPICAL WALL FRAMING NOTES

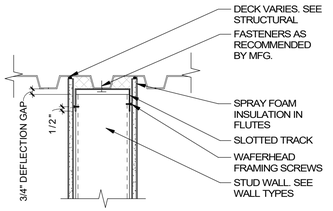
A. REFER TO WALL TYPE CRITERIA NOTES FOR SIZE AND HEIGHT. REFER TO SPECS FOR GA. AND SPACING.
B. DOUBLE 20 GA SCREW STUDS - FASTEN DOUBLE STUDS TYPICALLY AT 12" O.C.
C. 16 GA TRACK - ATTACH BOTTOM TO ALL STUDS WITH #8 SHEET METAL SCREWS EACH SIDE.
D. 1/4" ROUND X 1-1/2" POWER ACTUATED DRIVE PINS AT 2'-0" O.C.
E. FINISHED CEILING. SEE REFLECTED CEILING PLAN.
F. STUD HEADER. SEE SCHEDULE ABOVE.
G. SEE DETAIL ON THIS SHEET FOR BACKING PLATE CRITERIA.

1. 16 GA TRACK. EXTEND 12" BEYOND EACH JAMB.
2. DRIVE PINS AT 2'-0" O.C. AND 1 EA. SIDE OF JAMB.
3. FRAMING AT HEAD:
   3'-6" DOORS OR LESS - 16 GA TRACK
   3'-6" DOORS TO 8'-0" MAX - (2) 16 GA TRACKS
4. FLOOR OR ROOF SYSTEM ABOVE.
5. HEAD TRACK
6. FINISH CEILING. SEE RCP FOR LOCATION AND TYPE.
7. STUDS, SEE PLAN FOR TYPE
8. FRAMING AT JAMBS:
   3'-6" DOORS OR LESS (2) 20 GA. STUDS TO STRUCT. ABOVE.
   3'-6" DOORS OR LARGER (2) 16 GA. STUDS.
9. HOLLOW METAL DOOR FRAME WITH 14 GA. STL. "ZEE" CLIPS - (4) PER JAMB 2 AT HEAD WELDED TO FRAME. SCREW TO STUDS WITH (2) #10 S.M.S. EACH CLIP (TYP.)
10. FLOOR TRACK DETAIL.

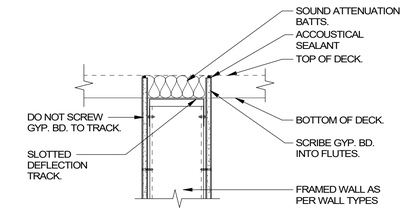
INTERIOR FRAMING CRITERIA NOTES:

1. CONTRACTOR SHALL VERIFY AND COORDINATE WALLS AND FRAMING THAT REQUIRE A NONTYPICAL WALL THICKNESS DUE TO STRUCTURAL, ELECTRICAL, MECHANICAL, EQUIPMENT, OR OTHER REQUIREMENTS.
2. WHERE EQUIPMENT OR CABINETS ARE SHOWN TO BE RECESSED IN, OR MOUNTED ON A 1HOUR OR 2-HOUR RATED PARTITION, THE RATED ENCLOSURE SHALL BE CONSTRUCTED TO RUN CONTINUOUSLY BEHIND AND AROUND SUCH EQUIPMENT TO MAINTAIN THE REQUIRED FIRE RATING AND CAVITY DEPTH.
3. PROTECT ALL PANELS, FIXTURES, AND OTHER PENETRATIONS IN RATED ASSEMBLIES TO MAINTAIN THE REQUIRED SEPARATION.
4. ON A CONTINUOUS WALL SURFACE WHERE CONSTRUCTION INVOLVES MORE THAN ONE MATERIAL FINISH, OR MATERIAL THICKNESS, ALIGN FACE OF FINISH UNLESS NOTED OTHERWISE.
5. PROVIDE CASING BEAD AT GYPSUM WALL BOARD EDGES WHEREVER GYPSUM BOARD ABUTS A DIFFERENT MATERIAL.
6. PROVIDE BACKING PLATES FOR ALL WALL MOUNTED EQUIPMENT. VERIFY SPECIAL SUPPORT REQUIREMENTS WITH EQUIPMENT MANUFACTURER BEFORE INSTALLATION. VERIFY ALL MOUNTING HEIGHTS FOR BACKING PLATES AND SUPPORTS, WHERE BACKING PLATES ARE INSTALLED, FEATHER GYPSUM BOARD FINISH TO PROVIDE A SMOOTH, CONTINUOUS SURFACE.
7. STEEL COLUMNS ENGAGED BY PARTITIONS SHALL BE FURRED WITH THE SAME MATERIAL AS THE ADJACENT WALLS UNLESS OTHERWISE NOTED.
8. PROVIDE BACKER ROD AND SEALANT AT ALL VERTICAL AND HORIZONTAL PRECAST JOINTS

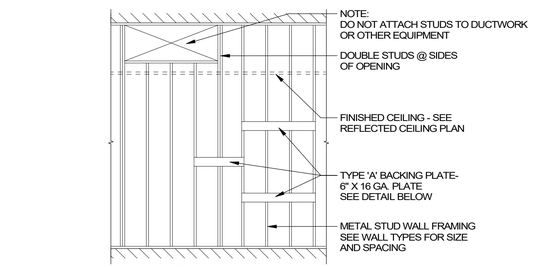
C1 / AE501 — **PARTITION WALL FRAMING CRITERIA**
1/4" = 1'-0"



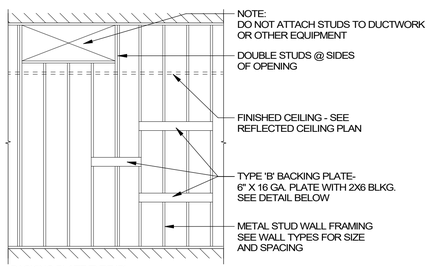
C4 / AE501 — **DEFLECTION TRACK DETAIL**
1 1/2" = 1'-0"



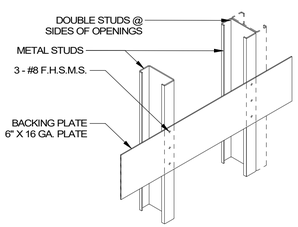
C5 / AE501 — **DEFLECTION TRACK DETAIL**
1 1/2" = 1'-0"



BACKING PLATE TYPE 'A'



BACKING PLATE TYPE 'B'



CONNECTION DETAIL TYPE 'A'

NOTES:

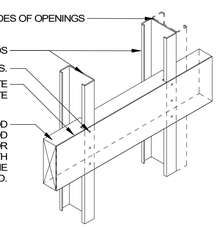
1. TYPE 'A' BACKING PLATE FOR MISC. ITEMS. IE. SURFACE MOUNTED MIRRORS,WASTE, RECEPTACLES, TOWEL DISPENSERS, ETC. MAXIMUM WEIGHT - 50 LBS

2. 3-5/8" X 20 GA. METAL STUD MIN. PROVIDE LARGER STUD SIZE AND/OR GAUGE IF REQUIRED BY WALL TYPES.

3. VERIFY LENGTH, HEIGHT, LOCATION OF BACKING PLATE AND NUMBER REQUIRED WITH ACCESSORY MANUFACTURERS.

4. USE #12 SELF TAPPING SHEET METAL SCREWS WHEN ATTACHING ITEMS TO BACKING PLATE.

5. WALL STUD FLANGES ARE CONTINUOUS.



CONNECTION DETAIL TYPE 'B'

NOTES:

1. TYPE 'B' BACKING PLATE FOR UPPER WALL HUNG CABINETS (UP TO 2 SHELVES), BASE CABINETS, FULL HEIGHT CABINETS, HANDRAILS, GUARDRAILS, GRAB BARS, WALL HUNG EQUIP, TOWEL BARS, ETC. MAXIMUM WEIGHT - 100 POUNDS/FOOT MAX

2. 3-5/8" X 20 GA. METAL STUD MIN. PROVIDE LARGER STUD SIZE AND/OR GAUGE IF REQUIRED BY WALL TYPES.

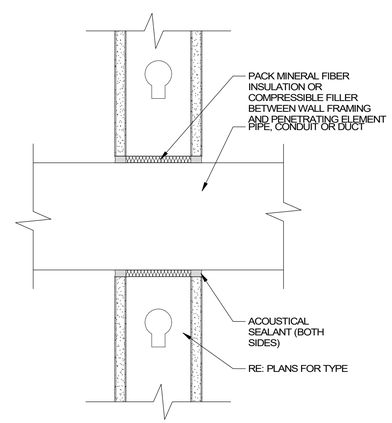
3. VERIFY LENGTH, HEIGHT, LOCATION OF BACKING PLATE AND NUMBER REQUIRED WITH ACCESSORY MANUFACTURERS.

4. USE #12 SELF TAPPING SHEET METAL SCREWS WHEN ATTACHING ITEMS TO BACKING PLATE.

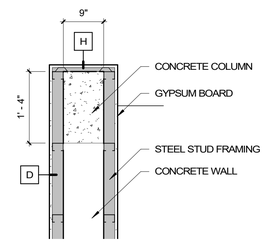
5. WALL STUD FLANGES ARE CONTINUOUS.

NOTE:
COMPLETELY ENCLOSE PORTIONS OF WALLS WITH TYPE 'B' BACKING PLATE WITH 5/8" TYPE X GYP-BOARD FOR A 1-HOUR RATED ASSEMBLY
(WALL SHALL MEET REQUIREMENTS OF UL DESIGN NO. U419)

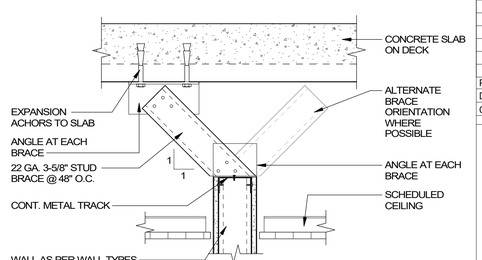
A1 / AE501 — **BACKING PLATE CRITERIA**
1/4" = 1'-0"



A4 / AE501 — **PENETRATIONS @ SOUND WALLS**
3" = 1'-0"



B5 / AE501 — **COLUMN SURROUND DETAIL**
3/4" = 1'-0"



A5 / AE501 — **BRACING PARTITION WALL TYP**
1 1/2" = 1'-0"

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AE501

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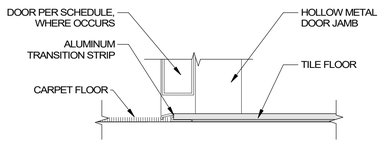
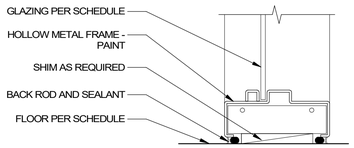
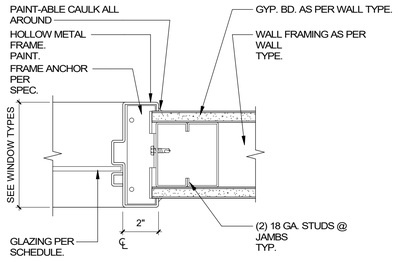


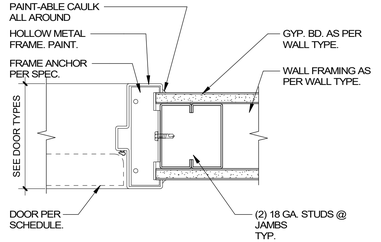
C1 AE510 **ALUMINUM THRESHOLD**
3" = 1'-0"



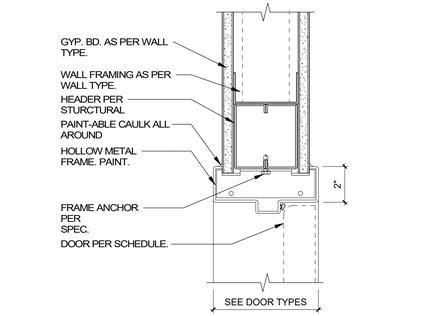
C2 AE510 **SILL @ FLOOR - HM DETAIL**
3" = 1'-0"



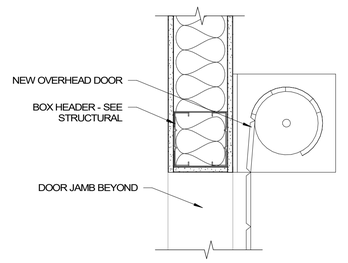
C3 AE510 **JAMB - HM DETAIL**
3" = 1'-0"



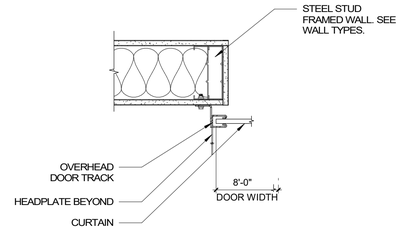
C4 AE510 **JAMB**
3" = 1'-0"



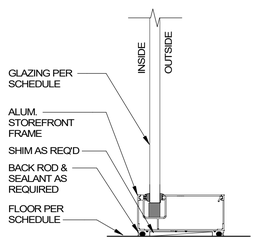
C5 AE510 **HEAD DETAIL**
3" = 1'-0"



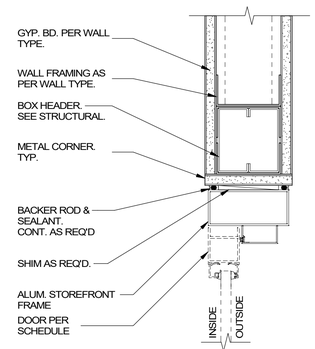
D4 AE510 **ROLL-UP DOOR HEAD**
1 1/2" = 1'-0"



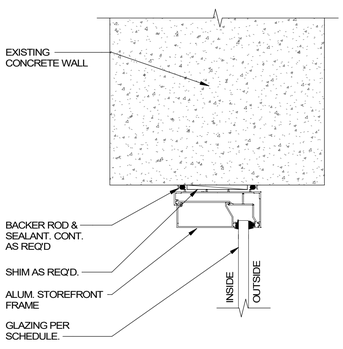
D5 AE510 **ROLL-UP DOOR JAMB**
1 1/2" = 1'-0"



A1 AE510 **SILL**
3" = 1'-0"

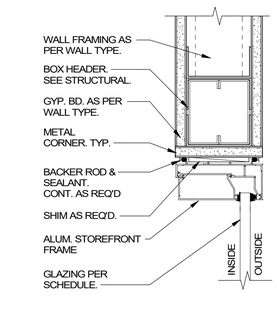


A2 AE510 **HEAD**
3" = 1'-0"

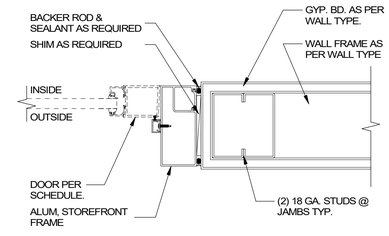


B2 AE510 **HEAD**
3" = 1'-0"

B3 AE510 **HEAD**
3" = 1'-0"

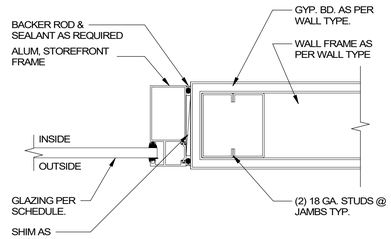


A3 AE510 **HEAD**
3" = 1'-0"

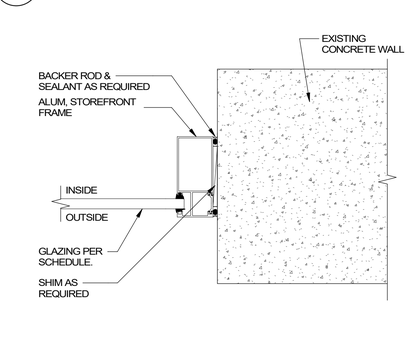


B4 AE510 **JAMB TO MULLION**
3" = 1'-0"

A4 AE510 **JAMB**
3" = 1'-0"



B5 AE510 **JAMB**
3" = 1'-0"



B5 AE510 **JAMB**
3" = 1'-0"

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DOOR & WINDOW DETAILS

AE510

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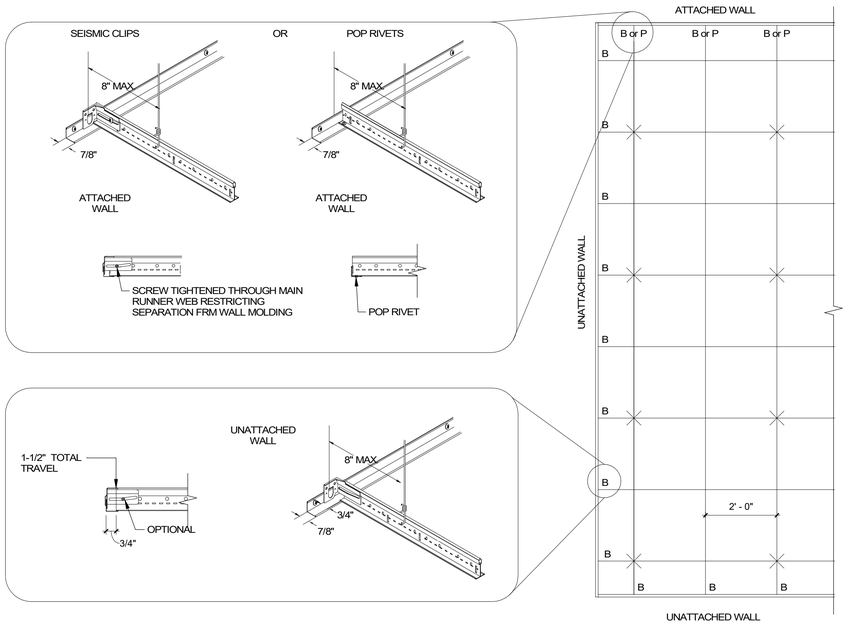
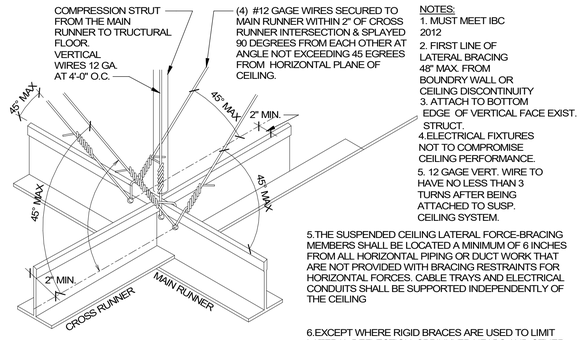


A1 AE530 LAY-IN CEILING SEISMIC BRACING

1/2" = 1'-0"



NOTES:

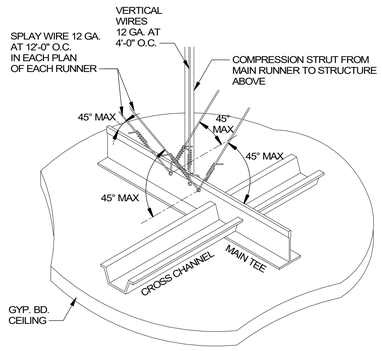
1. MUST MEET IBC 2012
2. FIRST LINE OF LATERAL BRACING 48" MAX. FROM BOUNDRY WALL OR CEILING DISCONTINUITY
3. ATTACH TO BOTTOM EDGE OF VERTICAL FACE EXIST. STRUCT.
4. ELECTRICAL FIXTURES NOT TO COMPROMISE CEILING PERFORMANCE.
5. 12 GAGE VERT. WIRE TO HAVE NO LESS THAN 3 TURNS AFTER BEING ATTACHED TO SUSP. CEILING SYSTEM.

5. THE SUSPENDED CEILING LATERAL FORCE-BRACING MEMBERS SHALL BE LOCATED A MINIMUM OF 6 INCHES FROM ALL HORIZONTAL PIPING OR DUCT WORK THAT ARE NOT PROVIDED WITH BRACING RESTRAINTS FOR HORIZONTAL FORCES. CABLE TRAYS AND ELECTRICAL CONDUITS SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING

6. EXCEPT WHERE RIGID BRACES ARE USED TO LIMIT LATERAL DEFLECTION, SPRINKLER HEADS AND OTHER PENETRATIONS THROUGH THE CEILING TILE REQUIRE MINIMUM 2-INCH RINGS, SLEEVES OR ADAPTERS THAT WILL ALLOW A MINIMUM 1-INCH CEILING MOVEMENT IN ALL HORIZONTAL DIRECTIONS. ALTERNATIVELY, A SWING JOINT CAN BE PROVIDED AT THE TOP OF THE SPRINKLER HEAD EXTENSION TO ACCOMMODATE THE 1-INCH MOVEMENT.

A3 AE530 SEISMIC BRACING

1 1/2" = 1'-0"



A5 AE530 SUSPENDED GYP CEILING

1 1/2" = 1'-0"

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COLLEGE OF HEALTH
UNIVERSITY OF UTAH

UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT

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SALT LAKE CITY, UT 84112

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STATE OF UTAH
JEFFREY S. BAIRD
9142226-0301
12-22-21
LICENSED ARCHITECT

ISSUE TYPE:	DATE:
CONSTRUCTION DOCUMENTS	12/22/21
PROJECT NUMBER:	21-009
DRAWN BY:	AS
CHECKED BY:	JB

CEILING DETAILS

AE530

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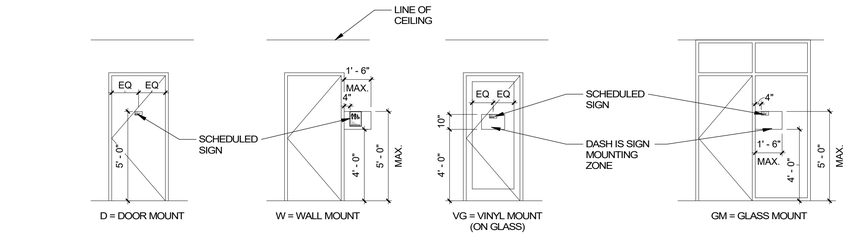
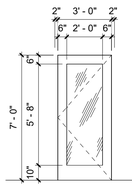


5 AE601 **SIGN MOUNTING HEIGHTS**
1/4" = 1'-0"

ALUMINUM STOREFRONT



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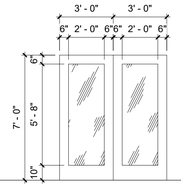

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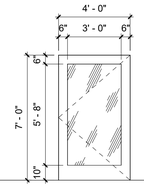

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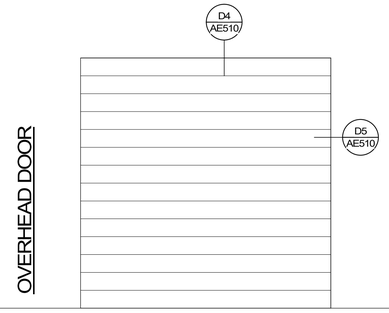
OVERHEAD DOOR



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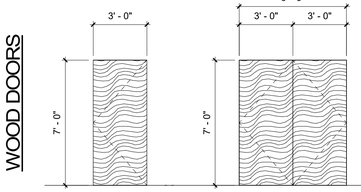
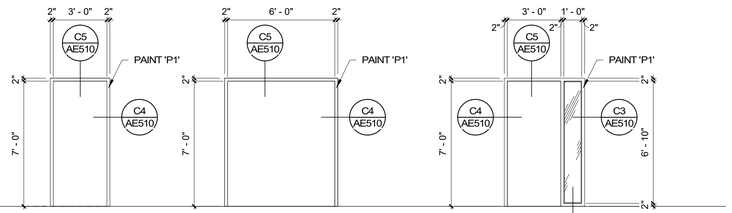
WOOD DOORS



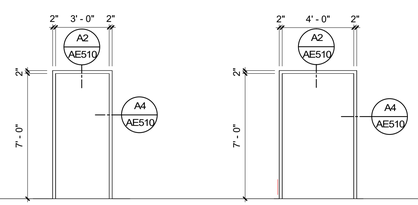
A B

HOLLOW METAL DOOR FRAMES



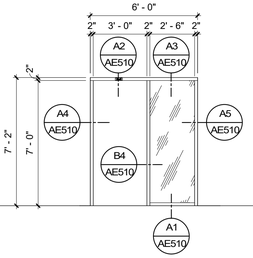
1 2 3

ALUMINUM STOREFRONT FRAMES



S1 AE601 **S1**
1/4" = 1'-0"

S2 AE601 **S2**
1/4" = 1'-0"



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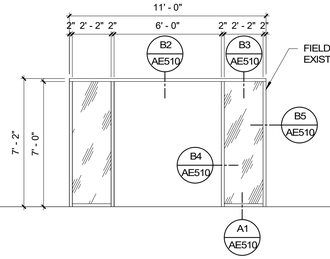

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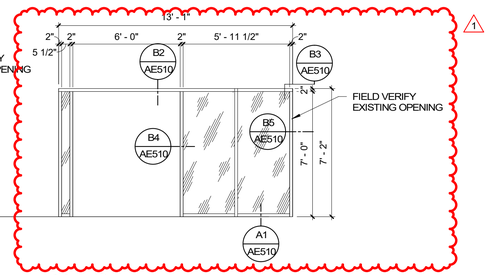
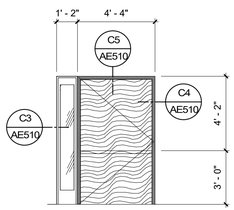
1/4" = 1'-0"



S5 AE601 **S5**
1/4" = 1'-0"



DD AE601 **DUTCH DOOR - TYPE DD**
1/4" = 1'-0"

DOOR SCHEDULE

MARK	TYPE MARK	SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	PANEL TYPE	FRAME TYPE	FIRE RATING	HARDWARE SET NO.	COMMENTS
LEVEL 01									
100	BB	6' - 0"	7' - 0"	1 3/4"	BB	S4		A1	ACCESS CONTROL
102	AA	3' - 0"	7' - 0"	1 3/4"	AA	S3		C1	
102B	D	10' - 0"	8' - 0"	3"	D	-		01	
103	AA	2' - 11"	7' - 0"	1 3/4"	AA	S3		C1	
103A	A	3' - 0"	7' - 0"	1 3/4"	A	1		08	
104	AA	3' - 0"	7' - 0"	1 3/4"	AA	S3		C1	
104A	A	3' - 0"	7' - 0"	1 3/4"	A	1		08	
104D	B	6' - 0"	7' - 0"	1 3/4"	B	2		07	
105	A	3' - 0"	7' - 0"	1 3/4"	A	1		02	
106	DD	4' - 0"	7' - 0"	1 3/4"	DD	-		06	DUTCH DOOR W/ SERVICE COUNTER
106A	A3	3' - 0"	7' - 0"	1 3/4"	A	3		05	
106B	A	3' - 0"	7' - 0"	1 3/4"	A	1		09	
107	AA	3' - 0"	7' - 0"	1 3/4"	AA	S1		C3	
107A	CC	4' - 0"	7' - 0"	1 3/4"	CC	S2		C4	
107B	A	3' - 0"	7' - 0"	1 3/4"	A	1		10	
107C	A	3' - 0"	7' - 0"	1 3/4"	A	1		10	
107D	D	10' - 0"	8' - 0"	3"	D	-		01	
107E	A	3' - 0"	7' - 0"	1 3/4"	A	1		15	
LEVEL 02									
203	BB	6' - 0 3/32"	7' - 0"	1 3/4"	BB	S5		A1	ACCESS CONTROL
203B	AA	3' - 0"	7' - 0"	1 3/4"	AA	S1		C1	
203C	AA	3' - 0"	7' - 0"	1 3/4"	AA	S1		C1	
203D	AA	3' - 0"	7' - 0"	1 3/4"	AA	S1		C1	
203G	A	3' - 0"	7' - 0"	1 3/4"	A	1		11	ACCESS CONTROL
203J	A	3' - 0"	7' - 0"	1 3/4"	A	1		14	
204B	AA	3' - 0"	7' - 0"	1 3/4"	AA	S3		C2	
204C	A	3' - 0"	7' - 0"	1 3/4"	A	1		11	ACCESS CONTROL
204D	A	3' - 0"	7' - 0"	1 3/4"	A	1		04	SOUND
204E	A	3' - 0"	7' - 0"	1 3/4"	A	1		04	SOUND
204F	A	3' - 0"	7' - 0"	1 3/4"	A	1		04	SOUND
204G	A	3' - 0"	7' - 0"	1 3/4"	A	1		04	SOUND
204H	A	3' - 0"	7' - 0"	1 3/4"	A	1		02	
204J	A	3' - 0"	7' - 0"	1 3/4"	A	1		03	
204K	A	3' - 0"	7' - 0"	1 3/4"	A	1		11	ACCESS CONTROL
204L	A	3' - 0"	7' - 0"	1 3/4"	A	1		12	ACCESS CONTROL
204M	A	3' - 0"	7' - 0"	1 3/4"	A	1		13	
204N	A	3' - 0"	7' - 0"	1 3/4"	A	1		14	
E203		3' - 0"	7' - 0"	1 3/4"					EXISTING DOOR W/ NEW HARDWARE

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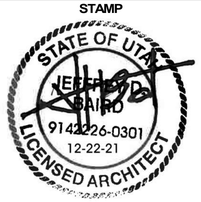

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DOOR TYPES AND SCHEDULE

AE601

ROOM SCHEDULE

Number	Level	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Counter Top	Cabinet Base	Cabinet Upper	Comments
100C	LEVEL 01	CIRCULATION	F3	B2	W8	CL2, CL5, CL3				SEE CARPET TILE PLAN FOR F5 ACCENT LOCATION, SEE A4/AE151 FOR CEILING FINISH LOCATIONS
100D	LEVEL 01	BREEZEWAY	F2	B2	W8	CL5				
102	LEVEL 01	MOVEMENT RESEARCH LAB	F2	B2	W9	CL5				INSTALL FLOORING PARALLEL TO THE LENGTH OF THE ROOM
102A	LEVEL 01	WORKSTATION	F2	B2	W9	CL5				INSTALL FLOORING PARALLEL TO THE LENGTH OF THE ROOM
103	LEVEL 01	EXERCISE INTERVENTION LAB	F6	B3	W8	CL5				
103A	LEVEL 01	STORAGE	F11	B3	W8					
104	LEVEL 01	EXERCISE TESTING LAB	F6	B3	W8	CL5	CT3	PL3	PL3	
104A	LEVEL 01	LAUNDRY	F11	B2	W12	CL4	CT1	PL1	PL1	
105	LEVEL 01	RESTROOM / SHOWER	F10	B1	W2	CL1				INSTALL WALL TILE HORIZONATL ASHLAR OFFSET 1/3
106	LEVEL 01	METABOLIC KITCHEN	F8	B2	W12	CL4	CT5			
106A	LEVEL 01	KITCHEN MANAGER	F3	B2	W8	CL4				
106B	LEVEL 01	JANITOR	F11	B2	W12	CL4				
107	LEVEL 01	EXISTING BIOMECHANICS LAB	F2	B2	W9	CL2				INSTALL FLOORING PARALLEL TO THE LENGTH OF THE ROOM
107A	LEVEL 01	WET LAB	F8	B2	W12	CL4	CT5	PL5	PL5	
107B	LEVEL 01	INTERVIEW	F3	B2	W8	CL3				
107C	LEVEL 01	INTERVIEW	F3	B2	W8	CL3				
107E	LEVEL 01	MECH	F11	-	W8					
203	LEVEL 02	CIRCULATION	F3	B2	W8	CL2, CL5				
203A	LEVEL 02	OPEN OFFICE	F3	B2	W8	CL2, CL5				SEE CARPET TILE PLAN FOR F5 ACCENT LOCATION
203B	LEVEL 02	SHARED OFFICE	F3	B2	W9	CL3				
203C	LEVEL 02	SHARED OFFICE	F3	B2	W9	CL3				
203D	LEVEL 02	SHARED OFFICE	F3	B2	W9	CL3				
203E	LEVEL 02	BREAK AREA	F7	B3	W8	CL3	CT2	PL6	PL2	TILE BACKSPLASH: W6 INSTALL BACKSPLASH HORIZONTAL
203F	LEVEL 02	TDR	F11	B2	W8					
204	LEVEL 02	WAITING	F3	B2	W8	CL2, CL5				SEE CARPET TILE PLAN FOR F5 ACCENT LOCATION, SEE A4/AE152 FOR W4 WALLCOVERING LOCATION
204A	LEVEL 02	RECEPTION	F3	B2	W8	CL2, CL5				SEE CARPET TILE PLAN FOR F5 ACCENT LOCATION
204B	LEVEL 02	CONFERENCE	F4	B2	W8	CL2, CL5				SEE FINISH PLAN AE152 FOR W5 WALLCOVERING LOCATION
204C	LEVEL 02	CORRIDOR	F3	B2	W8	CL3				
204D	LEVEL 02	INTERVIEW	F3	B2	W8	CL3				
204E	LEVEL 02	INTERVIEW	F3	B2	W8	CL3				
204F	LEVEL 02	INTERVIEW/ SLEEP STUDY	F3	B2	W8	CL3				
204G	LEVEL 02	INTERVIEW/ SLEEP STUDY	F3	B2	W8	CL3				
204H	LEVEL 02	RESTROOM	F9	B1	W3	CL1				FLOOR TILE INSTALL ASHLAR WITH 1/3 OFFSET; WALL TILE INSTALL HORIZONTAL STACK BOND
204J	LEVEL 02	RESTROOM	F9	B1	W3	CL1				FLOOR TILE INSTALL ASHLAR WITH 1/3 OFFSET; WALL TILE INSTALL HORIZONTAL STACK BOND
204K	LEVEL 02	CONTROL	F3	B2	W8	CL3				
204M	LEVEL 02	STORAGE	F11	B2	W8	CL3				
204P	LEVEL 02	WATER COOLERS	F7	B2	W8	CL3				

FINISH LEGEND

KEY	DESCRIPTION	MANUFACTURER	STYLE/PATTERN	COLOR/FINISH	SIZE	NOTES
FLOOR FINISHES						
F2	RUBBER FLOORING 2	NORTH WEST RUBBER	REACTION	RHINO #612	3.5MM ROLL GOODS	FIELD COLOR
F3	CARPET TILE	TARKETT	SPIN-OFF 11578	RED HANDED 39401	18" x 36"	FLEX-AIRE MODULAR BACKING
F4	CARPET TILE	TARKETT	CORALLARY 11577	RED HANDED 39401	18" x 36"	FLEX-AIRE MODULAR BACKING
F5	CARPET TILE	BENTLEY	WANDERLUST	FIREFLY 400338	18" x 36"	NEXT STEP CUSHION BACKING, SEE CARPET TILE PLAN FOR ACCENT LOCATIONS
F6	VINYL SPORT FLOORING	LONSEAL	LONWOOD NATURAL TOPSEAL	W7467 SINGING BIRDS	2.0 MM	USE WITH B4
F7	LVT RESILIENT FLOORING	DALTILE	PROSERIES BELLANT	WOVEN WHITE BL34 W/SUPERGUARD	18" x 18" 2.5 MM	USE WITH B4
F8	RESILIENT FLOORING	LONSEAL	LONFLOOR GALVANIZED TOPSEAL	7244 GRAPHITE	2.0 MM	USE WITH B3
F9	TILE	DALTILE	ASTRONOMY	SOLSTICE AT72	12" X 24"	GROUT: MAPEI 19 PEARL GRAY USE WITH B1
F10	MOSAIC TILE	DALTILE	PORTFOLIO	IRON GREY PF06	2" x 2" MOSAIC	GROUT: MAPEI 107 IRON; USE WITH B1
F11	SEALED CONCRETE					
T1	TRANSITION STRIP	TARKETT	CTA-40-D 5/16 to 1/8	40 BLACK	5/16 TO 1/8	
T2	TRANSITION STRIP	TARKETT	CTA-40-D 5/16 to 1/16	40 BLACK	5/16 TO 1/16	
T3	TRANSITION STRIP	TARKETT	EG-40-G 5/16 TO FLOOR	40 BLACK	5/16 TO FLOOR	
T4	TRANSITION STRIP	TARKETT	SSR-29-B 1/16 TO FLOOR	29 MOON ROCK	1/16 TO FLOOR	
T5	ALUMINUM TRANSITION	SCHLUTER	RENO-U	SATIN ANODIZED ALUMINUM		ACCOMODATE ADJACENET MATERIAL HEIGHT.
BASE FINISHES						
B1	METAL COVE	SCHLUTER	DILEX-AHK	SATIN ANODIZED AHK1S100AE	10MM (3/8")	
B2	RUBBER BASE	TARKETT	DURACOVE TYPE TP COVED	40 BLACK	4" W/TOE	
B3	RUBBER BASE	TARKETT	DURACOVE TYPE TP COVED	29 MOON ROCK	4" W/TOE	
WALL FINISHES						
F1	RUBBER FLOORING 1	NORTH WEST RUBBER	REACTION	BRICK #620	3.5MM ROLL GOODS	ACCENT BORDER COLOR, USE WITH B3 BASE
W1	WALL TILE TRIM	SCHLUTER	JOLLY	SATIN ANODIZED ALUMINUM		USE WITH W2, W3 WALL TILE UNFINISHED EDGE
W2	WALL TILE/WALL PAINT	DALTILE/BENJAMIN MOORE	PORTFOLIOBARREN PLAIN 2111-60 AURA BATH & SPA	WHITE PF02/BARREN PLAIN 2111-60, 532 MATTE FINISH	12" X 24"/532 MATTE	GROUT: MAPEI 01 ALABASTER; USE W1 ON TILE WAINSCOT UNFINISHED EDGE, PAINT: AURA BATH & SPA WATERBORNE PAINT, MATTE
W3	WALL TILE/WALL PAINT	DALTILE/BENJAMIN MOORE	SANTINO/SHORELINE 1471 AURA BATH & SPA	GRIGIO SN08/SHORELINE 1471, 532 MATTE FINISH	12" X 24"/532 MATTE	GROUT: MAPEI 19 PEARL GRAY, USE W1 ON TILE WAINSCOT UNFINISHED EDGE, PAINT: AURA BATH & SPA WATERBORNE PAINT, MATTE
W4	WALLCOVERING	MAHARAM	BOLT 399986			
W5	WALLCOVERING	KNOLL	BESPOKE WALL WC2339/10	SHADE		
W6	BACKSPLASH TILE	DALTILE	MINUTE MOSAIX LINEAR RANDOM MOSAIC	STORMY MIST M048	MOSAIC MIX	BREAK ROOM BACKSPLASH COUNTER TO CABINET
W7	PAINT	BENJAMIN MOORE		COLOR MATCH PANTONE 187, SATIN		ACCENT PAINT WHERE NOTED ON FINISH PLAN AE151, AE152
W8	PAINT	BENJAMIN MOORE		SHORELINE 1471, SATIN		GENERAL WALL PAINT
W9	PAINT	BENJAMIN MOORE		COVENTRY GRAY HC-169, SATIN		
W10	WALL TILE	DALTILE	PORTFOLIO	ICE PF01	12" X 24"	GROUT: MAPEI 93 WARM GRAY, USE WITH W1 TRIM
W11	WALL TILE	DALTILE	PORTFOLIO	IRON GREY PF06	2" x 2" MOSAIC	GROUT: MAPEI 19 PEARL GRAY , USE WITH W1 TRIM
W12	EPOXY PAINT	BENJAMIN MOORE	COROTECH PRE-CATALYZED WATERBORN EPOXY	SHORELINE 1471, V342 EGGSHELL FINISH		PRIMER: BENJAMIN SURE SEAL LATEX PRIMER SEALER 027
CEILING						
CL1	PAINTED GYP	BENJAMIN MOORE	AURA BATH & SPA WATERBORNE PAINT	WHITE DIAMOND 21-60, 532 MATTE FINISH	532 MATTE	ALL RESTROOMS
CL2	ACOUSTIC CLOUD PANEL	ROCKFON	ISLAND		4' x 4'	
CL3	LAY-IN	ROCKFON	EDUCATION PLUS	SQUARE LAY-IN, 15/16" SUSPENSION	2' x 2'	USE WITH CHICAGO METALLIC 1200 15/16" SUSPENSION SYSTEM
CL4	LAY-IN	ROCKFON	HYGEINIC PLUS SQ	SQUARE LAY-IN, 15/16" SUSPENSION	2' x 2'	USE WITH CHICAGO METALLIC 1200 15/16" SUSPENSION SYSTEM
CL5	EXPOSED & PAINTED	BEJAMIN MOORE		CINDER AF-705 FLAT	FLAT	
CL6	PAINTED GYP	BENJAMIN MOORE		WHITE DIAMOND 2121-60, FLAT	FLAT	
COUNTER TOP						
CT1	QUARTZ	DALTILE	ONE QUARTZ	SIMPLY GRAY OQ30	2 CM	1.5" THICK, MITERED EDGE (NO STACKING)
CT2	QUARTZ	CAESARSTONE	4600	ORGANIC WHITE/POLISHED	2 CM	1.5" THICK, MITERED EDGE (NO STACKING)
CT3	QUARTZ	ARIZONA TILE	DELLA TERRA QUARTZ	TAWNY	2 CM	1.5" THICK, MITERED EDGE (NO STACKING)
CT4	QUARTZ	ARIZONA TILE	DELLA TERRA QUARTZ	WHITE SAND-N	2 CM	1.5" THICK, MITERED EDGE (NO STACKING)
CT5	QUARTZ	CAESARSTONE	3040	CEMENT	2 CM	1.5" THICK, MITERED EDGE (NO STACKING)
MISC						
P1	PAINT - DOOR FRAME	BENJAMIN MOORE		BLACK 2132-10, SEMI-GLOSS		
P2	PAINT - STAIR RAILING/STRINGER	BENJAMIN MOORE		COLOR MATCH PANTONE 187, HIGH GLOSS		
PL1	LAMINATE	FORMICA	9243-58	ZEN GREY MATTE FINISH		
PL2	LAMINATE	FORMICA	9318-BH	ALUMINUM BRUSH FINISH		PATTERN DIRECTION TO RUN VERTICAL
PL3	LAMINATE	FORMICA	8841-WR	WHITE ASH WOOD BRUSH FINISH		GRAIN DIRECTION TO RUN VERTICAL
PL4	LAMINATE	FORMICA	909-MC	BLACK MICRODOT FINISH		
PL5	LAMINATE	WILSONART	7850-60	BEIGEWOOD MATTE FINISH		GRAIN DIRECTION TO RUN VERTICAL
PL6	LAMINATE	WILSONART	D12K-18	REGIMENTAL RED LINEARITY FINISH		PATTERN DIRECTION TO RUN VERTICAL
W1	WOOD DOOR	ARCHITECTURAL WOOD DOORS	BIRCH WHITE VENEER, PLAIN SLICE, BOOK MATCH	CLEAR CL18		

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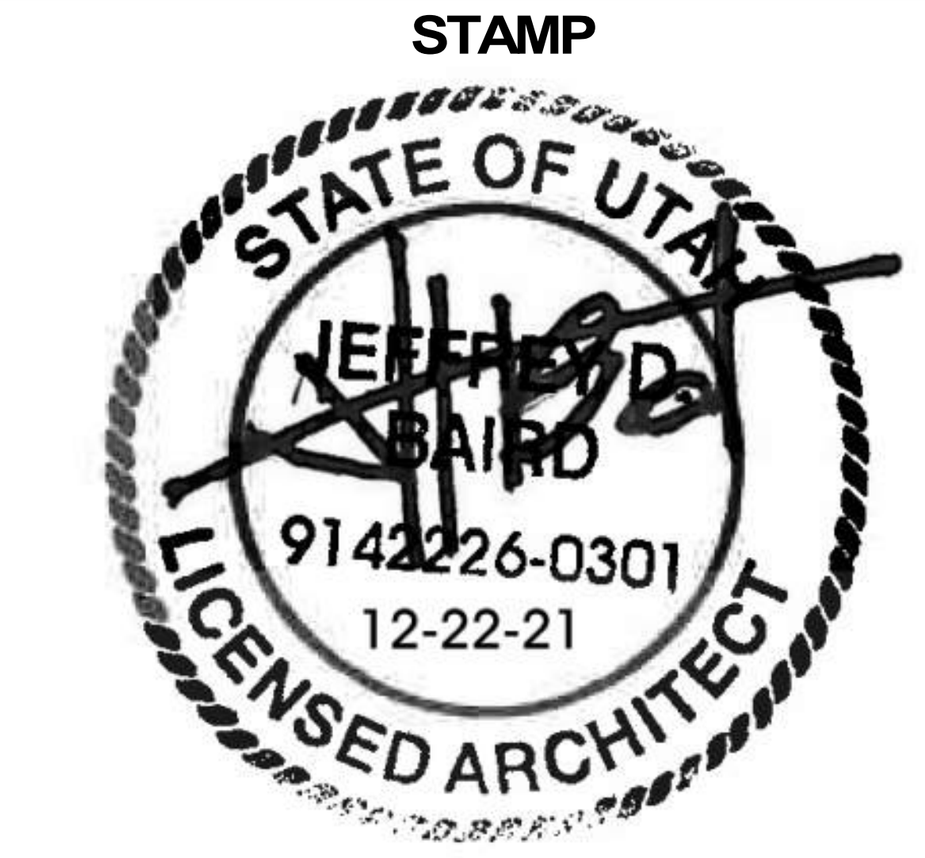

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ROOM SCHEDULE & FINISH SCHEDULE

AE602

BIM 360://HPER - East Phase 2/21-009 UU HPER East Ph 2.rvt
2/1/2022 11:34:55 PM

1. Design Criteria

1.1. Governing Building Code .... 2018 International Building Code (IBC)
- A. Risk Category III

1.2. Floor Live Loading
- A. Office .... 50 psf Live Load + 15 psf Partition Load
  Exit Facilities & Corridors .... 100 psf Live Load

1.3. Roof Live Loading
- A. Roof Live Load .... 20 psf
- B. Roof Snow Load .... 30 psf + Drift per IBC
  1. Ground Snow Load, P_g .... 39 psf
  2. Snow Exposure Factor, C_e 1.0
  3. Importance Factor, I_s 1.10
  4. Thermal Factor, C_t 1.0
  5. Slope Factor, C_s 1.0
- C. Roof Rain Load Intensity, i .... 1.77in. per hour

2. Concrete

2.1. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-14, "Building Code Requirements for Structural Concrete."
- A. Concrete mix design requirements shall be as follows:

Location	f'c at 28 days (psi)	Max W/C Ratio	Air Content (%)	Max Aggregate Size	Exposure Classes*		
					F	S	C
Concrete over Steel Deck	3000	0.45	-	¾"	F0	S0	C0
All other site cast concrete	4500	0.45	6	1"	F1	S0	C1

* Exposure Classes are per ACI 318, Section 19.3.1.1, where F, S and C are exposure categories for freezing and thawing, sulfate, and corrosion protection of reinforcement, respectively.

- B. Cementitious Materials:
  1. Portland Cement (ASTM C150):
     - a. Type I or II for exposure class S0.
     - b. Type II or V for exposure class S1.
     - c. Type V for exposure class S2 and S3.
  2. Fly Ash (ASTM C618, Class C or F): maximum fly ash content as a percentage of total weight of cementitious materials shall be 25 percent.
- C. Concrete Density (Maximum Air Dry Weight):
  1. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot. Aggregate shall be ASTM C33.
  2. Lightweight concrete shall not exceed 110 pounds per cubic foot and shall be made of lightweight coarse aggregates and either lightweight and/or normal weight fines meeting ASTM C330.
- D. Steel Reinforcement:
  1. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise.
- E. Wire Reinforcement:
  1. Welded wire fabric (WWF): ASTM A1064.
- F. Fiber Reinforcement:
  1. Macrosynthetic Fibers: monofilament, non-fibrillating fibers made of a polypropylene/polyethylene blend. Macro fibers shall comply with ASTM C 1116, Type III, and meet the criteria of ASTM D 7508.
     - a. Where noted in the Steel Deck Schedule, macrosynthetic fibers shall be added to concrete over steel deck at a dosage rate determined by the fiber manufacturer but not less than 4 lb/cu yd.
     - b. Do not burn off exposed fibers.
- G. Admixtures:
  1. Air-entraining admixtures, comply with ASTM C 260 (when used).
     - a. Tolerance on air content as delivered shall be +/- 1.5%.
     - b. When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the Contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R-15 "Guide for Concrete Floor and Slab Construction" for proper finishing guidelines.
  2. The use of super plasticizers and water reducers is allowed, but not required.
  3. Calcium chloride or admixtures containing calcium chloride shall not be added to the concrete mix.
- H. Chloride Ion: Maximum water soluble chloride ion concentrations in hardened concrete at age between 28 and 42 days contributed from the ingredients including water, aggregates, cementitious materials, and admixtures shall not exceed a maximum, by weight of cement, of 1.00% for concrete with exposure class C0, 0.30% for concrete with exposure class C1, 0.15% for concrete with exposure class C2, and 0.06% for all prestressed concrete.
- I. Slump Limit: 4 inches, maximum for all concrete prior to the addition of plasticizers and water reducing admixtures. The concrete supplier shall indicate the final slump of each concrete mix in the submitted mix design.
- J. Only one grade or type of concrete shall be poured on the site at any given time.

2.2. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The Contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.
- A. Pre-camber forms and screeds with a camber of 1/4" per every 10'-0" of span to compensate for dead load deflection, unless noted otherwise. Post tensioned concrete slabs and beams do not require formwork to be pre-cambered.

2.3. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete".
- A. Cast-in-place Concrete: Specified Cover
  1. Concrete not exposed to weather or in contact with ground:
     Slabs, Walls, Joists; #11 bars and smaller .... 3/4"
     Beams, Columns: primary reinforcement, ties, stirrups, spirals .... 1.1/2"

2.4. Construction Joints and Control Joints:
- A. Control joints shall be installed in concrete slabs over steel deck by saw-cutting along girders and purlins at interior grid lines. See typical details for joint size and reinforcement. Reinforcement required shall be in addition to any slab reinforcement.

2.5. Detailing: All reinforcing, including welded wire fabric, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.
- A. All embedded elements and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
- B. Use chairs or other support devices recommended by CRSI to support and tie reinforcement bars and welded wire fabric prior to placing concrete. Welded wire fabric shall be continuously supported at 36" o.c. maximum.
- C. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
- D. All reinforcement shall be bent cold and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the Engineer.

3. Structural Steel

3.1. Material:
- A. W-Shapes: ASTM A992, (F_y = 50 ksi), except as noted otherwise
- B. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise
- C. Rectangular and Square Hollow Structural Sections (HSS): ASTM A500, Grade C (Fy = 50 ksi)
- D. Steel Deck:
  1. Galvanized Steel Sheet: ASTM A653 or A1063, Grade 50 with G60 galvanized coating.
  2. Ungalvanized Steel Sheet: ASTM A1008 or A1039, Grade 50
- E. High-Strength Bolts:
  1. Group A: ASTM F3125 Grades A325 & F1852
  2. Group B: ASTM F3125 Grades A490 & F2280
  3. Group C: ASTM F3043 & ASTM F3111
- F. Deformed Bar Anchors (DBA): ASTM A496 or ASTMA1064, 70 ksi minimum yield strength.
- G. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications

3.2. Fabrication and construction shall comply with the following Codes and Standards:
- A. American Institute of Steel Construction (AISC) 360-16, "Specification for Structural Steel Buildings"
- B. AISC 341-16, "Seismic Provisions for Structural Steel Buildings"
- C. AISC 303-16, "Code of Standard Practice for Steel Buildings and Bridges" excluding the following: Section 3.3 (last two sentences of first paragraph), Section 4.4, Section 4.4.1, Section 4.4.2, Section 4.5, and Section 7.13.3
  1. The architectural drawings are the prime contract drawings. Consultants' drawings by other disciplines are supplementary to the architectural drawings. The structural drawings shall be used in conjunction with the architectural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in architectural, structural, and/or other consultants' drawings. Refer to the Special Instructions section of the general notes, below.
- D. AISC/RCSC 2014, "Specification for Structural Joints Using High-Strength Bolts"
- E. American Welding Society (AWS) D1.1:2015, "Structural Welding Code – Steel" (specific items do not apply when they conflict with the AISC requirements)
- F. American Welding Society (AWS) D1.8:2016, "Structural Welding Code – Seismic Supplement" (specific items do not apply when they conflict with the AISC requirements)

3.3. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the Structural Engineer.

3.4. Welding:
- A. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
- B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Architect prior to beginning work.
- C. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
- D. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
- E. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs).
- F. Bolts: Do not apply any welds, including "tack" welds to bolts, including anchor bolts, except as specifically detailed in the drawings.
- G. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.9 and Annex G.

3.5. Bolted Connections:
- A. Provide snug tightened joints with Group A (threads not excluded) bolts for steel to steel connections, unless noted otherwise. Snug tightened joints shall be used in connections for simple span framing and beam (or girder) to bearing plate connections. Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. The snug tightened condition is typically achieved with a few impacts of an impact wrench, application of an electric torque wrench until the wrench begins to slow, or the full effort of a worker on an ordinary spud wrench.
- B. Provide hardened washers beneath the turned element of all bolts or nuts. Provide hardened beveled washers, to compensate for the lack of parallelism, where the outer face of the bolted parts has a slope greater than one in twenty with respect to the plane normal to the bolt axis. Hardened washers or plates installed over oversized holes or slotted holes shall be at least 5/16" thick and shall conform to ASTM F436. Plates or bars installed at slotted holes shall have a size sufficient to completely cover the slot after installation.
- C. Where a steel to steel beam connection is not detailed in the drawings, provide a standard AISC framed connection with the capacity to support one half of the total uniform load capacity of the given shape for the span and for the steel specified.
- D. Bolts, nuts and washers shall not be reused.

3.6. Beam Web Stiffener Plates:
- A. Provide full-height web stiffener plates to each side of all beams above all bearing points. Unless noted otherwise, stiffener plates shall be the thickness indicated in the typical stiffener plate detail.

3.7. Composite Beams
- A. Composite beams are indicated on the framing plans with the suffix ( ). The number inside the brackets indicates number of headed stud anchors for this beam. Beams shall have the studs spaced uniformly over the entire beam length.
- B. Beams which have more than one number inside the symbol (, ,), such as (W, X, Y, Z), shall have "W" number of studs spaced evenly over the first "section of beam", "X" number of studs spaced evenly over the second "section of beam", "Y" number of studs spaced evenly over the third "section of beam", and "Z" number of studs spaced evenly over the fourth "section of beam". A "section of beam" is defined as that portion of beam located between the column and the nearest intersecting framing member or that portion of beam located between two adjacent intersecting framing members.
- C. Use 3/4" diameter studs. Headed studs shall extend 1.1/2" minimum above the top of the steel deck after welding. Headed studs shall be applied through the metal deck to the top flange of the steel section or welded directly to the steel section.
- D. The minimum center-to-center spacing of stud connectors shall be six (6) diameters along the longitudinal axis of the supporting composite beam and four (4) diameters transverse to the longitudinal axis of the supporting composite beam. The maximum center to center spacing shall not exceed 32".
- E. C= XX" on the plans denotes precamber dimension (upward) in inches.

4. Cold-Formed Steel

4.1. Material:
- A. Studs:
  1. Base metal thickness of less than 33 mil: ASTM A1003 or A653, Fy = 33 ksi.
  2. Base metal thickness of 33 mil or greater: ASTM A1003 or A653, Fy = 50 ksi.
- B. Track, Connection Clips, and Miscellaneous Shapes:
  1. Base metal thickness of less than 33 mil: A1003 or A653, Fy = 33 ksi.
  2. Base metal thickness of 33 mil or greater: A1003 or A653, Fy = 50 ksi

4.2. Design, fabrication and construction shall comply with the following Codes and Standards:
- A. American Iron and Steel Institute (AISI) S100-16, "North American Specification for the Design of Cold-Formed Steel Structural Members", dated 2016.
- B. American Iron and Steel Institute (AISI) S202-15: Code of Standard Practice for Cold-formed Steel Framing, 2015
- C. American Iron and Steel Institute (AISI) S220-15, "North American Standard for Cold-Formed Steel Framing-Nonstructural Members."
- D. American Iron and Steel Institute (AISI) S240-15: North American Standard for Cold-Formed Steel Structural Framing
- E. American Iron and Steel Institute (AISI) S400-15/S1-16: North American Standard for Seismic Design of Cold-formed Steel Structural Systems, 2015, with Supplement 1, dated 2016.

4.3. Non-Load-Bearing Cold-Formed Steel Framing:
- A. All non-load bearing cold-formed steel (and/or) joist framing members along with all runner, bridging, and end track shall be of the designation shown on the plans, schedules, and details. The framing member designators used in the plans, schedules, and details follow the convention established by the Steel Stud Manufacturers' Association (SSMA) and the North American Steel Framing Alliance (NASFA). Framing members provided shall comply with the designations according to this convention. See Steel Stud Manufacturers Association-Nomenclature for an explanation of the stud or track designations.
- B. All components shall be galvanized.
- C. Where not noted in the drawings, all framing members shall have a base metal thickness of 33 mil or greater.
- D. All jamb, header, and sill components shall be continuous without splices unless noted otherwise. Jambs shall extend continuous from floor to floor, roof, or wind girt.
- E. Web punchouts in header stud members shall not be located within 12 inches of the support.
- F. Fasteners for steel stud construction shall be self-drilling and self-tapping meeting ASTM C1513. Screw-type fasteners shall penetrate the joined materials with a minimum of three threads exposed. Furnish, install, and tighten screws per the manufacturer's recommendations and per the sizes indicated in the details. The minimum screw-type fastener size shall be #10 for any connection, unless noted otherwise, or the manufacturers' minimum recommended size for framing clips and bridging.
- G. Wall to floor or roof connections shall use deflection tracks or steel clips designed to accommodate vertical deflection of the floor or roof structure. See specific details for further information
- H. Connection hardware uses The Steel Network (TSN) products as the basis of design. Other manufacturer's connection clips, must be submitted for review and approved by the Architect/Engineer prior to use, and shall clearly indicate all ICC/IAPMO code reports, load capacities and engineering associated with their use. Follow all manufacturers' recommendations for the use of these products.

4.4. Welding:
- A. The steel stud contractor shall contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
- B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the Architect prior to beginning work.
- C. Unless noted otherwise, all welded connections shall be done using 1/8" AWS type 6013 or 7014 rod with a welding heat of 60-110 amperes depending on the gauge of material and the fit of the parts. Wire tying of framing components shall not be permitted. Welds and damaged coatings on studs shall be repaired with zinc galvanizing repair paint.

5. Miscellaneous

5.1. Post-Installed Anchors in Concrete and Masonry
- A. Anchorage to hardened concrete and grout-filled masonry shall include all mechanical and adhesive anchors and epoxy doweled reinforcing bars of size, quantity, spacing, and embedment as shown on the drawings. Additional anchors shall not be used without approval from the Engineer prior to installation.
- B. Special inspection is required during the installation of all post-installed anchors. Refer to applicable code evaluation reports and the Quality Assurance and Statement of Special Inspections sections of the General Structural Notes.
- C. Anchorage to Concrete:
  1. All post-installed anchors into hardened concrete shall be selected from the following pre-approved products, unless noted otherwise:

Steel Screw Anchor	Evaluation Report
Hilti KWIK HUS-EZ	ICC ESR-3027
DeWalt Screw-Bolt+	ICC ESR-3889
Simpson Titen HD	ICC ESR-2713

Steel Expansion/Wedge Anchor	Evaluation Report
Hilti KWIK Bolt TZ	ICC ESR-1917
DeWalt Power-Stud+ SD2	ICC ESR-2502
Simpson Strong-Bolt 2	ICC ESR-3037

Adhesive Anchor System	Evaluation Report
Hilti HIT-HY 200	ICC ESR-3187
Hilti HIT-RE 500 V3	ICC ESR-3814
DeWalt AC200+	ICC ESR-4027
DeWalt Pure 110+	ICC ESR-3298
Simpson SET-3G	ICC ESR-4057

  2. Adhesive anchors shall be installed into concrete having a minimum age of 21 days. For installations sooner than 21 days, consult the adhesive manufacturer.
- D. Alternate anchors or adhesives are permitted with approval of the Engineer. The Contractor shall submit the proposed anchor product data and code evaluation report demonstrating the anchor is equivalent to or exceeds the capacity of the specified anchor.
- E. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Anchor Installer Certification program, or equivalent. Proof of current certification shall be submitted to the Engineer for approval prior to commencement of installation.
- F. Anchors shall be installed according to the Manufacturer's Printed Installation Instructions and applicable code evaluation reports including:
  1. Hole diameter, depth, and cleaning procedure
  2. Adhesive mixing, preparation, and placement
  3. Installation torque
- G. Locate all existing reinforcement and embedded items prior to drilling into concrete or masonry elements. Do not damage rebar or embeds while drilling or installing anchors.
- H. Grout all defective or abandoned holes with non-shrink grout or an injectable epoxy adhesive matching the surrounding concrete compressive strength. Consult the Architect for additional requirements at architecturally exposed concrete.
- I. Drilled anchors are not allowed in post-tensioned concrete without approval of the Architect and Engineer.
- J. Carbon steel anchors are limited to use in dry, interior locations.
- K. Holes for post-installed anchors may not be core drilled unless specifically allowed by the manufacturer's installation instructions and the code evaluation report.

6. Special Instructions

6.1. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details.

6.2. The architectural drawings are the prime contract drawings. Consultant drawings by other disciplines are supplementary to the architectural drawings. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Architect without additional cost to the Owner. Any work done by the Contractor after discovery of such discrepancy shall be done at the Contractor's risk.

6.3. The structural drawings shall be used in conjunction with the architectural drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.

6.4. Shoring and Bracing Requirements:
- A. Floor and Roof Structures -- The General Contractor is responsible for the method and sequence of all structural erection. The Contractor shall provide temporary shoring and bracing as the method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
- B. Walls above grade shall be braced until the structural system is complete. Walls shall not be considered to be self-supporting.

6.5. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.

6.6. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the Contractor of the responsibility of completing the project according to the contract documents. The General Contractor shall review and mark all shop drawings prior to submitting them to the Architect for review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.

6.7. Project Coordination: It shall be the responsibility of the General Contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the General Contractor and shall be coordinated with the Architect/Engineers. The order of construction is the responsibility of the General Contractor. It is the Contractor's obligation to provide all items necessary for the chosen procedure.

6.8. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, Contractor shall notify Architect/Engineer prior to fabrication or construction within that area.

6.9. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers' reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the Contractor or subcontractors for preparation of shop drawings or other submittals.

7. Quality Assurance

7.1. Quality Assurance Agency Requirements:
- A. The Owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. The QAA shall provide all information necessary for the building official to determine that the agency meets the applicable requirements.
  1. The QAA shall be objective, competent and independent from the Contractor responsible for the work being inspected. The agency shall disclose to the building official and the registered design professional in responsible charge possible conflicts of interest so that objectivity can be confirmed.
  2. The QAA shall have adequate equipment to perform required tests. The equipment shall be periodically calibrated.
  3. The QAA shall employ experienced personnel educated in conducting, supervising and evaluating tests and special inspections. Experience or training shall be considered relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities.
  4. The QAA shall send copies of all inspection and testing reports to the building official, Owner, Architect, Engineer and Contractor. Reports shall indicate that the work inspected was or was not completed in conformance to the approved construction documents. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the, Architect and Engineer.

CRSA
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RECORD DRAWING
DATE: JULY 2021

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. REAVELEY ENGINEERS + ASSOCIATES HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

HPER RESEARCH REMODEL

UNIVERSITY OF UTAH
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Salt Lake City, UT 84112

STAMP

PROFESSIONAL STRUCTURAL ENGINEER
No. 4770425
CAMERON EMPEY
STATE OF UTAH
06/10/20

ISSUE	DATE:
COORDINATION SET	12/13/2021

PROJECT NUMBER:	U:22317 & CRSA:19-071
DRAWN BY:	YA
CHECKED BY:	JC

GENERAL STRUCTURAL NOTES

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5. The QAA shall submit a final report documenting required special inspections and tests, and correction of any discrepancies noted in the inspections or tests. The final report shall be distributed to the building official, Owner, Architect and Engineer in a timely manner prior to the completion of the project.

7.2. Contractor Responsibilities:
- A. The Contractor shall submit a written statement of responsibility to the building official and the Owner or the owner's authorized agent prior to the commencement of work on the systems or components listed in the statement of special inspections. The Contractor's statement of responsibility shall contain acknowledgement or awareness of the special requirements contained in the statement of special inspections.
- B. Notification of QAA: The Contractor shall notify the QAA in a timely manner so that inspection and testing may be performed as outlined in the statement of special inspections.

7.3. Structural Observations by the Engineer of Record.
- A. The Engineer of Record will perform structural observations at critical phases of the project. Observations will be made on a periodic basis throughout the construction of the structural system. Copies of the Engineer's report will be distributed to the Architect, Contractor, Owner, and building official.
- B. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.

8. Statement of Special Inspections

8.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).

8.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases, periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. Frequency marked with (E) designates periodic inspections that must be performed prior to or upon completion of every task.

Structural Steel per IBC Section 1705.2.1, 1705.12.1 & 1705.13.1

Item	Frequency	Detailed Instructions
Prior to Welding (Table N5.4-1, AISC 360-16):		
Verify welding procedures (WPS) and consumable certificates	Periodic (E)	
Material identification	Periodic	Verify type and grade of material.
Welder identification	Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	Periodic	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Access holes	Periodic	Verify configuration and finish.
Fit-up of fillet welds	Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
During Welding (Table N5.4-2, AISC 360-16):		
Use of qualified welders	Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	Periodic	Verify packaging and exposure control.
Cracked tack welds	Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	Periodic	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	Periodic	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.
Welding techniques	Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and each pass meets quality requirements.
Steel headed stud anchors	Periodic	Verify placement and installation of steel headed stud anchors.

Item	Frequency	Detailed Instructions
After Welding (Table N5.4-3, AISC 360-10):		
Welds cleaned	Periodic	Verify that welds have been properly cleaned.
Size, length, and location of welds	Periodic (E)	
Welds meet visual acceptance criteria	Periodic (E)	Verify weld meets visual acceptance criteria based upon crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, and porosity.
Arc strikes	Periodic (E)	
Backing & weld tabs removed	Periodic (E)	
Repair activities	Periodic (E)	
Document acceptance or rejection of welded joint/member	Periodic (E)	
No prohibited welds	Periodic (E)	Verify no prohibited welds have been added without approval of the EOR.
Nondestructive Testing (Section N5.5, AISC 360-16):		
CJP welds (Risk Cat. II)	Periodic	Ultrasonic 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 per Section N5.5b. Testing rate must be increased to 100% if > 5% of welds tested have unacceptable defects per Section N5.5f.
CJP welds (Risk Cat. III or IV)	Periodic (E)	Ultrasonic testing shall be performed on 100% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater per Section N5.5b. A reduction in the rate of ultrasonic testing is allowed per Section N5.5e.
Welded joints subject to fatigue	Periodic (E)	Reduction of ultrasonic testing is prohibited.
After Bolting (Table N5.6-3, AISC 360-16):		
Document acceptance or rejection of bolted connections	Periodic (E)	
Other Steel Inspections (Section N5.8, AISC 360-16: Table J8-1, J10-1, AISC 341-17):		
Structural steel details	Periodic	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the 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	Periodic	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.
Steel Elements of Composite Construction (Table N6.1, AISC 360-16; Tables J9-1 thru J9-3, AISC 341-17):		
Placement and installation of steel deck	Continuous	
Placement and installation of steel headed stud anchors	Continuous	
Document acceptance or rejection of steel elements	Continuous	

Item	Frequency	Detailed Instructions
Reinforcing steel	Periodic	Verify appropriate reinforcement size, spacing, and orientation; that it has not been re-bent in field; that it is correctly tied and supported; and that required steel clearances have been provided.
Composite member size	Periodic	Verify that composite member is the required size.

Steel Construction Other Than Structural Steel per IBC Section 1705.2.2

Item	Frequency	Detailed Instructions
Steel Roof and Floor Decks (IBC Table 1705.2.2):		
Material verification of cold-formed steel deck	Periodic	Confirm that identification markings are provided to conform to ASTM standards specified on construction documents.
Floor and roof deck welds	Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3. Welder qualifications should also be verified.

Concrete Construction per IBC Sections 1705.3 &1705.12

Item	Frequency	Detailed Instructions
Reinforcing steel	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 mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	Periodic	Verify weldability of reinforcing steel other than A706. Continuous inspection is required for welding of reinforcing steel used in intermediate or special concrete moment frames, boundary elements of special structural walls or shear reinforcement.
Cast-in bolts & embeds	Periodic	
Post-installed adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	Continuous	All post-installed anchors/dowels shall be special inspected in accordance with the approved code evaluation report and with ACI Section 17.8.2.
Post-installed mechanical anchors and adhesive anchors not defined above	Periodic	
Use of required mix design	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, 1908.2, 1908.3.
Concrete sampling for strength tests, slump, air content, and temperature	Continuous	Samples for strength tests shall be taken in accordance with ASTM C172, cured per ASTM C31 and tested in accordance with ASTM C39 by a testing agency complying with ASTM C1077. Acceptance criteria for strength tests shall be per ACI 318 Section 26.12.3. For each mix placed, samples shall be taken not less than once a day, nor less than once for each 150 yd^3 of concrete, nor less than once for each 5000 ft^2 of surface area for slabs or walls. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.

Item	Frequency	Detailed Instructions
Concrete placement	Continuous	
Curing temperature and techniques	Periodic	Verify that concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 7 days after placement. Verify that high-early-strength concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 3 days after placement. Accelerated curing methods may be used (see ACI 318: 26.5.3.2(c)). Shotcrete shall be maintained at a temperature of at least 40°F for the same period of time as noted for concrete and kept in the moist condition during curing periods in accordance to IBC 1908.9 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.
In-situ strength verification	Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	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.
Welding of Reinforcing Steel (IBC Table 1705.3):		
Verification of weldability	Periodic	Verify weldability of reinforcing steel other than A706 based upon carbon equivalent and in accordance with AWS D1.4. Continuous inspection is required for welding of reinforcing steel used in intermediate or special concrete moment frames, boundary elements of special structural walls or shear reinforcement.
Other reinforcing steel	Periodic	Visually inspect all welds in accordance with AWS D1.4.
Single-pass fillet welds, 5/16” max	Periodic	
All other welds	Continuous	

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PROFESSIONAL STRUCTURAL ENGINEER
No. 4770425
CAMERON EMPEY
STATE OF UTAH
06/10/20

ISSUE	DATE:
COORDINATION SET	12/13/2021
PROJECT NUMBER:	U:22317 & CRSA:19-071
DRAWN BY:	YA
CHECKED BY:	JC

GENERAL STRUCTURAL NOTES

SE002

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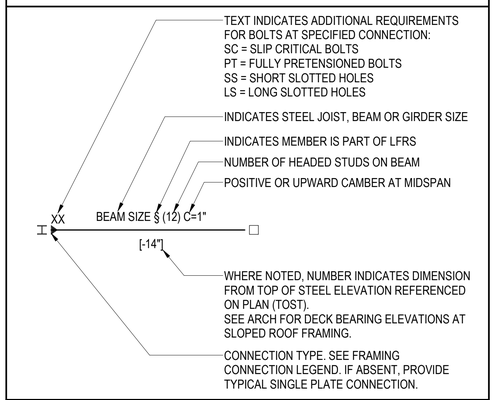
PLAN LEGEND

- FOOTING STEP
- FOOTING - CONTINUOUS
- FOOTING - THICKENED SLAB
- FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING
- 0" CHANGE IN ELEVATION
- SLAB BLOCK-OUT AT COLUMN
- CJ SLAB CONTROL/CONSTRUCTION JOINT
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- SPECIAL SLAB OR DECK AREA
- RECESSED/DEPRESSED SLAB
- OPENING
- CONCRETE HOUSEKEEPING PAD
- INDICATES ROOF DAVIT ARM BASE
- INDICATES WINDOW WASHING TIE-BACK
- CONCRETE BEAM
- CONCRETE JOIST - ONE WAY PANS
- CONCRETE JOIST - TWO WAY PANS
- CONCRETE SUSPENDED SLAB
- CONCRETE OVER STEEL DECK
- STEEL DECK — STEEL GRATE
- WOOD DIAPHRAGM SHEATHING

- CONCRETE WALL
- CONCRETE WALL - RECESSED (FDTN PLAN)
  CONCRETE LINTEL (FRAMING PLAN)
- CONCRETE WALL - RECESSED AT DOOR
- CONCRETE PIER IN CONCRETE WALL. TOP OF PIER RECESSED BELOW SLAB.
- CONCRETE COLUMN
- CONCRETE JAMB COLUMN POURED MONOLITHIC WITH CONCRETE WALL
- MASONRY WALL
- MASONRY WALL - RECESSED (FDTN PLAN)
  MASONRY LINTEL (FRAMING PLAN)
- MASONRY COLUMN IN MASONRY WALL
- STEEL STUD WALL - STRUCTURAL
- STEEL HEADER IN STEEL STUD WALL
- BRICK WALL
- BRICK WALL - RECESSED (FDTN PLAN)
  BRICK LINTEL (FRAMING PLAN)
- BRICK COLUMN IN BRICK WALL
- WOOD STUD WALL
- WOOD HEADER IN WOOD STUD WALL
- NON-BEARING WOOD WALL. SEE ARCH
- STEEL/WOOD BEAM OR GIRDER
- STEEL/WOOD JOIST OR PURLIN
- STEEL BRACED FRAME - ABOVE
- STEEL BRACED FRAME
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- STEEL ANGLE BRACE / KICKER. SEE __/__ FOR SLAB EDGE KICKER. SEE __/__ FOR FRAME BRACE
- CROSS BRIDGING
- HORIZONTAL BRIDGING
- STEEL COLUMN - TUBE (HSS)
- STEEL COLUMN - WIDE FLANGE
- STEEL COLUMN - PIPE (HSS)
- WOOD COLUMN

- EXISTING FOOTING - CONTINUOUS
- EXISTING FOOTING - THICKENED SLAB
- EXISTING FOOTING - SQUARE, RECTANGULAR, OR MAT
- EXISTING CONCRETE SHEAR WALL, FOUNDATION WALL OR RETAINING WALL
- EXISTING OPENING THROUGH CONCRETE WALL
- EXISTING CONCRETE PIER IN CONCRETE WALL. PIER RECESSED BELOW SLAB.
- EXISTING CONCRETE COLUMN
- NEW OPENING THROUGH EXISTING CONCRETE WALL
- EXISTING MASONRY WALL
- EXISTING OPENING THROUGH MASONRY WALL
- NEW OPENING THROUGH EXISTING MASONRY WALL
- EXISTING MASONRY COLUMN IN MASONRY WALL
- EXISTING STEEL COLUMN - TUBE
- EXISTING STEEL COLUMN - WIDE FLANGE
- EXISTING STEEL COLUMN - PIPE
- EXISTING STEEL BRACED FRAME
- EXISTING SLAB BLOCK-OUT AT COLUMN
- CJ EXISTING SLAB CONTROL/CONSTRUCTION JOINT
- EXISTING STEEL BEAM OR GIRDER
- EXISTING STEEL JOIST OR PURLIN
- EXISTING CROSS BRIDGING
- EXISTING HORIZONTAL BRIDGING
- EXISTING TO BE REMOVED
- EXISTING OPENING

STEEL FRAMING MEMBER DESIGNATION



PLAN MARKS

BF-#	BRACED FRAME
CB-#	CONCRETE BEAM
CC-#	CONCRETE COLUMN
CCSS-#	CANTILEVERED CONCRETE SUSPENDED SLAB
CDP-#	CONCRETE DRILLED PIER
CFW-#	CONCRETE FOUNDATION WALL
CGB-#	CONCRETE GRADE BEAM
CJ-#	CONCRETE JOIST
CJC-#	CONCRETE JAMB COLUMN
CL-#	CONCRETE LINTEL
CP-#	CONCRETE PIER
CRW-#	CONCRETE RETAINING WALL
CSG-#	CONCRETE SLAB ON GRADE
CSH-#	CONCRETE SHEAR HEAD
CSS-#	CONCRETE SUSPENDED SLAB
CSW-#	CONCRETE SHEAR WALL
CW-#	CONCRETE WALL
FC#	CONTINUOUS FOOTING
FM#	MAT FOOTING
FR#	RECTANGULAR FOOTING
FS#	SQUARE FOOTING
FTS#	THICKENED SLAB FOOTING
HD-#	HOLD DOWN ANCHOR
MC-#	MASONRY COLUMN
MF-#	MOMENT FRAME
ML-#	MASONRY LINTEL
MP-#	MASONRY PIER
MW-#	MASONRY WALL
PTB-#	POST-TENSIONED CONCRETE BEAM
SBP-#	STEEL BASE PLATE
SC-#	STEEL COLUMN
SCP-#	STEEL CAP PLATE
SD-#	STEEL DECK
SDA-#	STEEL DECK ATTACHMENT
SG-#	STEEL GIRDER
SJ-#	STEEL JOIST
SND-#	SNOW DRIFT
WB-#	WOOD BEAM
WBW-#	WOOD BEARING WALL
WC-#	WOOD COLUMN
WD-#	WOOD DIAPHRAGM
WJ-#	WOOD JOIST
WSW-#	WOOD SHEAR WALL

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT (S)
ABV	ABOVE
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CJ	CONSTRUCTION JOINT OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CTR	CENTER
D.B.	DECK BEARING
db	DIAMETER OF REINFORCING BAR
DBA	DEFORMED BAR ANCHORS
DBL	DOUBLE
DET	DETAIL
DIA (OR Ø)	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DK	DECK
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E.F.	EACH FACE
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)
E.W.	EACH WAY
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST (E)	EXISTING
EXP	EXPANSION / EXPOSED
EXT	EXTERIOR
F.D.	FLOOR DRAIN
F.F.	FINISH FLOOR
F.V.	FIELD VERIFY
FDTN	FOUNDATION
FIN	FINISH
FL	FLOOR
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLU-LAMINATED BEAM
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HB	HORIZONTAL BRIDGING
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHORS
HSS	HOLLOW STRUCTURAL STEEL
HT	HEIGHT
I.F.	INSIDE FACE
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
IN	INCH
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS - 1,000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
Ld, Lt, Lsb, Lsbt, Ldc, Lsc	SEE CONCRETE REINFORCING BAR DEVELOPMENT AND LAP LENGTH SCHEDULE
LF	LINEAL FOOT
LFRS	LATERAL FORCE RESISTING SYSTEM (SFRS & WFRS)
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL

ABBREVIATIONS

LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MAS	MASONRY
MAX	MAXIMUM
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NORM	NORMAL
NTS	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
P.T.	POST-TENSIONED
PCF	POUNDS/CUBIC FOOT
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS/LINEAL FOOT
PNL	PANEL
PSF	POUNDS/SQ FOOT
PSI	POUNDS/SQ INCH
R.D.	ROOF DRAIN
REINF	REINFORCING
REQD	REQUIRED
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHT	SHEET
SI	SPECIAL INSPECTION (SP. INSP.)
SIM	SIMILAR
SOG	SLAB ON GRADE
SQ	SQUARE
STAG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
T & B	TOP AND BOTTOM
T.O.	TOP OF
TEMP	TEMPERATURE
THDS	THREADS
TOC	TOP OF CONCRETE
TOCP	TOP OF CONCRETE PIER
TOF	TOP OF FOOTING
TOS	TOP OF SLAB
TOST	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W.P.	WORK POINT
W/	WITH
WF	WIDE FLANGE
WFRS	WIND FORCE RESISTING SYSTEM
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD

STRUCTURAL DRAWING LIST

SHT NO.	SHT NAME
SE001	GENERAL STRUCTURAL NOTES
SE002	GENERAL STRUCTURAL NOTES
SE003	LEGENDS & ABBREVIATIONS
SB101	FOOTING & FOUNDATION PLAN
SF101	L2 FLOOR FRAMING PLAN
SF501	STEEL FRAMING DETAILS
SF502	TYICAL STAIR DETAILS
SF601	TYPICAL STEEL FRAMING SCHEDULES

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CHECKED BY:	JC

LEGENDS & ABBREVIATIONS

SE003

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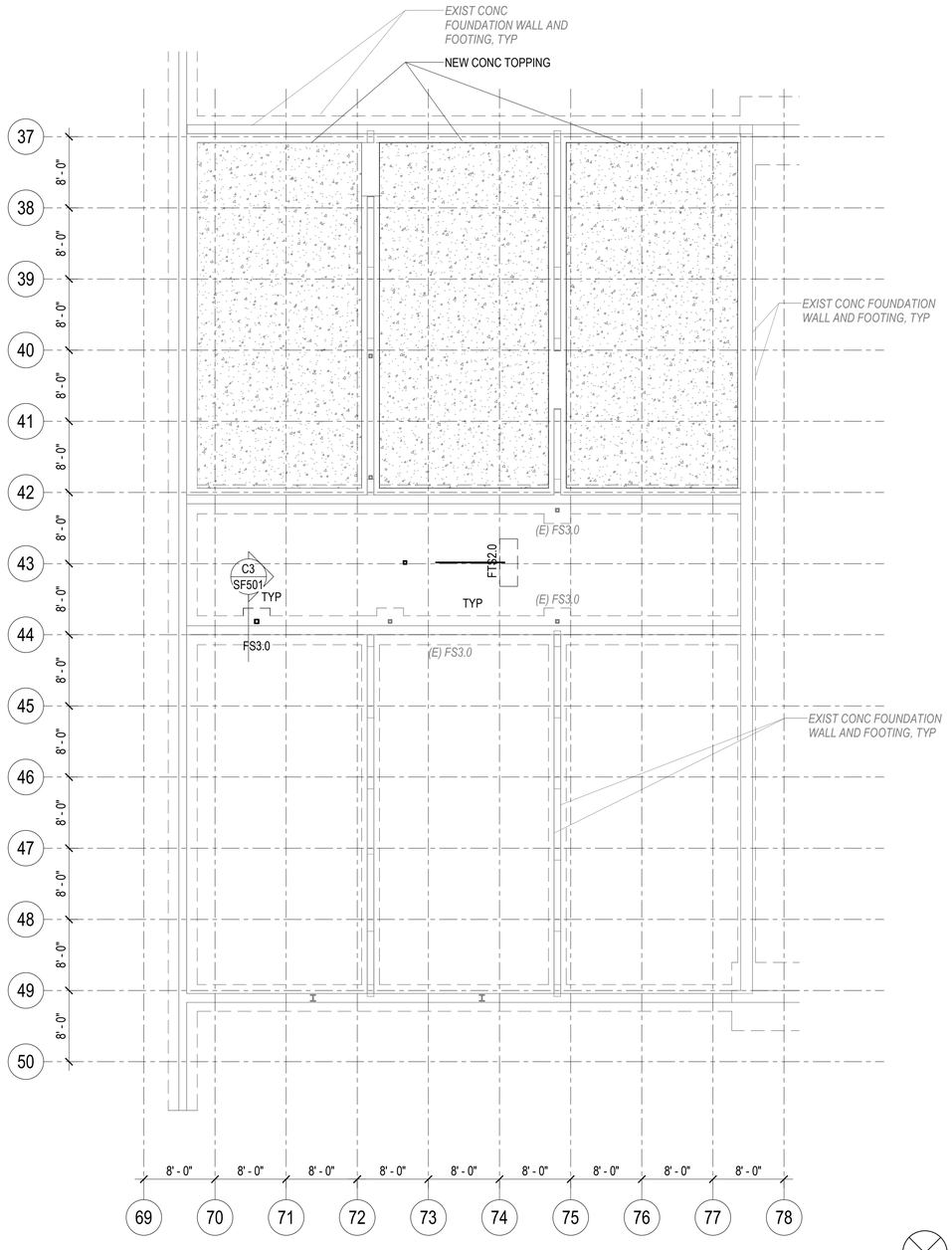

A1 / SB101 FOOTING & FOUNDATION PLAN

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

EXISTING BUILDING NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DETAILING, FABRICATING, ERECTING OR INSTALLING ANY STRUCTURAL ELEMENT. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM IN A TIMELY MANNER SUCH THAT WORK WILL NOT BE DELAYED.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE DURING CONSTRUCTION.

FOOTING & FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE RETAINING AND / OR SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

5. PROVIDE COMPACTED STRUCTURAL FILL UNDER ALL CONCRETE FOOTINGS PER TYPICAL DETAIL

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FOOTING & FOUNDATION PLAN

SB101

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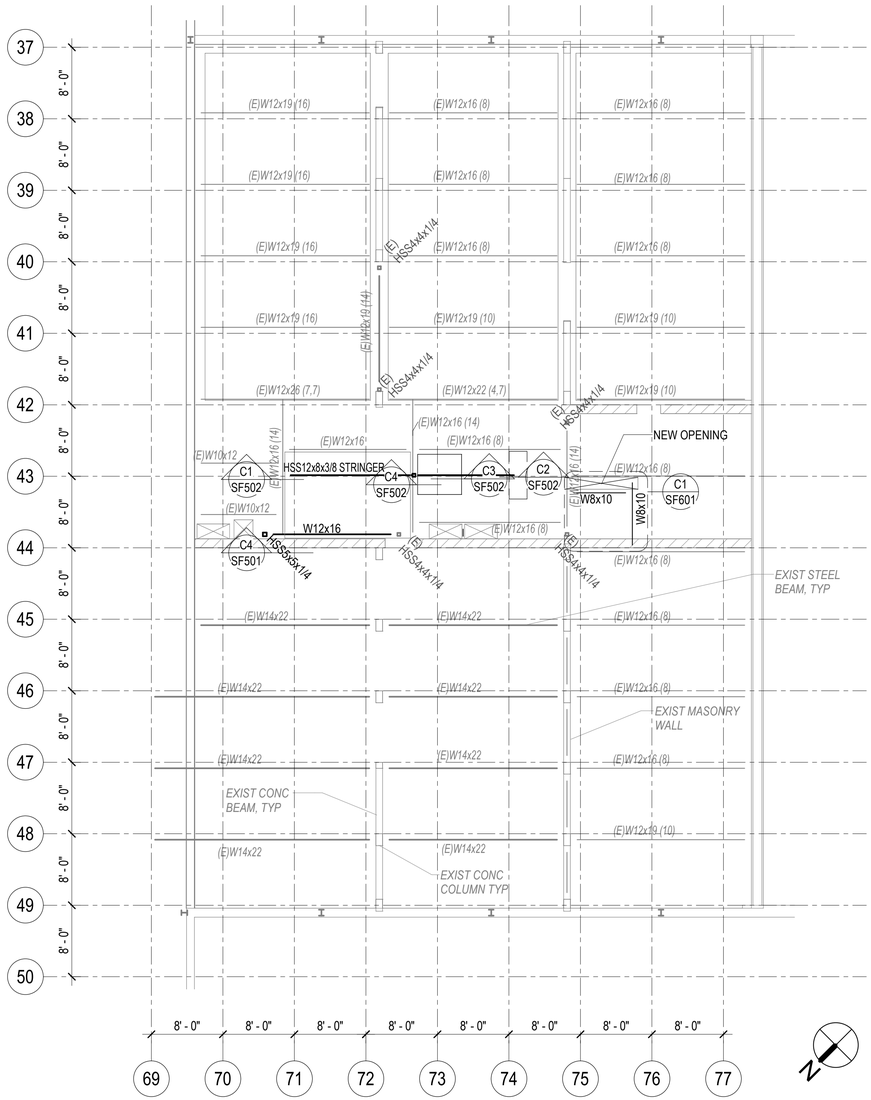

A3
SF101

LEVEL 2 EAST SIDE PLAN VIEW

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

FLOOR FRAMING PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS AND FINISH SCHEDULE FOR SLAB AREAS TO RECEIVE FLOOR TILE.

EXISTING BUILDING NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DETAILING, FABRICATING, ERECTING OR INSTALLING ANY STRUCTURAL ELEMENT. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM IN A TIMELY MANNER SUCH THAT WORK WILL NOT BE DELAYED.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE DURING CONSTRUCTION.

NON-COMPOSITE FRAMING PLAN NOTES

1. SEE STEEL DECK SCHEDULE ON SHEET SF603 FOR DECK PROFILE AND DECK ATTACHMENT REQUIREMENTS.

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L2 FLOOR FRAMING PLAN

SF101

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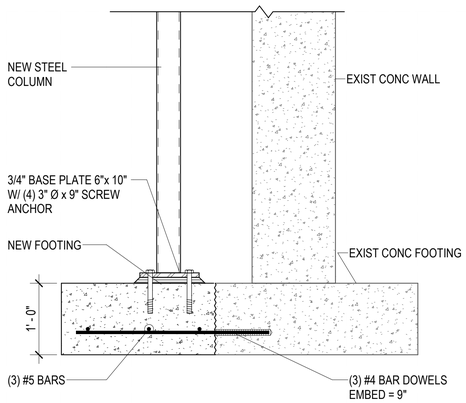
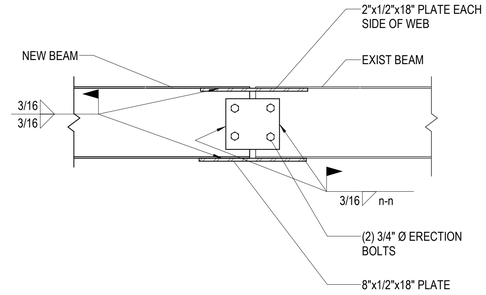


C3 / SF501 — STEEL COLUMN AT EXIST FOOTING

NO SCALE



C4 / SF501 — NEW PLATE ON STEEL BEAM CONNECTION

NO SCALE

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STEEL FRAMING DETAILS

SF501

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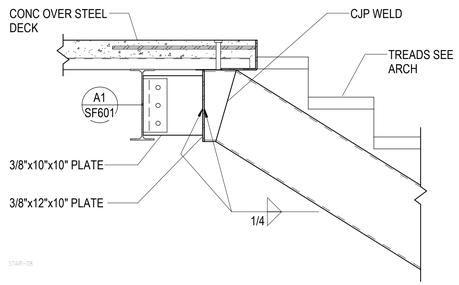
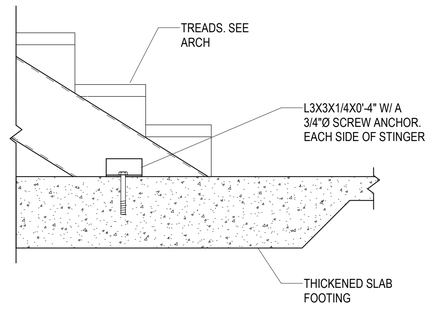


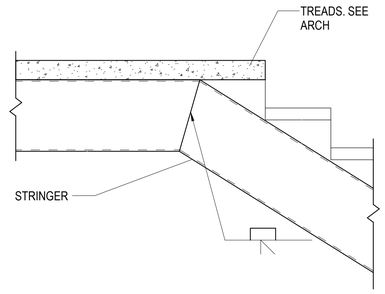
C1 SF502 TYPICAL STAIR DETAIL

NO SCALE



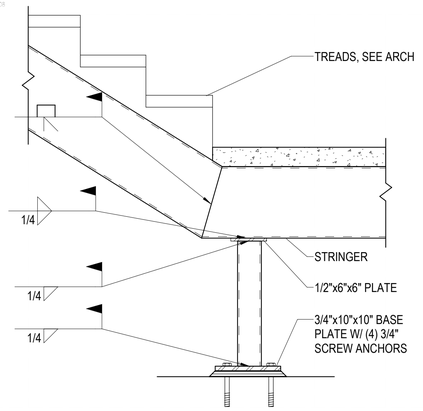
C2 SF502 STAIR LANDING

NO SCALE



C3 SF502 TTYPICAL STRING STAIR DETAIL

NO SCALE



C4 SF502 TYPICAL STAIR DETAIL

NO SCALE

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RECORD DRAWING
DATE: JULY 2021

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HPER RESEARCH REMODEL

UNIVERSITY OF UTAH
250 S 1850 E
Salt Lake City, UT 84112

STAMP

PROFESSIONAL STRUCTURAL ENGINEER
No. 4770425
CAMERON EMPEY
STATE OF UTAH

06/10/20

ISSUE	DATE:
COORDINATION SET	12/13/2021
PROJECT NUMBER:	U:22317 & CRSA:19-071
DRAWN BY:	YA
CHECKED BY:	JC

TYICAL STAIR DETAILS

SF502

BIM 360:\HPER_East Plaza\22317-02\Revit\East plaza_detail_sf.rvt
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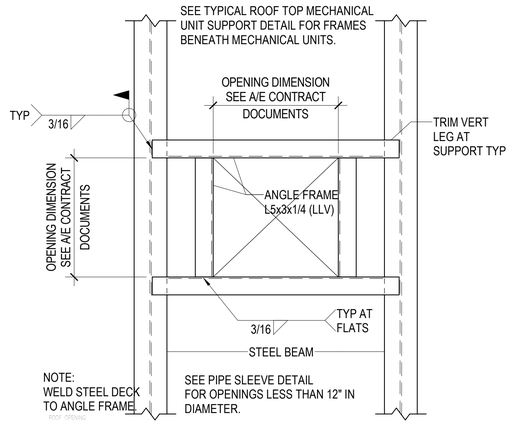
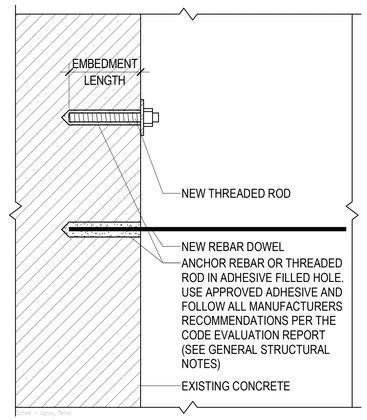


C1 / SF601 TYPICAL ROOF OPENING DETAIL (PLAN VIEW)

NO SCALE

CONCRETE FOOTING SCHEDULE											
				CROSSWISE REINFORCING				LENGTHWISE REINFORCING			
MARK	WIDTH	LENGTH	THICK	NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE
FTS2.0	2' - 0"	CONT.	1' - 0"	--	NONE	REQ'D	--	3	#4	CONT.	9"
FS3.0	3' - 0"	3' - 0"	1' - 0"	3	#5	2' - 6"	10"	3	#5	2' - 6"	10"

1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.
2. TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" CLEAR CONCRETE COVER.
3. SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS AND CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNLESS NOTED OTHERWISE.
4. ALL FOOTINGS SHALL BE FORMED. FOOTINGS SHALL NOT BE EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.



ADHESIVE ANCHORS IN CONCRETE SCHEDULE			
REINFORCING BAR		THREADED ROD	
DOWEL SIZE	EMBEDMENT LENGTH (SEE NOTE #2)	SIZE	EMBEDMENT LENGTH (SEE NOTE #2)
#3	4"	3/8"Ø	4 1/2"
#4	6"	1/2"Ø	6"
#5	9"	5/8"Ø	7 1/2"
#6	10"	3/4"Ø	9"
#7	12 1/2"	7/8"Ø	10 1/2"
#8	13"	1"Ø	12"
#9	14"	1 1/4"Ø	15"
#10	18"		
#11	19"		

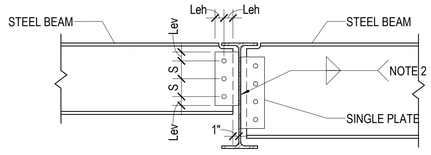
NOTES:
1. THIS SCHEDULE SHALL BE USED ONLY WHERE SPECIFICALLY REFERENCED ON THE DRAWINGS AND AT OTHER LOCATIONS WITH APPROVAL OF THE STRUCTURAL ENGINEER.
2. EMBEDMENT LENGTHS SPECIFIED ON PLANS OR DETAILS TAKE PRECEDENCE OVER EMBEDMENT LENGTHS IN THIS SCHEDULE.
3. WHERE THE THICKNESS OF THE EXISTING CONCRETE MEMBER IS NOT SUFFICIENT TO ACHIEVE SCHEDULED EMBEDMENT AND SPECIFIED CLEAR COVER FOR THE ANCHOR, CONTACT THE STRUCTURAL ENGINEER.
4. SEE GENERAL STRUCTURAL NOTES FOR LIST OF APPROVED ADHESIVES AND OTHER REQUIREMENTS FOR ADHESIVE ANCHORING.

B3 / SF601 ADHESIVE ANCHORS IN CONCRETE SCHEDULE

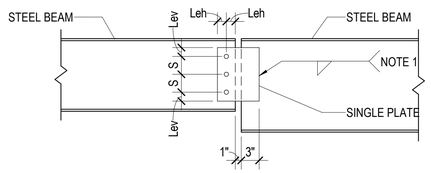
NO SCALE

SINGLE PLATE CONNECTION SCHEDULE			
BEAM SIZE	WEB PLATE THICKNESS (t)	A325N BOLTS	
		NUMBER	SIZE
W8 AND W10	3/8"	2	7/8"Ø
W12 AND W14	3/8"	3	7/8"Ø

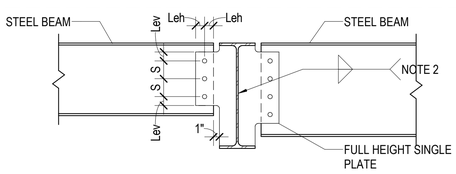
NOTES:
1. FILLET WELDS ONE SIDE SHALL EQUAL THE PLATE THICKNESS MINUS 1/16". (1/4" MIN.)
2. FILLET WELDS TWO SIDES SHALL BE 5/8 THE PLATE THICKNESS (1/4" MIN.) EACH SIDE
3. BOLT EDGE DISTANCE SHALL BE AS FOLLOWS: Leh = 2 x BOLT DIAMETER; Lev = 1.1/2".
4. BOLT SPACING (S) SHALL BE 3".
5. AT SKEWED JOINTS PROVIDE AN EQUIVALENT LEG SIZE TO NOTE 2 PER AWS D1.1.
6. PROVIDE SHORT SLOTTED HOLES WHEN 6 OR MORE BOLTS ARE REQUIRED AND BOLT DIAMETER IS ≤ 3/4".



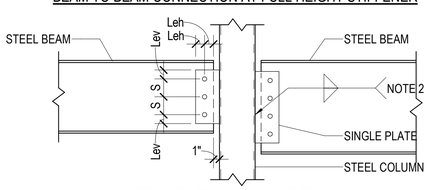
BEAM TO BEAM CONNECTION



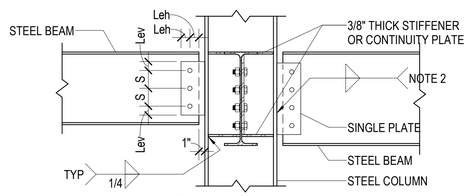
BEAM TO BEAM CONNECTION



BEAM TO BEAM CONNECTION AT FULL HEIGHT STIFFENER



BEAM TO COLUMN CONNECTION



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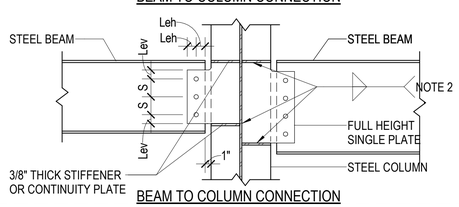
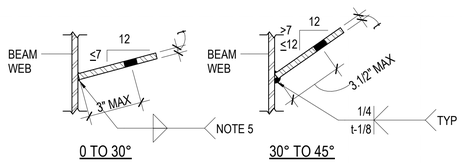
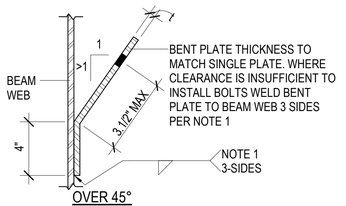


BEAM TO COLUMN CONNECTION





SKEWED CONNECTION (PLAN VIEW)

A1 / SF601 TYPICAL SINGLE PLATE CONNECTION DETAILS AND SCHEDULE

NO SCALE

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PROJECT NUMBER:	U:22317 & CRSA:19-071
DRAWN BY:	YA
CHECKED BY:	JC

TYPICAL STEEL FRAMING SCHEDULES

SF601

BIM 360:WORK_Hall Phase 2020-1220-HPER Hall Build.rvt
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SYMBOL LEGEND

SYMBOL	DESCRIPTION
	VALVES, METERS, AND GAUGES
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2-WAY VALVE
	AUTO 3-WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
MAV	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
	REFRIGERANT FILTER DRIER
	90 DEG ELBOW UP
	90 DEG ELBOW DOWN
	90 DEG TEE UP
	90 DEG TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP
	HVAC SYMBOLS
T	THERMOSTAT
S	TEMPERATURE SENSOR
H	HUMIDISTAT

SYMBOL LEGEND

DUCT WORK

SINGLE LINE	DOUBLE LINE	DESCRIPTION
		RECTANGULAR SUPPLY DUCT UP
		RECTANGULAR SUPPLY DUCT DOWN
		RECTANGULAR RETURN DUCT UP
		RECTANGULAR RETURN DUCT DOWN
		RECTANGULAR EXHAUST DUCT UP
		RECTANGULAR EXHAUST DUCT DOWN
		ROUND DUCT UP
		ROUND DUCT DOWN
		ACCOUSTICALLY LINED RECTANGULAR DUCT
		90° RECTANGULAR ELBOW WITH TURNING VANES
		90° RADIUS ELBOW R=1.5
		DUCT SIZE OR SHAPE TRANSITION
		OPPOSED BLADE BALANCING DAMPER (O.B.D.) IN RECT DUCT
		BUTTERFLY BALANCING DAMPER IN ROUND DUCTS
		COMBINATION TEE
		SPLITTER DAMPER
		SQUARE OR RECTANGULAR CEILING DIFFUSER
		ROUND CEILING DIFFUSER
		SIDEWALL REGISTER SUPPLY OR RETURN
		ROUND FLEXIBLE DUCT
		RETURN GRILLE
		EXHAUST GRILLE
		FIRE SMOKE DAMPER
		FIRE DAMPER
SD	SD	SMOKE DAMPER
FC	FC	FLEXIBLE CONNECTION
		FLEXIBLE CONNECTION

PIPING LEGEND

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

HPS	**HIGH PRESSURE STEAM**
MPS	**MEDIUM PRESSURE STEAM**
LPS	**LOW PRESSURE STEAM**
HPC	**HIGH PRESSURE CONDENSATE RETURN**
MPC	**MEDIUM PRESSURE CONDENSATE RETURN**
LPC	**LOW PRESSURE CONDENSATE RETURN**
PC	**PUMP DISCHARGE**
TWS	**TEMPERED WATER SUPPLY**
CHWS	**CHILLED WATER SUPPLY**
CHWR	**CHILLED WATER RETURN**
HHWS	**HEATING HOT WATER SUPPLY**
HHWR	**HEATING HOT WATER RETURN**
RL	**REFRIGERANT LIQUID**
RS	**REFRIGERANT SUPPLY**
CWS	**CONDENSER WATER SUPPLY**
CWR	**CONDENSER WATER RETURN**
D	**DRAIN LINE**
HG	**HOT GAS BYPASS**
GS	**GLYCOL SUPPLY**
GR	**GLYCOL RETURN**
FOS	**FUEL OIL SUPPLY**
FOV	**FUEL OIL VENT**

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

SYMBOL	DESCRIPTION
	REFERENCE LINES AND SYMBOLS
# / SHEET	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
# / SHEET	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
# / SHEET	ELEVATION OR SECTION INDICATOR, INTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM / SPACE NUMBER
1	KEYNOTE INDICATOR
	REVISION INDICATOR
	EQUIPMENT INDICATOR
	PLUMBING FIXTURE INDICATOR
TYPE / CFM / SIZE	DIFFUSER/GRILLE INDICATOR
TYPE / SIZE	DIFFUSER/GRILLE INDICATOR
	BREAKLINE
	BREAKLINE
MATCH LINE / SEE XX/X-XXX	MATCHLINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE
	NEW CONNECTION TO EXISTING
	POINT OF DEMOLITION

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	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
COND	CONDENS(-ER, -ING, -ATION)
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DP	DEPTH OR DEEP
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
FC	FLEXIBLE CONNECT(-OR, -ION)
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
HT	HEIGHT
HTG	HEATING
HZ	HERTZ (FREQUENCY)
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LG	LENGTH
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
NC	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
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R	THERMAL RESISTANCE
RA	RETURN AIR
RECIRC	RECIRCULATE
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SF	SAFETY FACTOR
SH	SENSIBLE HEAT
SL	SEA LEVEL
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
SW	SOIL, WASTE
TA(R)	TRANSFER AIR (RETURN)
TA(S)	TRANSFER AIR (SUPPLY)
TD	TEMP. DROP OR DIFF.
TEMP	TEMPERATURE
THERM	THERMAL
TOT	TOTAL
TSTAT	THERMOSTAT
V	VOLT
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY TEMPERATURE
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WT	WEIGHT
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 SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.

2 MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT 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 & CALLED OUT IN BOTH.

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 ANY CODES, RULES, REGULATIONS & REQUIREMENTS OF THE BUILDING OWNER.

6 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.

7 THE SPACE ABOVE ALL 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.

8 ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENT.

9 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.

10 THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.

11 ANY PART OF THE MECHANICAL 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.

12 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.

13 CONTRACTOR SHALL OPERATE THE SYSTEM & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL SYSTEMS ARE OPERATIONAL.

14 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAINING AT THE PROJECT SITE. ALL CHANGES 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 SPECIFICATIONS.

GENERAL EQUIPMENT NOTES

1 ALL CAPACITIES ARE AT JOB SITE CONDITIONS & ARE MINIMUM CAPACITY.

2 ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH LOCAL SEISMIC REQUIREMENTS & THE REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS.

3 VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS FOR ALL EQUIPMENT PRIOR TO ORDERING EQUIPMENT.

4 ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS.

5 ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

6 ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.

7 AIR INLETS & OUTLETS SHALL BE OF THE SAME MANUFACTURER.

8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HVAC EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.

MECHANICAL SHEET INDEX

ME001	**MECHANICAL COVER SHEET**
ME002	**MECHANICAL NOTES**
MD101	**MECHANICAL DEMOLITION PLANS**
MH101	**LOWER LEVEL MECHANICAL PLAN**
MH102	**UPPER LEVEL MECHANICAL PLAN**
MH103	**ROOF MECHANICAL PLAN**
ME501	**MECHANICAL DETAILS**
ME502	**MECHANICAL DETAILS - KITCHEN**
ME601	**MECHANICAL SCHEDULES**
ME602	**MECHANICAL SCHEDULES - KITCHEN**

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UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT

250 S 1850 E
SALT LAKE CITY, UT 84112

STAMP

PROFESSIONAL ENGINEER
9799431-2202
Michael
Nielsen
12.22.2021
STATE OF UTAH

ISSUE	DATE:
CD SET	12/22/21

PROJECT NUMBER:	21-009
DRAWN BY:	AJB
CHECKED BY:	MMN

MECHANICAL COVER SHEET

ME001

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2/17/2022 07:19:37

KITCHEN APPLIANCE DUTY CLASSIFICATION

THE FOLLOWING APPLIANCES ARE PERMITTED TO BE INSTALLED UNDER THE SPECIFIED DUTY OF THE INSTALLED HOOD(S)

1. LIGHT DUTY COOKING APPLIANCES:
   a. GAS & ELECTRIC OVENS
   b. (INCLUDING STANDARD, BAKE, ROASTING, REVOLVING, RETHERM,
   c. CONVECTION, COMBINATION CONVECTION/STEAMER, COUNTERTOP
   d. CONVEYORIZED BAKING/FINISHING, DECK & PASTRY)
   e. ELECTRIC & GAS STEAM-JACKETED KETTLES
   f. ELECTRIC & GAS PASTA COOKERS
   g. ELECTRIC & GAS COMPARTMENT STEAMERS
   h. (PRESSURE & ATMOSPHERIC)
   i. ELECTRIC & GAS CHEESEMELTERS
2. MEDIUM DUTY COOKING APPLIANCES:
   a. ELECTRIC DISCRETE ELEMENT RANGES (WITH OR WITHOUT OVEN)
   b. ELECTRIC & GAS HOT-TOP RANGES
   c. ELECTRIC & GAS GRIDDLES
   d. ELECTRIC & GAS DOUBLE-SIDED GRIDDLES
   e. ELECTRIC & GAS FRYERS
   f. (INCLUDING OPEN DEEP-FAT FRYERS, DONUT FRYERS, KETTLE FRYERS,
   g. & PRESSURE FRYERS)
   h. ELECTRIC & GAS CONVEYOR PIZZA OVENS
   i. ELECTRIC & GAS TILTING SKILLETS (BRAISING PANS)
   j. ELECTRIC & GAS ROTISSERIES
3. HEAVY DUTY COOKING APPLIANCES
   a. ELECTRIC UNDER-FIRED BROILERS
   b. ELECTRIC CHAIN (CONVEYOR) BROILERS
   c. GAS UNDER-FIRED BROILERS
   d. GAS CHAIN (CONVEYOR) BROILERS
   e. GAS OPEN-BURNER RANGES (WITH OR WITHOUT OVEN)
   f. ELECTRIC & GAS WOK RANGES
   g. SMOKERS
   h. SMOKER OVERS
   i. ELECTRIC & GAS OVER-FIRED (UPRIGHT) BROILERS
   j. SALAMANDERS
4. EXTRA HEAVY DUTY APPLIANCES
   a. USING SOLID FUEL SUCH AS WOOD, CHARCOAL, BRIQUETTES, AND MESQUITE .
5. (2018 IMC 507.5) WHERE ANY COMBINATION OF HEAVY-DUTY, MEDIUM-DUTY AND LIGHT-DUTY COOKING APPLIANCES ARE UTILIZED UNDER A SINGLE HOOD, THE EXHAUST RATE REQUIRED BY THIS SECTION FOR THE HEAVIEST DUTY APPLIANCE COVERED BY THE HOOD SHALL BE USED FOR THE ENTIRE HOOD.

KITCHEN EXHAUST SYSTEM NOTES

1. GREASE EXHAUST DUCT SHALL BE 16 GAUGE BLACK STEEL DUCT WITH LIQUID TIGHT WELDED JOINTS AND SEAMS.
2. EXHAUST DUCT FROM DISHWASHER SHALL BE 18 GAUGE STAINLESS STEEL WITH LIQUID TIGHT WELDED JOINTS AND SEAMS.
3. COMMERCIAL KITCHEN HOOD EXHAUST DUCTS SHALL SLOPE AT MINIMUM OF 2 PERCENT BACK TO THE HOOD.
4. PROVIDE TRANSITION DUCT BETWEEN GREASE EXHAUST DUCT AND EXHAUST HOOD SO THAT NO GREASE CAN COLLECT AT THE CONNECTION BETWEEN THE GREASE DUCT AND THE GREASE EXHAUST HOOD.
5. PROVIDE FIRE-RATED ACCESS PANEL ASSEMBLIES AT EACH CHANGE IN DIRECTION OF GREASE EXHAUST DUCT ADDITIONALLY PROVIDE FIRE-RATED ACCESS PANEL ASSEMBLIES AT MAXIMUM INTERVALS OF 20 FEET IN HORIZONTAL DUCTS, AND AT EVERY FLOOR FOR VERTICAL DUCTS. LOCATE ACCESS PANEL ON TOP OR SIDES OF DUCT A MINIMUM OF 1-1/2 INCHES FROM BOTTOM OF DUCT.
6. PROVIDE 12" X 12" MINIMUM GREASE RESERVOIR AT THE BOTTOM OF ALL DUCT RISERS AND IN THE BOTTOM MOST SECTION OF ALL DUCTS.
7. ALL GREASE DUCT SHALL BE PROVIDED WITH A UL LISTED GREASE DUCT WRAP.
8. PROVIDE AN ANSUL R102 (UL 300) FIRE SUPPRESSION SYSTEM FOR EACH TYPE I KITCHEN EXHAUST HOOD.

KITCHEN EXHAUST SYSTEM PERFORMANCE TEST NOTES

1. PROVIDE A PERFORMANCE TEST OF THE ENTIRE KITCHEN EXHAUST AND VENTILATION SYSTEM.
2. THE PERFORMANCE TEST SHALL VERIFY THE REQUIRED RATE OF EXHAUST AIR FLOW AND REQUIRED MAKE-UP AIR FLOW.
3. PERFORMANCE TEST SHALL ALSO VERIFY THE PROPER OPERATION OF THE KITCHEN EXHAUST AND VENTILATION SYSTEM.

GREASE DUCT ENCLOSURE NOTES

1. NATURAL GAS PIPING IS SIZED AT 2.0 PSI.
2. PROVIDE GAS SHUT OFF VALVES AT ALL GAS FIRED EQUIPMENT.
3. ALL EXTERIOR FUEL GAS PIPING SHALL BE PAINTED WITH TWO COATS OF PAINT:
   a. ONE COAT: 2.5 MIL (DRY) 5.0 MIL (WET) 4160-7100 (RED) DEVGUARD EXTERIOR, MULTI-PURPOSE TANK & STRUCTURAL ALKYD PRIMER. SEE SPEC. 15195.
   b. ONE COAT: 1486-XXXX (GRAY) UNIGRIP WATER BASED AQUACRYLIC DRY FALL SEMI-GLOSS PAINT.
4. NATURAL GAS PIPING SYSTEMS SHALL BE PURGED OF ALL AIR PRIOR TO THE FUEL GAS SYSTEM BEING PUT INTO OPERATION.
5. NATURAL GAS PIPING SYSTEMS WITH NO PIPE SIZES LARGER THAN 2 INCHES SHALL BE PURGED WITH NATURAL GAS.
6. NATURAL GAS PIPING SYSTEMS WITH AT LEAST ONE PIPE SECTION LARGER THAN 2 INCHES SHALL BE PURGED WITH AN INERT GAS PRIOR TO INTRODUCTION OF THE FUEL GAS.
7. THE OPEN END OF THE NATURAL GAS PIPING SYSTEM BEING PURGED SHALL DISCHARGE TO THE OUTDOORS.
8. THE OPEN END OF THE NATURAL GAS PIPING SYSTEM SHALL BE CONTINUOUSLY MONITORED DURING PURGING.

GREASE DUCT (FIELD APPLIED) ENCLOSURE NOTES

THE FIELD APPLIED GREASE DUCT ENCLOSURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS:

1. ALL GREASE DUCT SHALL BE 16 GA. CARBON STEEL OR 18 GA. STAINLESS STEEL. ALL SEAMS OF DUCT SHALL BE WELDED.
2. THE SURFACE OF THE GREASE DUCT SHALL BE CONTINUOUSLY COVERED ON ALL SIDES FROM KITCHEN EXHAUST HOOD TO THE KITCHEN EXHAUST FAN.
3. GREASE DUCT INSULATION SHALL HAVE BE ENCAPSULATED WITH POLYPROPYLENE/ALUMINUM FOIL SCRIM
4. GREASE DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50OR LESS WHEN TESTED TO ASTM E 84.
5. ALL DUCT COVERINGS SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C 411.
6. 3" WIDE ALUMINUM FOIL DUCT WRAP TAP SHALL BE USED TO SEAL EDGES OF THE BLANKET.
7. 3/4" WIDE MINIMUM HIGH-PERFORMANCE FILAMENT TAPE SHALL BE USED TO SECURE THE BLANKET MATERIAL.
8. 1/2" WIDE MINIMUM BANDING SHALL BE A MINIMUM OF 0.015-INCH THICK CARBON STEEL OR TYPE 304 STAINLESS STEEL. ALL JOINTS BETWEEN LAYERS SHALL BE STAGGERED A MINIMUM OF 12-INCHES.
9. ALL OVERLAPS OF ADJACENT BLANKETS ON THE OUTSIDE LAYER SHALL BE OVERLAPPED A MINIMUM OF 3"
10. ALL ACCESS DOORS SHALL BE DUCTMATE "ULTIMATE DOOR" AND F2-HTSYSTEM. THE OUTER INSULATION PLATE FOR THE F2-HT SYSTEM MUST BE SITE FABRICATED FROM 16 GAGE STEEL. BOTH SYSTEMS MUST USE THE DUCTMATE-SUPPIED 2300 F GASKET.

KITCHEN EXHAUST SYSTEM LIGHT TEST NOTES

1. ALL WELDED GREASE DUCTS SHALL BE "LIGHT" TESTED PRIOR TO CONCEALMENT TO VERIFY THAT ALL JOINTS ARE LIQUID TIGHT.
2. LIGHT TEST: PASS A LAMP HAVING A POWER RATING OF NOT LESS THAN 100 WATTS THROUGH THE ENTIRE SECTION OF DUCT WORK TO BE TESTED.
3. THE LAMP SHALL BE OPEN SO AS TO EMIT LIGHT EQUALLY IN ALL DIRECTIONS PERPENDICULAR TO THE DUCT WALLS.
4. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE BUILDING OFFICIAL.

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MECHANICAL NOTES

ME002

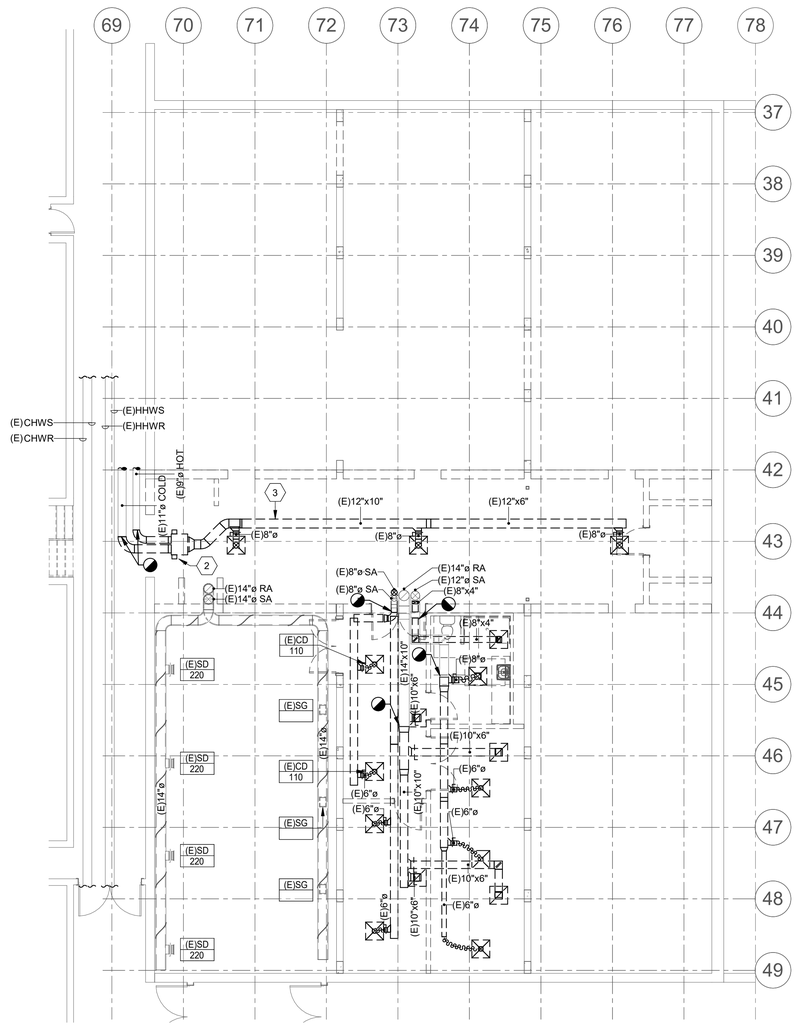
BIM 360 (R20) - Exp Plan 2019\Mike Dalbert
2/3/2022 8:16:38

SHEET KEYNOTES

1 REMOVE EXISTING VAV BOX AND ASSOCIATED DUCTWORK NECESSARY TO FACILITATE REPLACEMENT.

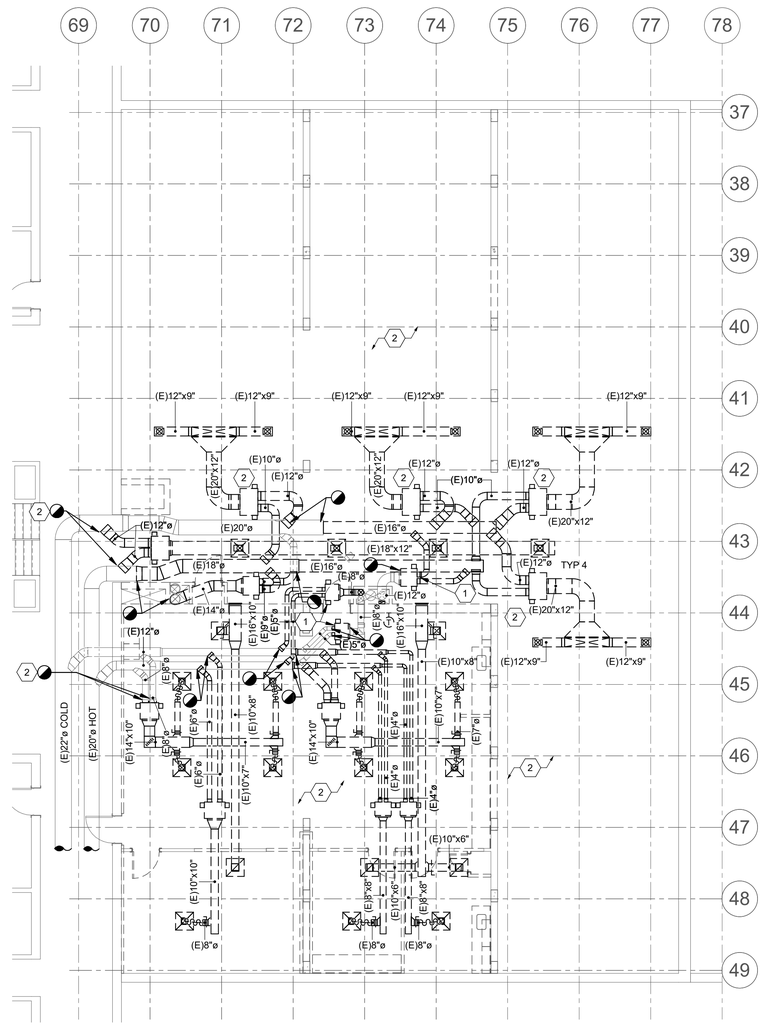
2 REMOVE VAV BOX AND DUCTWORK. REMOVE ASSOCIATED THERMOSTAT AND PNEUMATIC CONTROL TUBING.

3 DUCTING AND VAV BOX ALREADY REMOVED. SHOWN FOR REFERENCE.



A1 MD101 LOWER LEVEL MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



A3 MD101 UPPER LEVEL MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"

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MECHANICAL DEMOLITION PLANS

MD101

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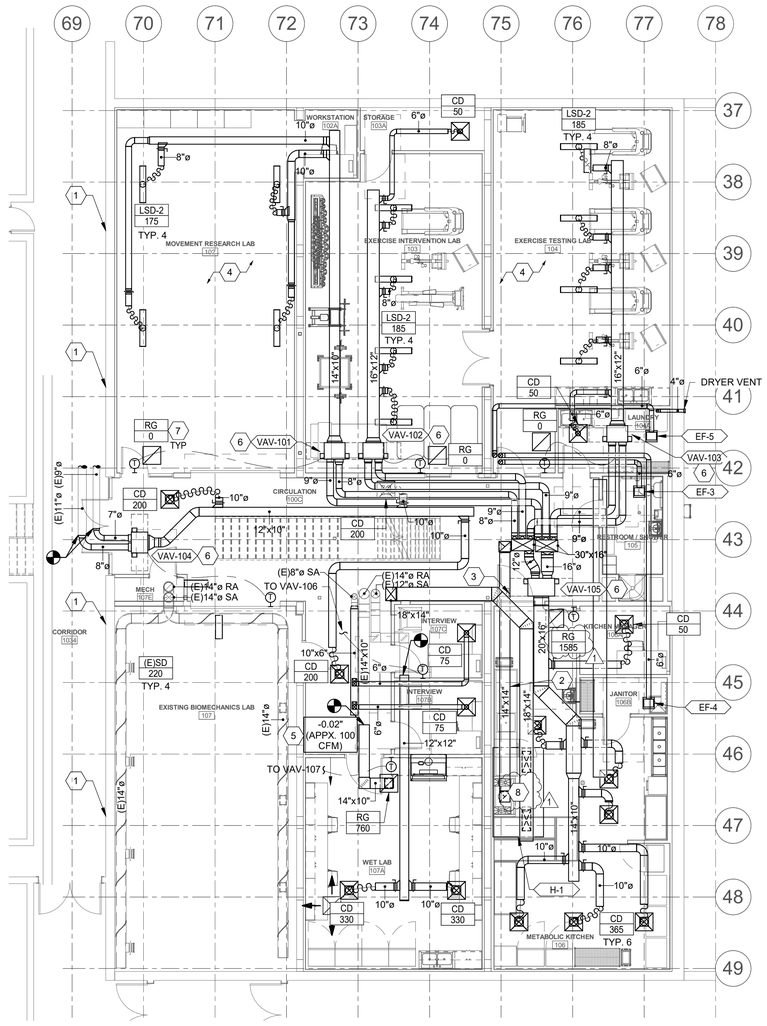
SHEET KEYNOTES

1. CONTRACTOR TO ENSURE THERE IS AT LEAST 7 SQFT FREE AREA OF TRANSFER AIR OPENINGS TO CORRIDOR PLENUM SPACE. REPORT ANY DEFICIENCIES.
2. GREASE DUCT. BLACK IRON WELDED. SLOPE BACK TOWARD KITCHEN HOOD.
3. PROVIDE CLEANOUT EVERY 20' AND AT EVERY 90 DEGREE BEND.
4. INTENT OF DUCTWORK ROUTING IS TO REDUCE / AVOID PENETRATIONS THROUGH SOLID WALLS.
5. ADJUST RETURN AIR FLOW TO ACCOMPLISH NEGATIVE PRESSURE IN THIS ROOM WITH RESPECT TO OTHER ROOMS. PROVIDE A BALL-IN-TUBE TYPE THRU-WALL PRESSURE INDICATOR SUCH AS THE ADI BALL-IN-THE-WALL.
6. LOCATE VAV BOX TO ACCOMMODATE SERVICE CLEARANCE (BASIS OF DESIGN REQUIRES 24" ON BOTH SIDES).
7. RETURN AIRFLOW OF '0' REPRESENTS UNREGULATED FLOW.
8. MAKEUP AIR DUCTS CONNECTING OR WITHIN 18 INCHES OF A TYPE I HOOD SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH IMC 603. DUCT INSULATION INSTALLED WITH 18 INCHES OF A TYPE I HOOD SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED FOR THE APPLICATION.

1



A3 MH101 LOWER LEVEL MECHANICAL PLAN

1/8" = 1'-0"

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STATE OF UTAH — 9799431-2202 — Michael Nielsen — 12.22.2021 — LICENSED PROFESSIONAL ENGINEER

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LOWER LEVEL MECHANICAL PLAN

MH101

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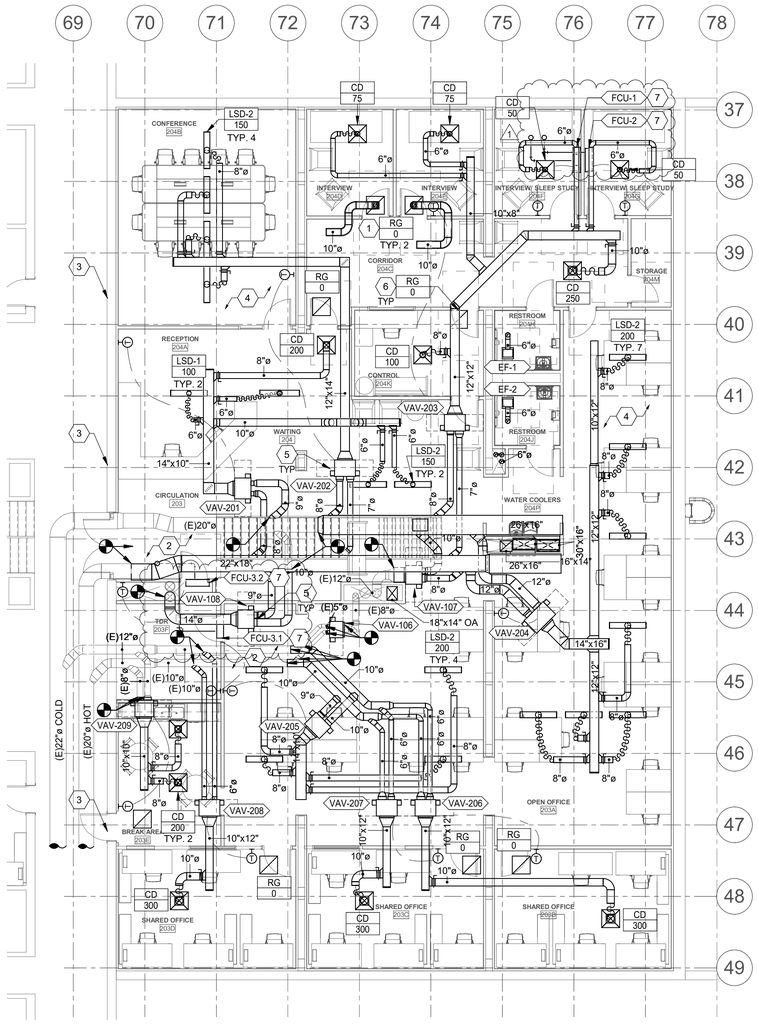
SHEET KEYNOTES

1. CONTRACTOR TO PROVIDE SOUND BOOT AND 1" ACOUSTIC LINER.
2. PROVIDE HIGH PRESSURE DUCT PATCHES AND DUCT WRAP WHERE EXISTING DUCTS WERE REMOVED.
3. CONTRACTOR TO ENSURE THERE IS AT LEAST 7 SQFT FREE AREA OF TRANSFER AIR OPENINGS TO CORRIDOR PLENUM SPACE. REPORT ANY DEFICIENCIES.
4. INTENT OF DUCTWORK ROUTING IS TO REDUCE / AVOID PENETRATIONS THROUGH SOLID WALLS.
5. LOCATE VAV BOX TO ACCOMMODATE SERVICE CLEARANCE (BASIS OF DESIGN REQUIRES 24" ON BOTH SIDES).
6. RETURN AIRFLOW OF '0' REPRESENTS UNREGULATED FLOW.
7. ROUTE REFRIGERANT LIQUID AND GAS LINES TO CONDENSING UNITS LOCATED ON ROOF. SIZING BY MANUFACTURER.



A2 MH102 UPPER LEVEL MECHANICAL PLAN
1/8" = 1'-0"

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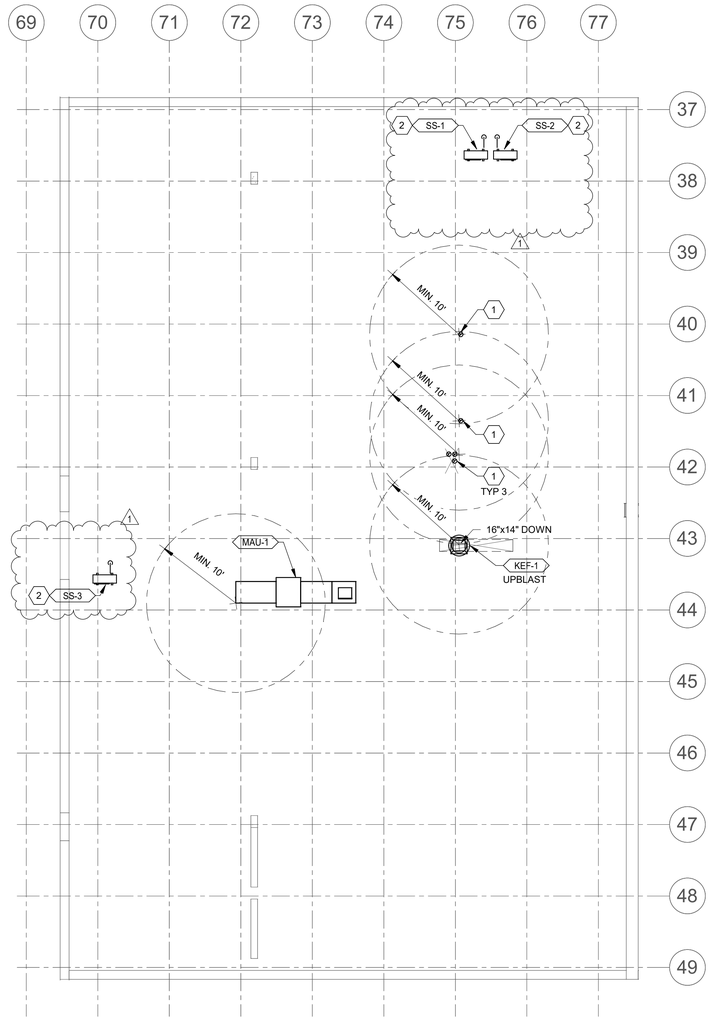
UPPER LEVEL MECHANICAL PLAN

MH102

SHEET KEYNOTES

1 RESTROOM EXHAUST THROUGH ROOF. PROVIDE GOOSENECK DISCHARGE AND BIRD SCREEN AT OUTLET. MINIMUM OUTLET HEIGHT 18".

2 PROVIDE UV PROTECTIVE INSULATION COATING ON ALL EXPOSED REFRIGERANT LINES.



1 MH103 ROOF MECHANICAL PLAN
1/8" = 1'-0"

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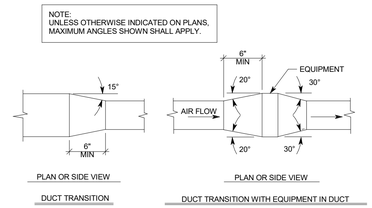
ROOF MECHANICAL PLAN

MH103



5 DUCT TRANSITION

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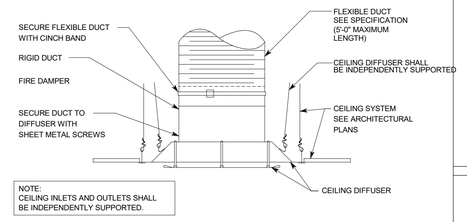
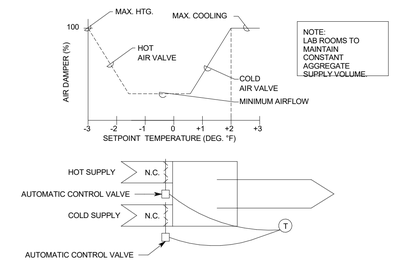


4 CEILING DIFFUSER (PANEL FACE)

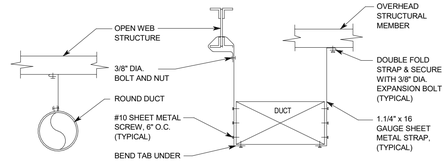
SCALE: NTS



NOTE: BOXES WITHOUT HEAT SHALL HAVE ONLY COOLING MAX/MIN AIR VALVE POSITION.

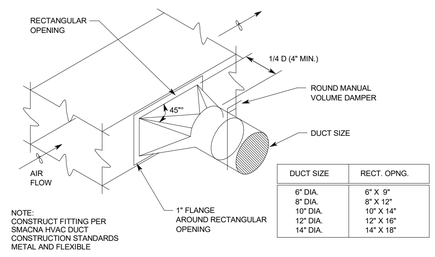
3 VAV CONTROL SCHEMATIC

SCALE: NTS



2 DUCT HANGER

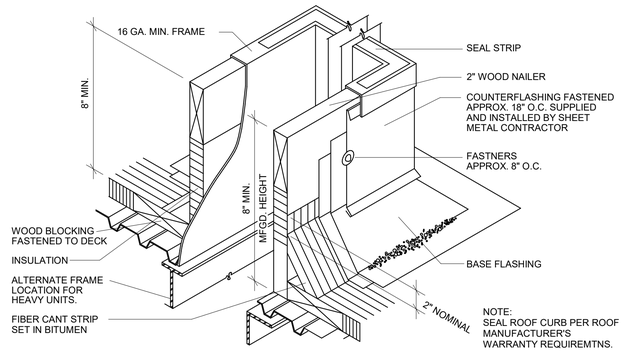
SCALE: NTS



DUCT SIZE	RECT. OPNG.
6" DIA.	6" X 9"
8" DIA.	8" X 12"
10" DIA.	10" X 14"
12" DIA.	12" X 16"
14" DIA.	14" X 18"

1 HIGH EFFICIENCY TAKE-OFF

SCALE: NTS



6 ROOF CURB DETAIL

SCALE: NTS

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MECHANICAL DETAILS

ME501

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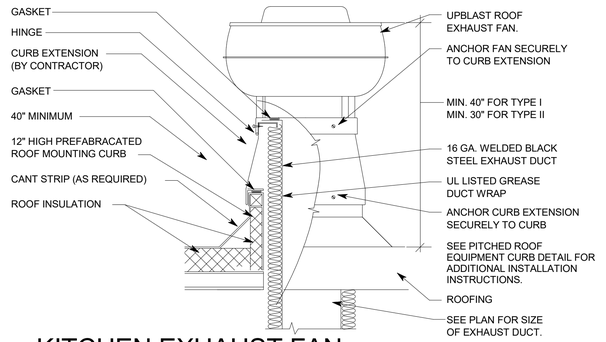
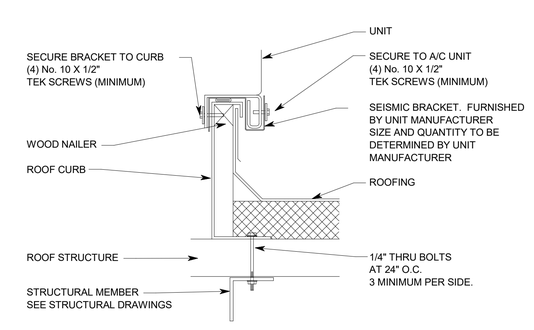


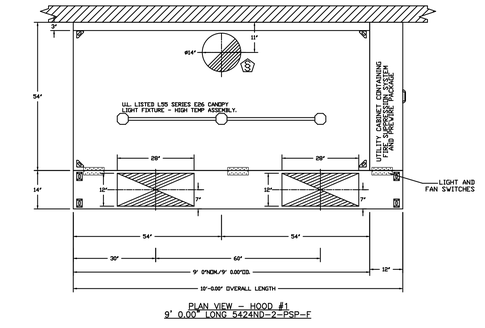
3 KITCHEN EXHAUST FAN

SCALE: NTS



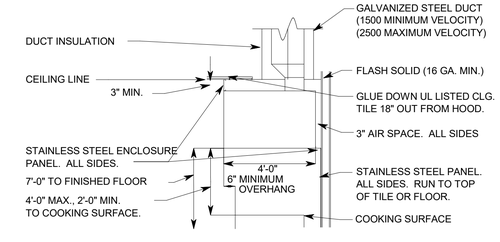
5 ROOF CURB SEISMIC BRACE

SCALE: NTS



2 KITCHEN EXHAUST HOOD DETAIL

SCALE: NTS



4 KITCHEN HOOD INSTALLATION DETAIL

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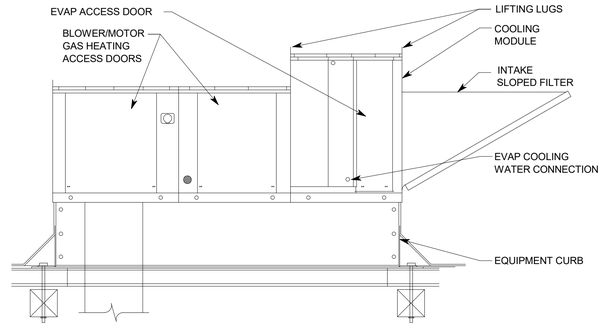

1 MAKE-UP AIR UNIT DETAIL

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Michael
Nielsen
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CHECKED BY:	Checker

MECHANICAL DETAILS - KITCHEN

ME502

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DUCTLESS SPLIT COOLING UNIT SCHEDULE

INDOOR UNIT						OUTDOOR UNIT				ELECTRICAL				COMMENTS
SYMBOL	MANUFACTURER	MODEL NO.	CAPACITY BTU/H	CFM	WEIGHT	SYMBOL	MANUFACTURER	MODEL NO.	CAPACITY BTU/H	SEER	POWER	MCA (A)	BREAKER SIZE (A)	
FCU-1	LG	LSN 120 HXV	12,000	272 MAX	51 LBS	SS-1	LG	LSN 120 HXV	12,000	19	208 / 1	10	15	(1)(2)(3)
FCU-2	LG	LSN 120 HXV	12,000	272 MAX	51 LBS	SS-2	LG	LSN 120 HXV	12,000	19	208 / 1	10	15	(1)(2)(3)
FCU-3.1	LG	LSN 180 HSV5	18,000	558 MAX	60 LBS	SS-3	LG	LMU36CHV	36,000	19	208 / 1	20	25	(1)(2)(3)(4)
FCU-3.2	LG	LSN 180 HSV5	18,000	558 MAX	60 LBS	SS-3	LG	LMU36CHV	36,000	19	208 / 1	20	25	(1)(2)(3)(4)

ACCEPTABLE MANUFACTURERS	OPTIONS & ACCESSORIES
PANASONIC MITSUBISHI FUJITSU	(1) ELECTRICAL: SINGLE POINT OF CONNECTION AT ROOF MOUNTED CONDENSING UNIT. (2) CONDENSATE PUMP. ROUTE 3/4" CONDENSATE TO NEAREST FLOOR DRAIN OR TRAP SIDE OF SINK, 3/4". (3) MICROPROCESSOR, LOW AMBIENT KIT, TIMER. (4) MULTI ZONE CONDENSING UNIT

DUCT INSULATION REQUIREMENTS

DUCT SYSTEM	DUCT LOCATION	INSULATION MATERIALS	MINIMUM THERMAL RESISTANCE ("R")		FIELD APPLIED JACKET
			CLIMATE ZONES 1-4	CLIMATE ZONES 5-8	
SUPPLY AIR	BUILDING INTERIOR, CONCEALED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING INTERIOR, EXPOSED, OUTSIDE CONDITIONED SPACE	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	ALUMINUM
RETURN AIR	BUILDING INTERIOR, CONCEALED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING INTERIOR, EXPOSED, OUTSIDE CONDITIONED SPACE	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	ALUMINUM
EXHAUST AIR	ALL	NONE	---	---	---
OUTSIDE AIR	BUILDING INTERIOR, CONCEALED OR EXPOSED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	NONE
FLEXIBLE DUCT	BUILDING INTERIOR	MINERAL-FIBER BLANKER POLYETHYLENE INNER AND OUTER JACKET	6.0	6.0	NONE

NOTES

1. DUCT INSULATION THERMAL RESISTANCE VALUES DETERMINED FROM 2018 IECC SECTION C403.11.1.
2. CLIMATE ZONES DETERMINED BY ASHRAE. THIS PROJECT IS IN CLIMATE ZONE XXXX.
3. ALL DUCT INSULATION SHALL HAVE ALL SERVICE JACKET MANUFACTURER FROM KRAFT PAPER, REINFORCED SCRIM, ALUMINUM FOIL, OR VINYL FILM.
4. DUCT INSULATION SHALL BE MECHANICALLY FASTENED TO DUCTS WIDER THAN 24" AND SHALL BE AFFIXED TO BOTTOM OF DUCT WITH WELDED METAL PINS AND 2" WASHERS AT 18" MAXIMUM SPACING.
5. DUCT LINER, WHERE SHOWN ON DRAWINGS, SHALL BE A MINIMUM OF 1" THICK AND SHALL HAVE A MINIMUM "R" VALUE OF 3.8.
6. DUCT LINER SHALL NOT BE SUBSTITUTED FOR DUCT WRAP UNLESS THE MINIMUM "R" VALUE OF THE DUCT LINER IS INCREASED TO VALUE NEEDED PER TABLE ABOVE.
7. DUCT DIMENSIONS SHOWN ON THE DRAWINGS ARE NET FREE AREA. WHERE DUCT LINER IS SHOWN, INCREASE METAL DUCT SIZE TO ALLOW FOR THICKNESS OF DUCT LINER.
8. TOTAL LENGTH OF FLEXIBLE DUCT FUN SHALL NOT EXCEED 3'-0". EXTEND SHEET METAL DUCT TO WITHIN 3'-0" OF THE AIR INLET OR AIR OUTLET DEVICE.
9. OFFSET OF FLEXIBLE DUCT SHALL NOT EXCEED ONE HALF OF THE DUCT DIAMETER.
10. ALL DUCT CHANGES IN DIRECTION SHALL BE MADE WITH RIGID ELBOWS OR OTHER RIGID METAL FITTINGS.
11. INDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS WHEN TESTED TO ASTM 84.
12. OUTDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS WHEN TESTED TO ASTM 84.
13. ALL DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER, OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM 411.
14. ALL MATERIALS USED AS INTERNAL INSULATION AND EXPOSED TO THE AIR STREAM IN DUCTS SHALL BE SHOWN TO BE DURABLE WHEN TESTED IN ACCORDANCE WITH UL 181.

DUAL DUCT VAV BOX SCHEDULE

MARK	AREA SERVED	COOLING CFM		HEATING AIRFLOW CFM	PHYSICAL DATA		MAXIMUM NC	MINIMUM PRESS. DROP	MANUFACTURER/MODEL	NOTES
		MAX	MIN		COLD INLET	HOT INLET				
VAV-101	MOVEMENT RESEARCH LAB	700	210	560	9" ø	8" ø	35	.10	TITUS MODEL EDV	1,2
VAV-102	EXERCISE INTERVENTION LAB	800	240	640	9" ø	9" ø	35	.10	TITUS MODEL EDV	1,2
VAV-103	EXERCISE TESTING LAB	800	240	640	9" ø	9" ø	35	.10	TITUS MODEL EDV	1,2
VAV-104	LEVEL 1 CIRCULATION	600	180	480	8" ø	7" ø	35	.10	TITUS MODEL EDV	1,2
VAV-105	METABOLIC KITCHEN	2800	840	1600	16" ø	12" ø	35	.10	TITUS MODEL EDV	1,2
VAV-106	LEVEL 1 INTERVIEW ROOMS	150	45	120	5" ø	5" ø	35	.10	TITUS MODEL EDV	1,2
VAV-107	WET LAB	800	240	560	10" ø	9" ø	35	.10	TITUS MODEL EDV	1,2
VAV-108	EXISTING BIOMECHANICS LAB	660	660	660	10" ø	10" ø	35	.10	TITUS MODEL EDV	1,2
VAV-201	RECEPTION	700	210	560	9" ø	8" ø	35	.10	TITUS MODEL EDV	1,2
VAV-202	CONFERENCE	600	180	480	8" ø	7" ø	35	.10	TITUS MODEL EDV	1,2
VAV-203	LEVEL 2 INTERVIEW ROOMS	550	165	440	8" ø	7" ø	35	.10	TITUS MODEL EDV	1,2
VAV-204	OPEN OFFICE	1380	414	1100	12" ø	12" ø	35	.10	TITUS MODEL EDV	1,2
VAV-205	OPEN OFFICE	880	264	700	10" ø	9" ø	35	.10	TITUS MODEL EDV	1,2
VAV-206	SHARED OFFICE	300	90	240	6" ø	6" ø	35	.10	TITUS MODEL EDV	1,2
VAV-207	SHARED OFFICE	300	90	240	6" ø	6" ø	35	.10	TITUS MODEL EDV	1,2
VAV-208	SHARED OFFICE	300	90	240	6" ø	6" ø	35	.10	TITUS MODEL EDV	1,2
VAV-209	BREAK AREA	400	120	320	8" ø	8" ø	35	.10	TITUS MODEL EDV	1,2

NOTES:

1. PROVIDE CONTROLS WITH DUAL MAXIMUM FOR EITHER COOLING OR HEATING. MINIMUM SHALL BE USED DURING COOLING SEASON DURING OFF PEAK REQUIREMENTS AS SCHEDULED.
2. PROVIDE PNEUMATIC CONTROLS TO MATCH EXISTING.

CEILING DIFFUSER, REGISTER & GRILLE SCHEDULE

SYMBOL	DESCRIPTION	SIZES		ACCEPTABLE MANUFACTURERS
		NOMINAL SIZE (NECK SIZE)	AIR FLOW (CFM)	
CD	CEILING DIFFUSER: FULL LOUVER FACE, REMOVABLE CORE, LAY-IN CEILING MOUNTING, 24" X 24" PANEL SIZE, 4-WAY PATTERN, ROUND NECK, STEEL CONSTRUCTION NC-35 MAXIMUM, TESTED IN ACCORDANCE WITH ADC TEST 1062, OPTIONS & ACCESSORIES: BAKED ENAMEL WHITE FINISH. PROVIDE CEILING MOUNT TO MATCH CEILING TYPE.	6" DIA. 8" DIA. 10" DIA. 12" DIA. 14" DIA.	120 200 400 700 1000	KRUEGER 1400 TITUS TMS PRICE SCD ANEMOSTAT TUTTLE AND BAILEY
RG	CEILING GRILLE: REMOVABLE PERFORATED FACEPLATE, ALUMINUM, LAY-IN CEILING MOUNTING, 24" X 24" PANEL SIZE, NC-35 MAXIMUM, TESTED IN ACCORDANCE WITH ADC 1062. ROUND NECK OR SQUARE NECK, SEE DRAWINGS FOR NECK SIZE. OPTIONS & ACCESSORIES: BAKED ENAMEL WHITE FINISH.	6" DIA. (6" X 6") 8" DIA. (8" X 8") 10" DIA. (10" X 10") 12" DIA. (12" X 12") 14" DIA. (14" X 14") 22" X 22"	120 200 420 700 1000 2000	PRICE PDDR TITUS PAR KRUEGER 56490/56690 ANEMOSTAT TUTTLE AND BAILEY
LSD-1	CEILING LINEAR DIFFUSER: 1" LINEAR SLOTS, 1-SLOT, EXTRUDED ALUMINUM, 1-1/8" MARGINS , 48" LENGTH NC-30 MAXIMUM, TESTED IN ACCORDANCE WITH ASHRAE 70.	6" DIA. (6" X 6")	120	TITUS ML-38
LSD-2	CEILING LINEAR DIFFUSER: 1" LINEAR SLOTS, 2-SLOTS, EXTRUDED ALUMINUM, 1-1/8" MARGINS , 48" LENGTH NC-30 MAXIMUM, TESTED IN ACCORDANCE WITH ASHRAE 70.	8" DIA. (8" X 8")	200	TITUS ML-38

EXHAUST FAN SCHEDULE

SYMBOL	SERVES	MANUFACTURER	MODEL NO.	TYPE	CAPACITY			ELECTRICAL				MAXIMUM NOISE LEVEL (SONES)	NOTES
					AIRFLOW (CFM)	STATIC PRESSURE (INCHES W.G.)	FAN SPEED (RPM)	VOLTS	PHASE	HERTZ	HP		
EF-1	RESTROOM	LOREN COOK	GC-128	CEILING	50	0.35	1075	115	1	60	1/8	3.0	(1-6)
EF-2	RESTROOM	LOREN COOK	GC-128	CEILING	50	0.35	1075	115	1	60	1/8	3.0	(1-6)
EF-3	RESTROOM	LOREN COOK	GC-128	CEILING	50	0.35	1075	115	1	60	1/8	3.0	(1-6)
EF-4	JANITORS CLOSET	LOREN COOK	GC-128	CEILING	50	0.35	1075	115	1	60	1/8	3.0	(1-5,7)
EF-5	LAUNDRY	LOREN COOK	GC-148	CEILING	100	0.35	1075	115	1	60	1/8	3.0	(1-6)

NOTES:

(1) INCLUDE BACKDRAFT DAMPER.
(2) UL LISTED. FAN CERTIFIED FOR AMCA RATINGS SEAL FOR SOUND & AIR PERFORMANCE.
(3) UNLESS SPECIFIED OTHERWISE, MANUFACTURER'S WALL / ROOF CAP (SEE PLANS).
(4) MOTOR TO BE ISOLATION MOUNTED.
(5) PROVIDE WITH STEEL GRILLE.
(6) WIRED TO LIGHT SWITCH
(7) FAN TO RUN DURING BUSINESS HOURS.

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ISSUE	DATE:
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DRAWN BY:	AJB
CHECKED BY:	MMN

MECHANICAL SCHEDULES

ME601

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MAKE-UP AIR UNIT SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER	MODEL NO.	FAN SECTION					HEATING CAPACITY (102)			EVAPORATIVE COOLING CAPACITY			OPERATING WEIGHT	OPTIONS AND ACCESSORIES	NOTES
				ARRANGEMENT	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE (IN. W.C.)	FAN SPEED (RPM)	(101) POWER INPUT (HP)	ELEC.	AMP.	INPUT BTUS	EAT, TEMP. DB/WB	LAT, TEMP. DB/WB	EVAPORATIVE MEDIA			
MAU-1	KITCHEN	CAPTIVEAIRE	A1-E.54-15D	ROOF	1620	0.5	1917	1.0	480/3/60	42.1	119455	91°F/61°F	70°F/61°F	CELDEK	684	(1-11)	(101-103) 1

ACCEPTABLE MANUFACTURERS	NOTES:	OPTIONS & ACCESSORIES
GREENHECK CAPTIVEAIRE	(101) MAKE UP AIR SHALL BE PROVIDED WITHIN 10°F OF SPACE SETPOINT. (102) HEATING DESIGN CONDITIONS: 80°F AIR TEMP RISE (103) HEATING/COOLING PERFORMANCE AT SITE ELEVATION	(1) MANUFACTURER'S RECOMMENDED 6X MV EZ KLEEN METAL MESH FILTER OR EQUIVALENT. (2) INSULATED SEISMIC ROOF CURB. (3) 12" EVAPORATIVE MEDIA. BALL TYPE ISOLATION VALVE AT WATER INLET. DRAIN LINE TO NEAREST FLOOR SINK. (4) MANUFACTURER'S RECOMMENDED CONTROLLER. (5) MANUFACTURER'S RECOMMENDED THREE WAY DRAIN/SUPPLY WATER VALVE. MOUNT INSIDE BUILDING ENVELOPE. (6) EVAP COOLER (LPD CELDEK) W/ INTAKE HOOD W/ EZ FILTERS. (7) COOLING INTERLOCK RELAY 24VAC COIL, 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED. (8) FREEZE PROTECTION DRAIN CONTROL KIT FOR EVAPORATIVE COOLERS. INCLUDES 3-WAY WATER SOLENOID VALVE 8316G064 (SHIPPED LOOSE), PRESSURE SWITCH INSTALLED UPSTREAM OF 2-WAY SOLENOID IN UNIT, BRASS TEE, 2 NPT HALF INCH NIPPLES, AND TWO STAGE THERMOSTAT T678A-1015. FIELD WIRING REQUIRED BY OTHERS FOR 3-WAY VALVE. FOR BOTH CELDEK AND STANDARD AND STANDARD V-BANK TYPE CONFIGURATIONS. (9) FUSED DISCONNECT. PROVIDE MANUFACTURER'S SUPPLIED VFD AND CONTROLS. (10) DEMAND CONTROL VENTILATION MEETING REQUIREMENTS OF 2018 IECC 403.2.8. PROVIDE ALL COMPONENTS, DUCT SENSORS, AND ACCESSORIES TO ACCOMPLISH VARIABLE FLOW. 1 (11) PROVIDE FACTORY INSTALLED METAL WASHABLE FILTER. FILTER RATING: MERV 3.

KITCHEN EXHAUST HOOD SCHEDULE

SYMBOL	SERVICE	MANUFACTURER	MODEL NO.	DIMENSIONS		EXHAUST			SUPPLY			WEIGHT	NOTES	OPTIONS AND ACCESSORIES
				L x W x H (INCHES)	PLENUM WIDTH (INCHES)	AIR FLOW (CFM)	RISERS (SIZE)	RISER PRESSURE DROP (IN. WC.)	AIR FLOW (CFM)	RISERS (SIZE)	RISER PRESSURE DROP (IN. WC.)			
H-1	KITCHEN	CAPTIVEAIRE	5424 ND-2-PSP-F	120 x 68 x 24	16	2025	14"	-0.843	1620	28" x 12"	0.211	595	(1-4)	(1)(2)(3)

ACCEPTABLE MANUFACTURERS	NOTES:	OPTIONS & ACCESSORIES
CAPTIVEAIRE GREENHECK	(1) KITCHEN EXHAUST HOOD FURNISHED AND INSTALLED BY MECHANICAL. (2) 430 SS CONSTRUCTION. (3) HOOD IS LISTED. (4) HOOD CONFORMS TO 2018 IECC 403.2.8. 1	(1) REMOTE CONTROL PANEL FURNISHED BY MANUFACTURER. (2) LIGHTS PRE-WIRED TO J-BOX (3) ANSUL FIRE PROTECTION SYSTEM

KITCHEN EXHAUST FAN SCHEDULE

SYMBOL	AREA SERVED	MANUFACTURER	MODEL NO.	CONFIG.	AIR FLOW (CFM)	STATIC PRESSURE (INCHES W.G.)	FAN SPEED (RPM)	MOTOR				MAXIMUM NOISE LEVEL (SONES)	WEIGHT (LBS)	OPTIONS AND ACCESSORIES	CONTROLS	NOTES / COMMENTS
								HP	VOLTS	PHASE	HERTZ					
KEF-1	KITCHEN HOOD	CAPTIVEAIRE	DU180IHFA	ROOF	2025	1.4	1230	1.5	460	3	60	17.1	181	(1-5)	(11)(12)	(101)(102)

ACCEPTABLE MANUFACTURERS	OPTIONS & ACCESSORIES	CONTROLS	NOTES & COMMENTS
GREENHECK CAPTIVEAIRE	(1) PROVIDE WITH GREASE CUP (2) INTEGRAL THERMAL OVERLOAD PROTECTION (3) HIGH HEAT OPERATION 300°F (149°C) (4) FUSED DISCONNECT (5) MANUFACTURER'S SUPPLIED VFD AND CONTROLS FOR DEMAND CONTROL VENTILATION.	(11) SWITCH ON FRONT OF KITCHEN HOOD. (ONE SWITCH ON WALL TO OPERATE BOTH FANS). COORDINATE WITH ELECTRICAL. (12) INTERLOCK WITH MAKE-UP AIR UNIT	(101) ALL CAPACITIES AT JOB SITE ELEVATION (102) PROVIDE STARTER / VFD

AIR BALANCE SCHEDULE

OCCUPANCY CLASSIFICATION	AREA (SF)	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	MAKEUP AIR (CFM)	RETURN AIR - PLENUM (CFM)	EXHAUST AIR (CFM)	PRESSURIZATION (CFM)	NOTE
KITCHEN	650	2190	0	1620	1585	2025	-200	1

NOTES
(1) OUTSIDE AIR PROVIDED BY MAIN AIR HANDLER

1

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1 REVIEW COMMENTS	02/17/2022
PROJECT NUMBER:	21-009
DRAWN BY:	AJB
CHECKED BY:	MMN

MECHANICAL SCHEDULES - KITCHEN

ME602

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MISC. SYMBOL LEGEND

SYMBOL	DESCRIPTION
# / SHEET	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
# / SHEET	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
P-	PLUMBING FIXTURE INDICATOR.
TYPE / CFM / SIZE	DIFFUSER/GRILLE INDICATOR.
TYPE / SIZE	DIFFUSER/GRILLE INDICATOR.
	BREAK, STRAIGHT
	BREAK, ROUND.
	MATCH LINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
	NEW CONNECTION POINT TO EXISTING

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
C.B.	CATCH BASIN
M.H.	MANHOLE
W.H.	WALL HYDRANT
H.B.	HOSE BIBB
	CLEANOUT TO GRADE
	FLOOR CLEANOUT
	WALL CLEANOUT
	1/2 GRATE
	3/4 GRATE
	FULL GRATE

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.

PLUMBING PIPING LEGEND

SYMBOL	DESCRIPTION
	SANITARY SEWER (SS)
	GREASE WASTE (GW)
	VENT (V)
AV	ACID VENT
AW	ACID WASTE
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RECIRC (DHWR)
180	180°F HOT WATER
180R	180° HOT WATER RETURN
160	160° HOT WATER
160R	160° HOT WATER RETURN
RW	RAINWATER
SRW	SECONDARY RAINWATER
SD	STORM DRAIN
VTR	VENT THRU ROOF
/	NON POTABLE WATER
(E)	EXISTING PIPE
(E)	EXISTING PIPE TO BE REMOVED
IW	IRRIGATION WATER
SS	SANITARY SEWER
LPS	LOW PRESSURE STEAM
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
GS	GLYCOL SUPPLY
GR	GLYCOL RETURN
G	GAS
FP	FIRE PROTECTION
LPG	PROPANE
VAC	VACUUM
CA	COMPRESSED AIR
MA	MEDICAL AIR
O	OXYGEN
NO	NITROUS OXIDE
N	NITROGEN
CO2	CARBON DIOXIDE
EVAC	EVACUATION

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	VALVES, METERS, AND GAUGES
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2-WAY VALVE
	AUTO 3-WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
S	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
MAV	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
	REFRIGERANT FILTER DRIER
	90 DEG ELBOW UP
	90 DEG ELBOW DOWN
	90 DEG TEE UP
	90 DEG TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	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
COND	CONDENS(-ER, -ING, -ATION)
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DP	DEPTH OR DEEP
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
FC	FLEXIBLE CONNECT(-OR, -ION)
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
HT	HEIGHT
HTG	HEATING
HZ	HERTZ (FREQUENCY)
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LG	LENGTH
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
NC	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
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R	THERMAL RESISTANCE
RA	RETURN AIR
RECIRC	RECIRCULATE
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SF	SAFETY FACTOR
SH	SENSIBLE HEAT
SL	SEA LEVEL
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
SW	SOIL, WASTE
TA(R)	TRANSFER AIR (RETURN)
TA(S)	TRANSFER AIR (SUPPLY)
TD	TEMP. DROP OR DIFF.
TEMP	TEMPERATURE
THERM	THERMAL
TOT	TOTAL
TSTAT	THERMOSTAT
V	VOLT
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY TEMPERATURE
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WT	WEIGHT
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

PE001	PLUMBING COVER SHEET
PD101	PLUMBING DEMOLITION PLANS
PL101	LOWER LEVEL PLUMBING PLANS
PL102	UPPER LEVEL PLUMBING PLANS
PL103	ROOF PLUMBING PLAN
PE501	PLUMBING DETAILS
PE601	PLUMBING SCHEDULES
PE602	PLUMBING SCHEDULES - KITCHEN
PE603	PLUMBING SCHEDULES - KITCHEN

1

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PROFESSIONAL ENGINEER 9799431-2202 Michael Nielsen 12.22.2021 STATE OF UTAH

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1	REVIEW COMMENTS	02/17/2022

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CHECKED BY:	MMN

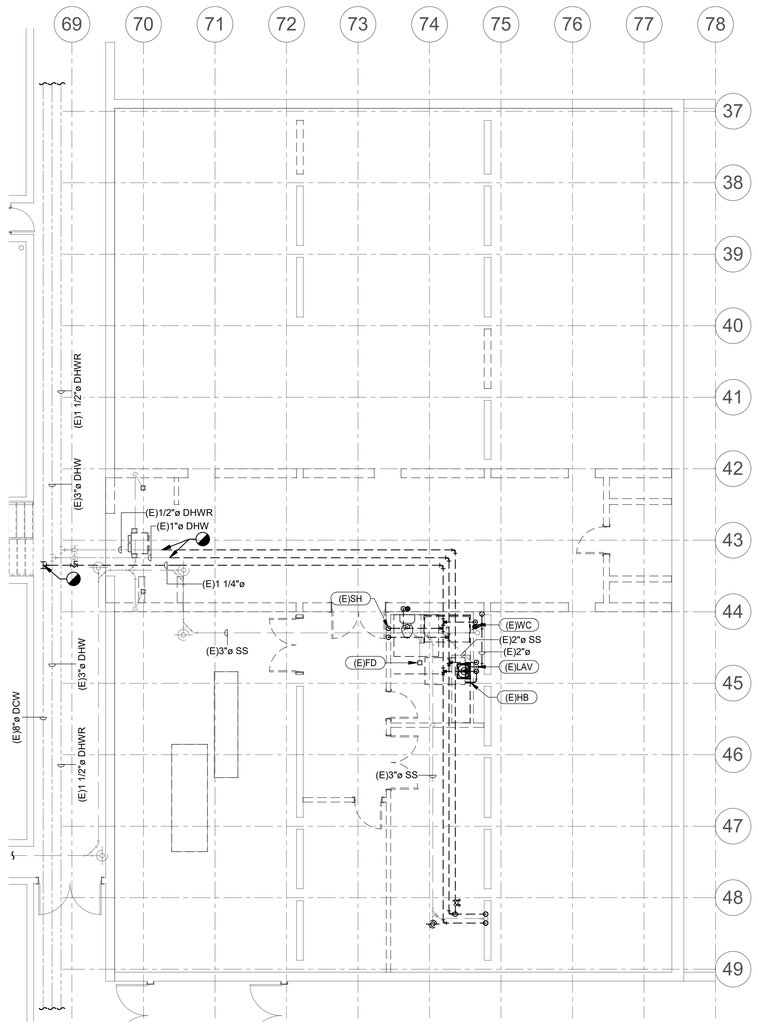
PLUMBING COVER SHEET

PE001

BIM 360://HPER - East Phase 2/210180 Mech Central.rvt
2/17/2022 07:20:03

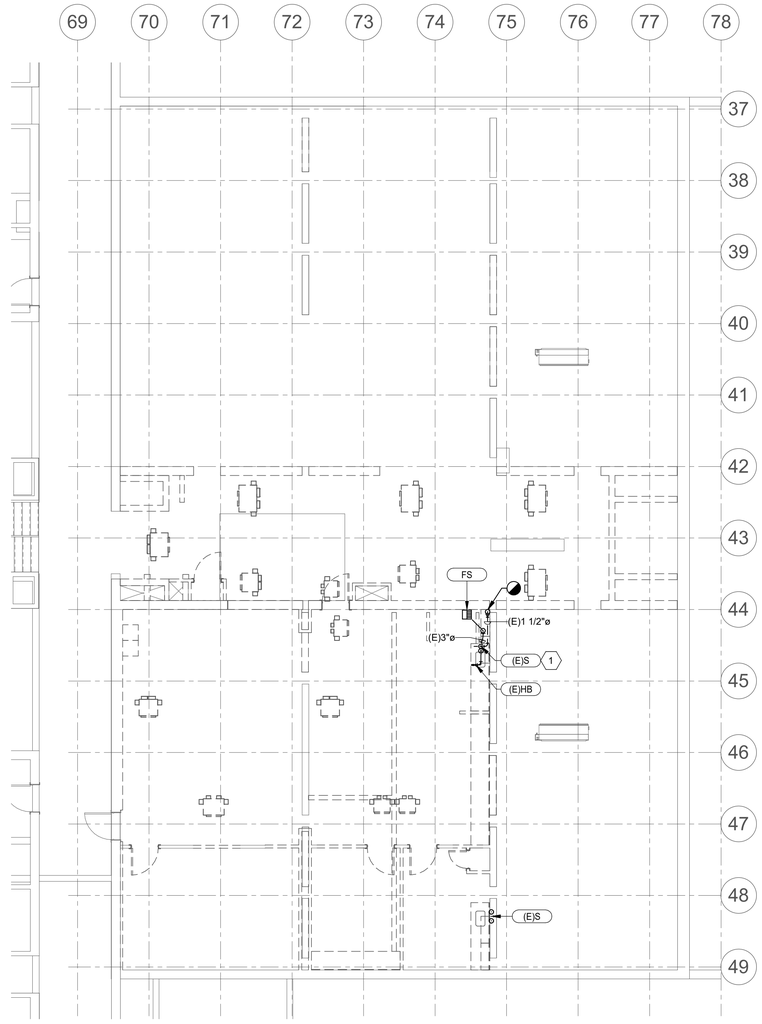
SHEET KEYNOTES

1 REMOVE EXISTING SINK, HOSE BIBB, AND ASSOCIATED PIPING TO MAINS. EXISTING FLOOR SINK TO REMAIN.



A1 PD101 LOWER LEVEL PLUMBING DEMOLITION PLAN

1/8" = 1'-0"



A3 PD101 UPPER LEVEL PLUMBING DEMOLITION PLAN

1/8" = 1'-0"

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PLUMBING DEMOLITION PLANS

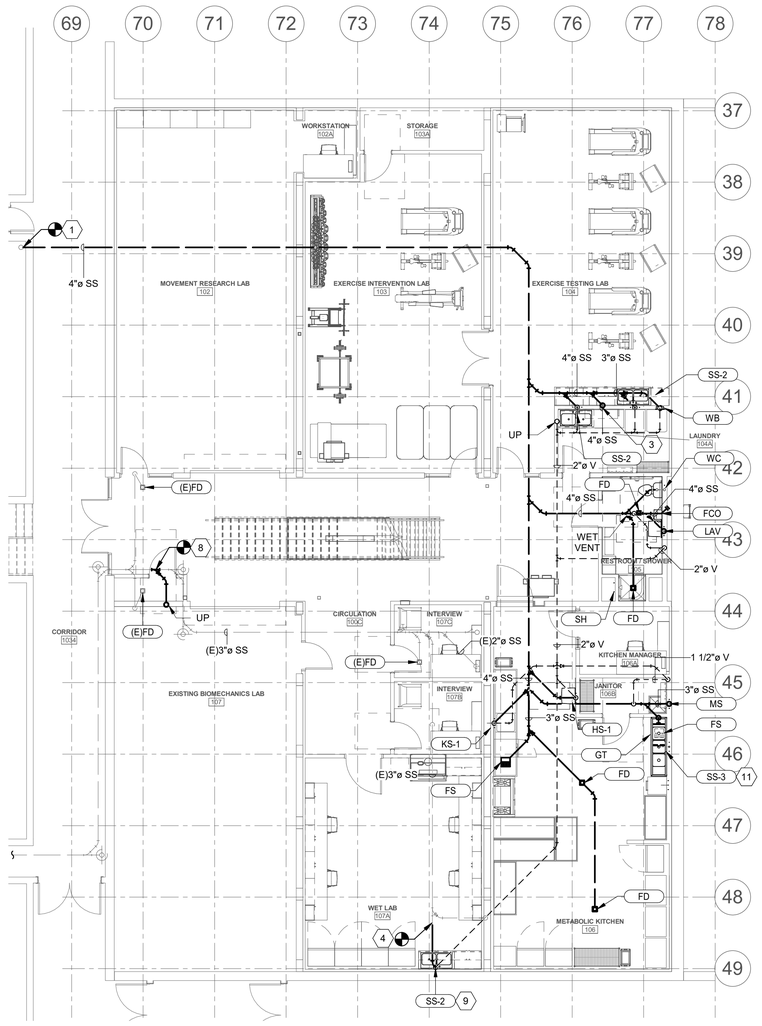
PD101

Mon 08/09/2021 - Even Plots 2021\Utah Division\21-009\2021-08-09 21-009_PD101.dwg

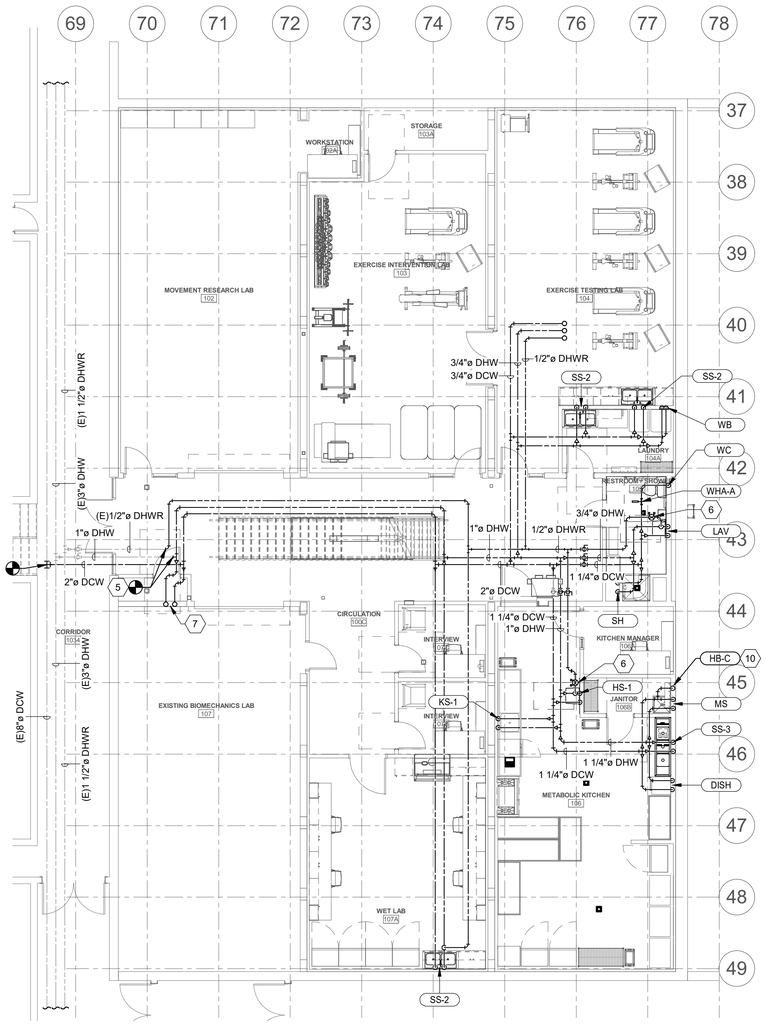
GREASE TRAP SIZING:
GREASE PRODUCING FIXTURES:
3-COMP SINK (SS-3): 17X17X12X3/231X0.75 = 33.8 GAL.

FOR 2 MINUTE DRAINAGE PERIOD:
FLOW RATE: ACTUAL DRAINAGE LOAD/DRAINAGE PERIOD = 17

NOTE: HAND SINKS AND DISHWASHER ARE NOT GREASE PRODUCING FIXTURES.
TOTAL PEAK GPM: 17



A1 PL101 LOWER LEVEL PLUMBING PLAN - DWV
1/8" = 1'-0"



A3 PL101 LOWER LEVEL PLUMBING PLAN - WATER
1/8" = 1'-0"

SHEET KEYNOTES

1 ROUTE NEW 4" SS LINE TO EXISTING 4" LINE. CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH TO ENSURE PROPER SLOPE CAN BE MAINTAINED BEFORE CONSTRUCTION.

2 WASTE LINE FROM SINK ON FLOOR ABOVE. CONTRACTOR TO FIELD VERIFY LOCATION.

3 WASTE LINE FROM FLOOR ABOVE.

4 CONNECT NEW SINK TO EXISTING 3" WASTE LINE. CONTRACTOR TO VERIFY EXISTING LOCATION.

5 CONNECT NEW DOMESTIC HOT, COLD AND HOT WATER RECIRCULATION LINES TO EXISTING LINES. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION.

6 EXTEND HOT WATER RECIRCULATION LINE TO LEVEL OF STOP VALVES. LOCATE FLOW SETTER WITHIN CABINETRY OR JUST BELOW SINK. SET AT 0.5GPM. SEE DETAIL.

7 ROUTE NEW DOMESTIC HOT AND COLD LINES TO SINK ABOVE.

8 CONNECT WASTE LINE TO EXISTING WASTE LINE. CONTRACTOR TO FIELD VERIFY LOCATION.

9 PROVIDE 3.5 GAL PLASTER TRAP TO SINK. BASIS OF DESIGN

10 PROVIDE DEDICATED WATER LINE FOR HOSE BIBB CONNECTION AT MOP SINK FOR CHEMICAL DISPENSER. PROVIDE LEAD FREE ANTI-SIPHON SPILL RESISTANT VACUUM BREAKER AT LEAST 12 INCHES ABOVE THE DISPENSER. BASIS OF DESIGN: WATTS LF008PCQT.

11 INSTALL GREASE TRAP UNDER SINK. EXTEND SINK DRAINS DIRECT TO TRAP AND MAINTAIN AIR GAP FOR THE TRAP DISCHARGE INTO FLOOR SINK.

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LOWER LEVEL PLUMBING PLANS

PL101

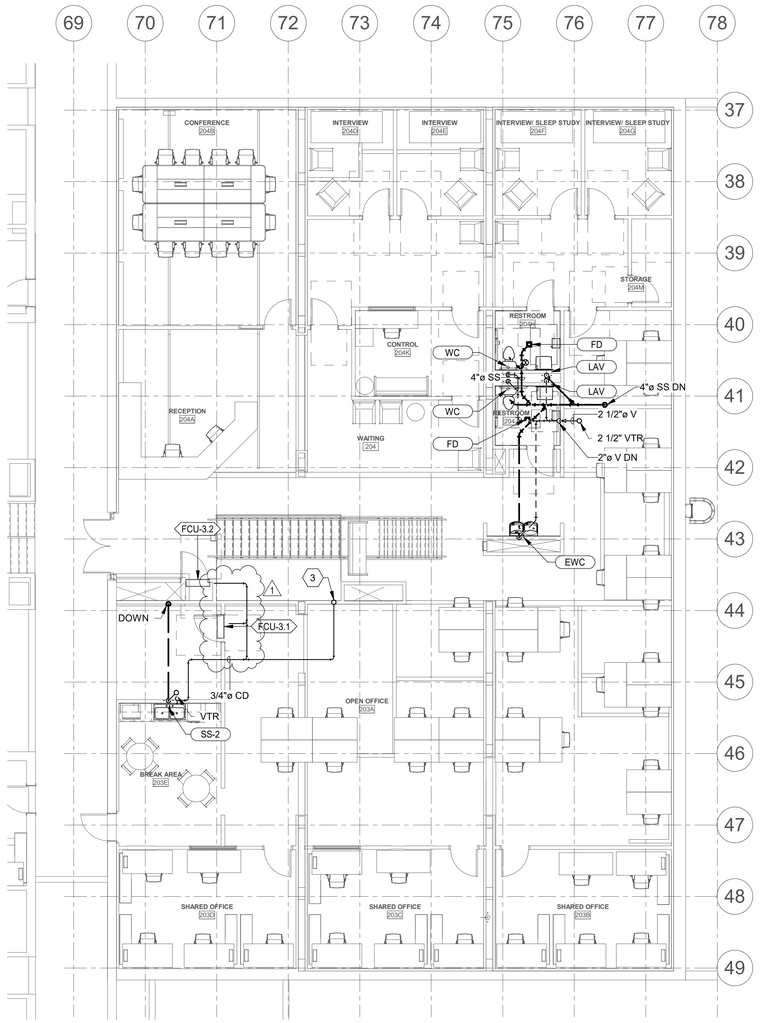
BIM 360:\HPER - East\Revit 2021\Models\Central 21-009_R21.rvt

SHEET KEYNOTES

1 CONNECT NEW DOMESTIC HOT AND COLD WATER LINES FROM BELOW.

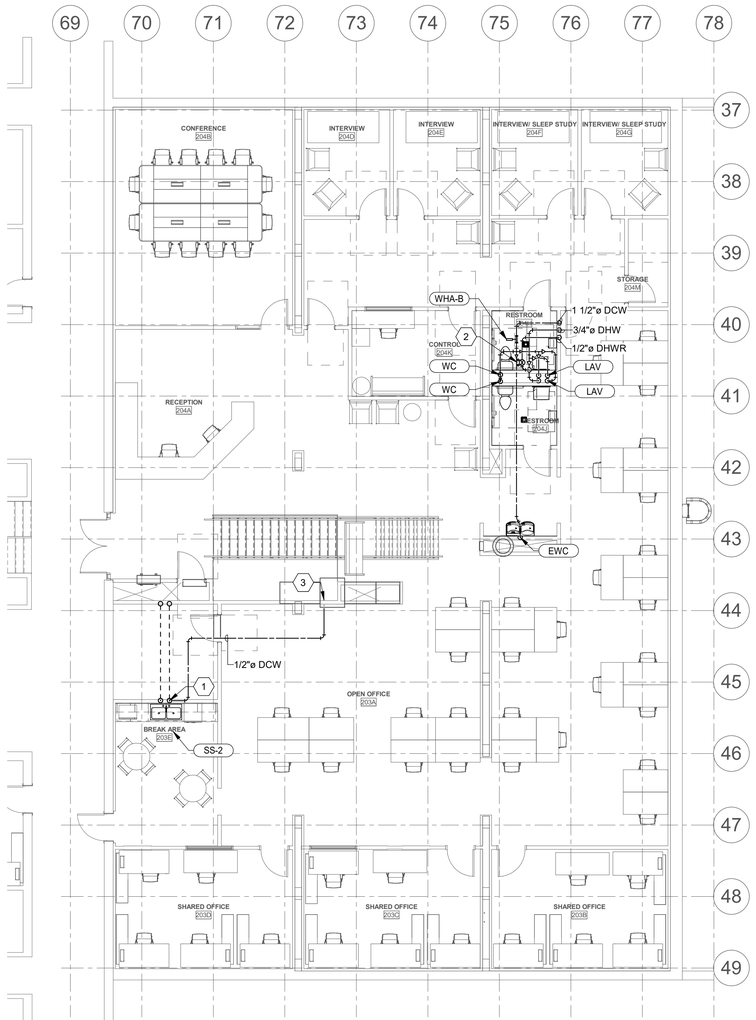
2 EXTEND HOT WATER RECIRCULATION LINE TO LEVEL OF STOP VALVES. LOCATE FLOW SETTER WITHIN CABINETRY OR JUST BELOW SINK. SET AT 0.5GPM. SEE DETAIL.

3 WATER AND DRAIN LINE UP TO MAKE UP AIR UNIT. PROVIDE AUTOMATIC DRAIN VALVE IN CEILING. EXTEND DRAIN LINE TO TRAP SIDE OF SINK. SIZE AS PER MANUFACTURER, FOR BIDDING ASSUME 1" TYPE M COPPER.



A1 PL102 UPPER LEVEL PLUMBING PLAN - DWV

1/8" = 1'-0"



A3 PL102 UPPER LEVEL PLUMBING PLAN - WATER

1/8" = 1'-0"

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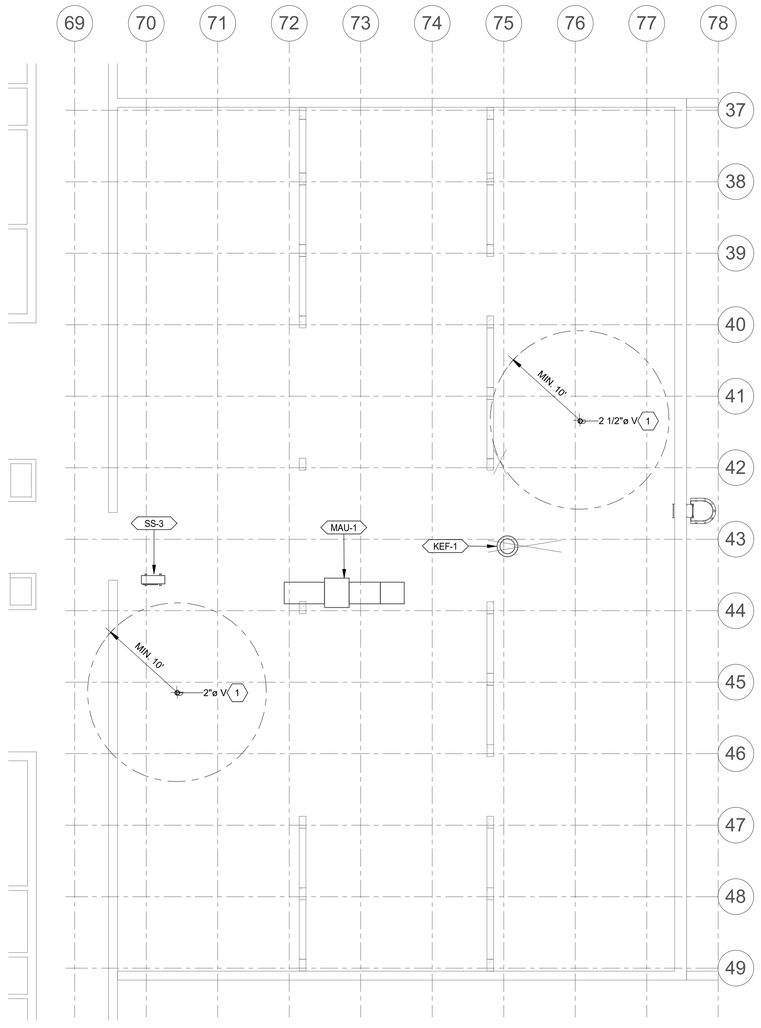
UPPER LEVEL PLUMBING PLANS

PL102

BIM 360:\HPER - East\Revit 2021\Michael.Carlson@crsa-us.com 2/17/2022 2:37:35 PM

SHEET KEYNOTES

1 PLUMBING VENT TERMINATIONS TO BE 10' AWAY FROM ALL FRESH AIR INTAKES.



1 PL103 ROOF PLUMBING PLAN - DWV
1/8" = 1'-0"

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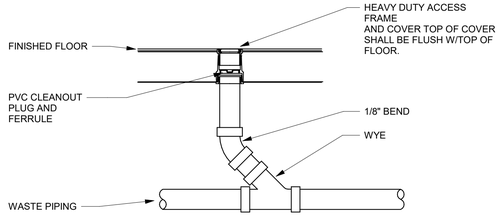
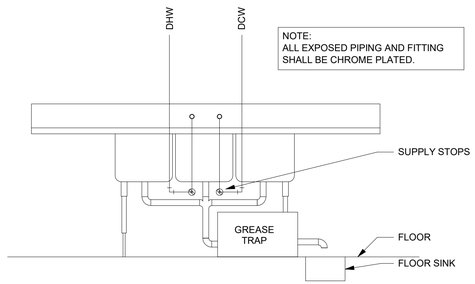
ROOF PLUMBING PLAN

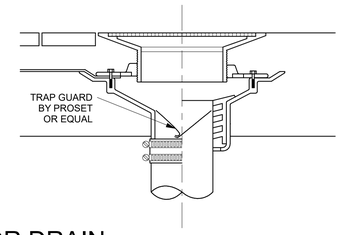
1 PL103



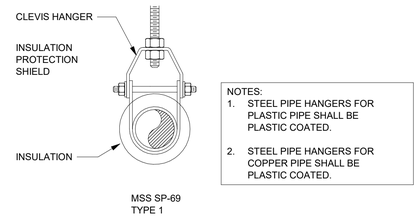
8 FLOOR CLEANOUT
SCALE: NTS



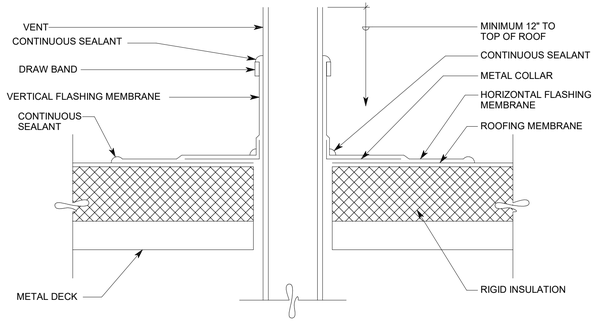
11 3-COMPARTMENT SINK
SCALE: NTS



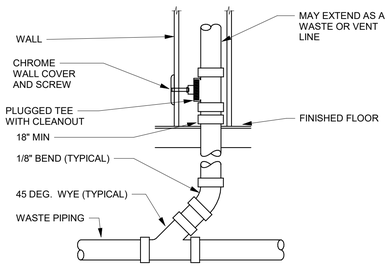
7 FLOOR DRAIN
SCALE: NTS



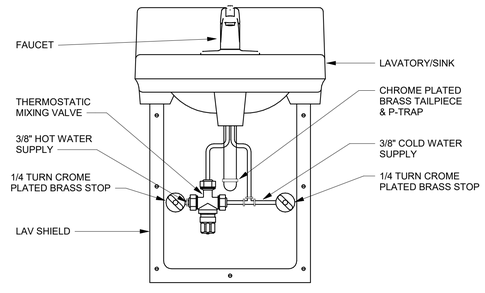
10 PIPE HANGER
SCALE: NTS



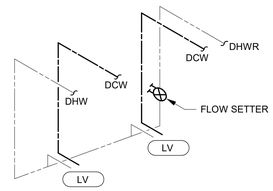
6 VENT THROUGH ROOF DETAIL
SCALE: NTS



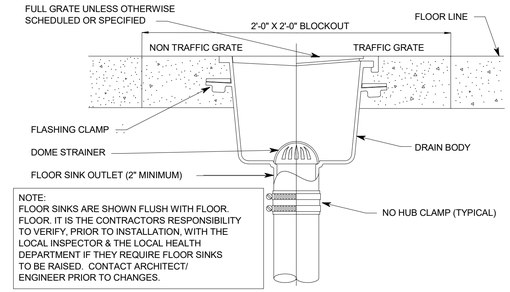
9 WALL CLEANOUT
SCALE: NTS



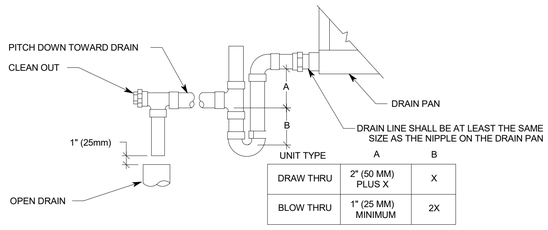
5 THERMOSTATIC MIXING VALVE
SCALE: NTS



4 LAV. DOMESTIC WATER CONNECTION
SCALE: NTS



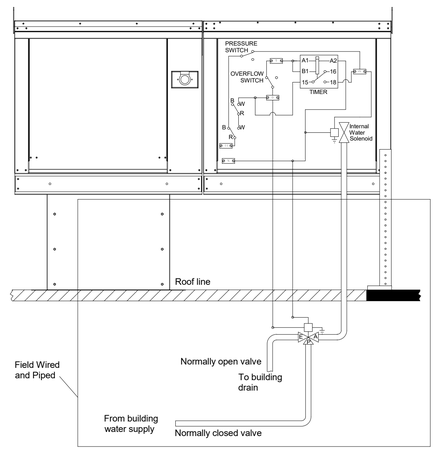
3 FLOOR SINK
SCALE: NTS



UNIT TYPE	A	B
DRAW THRU	2" (50 MM) PLUS X	X
BLOW THRU	1" (25 MM) MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

2 CONDENSATE DRAIN
SCALE: NTS



1 MAKE UP AIR UNIT WATER SUPPLY CONNECTION
SCALE: NTS

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PLUMBING DETAILS

PE501

BIM 360 DOCS - Each Plotted: 12/21/2021 9:06:47 AM by Michael Clarkson

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DESCRIPTION	MANUFACTURER AND MODEL	NOTES
WC-A	WATER CLOSET	INT.	4"	2"	1 1/4"	----	FIXTURE: FLOOR MOUNTED, VITREOUS CHINA, ELONGATED, SIPHON JET, 1.6 GALLONS PER FLUSH, 16-1/2" BOWL HEIGHT, 12" ROUGH-IN, 1-1/2" TOP SPUD, MAXIMUM PERFORMANCE (MAP): 1000 SEAT: HEAVY DUTY PLASTIC, OPEN FRONT, ELONGATED, LESS LID	KOHLER K-25076 SLOAN 111 FLUSH VALVE	1. MaP SCORE: 1,000 MINIMUM 2. MOUNT RIM AT 15" ABOVE FINISHED FLOOR. 2x6 MINIMUM STUD WALL REQUIRED
LAV	LAVATORY	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	FIXTURE: UNDERMOUNTED SINK, 17"x13", VITREOUS CHINA, ADA COMPLIANT, WITH OVERFLOW FAUCET: STAINLESS STEEL, SINGLE LEVER, SINGLE HOLE MOUNTING, PROVIDE WITH TMV AERATOR: 0.5 GPM CHROME PLATED BRASS, LAMINAR FLOW RESTRICTOR DRAIN: GRID DRAIN, CHROME PLATED BRASS, CHROME PLATED BRASS TAILPIECE TRAP: 17 GAUGE POLISHED CHROME PLATED BRASS STOPS: 1/2" I.P.S. x 3/8" O.D COMPRESSION, POLISHED CHROME PLATED HEAVY PATTERN BRASS ANGLE SUPPLIES: RIGID POLISHED CHROME PLATED BRASS TUBING SUPPORT: CONCEALED ARM, FLOOR MOUNTED, TUBULAR STEEL SUPPORTS, FLOOR PLATE	KOHLER K-2882 DELTA 567 LF OMNI A-200 MCGUIRE 155A2 WS BATH COLLECTIONS WSBC5392 MCGUIRE BV09	SET DISCHARGE WATER TEMPERATURE AT 110 F.
SH	SHOWER	2"	2"	2"	1/2"	1/2"	SHOWER HEAD ASSEMBLY: PRESSURE BALANCING WITH CLEAR VIEW THERMOMETER, SINGLE MODE SHOWERHEAD WITH MOUNTING ARM AND FLANGE, 2.5 GPM, POLISHED CHROME PLATED FINISH, INTEGRAL SERVICE AND CHECK STOPS. COMPLY WITH ASSE 1016. MIX VALVE: SET AT 110 F MAXIMUM DISCHARGE TEMPERATURE.	SYMMONS 1-1000VT POWERS LFe480	MOUNT FOR ADA REQUIREMENTS
EWC	DRINKING FOUNTAIN	1-1/4"	1-1/2"	1-1/2"	1/2"	---	BI LEVEL ADA HEIGHT,SCHEDULE 40 PVC P-TRAP, TOUCHLESS WATER BOTTLE FILLER, STAINLESS STEEL SHROUD. ANGLE BALL VALVE STOPS, /2" I.P.S. x 3/8" O.D COMPRESSION, POLISHED CHROME PLATED LEAD FREE BRASS, HEAVY PATTERN RIGID POLISHED CHROME PLATED COPPER TUBING SUPPLIES ELECTRICAL: 115V/1PH PLUG-IN. TUBULAR STEEL SUPPORTS, FLOOR PLATE, STEEL SUPPORT BRACKETS	ELKAY EZSTL8WSLK PROFLO PFPTB100 PROFLO PFXQAC32C J.R. SMITH 0830	MOUNT FOR ADA REQUIREMENTS
SS-2	SINK	1-1/4"	1-1/2"	1-1/2"	1/2"	1/2"	FIXTURE: TWO COMPARTMENT, 18 GAUGE, 304 STAINLESS STEEL, 33" X 22" X 9 5/16" BOWLS, UNDERMOUNT. FAUCET: DECK MOUNTED, MIXING FAUCET, CHROME PLATED, SWING GOOSENECK SPOUT, AERATOR: POLISHED CHROME PLATED LEAD-FREE BRASS, LAMINAR FLOW, 1.5 GPM. DRAINS: STAINLESS STEEL CRUMB CUP STRAINER, REMOVABLE STAINLESS STEEL BASKET, 4" LONG TAILPIECE, CHROME PLATE BRASS CONDENSATE DRAIN TAILPIECE. TRAP: WHITE POLYVINYL CHLORIDE (PVC). STOPS: 1/2" I.P.S. X 3/8" O.D. COMPRESSION, POLISHED CHROME PLATED HEAVY PATTERN LEAD FREE BRASS ANGLE BALL VALVE. SUPPLIES: PEX TUBING, FORMED WITH FLANGE, RUBBER WASHER OR GASKET PLASTIC COMPRESSION SLEEVE, ASTM A112.18.6, ASTM F877.	KOHLER K-3838-1 DELTA 9159-DST DEARBORN704-1 AQUAFLOW SFC-109-PP	
WB	WASHER BOX	2"	3"	3"	1/2"	1/2"	FIXTURE: STAINLESS STEEL WALL BOX, AIR GAP/BREAK FITTING LESS WATER CONNECTIONS	GUY GREY SSDB1	MATCH FIRE RATING OF WALL

PLUMBING FIXTURE SCHEDULE (SINKS)

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND MODEL	NOTES
MS	MOP SINK	3"	3"	2"	1/2"	1/2"	FLOOR MOUNTED, ONE-PIECE, CAST IRON. DRAIN INCLUDED, CORNER MODEL, 25" x 21" x 10" POLISHED CHROME PLATED GRID DRAIN, RIM GUARD MANUAL FAUCET, WALL MOUNTED, POLISHED CHROME PLATED LEAD-FREE BRASS, ATMOSPHERIC VACUUM BREAKER, INLET STOPS, 3/4" THREADED HOSE CONNECTION. LEVER HANDLE. POLISHED CHROME PLATED LEAD FREE BRASS OFFSET SUPPLY ARM WITH INTEGRAL CHECK VALVE. LAMINAR AERATOR: LEAD-FREE BRASS, PRESSURE COMPENSATING, 2.0 GPM, 48" LONG RUBBER HOSE, THREADED CONNECTION.	ADVANCE TABCO 9-OP-20EC-X CHICAGO FAUCET 540-LD897SWXFABCP CHICAGO FAUCET GCJKABCP OMNI A-810-VR- 2.0-LF	

PLUMBING FIXTURE SCHEDULE (DRAINS)

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND MODEL	NOTES
FD	FLOOR DRAIN	2"	2"	2"	---	---	LACQUER COATED CAST IRON BODY FLOOR DRAIN, FLASHING COLLAR, 5" ROUND NICKEL BRONZE ADJUSTABLE STRAINER 3.5" BARRIER TYPE TRAP PRIMER, ABS, NEOPRENE RUBBER DIAPHRAGM, ASSE STANDARD 1072-AF-GW DEEP SEAL P-TRAP	J. R. SMITH 2010-5A J.R. SMITH 5A SURESEAL SS 3509	INSTALL TRAP SEAL BEHIND STRAINER FACE
FS	FLOOR SINK (NON-TRAFFIC TOP)	3"	3"	2"	---	----	CAST IRON BODY FLOOR SINK, LACQUER COATED EXTERIOR, ACID RESISTANT ENAMELED INTERIOR, 12" x 12" SQUARE TOP, 6" DEEP, 2-PIECE HALF GRATE ALUMINUM DOME STRAINER. DEEP SEAL P TRAP	WATTS FS-730-150	

PLUMBING FIXTURE SCHEDULE (CLEANOUTS)

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND MODEL	NOTES
CO	CLEANOUT	---	SAME AS PIPE	---	---	---	CAST IRON BLIND PLUG .	CHARLOTTE PIPE NH-50	
FCO	FLOOR CLEANOUT	---	SAME AS PIPE	---	---	---	EXTRA HEAVY DUTY NICKEL BRONZE TOP, TAPERED THREAD BRASS PLUG .	J. R. SMITH 4103S-NB	
WCO	WALL CLEANOUT	---	SAME AS PIPE	---	---	---	ROUND FLAT STAINLESS STEEL WALL PLATE .	J.R. SMITH 4532S	

PLUMBING FIXTURE SCHEDULE (MISC. VALVES)

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND MODEL	NOTES
HB-C	HOSE BIBB (CHEMICAL DISPENSING EQUIPMENT)	---	---	---	3/4"	---	POLISHED CHROME PLATED BRONZE BODY, WALL FLANGE, CERAMIC QUARTER-TURN CARTRIDGE, 2-1/4" METAL TEE HANDLE, 3/4" HOSE CONNECTION.	CHICAGO FAUCET 387-XKCP	PROVIDE SIGN AT OUTLET: FOR CHEMICAL DISPENSER - NON-POTABLE WATER - DO NOT DRINK.

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PLUMBING SCHEDULES

PE601

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PLUMBING PIPE MATERIAL SCHEDULE

SERVICE	PIPE MATERIAL	FITTINGS	JOINTS	NOTES
DOMESTIC WATER DISTRIBUTION	ASTM B88 TYPE 'L' COPPER TUBING	ASME B16.18 CAST COPPER-ALLOY	ASTM B32 LEAD FREE SOLDER	(1) COPPER PLATED OR PLASTIC COATED TYPE 1 CLEVIS PIPE HANGERS (2) SEE PIPE HANGER SCHEDULE FOR HANGER SPACING (3) SEE PIPE INSULATION SCHEDULE FOR INSULATION REQUIREMENTS
		ASME B16.22 WROUGHT COPPER	ASTM B32 LEAD FREE SOLDER	
DRAIN WASTE AND VENT (ABOVE GRADE)	ASTM A 888 HUBLESS CAST IRON	ASTM A888 HUBLESS CAST IRON DRAINAGE PATTERN	ASTM C 1277 HEAVY DUTY HUBLESS STAINLESS STEEL SHIELD STAINLESS STEEL BAND ASTM C 564 RUBBER SLEEVE	(1) TYPE 1 STEEL CLEVIS PIPE HANGERS (2) SEE PIPE HANGER SCHEDULE FOR HANGER SPACING

IECC TABLE C403.11.3
MINIMUM PIPE INSULATION THICKNESS (in inches)

FLUID OPERATING TEMPERATURE RANGE AND USAGE (F)	INSULATION CONDUCTIVITY		NOMINAL PIPE SIZE (inches)				
	CONDUCTIVITY (BTU / IN.)	MEAN RATING TEMPERATURE (F)	< 1	1 to < 1 1/2	1 1/2 to < 4	4 to < 8	> 8
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5

NOTES:

1. FOR PIPING SMALLER THAN 1 1/2" INCHES AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKENESS BY 1" SHALL BE PERMITTED, BUT NOT TO A THICKNESS LESS THAN 1 INCH.

2. FOR DIRECT-BURIED HEATING AND HOT WATER PIPING, REDUCTION OF THICKNESSES BY 1 1/2" SHALL BE PERMITTED, BUT NOT LESS THAN 1 INCH

WATER HAMMER ARRESTER

SYMBOL	BASIS OF DESIGN MANUFACTURER & MODEL	INLET SIZE (INCHES)	PDI SYMBOL	CAPACITY (DFU)	OPTIONS & ACCESSORIES	NOTES
WHA-A	SIOUX CHIEF 652-A	1/2	A	1-11	(1)(2)	(A)(B)
WHA-B	SIOUX CHIEF 653-B	3/4	B	12-32	(1)(2)	----
WHA-C	SIOUX CHIEF 654-C	1	C	33-60	(1)(2)	----
WHA-D	SIOUX CHIEF 655-D	1	D	61-113	(1)(2)	----

ACCEPTABLE MANUFACTURERS:	OPTIONS & ACCESSORIES:	NOTES
SIOUX CHIEF PRECISION PLUMBING PRODUCTS	(1) PISTON TYPE, POLY PISTON, TWO EPDM O-RINGS (2) MIP THREAD INLET	(A) PROVIDE WATER HAMMER ARRESTER (WHA-A) AT ALL QUICK CLOSING VALVES. (B) PROVIDE WATER HAMMER ARRESTER (WHA-A) AT ALL FLUSH VALVES. .

DOMESTIC WATER VALVE SCHEDULE

VALVE TYPE	PIPE SIZE	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND MODEL
BALL VALVE	2 " & SMALLER	BRASS BODY, TWO-PIECE, FULL PORT, CHROME PLATED BRASS BALL, PTFE SEAT, LEVER HANDLE, 150 PSIG WSP, 600 PSIG WOG, MSS SP-110, SOLDERED OR THREADED END	WATTS LFB6080
CHECK VALVE	2" & SMALLER	LOW LEAD BRASS BODY, STAINLESS STEEL SPRING, NON-SLAM, NSF NON-METALLIC DISK, NSF NON-METALLIC SEAT, 200 PSIG WOG, THREADED ENDS,	RED & WHITE 232AB

UNDER SINK GREASE TRAP

SYMBOL	MANUFACTURER	MODEL NO.	MAX FLOW (GPM)	CAPACITY (LBS)	DIMENSIONS (LxWxH)	COMMENTS
GT	ZURN	GT2701-20-3NH	20.0	40.00	31"x22"x11"	(1) (2) (3)

ACCEPTABLE MANUFACTURERS	NOTES:
ZURN OLD CASTLE WATTS	(1) COORDINATE LOCATION WITH OWNER (2) 3" NO HUB INLET AND OUTLET (3) DISCHARGE INTO FLOOR SINK

PLUMBING PIPE HANGER SPACING

NOMINAL PIPE SIZE (INCHES)	DOMESTIC WATER COPPER TUBING		DRAIN WASTE AND VENT CAST IRON PIPE	
	HANGER SPACING	HANGER ROD SIZE (INCHES)	HANGER SPACING	HANGER ROD SIZE (INCHES)
1/2"	5'-0"	3/8"	----	----
3/4"	5'-0"	3/8"	----	----
1"	6'-0"	3/8"	----	----
1-1/4"	6'-0"	3/8"	----	----
1-1/2"	8'-0"	3/8"	5'-0"	3/8"
2"	8' - 0"	3/8"	5'-0"	3/8"
2-1/2"	8'-0"	1/2"	5'-0"	1/2"
3"	10'-0"	1/2"	5'-0"	1/2"
4"	----	----	5'-0"	5/8"
5"	----	----	5'-0"	5/8"
6"	----	----	5'-0"	3/4"

NOTES:

1. SPACING FOR 10' - 0" LENGTH OF CAST PIPE MAY BE INCREASED TO 10'-0".
2. ALL PIPING SHALL BE SUPPORTED WITH STEEL CLEVIS HANGERS (MSS TYPE 1).
3. STEEL CLEVIS HANGERS USED FOR SUPPORTING COPPER PIPING SHALL BE COPPER COATED .
4. STEEL CLEVIS HANGERS USED FOR SUPPORTING PLASTIC PIPE SHALL BE PLASTIC COATED.
5. PROVIDE PIPE HANGER WITHIN 18" OF ALL CHANGES IN DIRECTION.
6. PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBERS TAPE) SHALL NOT BE USED TO SUPPORT ANY PIPING.

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PLUMBING SCHEDULES - KITCHEN

PE602

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PLUMBING EQUIPMENT SCHEDULE - KITCHEN EQUIPMENT

SYMBOL	FIXTURE	TRAP	WASTE	VENT	DOMESTIC COLD WATER	DOMESTIC HOT WATER	NATURAL GAS	NATURAL GAS CAPACITY (BTUH)	DESCRIPTION	MANUFACTURER & MODEL	NOTES
HS-1	WALL MOUNTED HAND SINK WITH FAUCET	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	----	----	POLISHED CHROME PLATED LEAD-FREE BRASS FAUCET FLOW RESTRICTOR, LAMINAR FLOW, 0.5 GPM. COMBINATION TEMPERATURE AND PRESSURE MIXING VALVE, CHROME PLATED LEAD-FREE BRASS BODY, INTEGRAL CHECKS, ASSE 1070 LISTED. SET AT 110 F. DISCHARGE WATER TEMP. 17 GAUGE POLISHED CHROME PLATED BRASS TRAP HEAVY PATTERN LEAD FREE BRASS BALL STOPS, POLISHED CHROME PLATED, POLISHED CHROME PLATED BRASS BALL, 1/2" IPS x 1/2" COMPRESSION . 3/8" CHROME PLATED COPPER SUPPLIES, FORMED NOSEPIECE WITH FLANGE, RUBBER WASHER OR GASKET, PLASTIC COMPRESSION SLEEVE, ASTM A112.18.6, ASTM F877. ONE-PIECE POLISHED CHROME PLATED BRASS ESCUTCHEONS.	OMNI A-212-VR-0.50 POWER e480 DEARBORN BRASS 740-1 BRASSCRAFT KTCR19XC BRASSCRAFT 1-15A	1. SINK AND DRAIN FURNISHED BY CONTRACTOR 2. SINK INSTALLED BY CONTRACTOR. 3. UTILITIES ROUGHED-IN & CONNECTED BY CONTRACTOR. 4. SPECIFIED ACCESSORIES FURNISHED & INSTALLED BY CONTRACTOR.
KS-1	SINGLE COMPARTMENT SINK	----	1-1/2" INDIRECT	----	----	----	----	----	FIXTURE: UNDERMOUNTSINK, SINGLE COMPARTMENT, 18 GAUGE, 304 STAINLESS STEEL, 19 5/8" X 19 5/8" X 9 3/4" BOWL. 4" FAUCET LEDGE, SELF RIMMING. FAUCET: SINGLE HANDLE MIXING FAUCET, PULL DOWN WITH TOGGLE SPRAY, CHROME PLATED, MAGNETIC DOCKING AERATOR: POLISHED CHROME PLATED LEAD-FREE BRASS, LAMINAR FLOW, 1.5 GPM. DRAINS: STAINLESS STEEL CRUMB CUP STRAINER, REMOVABLE STAINLESS STEEL BASKET, 4" LONG TAILPIECE, CHROME PLATE BRASS CONDENSATE DRAIN TAILPIECE. TRAP: WHITE POLYVINYL CHLORIDE (PVC). STOPS: 1/2" I.P.S. X 3/8" O.D. COMPRESSION, POLISHED CHROME PLATED HEAVY PATTERN LEAD FREE BRASS ANGLE BALL VALVE.	KOHLER K-3335 DELTA 9159-DST OMIN A-400-05-LF DEARBORN 701-1 POWERS LFe480-11 BRASSCRAFT KTCR19XC	1. SINK AND DRAIN FURNISHED BY CONTRACTOR 2. SINK INSTALLED BY CONTRACTOR. 3. UTILITIES ROUGHED-IN & CONNECTED BY CONTRACTOR. 4. SPECIFIED ACCESSORIES FURNISHED & INSTALLED BY CONTRACTOR.
KS-3	3-COMPARTMENT SINK	----	1-1/2" INDIRECT	----	----	----	----	----	WHITE SCHEDULE 40 PVC INDIRECT WASTE PIPE, DRAINAGE PATTERN FITTINGS.		1. SINK AND DRAIN FURNISHED BY CONTRACTOR 2. SINK INSTALLED BY CONTRACTOR. 3. UTILITIES ROUGHED-IN & CONNECTED BY CONTRACTOR. 4. SPECIFIED ACCESSORIES FURNISHED & INSTALLED BY CONTRACTOR.
KS-3	3-COMPARTMENT SINK FAUCET	----	----	----	1/2"	1/2"	----	----	POLISHED CHROME PLATED LEAD-FREE BRASS FAUCET FLOW RESTRICTOR, LAMINAR FLOW, 1.5 GPM. HEAVY PATTERN LEAD FREE BRASS BALL STOPS, POLISHED CHROME PLATED, CHROME PLATED BRASS BALL, 1/2" IPS x 1/2" COMPRESSION . 3/8" CHROME PLATED COPPER SUPPLIES, FORMED NOSEPIECE WITH FLANGE, RUBBER WASHER OR GASKET, PLASTIC COMPRESSION SLEEVE, ASTM A112.18.6, ASTM F877. ONE-PIECE POLISHED CHROME PLATED BRASS ESCUTCHEONS.	OMNI A-212-VR-1.5 BRASSCRAFT KTCR19XC BRASSCRAFT 1-15A	1. SINK AND DRAIN FURNISHED BY CONTRACTOR 2. SINK INSTALLED BY CONTRACTOR. 3. UTILITIES ROUGHED-IN & CONNECTED BY CONTRACTOR. 4. SPECIFIED ACCESSORIES FURNISHED & INSTALLED BY CONTRACTOR.
DISH	DISHMACHINE	----	1-1/2" INDIRECT	----	----	1/2"	----	----	HEAVY PATTERN LEAD FREE BRASS BALL STOPS, POLISHED CHROME PLATED, CHROME PLATED BRASS BALL, 1/2" IPS x 1/2" COMPRESSION . 3/8" CHROME PLATED COPPER SUPPLIES, FORMED NOSEPIECE WITH FLANGE, RUBBER WASHER OR GASKET, PLASTIC COMPRESSION SLEEVE, ASTM A112.18.6, ASTM F877. ONE-PIECE POLISHED CHROME PLATED BRASS ESCUTCHEONS. WHITE SCHEDULE 40 PVC INDIRECT WASTE PIPE, DRAINAGE PATTERN FITTINGS.	BRASSCRAFT KTCR19XC BRASSCRAFT 1-15A	1. SINK AND DRAIN FURNISHED BY CONTRACTOR 2. SINK INSTALLED BY CONTRACTOR. 3. UTILITIES ROUGHED-IN & CONNECTED BY CONTRACTOR. 4. SPECIFIED ACCESSORIES FURNISHED & INSTALLED BY CONTRACTOR.

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PLUMBING SCHEDULES - KITCHEN

PE603

Mon,Mar/2021 - 2:01:PM
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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.
WIRING METHODS	
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
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. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
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. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
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. SMALL CROSS LINES INDICATE NUMBER OF CONDUCTORS OR CABLES. LARGER CROSS LINE INDICATES EQUIPMENT GROUND. WAVY CROSS LINE INDICATES INSULATED/ ISOLATED GROUND. FOR BRANCH WIRING, CROSS LINES INDICATE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
— X —	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = : CATV = CABLE TELEVISION; NC = NURSE CALL CCTV = CLOSED CIRCUIT TELEVISION; P = POWER RC = RIGID CONDUIT FA = FIRE ALARM; S = SOUND FO = FIBER OPTICS; T = TELEPHONE I = INTERCOM; TV = TELEVISION OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
	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.
SC	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
SP	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
	EARTH GROUND (ONE-LINE DIAGRAM).
C	JUNCTION BOX, CEILING.
	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.
CCTV	
	CCTV CAMERA/ENCLOSURE WITH LENS, TYPICAL. SEE SCHEDULE.
PTZ	CCTV CAMERA WITH PAN, TILT AND ZOOM.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
ELECTRICAL POWER AND DISTRIBUTION	
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (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).
"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).
225/3 "1H" 25/3	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (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.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DP#__	DISTRIBUTION PANEL OR SWITCHBOARD.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
75	TRANSFORMER: NUMBER INDICATES kVA.
TV DISTRIBUTION	
T	TV DISTRIBUTION CABLE, INDIVIDUAL DROPS.
TR	TV DISTRIBUTION CABLE, TRUNK.
CMB	COMBINER.
DC	DIRECTIONAL COUPLER.
DA	DISTRIBUTION AMPLIFIER (ONE-LINE DIAGRAM).
SPL	SPLITTER (ONE-LINE DIAGRAM).
	TV OUTLET.
	TERMINATOR, 75 OHM (TV DISTRIBUTION).
SECURITY	
X	SECURITY CABLE. SEE EQUIPMENT SCHEDULE FOR CABLE TYPE.
#1	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
CR	CARD READER.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
	RECEPTACLE, SINGLE: NEMA 5-20R.
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
C	RECEPTACLE, DUPLEX, CEILING: 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.
	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, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
FB#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
$ X	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
T	RECEPTACLE, DUPLEX, TAMPER RESISTANT: NEMA 5-20R.
	RECEPTACLE, SINGLE PLEX, WITH USB OUTLET
00 **FIRE ALARM**	
07 CM	CONTROL MODULE.
08 MM	MONITOR MODULE.
09 P	FIRE ALARM MANUAL PULL STATION.
10 R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
11	MAGNETIC DOOR HOLDER.
15	DETECTOR, SMOKE.
23	DETECTOR, HEAT.
25	STROBE.
26 75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
28	ALARM, HORN/STROBE, ONE ASSEMBLY.
29 75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
37 SD	SMOKE DAMPER.
38 FSD	FIRE AND SMOKE DAMPER.
42 75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
LIGHTING	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
↑	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.
R	OCCUPANCY SENSOR CONTROL RELAY.
	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
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)
a,b	LOW VOLTAGE DIGITAL LIGHTING CONTROL DIMMING SWITCH: LETTER "a,b" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

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

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.

ELECTRICAL SHEET INDEX

EE001	SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES
EE002	TELECOM SCHEDULES AND NOTES
EE101	LEVEL 1 (BASEMENT) ELECTRICAL OVERALL PLAN
EE501	ELECTRICAL DETAILS
EE701	TYPICAL MOUNTING HEIGHT DETAILS
EE702	TYPICAL LABELING DETAILS
ED101	LEVELS 1 & 2 ELECTRICAL DEMOLITION PLANS
ED111	LEVELS 1 & 2 ELECTRICAL CEILING DEMOLITION PLANS
EP101	LEVELS 1 & 2 POWER PLANS
EP102	ROOF POWER PLAN
EP601	ONE-LINE DIAGRAM
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ET503	TELECOM DETAILS
ET504	TELECOM DETAILS
ET505	TELECOM DETAILS
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ET601	TELECOM CONDUIT RISER DIAGRAM
ET602	TELECOM CABLE RISER DIAGRAM
EY101	LEVELS 1 & 2 AUXILIARY PLANS
EY601	AUXILIARY RISER DIAGRAMS
FA101	LEVELS 1 & 2 FIRE ALARM PLANS

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...

CRSA

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UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT

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SALT LAKE CITY, UT 84112

STAMP

LICENSED PROFESSIONAL ENGINEER No. 7057918 CARLTON A. GETZ 01/31/2022 STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES

EE001

BIM 360://HPER - East Phase 2/210180 Elec Central_mr@spectrum-engineers.com.rvt
1/31/2022 1:15:09 PM

EQUIPMENT/CABLE LIST

THE ITEMS INDICATED BELOW SHALL NOT BE CONSTRUED AS A "BILL OF MATERIALS". THIS LIST IDENTIFIES ITEMS OF SIGNIFICANCE USED DURING THE DESIGN OF THE CABLING INSTALLATION. WHERE THE ITEMS INDICATED ARE ONE PORTION OF AN ASSEMBLY, THE ENTIRE ASSEMBLY SHALL BE PROVIDED UNLESS SPECIFIED OTHERWISE. PROVIDE ALL MISCELLANEOUS HARDWARE AND SUPPORTS WHICH MAY NOT BE LISTED HERE. FOR A COMPLETE INSTALLATION. COMPARE CATALOG NUMBERS WITH DESCRIPTIONS AND NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO BID. IF CATALOG NUMBERS DO NOT MATCH DESCRIPTIONS, THE DESCRIPTIONS TAKE PRECEDENCE. PROVIDE COMPLETE SUBMITTAL FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR CABLE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL	ITEM DESCRIPTION	ACCEPTABLE TYPES
	STATION CABLE, DATA - CATEGORY 6, UTP, PLENUM, WHITE, DATA	COMMSCOPE UN874049714/10
	STATION CABLE, DATA - CATEGORY 6A, UTP, PLENUM, WHITE, WIRELESS	COMMSCOPE 760107268
	25 PAIR COPPER, CATEGORY 3, GRAY	COMMSCOPE, GENERAL CABLE, BERKTEK
	FIBER OPTIC CABLE, SINGLE-MODE 24 STRAND, PLENUM, INTERLOCKING ARMORED, YELLOW	CORNING 024E88-33131-A3
A	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 2 POSITION (A = ABOVE COUTNER)	COMMSCOPE 108333014
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
4	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	COMMSCOPE 108333162
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
C	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	COMMSCOPE 107984056
	CATEGORY 6A JACK - WIRELESS, GRAY	COMMSCOPE 760092437
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 1 POSITION	COMMSCOPE 107984015
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
WPP1	WIRELESS PATCH PANEL,MODULAR, 48-PORT, BLACK, 2RU	COMMSCOPE 760187195
	CATEGORY 6A JACK - WIRELESS, GRAY	COMMSCOPE 760092437
SPP1	STATION PATCH PANEL,MODULAR, 48-PORT, BLACK, 2RU	COMMSCOPE 760187195
	CATEGORY 6 JACK - DATA , WHITE	COMMSCOPE 700206725
RPP1	RISER PATCH PANEL 24-PORT 110 TERMINATION STYLE, BLACK 1RU	COMMSCOPE 760182907
FPP2	FIBER PATCH PANEL, 2RU	CORNING CCH-02U
	SPLICE CASSETTE - WITH SC/APC PIGTAILS, SINGLE-MODE	CORNING CCH-CS12-D9-P00RE
	BLANK FILLER PANEL	CORNING CCH-BLNK
VWM	VERTICAL WIRE MANAGER, BLACK 10", 45RU FRONT ONLY	CHATSWORTH 13904-703
HWM	HORIZONTAL WIRE MANAGER, BLACK, 2RU, FRONT ONLY	CHATSWORTH 13930-702
PS	EQUIPMENT RACK POWER STRIP, 10 POSITION, BLACK, 5-20P	APC AP9562
	EQUIPMENT RACK, 2 POST, 7', 45RU, BLACK	CHATSWORTH 55053-703
	CABLE RUNWAY, 18" BLACK WITH ALL REQUIRED MOUNTING ACCESSORIES	CHATSWORTH 10250-718
	BUTT SPLICE KIT, BLACK	CHATSWORTH 11301-001
	JUNCTION SPLICE KIT, BLACK	CHATSWORTH 11302-001
	ADJ JUNCTION SPLICE KIT, BLACK	CHATSWORTH 10616-001
	FOOT KIT, BLACK	CHATSWORTH 11309-701
	3" CHANNEL RACK TO RUNWAY, BLACK	CHATSWORTH 10595-718
	TRIANGLE BRACKETS 12", BLACK	CHATSWORTH 11312-718
	END CLOSING KIT, CABLE RUNWAY, BLACK	CHATSWORTH 11700-718
	RUNWAY WALL BRACKETS, BLACK	CHATSWORTH 10608-701
	SWIVEL SPLICE KIT, BLACK	CHATSWORTH 10488-701
	CABLE RUNWAY ELEVATION KIT, 6"	CHATSWORTH 10506-706
	PLYWOOD BACKBOARD, 4'X8', GRADE AC, FIRE-TREATED AND PAINTED	
	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR	
	TELECOMMUNICATIONS GROUNDING BUS BAR	

NOTE: ALL RACKS, LADDER, PATCH PANELS AND ACCESSORIES SHALL BE BLACK IN COLOR.

GENERAL PROJECT NOTES

1. CONTRACTOR TO BE COMMSCOPE SYSTIMAX CERTIFED PRIOR TO TIME OF BID, AND MUST BE ABLE TO PROVIDE TO THE OWNER A 25 YEAR SYSTEM WARRANTY FROM THE MANUFACTURER.
2. UNLESS OTHERWISE NOTED, INSTALL ALL CABLE INSIDE RACEWAY SYSTEMS. WHERE RACEWAY SYSTEMS HAVE NOT BEEN PROVIDED OR SPECIFIED, INSTALL CABLE THROUGH THE SPECIFIED "CADDY" CLIPS AT THE MINIMUM INTERVALS IDENTIFIED IN THE SPECIFICATIONS. SUPPORT "CADDY" CLIPS DIRECTLY FROM THE BUILDING STRUCTURE, NOT FROM OTHER BUILDING SYSTEM SUPPORT WIRES OR CABLE.
3. PROVIDE PLENUM RATED CABLE FOR ALL SPECIFIED CABLE.
4. LABEL ALL CABLE INSTALLED UNDER THIS CONTRACT REGARDLESS OF LENGTH. ACCORDING TO WRITTEN SPECIFICATION.
5. THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
6. GROUND ALL EQUIPMENT RACKS LADDER RACK, AND EQUIPMENT INSTALLED UNDER THIS CONTRACT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND WRITTEN SPECIFICATION.
7. PROVIDE THE QUANTITY OF PATCH PANELS REQUIRED +20% FOR THE TOTAL VOICE AND DATA OUTLETS SHOWN ON FLOOR PLANS FOR THE PARTICULAR LEVEL.
8. COORDINATE WITH OWNER I.T. PERSONNEL ON RACK PATCH PANEL DENSITY PRIOR TO ANY CABLE TERMINATION.
9. FACEPLATE COLOR WILL BE DETERMINED BY THE ARCHITECT AND OWNER. FACEPLATE COLOR SHOULD MATCH ELECTRICAL FACEPLATE COLOR, UNLESS OTHERWISE SPECIFIED.
10. FOR EVERY WAP CABLE PULL SPECIFIED, COIL 15' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 15' ABOVE THE CEILING OR BELOW FLOOR WHERE APPLICABLE.
11. FOR EVERY CABLE PULL SPECIFIED, COIL 3' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 3' ABOVE THE CEILING OF BELOW THE FLOOR WHERE APPLICABLE.
12. CONTRACTOR TO COORDINATE WITH ALL TRADES TO ENSURE NO PAINT OR INCIDENTAL OVERSPRAY IS ON ANY CABLES.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

A - AUGMENTED
ER - EQUIPMENT ROOM
CAT - CATEGORY
E - ENHANCED
EA - EACH
FPP - FIBER PATCH PANEL
GIG - GIGA HERTZ
HWM - HORIZONTAL WIRE MANAGEMENT
TC - TELECOMMUNICATIONS ROOM
NIC - NOT IN CONTRACT
OE - OWNER ELECTRONICS
OFCI - OWNER FURNISHED CONTRACTOR INSTALLED
PNM - PLENUM
PR - PAIR
PS - POWER SUPPLY
RPP - RISER PATCH PANEL
SPP - TYPE S PATCH PANEL
TYP - TYPICAL
VWM - VERTICLE WIRE MANAGEMENT

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.

APPROVE: 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.

ELECTRONIC SYSTEMS: THE TERM "ELECTRONIC 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...

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250 S 1850 E
SALT LAKE CITY, UT 84112

STAMP

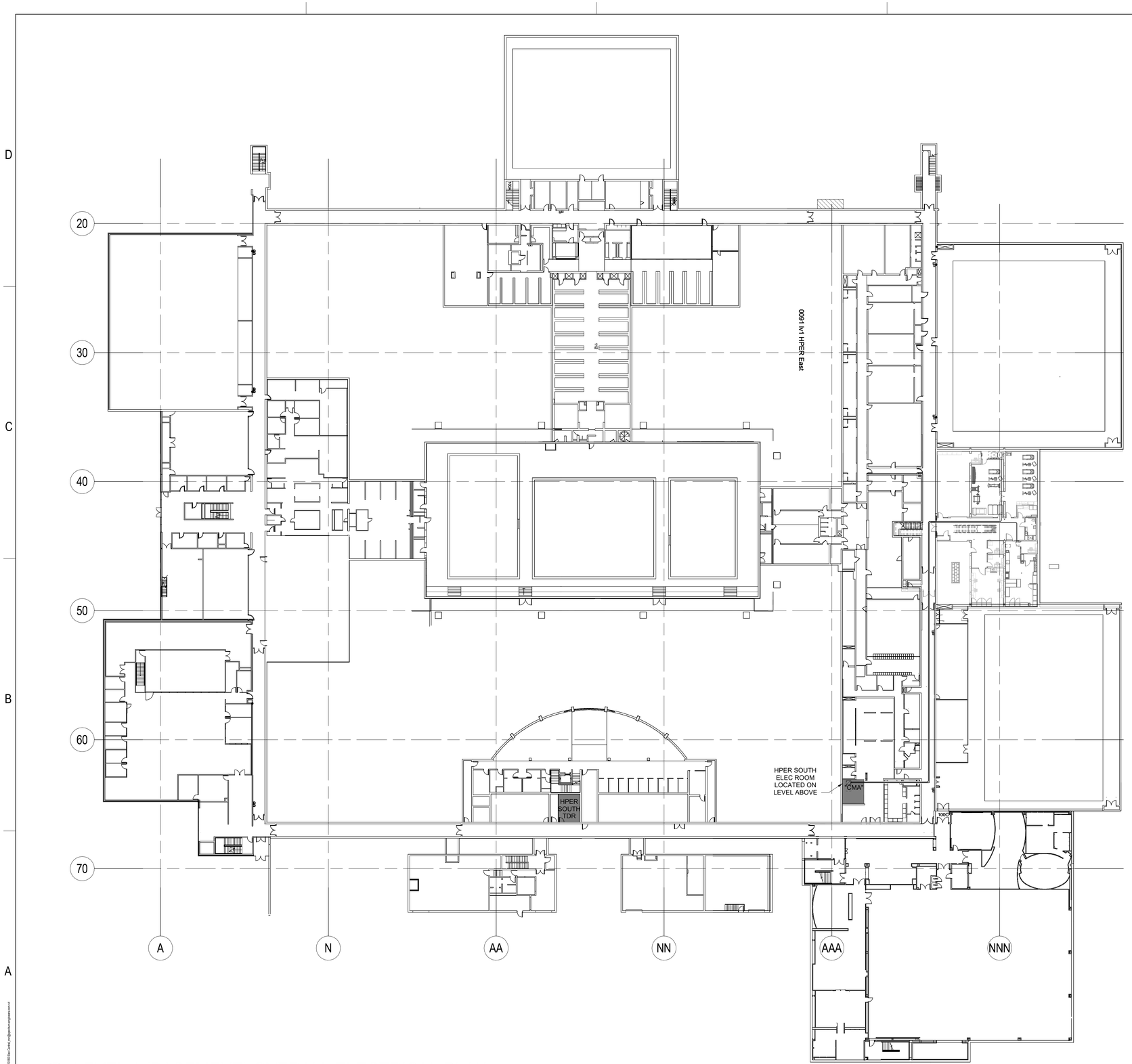
LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	ECD
CHECKED BY:	JDA

TELECOM SCHEDULES AND NOTES

EE002

Mar 28, 2022 - 2:57:17pm - Last Plotted by: Carlton Getz - J:\Projects\21-009 Utah Jazz\Drawings\Telecom\21-009 Telecom.rvt



1 LEVEL 1 (BASEMENT) OVERALL ELECTRICAL PLAN
SCALE: 1" = 30'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

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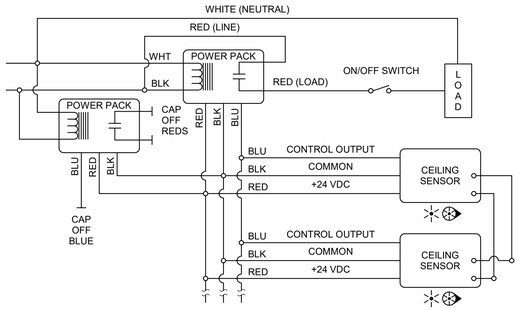
DRAWN BY:	Author
CHECKED BY:	Checker

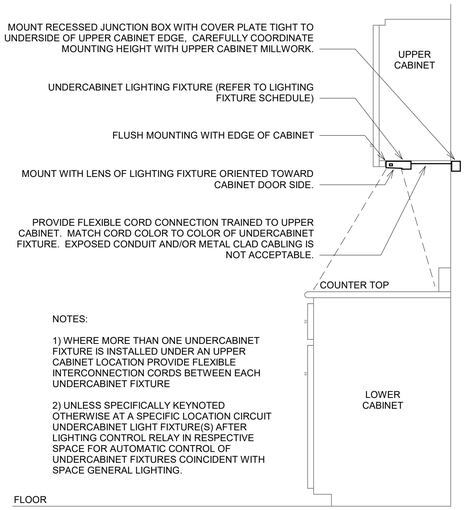
LEVEL 1 (BASEMENT) ELECTRICAL OVERALL PLAN

EE101



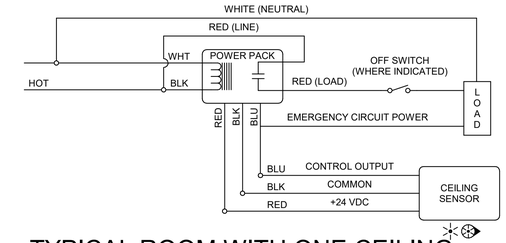
TYPICAL ROOM WITH MULTIPLE CEILING SENSORS

8 SCALE: NTS



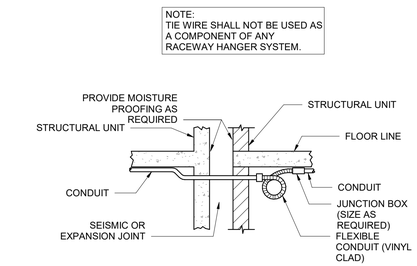
TYPICAL UNDERCABINET LIGHTING FIXTURE MOUNTING DETAIL

7 SCALE: NTS



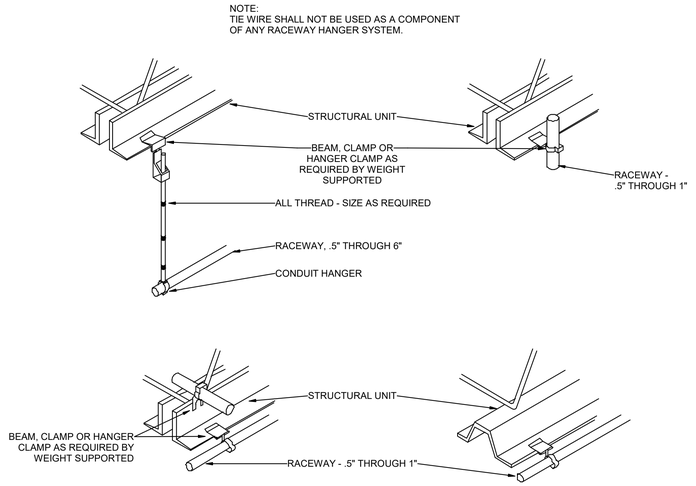
TYPICAL ROOM WITH ONE CEILING SENSOR, WITH OR WITHOUT WALL SWITCH

9 SCALE: NTS



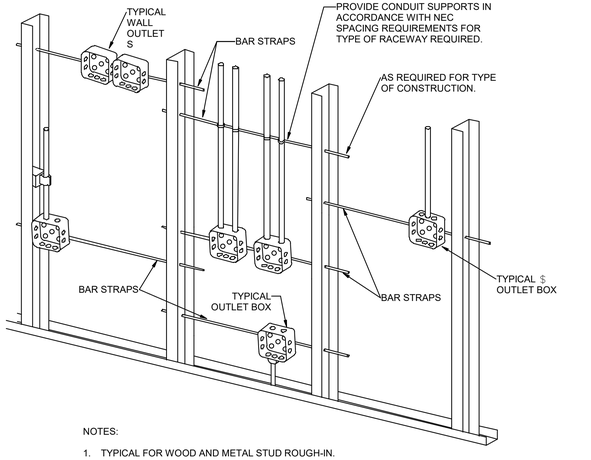
CONDUIT EXPANSION JOINT DETAIL

4 SCALE: NTS



TYPICAL RACEWAY SUPPORT METHODS DETAIL

5 SCALE: NTS

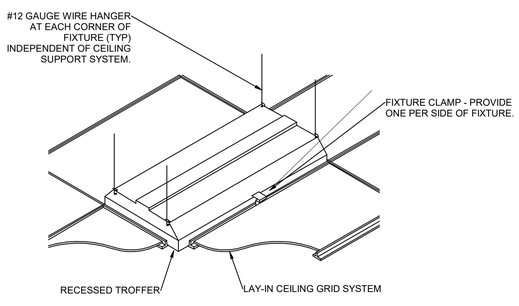


NOTES:

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 MINIMUN OF 24" HORIZONTAL DISTANCE.
5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

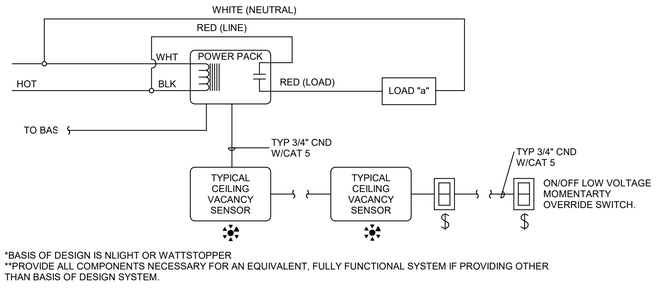
TYPICAL ROUGH-IN REQUIREMENTS DETAIL

6 SCALE: NTS



RECESSED FIXTURE MOUNTING DETAIL

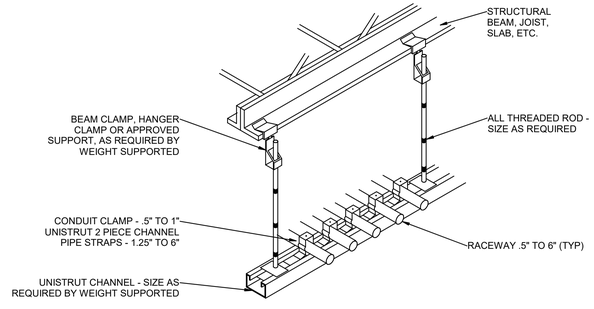
1 SCALE: NTS



*BASIS OF DESIGN IS NLIGHT OR WATTSTOPPER
**PROVIDE ALL COMPONENTS NECESSARY FOR AN EQUIVALENT, FULLY FUNCTIONAL SYSTEM IF PROVIDING OTHER THAN BASIS OF DESIGN SYSTEM.

TYPICAL CEILING VACANCY SENSOR WIRING DIAGRAM

2 SCALE: NTS



TYPICAL CONDUIT RACK DETAIL

3 SCALE: NTS

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DRAWN BY:	Author
CHECKED BY:	Checker

ELECTRICAL DETAILS

EE501

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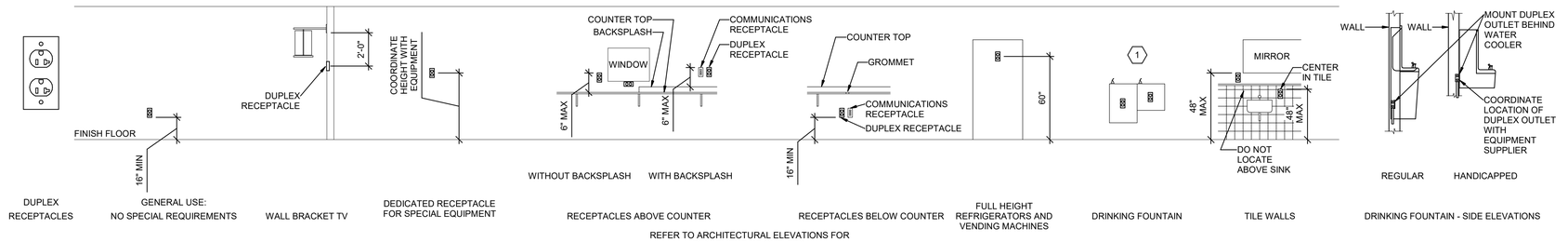
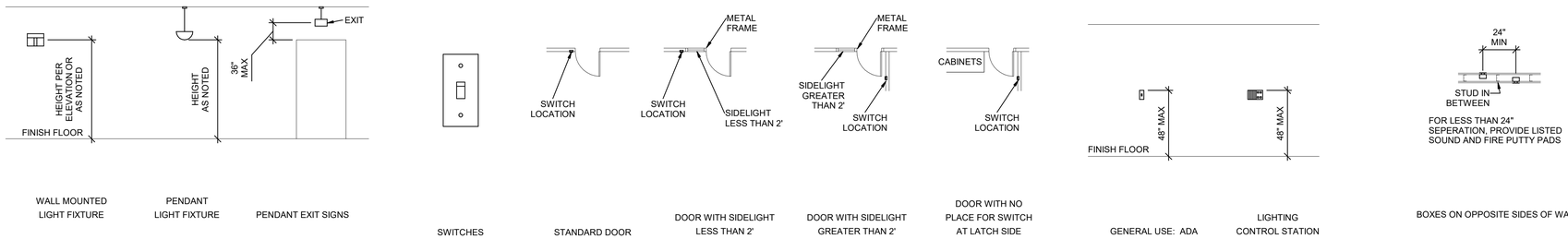


DUPLEX RECEPTACLES | GENERAL USE: NO SPECIAL REQUIREMENTS | WALL BRACKET TV | DEDICATED RECEPTACLE FOR SPECIAL EQUIPMENT | RECEPTACLES ABOVE COUNTER (WITHOUT BACKSPLASH / WITH BACKSPLASH) | RECEPTACLES BELOW COUNTER | FULL HEIGHT REFRIGERATORS AND VENDING MACHINES | DRINKING FOUNTAIN | TILE WALLS | DRINKING FOUNTAIN - SIDE ELEVATIONS (REGULAR / HANDICAPPED)

REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.

9 RECEPTACLE MOUNTING DETAILS
SCALE: NTS

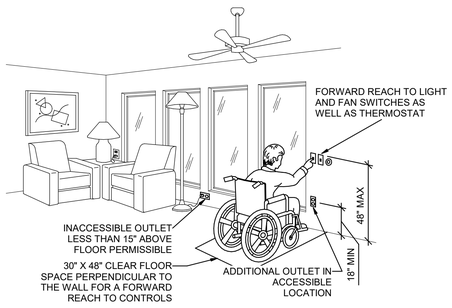


WALL MOUNTED LIGHT FIXTURE | PENDANT LIGHT FIXTURE | PENDANT EXIT SIGNS | SWITCHES | STANDARD DOOR | DOOR WITH SIDELIGHT LESS THAN 2' | DOOR WITH SIDELIGHT GREATER THAN 2' | DOOR WITH NO PLACE FOR SWITCH AT LATCH SIDE | GENERAL USE: ADA | LIGHTING CONTROL STATION

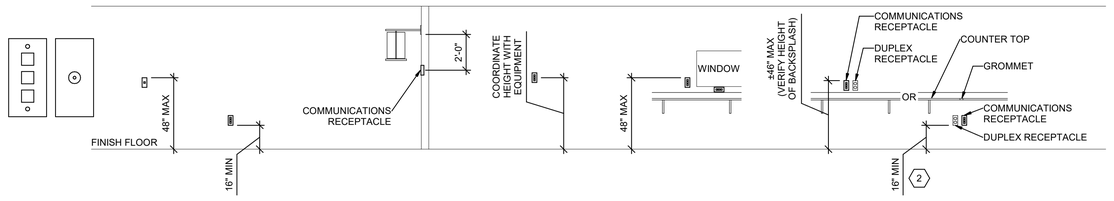
FOR LESS THAN 24" SEPERATION, PROVIDE LISTED SOUND AND FIRE PUTTY PADS

BOXES ON OPPOSITE SIDES OF WALL

6 LIGHTING MOUNTING DETAILS
SCALE: NTS

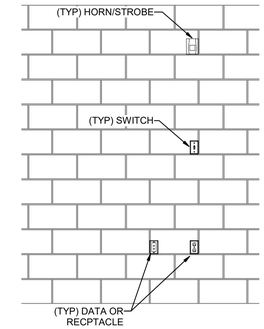


7 SWITCH MOUNTING DETAILS
SCALE: NTS



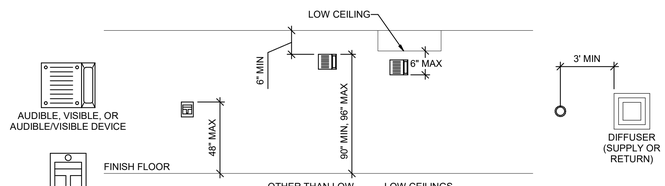
COMMUNICATION RECEPTACLES | GENERAL USE: WALL PHONNO SPECIAL REQUIREMENTS | WALL BRACKET TV | DEDICATED RECEPTACLE FOR SPECIAL EQUIPMENT | ABOVE COUNTER - TYPICAL | RECEPTACLES ABOVE OR BELOW COUNTER

8 BOX MOUNTING DETAILS
SCALE: NTS



NOTE: ALL DEVICES SHALL BE INSTALLED AND LOCATED IN THE BLOCK CONSISENTLY THROUGH OUT THE BUILDING.

3 ADA DETAIL
SCALE: NTS

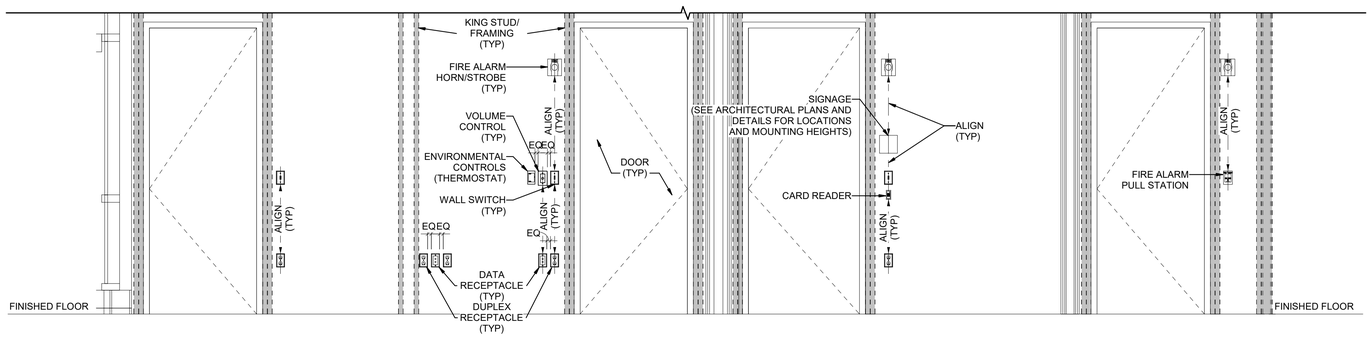


FIRE ALARM | PULL STATION | AUDIBLE, VISIBLE, OR AUDIBLE/VISIBLE DEVICE

SMOKE DETECTOR ADJACENT TO SUPPLY AIR

4 COMMUNICATIONS MOUNTING DETAILS
SCALE: NTS

5 CMU DEVICE MOUNTING ALIGNMENT DETAIL
SCALE: NTS



1 FIRE ALARM MOUNTING DETAILS
SCALE: NTS

2 TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL
SCALE: NTS

GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
   1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
   2 - EQUIPMENT SHOP DRAWINGS.
   3 - 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.

SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.

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No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

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PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

TYPICAL MOUNTING HEIGHT DETAILS

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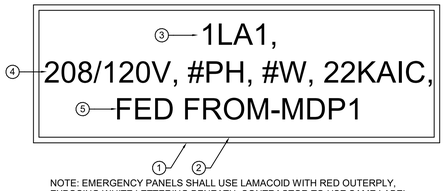
(1) LABEL TO BE PROVIDED AT EACH SWITCHBOARD, PANELBOARD, DISCONNECT/STARTER. LABEL IS TO BE 3" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.

(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.

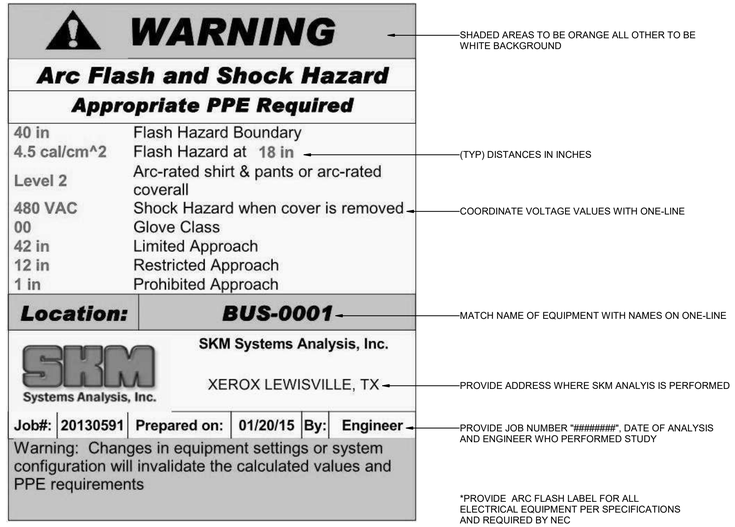
(5) THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. PROVIDE "FED FROM-" AND REPLACE MDP1 WITH THE DEVICES NAME THAT FEEDS THE PANELBOARD.



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



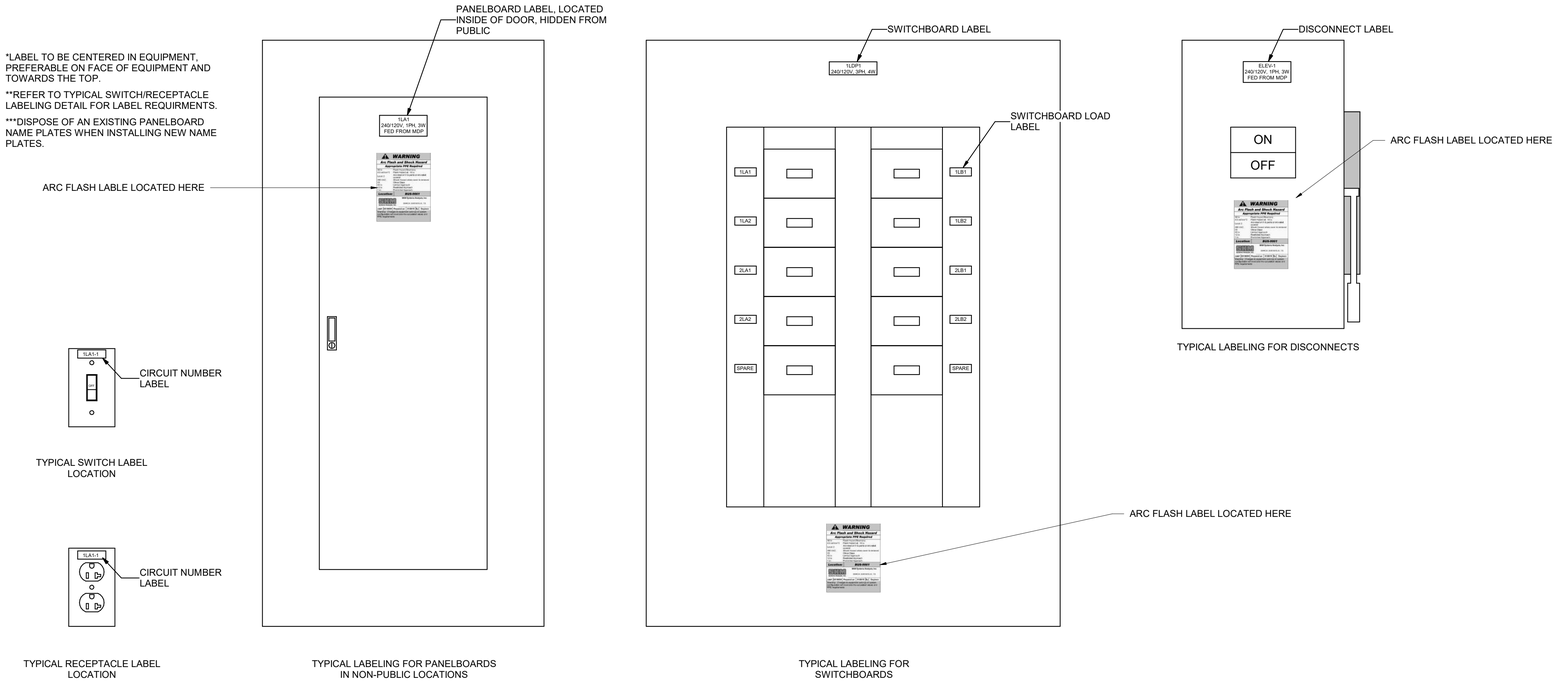
A1 TYPICAL ARC FLASH LABEL

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

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

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

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



A3 TYPICAL SWITCH, RECEPTACLE AND PANELBOARD LABELING LOCATION DETAIL

SCALE: NTS

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DRAWN BY:	Author
CHECKED BY:	Checker

TYPICAL LABELING DETAILS

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GENERAL SHEET NOTES

1 DEMOLISH ALL ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING TO BE REMOVED BACK TO THE PANELBOARD. DENOTE ALL REMOVED CIRCUITS AS "SPARE" ON THE PANEL SCHEDULE KEPT WITH EACH PANELBOARD. TURN ALL CIRCUIT BREAKERS AND SWITCHES PROTECTING CIRCUITS REMOVED DURING DEMOLITION TO THE "OFF" POSITION.

2 REMOVE ALL UNUSED AND ABANDONED ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING. DO NOT LEAVE ABANDONED COMPONENTS IN PLACE UNLESS OTHERWISE NOTED.

3 WHERE THE SOURCE TO OTHER ELECTRICAL ITEMS WHICH ARE TO REMAIN IS INTERRUPTED BY THE REMOVAL OF AN ITEM OR DEVICE, THE CONTRACTOR SHALL INSTALL THE NECESSARY CONDUIT AND WIRE TO RECONNECT IT TO ITS NEAREST OR MOST CONVENIENT ORIGINAL SOURCE.

4 WHERE CIRCUITS OR OTHER ELECTRICAL EQUIPMENT UNRELATED TO THIS WORK PASS THROUGH THE AREA AFFECTED BY DEMOLITION, THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO MAINTAIN THE EXISTING INSTALLATION OR PERFORM THE NECESSARY WORK TO RELOCATE SUCH CIRCUITING OR OTHER ELECTRICAL EQUIPMENT AS NECESSARY TO MAINTAIN CONTINUITY.

5 ALL DEMOLITION WORK SHALL BE FULLY COORDINATED WITH ALL TRADES.

6 REFER TO ARCHITECTURAL PLANS FOR COMPLETE SCOPE OF DEMOLITION WORK. THE CONTRACTOR SHALL SURVEY THE EXISTING CONDITIONS PRIOR TO BIDDING TO INCORPORATE THE SCOPE OF DEMOLITION WORK INTO THE BID.

7 THE BUILDING OWNER RESERVES THE RIGHT TO HAVE SOME OF THE REMOVED MATERIALS STORED ON SITE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING, IN CONJUNCTION WITH THE BUILDING OWNER, THE LIST OF WHAT IS TO BE SALVAGED.

8 ALL DEVICES AND EQUIPMENT SHOWN SHALL BE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. REFER TO THE LIGHTING PLAN FOR ADDITIONAL INFORMATION ON EXISTING LIGHT FIXTURES TO BE RELOCATED UNDER THIS WORK.

9 DEMOLISH ALL EXISTING DEVICES ON EXISTING WALLS TO BE DEMOLISHED UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ASSOCIATED CONDUIT, CONDUCTORS, ETC., BACK TO NEAREST SOURCE TO REMAIN.

SHEET KEYNOTES

1 REMOVE EXISTING DUPLEX. REMOVE EXISTING BRANCH CIRCUIT BACK TO NEAREST SOURCE.

2 REMOVE EXISTING WIRELESS ACCESS POINT. REMOVE ALL ASSOCIATED TELE/DATA CABLING BACK TO NEAREST SOURCE.

3 REMOVE EXISTING JUNCTION BOX.

4 REMOVE ALL EXISTING RECEPTACLES LOCATED ON EXISTING WALL TO BE DEMOLISHED. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS SERVING DEVICES BEYOND THE DEMOLITION AREA.

5 REMOVE ALL EXISTING FIRE ALARM DEVICES LOCATED ON EXISTING WALL TO BE DEMOLISHED. REMOVE ALL ASSOCIATED CONDUIT AND CABLING BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING FIRE ALARM CABLING SERVING DEVICES BEYOND THE DEMOLITION AREA.

6 REMOVE ALL EXISTING TELECOMMUNICATIONS DEVICES LOCATED ON EXISTING WALL TO BE DEMOLISHED. REMOVE ALL ASSOCIATED CONDUIT AND CABLING BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING COMMUNICATIONS CABLING SERVICE DEVICES BEYOND THE DEMOLITION AREA.

7 REMOVE ALL EXISTING RECEPTACLES LOCATED ON EXISTING WALL TO REMAIN ON DEMOLITION SIDE OF WORK. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS SERVING DEVICES BEYOND THE DEMOLITION AREA.

8 REMOVE ALL EXISTING FIRE ALARM DEVICES LOCATED ON EXISTING WALL TO REMAIN ON DEMOLITION SIDE OF WORK. REMOVE ALL ASSOCIATED CONDUIT AND CABLING BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING FIRE ALARM CABLING SERVING DEVICES BEYOND THE DEMOLITION AREA.

9 REMOVE ALL EXISTING TELECOMMUNICATIONS DEVICES LOCATED ON EXISTING WALL TO REMAIN ON DEMOLITION SIDE OF WORK. REMOVE ALL ASSOCIATED CONDUIT AND CABLING BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING COMMUNICATIONS CABLING SERVICE DEVICES BEYOND THE DEMOLITION AREA.

SHEET KEYNOTES

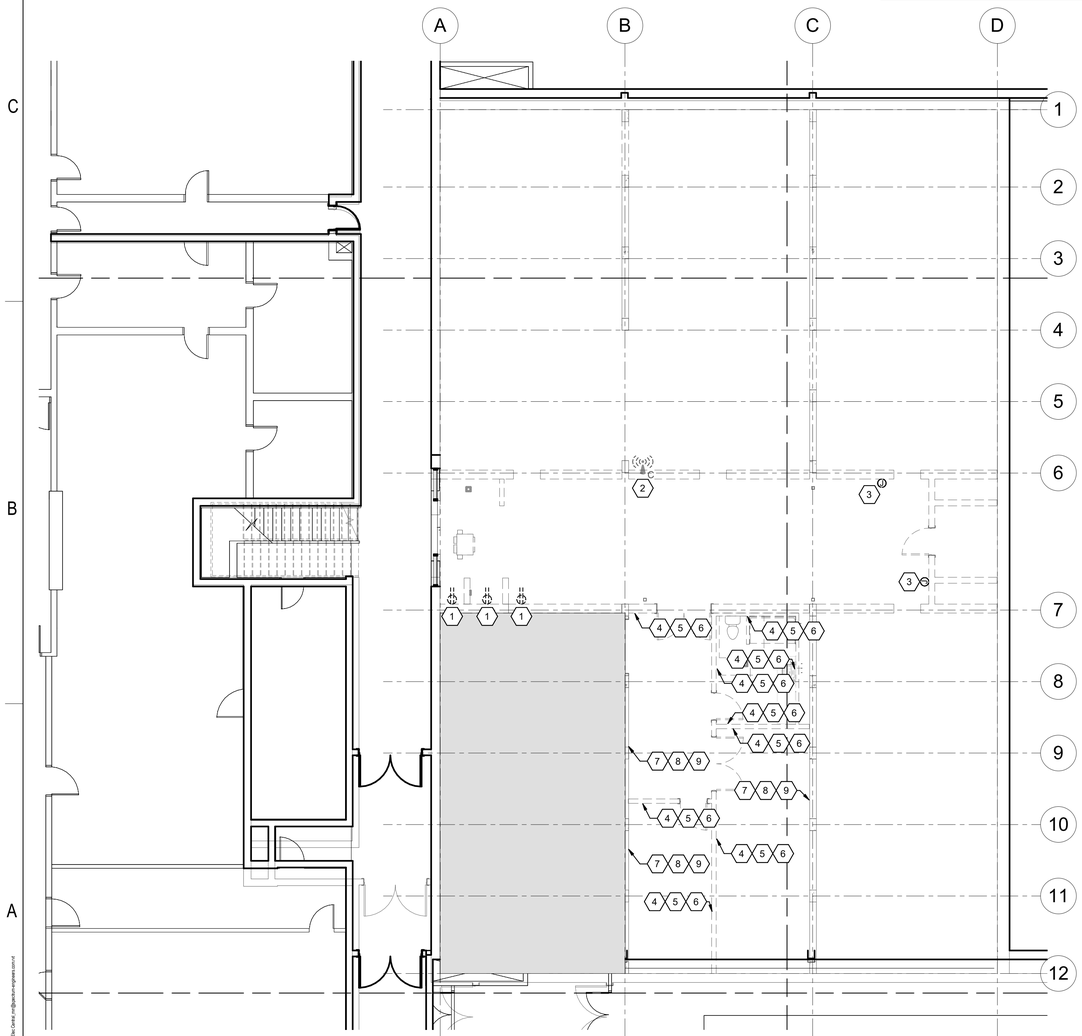
10 EXISTING DUPLEX TO REMAIN. REMOVE EXISTING BRANCH CIRCUIT BACK TO NEAREST SOURCE. REFER TO POWER PLAN FOR CIRCUIT RECONFIGURATION UNDER NEW WORK.

11 EXISTING ELECTRICAL EQUIPMENT TO REMAIN.

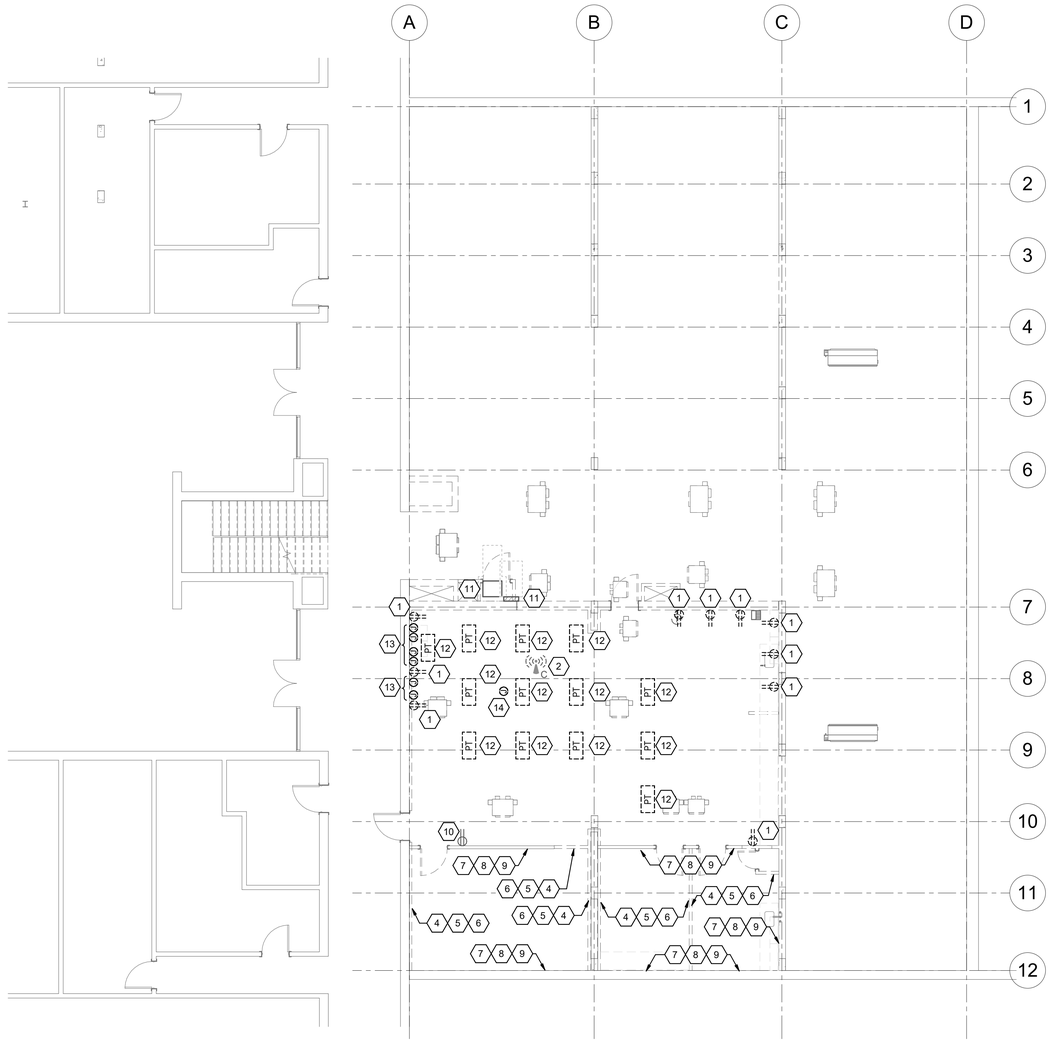
12 REMOVE EXISTING POKE-THROUGH DEVICE. REMOVE ALL ASSOCIATED BRANCH CIRCUITING AND TELE/DATA CABLING BACK TO NEAREST SOURCE. PATCH FLOOR AFTER DEMOLITION.

13 REMOVE EXISTING AUDIO/VISUAL DEVICE. REMOVE ALL ASSOCIATED CABLING BACK TO NEAREST SOURCE.

14 REMOVE AND SALVAGE EXISTING PROJECTOR. RETURN PROJECTOR TO OWNER. REMOVE ALL ASSOCIATED BRANCH CIRCUITING AND TELE/DATA CABLING BACK TO NEAREST SOURCE.



1 LEVEL 1 ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

LEVELS 1 & 2 ELECTRICAL DEMOLITION PLANS

ED101

GENERAL SHEET NOTES

1 DEMOLISH ALL ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING TO BE REMOVED BACK TO THE PANELBOARD. DENOTE ALL REMOVED CIRCUITS AS "SPARE" ON THE PANEL SCHEDULE KEPT WITH EACH PANELBOARD. TURN ALL CIRCUIT BREAKERS AND SWITCHES PROTECTING CIRCUITS REMOVED DURING DEMOLITION TO THE "OFF" POSITION.

2 REMOVE ALL UNUSED AND ABANDONED ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING. DO NOT LEAVE ABANDONED COMPONENTS IN PLACE UNLESS OTHERWISE NOTED.

3 WHERE THE SOURCE TO OTHER ELECTRICAL ITEMS WHICH ARE TO REMAIN IS INTERRUPTED BY THE REMOVAL OF AN ITEM OR DEVICE, THE CONTRACTOR SHALL INSTALL THE NECESSARY CONDUIT AND WIRE TO RECONNECT IT TO ITS NEAREST OR MOST CONVENIENT ORIGINAL SOURCE.

4 WHERE CIRCUITS OR OTHER ELECTRICAL EQUIPMENT UNRELATED TO THIS WORK PASS THROUGH THE AREA AFFECTED BY DEMOLITION, THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO MAINTAIN THE EXISTING INSTALLATION OR PERFORM THE NECESSARY WORK TO RELOCATE SUCH CIRCUITING OR OTHER ELECTRICAL EQUIPMENT AS NECESSARY TO MAINTAIN CONTINUITY.

5 ALL DEMOLITION WORK SHALL BE FULLY COORDINATED WITH ALL TRADES.

6 REFER TO ARCHITECTURAL PLANS FOR COMPLETE SCOPE OF DEMOLITION WORK. THE CONTRACTOR SHALL SURVEY THE EXISTING CONDITIONS PRIOR TO BIDDING TO INCORPORATE THE SCOPE OF DEMOLITION WORK INTO THE BID.

7 THE BUILDING OWNER RESERVES THE RIGHT TO HAVE SOME OF THE REMOVED MATERIALS STORED ON SITE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING, IN CONJUNCTION WITH THE BUILDING OWNER, THE LIST OF WHAT IS TO BE SALVAGED.

8 ALL DEVICES AND EQUIPMENT SHOWN SHALL BE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. REFER TO THE LIGHTING PLAN FOR ADDITIONAL INFORMATION ON EXISTING LIGHT FIXTURES TO BE RELOCATED UNDER THIS WORK.

9 DEMOLISH ALL EXISTING DEVICES ON EXISTING WALLS TO BE DEMOLISHED UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ASSOCIATED CONDUIT, CONDUCTORS, ETC., BACK TO NEAREST SOURCE TO REMAIN.

SHEET KEYNOTES

1 REMOVE EXISTING LIGHT FIXTURE. REMOVE EXISTING LIGHTING BRANCH CIRCUIT BACK TO NEAREST SWITCH.

2 REMOVE EXISTING LIGHT SWITCH(ES). REMOVE EXISTING LIGHTING BRANCH CIRCUIT BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF BRANCH CIRCUITING SERVING DEVICES OR FIXTURES BEYOND DEMOLITION SCOPE.

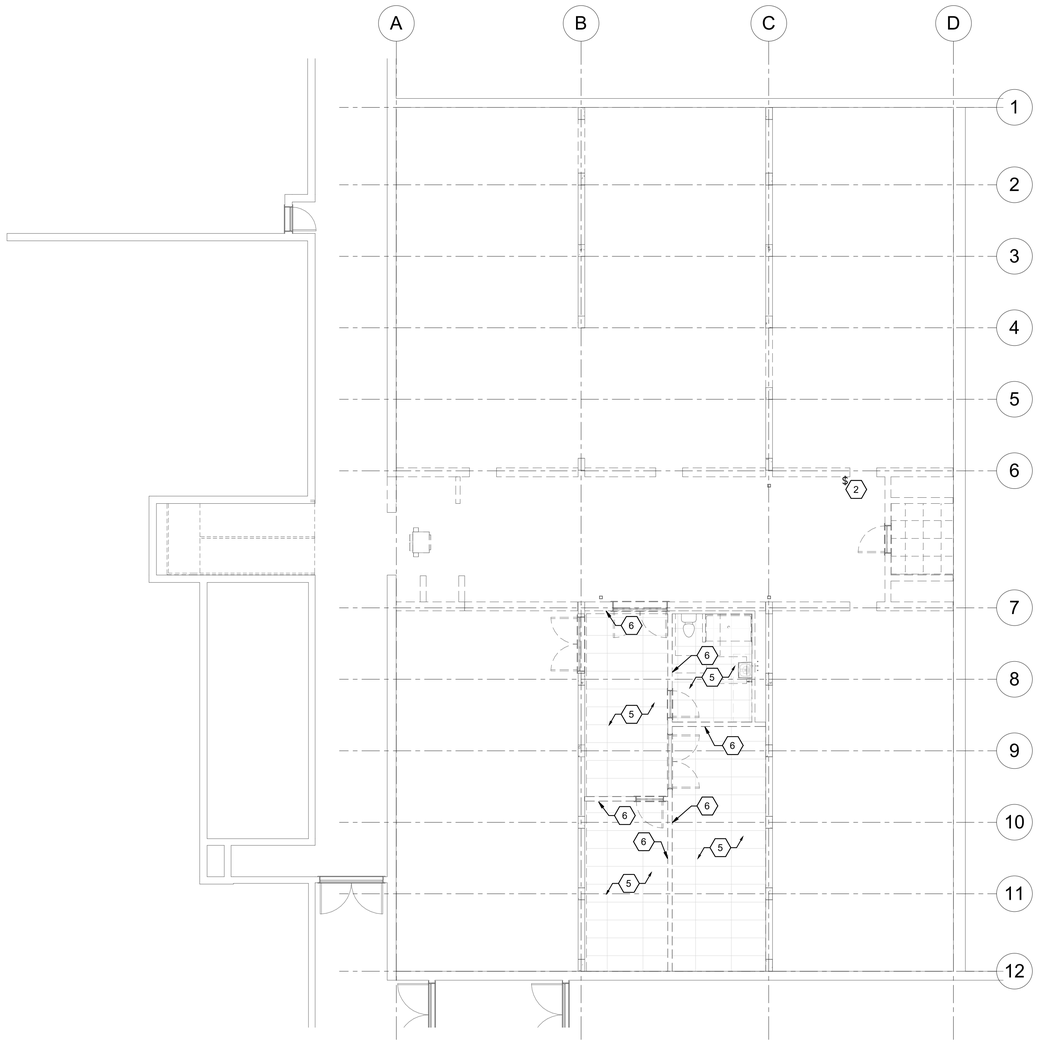
3 REMOVE EXISTING EXIT LIGHT. MAINTAIN EXISTING LIFE SAFETY LIGHTING BRANCH CIRCUIT FOR REUSE UNDER NEW WORK.

4 REMOVE ALL EXISTING LIGHT SWITCHES LOCATED ON EXISTING WALL TO REMAIN ON DEMOLITION SIDE OF WORK. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS SERVING DEVICES BEYOND THE DEMOLITION AREA.

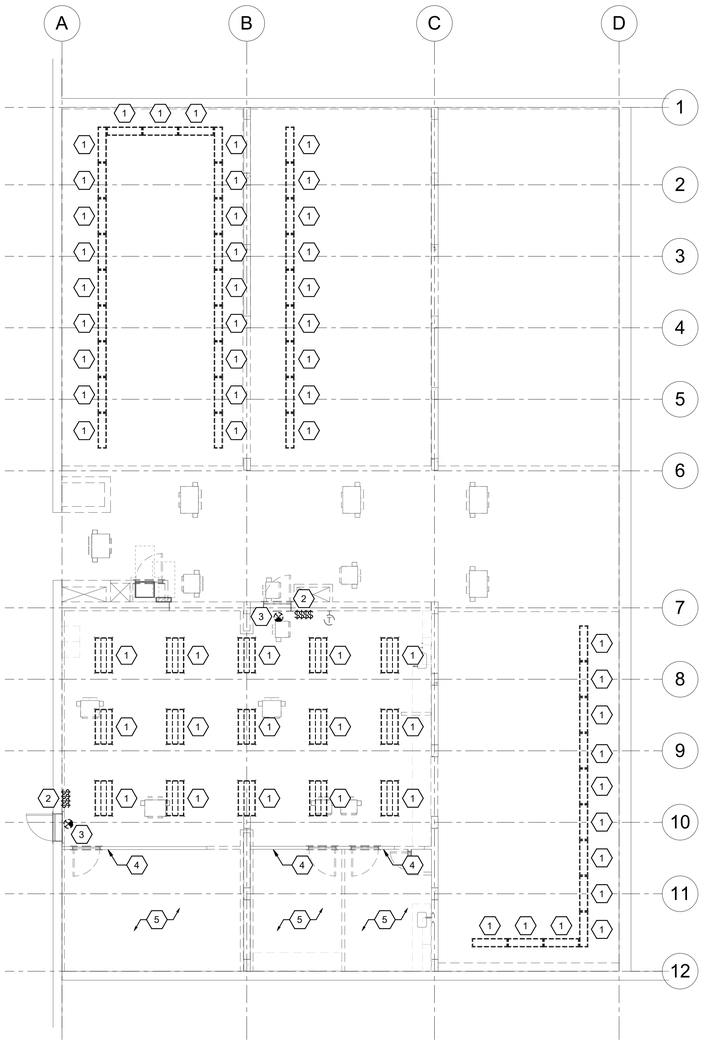
5 REMOVE ALL EXISTING LIGHT FIXTURES IN SPACE DURING DEMOLITION. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST SWITCH. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS SERVING DEVICES BEYOND THE DEMOLITION AREA.

6 REMOVE ALL EXISTING LIGHT SWITCHES LOCATED ON EXISTING WALL TO BE DEMOLISHED. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST SOURCE. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS SERVING DEVICES BEYOND THE DEMOLITION AREA.

SHEET KEYNOTES



1 LEVEL 1 CEILING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 CEILING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

LEVELS 1 & 2 ELECTRICAL CEILING DEMOLITION PLANS

ED111

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GENERAL SHEET NOTES

⬡ SHEET KEYNOTES

1 PROVIDE GFCI CIRCUIT BREAKER FOR INDICATED BRANCH CIRCUIT.

2 PROVIDE JUNCTION BOX FOR VAV CONTROL WIRING. EXTEND CONTROL WIRING TO EACH VAV BOX.

3 JUNCTION BOX FOR CONNECTION TO KITCHEN EXHAUST HOOD.

4 EXHAUST HOOD FIRE SUPPRESSION SYSTEM CONTROL PANEL. PROVIDE INTERCONNECTION BETWEEN CONTROL PANEL AND BUILDING FIRE ALARM SYSTEM FOR AUTOMATIC REPORTING OF FIRE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONNECT COMPONENTS AS FOLLOWS:

(a) PROVIDE (1) 3/4" CONDUIT WITH CONTROL WIRES FROM FIRE SUPPRESSION SYSTEM CONTROL PANEL CONTACTORS TO EXHAUST HOOD FIRE/SMOKE DETECTORS FOR AUTOMATIC DETECTION OF EXHAUST HOOD FIRE.

(b) PROVIDE (1) 3/4" CONDUIT WITH CONTROL WIRES FROM FIRE SUPPRESSION SYSTEM CONTROL PANEL CONTACTORS TO EXHAUST HOOD FAN FOR AUTOMATIC CONTROL OF EXHAUST HOOD FAN.

(c) PROVIDE (1) 3/4" CONDUIT WITH CONTROL WIRES FROM FIRE SUPPRESSION SYSTEM CONTROL PANEL CONTACTORS TO BUILDING FIRE ALARM SYSTEM FOR ALARM NOTIFICATION.

(d) PROVIDE (1) 3/4" CONDUIT WITH CONTROL WIRES FROM FIRE SUPPRESSION SYSTEM CONTROL PANEL CONTACTORS TO SHUNT TRIP CIRCUIT BREAKER PANEL SERVING EQUIPMENT UNDER EXHAUST HOOD FOR AUTOMATIC DISCONNECTION OF ELECTRICAL SERVICE UPON DETECTION OF FIRE.

(e) PROVIDE (1) 3/4" CONDUIT WITH CONTROL WIRES FROM FIRE SUPPRESSION SYSTEM CONTROL PANEL CONTACTORS TO EXHAUST HOOD FIRE SUPPRESSION SYSTEM FOR AUTOMATIC FIRE SUPPRESSION UPON DETECTION OF FIRE.

5 PROVIDE (1) 1 1/4" CONDUIT FROM THE CABINET PULL BOX TO JUNCTION BOX LOCATED AT MONITOR. PROVIDE (1) HDMI CABLE. TERMINATE HDMI CABLE AT HDMI SWITCH LOCATED IN CABINET.

6 PROVIDE SINGLE GANG JUNCTION BOX AT +36" A.F.F. WITH (1) 1" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING FOR LOUROE INTERCOM.

⬡ SHEET KEYNOTES

7 PROVIDE SINGLE GANG JUNCTION BOX WITH (1) 1" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING FOR COMPUMEDICS DATA CABLING.

8 JUNCTION BOX FOR COMPUMEDICS DATA CABLING WITH (1) 1" CONDUIT STUBBED FROM JUNCTION BOX TO ABOVE ACCESSIBLE CEILING.

9 PROVIDE 10" X 10" X 2" RECESSED PULL BOX WITH GROMMETED COVER FOR SLEEP MONITORING SYSTEM CABLING. STUB (4) 1" CONDUITS FROM PULL BOX TO ABOVE ACCESSIBLE CEILING.

10 JUNCTION BOX FOR CONNECTION TO KITCHEN RANGE/OVEN. PROVIDE IN-LINE GFCI DEVICE WITH DISCONNECT. CONFIRM POWER REQUIREMENTS WITH SELECTED EQUIPMENT PRIOR TO ROUGH-IN

11 PROVIDE IN-LINE GFCI DEVICE WITH DISCONNECT. CONFIRM POWER REQUIREMENTS WITH SELECTED EQUIPMENT PRIOR TO ROUGH-IN

12 POWER FOR SUSPENSION SYSTEM.

13 JUNCTION BOX FOR CONNECTION TO KITCHEN DISHWASHER.

14 PROVIDE POWER CONNECTION TO INDOOR UNIT FROM OUTDOOR UNIT. REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS FOR MORE INFORMATION.

15 TRAPEZE MOUNT TRANSFORMER IN INDICATED LOCATION.

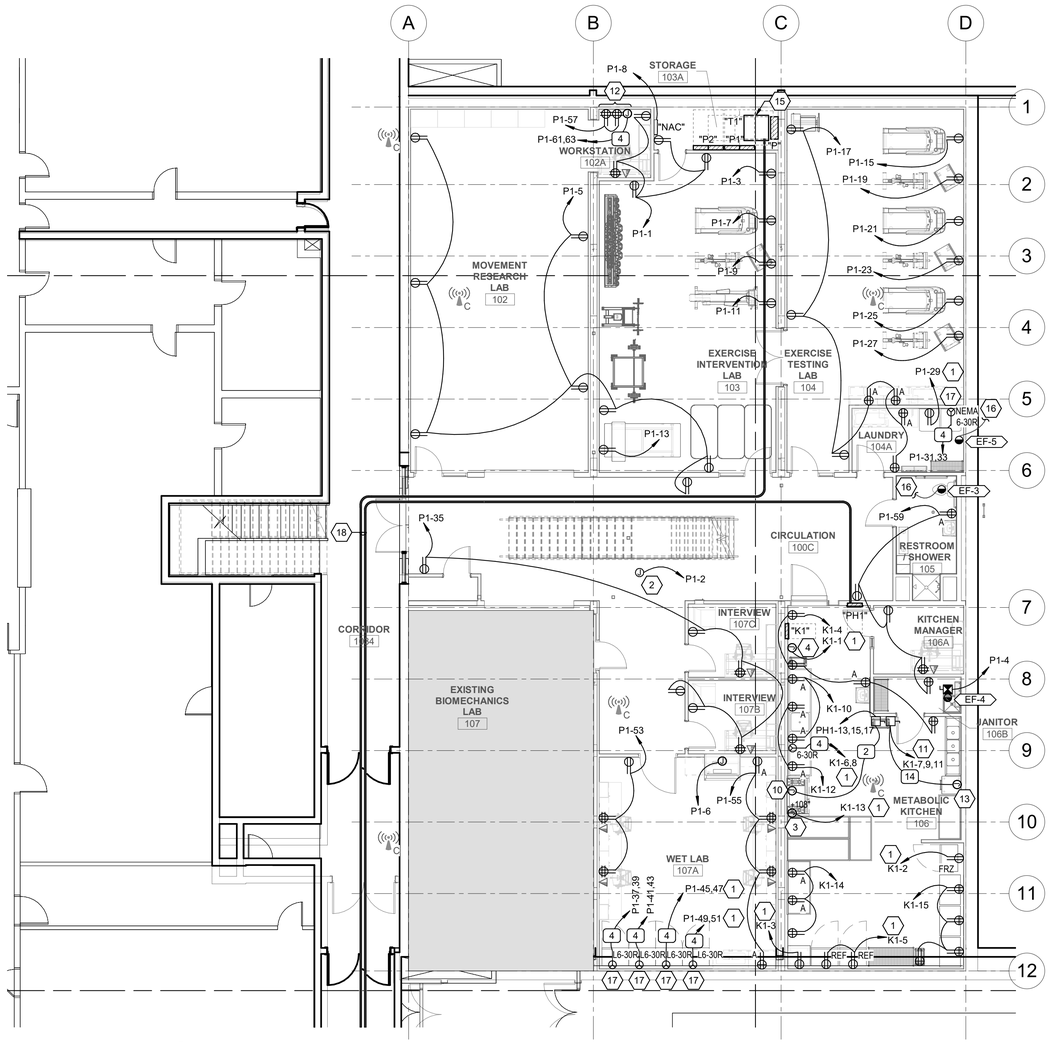
16 CONNECT TO NORMAL POWER LIGHTING BRANCH CIRCUIT SERVING RESPECTIVE ROOM.

17 VERIFY PLUG CONFIGURATION WITH SELECTED EQUIPMENT PRIOR TO ROUGH-IN.

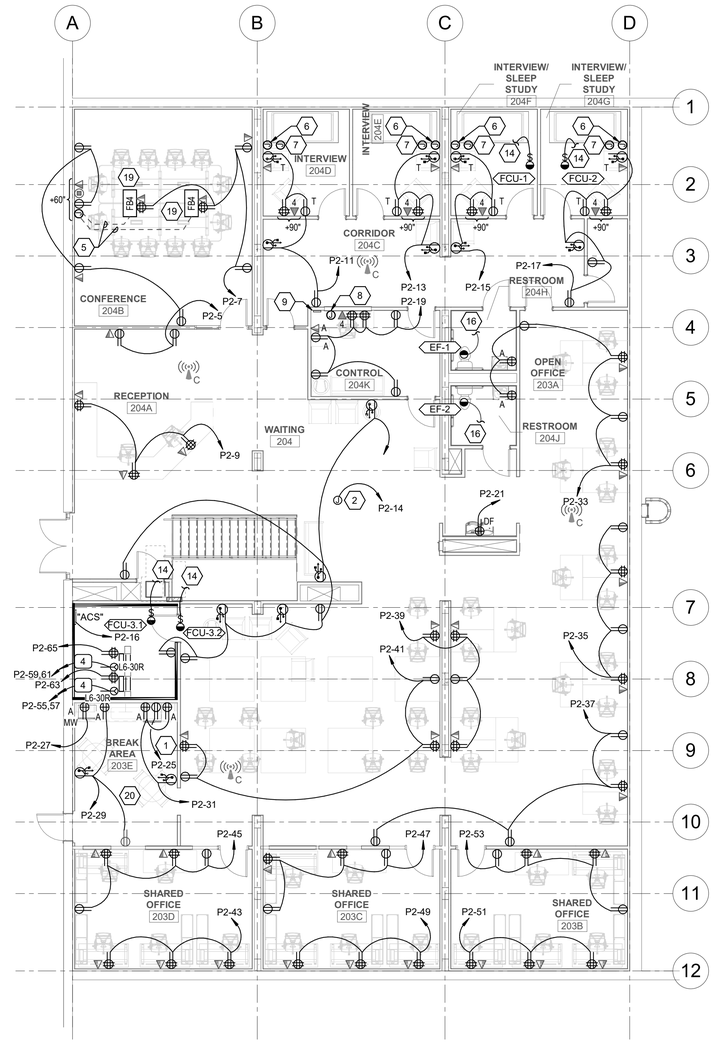
18 CONTRACTOR TO ASSESS IN FIELD SUITABILITY OF RUNNING FEEDERS IN LEVEL 1 OR LEVEL 2 CEILING AS DETERMINED TO SITE CONDITIONS.

19 FLUSH MOUNTED FLOOR BOX (LEGRAND WALKER RFB4/FPBTCNK). CUT SLAB FOR INSTALLATION TO MAINTAIN MAXIMUM CLEAR SPACE IN LAB ON FLOOR BELOW.

20 RECIRCUIT EXISTING RECEPTACLE TO NEW CIRCUIT AS INDICATED.



1 LEVEL 1 POWER PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 POWER PLAN
SCALE: 1/8" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
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PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

LEVELS 1 & 2 POWER PLANS

EP101

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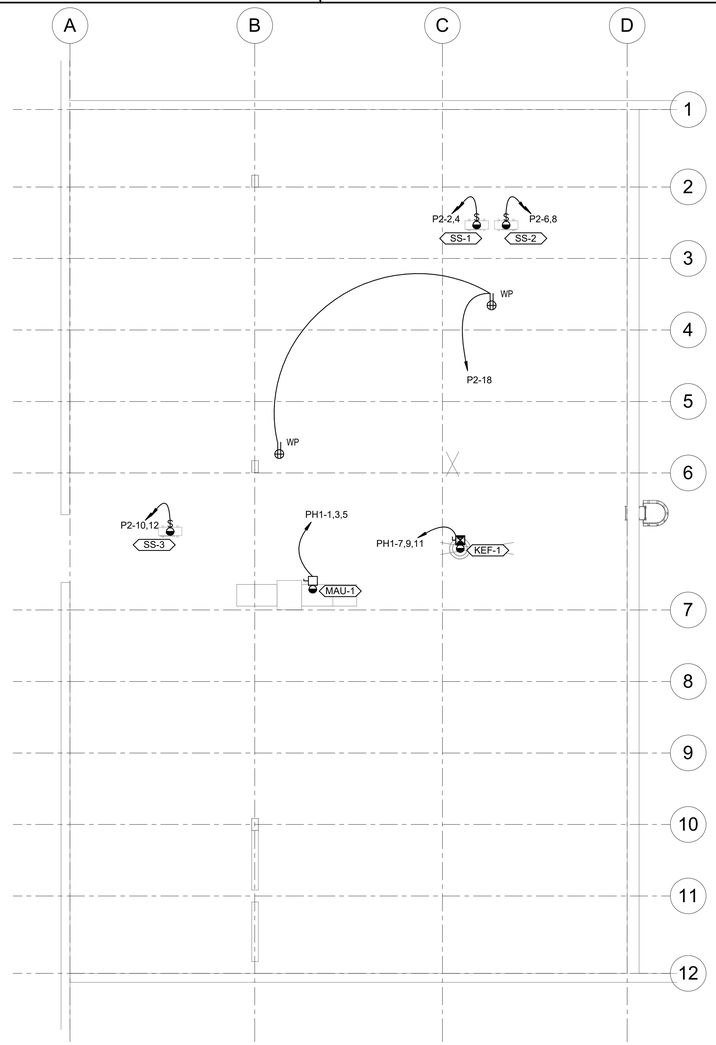
GENERAL SHEET NOTES	SHEET KEYNOTES	SHEET KEYNOTES



1 ROOF POWER PLAN
SCALE: 1/8" = 1'-0"

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ROOF POWER PLAN

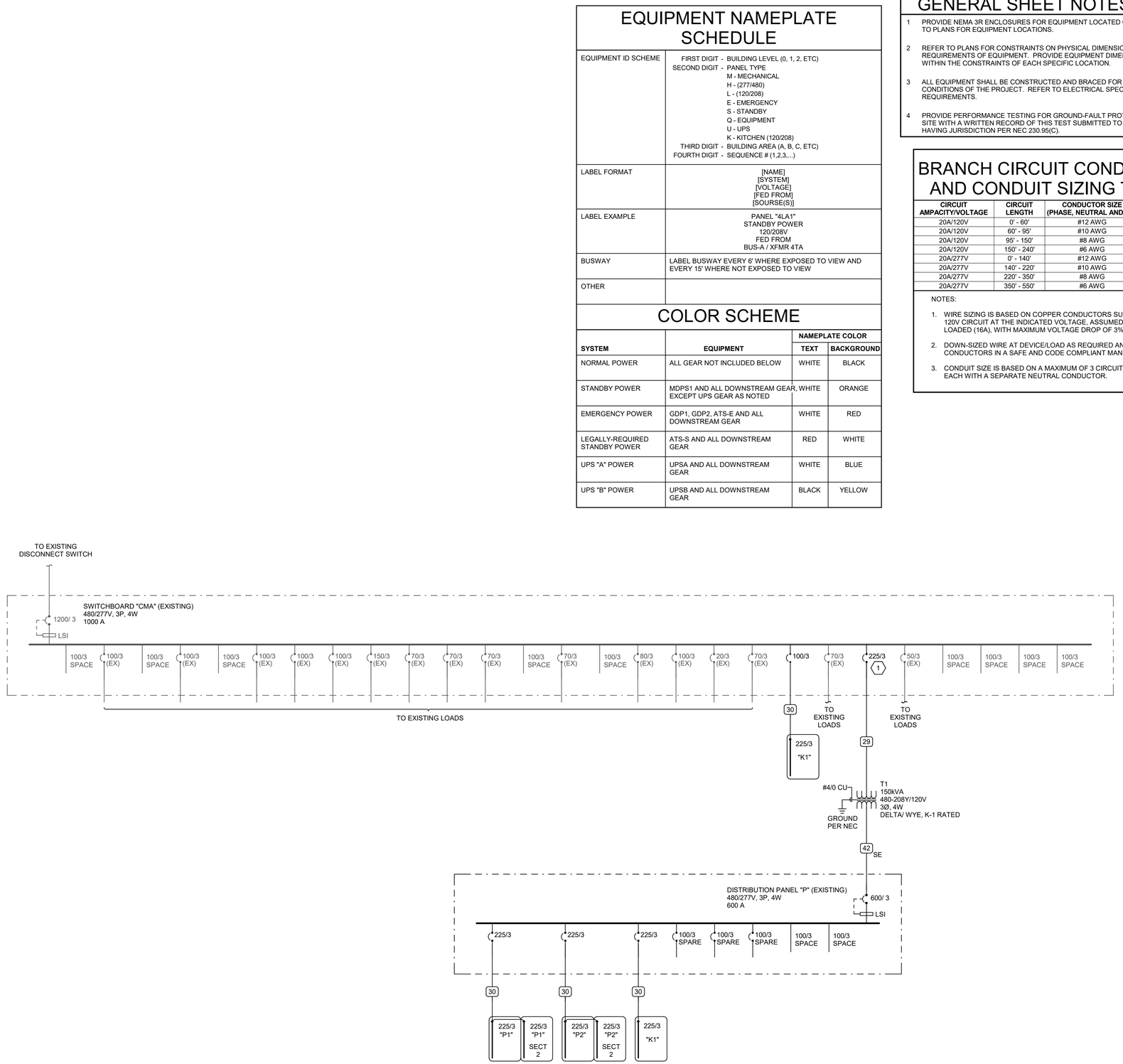
EP102

EQUIPMENT NAMEPLATE SCHEDULE

EQUIPMENT ID SCHEME	FIRST DIGIT - BUILDING LEVEL (0, 1, 2, ETC) SECOND DIGIT - PANEL TYPE M - MECHANICAL H - (277/480) L - (120/208) E - EMERGENCY S - STANDBY Q - EQUIPMENT U - UPS K - KITCHEN (120/208) THIRD DIGIT - BUILDING AREA (A, B, C, ETC) FOURTH DIGIT - SEQUENCE # (1,2,3,...)
LABEL FORMAT	[NAME] [SYSTEM] [VOLTAGE] [FED FROM] [SOURSE(S)]
LABEL EXAMPLE	PANEL "4LA1" STANDBY POWER 120/208V FED FROM BUS-A / XFMR 4TA
BUSWAY	LABEL BUSWAY EVERY 6' WHERE EXPOSED TO VIEW AND EVERY 15' WHERE NOT EXPOSED TO VIEW
OTHER	

COLOR SCHEME

SYSTEM	EQUIPMENT	NAMEPLATE COLOR TEXT	NAMEPLATE COLOR BACKGROUND
NORMAL POWER	ALL GEAR NOT INCLUDED BELOW	WHITE	BLACK
STANDBY POWER	MDPS1 AND ALL DOWNSTREAM GEAR, EXCEPT UPS GEAR AS NOTED	WHITE	ORANGE
EMERGENCY POWER	GDP1, GDP2, ATS-E AND ALL DOWNSTREAM GEAR	WHITE	RED
LEGALLY-REQUIRED STANDBY POWER	ATS-S AND ALL DOWNSTREAM GEAR	RED	WHITE
UPS "A" POWER	UPSA AND ALL DOWNSTREAM GEAR	WHITE	BLUE
UPS "B" POWER	UPSB AND ALL DOWNSTREAM GEAR	BLACK	YELLOW



1 PARTIAL ONE-LINE DIAGRAM

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

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

1 PROVIDE CIRCUIT BREAKER LOCKABLE IN THE OPEN POSITION.

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.

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	-	-	5 EA 4	-	-	-	-	-	6
59	-	-	5	-	-	-	-	-	6
60	-	-	10 EA 4	-	-	-	-	-	6

CONDUIT AND CONDUCTOR 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 CONDCUTOR IS BELOW #1/0 IN SIZE.
   - "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.
   - "SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

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SALT LAKE CITY, UT 84112

STAMP

LICENSED PROFESSIONAL ENGINEER No. 7057918 CARLTON A. GETZ 01/31/2022 STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

ONE-LINE DIAGRAM

EP601

BIM 360 (R20) - Exp/Plan/21009 Elec Central.rvt@perkinswill.com
1/31/2022 1:51:13 PM

SWITCHBOARD "CMA"(EXISTING)

VOLTS/PHASE/WIRE:	MAIN SIZE & TYPE:	LOCATION:	NOTES:
480/277 V ,3 PH, 4 WIRE	1000 AMPERE MAIN	HPER SOUTH ELEC ROOM	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** (EXISTING)

CKT	OCP		LOAD (kVA)				PHASE LOAD (kVA)		
NO	AMP	POLE	LTG	PWR	CO	PANEL / EQUIPMENT	A	B	C
1	--	3	--	--	--	SPACE	--	--	--
2	100	3	--	--	--	(EX) CU-4 (SW) - NOT IN SERVICE	0.0	0.0	0.0
3	--	3	--	--	--	SPACE	--	--	--
4	100	3	--	--	--	(EX) CU-3 (SE) - NOT IN SERVICE	0.0	0.0	0.0
5	--	3	--	--	--	SPACE	--	--	--
6	100	3	--	--	--	(EX) CU-2 (NW)	0.0	0.0	0.0
7	100	3	--	--	--	(EX) WOMEN'S SOCCER FIELD RESTROOMS	0.0	0.0	0.0
8	100	3	--	--	--	(EX) CU-1 (NE)	0.0	0.0	0.0
9	150	3	--	--	--	(EX) SPARE	0.0	0.0	0.0
10	70	3	--	--	--	(EX) PANEL "CLE"	0.0	0.0	0.0
11	70	3	--	--	--	(EX) PANEL "CLM"	0.0	0.0	0.0
12	70	3	--	--	--	(EX) PANEL "CLR"	0.0	0.0	0.0
13	--	3	--	--	--	SPACE	--	--	--
14	70	3	--	--	--	(EX) SPARE	0.0	0.0	0.0
15	--	3	--	--	--	SPACE	--	--	--
16	80	3	--	--	--	(EX) SPARE	0.0	0.0	0.0
17	100	3	--	--	--	(EX) PANEL "CLD"	0.0	0.0	0.0
18	20	3	--	--	--	(EX) PARKING LOT LIGHTS	0.0	0.0	0.0
19	70	3	--	--	--	(EX) PANEL "CLC"	0.0	0.0	0.0
20	100	3	9.8	43.8	0.0	PANEL "PH1" (NOTE 1)	18.2	17.3	17.8
21	70	3	--	--	--	(EX) PANEL "CLA"	0.0	0.0	0.0
22	225	3	0.0	74.4	35.1	HPER LABS TRANSFORMER (T-1) (NOTE 1)	36.7	35.9	36.9
23	50	3	--	--	--	(EX) DRYER TRANSFORMER	0.0	0.0	0.0
24	--	3	--	--	--	SPACE	--	--	--
25	--	3	--	--	--	SPACE	--	--	--
26	--	3	--	--	--	(EX) TO DISCONNECT CT	--	--	--
27	--	3	--	--	--	SPACE	--	--	--
28	--	3	--	--	--	(EX) TO DISCONNECT CT	--	--	--
TOTALS:						CONNECTED kVA PER PHASE	**54.9**	**53.2**	**54.6**
						CONNECTED AMPS PER PHASE	**199**	**192**	**198**
						TOTAL CONNECTED kVA =	**160.7**		
						AVERAGE CONNECTED AMPS PER PHASE =	**193**		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: **9.8 kVA @ 125% = 12.3 kVA**
RECEPTACLES: **35.1 kVA @ 64% = 22.6 kVA**
ALL OTHER LOADS @ 100%: **116.2 kVA**

- 100% CONNECTED LOAD PLUS 25%
- FIRST 10kVA @ 100%, REMAINDER @ 50%
- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER...

TOTAL DIVERSIFIED kVA = **151.3**
AVERAGE AMPS PER PHASE = **182**

Notes:
1) PROVIDE NEW CIRCUIT BREAKER FOR INDICATED BRANCH CIRCUIT. MATCH EXISTING BREAKER TYPE AND A.I.C. RATING.

DISTRIBUTION PANEL "P"

VOLTS/PHASE/WIRE:	MAIN SIZE & TYPE:	LOCATION:	NOTES:
120/208V ,3 PH, 4 WIRE	600 AMPERE MAIN	STORAGE 103A	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 22000

CKT	OCP		LOAD (kVA)				PHASE LOAD (kVA)		
NO	AMP	POLE	LTG	PWR	CO	PANEL / EQUIPMENT	A	B	C
1	225	3	0.0	26.4	9.0	P1	12.3	11.0	12.2
2	225	3	0.0	16.1	23.4	"P2"	12.2	13.9	13.3
3	225	3	0.0	31.9	2.7	PANEL "K1"	12.2	11.0	11.4
4	100	3	--	--	--	SPARE	0.0	0.0	0.0
5	100	3	--	--	--	SPARE	0.0	0.0	0.0
6	100	3	--	--	--	SPARE	0.0	0.0	0.0
7	--	3	--	--	--	SPACE	--	--	--
8	--	3	--	--	--	SPACE	--	--	--
TOTALS:						CONNECTED kVA PER PHASE	**36.7**	**35.9**	**36.9**
						CONNECTED AMPS PER PHASE	**307**	**299**	**309**
						TOTAL CONNECTED kVA =	**107.5**		
						AVERAGE CONNECTED AMPS PER PHASE =	**299**		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS:
RECEPTACLES: **35.1 kVA @ 64% = 22.6 kVA**
ALL OTHER LOADS @ 100%: **72.4 kVA**

- 100% CONNECTED LOAD PLUS 25%
- FIRST 10kVA @ 100%, REMAINDER @ 50%
- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER...

TOTAL DIVERSIFIED kVA = **95.8**
AVERAGE AMPS PER PHASE = **266**

GENERAL SHEET NOTES

1 CIRCUIT BREAKER FAULT CURRENT RATINGS TO MATCH OR EXCEED FAULT CURRENT RATING OF THE RESPECTIVE PANEL.

EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT			STARTER DATA			STARTER DATA										NOTES	MARK
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SPEED	CTRL VOLT	SELECTOR SWITCH	PUSH BUTTON	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY	SCHEMATIC REFERENCE	REMOTE CTRL		
FCU-1	1	FAN COIL UNIT INDOOR UNIT		0.2	1.0	0.8	208	1	60	CC #1	E	VIA SS-1	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																FCU-1
FCU-2	1	FAN COIL UNIT INDOOR UNIT		0.2	1.0	0.8	208	1	60	CC #1	E	VIA SS-2	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																FCU-2
FCU-3.1	1	FAN COIL UNIT INDOOR UNIT		0.2	1.0	0.8	208	1	60	CC #1	E	VIA SS-3	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																FCU-3.1
FCU-3.2	1	FAN COIL UNIT INDOOR UNIT		0.2	1.0	0.8	208	1	60	CC #1	E	VIA SS-3	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT																FCU-3.2
EF-1	1	EXHAUST FAN	0.1	0.36	3.8	3.0	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT															1	EF-1
EF-2	1	EXHAUST FAN	0.1	0.36	3.8	3.0	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT															1	EF-2
EF-3	1	EXHAUST FAN	0.1	0.36	3.8	3.0	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT															1	EF-3
EF-4	1	EXHAUST FAN	0.1	0.36	3.8	3.0	120	1	60	CC #1	E	20A C/B	PANEL	E	30A D/S	ADJ. TO UNIT	E	FVNR	ADJ. TO UNIT	00		120	HOA		R/G	2	2					EF-4
EF-5	1	EXHAUST FAN	0.1	0.36	3.8	3.0	120	1	60	CC #1	E	20A C/B	PANEL	E	TOGGLE SWITCH	ADJ. TO UNIT															1	EF-5
SS-1	1	FAN COIL UNIT OUTDOOR UNIT		1.5	9.0	7.2	208	1	60	CC #1	E	15A C/B	PANEL	E	30A D/S	ADJ. TO UNIT																SS-1
SS-2	1	FAN COIL UNIT OUTDOOR UNIT		1.5	9.0	7.2	208	1	60	CC #1	E	15A C/B	PANEL	E	30A D/S	ADJ. TO UNIT																SS-2
SS-3	1	FAN COIL UNIT OUTDOOR UNIT		3.2	19.0	15.2	208	1	60	CC #4	E	25A C/B	PANEL	E	30A D/S	ADJ. TO UNIT																SS-3
KEF-1	1	KITCHEN EXHAUST FAN	1.5	2.5	3.8	3.0	480	3	60	CC #2	E	20A C/B	PANEL	E	30A D/S	ADJ. TO UNIT	E	FVNR	ADJ. TO UNIT	00		120	HOA		R/G	2						KEF-1
MAU-1	1	MAKE-UP AIR UNIT		35.0	52.6	42.1	480	3	60	CC #14	E	60A C/B	PANEL	E	30A D/S	ADJ. TO UNIT	Q															MAU-1

NOTES LEGEND:
1. FAN CONTROL VIA LIGHT SWITCH.

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 15 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 15

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STAMP

LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

ELECTRICAL SCHEDULES

EP602

BIM 360:R20_Eval\Plus\21009 Elec Central.rvt@jacobus.ucar@spectrum-pe.com.rvt
10/2022 1:51 PM

GENERAL SHEET NOTES

1 CIRCUIT BREAKER FAULT CURRENT RATINGS TO MATCH OR EXCEED FAULT CURRENT RATING OF THE RESPECTIVE PANEL.

PANEL: "P1"

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	225 AMPERE MAIN CB	P	SURFACE	STORAGE 103A	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 22,000

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	0.0	1.1	POWER EXERCISE...	1.1	0.2					VAV POWER CIRCULATION 100C	0.0	0.2	0.0		1	20	2
3	20	1		0.0	1.0	0.0	POWER EXERCISE...			1.0	0.4			EF-4	0.0	0.4	0.0		1	20	4
5	20	1		0.0	0.0	1.4	CO MOVEMENT RESEARCH LAB...					1.4	1.0	AIRFOIL POWER	0.0	1.0	0.0		1	20	6
7	20	1		0.0	1.0	0.0	POWER EXERCISE...	1.0	1.0					NAC PANEL	0.0	1.0	0.0		1	20	8
9	20	1		0.0	1.0	0.0	POWER EXERCISE...			1.0	0.0			SPARE	--	--	--	--	1	20	10
11	20	1		0.0	1.0	0.0	POWER EXERCISE...					1.0	0.0	SPARE	--	--	--	--	1	20	12
13	20	1		0.0	1.0	0.0	POWER EXERCISE...	1.0	0.0					SPARE	--	--	--	--	1	20	14
15	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...			1.0	0.0			SPARE	--	--	--	--	1	20	16
17	20	1		0.0	0.0	1.3	CO ROOM 104A, 104					1.3	0.0	SPARE	--	--	--	--	1	20	18
19	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...	1.0	0.0					SPARE	--	--	--	--	1	20	20
21	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...			1.0	0.0			SPARE	--	--	--	--	1	20	22
23	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...					1.0	0.0	SPARE	--	--	--	--	1	20	24
25	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...	1.0	0.0					SPARE	--	--	--	--	1	20	26
27	20	1		0.0	1.0	0.0	POWER EXERCISE TESTING LAB...			1.0	0.0			SPARE	--	--	--	--	1	20	28
29	20	1		0.0	1.0	0.0	WASHER POWER					1.0	0.0	SPARE	--	--	--	--	1	20	30
31	30	2	GFCI	0.0	2.1	0.0	DRYER POWER	1.0	0.0					SPARE	--	--	--	--	1	20	32
33	--	--	--	--	--	--	--			1.0	0.0			SPARE	--	--	--	--	1	20	34
35	20	1		0.0	0.0	1.4	CO ROOM 107B, 107C, 100C					1.4	0.0	SPARE	--	--	--	--	1	20	36
37	30	2		0.0	2.1	0.0	POWER	1.0	0.0					SPARE	--	--	--	--	1	20	38
39	--	--	--	--	--	--	--			1.0	0.0			SPARE	--	--	--	--	1	20	40
41	30	2		0.0	2.1	0.0	POWER					1.0	0.0	SPARE	--	--	--	--	1	20	42
43	--	--	--	--	--	--	--	1.0	0.0					SPARE	--	--	--	--	1	20	44
45	30	2		0.0	2.1	0.0	POWER			1.0	0.0			SPARE	--	--	--	--	1	20	46
47	--	--	--	--	--	--	--					1.0	0.0	SPARE	--	--	--	--	1	20	48
49	30	2		0.0	2.1	0.0	POWER	1.0	0.0					SPARE	--	--	--	--	1	20	50
51	--	--	--	--	--	--	--			1.0	0.0			SPARE	--	--	--	--	1	20	52
53	20	1		0.0	0.0	0.9	CO WET LAB 107A					0.9	0.0	SPARE	--	--	--	--	1	20	54
55	20	1		0.0	0.0	1.1	CO WET LAB 107A	1.1	0.0					SPARE	--	--	--	--	1	20	56
57	20	1		0.0	0.0	0.7	SUSPENSION SYSTEM			0.7	0.0			SPARE	--	--	--	--	1	20	58
59	20	1		0.0	0.0	1.1	CO ROOM 106, 106A, 105, 100C,...					1.1	0.0	SPARE	--	--	--	--	1	20	60
61	25	2		0.0	1.5	0.0	SUSPENSION SYSTEM	0.8	0.0					SPARE	--	--	--	--	1	20	62
63	--	--	--	--	--	--	--			0.8	0.0			SPARE	--	--	--	--	1	20	64
65	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	66
67	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	68
69	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	70
71	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	72
73	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	74
75	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	76
77	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	78
79	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	80
81	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	82
83	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	84
TOTALS:							CONNECTED kVA PER PHASE	**12**		**11**		**12**		CONNECTED TOTAL kVA =	**34**						
							CONNECTED AMPS PER PHASE	**104**		**92**		**103**		AVERAGE CONNECTED AMPS PER PHASE =	**96**						

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: - 100% CONNECTED LOAD PLUS 25% DIVERSIFIED TOTAL kVA = **35**

RECEPTACLES: **9.0 kVA @ 100% = 9.0 kVA** - FIRST 10kVA @ 100%, REMAINDER @ 50% AVERAGE AMPS PER PHASE = **96**

ALL OTHER LOADS @ 100% : **25.5 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

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: "P2"

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	225 AMPERE MAIN LUGS	P	SURFACE	STORAGE 103A	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 22,000

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									0.9					FCU-1, SS-1	0.0	1.7	0.0		2	15	2
3											0.9			--	--	--	--	--	--	--	4
5	20	1		0.0	0.0	1.1	CO CONFERENCE 204B					1.1	0.9	FCU-2, SS-2	0.0	1.7	0.0		2	15	6
7	20	1		0.0	0.0	1.1	CO CONFERENCE 204B	1.1	0.9					--	--	--	--	--	--	--	8
9	20	1		0.0	0.0	1.1	CO RECEPTION 204A			1.1	1.8			FCU-3.1, FCU-3.2, SS-3	0.0	3.6	0.0		2	25	10
11	20	1		0.0	0.0	0.9	CO ROOM 204C, 204D					0.9	1.8	--	--	--	--	--	--	--	12
13	20	1		0.0	0.0	0.7	CO ROOM 204E, 204C	0.7	0.2					VAV POWER	0.0	0.2	0.0		1	20	14
15	20	1		0.0	0.0	0.7	CO ROOM 204F, 204C			0.7	1.0			ACS	0.0	1.0	0.0		1	20	16
17	20	1		0.0	0.0	1.1	CO ROOM 204C, 204G					1.1	0.4	CO - HPER EAST ROOF	0.4	0.0	0.0		1	20	18
19	20	1		0.0	0.0	1.4	CO CONTROL 204K	1.4	0.0					SPARE	--	--	--	--	1	20	20
21	20	1		0.0	0.7	0.0	DF RECEPTION 204A			0.7	0.0			SPARE	--	--	--	--	1	20	22
23	20	1		0.0	0.0	1.1	CO ROOM 203F, 204					1.1	0.0	SPARE	--	--	--	--	1	20	24
25	20	1	GFCI	0.0	1.5	0.0	DISH WASHER	1.5	0.0					SPARE	--	--	--	--	1	20	26
27	20	1		0.0	1.5	0.0	MICROWAVE - BREAK AREA 203E			1.5	0.0			SPARE	--	--	--	--	1	20	28
29	20	1		0.0	0.0	0.5	CO BREAK AREA 203E					0.5	0.0	SPARE	--	--	--	--	1	20	30
31	20	1		0.0	0.0	0.5	CO BREAK AREA 203E	0.5	0.0					SPARE	--	--	--	--	1	20	32
33	20	1		0.0	0.0	1.4	CO ROOM 203F, 204J, 204H			1.4	0.0			SPARE	--	--	--	--	1	20	34
35	20	1		0.0	0.0	1.1	CO STORAGE 203F					1.1	0.0	SPARE	--	--	--	--	1	20	36
37	20	1		0.0	0.0	0.9	CO STORAGE 203F	0.9	0.0					SPARE	--	--	--	--	1	20	38
39	20	1		0.0	0.0	1.3	CO STORAGE 203F			1.3	0.0			SPARE	--	--	--	--	1	20	40
41	20	1		0.0	0.0	1.1	CO STORAGE 203F					1.1	0.0	SPARE	--	--	--	--	1	20	42
43	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203D	1.1	0.0					SPARE	--	--	--	--	1	20	44
45	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203D			1.1	0.0			SPARE	--	--	--	--	1	20	46
47	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203C					1.1	0.0	SPARE	--	--	--	--	1	20	48
49	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203C	1.1	0.0					SPARE	--	--	--	--	1	20	50
51	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203B			1.1	0.0			SPARE	--	--	--	--	1	20	52
53	20	1		0.0	0.0	1.1	CO SHARED OFFICE 203B					1.1	0.0	SPARE	--	--	--	--	1	20	54
55	30	2		0.0	2.1	0.0	DATA RACK POWER	1.0	0.0					SPARE	--	--	--	--	1	20	56
57	--	--	--	--	--	--	--			1.0	0.0			SPARE	--	--	--	--	1	20	58
59	30	2		0.0	2.1	0.0	DATA RACK POWER					1.0	0.0	SPARE	--	--	--	--	1	20	60
61	--	--	--	--	--	--	--	1.0	0.0					SPARE	--	--	--	--	1	20	62
63	20	1		0.0	0.0	0.4	DATA RACK POWER			0.4	0.0			SPARE	--	--	--	--	1	20	64
65	20	1		0.0	0.0	0.4	DATA RACK POWER					0.4	0.0	SPARE	--	--	--	--	1	20	66
67	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	68
69	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	70
71	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	72
73	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	74
75	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	76
77	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	78
79	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	80
81	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	82
83	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	84
TOTALS:							CONNECTED kVA PER PHASE	**12**		**14**		**13**		CONNECTED TOTAL kVA =	**38**						
							CONNECTED AMPS PER PHASE	**102**		**117**		**113**		AVERAGE CONNECTED AMPS PER PHASE =	**107**						

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: - 100% CONNECTED LOAD PLUS 25% DIVERSIFIED TOTAL kVA = **33**

RECEPTACLES: **23.4 kVA @ 71% = 16.7 kVA** - FIRST 10kVA @ 100%, REMAINDER @ 50% AVERAGE AMPS PER PHASE = **90**

ALL OTHER LOADS @ 100% : **15.9 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

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: "PH1"

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	100 AMPERE MAIN LUGS	CMA	RECESSED	METABOLIC KITCHEN 106	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 22,000

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	60	3		0.0	35.0	0.0	MAKE-UP AIR UNIT (MAU-1)	11.7	3.7					LIGHTING - LABS LEVEL 1	0.0	0.0	3.7		1	20	2
3	--	--	--	--	--	--	--			11.7	2.8			LIGHTING - LABS LEVEL 2	0.0	0.0	2.8		1	20	4
5	--	--	--	--	--	--	--					11.7	3.3	LIGHTING - LABS LEVEL 2	0.0	0.0	3.3		1	20	6
7	20	3		0.0	2.5	0.0	KITCHEN EXHAUST FAN (KEF-1)	0.8	0.0					SPARE	--	--	--	--	1	20	8
9	--	--	--	--	--	--	--			0.8	0.0			SPARE	--	--	--	--	1	20	10
11	--	--	--	--	--	--	--					0.8	0.0	SPARE	--	--	--	--	1	20	12
13	20	3		0.0	6.3	0.0	METABOLIC KITCHEN OVEN	2.1	0.0					SPARE	--	--	--	--	1	20	14
15	--	--	--	--	--	--	--			2.1	0.0			SPARE	--	--	--	--	1	20	16
17	--	--	--	--	--	--	--					2.1	0.0	SPARE	--	--	--	--	1	20	18
19	--	1	--	--	--	--	- SHUNT TRIP -	--	0.0					SPARE	--	--	--	--	1	20	20
21	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	22
23	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	24
25	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	26
27	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	28
29	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	30
31	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	32
33	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	34
35	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	36
37	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	38
39	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	40
41	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	42
TOTALS:							CONNECTED kVA PER PHASE	**18**		**17**		**18**		CONNECTED TOTAL kVA =	**53**						
							CONNECTED AMPS PER PHASE	**66**		**62**		**64**		AVERAGE CONNECTED AMPS PER PHASE =	**64**						

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: **9.8 kVA @ 125% = 12.3 kVA** - 100% CONNECTED LOAD PLUS 25% DIVERSIFIED TOTAL kVA = **56**

RECEPTACLES: - FIRST 10kVA @ 100%, REMAINDER @ 50% AVERAGE AMPS PER PHASE = **68**

ALL OTHER LOADS @ 100% : **44.4 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

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: "K1"

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	225 AMPERE MAIN LUGS	P	RECESSED	METABOLIC KITCHEN 106	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 22,000

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	GFCI	0.0	0.5	0.0	FIRE SUPPRESSION POWER	0.5	0.5					FREEZER METABOLIC KITCHEN 106	0.0	0.5	0.0	GFCI	1	20	2
3	20	1	GFCI	0.0	2.0	0.0	WARMER METABOLIC KITCHEN...			2.0	0.7			CO METABOLIC KITCHEN 106	0.7	0.0	0.0		1	20	4
5	20	1	GFCI	0.0	0.8	0.0	REF METABOLIC KITCHEN 106					0.8	3.0	STEAMER METABOLIC KITCHEN 106	0.0	6.0	0.0	GFCI	2	20	6
7	60	3	GFCI	0.0	21.6	0.0	DISHWASHER ROOM 106	7.2	3.0					--	--	--	--	--	--	--	8
9	--	--	--	--	--	--	--			7.2	0.4			CO METABOLIC KITCHEN 106	0.4	0.0	0.0		1	20	10
11	--	--	--	--	--	--	--					7.2	0.4	CO METABOLIC KITCHEN 106	0.4	0.0	0.0		1	20	12
13	20	1	GFCI	0.0	0.5	0.0	HOOD POWER	0.5	0.5					CO METABOLIC KITCHEN 106	0.5	0.0	0.0		1	20	14
15	20	1		0.0	0.0	0.7	CO METABOLIC KITCHEN 106			0.7	0.0			SPARE	--	--	--	--	1	20	16
17	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	18
19	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	20
21	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	22
23	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	24
25	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	26
27	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	28
29	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	30
31	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	32
33	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	34
35	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	36
37	20	1	--	--	--	--	SPARE	0.0	0.0					SPARE	--	--	--	--	1	20	38
39	20	1	--	--	--	--	SPARE			0.0	0.0			SPARE	--	--	--	--	1	20	40
41	20	1	--	--	--	--	SPARE					0.0	0.0	SPARE	--	--	--	--	1	20	42
TOTALS:							CONNECTED kVA PER PHASE	**12**		**11**		**11**		CONNECTED TOTAL kVA =	**35**						
							CONNECTED AMPS PER PHASE	**103**		**92**		**95**		AVERAGE CONNECTED AMPS PER PHASE =	**96**						

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: - 100% CONNECTED LOAD PLUS 25% DIVERSIFIED TOTAL kVA = **35**

RECEPTACLES: **2.7 kVA @ 100% = 2.7 kVA** - FIRST 10kVA @ 100%, REMAINDER @ 50% AVERAGE AMPS PER PHASE = **96**

ALL OTHER LOADS @ 100% : **31.9 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

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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UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT

250 S 1850 E
SALT LAKE CITY, UT 84112

STAMP

LICENSED PROFESSIONAL ENGINEER No. 7057918 CARLTON A. GETZ 01/31/2022 STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

PANEL SCHEDULES

EP603

BIM 360://HPER - East Phase 2/210180 Elec Central_mr@spectrum-engineers.com.rvt 1/31/2022 1:18:19 PM

GENERAL SHEET NOTES

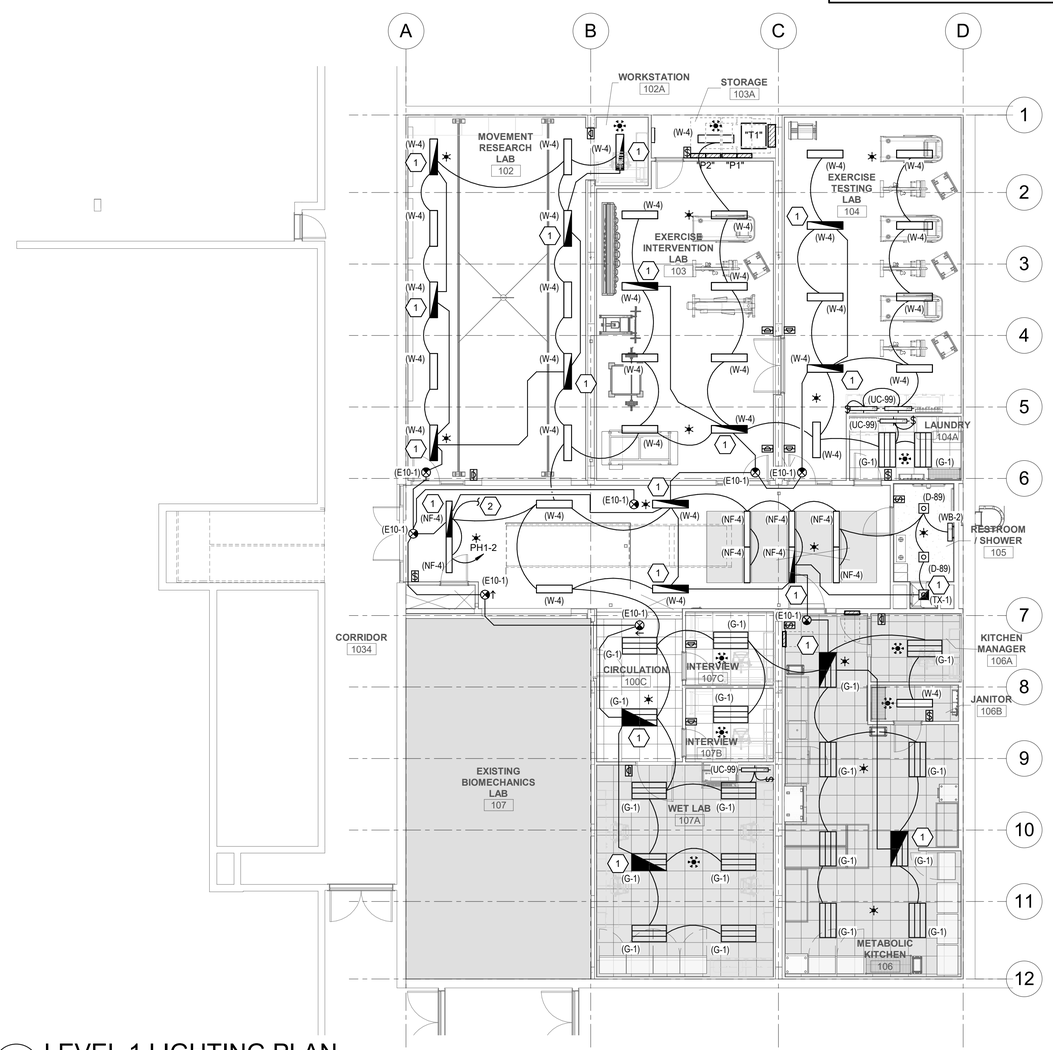
1 ALL EGRESS AND EMERGENCY LIGHTING IS CONNECTED TO A BACKUP POWER SOURCE CAPABLE OF PROVIDING A MINIMUM OF 90 MINUTES OF ILLUMINATION.

SHEET KEYNOTES

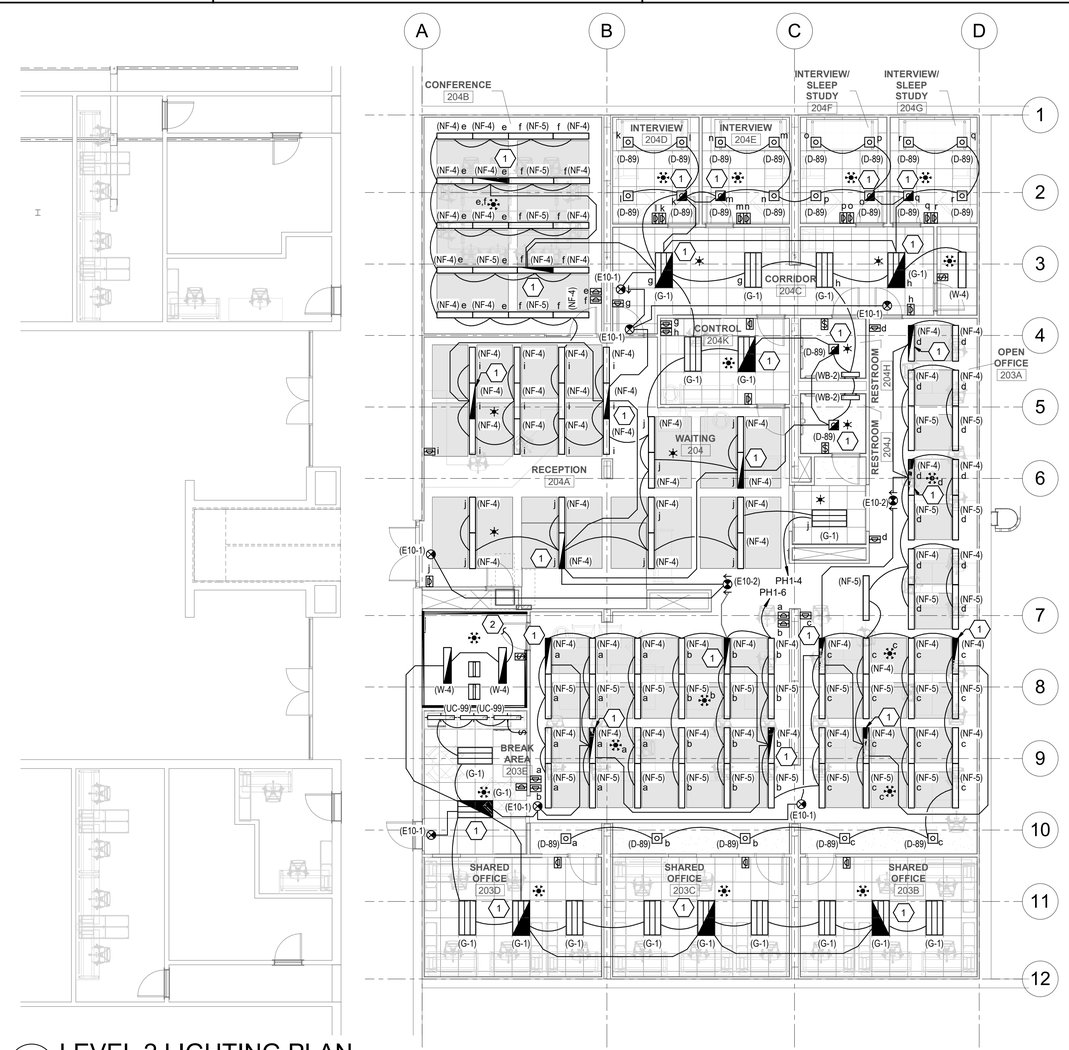
1 PROVIDE FIXTURE WITH GENERATOR TRANSFER TO EMERGENCY POWER BRANCH CIRCUIT ON LOSS OF NORMAL POWER LINE VOLTAGE (BODINE GTD OR EQUIVALENT WITH PRIOR APPROVAL).

2 CONNECT TO EXISTING LIFE SAFETY EMERGENCY LIGHTING BRANCH CIRCUIT MAINTAINED DURING DEMOLITION.

SHEET KEYNOTES



1 LEVEL 1 LIGHTING PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

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STAMP

LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

LEVELS 1 & 2 LIGHTING PLANS

EL101

LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. 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. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	D	RECESSED LED: SOLID STATE LED LIGHT ENGINE; CLASS P THERMALLY PROTECTED 0-10V SOLID STATE DIMMING DRIVER; MINUMUM SYSTEM RATED LIFE 50,000 HOURS AT 70% OUTPUT; UL LISTED FOR THROUGH-BRANCH WIRING AND DAMP LOCATION; LIGHT ENGINE, DRIVER, AND JUNCTION BOX ACCESSIBLE FROM ABOVE OR BELOW CEILING; SELF-FLANGING TRIM.						
	D-89	6" APERTURE: COMFORT CLEAR DIFFUSER; 3500 K COLOR TEMP LED; ~1500 LUMENS; 30 INPUT WATTS; 0-10V SOLID STATE DIMMING DRIVER; LENS; WHITE FLANGE.	LED	30W	UNV	LIGHTOLIER PRESCOLITE GOTHAM PORTFOLIO	6R-N/C6L-15-8-35-M-Z10-U/C6-R-DL-WH	
	E10	EXIT SIGN: METAL HOUSING; CEILING MOUNT, SEE DRAWINGS; ARROWS PER PLANS; LED LAMPS; A/C ONLY; EDGE LIGHTED CLEAR LENS; GREEN LETTERS ON CLEAR BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS. UNITS SHOWN ARE CEILING MOUNT MODELS. CONTRACTOR TO PROVIDE MATCHING LOW LEVEL WALL MOUNTED UNITS WHERE REQUIRED.						
	E10-1	SINGLE FACE:	LED	3W	UNV	EVENLITE DUAL-LITE MCPHILBEN EELP LITHONIA ISOLITE CHLORIDE LIGHTOLIER	SOV-AC-G-1C-WH-XX-XX LECSGWA 45VL-1-GC-XX EDG 1 GC W EM LRP W 1 GC XX 120/277 EUN-AC-G-1C STDLX-X-1-GC-X LEAC1GCX	
	E10-2	SINGLE FACE:	LED	3W	UNV	EVENLITE DUAL-LITE MCPHILBEN EELP LITHONIA ISOLITE CHLORIDE LIGHTOLIER	SOV-AC-G-2M-WH-XX-XX LECDGWA 45VL-2-GC-XX EDG 2 GC W EM LRP W 2 GC XX 120/277 EUN-AC-G-2M STDLX-X-2-GC-X LEAC2GCX	
	G	DECORATIVE LENSED TROFFERS: RECESSED FOR LAY-IN GRID; ACRYLIC PRISMATIC LENS; EARTHQUAKE CLIPS, LED DRIVER 0-10 VOLT DIMMING DRIVER WHERE INDICATED IN PRODUCT NUMBER.						
	G-1	RECESSED LED FIXTURE, 2X4, ACRYLIC DIFFUSER, ~4000 LUMENS, MULTI VOLT, GRID MOUNTED, MINIMUM 82 CRI, 3500K	LED	32W	UNV	PINNACLE	LU24-A-835MO-G1-U-OL1-1-0-W	1
	NF	NARROW APPERTURE LED FIXTURES: RECESSED LINEAR FIXTURE; STATIC; EARTHQUAKE CLIPS INSTALLED ON GRID FIXTURES; OPAQUE ACRYLIC LENS						
	NF-4	LED LINEAR RECESSED FIXTURE; 4" X 48" GRID MOUNTED: FLUSH SATIN LENS, LED, 0-10V DIMMING; ~4000 LUMENS; 3500K	LED	35W	UNV	MARK ARCH	SL4L-LCB-4FT-XX-80CRI-35K-800LMF-MIN1-MVOLT-ZT	
	NF-5	LED LINEAR RECESSED FIXTURE; 4" X 60" GRID MOUNTED: FLUSH SATIN LENS, LED, 0-10V DIMMING; ~4000 LUMENS; 3500K	LED	40W	UNV	MARK ARCH	SL4L-LCB-5FT-XX-80CRI-35K-800LMF-MIN1-MVOLT-ZT	
	TX	SPECIAL FIXTURES AS INDICATED. MEET ALL REQUIREMENTS OF SPECIFICATIONS AND FIXTURE SCHEDULE. VISUAL AND FINISH APPROVAL REQUIRED.						
	TX-1	6" APERTURE: COMFORT CLEAR DIFFUSER; 3500 K COLOR TEMP LED; ~1500 LUMENS; 30 INPUT WATTS; 0-10V SOLID STATE DIMMING DRIVER; LENS; WHITE FLANGE; WET LISTED SHOWER DOWNLIGHT; BATTERY BACKUP	LED	30W	UNV	LIGHTOLIER PRESCOLITE GOTHAM PORTFOLIO	6R-N-EM/C6L-15-8-35-M-Z10-U/C6-R-SL-WH	
	UC	LED UNDERCABINET LIGHT: LOW PROFILE 1" HIGH X 1-3/4"DEEP X LENGTH AS NOTED; EXTRUDED ALUMINUM BODY; EXTRUDED CLEAR, POLYCARBONATE LENS; INTERNAL LED DRIVER; EFFICACY GREATER THAN 40 LUMENS PER WATT; 50,000 HOUR RATED LAMP LIFE; 2700 - 3000 DEG KELVIN COLOR TEMPERATURE, WIRING COMPARTMENT; FLUSH END. CONNECTORS FOR ROW INSTALLATION (CONNECTORS ARE NOT INCLUDED IN THE FIXTURE SCHEDULE CATALOG NUMBERS - CONNECTOR CONFIGURATION TO BE FIELD DETERMINED BY CONTRACTOR PRIOR TO PURCHASE).						
	UC-99	SURFACE MOUNTED UNDERCABINET LIGHT FIXTURE, LED, 19" NOMINAL LENGTH, WHITE ANTIMICROBIAL FIINISH, UNIVERSAL VOLTAGE, ~400 LUMENS, PROVIDE INTERCONNECT CORDS BETWEEN FIXTURES FOR SERIAL MOUNTED INSTALLATIONS	LED	6W	UNV	DAY-BRITE ALKCO WAC LIGHTING KENALL HEALTHCARE	LINCS100E-L19-935-UNV-SWH-DIM / LINCS100ICSW	
	W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; CURVED ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; LED.						
	W-4	WIDE BODY WRAPAROUND; 4' LENGTH; LED; ~4000 LUMENS	LED	45W	UNV	KENALL	MLHA8-48-F-MW-CP-1-45L35K-DCC-DV	
	WB	WALL MOUNTED FIXTURE: AS INDICATED ON DRAWINGS; WITH ACRYLIC DIFFUSER; LED WITH INTEGRAL DRIVER;						
	WB-2	WALL MOUNTED 24" LINEAR FIXTURE; UP AND DOWN LIGHTING; DUST COVER; LED; TOTAL LENGTH AS INDICATED ON PLANS AS EACH LOCATION	LED	20W	UNV	LIGHTOLIER ARCH LIGHTING NULITE	MQ26-L-A-K-F-F-X-1-2-E-W HP2W-2-IHP900-3500K-WD-ILED-DHP900-4000K-EXT-DLED-1CKT-UNV-AL RW2-2-B-09-L35-DIM-1C-FRF-SV-4'-DUST COVER	

NOTE 1: UNIVERSITY STANDARD FIXTURE SPECIFICATION. NO ALTERNATES ACCEPTED FOR THIS PROJECT.

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SALT LAKE CITY, UT 84112

STAMP

LICENSED PROFESSIONAL ENGINEER
No. 7067918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

INTERIOR LIGHTING FIXTURE SCHEDULE

EL601

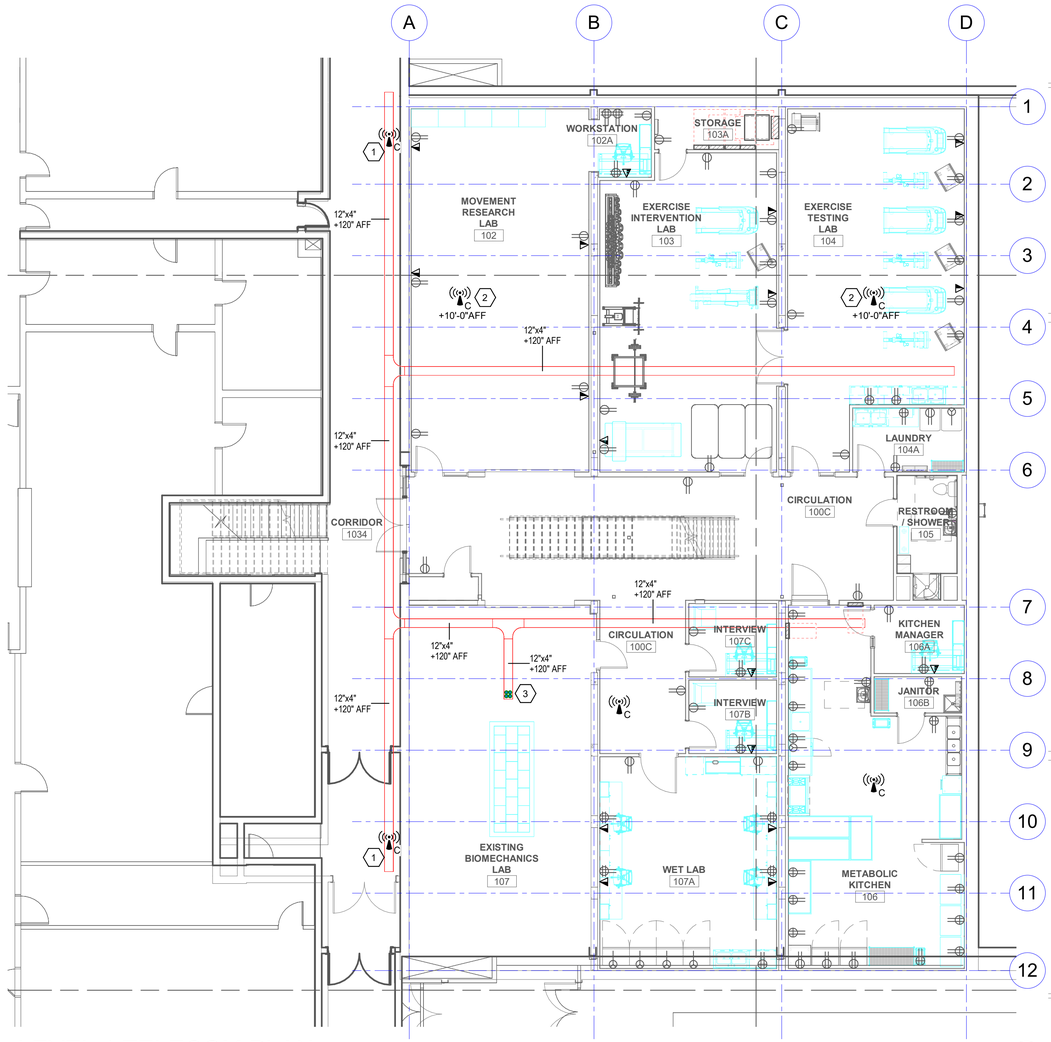
3/31/2022 11:14:21 AM

SHEET KEYNOTES

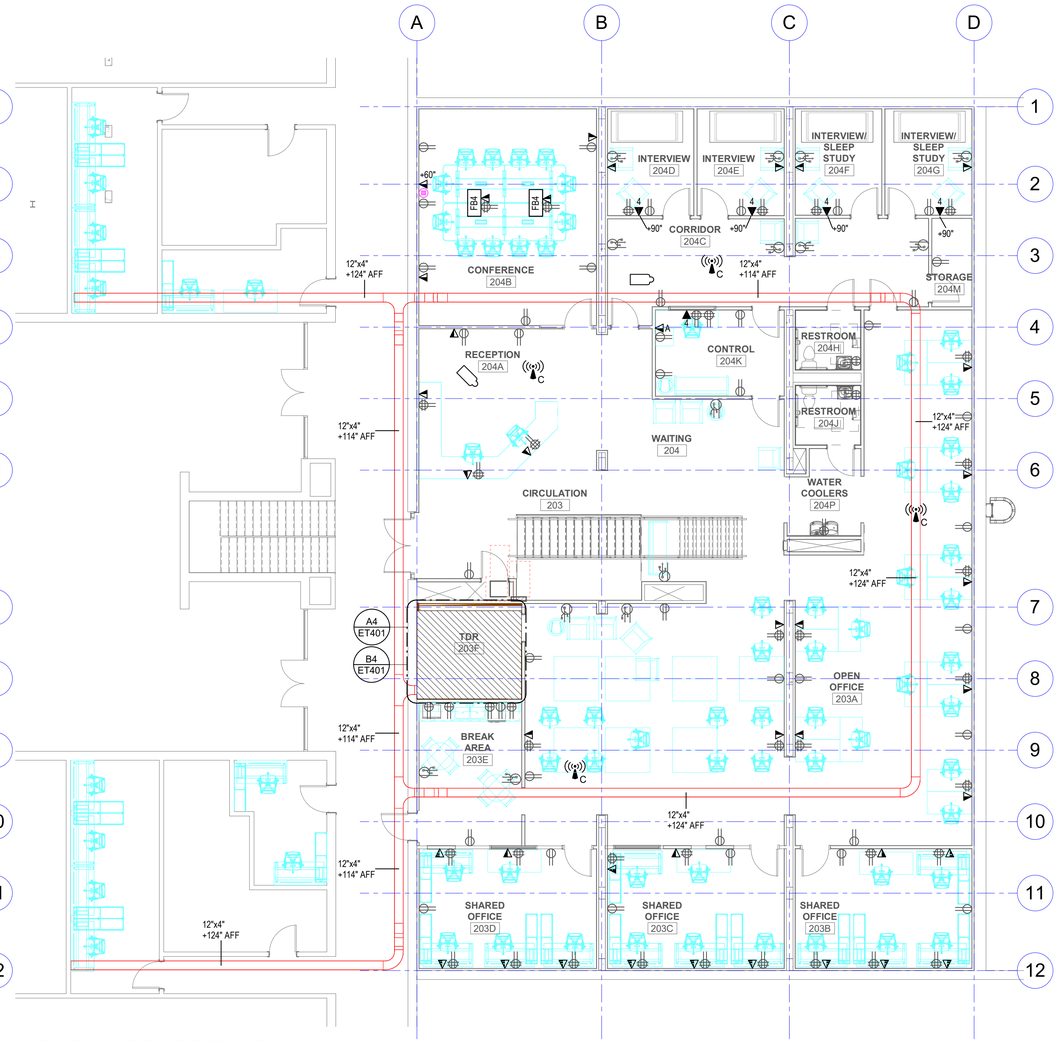
1 MOUNT WIRELESS ACCESS POINT DATA DEVICE TO UNDERSIDE OF CABLE TRAY AT APPROXIMATELY +10'-0" AFF.

2 MOUNT WIRELESS ACCESS POINT INTO OPEN CEILING ACCORDING TO DETAIL A2/ET502.

3 PROVIDE 4 EA., 4" CND SLEEVES UP FROM CEILING SPACE OF LEVEL 1 TO TDR 203F ABOVE FOR CABLE PATHWAY.



A1 LEVEL 1 TELECOM PLAN
SCALE: 1/8" = 1'-0"



A3 LEVEL 2 TELECOM PLAN
SCALE: 1/8" = 1'-0"

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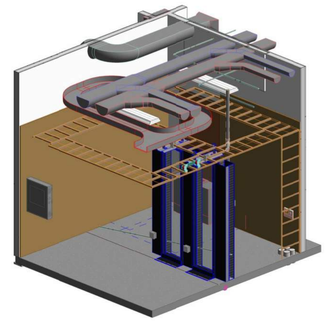
PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

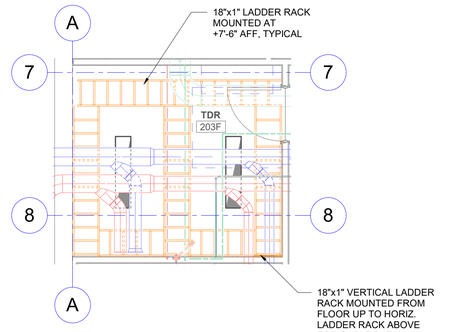
LEVELS 1 & 2 TELECOM PLAN

ET101



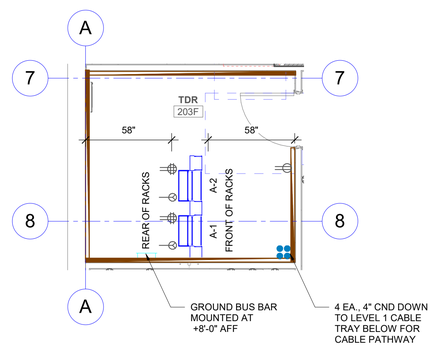
C4 ENLARGED TDR 203F ISOMETRIC PLAN

SCALE:



B4 ENLARGED TDR 203F LADDER RACK PLAN

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



A4 ENLARGED TDR 203F EQUIPMENT RACK PLAN

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

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PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

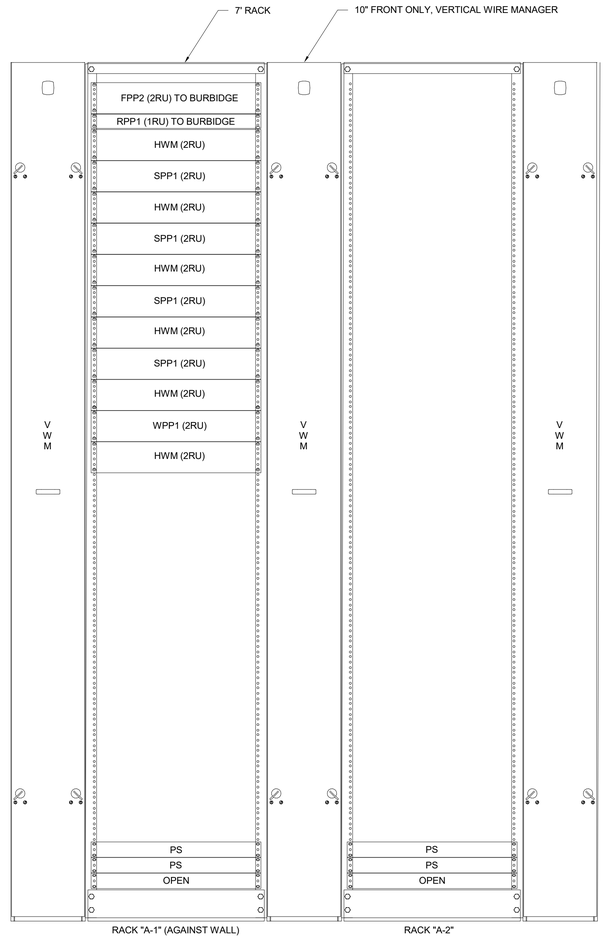
ENLARGED TELECOM PLANS

ET401

3/31/2021 - 2:47:51 PM C:\Users\sjtaylor\Documents\21-009_East Campus_Central_sjtaylor.rvt

DATA DEVICE DROP SCHEDULE - TDR 203F

DATA DEVICE TYPE	DETAIL LOCATION	COMM ROOM LOCATION	TOTAL BY FLOOR	Num of Drops
LEVEL 01				
CEILING WIRELESS ACCESS POINT (2-DROP)	SEE DETAIL D5/ET502	TDR 203F	6	12
WALL DROP (2-DROP)	SEE DETAIL A5/ET502	TDR 203F	18	36
LEVEL 02				
CEILING DATA - CAMERA (1-DROP)	SEE DETAIL C5/ET502	TDR 203F	2	2
CEILING WIRELESS ACCESS POINT (2-DROP)	SEE DETAIL D5/ET502	TDR 203F	4	8
WALL DATA - ABOVE COUNTER (2-DROP)	SEE DETAIL A5/ET502	TDR 203F	1	2
WALL DROP (2-DROP)	SEE DETAIL A5/ET502	TDR 203F	38	72
WALL DROP (4-DROP)	SEE DETAIL B5/ET502	TDR 203F	5	20
Grand total			74	152



A3 TELECOM EQUIPMENT RACK ELEVATION, LEVEL 2, TDR 203F

NO SCALE

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PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM EQUIPMENT RACK ELEVATIONS

ET501

Mon, 31 Jan 2022 - 3:24:57 PM
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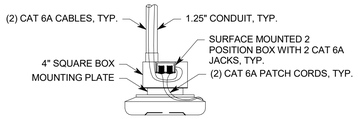
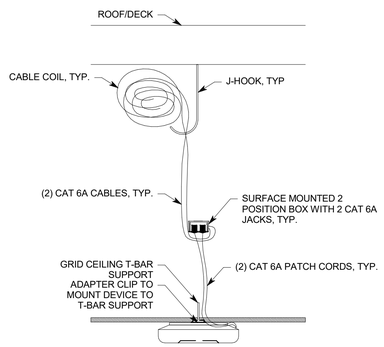
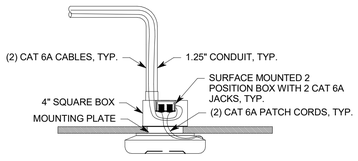


OPEN CEILING MOUNT



T-BAR MOUNT



CEILING MOUNT

A3 WIRELESS AP MOUNTING DETAIL

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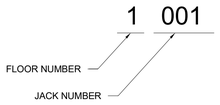

B4 CABLE ID EXAMPLE DETAIL

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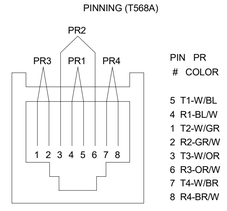

A4 VOICE/DATA OUTLET PINNING DETAIL

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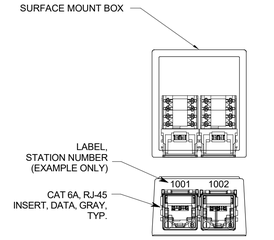

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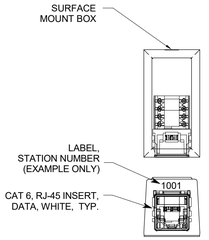

C5 DATA OUTLET

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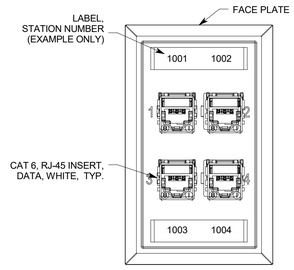

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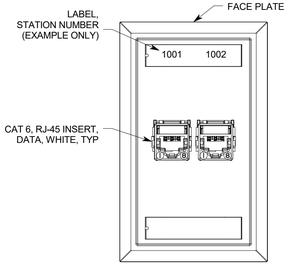

A5 DATA OUTLET

NO SCALE

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LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM DETAILS

ET502

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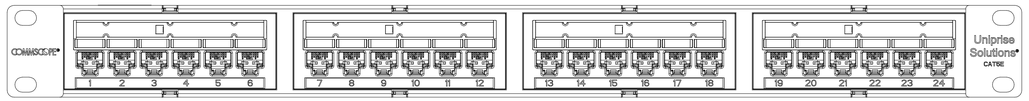

C3 RISER PATCH PANEL, TYPICAL RPP1

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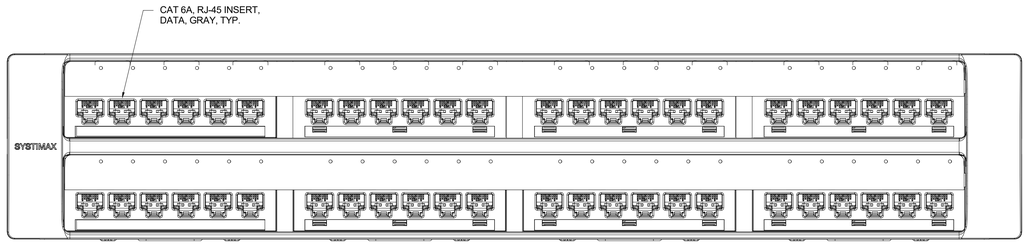

B3 WIRELESS PATCH PANEL, TYPICAL WPP1

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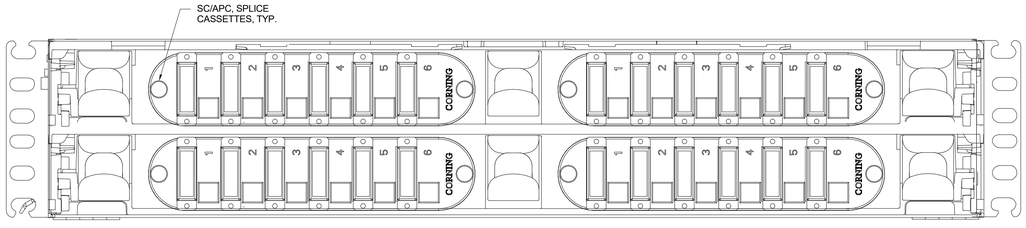

A1 FIBER PATCH PANEL, FPP2, TYP.

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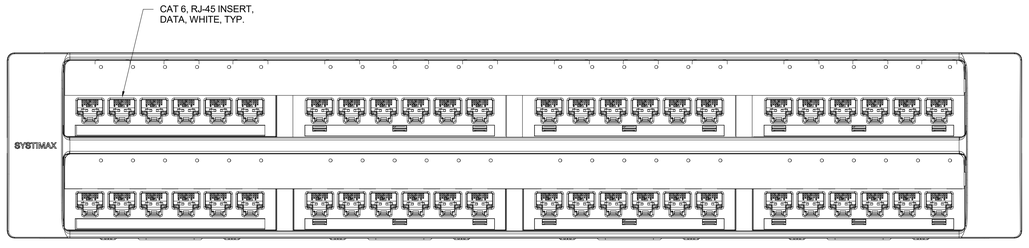

A3 STATION PATCH PANEL, TYPICAL SPP1

NO SCALE

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CHECKED BY:	JDA

TELECOM DETAILS

ET503

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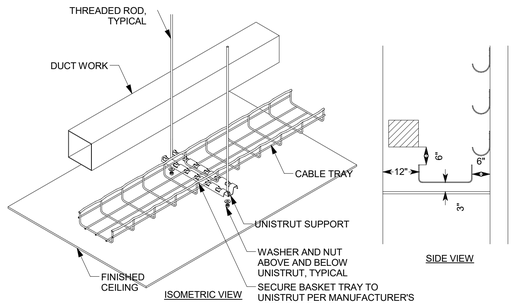

C2 TYPICAL CABLE TRAY WITH PARALLEL OBSTRUCTION

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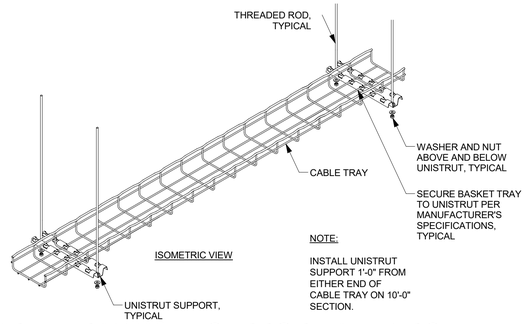

C4 10' CABLE TRAY WITH SUPPORT AT ENDS

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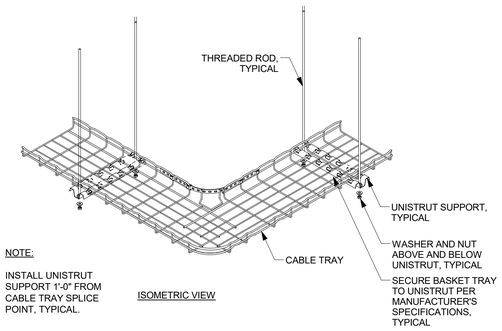
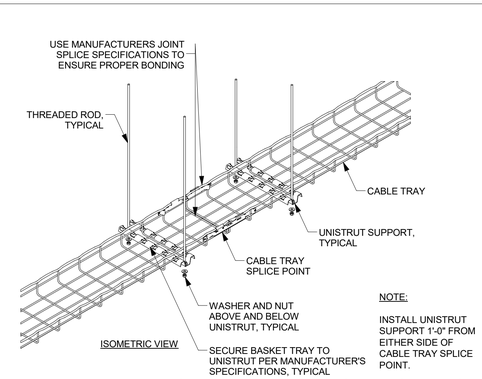


B2 CABLE TRAY 90 DEGREE BEND WITH SUPPORTS

NO SCALE



B4 CABLE TRAY WITH SUPPORT AT SPLICE POINT

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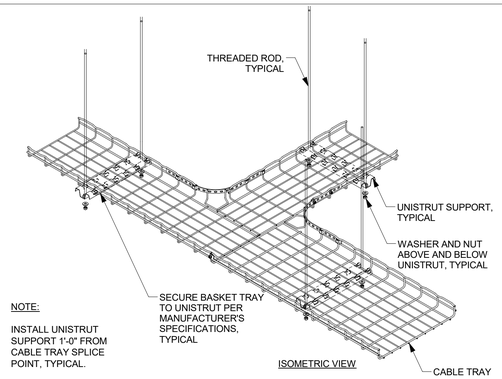
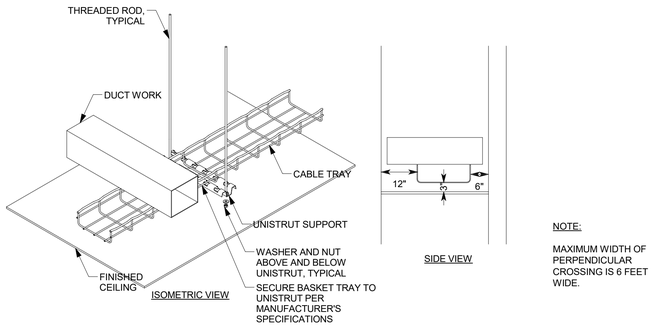


A2 CABLE TRAY INTERSECTION WITH SUPPORTS

NO SCALE



A4 TYPICAL CABLE TRAY WITH PERPENDICULAR CROSSING

NO SCALE

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SALT LAKE CITY, UT 84112

STAMP

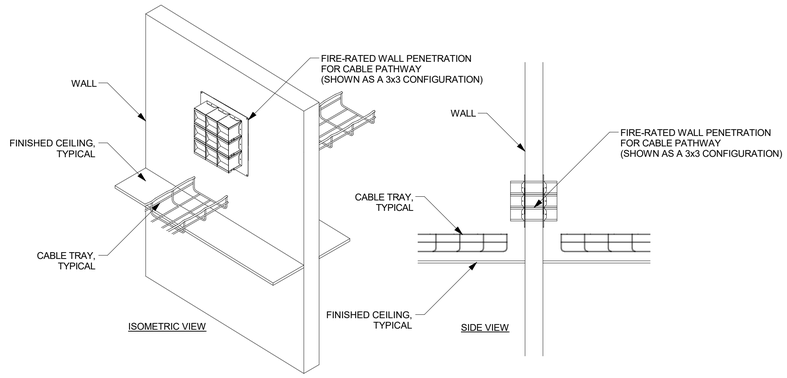
LICENSED PROFESSIONAL ENGINEER
No. 7057918
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM DETAILS

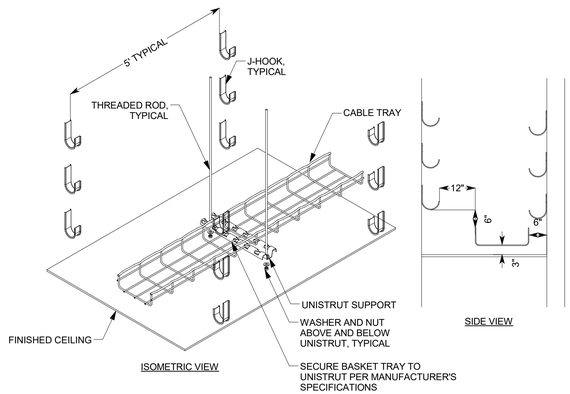
ET504

3/31/2022 3:43:01 PM
C:\Users\sjtaylor\Documents\21-009_East Area 2-1_sjtaylor.rvt



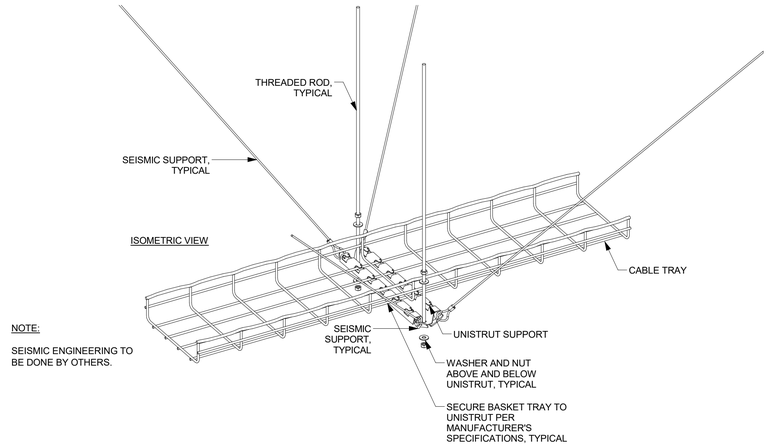
C4 TYPICAL CABLE TRAY WITH WALL PENETRATION DETAIL

NO SCALE



A2 TYPICAL CABLE TRAY WITH J-HOOK INSTALL

NO SCALE



NOTE:

SEISMIC ENGINEERING TO BE DONE BY OTHERS.

A4 CABLE TRAY WITH SEISMIC SUPPORTS

NO SCALE

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UNIVERSITY OF UTAH - HPER COMPLEX EAST LAB BUILDOUT

250 S 1850 E
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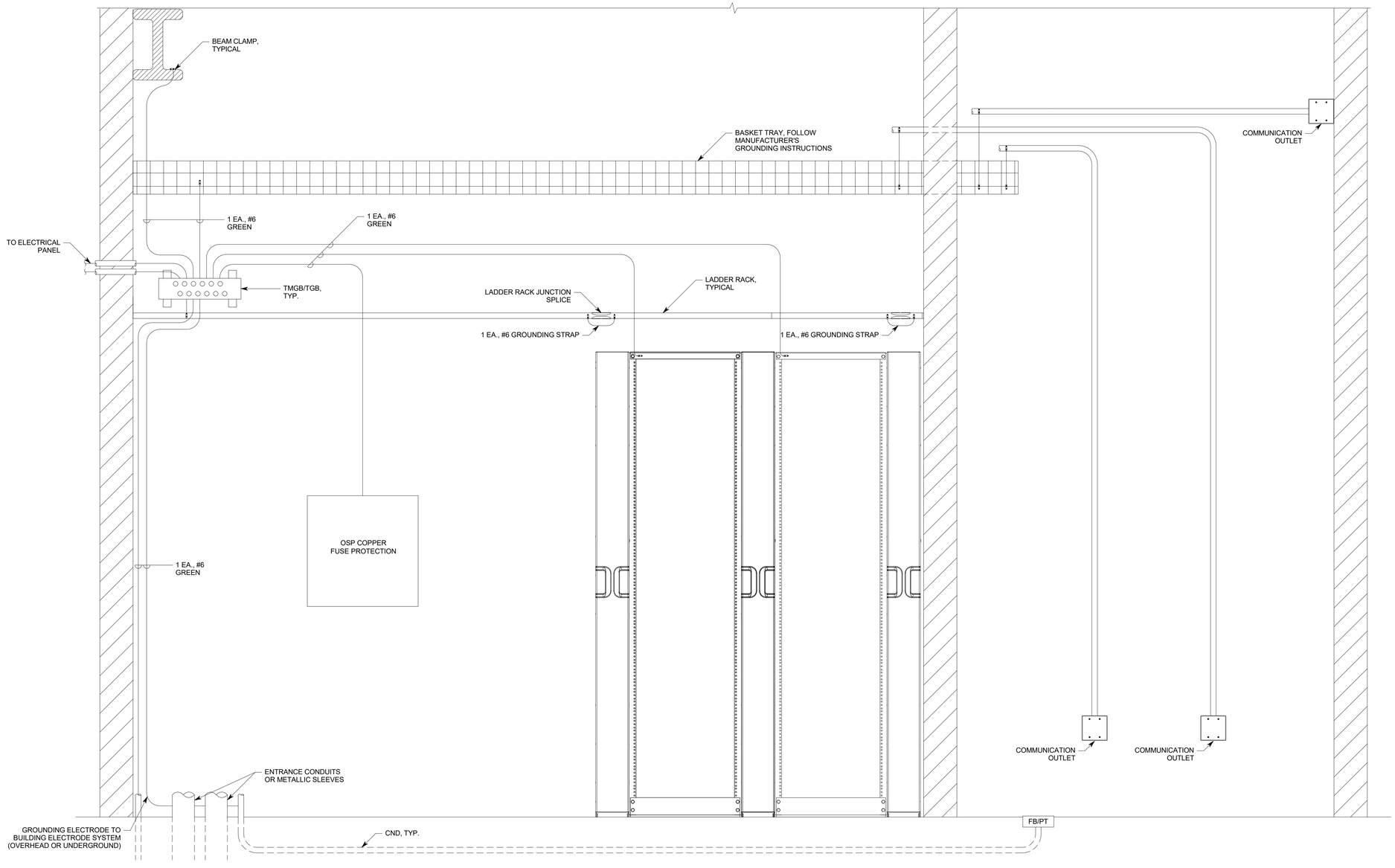
TELECOM DETAILS

ET505

BIM 360 (R20) - East Plaza 21016 Rac Checks.rvt@jdavis.engineer.com.rvt
1/31/2022 2:54 PM

GENERAL NOTES:

1. ALL LOW VOLTAGE COMMUNICATIONS CONDUIT SHALL BE GROUNDED TO BASKET TRAY OR TELECOMMUNICATIONS GROUNDING BUS BAR.
2. "TMGB" SHOULD BE 1/4"x4"x24".
3. "TGB" SHOULD BE 1/4"x2"x24".
4. EMT CONDUIT GROUNDING CLAMP SHOULD BE ELECTROLYTIC CAST BRONZE. PANDUIT PART NUMBER GPL-"X"-"X", OR EQUAL.
5. RIGID CONDUIT GROUND CLAMP SHOULD BE O-Z/GEDNEY BLG-XXXX, OR HBLG-XXXX, OR EQUAL.
6. GROUNDING LUGS SHOULD BE TWO HOLE LONG BARREL LUGS. PANDUIT PART NUMBER LCC6, OR EQUAL.



A1 TELECOM EQUIPMENT RACK GROUNDING DETAIL

NO SCALE

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LICENSED PROFESSIONAL ENGINEER
No. 7057913
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
1	

PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM EQUIPMENT RACK GROUNDING DETAIL

ET506

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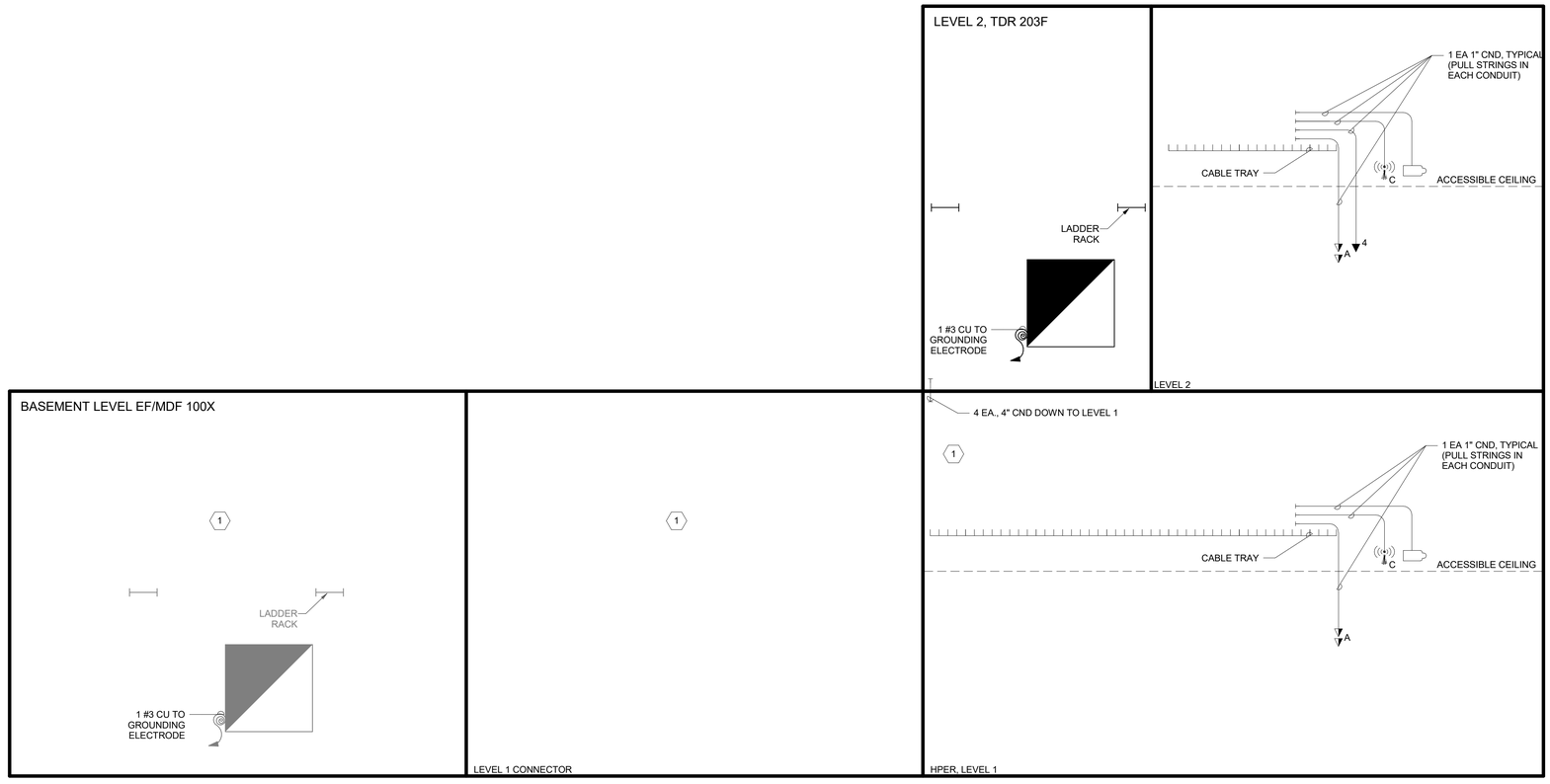
SHEET KEYNOTES

1. CONTRACTOR TO VERIFY EXISTING PATHWAY TO BURBIDGE TR FOR BACKBONE CABLE INSTALLATION.



A1 TELECOM CONDUIT RISER DIAGRAM

NO SCALE

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LICENSED PROFESSIONAL ENGINEER No. 7057918 CARLTON A. GETZ 01/31/2022 STATE OF UTAH

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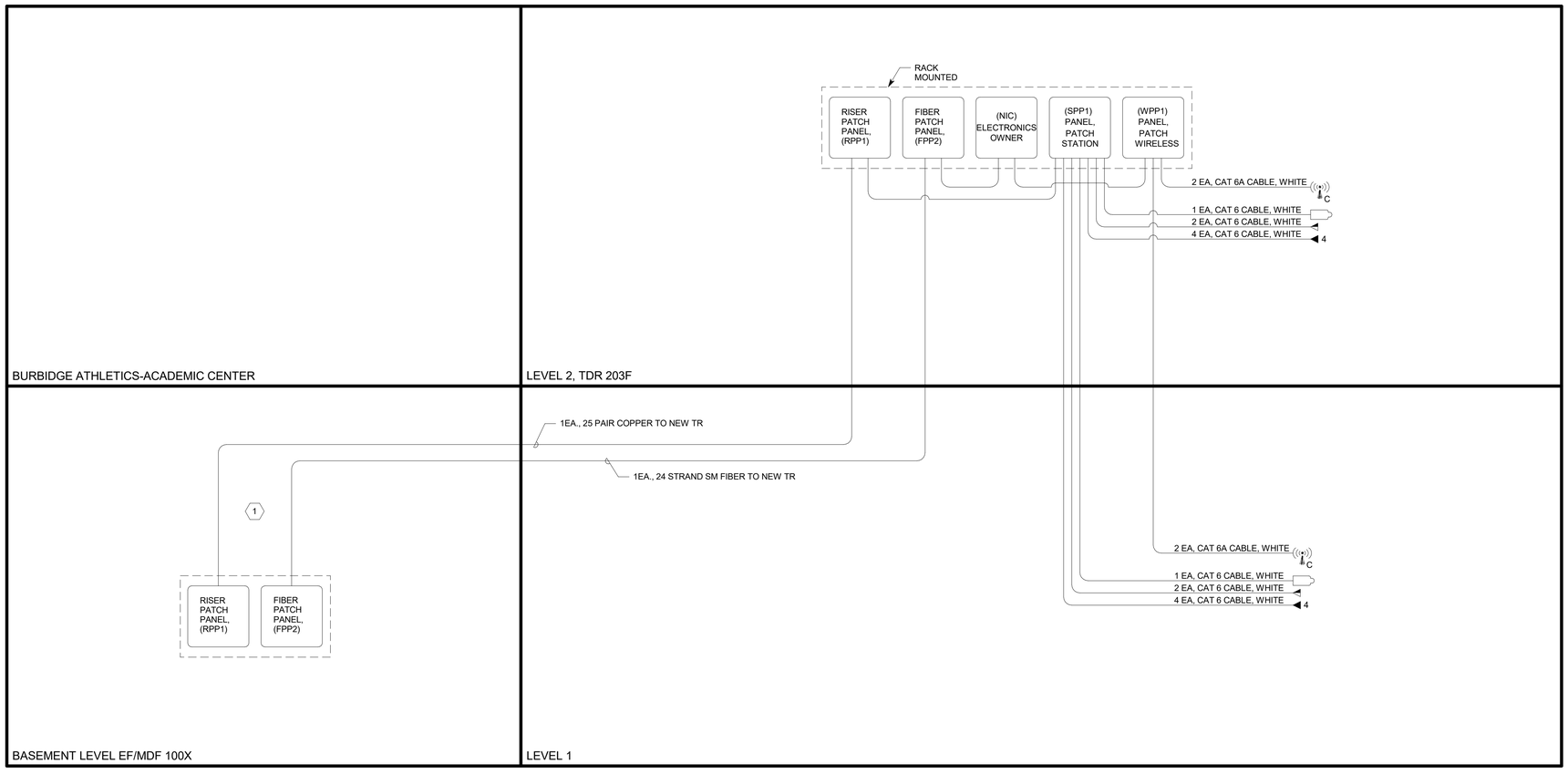
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM CONDUIT RISER DIAGRAM

ET601

SHEET KEYNOTES

1. CONTRACTOR TO VERIFY LENGTH OF BACKBONE CABLE TO BURBIDGE BUILDING PRIOR TO BID.



A1 TELECOM CABLE RISER DIAGRAM

NO SCALE

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SALT LAKE CITY, UT 84112

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No. 7057913
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022
PROJECT NUMBER:	21-009
DRAWN BY:	SJT
CHECKED BY:	JDA

TELECOM CABLE RISER DIAGRAM

ET602

Mon,2021 2:56 PM

GENERAL SHEET NOTES

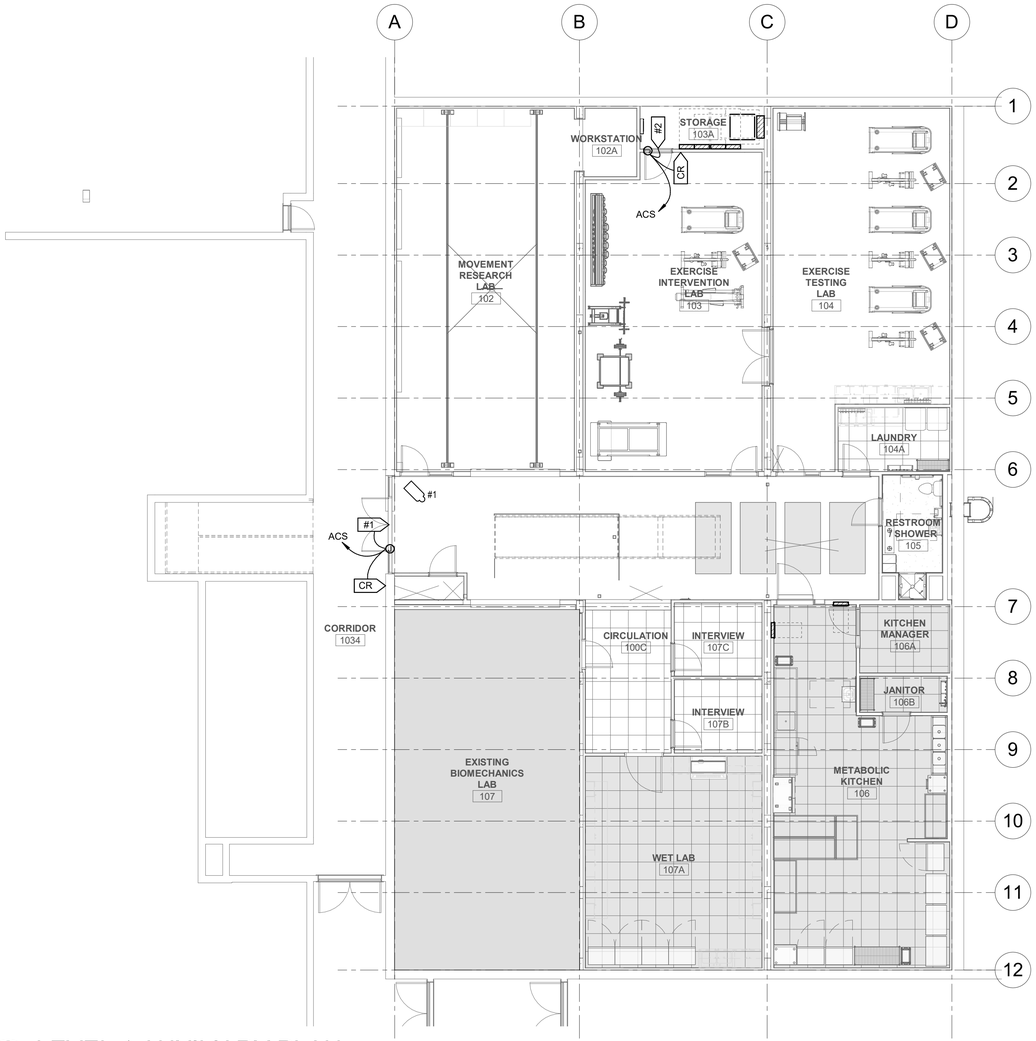
⬡ SHEET KEYNOTES

1 PROVIDE RECESSED COMBINATION SPEAKER/MICROPHONE INTERCOM STATION (LOUROE ELECTRONICS TLM-E). PROVIDE CONTROL CABLES BACK TO CONTROL ROOM PER MANUFACTURER INSTALLATION INSTRUCTIONS. COORDINATE EXACT MOUNTING HEIGHT WITH OWNER IN FIELD.

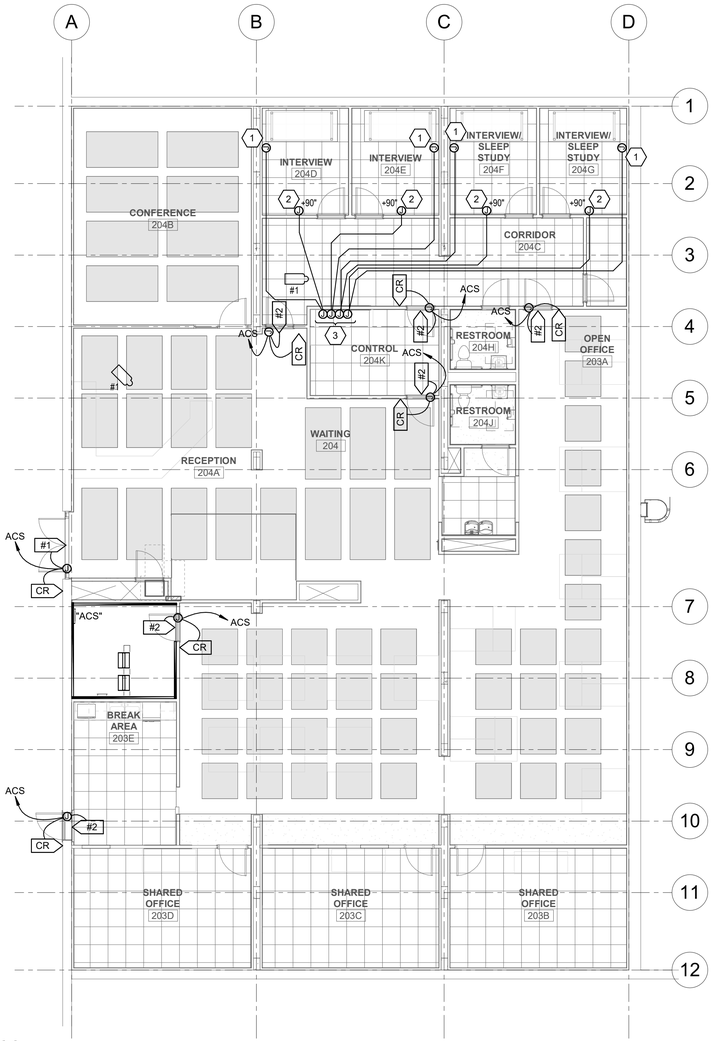
2 PROVIDE JUNCTION BOX FOR CONNECTION TO CAMERA. PROVIDE CONTROL CABLES BACK TO CONTROL ROOM.

3 PROVIDE JUNCTION BOX BELOW COUNTER FOR SINGLE INTERCOM BASE STATION. PROVIDE INTERCOM BASE STATION (LOUROE ELECTRONICS AP-1TB) AND ASSOCIATED CABLING CONNECTIONS.

⬡ SHEET KEYNOTES



1 LEVEL 1 AUXILIARY PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 AUXILIARY PLAN
SCALE: 1/8" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
No. 10579B
CARLTON A. GETZ
01/31/2022
STATE OF UTAH

ISSUE	DATE:
PERMIT SET	01/31/2022

PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

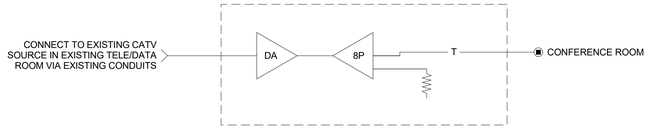
LEVELS 1 & 2 AUXILIARY PLANS

EY101

BIM 360:/HPER - East Phase 2 21-009 Files Central model/Buildout_engineers.com.rvt
2/1/2022 7:55:27 AM

TV DISTRIBUTION EQUIPMENT LIST

SYMBOL	DESCRIPTION	QTY	ACCEPTABLE TYPES
8P	MULTI-PORT SPLITTER	OFP	2-PORT BLONDER TONGUE SXRS-2 4-PORT BLONDER TONGUE SXRS-4 8-PORT BLONDER TONGUE SXRS-8
DA	BROADBAND AMPLIFIER	OFP	BLONDER TONGUE BIDA 75A-43P
	WALL TAP PLATE	OFP	BLONDER TONGUE VERSATAP SERIES MODEL V-1GF-FT W/ COVER PLATE
	RF TERMINATOR	A/R	75 OHM TERMINATOR
T	COAXIAL CABLE, HORIZONTAL DROP	A/R	RG-6 (SEE SPECIFICATIONS)
TR	COAXIAL CABLE, TRUNK	A/R	RG-11 (SEE SPECIFICATIONS)



NOTES:
1. TERMINATE ALL UNUSED DEVICE PORTS WITH 75 OHM TERMINATING CONNECTORS.
2. ALL TV OUTLET JACKS SHALL PROVIDE AT LEAST +2dBmV OF VIDEO SIGNAL.

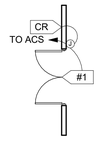
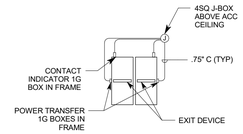
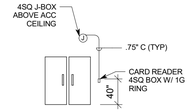
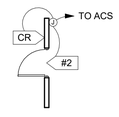
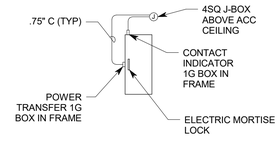
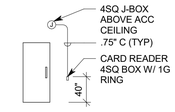
NOTES

1. PROVIDE RACEWAY AND EQUIPMENT AS INDICATED FOR CARD ACCESS DOOR TYPE INDICATED. REFER TO SECTION 281300 AND CARD ACCESS LOCK CONTROL DETAILS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE CONCEALED .75" C TYPICAL FOR LINES SHOWN TO DEVICE BOXES ON PROTECTED SIDE AND UNPROTECTED SIDE ELEVATIONS.
3. CONFIRM CORRECT CARD ACCESS DOOR RACEWAY, LOCK VOLTAGE, AND EXIT SWITCH CURRENT RATING (2 AMPS MIN.) WITH DIV. 8 FURNISHED CARD ACCESS DOOR HARDWARE PER DIV. 8 DOOR HARDWARE SPECIFICATIONS.
4. LOCATE CARD READER BOX AS INDICATED ON FLOOR PLANS. RACEWAY AND BOXES BY DIV. 26. REFER TO 281300 FOR CARD ACCESS SYSTEM REQUIREMENTS.
5. DOUBLE 4SQ J-BOX ON PROTECTED SIDE OF DOORWAY (SIDE OPPOSITE OF CARD READER) ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATION. PROVIDE COVER FOR J-BOX.
6. ELECTRIC LOCKING HARDWARE (MAG LOCKS, ELECTRIC STRIKES, POWER TRANSFER HINGES, ETC.) BY DIV 8. REVIEW DOOR HARDWARE FURNISHED AND VERIFY LOCK VOLTAGES AND OPERATIONAL FUNCTIONALITY OF LOCKS. CONTACT ENGINEER WITH QUESTIONS OR CONCERNS.

ABBREVIATIONS

1G = 1-GANG OR SINGLE GANG
4SQ = FOUR SQUARE JUNCTION BOX
AO = AUTO OPENER
A/R = AS REQUIRED
ACC = ACCESSIBLE
ACS = ACCESS CONTROL SYSTEM CONTROLLER
ADA = ASSISTED DISABILITY OPENER
AED = ELECTRIC EXIT DEVICE/CR COMBO ON DOOR
AEL = ELECTRIC LOCK/CR COMBO ON DOOR
C = CONDUIT
CI = DOOR CONTACT INDICATOR SWITCH
CR = CARD READER
DH = DOOR HARNESS
DBL = DOUBLE
DED = DELAYED EXIT DEVICE
DIR = DIRECTION
ED = EXIT DEVICE
EH = ELECTRIC HINGE
EL = ELECTRIC LOCKSET
ES = ELECTRIC STRIKE
EDL = ELECTRIC DEADLATCH
EED = ELECTRIFIED EXIT DEVICE
ELC = EMERGENCY LOCK CONTROL
EPT = ELECTRIC POWER TRANSFER
FA = FIRE ALARM SYSTEM
FH = FRAME HARNESS
HDWR = HARDWARE
IDS = INTRUSION DETECTION SYSTEM
KS = KEY SWITCH
LS = LOCK INDICATOR SWITCH IN HARDWARE
LX = PANIC HARDWARE LATCH POSITION SWITCH
L/PS = LOCK POWER SUPPLY
MD = MOTION DETECTOR
MHO = MAGNETIC HOLD OPEN
ML = ELECTROMAGNETIC LOCK
OCC = OCCUPANCY
OFP = OBTAIN FROM PLANS
PB = PUSH BUTTON RELEASE
PH = PANIC HARDWARE
PP = PUSH PAD ACTUATOR
PS = POWER SUPPLY
PED = POE EXIT DEVICE
PEL = POE ELECTRIC LOCKSET
PIB = INTERFACE BOARD FOR COMBO LOCKING HARDWARE
PWR = POWER
QTY = QUANTITY
RS = REMOTE OPEN SWITCH
REX = REQUEST TO EXIT SWITCH/FUNCTION
TLC = TIME/SYSTEM LOCK CONTROL
TYP = TYPICAL
W/ = WITH

CARD ACCESS DOOR TYPE SCHEDULE

DOOR TYPE #	SYMBOL	DESCRIPTION	PROTECTED SIDE ELEVATION	UNPROTECTED SIDE ELEVATION	LOCK TYPE(S)	DIVISION OF WORK AND COMMENTS
TYPE 1	 HARDWARE SET(S): TBD	DOUBLE DOOR, 1 CARD READER, PANIC HARDWARE			ELECTRIC EXIT DEVICE	SECURITY CONTRACTOR PROVIDES: • CR, L/PS, CI HARDWARE CONTRACTOR PROVIDES: • EED, EPT LOCK CONTROLLED BY: • CR
TYPE 2	 HARDWARE SET(S): TBD	SINGLE DOOR, 1 CARD READER, FREE EGRESS			ELECTRIC LOCKSET	SECURITY CONTRACTOR PROVIDES: • CR, L/PS, CI, HARDWARE CONTRACTOR PROVIDES: • EL, EPT LOCK CONTROLLED BY: • CR

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SALT LAKE CITY, UT 84112

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PROJECT NUMBER:	21-009
DRAWN BY:	Author
CHECKED BY:	Checker

AUXILIARY RISER DIAGRAMS

EY601

BIM 360 DOCS - Exp/Revit 21/21EY601a-Cartes-mg$author.mgr@spectrum-engineers.com.rvt
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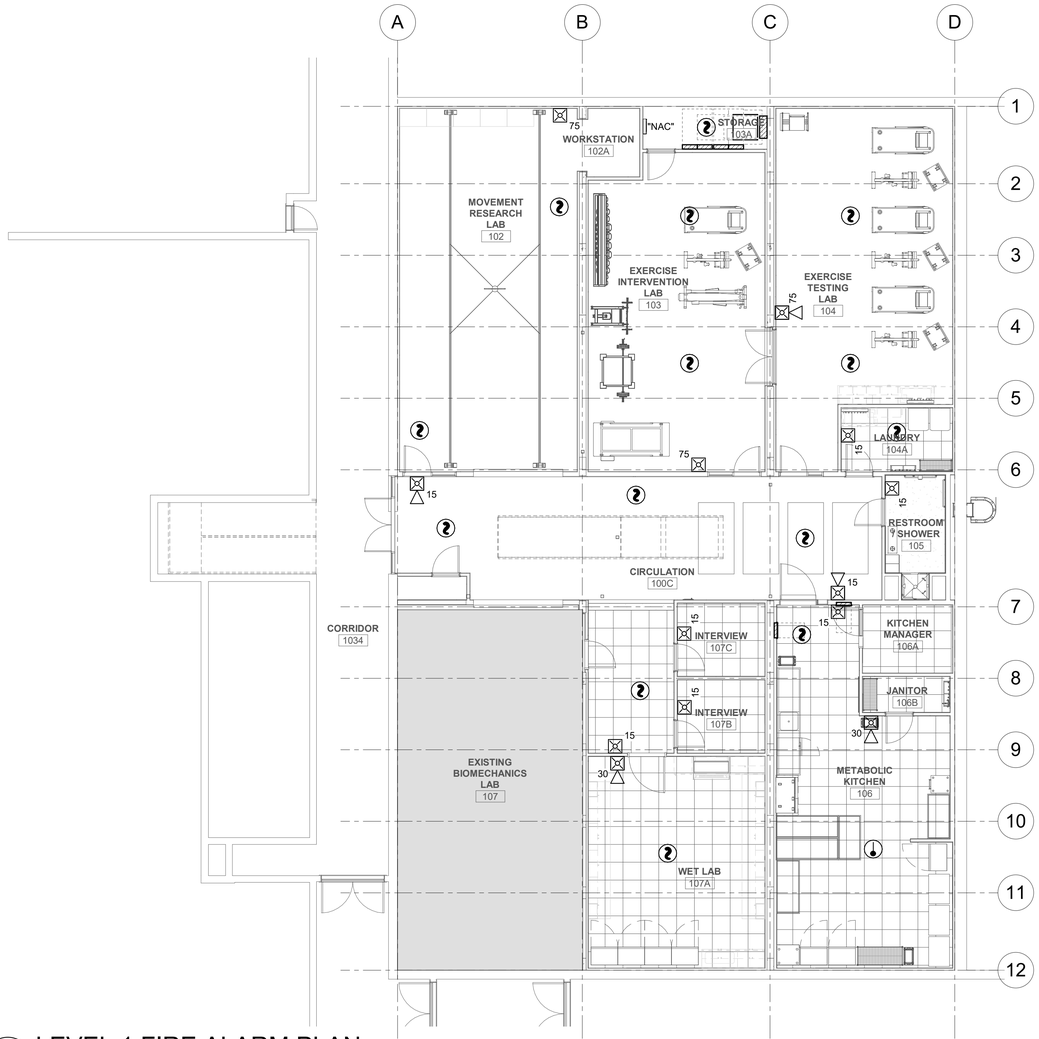
GENERAL SHEET NOTES	⬡ SHEET KEYNOTES	⬡ SHEET KEYNOTES



1 LEVEL 1 FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 2 FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

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DRAWN BY:	Author
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LEVELS 1 & 2 FIRE ALARM PLANS

FA101

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