10/9/2020 4:09:46 PM

Saint Luke's East Hospital

FLEX CAPACITY PHASE II
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

P R O J E C T T E A M

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McCownGordon Construction

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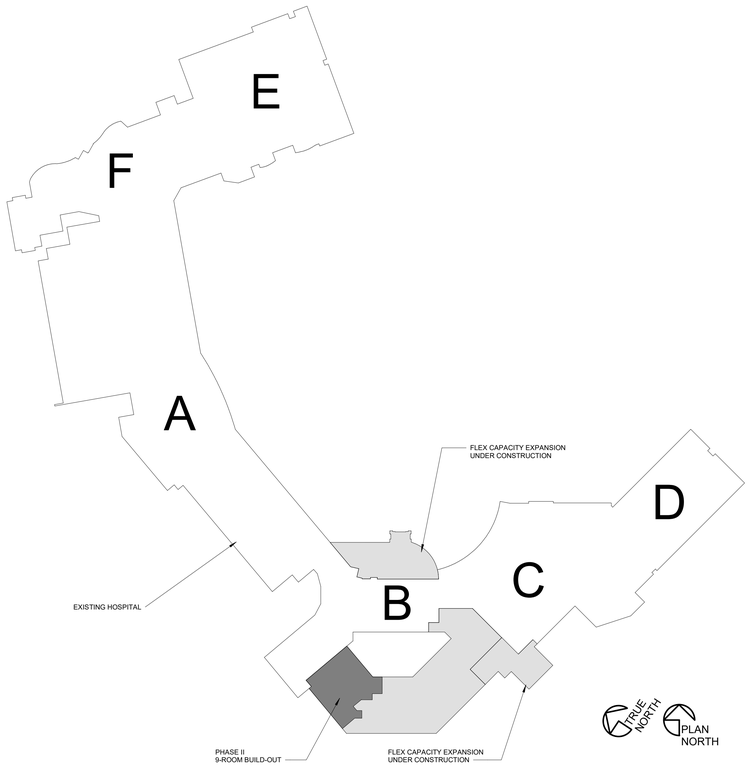
ABBREVIATIONS

AC.	ACOUSTIC/ACOUSTICAL
ADD.	ADDENDUM
ADDN.	ADDITION
ABC.	AGGREGATE BASE COURSE
AFF.	ABOVE FINISH FLOOR
AGG.	AGGREGATE
A/C	AIR CONDITIONING
AL.	ALUMINUM
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
&	AND
ARCH.	ARCHITECT
ASP.	ASPHALT
@	AT
ACT	ACOUSTIC CEILING TILE/PANEL
∠	ANGLE
BLKG.	BLOCKING
BSMT.	BASEMENT
BM.	BEAM
B.M.	BENCHMARK
BD.	BOARD
B.O.	BOTTOM OF
BLDG.	BUILDING
CAB'T.	CABINET
C.I.P.	CAST IN PLACE
C.B.	CATCH BASIN
CLG.	CEILING
CEM.	CEMENT/CEMENTITIOUS
CG.	CENTIGRAM
CM	CENTIMETER
CL.	CENTER LINE
CER.	CERAMIC
C.T.	CERAMIC TILE
CHAN.	CHANNEL
C	CHANNEL
CLR.	CLEAR
C.O.	CLEAN OUT
CLOS.	CLOSET
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
C.J.	CONTROL JOINT CONSTRUCTION JOINT
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CORR.	CORRUGATED
CTR.	COUNTER
CTSK.	COUNTERSUNK
C.M.U.	CONCRETE MASONRY UNIT
D.P.	DAMP PROOFING
DB.	DECIBEL
DIAG.	DIAGONAL
DIAM.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DWL.	DOWEL
DN.	DOWN
D.S.	DOWNSPOUT
DWG.	DRAWING
EA.	EACH
ELEC	ELECTRIC
E.W.C.	ELECTRIC WATER COOLER
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXPAN.	EXPANSION
E.J.	EXPANSION JOINT
EXIST.	EXISTING
EXT.	EXTERIOR
FT.	FEET / FOOT
FIN.	FINISH
FIXT.	FIXTURE
FL.	FLASHING
FLR.	FLOOR
F.D.	FLOOR DRAIN
FLUOR.	FLUORESCENT
FTG.	FOOTING
FND.	FOUNDATION
FR.	FRAME
F.H.C.	FIRE HOSE CAB.
F.V.	FIELD VERIFY
GA.	GAUGE
GL.	GLASS / GLAZING
GD.	GRADE
G.	GRAM
GRL.	GRILLE
GRD.	GRID
GND.	GROUND
G.S.	GALVANIZED STEEL
GYP.	GYPSUM
GWB/G.B.	GYPSUM BOARD
H.R.	HAND RAIL
HDN.	HARDENER
HDW.	HARDWARE
HDWD.	HARDWOOD
HTR.	HEATER
HT.	HEIGHT
H.P.	HIGH POINT
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIB
H.W.	HOT WATER
IN.	INCH / INCHES
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT.	JOINT
JST.	JOIST
K.P.	KICK PLATE
LAM.	LAMINATED
LB.	POUND
LDG.	LANDING
LTH.	LATH
LAV.	LAVATORY
LG.	LENGTH
LOC.	LOCATION
LT.	LIGHT
L.W.C.	LIGHT WEIGHT CONCRETE
LVR.	LOUVER
LOC.	LOCATION
M.O.	MASONRY OPENING
MAT'L.	MATERIAL
MFR.	MANUFACTURER
MB.	MARKER BOARD
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
M.L.	METAL LATH
M.	METER
MIN.	MINIMUM
MLDG.	MOLDING
MULL.	MULLION
N.G.	NATURAL GRADE
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. / #	NUMBER
OBS.	OBSCURE
O.C.	ON CENTER
OPNG.	OPENING
O.A.	OVERALL
O.D.	OUTSIDE DIAMETER
O.F.S.	OVERFLOW SCUPPER
O.F.D.	OVERFLOW DRAIN
O.H.D.	OVERHEAD DOOR
PTD.	PAINTED
PG.	PAGE
PLAM.	PLASTIC LAMINATE
PR.	PAIR
PNL.	PANEL
PTN.	PARTITION
¢	PENNY
PL	PLATE
PLBG.	PLUMBING
PLYWD.	PLYWOOD
PT.	POINT
P.S.I.	POUNDS PER SQ. IN.
P.S.F.	POUNDS PER SQ. FT.
P.C.	PRECAST
P.L.	PROPERTY LINE
R.	RISER, RISERS
RAD.	RADIUS
R.D.	ROOF DRAIN
RB.	RESILIENT BASE
RE.	REFER TO
REG.	REGISTER
REQ'D.	REQUIRED
REV.	REVISION
RF'G.	ROOFING
RGH.	ROUGH
RM.	ROOM
RND.	ROUND
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.C.	SEALED CONCRETE
SCR.	SCREW
SECT.	SECTION
SEL.	SELECT
SHG.	SHEATHING
SHT.	SHEET
SDG.	SIDING
SIM.	SIMILAR
SLDG.	SLIDING
SM.	SMOOTH
SPEC.	SPECIFICATION
SQ.	SQUARE
ST.	STAINED
STD.	STANDARD
S.S. / ST.STL.	STAINLESS STEEL
STRUC.	STRUCTURE
SUSP.	SUSPENDED
SW.BD.	SWITCHBOARD
SYS.	SYSTEM
T.	TREAD
T.C.	TOP OF CURB
T.G.	TEMPERED GLASS
T.O.	TOP OF
T.S.D.	TOP OF STEEL DECK
T.W.	TEACHERS WARDROBE
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V.	VENT
VERT.	VERTICAL
V.G.	VERTICAL GRAIN
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
VCP	VITREOUS CLAY PIPE
W.W.M.	WELDED WIRE MESH
W.C.	WATER CLOSET
W.H.	WATER HEATER
W.F.	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD.	WOOD
WDW.	WINDOW
W.W.	WINDOW WALL

LOCATION PLAN



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A3.1.1	REFLECTED CEILING PLAN	
A4.2.1	ROOM FINISH SCHEDULE & FINISH PLAN	
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E3.2	ENLARGED ELECTRICAL PLANS	
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(PREVIOUSLY APPROVED UNDER PRCOM20200845)

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT
10.09.2020

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00127265

Saint Luke's East Hospital
Flex Capacity Phase II
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	10.09.2020
Job Number	3-19092
Drawn By	SL
Checked By	AD / BD

Revision

Number	Date	Description
42	10.09.20	PR 6

PERMIT SUBMITTAL 10.09.2020

A0.0.1

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COVER SHEET

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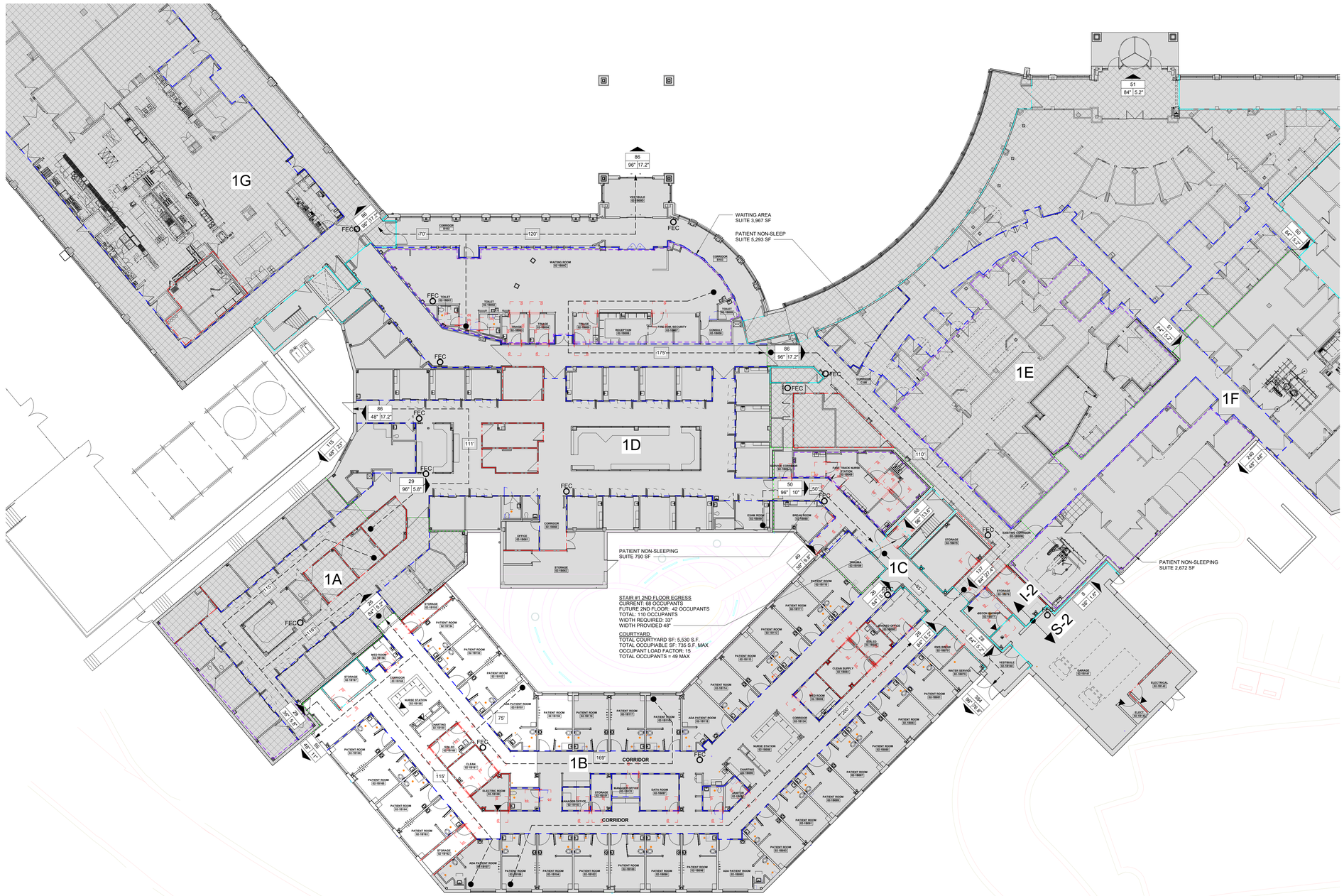

A1 LIFE SAFETY PLAN - PHASE II
1/16" = 1'-0"

LIFE SAFETY LEGEND

- OCCUPANT LOAD
- EXIT WIDTH PROVIDED
- EXIT WIDTH REQUIRED
- EXIT
- FEC — NEW FIRE EXTINGUISHER CABINET W/ 75' TRAVEL DISTANCE BETWEEN
- FEC — EXISTING FIRE EXTINGUISHER CABINET W/ 75' TRAVEL DISTANCE BETWEEN
- AREA NOT IN SCOPE OF CONSTRUCTION
- SUITE BOUNDARY
- 0 HR SMOKE PARTITION (SMOKE RESISTIVE)
- 1 HR SMOKE BARRIER
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR FIRE SMOKE BARRIER
- 3 HR FIRE BARRIER

SMOKE COMPARTMENT

1A	EXISTING: 5,769 SF. OCCUPANT LOAD: 5,773/100 = 58
1B	NEW: 18,439 SF. OCCUPANT LOAD: 18,337/240 = 77
1C	NEW: 6,652 SF. OCCUPANT LOAD: 6,652/240 = 28
1D	EXISTING: 19,051 SF. OUT-PATIENT: 16,362/100 = 164 OCC WAITING AREA: 2,689/15 = 180 OCC TOTAL OCCUPANTS: 344 OCC
1E	EXISTING: 20,175 SF. OCCUPANT LOAD: 20,175/100 = 202 OCC
1F	EXISTING: 9,830 SF. OCCUPANT LOAD: 9,830 SF/100 = 99 OCC
1G	EXISTING: 16,039 SF. OCCUPANT LOAD: 16,039/100 = 161 OCC

CODE SUMMARY

Project Construction Purpose: Interior build-out of the shell space in the flex capacity expansion which is currently under construction.

Project Address: 100 NE Saint Luke's Boulevard

Owner Information
Saint Luke's East Hospital
100 NE Saint Luke's Boulevard
Lee's Summit, MO 64086

Designer Information
ACI Boland Architects
1710 Wyandotte St.
Kansas City, MO 64108
Phone: (816) 763-9600
Fax: (816) 763-9757

Code Information
2018 International Building Code
2018 International Plumbing Code
2018 International Mechanical Code
2018 International Fuel Gas Code
2018 International Fire Code
2017 National Electrical Code
2009 ICC/ANSI A117.1 as amended and adopted by the City of Lee's Summit

State of Missouri Dept. of Health & Environment references the following codes:
2012 NFPA 101 Life Safety Code (LSC)
2014 FGI Guidelines for Design & Construction of Hospitals & Outpatient Facilities

Note: If code requirements overlap, the most stringent shall apply. All code summary references list
IBC section numbers. NFPA section numbers are in parentheses after or below.

Local Authority
Responding Fire Service: Lee's Summit Fire Department
Local Building Inspection: Lee's Summit, MO -Codes Administration Department

Type of Construction: Type 1-A - Section 602.2 (Type I - 332 Sprinklered - Section 18.1.6.1)

Building Occupancy Group: I-2 - Section 308.3 (Healthcare - Section 6.1.5) S-2 - Section 311.3

Area of construction:
Area of Addition: 5,385sf
In-Patient: 5,385sf

Occupant Load Factor: Table 1004.5 (Table 7.3.1.2)
In-Patient: 240 gross

Occupant Load:
In-Patient: 5,385/240 = 23 Occupants

Required Egress Width Per Occupant Served: Section 1005.3.1 & 1005.3.2 (Table 7.3.3.1)
Stairways: .3"/Occupant N/A
Other: .2"/Occupant 60.6" required; 384" provided

Required Fire Resistance Ratings (in hours): Table 601 (Table A.8.2.1.2)

Exterior Bearing Walls	3 HR
Interior Bearing Walls	3 HR
Exterior Non-bearing Walls	0 HR
Interior Non-bearing Walls	0 HR
Primary Structural Frame	3 HR
Shaft Enclosure	2 HR
Floor Construction	2 HR
Roof Construction	1 1/2 HR
Stairway Enclosure	2 HR (IBC 1023.2)

Corridor Wall Construction: Section 407.3 (Section 18.3.6.2.3) Smoke Partition

Exit Access Travel Distance: Table 1017.2 (Section 18.2.6.2.1) 200 ft.

Smoke Compartments: Section 407.5.1 (Section 18.3.7.1) 22,500 s.f. max.

Active Fire Safety Features:
- Fire Alarm System - The fire alarm system is specified as an addressable type system. The device type and locations are per the applicable codes as well as ADA requirements.

- Smoke Control System - All ductwork penetrating smoke rated walls will have a smoke or combination fire/smoke damper as indicated on construction documents. These dampers will close upon detection of smoke by the area smoke detectors or duct smoke detectors in the air handling units.

- Fire Sprinkler System - Specified to be per NFPA 13. The sprinkler heads are specified to be quick response type.

- Emergency Lighting and Power - Emergency lighting, life safety and critical loads will receive power from a backup generator located in basement energy center.

- Illuminated Exit Signs

STATE OF MISSOURI
SAMUEL K. BECKMAN
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PERMIT SUBMITTAL 10.09.2020

A0.1.1

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LIFE SAFETY PLAN

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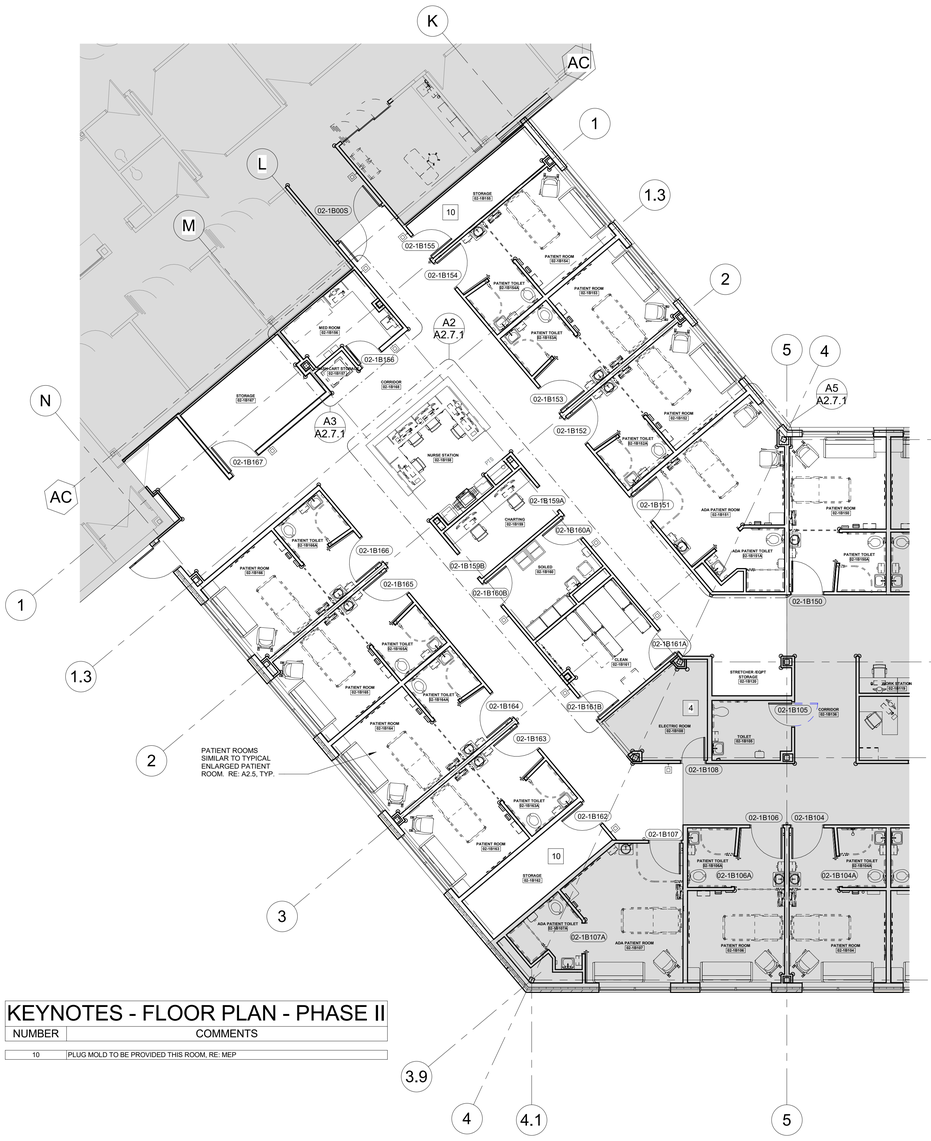
DOOR SCHEDULE - PHASE II

DOOR #	ROOM NAME	DOOR INFORMATION					FRAME INFORMATION		GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL		REMARKS	REVISION #
		WIDTH	HEIGHT	NO. OF LEAVES	ELEV.	MATL.	ELEV.	MATL.				HEAD	JAMB		
02-1B150	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B150A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B151	ADA PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B151A	ADA PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B152	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B152A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B153	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B153A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B154	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B154A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B155	STORAGE	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E5/A4.1	D4/A4.1	CARD READER	
02-1B156	MED ROOM	3'-0"	7'-0"	1	G	WD	1	HM	T	0 hr	13	E3/A4.1	E4/A4.1	CARD READER	
02-1B159A	CHARTING	4'-0"	7'-0"	--	--		1	HM	--		--	A3/A4.1	A3/A4.1		
02-1B159B	CHARTING	4'-0"	7'-0"	--	--		1	HM	--		--	A3/A4.1	A3/A4.1		
02-1B160A	SOILED	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E3/A4.1	E4/A4.1	CARD READER	
02-1B160B	SOILED	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E3/A4.1	E4/A4.1	CARD READER	
02-1B161A	CLEAN	3'-6"	7'-0"	1	N	WD	1	HM	FR	45 min	13	E3/A4.1	E4/A4.1	CARD READER	
02-1B161B	CLEAN	3'-6"	7'-0"	1	N	WD	1	HM	FR	45 min	13	E3/A4.1	E4/A4.1	CARD READER	
02-1B162	STORAGE	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E5/A4.1	D4/A4.1	CARD READER	
02-1B163	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B163A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B164	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B164A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B165	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B165A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B166	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3/A4.1	E4/A4.1		
02-1B166A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1		
02-1B167	STORAGE	4'-0"	7'-0"	1	F	WD	1	HM	FR	90 min	13	E3/A4.1	E4/A4.1	CARD READER	

DOOR SCHEDULE EXISTING - PHASE II

DOOR #	ROOM NAME	DOOR INFORMATION					FRAME INFORMATION		GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL		REMARKS	REVISION #
		WIDTH	HEIGHT	NO. OF LEAVES	ELEV.	MATL.	ELEV.	MATL.				HEAD	JAMB		
02-1B00S	CORRIDOR	3'-6"	7'-0"	2	N	WD	3	HM	FR	45 min	07	C3/A4.1	D3/A4.1	CARD READER	8

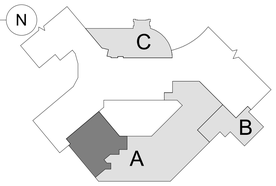
A5 DIMENSION PLAN - AREA A - PHASE II
1/8" = 1'-0"



A2 ANNOTATION PLAN - AREA A - PHASE II
1/8" = 1'-0"

KEYNOTES - FLOOR PLAN - PHASE II

NUMBER	COMMENTS
10	PLUG MOLD TO BE PROVIDED THIS ROOM, RE: MEP



KEY PLAN - AREA A - PHASE II
1" = 100'-0"

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Flex Capacity Phase II
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	SL
Checked By	AD / BR

Revision

Number	Date	Description
42	10.09.20	PR 6

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A2.1.1

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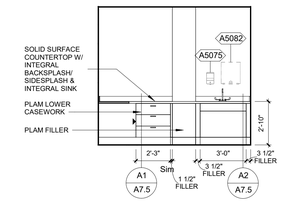
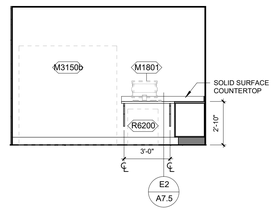
DIMENSION PLAN, ANNOTATION PLAN & DOOR SCHEDULE

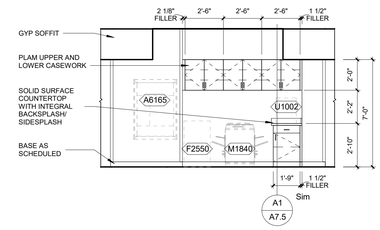
C:\Users\slimbocker\Documents\3-19092_SLE Flex Capacity Expansion_Central_slimbocker.rvt



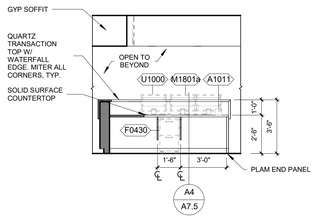
E3 02-1B156 - MED ROOM - NORTH
1/4" = 1'-0"



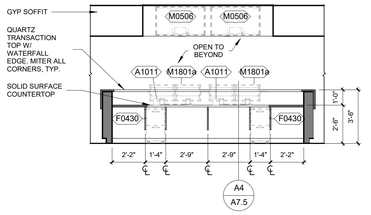
E2 02-1B156 - MED ROOM - WEST
1/4" = 1'-0"



E1 02-1B157 - NURSE STATION - EAST
1/4" = 1'-0"



D3 02-1B157 - NURSE STATION - NORTH
1/4" = 1'-0"



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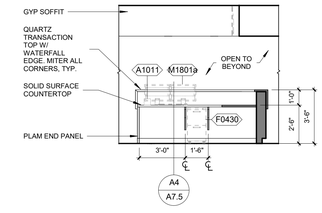
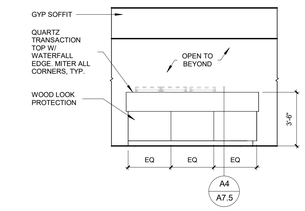
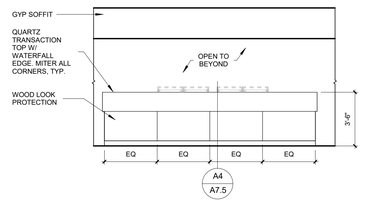
1/4" = 1'-0"



D1 02-1B157 - NURSE STATION - SOUTH
1/4" = 1'-0"



C3 02-1B157 - NURSE STATION - SOUTH A
1/4" = 1'-0"



C2 02-1B157 - NURSE STATION - EAST A
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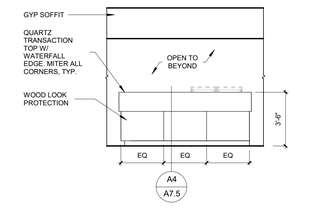
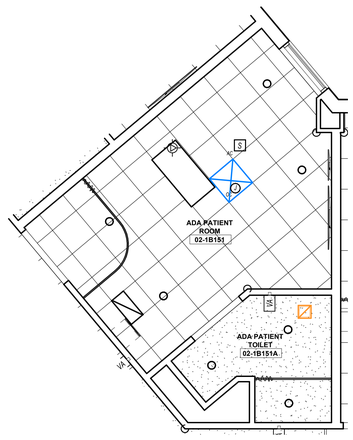
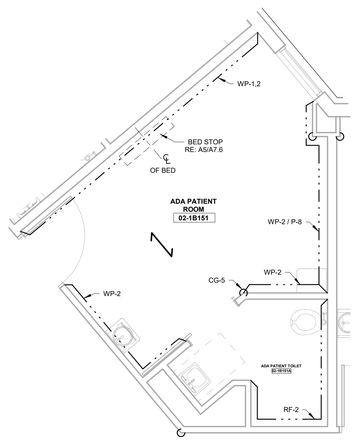


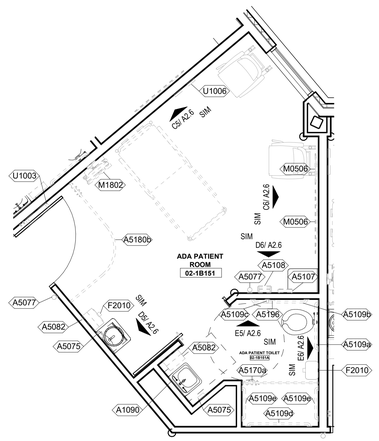
C1 02-1B157 - NURSE STATION - NORTH A
1/4" = 1'-0"



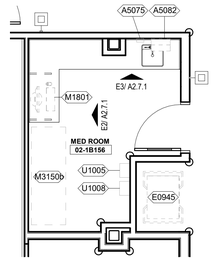
C5 02-1B151 - ADA PATIENT ROOM - ENLARGED RCP
1/4" = 1'-0"



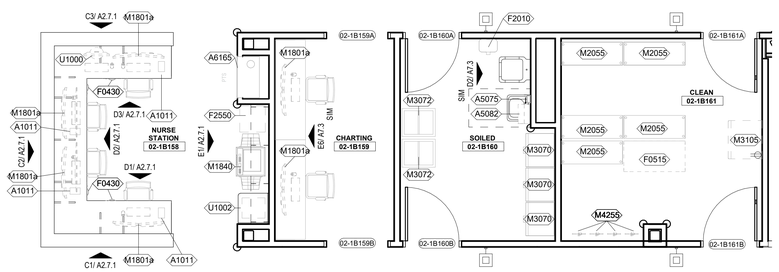
A6 02-1B151 - ADA PATIENT ROOM - FINISH PLAN
1/4" = 1'-0"



A5 02-1B151 - ADA PATIENT ROOM - ENLARGED PLAN
1/4" = 1'-0"



A3 02-1B156 MED ROOM - PHASE II
1/4" = 1'-0"



A2 STAFF CORE ENLARGED - PHASE II
1/4" = 1'-0"

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT
10.09.2020

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Flex Capacity Phase II
100 NE Saint Luke's Blvd
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ADA PATIENT ROOM, ENLARGED PLANS & INTERIOR ELEVATIONS

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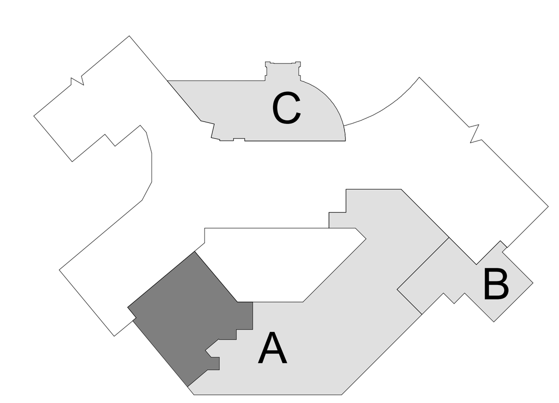
A3 REFLECTED CEILING PLAN - AREA A - PHASE II
1/8" = 1'-0"

TRUE NORTH PLAN NORTH



KEY PLAN - AREA A - PHASE II
1" = 100'-0"

CEILING LEGEND

- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2'X4' RECESSED/SURFACE LED LIGHT FIXTURE RE: ELECT
- 2'X2' RECESSED/SURFACE LED LIGHT FIXTURE RE: ELECT
- 4"X4' RECESSED/SURFACE LED LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- CJ — GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- 2X2/2x4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
- RETURN AIR OR EXHAUST GRILLE RE: MECH
- 9'-0" SOFFIT HEIGHT
- 9'-0" CEILING HEIGHT

GENERAL NOTES

1. THIS PLAN SHALL BE USED TO COORDINATE THE CEILING LAYOUT WITH MECHANICAL AND ELECTRICAL WORK. VERIFY THE EXACT QUANTITY REQUIRED.
2. CONTRACTOR TO REFER TO THE ELECTRICAL PLANS FOR ACTUAL LIGHTING SIZES AND FIXTURE TYPES.
3. SEE SPECIFICATIONS FOR CEILING TYPES.
4. REFER TO ARCHITECTURAL FLOOR PLANS FOR MATERIAL LEGEND OF ALL TYPES.
5. ALL CEILINGS SHALL BE 9'-0" AFF UNLESS OTHERWISE NOTED.

KEYNOTES - RCP - PHASE II

Number	Comments
10	ALL MANUAL ROLLER SHADES BY OTHERS, TYP. AT ALL EXTERIOR WINDOWS.
11	FACE OF SOFFIT TO BE SAME PAINT COLOR AS ADJACENT WALL.

10.09.2020

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REFLECTED CEILING PLAN

42

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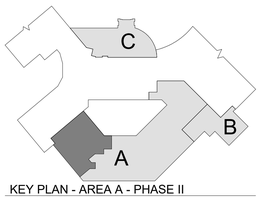
ROOM FINISH SCHEDULE - PHASE II

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS				CASEWORK			CEILING	NOTES	REVISION #
				NORTH	EAST	SOUTH	WEST	BASE CABINETS	UPPER CABINETS	COUNTERTOPS			
02-1B150	PATIENT ROOM	SV-3	RWB-1	P-1	WP-2 / P-1,8	WP-2 / P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B150A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2	RF-2	RF-2 / EP-1	-	-	-	EP-5		
02-1B151	ADA PATIENT ROOM	SV-3	RWB-1	P-1	WP-2 / P-1,8	WP-2 / P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B151A	ADA PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2 / EP-1	RF-2 / EP-1	-	-	-	EP-5		
02-1B152	PATIENT ROOM	SV-3	RWB-1	P-1	WP-2 / P-1,8	WP-2 / P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B152A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2	RF-2	RF-2 / EP-1	-	-	-	EP-5		
02-1B153	PATIENT ROOM	SV-3	RWB-1	P-1	WP-1.2 / P-1	WP-2 / P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B153A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2	RF-2	-	-	-	EP-5		
02-1B154	PATIENT ROOM	SV-3	RWB-1	P-1	WP-2 / P-1,8	WP-2 / P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B154A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2	RF-2	RF-2 / EP-1	-	-	-	EP-5		
02-1B155	STORAGE	CS-1	RWB-1	P-1	P-1	P-1	P-1	-	-	-	ACT-1		
02-1B156	MED ROOM	SV-1	IB-1	P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B157	CRASH CART STORAGE	LVT-2	RWB-1	WP-2 / P-7	-	WP-2 / P-7	WP-2 / P-7	-	-	-	P-7		
02-1B158	NURSE STATION	LVT-1	RWB-1	P-8	P-8	P-8	-	WP-1 / PL-1	-	SS-1 / QTZ-1	ACT-1 / P-7		
02-1B159	CHARTING	LVT-1	RWB-1	P-8	P-8	P-8	P-8	-	-	-	ACT-1 / P-8		
02-1B160	SOILED	SV-1	IB-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	-	-	-	ACT-3		
02-1B161	CLEAN	SV-1	IB-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	-	-	-	ACT-3		
02-1B162	STORAGE	CS-1	RWB-1	P-1	P-1	P-1	P-1	-	-	-	ACT-1		
02-1B163	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1,8	P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B163A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5		
02-1B164	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-1.2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B164A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5		
02-1B165	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1,8	P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B165A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5		
02-1B166	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-1.2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B166A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5		
02-1B167	STORAGE	CS-1	RWB-1	P-1	P-1	P-1	P-1	-	-	-	ACT-1		
02-1B168	CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		

FINISH FLOOR PLAN LEGEND	
	WALL TREATMENT
	FLOOR TRANSITION
	CORNER GUARD (CG-3, UNLESS OTHERWISE NOTED)
	FLOOR DIRECTION

FOR ALL FLOORING TRANSITIONS, REFER TO TYPICAL TRANSITION DETAILS ON SHEET A7.6, UNLESS NOTED OTHERWISE ON THIS PLAN.



KEY PLAN - AREA A - PHASE II
1" = 100'-0"

A2 FLOOR FINISH PLAN - PHASE II
1/8" = 1'-0"

TRUE NORTH
PLAN NORTH

STATE OF MISSOURI
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ARCHITECT
10.09.2020
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A4.2.1

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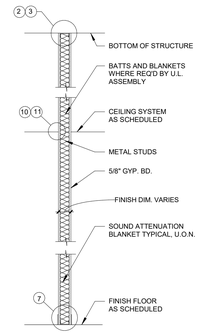
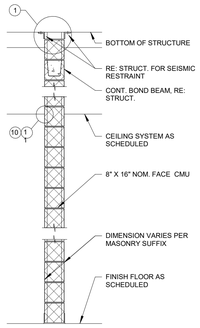
ROOM FINISH SCHEDULE & FINISH PLAN



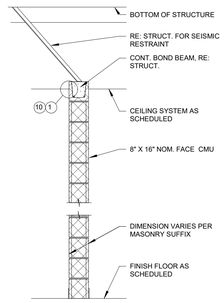
A GYPSUM BOARD BOTH SIDES
NON-RATED - TYPICAL
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
1 HOUR FIRE SEPARATION U.L. U465 FOR 3 5/8" STUDS U.L. U442 AT TILED WALLS U.L. U451 FOR 2 1/2" STUDS

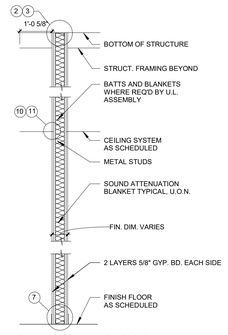


B CMU WALL TO STRUCTURE ABOVE
NON-RATED - TYPICAL
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
1 HOUR FIRE SEPARATION U.L. U905
2 HOUR FIRE SEPARATION U.L. U905
3 HOUR FIRE SEPARATION U.L. U901

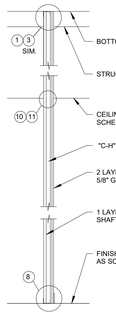


C CMU WALL CEILING HEIGHT
1/2" = 1'-0"



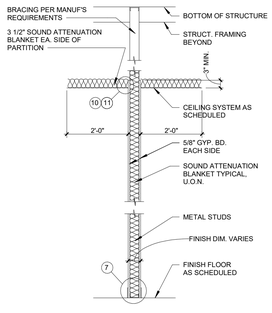
D **DOUBLE LAYER GYPSUM BOARD BOTH SIDES**
RATED - UNLESS OTHERWISE NOTED
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
2 HOUR FIRE SEPARATION U.L. U411 U443 AT TILED WALLS

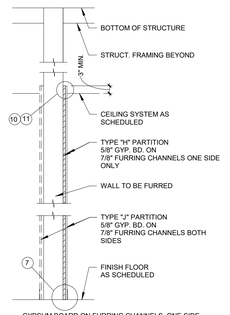


F GYPSUM BOARD CAVITY SHAFT WALL
RATED - UNLESS OTHERWISE NOTED
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
1 HOUR FIRE SEPARATION U.L. U469
2 HOUR FIRE SEPARATION U.L. U438

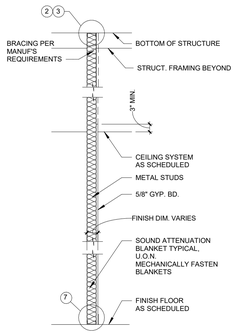


G GYPSUM BOARD CEILING HEIGHT
1/2" = 1'-0"



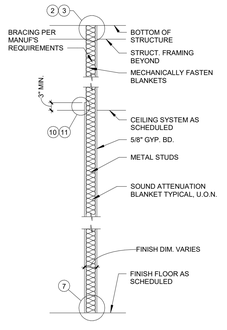
H GYPSUM BOARD ON FURRING CHANNELS, ONE SIDE
1/2" = 1'-0"

J GYPSUM BOARD ON FURRING CHANNELS, BOTH SIDE
1/2" = 1'-0"



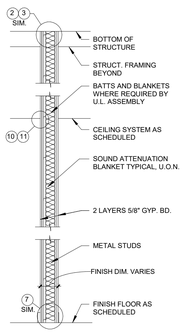
K GYPSUM BOARD ONE SIDE ONLY, CEILING HEIGHT
1/2" = 1'-0"

L GYPSUM BOARD ONE SIDE ONLY, FULL HEIGHT
1/2" = 1'-0"



P 0 HR PARTITION - GYPSUM BOARD TO STRUCTURE ON ONE SIDE, ABOVE CEILING ON OTHER
1/2" = 1'-0"

0 HR. SMOKE RESISTIVE



Q 5/8" GYP. BD. STC 60 SOUND PARTITION
NON-RATED - TYPICAL
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
1 HOUR FIRE SEPARATION U.L. U454
2 HOUR FIRE SEPARATION U.L. U454

PARTITION GENERAL NOTES

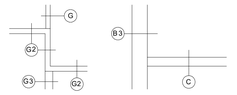
1. UNLESS NOTED OTHERWISE, ALL INTERIOR METAL STUDS ARE 3 5/8" THICK. REFER TO SUFFIX SCHEDULE BELOW FOR LOCATIONS OF METAL STUDS OTHER THAN 3-5/8" THICK. NOTE: STUD THICKNESS (GAUGE) MUST CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SPAN (HEIGHT OF STUD)
2. WHERE THE PARTITION TYPE INDICATION IS SHOWN WITH A NUMERICAL SUFFIX, THE METAL STUD THICKNESS SHALL BE AS SCHEDULED BELOW:

SUFFIX	MTL. STUD THICKNESS
1	1-5/8" MTL. STUDS
2	2-1/2" MTL. STUDS
3	6" MTL. STUDS
4	(2) 6" MTL. STUDS

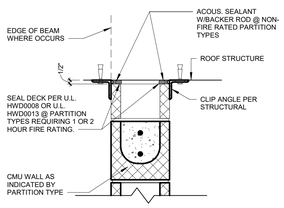
3. UNLESS NOTED OTHERWISE, ALL INTERIOR DRYWALL PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'A' PARTITIONS. WHERE OCCURS, RATINGS ARE AS INDICATED ON THE LIFE SAFETY PLANS.
4. UNLESS NOTED OTHERWISE, ALL CMU PARTITIONS ARE 7-5/8", 8" NOMINAL. REFER TO SUFFIX SCHEDULE BELOW FOR LOCATIONS OF CMU PARTITIONS OTHER THAN 8" NOMINAL.
5. WHERE THE PARTITION TYPE INDICATION IS SHOWN WITH A NUMERICAL SUFFIX, THE CMU THICKNESS SHALL BE AS SCHEDULED BELOW:

SUFFIX	CMU THICKNESS
1	ACTUAL 3-5/8", 4" NOMINAL
2	ACTUAL 5-5/8", 6" NOMINAL
3	ACTUAL 11-5/8", 12" NOMINAL

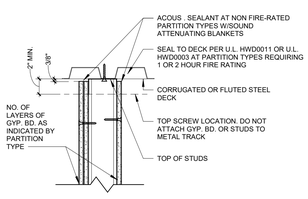
6. UNLESS NOTED OTHERWISE, ALL INTERIOR MASONRY PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'B' PARTITIONS. WHERE OCCURS, RATINGS ARE AS INDICATED ON THE LIFE SAFETY PLANS.
7. ALL STUDS ARE CONTINUOUS FROM FLOOR STRUCTURE TO CEILING STRUCTURE UNLESS NOTED OTHERWISE.
8. METAL STUDS ARE SPACED @ 16" O.C. MAX., UNLESS NOTED OTHERWISE.
9. UNLESS NOTED OTHERWISE, ALL GYPSUM BOARD IS TO BE 5/8" THICK "FIRECODE".
10. THE LOCATION OF A CHANGE IN THE PARTITION TYPE IS INDICATED BY A WALL TAG.



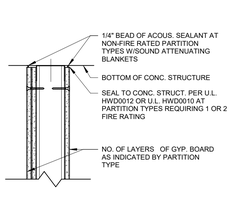
11. THE CORRESPONDING RATED ASSEMBLIES ARE INDICATED BELOW THE PARTITION TYPES.
12. PARTITION TYPE DESIGNATIONS ARE INDICATED ON THE FLOOR PLAN DRAWINGS.
13. PARTITION TYPES DO NOT INCLUDE APPLIED FINISHES CALLED FOR IN THE ROOM FINISH SCHEDULE.
14. AT PARTITION TYPES WHERE MTL. STUDS ARE EXPOSED ON ONE OR BOTH SIDES, CUT STUD 1/4" SHORT AND SCREW BOTH SIDES TO MTL. RUNNER TRACK.



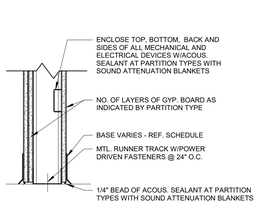
1 TOP ANCHORAGE OF PARTITION TO CONCRETE DECK/BEAM
1-1/2" = 1'-0"



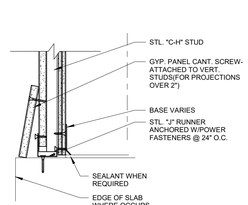
2 TOP ANCHORAGE OF PARTITION TO METAL DECK
1-1/2" = 1'-0"



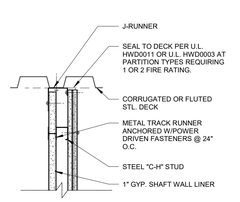
3 TOP ANCHORAGE OF PARTITION TO CONCRETE STRUCTURE SEE 3A AND 3B FOR ADDITIONAL INFORMATION
1-1/2" = 1'-0"



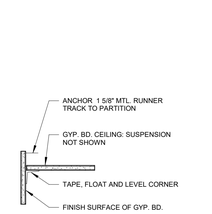
7 FLOOR ANCHORAGE OF PARTITION
1-1/2" = 1'-0"



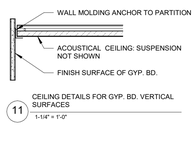
8 FLOOR ANCHORAGE OF SHAFT WALL
1-1/2" = 1'-0"



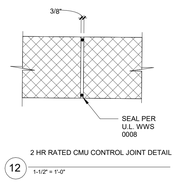
9 TOP ANCHORAGE OF CAVITY SHAFT WALL
1-1/2" = 1'-0"



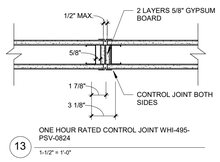
10 SUSPENDED GYP. BD. CEILING
1-1/4" = 1'-0"



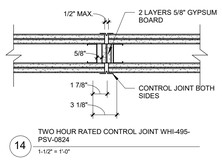
11 CEILING DETAILS FOR GYP. BD. VERTICAL SURFACES
1-1/4" = 1'-0"



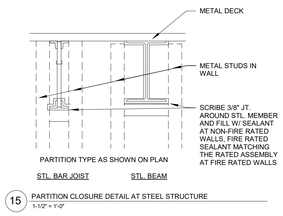
12 2 HR RATED CMU CONTROL JOINT DETAIL
1-1/2" = 1'-0"



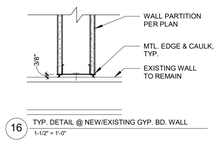
13 ONE HOUR RATED CONTROL JOINT WHI-495-PSV-0824
1-1/2" = 1'-0"



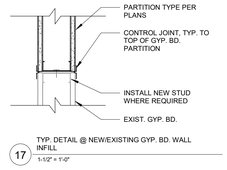
14 TWO HOUR RATED CONTROL JOINT WHI-495-PSV-0824
1-1/2" = 1'-0"



15 PARTITION CLOSURE DETAIL AT STEEL STRUCTURE
1-1/2" = 1'-0"



16 TYP. DETAIL @ NEW/EXISTING GYP. BD. WALL
1-1/2" = 1'-0"



17 TYP. DETAIL @ NEW/EXISTING GYP. BD. WALL INFILL
1-1/2" = 1'-0"

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

A0.2

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PARTITION TYPES AND DETAILS

BID PACKAGE #3 03.30.2020

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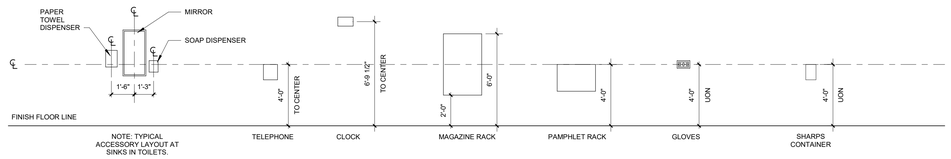
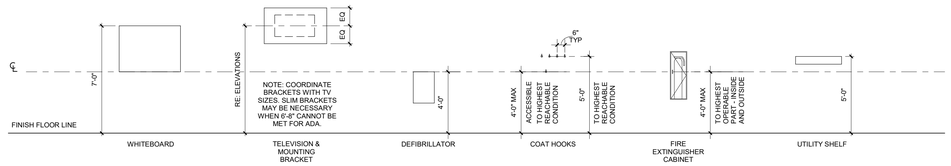
5/5/2020 3:28:50 PM

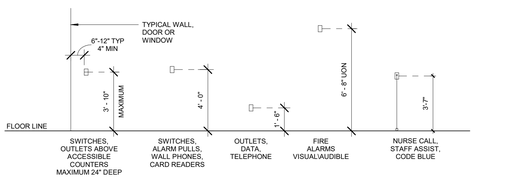




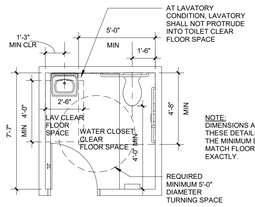
GENERAL NOTES:

1. ANY OBJECTS PROJECTING MORE THAN 4 INCHES FROM THE FINISHED FACE OF WALL INTO A CIRCULATION PATH SHALL NOT HAVE A HEAD CLEARANCE OF LESS THAN 80" (6'-8").
2. GENERAL CONTRACTOR TO INSTALL FIRE RETARDANT WOOD BLOCKING FOR ALL EQUIPMENT OVER 50LBS AND FIRE RETARDANT PLYWOOD FOR EQUIPMENT UNDER 50 LBS, AS REQUIRED FOR THE MOUNTING OF ALL EQUIPMENT.

EQUIPMENT MOUNTING HEIGHTS
1/4" = 1'-0"



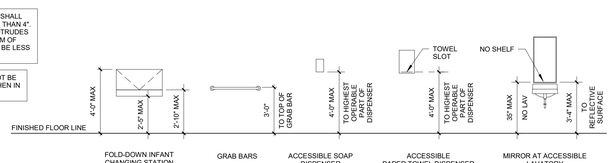
ELECTRICAL DEVICE MOUNTING HEIGHTS
1/4" = 1'-0"

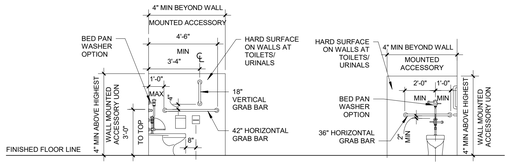


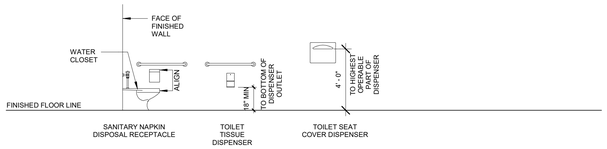
GENERAL ADA TOILET DIMENSIONS
1/4" = 1'-0"

NOTE: INFANT CHANGING STATION SHALL NOT PROTRUDE FROM WALL MORE THAN 4". IF INFANT CHANGING STATION PROTRUDES MORE THAN 4" FROM WALL, BOTTOM OF INFANT CHANGING STATION SHALL BE LESS THAN 27" ABOVE FINISH FLOOR.

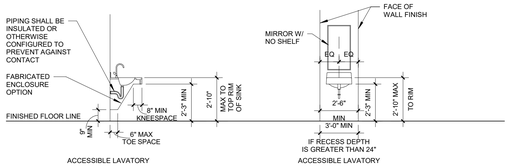
NOTE: OPERABLE PARTS SHALL NOT BE LOCATED MORE THAN 48" A.F.F. WHEN IN THE CLOSED POSITION.





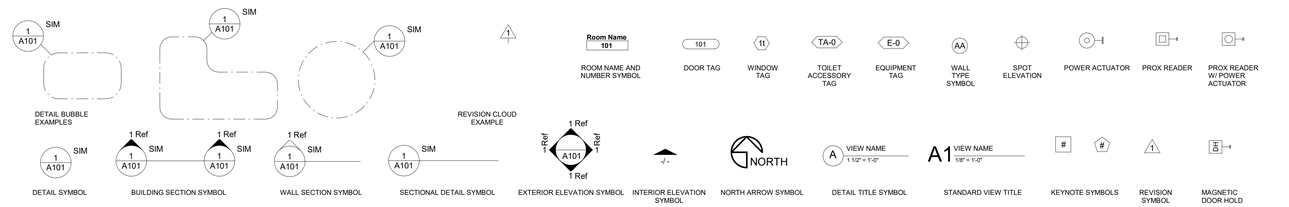


NOTE: PROVIDE 1 1/2" MIN. CLEARANCE FROM BOTTOM OF GRAB BAR TO TOP OF SANITARY NAPKIN DISPOSAL RECEPTACLE



TOILET ACCESSORY MOUNTING HEIGHTS
1/4" = 1'-0"

TYPICAL FIXTURE ELEVATION
1/4" = 1'-0"



SYMBOLS
1/4" = 1'-0"

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
3. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
4. DO NOT SCALE DRAWINGS.
5. THE WORD "ALIGN" AS USED IN THESE DOCUMENTS SHALL SUPERSEDE ANY DIMENSIONAL INFORMATION GIVEN.
6. TYPICAL DIMENSIONS ARE TO FACE OF CONCRETE, DRYWALL, CURTAIN WALL, ETC., OR TO COLUMN CENTERLINE. DIMENSIONS AT WINDOWS ARE TYPICALLY TO FACE OF FRAME. REFER TO PLAN DETAILS FOR ADDITIONAL INFORMATION.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP.
9. THE GENERAL CONTRACTOR SHALL INSPECT AND CHECK THE ADEQUACY AND INSTALLATION OF THROUGH-WALL FLASHING PRIOR TO COVERING WITH FINISH MATERIALS. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO INSPECTION AGAINST HOLES OR PENETRATIONS, APPROPRIATE LAPPING AND SEALING, AND OVERALL WORKMANSHIP IN CONFORMANCE WITH THE SPECIFICATIONS.

WASH ROOM ACCESSORIES SCHEDULE <XXXX>

JSN	DESCRIPTION	RESPONSIBILITY	COMMENTS
A5075	DISPENSER, SOAP	OFCI	PROVIDE IN WALL BLOCKING
A5082	DISPENSER, PAPER TOWEL	OFCI	PROVIDE IN WALL BLOCKING
A5109b	GRAB BAR, HORIZONTAL, 42"	CFCI	PROVIDE IN WALL BLOCKING
A5109c	GRAB BAR VERTICAL 18"	CFCI	PROVIDE IN WALL BLOCKING
A5180b	CUBICLE CURTAIN, L-SHAPE	OFOI	TRACK TO BE CFCI
A5196	TOILET TISSUE DISPENSER, RECESSED	OFCI	PROVIDE IN WALL BLOCKING
F2010	STEP TRASHCAN	OFOI	

FFE SCHEDULE <XXXX>

JSN	DESCRIPTION	RESPONSIBILITY	COMMENTS	REV #
A1011	PHONE, DESK	OFOI	PROVIDE PHONE CONNECTION, RE: MEP	
A1032	CUBBY LOCKER, 5 TIER	VFVI	PROVIDED BY JOHN A. MARSHALL	
A1066	MIRROR, STAINLESS STEEL FRAME	CFCI	PROVIDE IN WALL BLOCKING	
A1090	MIRROR, STAINLESS STEEL FRAME & SHELF	CFCI	PROVIDE IN WALL BLOCKING	
A5075	DISPENSER, SOAP	OFCI	PROVIDE IN WALL BLOCKING	
A5077	HAND SANITIZER	OFCI		
A5080	DISPENSER, PAPER TOWEL	OFCI	PROVIDE IN WALL BLOCKING	
A5082	DISPENSER, PAPER TOWEL	OFCI	PROVIDE IN WALL BLOCKING	
A5107	GLOVE DISPENSER, 3 SIZE	OFCI		
A5108	SHARPS CONTAINER	OFCI	PROVIDE IN WALL BLOCKING	
A5109a	GRAB BAR, HORIZONTAL, 36"	CFCI	PROVIDE IN WALL BLOCKING	
A5109b	GRAB BAR, HORIZONTAL, 42"	CFCI	PROVIDE IN WALL BLOCKING	
A5109c	GRAB BAR VERTICAL 18"	CFCI	PROVIDE IN WALL BLOCKING	
A5135	SHELF, UTILITY, W/ MOP BROOM HOLDER	CFCI	PROVIDE IN WALL BLOCKING	
A5145	HOOK, GARMENT, DOUBLE	CFCI	PROVIDE IN WALL BLOCKING	
A5170a	SHOWER CURTAIN, STRAIGHT	OFOI	ROD/HOOKS/ACCESSORIES TO BE CFCI	8
A5170b	SHOWER CURTAIN, L-SHAPE	OFOI	ROD/HOOKS/ACCESSORIES TO BE CFCI	8
A5180a	CUBICLE CURTAIN, STRAIGHT	OFOI	TRACK TO BE CFCI	
A5180b	CUBICLE CURTAIN, L-SHAPE	OFOI	TRACK TO BE CFCI	
A5196	TOILET TISSUE DISPENSER, RECESSED	OFCI	PROVIDE IN WALL BLOCKING	
A6165	PNUEMATIC TUBE STATION	CFCI	RE: MEP FOR ADDITIONAL INFORMATION	
E0075	DESK, L-SHAPED	VFVI	PROVIDED BY JOHN A. MARSHALL	
E0945	CRASH CART	OFOI	PROVIDE EMERGENCY POWER, RE: MEP	
F0205	SIDE CHAIR, W/ ARMS	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0225	CHAIR, DINING	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0250	CHAIR, LOUNGE	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0265	TREATMENT RECLINER	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0300	CHAIR, TASK	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0410	CABINET, BBF, MOBILE PEDESTAL	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0415	LATERAL FILE CABINET	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0430	CABINET, BBF, MOBILE PEDESTAL	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0515	LINEN CART	OFOI		
F0600	CREDENZA	VFVI	PROVIDED BY JOHN A. MARSHALL	
F0795	TABLE, DINING, ROUND	VFVI	PROVIDED BY JOHN A. MARSHALL	
F2010	STEP TRASHCAN	OFOI		
F2550	SHRED IT BOX	OFOI		
F3065	WHITEBOARD/BULLETIN BOARD COMBO UNIT	OFCI	PROVIDE IN WALL BLOCKING	
F3235	RACK, HAT-COAT, FLOOR STANDING	VFVI	PROVIDED BY JOHN A. MARSHALL	
K1550	COFFEE MAKER	OFOI	PROVIDE POWER & WATER LINE, RE: MEP	
K4665	MICROWAVE	OFOI	PROVIDE POWER, RE: MEP	
M0506	WALL MOUNTED TELEVISION	OFOI	BRACKET, OFCI; PROVIDE IN WALL BLOCKING, POWER & CABLE, RE: MEP, COORDINATE FINAL TV SIZE, BRACKET, & MOUNTING HEIGHT WITH OWNER	
M1801	COMPUTER MONITOR	OFOI	PROVIDE POWER & DATA, RE: MEP	
M1801a	COMPUTER, DUAL MONITOR	OFOI	PROVIDE POWER & DATA, RE: MEP	
M1802	WALL MOUNTED COMPUTER	OFCI		
M1825	PRINTER, COMPUTER	OFOI	PROVIDE POWER & DATA, RE: MEP	
M1840	PRINTER/COPIER/FAX COMBINATION	OFOI	PROVIDE POWER & DATA, RE: MEP	
M2055	WIRE SHELVING 48"Wx18"Dx74"H	VFVI	PROVIDED BY METRO SHELVING	
M3070	LINEN HAMPER	OFOI		
M3072	INFECTIOUS WASTE BIN	OFOI		
M3105	BLANKET WARMER	OFOI	PROVIDE POWER, RE: MEP	
M3150a	ONE CELL CABINET	OFOI	PROVIDE POWER, RE: MEP	
M3150b	OMNICELL MEDS DISPENSING UNIT	OFOI	PROVIDE POWER, RE: MEP	
M4255	IV POLE	OFOI		
M4655	STRETCHER	OFOI		
M7010	PATIENT BED	OFOI	PROVIDE FLOOR STOP & POWER, RE: MEP	
M9025	EXAM TABLE	OFOI		
R4400	COUNTERTOP ICE/WATER MACHINE	OFOI	PROVIDE POWER & WATER LINE, RE: MEP	
R6200	MEDS REFRIGERATOR	OFOI	PROVIDE POWER & DATA, RE: MEP	
R7250	REFRIGERATOR/FREEZER, 20 CU FT	OFOI	PROVIDE POWER & WATER LINE, RE: MEP	
U1000	23" CAREVIEW MONITOR	OFOI	PROVIDE POWER & DATA, RE: MEP	
U1001	PHILIPS DUAL MONITOR	OFOI	PROVIDE POWER & DATA, RE: MEP	
U1002	VOLTOMETER	OFOI	PROVIDE POWER, RE: MEP	
U1003	PLY FOLD CHAIR	VFVI		
U1005	BIN, CHEMOTHERAPY WASTE	OFOI		
U1006	FOLD DOWN NIGHT STAND	VFVI	PROVIDED BY JOHN A. MARSHALL; IN-WALL BLOCKING CFCI	
U1007	CABINET, COMM.	OFOI		
U1008	HAZARDOUS WASTE BIN	OFOI		
U1009	NOURISH CART	OFOI		
U1010	CAREVIEW CAMERA	OFOI	PROVIDE POWER & DATA; RE: MEP	

FOR REFERENCE ONLY
PREVIOUSLY APPROVED UNDER PRCOM20200845

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Phone Number: 816.756.0444
Licensee's Certificate of Authority Number: # E-2002023253

STRUCTURAL CONSULTANT
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Kansas City, MO 64106
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Licensee's Certificate of Authority Number: # 000396

MEP CONSULTANT
W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
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Phone Number: 816.842.8437
Licensee's Certificate of Authority Number: # 00127265

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
8	05.04.20	RFI 30

BID PACKAGE #3 03.30.2020

A0.3

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GENERAL NOTES, LEGENDS & SYMBOLS

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ONLINE CERTIFICATIONS DIRECTORY

Design No. U465
BXUV.U465
Fire-resistance Ratings - ANSI/UL 263

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

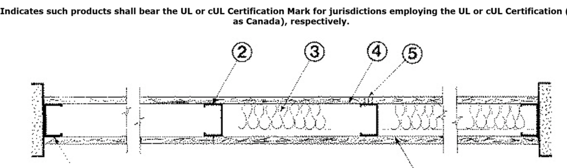
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U465

August 25, 2016

Nonbearing Wall Rating — 1 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped runners, 3-5/8 in. deep (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 — Channel shaped, min 3-5/8 in. deep, attached to floor and ceiling with fasteners 24 in. OC max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

CRACO MFG INC — SmartTrack20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

1C. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2C — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1C — For use with Item 2D and 4G only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1E. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1D — For use with Item 2E and 4I only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1F. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1E — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 25 MSG steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

KIRII (HONG KONG) LTD — Type KIRII

1G. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1F — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2H, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

2. **Steel Studs —** Channel shaped, 3-5/8 in. deep (min), formed from min No. 25 MSG galv steel spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members* — Steel Studs —** As an alternate to Item 2 — Channel shaped studs, min 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1B, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CRACO MFG INC — SmartStud20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2C. **Steel Studs —** (As an alternate to Item 2, For use with Item 4E) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2C — For use with Item 1D and 4G only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2E. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2D — For use with Item 1E and 4I only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2F. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2E — For use with Item 1F, channel shaped studs, min 3-5/8 in. wide fabricated from min 25 MSG steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 through 2F — For use with Item 1G. Proprietary channel shaped studs, minimum 3-5/8 in. wide, Studs to be cut 1/2 in. less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1I, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

TELLING INDUSTRIES L L C — Viper20™

2I. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

EB MéTAL INC — EB Stud

2J. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1B (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

3. **Batts and Blankets* —** (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.

See **Batts and Blankets** (BZJZ) category for names of Classified companies.

3A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735& INS745 for use with wet or dry application. INS765LD and INS770LD are to be used for dry application only

3B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) and Item 3A — Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

3C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

3D. **Batts and Blankets* —** For use with Item 8. Nom 3 in. thick, minimum 3.4 pcf mineral wool batts, friction fit between the studs and floor and ceiling runners.

See **Batts and Blankets** (BZJZ) category for names of manufacturers.

3E. **Batts and Blankets* —** For use with Item 4P. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4. **Gypsum Board* —** 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to Items 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AG-C, AGX-1, M-Glass

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CERTAINTEED GYPSUM INC — Types 1, EGRG, GlasRoc, Type X, Type X-1, Type C, SilentFX, 5/8" Easi-Lite Type X

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSMR-C, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSL

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C, PG-9, PG-11, PGS-WRS

PANEL REY S A — Types GREX, PRC, PRC2, PRX, RHX, MDX, ETX

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4A. **Gypsum Board* —** (As alternate to Item 4) — Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CERTAINTEED GYPSUM INC — Type X, Type X-1, Type C, Type EGRG/ GlasRoc

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD

GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DAPC, DGG, DS

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4C. **Gypsum Board* —** As an alternate to Items 4, 4A, and 4B — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered or backed by steel framing.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG, GreenGlass Type X

4D. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Gypsum panels fastened to framing with 1 in. long Type S steel screws 8 in. OC along vertical edges and 12 in. OC in the field when panels are applied vertically. When gypsum panels applied horizontally, fasten to framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall for both vertical and horizontal applications.

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSL, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSMR-C

4E. **Gypsum Board* —** (As an alternate to Items 4 through 4D) — Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 1 in. long, Type S steel screws spaced, 8 in. OC. Not to be used with item 6.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4G. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1D and 2D only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A, LGFC-C/A

NATIONAL GYPSUM CO — Types FSW

UNITED STATES GYPSUM CO — Type SCX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

4H. **Gypsum Board* —** (As an alternate to Items 4 through 4G) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

4I. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1E and 2E only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

UNITED STATES GYPSUM CO — Type SCX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

4J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4K. **Gypsum Board* —** (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and 4A.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4L. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4M. **Gypsum Board* —** (For use with Item 8) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 8) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 8). Secured to outermost studs and floor and ceiling runners with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — Type FRPC, Type C

CGC INC — Types C, IP-X2, IPC-AR

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Types PRC, PRC2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

4N. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527

4O. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal joints on the same side need not be staggered. When applied horizontally, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC and staggered 4 in. OC between layers. When applied vertically, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field, staggered 4 in. OC between layers. Screws spaced a max 12 in. along the top and bottom edges of the wall.

NATIONAL GYPSUM CO — Type FSW

4P. **Gypsum Board* —** As an alternate to Item 4. For use with Item 3E, **Batts and Blankets* —** 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to item 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

UNITED STATES GYPSUM CO — Types ULIX

5. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. **Resilient Channel —** (Optional — Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May not be used with Item 4F or 4J.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Framing Members* —** Used to attach furring channels (Item a) to studs (Item 2). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 (2.75) clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

6B. **Framing Members* —** (Not Shown) — (Optional on one or both sides) — As an alternate to Item 6, furring channel and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all intermediate framing. The required UL Classified gypsum board layer (Item 4M) is to be installed over the Mineral and Fiber Boards. Batts and Blankets, Item 3D, and Adhesive, Item 11, are required.

HOMASOTE CO — Homasote Type 440-32

9. **Lead Batten Strips —** (Not Shown, For Use With Item 4E) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips —** (Not Shown, for use with Item 4J) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4J) and optional at remaining stud locations.

10. **Lead Discs or Tabs —** (Not Shown, For Use With Item 4E) — Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. **Lead Discs —** (Not Shown, for use with Item 4J) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. **Adhesive —** Not Shown — (For use with Item 8) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 8).

12. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — For use with Items 1 to 11, Items 2 to 2J, Item 3, Items 4 to 4I, Item 5 and Item 6. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to Item 4I), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When RefleXor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to Item 4I shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to Item 4I except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 3. On the other side of the wall, prior to the installation of the Gypsum Board, install Resilient Channels as per Item 6. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 to Item 4I with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

MSL — RefleXor membrane, SONOpan panel

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

ONLINE CERTIFICATIONS DIRECTORY

System No. HW-D-0044
XHBN.HW-D-0044
Joint Systems

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

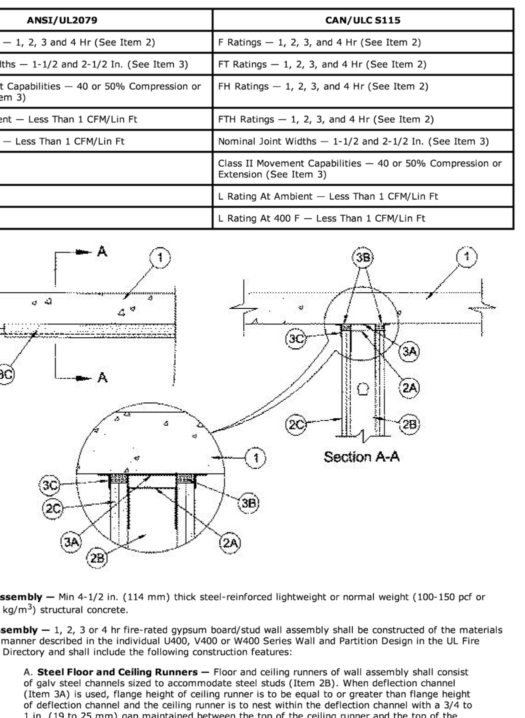
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0044

December 08, 2015

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1, 2, 3 and 4 Hr (See Item 2)	F Ratings — 1, 2, 3, and 4 Hr (See Item 2)
Nominal Joint Widths — 1-1/2 and 2-1/2 In. (See Item 3)	FT Ratings — 1, 2, 3, and 4 Hr (See Item 2)
Class II Movement Capabilities — 40 or 50% Compression or Extension (See Item 3)	FH Ratings — 1, 2, 3, and 4 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/Lin Ft	FTH Ratings — 1, 2, 3, and 4 Hr (See Item 2)
L Rating At 400 F — Less Than 1 CFM/Lin Ft	Nominal Joint Widths — 1-1/2 and 2-1/2 In. (See Item 3)
	Class II Movement Capabilities — 40 or 50% Compression or Extension (See Item 3)
	L Rating At Ambient — Less Than 1 CFM/Lin Ft
	L Rating At 400 F — Less Than 1 CFM/Lin Ft



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick steel-reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete.

2. **Wall Assembly —** 1, 2, 3 or 4 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs (Item 2B). When deflection channel (Item 3A) is used, flange height of ceiling runner is to be equal to or greater than flange height of deflection channel and the ceiling runner is to nest within the deflection channel with a 3/4 to 1 in. (19 to 25 mm) gap maintained between the top of the ceiling runner and the top of the deflection channel. When deflection channel is not used, flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Ceiling runner is secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC.

A1. **Light Gauge Framing* - Slotted Ceiling Runner —** When nom joint width is less than or equal to 1-3/4 in. (45 mm), slotted ceiling runner may be used as an alternate to the ceiling runner in Item 2A. Slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

METAL-LITE INC — The System

SCAFCO STEEL STUD MANUFACTURING CO

TELLING INDUSTRIES L L C — True-Action Deflection Track

THE STEEL NETWORK INC — VertiTrack VT series, 250VT, 362VT, 400VT, 600VT and 800VT

A2. **Light Gauge Framing* - Vertical Deflection Ceiling Runner —** When nom joint width is less than or equal to 1 in. (25 mm), vertical deflection ceiling runner may be used as an alternate to the ceiling runner in Items 3A and 3A1., Vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips, provided with step bushings, for permanent fastening of steel studs. Vertical deflection ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When vertical deflection ceiling runner is used, deflection channel (Item 4A) shall not be used.

THE STEEL NETWORK INC — VertiTrack VTD362, VTD400, VTD600 and VTD800

A3. **Light Gauge Framing*- Notched Ceiling Runner —** As an alternate to the ceiling runners in Items 2A through 2A3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When notched ceiling runner is used, deflection channel (Item 3A) shall not be used.

OLMAR SUPPLY INC — Type SCR

A4. **Light Gauge Framing* —Vertical Deflection Clip* —** (Optional) Steel clips can be used in conjunction with steel studs (Item 2B), ceiling runner (Item 2A) or deflection channel (Item 3A). Clips installed over the top of studs and inserted within the ceiling runner or deflection channel. Clip shall be secured to the ceiling runner or deflection channel with No. 8 self drilling, self tapping steel fasteners through holes provided within the clip. Clip may be secured to the stud with No. 6 pan head steel screw through holes provided within the clip. As an alternate, the legs of the clip may be installed over the top of the stud without attachment in accordance with manufacturer's installation instructions.

FLEX-ABILITY CONCEPTS L L C — Three Legged Dog Deflection Clip

A5. **Steel Framing Members* — Sound Isolation Clips —** (Not Shown, For Max 2 Hr Rating) - As an alternate attachment means for the ceiling runner to the underside of the floor when no deflection channel (Item 3A) is used, sound isolation clips installed in accordance with the accompanying installation instructions. Sound isolation clip installed through nom 1 in. (25 mm) diam hole in ceiling runner and attached to top of ceiling runner using four min No. 8 by 1/2 in. (13 mm) long self-tapping galv steel screws. Sound isolation clips to be installed adjacent to every stud location but not more than 24 in. (610 mm) OC and attached to the underside of floor assembly using min 3/16 in. (5 mm) diam by 2-1/2 in. (64 mm) long steel masonry anchors.

PAC INTERNATIONAL L L C — Type RSIC-U-HD

B. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 1 in. (13 to 25 mm) less in length than assembly height with bottom nesting in and secured to floor runner. When deflection channel (Item 3A) is used, steel studs attached to ceiling runner (Item 2A) with sheet metal screws located 1/2 in. (13 mm) below the bottom to the deflection channel. When deflection channel is not used, studs to nest in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at mid-height of each slot. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8 in., 1-1/4 in., 1-1/2 in. or 2 in. (16, 32, 38 or 51 mm) thickness on each side of wall for 1, 2, 3 or 4 hr rated assemblies, respectively. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory, except that a max 1 or 2-1/2 in. (25 or 64 mm) gap (See Item 3) shall be maintained between the top of the gypsum board and the lower surface of the floor . The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner or into the optional deflection channel.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System — Max separation between bottom of floor and top of gypsum board (at time of installation of joint system) is 2-1/2 in. (64 mm) for 1 and 2 hr ratings and 1 in. (25 mm) for 3 and 4 hr ratings. The joint system is designed to accommodate a max 50 percent compression or extension from its installed width for max 1-1/2 in. (38 mm) wide joints and a max 40 percent compression or extension from its installed width for max 2-1/2 in. (64 mm) wide joints.** The joint system shall consist of forming and fill materials, with or without a deflection channel (Item 3A), as follows:

A. **Deflection Channel —** (Optional) - Max 3 in. (76 mm) deep min 24 gauge galv steel channel sized to accommodate ceiling runner (Item 2A). Deflection channel secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 1/2 to 3/4 in. (13 to 19 mm) gap between the top of the ceiling runner and the top of the deflection channel. The ceiling runner nests inside the deflection channel without attachment.

B. **Forming Material* —** Sections of min 4 pcf (64 kg/m^3) density mineral wool batt compressed 50 percent in thickness and installed cut edge first to completely fill the gap between the top of the gypsum board and the bottom of the concrete floor. When sound isolation clips (Item 2A6) are used, the space between the top of the ceiling runner and the underside of the floor shall be tightly packed with mineral wool batt insulation. The forming material shall be installed flush with both surfaces of wall.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL MALAYSIA SDN BHD — Safe

ROXUL INC — Safe

THERMAFIBER INC — SAF

C. **Fill, Void or Cavity Material* — Sealant —** Min 1/16 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material spray applied on each side of the wall between the top of the wall and the bottom of the floor, and overlap a min 1/2 in. (13 mm) onto gypsum board on both sides of wall. Additional 1/16 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material shall overlap a min 1/2 in. (13 mm) onto the floor on both sides of wall.

SPECIFIED TECHNOLOGIES INC — SpecSeal AS200 Elastomeric Spray

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-12-08

UL Product iQ™

BXUV.U451 - FIRE-RESISTANCE RATINGS - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

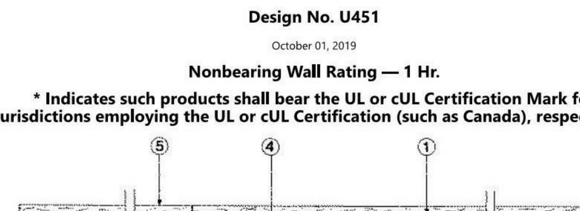
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U451

October 01, 2019

Nonbearing Wall Rating — 1 Hr.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Studs —** Channel-shaped, min 2-1/2 in. wide by 1-1/4 in. deep with 5/16 in. folded back return flange legs. Fabricated from No. 25 MSG galv steel. Max stud spacing 24 in. OC. Studs to be cut 1 in. less than assembly height.

1A. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2A, proprietary channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel. Max stud spacing 24 in. OC. Studs cut 1 in. less in length than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

1B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2B, channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

1C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel. Max stud spacing 24 in. OC. Studs cut 1 in. less in length than assembly height.

TELLING INDUSTRIES L L C — Viper20™

1D. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2D, channel shaped steel studs, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

1E. **Framing Members* — Steel Studs —** As an alternate to Item 1 — For use with Item 2A (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

1F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2, channel shaped steel studs, 2-1/2 in. wide by min 1-1/4 in. deep fabricated from min No. 25 MSG galv steel, spaced max 24 in. OC. Studs cut 1 in. less in length than assembly height.

EB METAL INC — NITROSTUD

1G. **Framing Members* — Steel Studs —** As an alternate to Item 1 — For use with Item 2E, channel shaped, min 3-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

1H. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 1 — For use with Item 2F, channel shaped steel studs, 1-1/4 in. deep by min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced max 24 in. OC. Studs cut 3/8 to 3/4 in. less in length than assembly height.

STEEL INVESTMENT GROUP L L C — AlphaSTUD

2. **Floor and Ceiling Runners —** (Not Shown) — Channel-shaped runners, min 2-1/2 in. wide by 1-1/4 in. deep, fabricated from No. 20 MSG galv steel. Attached to floor and ceiling with fasteners, 24 in. OC, max.

2A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 2 — For use with Item 1A, proprietary channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

2B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1B, channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

2C. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 2 — For use with Item 1C, proprietary channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

2D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1D, channel shaped runners, 1-1/4 in. deep by min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

2E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 2 - For use with Item 1G. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

2F. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 2 — For use with Item 1H, channel shaped runners, 1-1/4 in. deep by min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STEEL INVESTMENT GROUP L L C — AlphaTRAK

3. **Resilient Channel —** 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long Type S-12 pan head steel screws.

3A. **Framing Members* —** (Not Shown) — As an alternate to Item 3, furring channels and **Framing Members** as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Framing Members* —** Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

3B. **Framing Members* —** (Not Shown) — (Optional on one or both sides) — Alternate to Item 3, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs (Item 1) as described in Item b. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Ba) to studs (Item 1). Clips spaced max. 48 in. OC. GENIE CLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

3C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

3D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 3Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 3Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

REGUPOL AMERICA — Type SonusClip

3E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 3Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.

KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

4. **Batts and Blankets* —** Placed in stud cavity, 1-1/2 in. min thickness.

ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m^3

THERMAFIBER INC — Type SAFB, SAFB FF

5. **Gypsum Board* —** 1/2 or 5/8 in. thick, 4 ft wide. Screw attached one side to resilient or furring channels with 1 in. long, Type S steel screws spaced 12 in. OC. Gypsum board on direct attached side secured to studs with 1 in. long Type S-12 steel screws spaced 12 in. Gypsum board joints oriented vertically, located over studs and offset between layers.

CABOT MANUFACTURING ULC — Type C

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — 1/2 in. or 5/8 in. Type C, 5/8 in.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Type AR, IP-AR, IP-X1 or SCX

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, C, DAP, DA, DAPC, TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSMR-C
NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — 5/8 in. Type FR

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C or PG-C

PANEL REY S A — Types PRC, PRC2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Type AR, IP-AR, IP-X1, SCX or ULIX

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Type SCX

USG MEXICO S A DE C V — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Type AR, IP-AR, IP-X1 or SCX

5A. **Gypsum Board* —** (As an alternate to Item 5) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 5 with screw length increased to 1-1/4 in.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

5B. **Gypsum Board* —** (As an alternate to Item 5, not for use with Items 1B and 2B) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

6. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

7. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS.

8. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

6. **Barrier Mesh —** (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.

CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

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Last Updated on 2019-10-01

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UL Product iQ™

BXUV.U905 -

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed b the design submitter and have been investigated b UL for compliance with applicable requirements. The published information cannot alwa s address ever construction nuance encountered in the field.
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BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 ertified for United States
Design riteria and Allowable Variances

See General Information for Fire Resistance Ratings - AN/UL -S101 ertified for anada
Design riteria and Allowable Variances

Design No. U905

March 02 2020

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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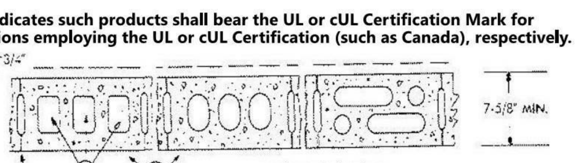

1. **Concrete Blocks* —** Various designs. Classification D-2 (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar —** Blocks laid in full bed of mortar, nom. 3/ in. thick, of not less than 2-1/ and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster —** Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

. **Loose Masonry Fill —** If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. **Foamed Plastic* —** (Optional-Not Shown) — 1-1/2 in. thick max, ft wide sheathing attached to concrete blocks (Item 1).

ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE

DUPONT DE NEMOURS, INC. — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types "Xci-Class A", "Xci Foil (Class A)", "Xci 2 6"

RMAX OPERATING L L C — Types "TSX- 500", "ECOMAXci FR", "TSX- 510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

5A. **Building Units —** As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. by or 96 in.

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"

RMAX OPERATING L L C — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".

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Last Updated on 2020-03-02

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BXUV.U411 -

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U411

March 11, 2020

Nonbearing Wall Rating — 2 Hr.

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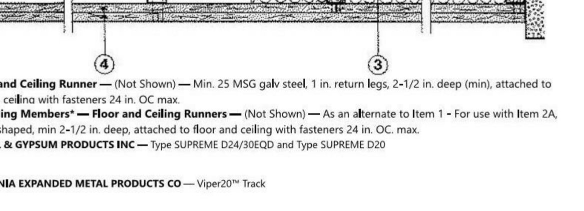

1. **Floor and Ceiling Runner —** (Not Shown) — Min. 25 MSG galv steel, 1 in. return legs, 2-1/2 in. deep (min), attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 - For use with Item 2A, channel shaped, min 2-1/2 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1B. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2B- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 - For use with Item 2C, channel shaped, min 2-1/2 in. wide fabricated from min 0.015 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1D. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 - For use with Item 2D, channel shaped, min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 - For use with Item 2E, channel shaped, min 2-1/2 in. wide fabricated from min 25 MSG steel, attached to floor and ceiling with fasteners 24 in. OC.

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ACI BOLAND ARCHITECTS

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ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number: Missouri: #000958

CIVIL CONSULTANT

McClure Engineering Company
1700 Swift Ave., Suite 100
North Kansas City, MO 64116
Phone Number: 816.756.0444
Licensee's Certificate of Authority Number: # E-2002023253

STRUCTURAL CONSULTANT

Structural Engineering Associates
1000 Walnut Street, Suite 1570
Kansas City, MO 64106
Phone Number: 816.421.1042
Licensee's Certificate of Authority Number: # 000396

MEP CONSULTANT

W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
Kansas City, MO 64108
Phone Number: 816.842.8437
Licensee's Certificate of Authority Number: # 00127265

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

BID PACKAGE #3 03.30.2020

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U.L. DESIGN ASSEMBLIES

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max.
KIRII (HONG KONG) LTD — Type KIRII

1F. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1G. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2G, channel shaped, min 2-1/2 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C — Viper20™ Track

1H. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2J. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

1I. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2K, channel shaped, min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.
STEEL INVESTMENT GROUP L L C — AlphaTRAK

1J. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2L. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
OEG BUILDING MATERIALS — OEG Track

1K. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2M, channel shaped, min 2-1/2 in. deep, formed of min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners 24 in. OC. max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

1L. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2N. Channel shaped, min. 2-1/2 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D25

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D25

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D25

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D25
STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D25

UNITED METAL PRODUCTS INC — Type SUPREME D25

1M. **Floor and Ceiling Runner** — (Not shown) - As an alternate to Item 1, For use with Items 2O and 4O - Min 25 MSG galv steel, 1-5/8 in. deep (min), attached to floor and ceiling with fasteners 24 in. OC. max.

2. **Steel Studs** — Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1G, channel shaped studs, min 2-1/2 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2B. **Steel Studs** — (As an alternate to Item 2, For use with Item 4D, 4H, and 4J) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2C. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1C, channel shaped studs, min 2-1/2 in. wide fabricated from min 0.015 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD
STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2D. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1D, channel shaped studs, min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2E. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1E, channel shaped studs, min 2-1/2 in. wide fabricated from min 25 MSG steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
KIRII (HONG KONG) LTD — Type KIRII

2F. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1G, channel shaped studs, min 2-1/2 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — Viper20™

2G. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2H. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2I. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1A (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2J. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1H, channel shaped, min 3-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

2K. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1I, channel shaped studs, min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
STEEL INVESTMENT GROUP L L C — AlphaSTUD

2L. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1J, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OEG BUILDING MATERIALS — OEG Stud
2M. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1K, channel shaped studs, min 2-1/2 in. deep, formed of min. 25 MSG (0.018 in. min. bare metal thickness , spaced a ma of 2 in. . Studs to be cut 3/ in. less than assembly height.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

2N. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1L, channel shaped studs, min depth 2-1/2 in. deep, spaced a ma of 2 in. . Studs to be cut 3/ in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D25

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D25

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D25

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D25

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D25

UNITED METAL PRODUCTS INC — Type SUPREME D25

2 . **Framing Members — Steel Studs** — (As an alternate to Item 2 For use with Items 1M and - channel shaped studs min 1-5/8 in. deep, formed of 25 MSG galv steel, ma stud spacing 2 in. . Studs cut 3/8 in. to 3/ in. less than assembly height.

3. **Batts and Blankets*** — (ptional — Mineral wool or glass fiber batts partially or completely filling stud cavity.
See **Batts and Blankets** (BZJZ category for names of manufacturers

ROCKWOOL — Type AFB, min. density 1.69 pcf / 27.0 kg/m³

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts

3A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3 — (100% Borate Formulation — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS7 5 and INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

3B. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3 — Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of .3 pounds per cubic ft.
NU-WOOL CO INC — ellulose Insulation

3 . **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3 — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be .30 lbs/ft³.
INTERNATIONAL CELLULOSE CORP — elbar-RL

3D. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) — Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

4. **Gypsum Board*** — 5/8 in. thick, outer layer paper, glass mat or vinyl surfaced. (Laminated System) Gypsum board applied vertically in two layers. Inner layer attached to studs with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges, and 12 in. OC in the field and outer layer laminated to inner layer with joint compound, applied with a notched spreader producing continuous beads of compound about 3/8 in. in diameter, spaced not greater than 2 in. OC. Joints of laminated outer layer offset 12 in. from inner layer joints Outer layer gypsum board attached to floor and ceiling runner track with 1-5/8 in. long Type S steel screws spaced 12 in. OC.
Optional, (Direct Attached System), Inner layer attached to studs with 1 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs over the inner layer with 1-5/8 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges and 12 in. OC to the floor and ceiling runners. Joints of screw-attached outer layer offset from inner layer joints. Joints of outer layer may be taped or untaped.

Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

AMERICAN GYPSUM CO — Types AG-C, AGX-1, M-Glass, AGX-11, LightRoc

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type X, Type X-1, Type C, or 5/8" Easi-Lite Type X

CGC INC — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX, CLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSW-C, FSW-G, FSMR-C, FSL, Type SBWB

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C, PG-3, PG-5, PG-9, PG-11, PG-C, PGS-WRS

PANEL REY S A — Types GREX, GRIX, PRX, RHX, MDX, ETX, PRC or PRC2

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1
SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C or Type X

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX

4A. **Gypsum Board*** — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4 with 1-1/4 in. long Type S screws for inner layer and 2-1/4 in. long Type S screws for outer layer.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4B. **Gypsum Board*** — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Horizontal joints need not be backed by steel framing. Secured as described in Item 4 for the direct attached system. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CERTAINTEED GYPSUM INC — Type X, Type C, Type GlasRoc

CGC INC — Type SHX

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Type SHX, FRX-G

USG MEXICO S A DE C V — Type SHX

4C. **Gypsum Board*** — (As an alternate to Items 4, 4A and 4B) — Two layers of 5/8 in. thick gypsum board applied horizontally or vertically. Inner layer attached to studs with No. 6 by 1 in. long Type S bugle head screws spaced 24 in. OC along the top and bottom tracks starting 2 in. and then 12 in. from the vertical edge. Inner layer screws spaced 24 in. OC along the studs, starting 2 in. and then 12 in. from the top and bottom of the studs and starting 1-1/4 in. from the horizontal joints when installed horizontally. Outer layer attached to studs with 1-5/8 in. long Type S bugle head screws spaced 16 in. OC along the top and bottom tracks starting 1-3/4 in. from the vertical edge. Outer layer screws spaced 16 in. OC along the studs, starting 1-3/4 in. and then 8 in. from the top and bottom of the studs and starting 1-1/4 in. and then 8 in. from the horizontal joints when installed horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers staggered a min of 12 in. When outer layers are installed horizontally, vinyl or casein, dry or premixed joint compound shall be applied in two coats to joints and screw heads of outer layer. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.
GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

4D. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2B) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
RAY-BAR ENGINEERING CORP — Type RB-LBG

4E. **Gypsum Board*** — (As an alternate to Items 4 through 4D) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES

4F. **Gypsum Board*** — (As an alternate to Items 4 through 4E) —5/8 in. thick, applied vertically or horizontally as the outer layer to one side of the assembly. Horizontal joints need not be backed by steel framing. Secured as described in Item 4 for the direct attached system. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CERTAINTEED GYPSUM INC — Type SilentFX

4G. **Gypsum Board*** — As an alternate to Item 4 — Nom. 5/8 in. thick, inner layer attached vertically to studs with 1 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs horizontally over the inner layer with 1-5/8 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges and 12 in. OC to the floor and ceiling runners. Joints of outer layer must be taped. Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard.
CABOT MANUFACTURING ULC — Type Blueglass Exterior Sheathing

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-11, PGS-WRS

4H. **Gypsum Board*** — (Not Shown) — (As an alternate to Items 4. For direct attachment only to steel studs Item 2B) — For Direct Application to Studs Only- For use as the base layer on one or both sides of the wall. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type S 12 steel screws spaced 8 in. OC at perimeter and 12 in OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Fasteners for face layer gypsum panels when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4. To be used with Lead Batten Strips (see Item 5A) or Lead Discs (see Item 6A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4I. **Gypsum Board*** — (As an alternate to Item 4, not for use with Items 1C and 2C or 1L and 2N) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4.
CGC INC — Type ULX
UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4J. **Gypsum Board*** — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2B) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4K. **Gypsum Board** — (As an alternate to Items 4 through 4J, not for use with Items 1C and 2C.) — Two layers of nominal 15 mm thick gypsum board applied vertically. Inner layer attached to studs with No. 3.5 x 1-3/8 in. long bugle head, self-drilling screws spaced 23-5/8 in. OC in the field and 15-3/4 in. OC in the perimeter, with the first screw 2 in. from the edge. Outer layer attached to the studs over the inner layer with No. 3.5 x 1-3/4 in. long bugle head, self-drilling screws spaced 11-13/16 in. OC in the field and 7-7/8 in. OC in the perimeter, with the first screw 3/4 in. from the edge. Outer layer screws staggered from inner layer screws. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layer staggered one stud cavity. Self-adhesive fiberglass mesh (9x9 mesh) tape, nom 2 in. wide, applied over all joints of outer layer panels. Dry or premixed joint compound applied in two coats to joints over the mesh tape and screw heads of outer layer.
GYPSEMNA CO LLC — Types MRFW, FW, TF

4L. **Gypsum Board*** — (As an alternate to Items 4 through 4K) — Two layers of 5/8 in. thick gypsum board applied vertically or horizontally. Inner layer attached to studs with #6 x 1 in. long bugle head screws spaced 12 in. OC along the top and bottom tracks and 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs with #6 x 1-5/8 in. long bugle head screws spaced 12 in. OC along the top and bottom tracks and 16 in. OC in the field and along the vertical edges. Vertical joints are centered over studs and staggered between layers and on opposite sides of the wall. Horizontal joints on the face layer are staggered 12 in. from the base layer. Horizontal joints need not to be backed by steel framing.
CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD

4M. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 4 through 4L) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

4N. **Gypsum Board*** — (As an alternate to Item 4 through 4M) — For direct application to studs only - Four layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. When applied horizontally, base layer secured to studs with 1 in. Type S screws spaced 24 in. OC. Second layer installed with joints offset 12 in. from base layer and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer and secured with 1-1/2 in. Type S screws spaced 16 in. OC. Fourth layer installed with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 12 in. OC. For all layers, screws offset 4 in. from previous layer. When applied vertically, base layer secured with 1 in. Type S screws spaced 24 in. OC. Second layer secured with joints offset one stud cavity and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer and secured with 1-1/2 in. Type S screws spaced 12 in. OC. Fourth layer secured with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 8 in. OC along vertical edges and 12 in. OC in the field. For all layers, screws offset 4 in. from previous layer.
NATIONAL GYPSUM CO — Type FSW

4O. **Gypsum Board*** — (As an alternate to Items 4 through 4N) — Two layers of 5/8 in. thick gypsum board applied vertically or horizontally. Inner layer attached to studs with 1 in. long Type S screws spaced 16 in. OC in the field and vertical edges and along top and bottom tracks. Outer layer attached to studs with 1-5/8 in. long Type S screws spaced 16 in. OC in the field and vertical edges and along the top and bottom tracks. Vertical joints are centered over studs and staggered between layers and on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal edge joints and horizontal butt joints in adjacent layers need not be staggered.
NATIONAL GYPSUM CO — Type FSLX

4P. **Wall and Partition Facings and Accessories*** — (As an alternate to Item 4) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

5. **Lead Batten Strips** — (Not Shown, For Use With Item 4D) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4D) and optional at remaining stud locations. Required behind vertical joints.

5A. **Lead Batten Strips** — (Not Shown, for use with Item 4H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

6. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4D) — Used in lieu of or in addition to the lead batten strips (Item 5) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4D) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs** — (Not Shown, for use with Item 4H) — Max 5/16 in. diam by max0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

7. **Mineral and Fiber Board*** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

7A. **Mineral and Fiber Board** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 4). Fiber boards installed with 1-1/4 in. long, Type S steel screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 4) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
BLUE RIDGE FIBERBOARD INC — SoundStop

8. **Furring Channels** — (Optional, Not Shown — not for use with Items 4D, 4H, 4J, or 4N) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

8A. **Framing Members*** — (Optional on one or both sides, Not Shown — not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b.

b. **Steel Framing Members*** — Used to attach furring channels (Item 8Aa) to studs. Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

8B. **Framing Members*** — (Optional on one or both sides, Not Shown — Not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members** — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

8C. **Steel Framing Members*** — (Optional on one or both sides, Not Shown — Not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 8Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members*** — Used to attach furring channels (Item 8Ca) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

8D. **Steel Framing Members*** — (Optional on one or both sides, Not Shown — Not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Resilient Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.
b. **Steel Framing Members*** — Used to attach resilient channels (Item 8Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

6. **Barrier Mesh** — (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 4) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2020-03-11

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UL Product iQ™

BXUV.U469 -

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BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U469

March 12, 2020

Assembly Rating — 1 HR

Nonbearing Wall

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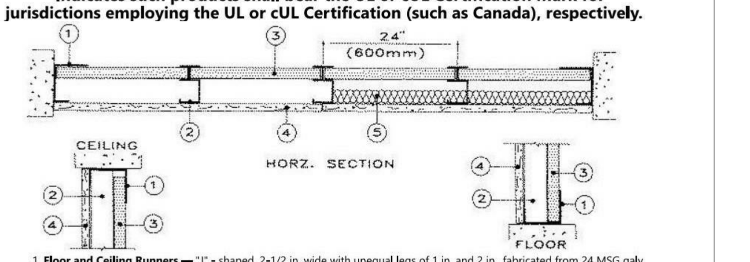

1. **Floor and Ceiling Runners** — "J" - shaped, 2-1/2 in. wide with unequal legs of 1 in. and 2 in., fabricated from 24 MSG galv steel (min 20 MSG steel required when Item 4A, 4B, or 4C is used). Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.

2. **Steel Studs** — "C-H" shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from min 25 MSG galv steel (min 20 MSG steel required when Item 4A, 4B, or 4C is used), spaced 24 in. or 600 mm OC (max 16 in. OC when Item 4A, 4B, or 4C is used). Vertically restrained walls require studs to be cut 3/8 in. less than floor to ceiling height.

3. **Gypsum Board*** — 1 in. thick gypsum wallboard liner panels, supplied in nominal 24 in. or 600 mm widths. Vertical edges inserted in "H" shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" runners with 1-5/8 in. long Type S head steel screws spaced not greater than 12 in. OC.
CERTAINTEED GYPSUM INC — Types Shaftliner, EGRG Shaftliner or GlasRoc Shaftliner

CGC INC — Type SLX.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFCSL

GEORGIA-PACIFIC GYPSUM L L C — Types TP-6, DGUSL, and TRSL

UNITED STATES GYPSUM CO — Type SLX

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX.

4. **Gypsum Board*** — 5/8 in. thick, 4 ft or 1200 mm wide, applied vertically and attached to studs with 1 in. long Type S steel screws spaced 12 in. OC along the edges and in the field of the boards.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc.

CABOT MANUFACTURING ULC — 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X, Type X-1.

CGC INC — Types C, IP-X1, IP-X2, IPC-AR, SCX, ULX, or WRC.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC-C, LGFC-C/A, LGFC6A
GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type TG-C, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing-Type LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W, Type DGG, Type DAP, Type DS.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-11, PG-C, PGS-WRS.

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Types C, FRX-G, IP-X1, IP-X2, IPC-AR, SCX, ULX or WRC.

USG BORAL DRYWALL SFZ LLC — Types C, SCX

USG MEXICO S A DE C V — Types C, IP-X1, IP-X2, IPC-AR, SCX, ULX, or WRC.

4A. **Gypsum Board*** — Not Shown - As an Alternate to Item 4. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips (Item 6) required behind vertical joints
RAY-BAR ENGINEERING CORP — Type RB-LBG

4B. **Gypsum Board*** — Not Shown - As an Alternate to Item 4. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints. To be used with Lead Batten Strips (see Item 6B) or Lead Discs (see Item 6C).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4C. **Gypsum Board*** — (Not Shown - As an Alternate to Item 4.). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4D. **Gypsum Board*** — For use with Item 5D, **Batts and Blankets***and minimum stud depth increased to 4 in. - 5/8 in. thick, 4 ft or 1200 mm wide, applied vertically and attached to studs with 1 in. long Type S steel screws spaced 12 in. OC along the edges and in the field of the boards.
UNITED STATES GYPSUM CO — Type ULIX
5. **Batts and Blankets*** — (Optional) — Mineral wool batts partially or completely filling stud cavity.
ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m³

THERMAFIBER INC — Type SAFB, SAFB FF

5A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS745 and INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

5B. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

5C. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5D. **Batts and Blankets*** — For use with Item 4D. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

5E. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. **Lead Batten Strips** — For Use with Item 4A - (Not Shown) — Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs or Tabs** — (Not Shown) - Used in lieu of or in addition to the lead batten strips (Item 6) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6B. **Lead Batten Strips** — (Not Shown, for use with Item 4B) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

6C. **Lead Discs** — (Not Shown, for use with Item 4B) Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

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Last Updated on 2020-03-12

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UL Product iQ™

BXUV.U438 -

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BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U438

March 12, 2020

Nonbearing Wall Rating — 2 HR.

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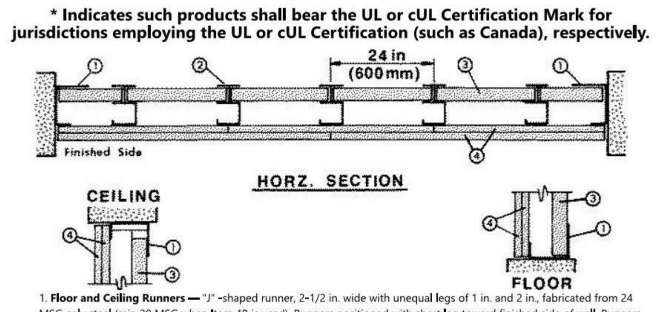

1. **Floor and Ceiling Runners** — "J" -shaped runner, 2-1/2 in. wide with unequal legs of 1 in. and 2 in., fabricated from 24 MSG galv steel (min 20 MSG when Item 4B is used). Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.

2. **Steel Studs** — "C-H" -shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used). Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4B, 4D, 4E is used).

2A. **Steel Studs** — (Not shown)-"E" -shaped studs installed in place of "C-H" -shaped studs (Item 2) to secure the closure liner panels at the ends of walls. Fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used), 2-1/2 in. wide, with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 in. less than floor to ceiling height. Sill and lintel of opening formed with "J" -shaped runners (Item 1) secured to "E" -shaped studs with angle clips and steel screws.

3. **Gypsum Board*** — 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. or 600 mm (for metric spacing) widths. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" -shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" -runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC.
CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX.

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX.

4. **Gypsum Board*** — 1/2 in. thick, 4 ft. or 1200 mm (for metric spacing) wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC along the edges and in the field of the boards. Outer or face layer attached to studs and "J" -runners with 1-5/8 in. long Type S steel screws spaced 12 in. along the edges and in the field of the boards, staggered from screws in inner layer. Joints between inner and outer layers staggered. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound.

As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. Type S steel screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J" runners over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC in the field, along the vertical edges and to the floor and ceiling runners. Outer layer secured to inner layer wallboard with 1-1/2 in. long Type G steel screws located midway between studs and 1 in. from the horizontal joint.

AMERICAN GYPSUM CO — Types AG-C .

CABOT MANUFACTURING ULC — Type C

CERTAINTEED GYPSUM INC — Type C

CGC INC — Type C, IP-X2, or WRC.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A.

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C.

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSMR-C.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C.

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Type C, IP-X2 or WRC.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C, IP-X2 or WRC.

4A. **Gypsum Board*** — (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CGC INC — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCX, ULX or WRX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

4B. **Gypsum Board*** — (Not Shown) - May be used in lieu of Items 4 or 4A for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips (Item 6) required behind vertical joints.
RAY-BAR ENGINEERING CORP — Type RB-LBG

4C. **Gypsum Board*** — (As an alternate to Item 4, 4A, 4B) — 5/8 in. thick. Two layers installed as described in Item 4.
NATIONAL GYPSUM CO — Type FSMR-C.

4D. **Gypsum Board*** — (Not Shown) - May be used in lieu of Items 4 for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints. To be used with Lead Batten Strips (see Item 6B) or Lead Discs (see Item 6C).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4E. **Gypsum Board*** — (Not Shown) - May be used in lieu of Items 4 for the base layer. Nom 5/ in. thi lead ba ed gypsum panels with beveled, square or tapered edges, applied verti ally. Verti al joints entered over studs and staggered min 1 stud avity on opposite sides of studs. Wallboard se ured to studs with 1-1/4 in. long Type S-12 steel s rews gypsum panel steel s rews spa ed in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind verti al joints of lead ba ed gypsum wallboard and optional at remaining stud lo ations. Lead batten strips, min 2 in. wide, max ft long with a max thi ness of 0.14 in. pla ed on the fa e of studs and atta hed to the stud with onstru tion adhesive and two 1 in. long Type S-12 pan head steel s rews, one at the top of the strip and one at the bottom of the strip. Lead dis s, nominal 3/ in. diam by max 0.0 5 in. thi . Compression fitted or adhered over the s rew heads. Lead batten strips and dis s to have a purity of 99.9% meeting the Federal spe ifi ation QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4F. **Gypsum Board*** — (As an alternate to Item 4) — 5/ in. thi gypsum panels with beveled, square or tapered edges, applied verti ally or horizontally. Inner or base layer atta hed to studs with 1 in. long Type S or S-12 steel s rews spa ed 24 in. OC when installed verti ally or 16 in. OC when installed horizontally. Outer or fa e layer atta hed to studs with 1-5/ in. long Type S or S-12 steel s rews spa ed in. OC when installed verti ally and staggered min. in. from base layer s rews or in. OC when installed horizontally and staggered min. 6 in. from base layer s rews. Horizontal joints between inner and outer layers need not to be staggered. Horizontal joints need not be ba ed by steel framing. Verti al joints entered over studs and staggered 24 in. Outer layer joints overed with paper tape and joint ompound. Exposed s rew heads overed with joint ompound. When used in widths other than 4 in., gypsum panels to be installed horizontally.
UNITED STATES GYPSUM CO — Type ULIX.

5. **Batts and Blankets*** — (Optional) — (Not shown) — Mineral wool or glass fiber batts partially or ompletely filling stud avity. Any mineral wool or glass fiber batt material bearing the UL Classifi ation Mar ing as to Fire Resistan e.

5A. **Fiber, Sprayed*** — As an alternate to Batts and Blan ets (Item 5) — (100% Borate Formulation) — Spray applied ellulose material. The fiber is applied with water to ompletely fill the en losed avity in a ordan e with the appli ation instru tions supplied with the produ t with a nominal dry density of 2.7 lb/ft³. Alternate Appli ation Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in a ordan e with the appli ation instru tions supplied with the produ t.
U S GREENFIBER L L C — INS735, INS745, INS750LD for use with wet or dry appli ation. INS765LD and INS773LD are to be used for dry appli ation only.

5B. **Fiber, Sprayed*** — As an alternate to Batts and Blan ets (Item 5) - Spray applied ellulose insulation material. The fiber is applied with water to interior surfa es in a ordan e with the appli ation instru tions supplied with the produ t. Applied to ompletely fill the en losed avity. Minimum dry density of 4.3 pounds per ubi ft.
NU-WOOL CO INC — Cellulose Insulation

5C. **Fiber, Sprayed*** — As an alternate to Batts and Blan ets (Item 5) - Spray applied ellulose fiber. The fiber is applied with water to ompletely fill the en losed avity in a ordan e with the appli ation instru tions supplied with the produ t. The minimum dry density shall be 4.30 lbs/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5D. **Fiber, Sprayed*** — As an alternate to Batts and Blan ets (Item 5) — Spray-applied ellulose material. The fiber is applied with water to ompletely fill the en losed avity in a ordan e with the appli ation instru tions supplied with the produ t. To fa ilitate the installation of the material, any thin, woven or non-woven netting may be atta hed by any means possible to the outer fa e the studs. The material shall rea h equilibrium moisture ontent before the installation of materials on either fa e of the studs. The minimum dry density shall be 5.79 lbs/ft³.
APPLEGATE HOLDINGS L L C — Applegate Advan ed Stabilized Cellulose Insulation
6. **Lead Batten Strips** — For Use with Item 4B - (Not Shown) - Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs or Tabs** — (Not Shown) - Used in lieu of or in addition to the lead batten strips (Item 6) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6B. **Lead Batten Strips** — (Not Shown, for use with Item 4D) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

6C. **Lead Discs** — (Not Shown, for use with Item 4D) Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2020-03-12

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UL Product iQ™

BXUV.D922 -

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. D922

October 08, 2019

Restrained Assembly Ratings — 3/4, 1, 1-1/2, 2 or 3 Hr.

(See Items 2, 7, 8, 9 and 12)

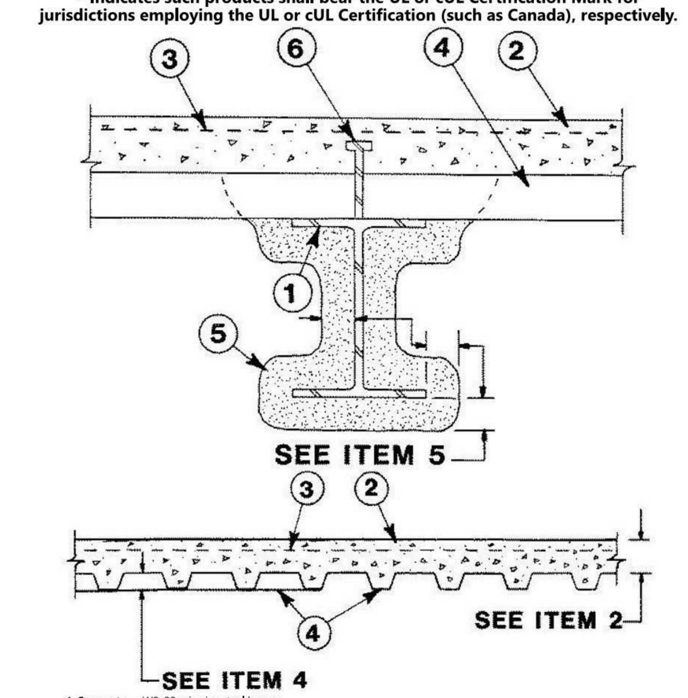
Unrestrained Assembly Rating — 0 Hr. (See Items 4, 5)

Unrestrained Beam Ratings — 1, 1-1/2, 2, 3.

(See Items 5, 8 and 12)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Supports** — W8x28 min size steel beams.

1A. **Steel Joist or Joist Girder** — (Not shown) — Composite or noncomposite. Welded or bolted to end supports. Designed per S.J.I. Specifications for a max tensile stress of 30 ksi. May be either uncoated or provided with a shop coat of paint. For the 2 h or less Restrained or Unrestrained Beam Ratings, top and bottom chords shall each consist of two angles with a min total area of 0.96 and 0.77 sq in., respectively. Web members shall be either round bars or angles. Min area of the end diagonal web shall be 0.444 sq in. Min area of each of the first six interior diagonal webs shall be 0.406 sq in. All other interior webs shall have a min area of 0.196 sq in. For the 3 h Restrained or Unrestrained Beam Ratings, each of the top and bottom chords shall each consist or two angles with a min total area of 1.74 sq in. Web members shall be either round bars or angles. Min area of each of the first five end diagonal webs shall be 0.886 sq in. All other interior webs shall have a min area of 0.441 sq in. Bridging per S.J.I. Specifications is required when noncomposite joists are used. For noncomposite joist, steel filler pieces of proper size, 1 to 2 in. long shall be welded to and between the top chord angles at midway between all top chord panel points.

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

BID PACKAGE #3 03.30.2020

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U.L. DESIGN ASSEMBLIES

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2. **Normal Weight or Lightweight Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 147 to 153 pcf unit weight, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale, or slate aggregate by rotary-kiln method, or expanded clay aggregate by rotary-kiln or sintered-grate method; 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air.

Restrained Assembly Rating Hr	Concrete (Type)	Concrete Unit Weight pcf	Concrete Thkns In.
1	Normal Weight	147-153	3-1/2
1-1/2	Normal Weight	147-153	4
2	Normal Weight	147-153	4-1/2
3	Normal Weight	147-153	5-1/4
3/4 or 1 (See Item 6)	Lightweight	107-113	2-1/2
1	Lightweight	107-120	2-5/8
1-1/2	Lightweight	107-113	3
2**	Lightweight	107-113	3-1/4
2**	Lightweight	107-116	3-1/4*
2	Lightweight	114-120	3-1/2
3	Lightweight	107-113	4-3/16
3	Lightweight	114-120	4-7/16

*For use with 2 or 3 in. steel floor and form units only.

**When optional items 7 and 11 are used, the Restrained Assembly Ratings of the 3-1/4 in. lightweight concrete thicknesses are reduced to 1-1/2 h.

3. **Welded Wire Fabric —** 6x6, 10x10 SWG.

4. **Steel Floor and Form Units* —** Composite 1-1/2, 1-5/8, 2 or 3 in. deep galv units or 4-1/2 in. deep noncomposite galv units. Fluted units may be uncoated or phosphatized/painted. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular units. The following combinations of units may be used:

(1) all 18, 24, 26, 28 or 36 in. wide cellular.

(2) all fluted.

(3) one or two 3 in. deep, 12 in. wide, 18/18 MSG min cellular, alternating with 3 in. deep fluted or other cellular.

(4) any blend of fluted and 18, 24, 26, 28 or 36 in. wide cellular.

(5) 3 in. deep, 30 in. wide cellular with 8-1/8 in. wide valley along side joints may be used when 3/8 in. diam reinforcing bars are placed 1-1/2 in. to each side of side joints and 1 in. above bottom of unit.

(6) Corrugated, 1-5/16 in. deep, 30 in. wide, 24 MSG min galv units with shear wires factory welded to deck corrugations. Welded to supports 12 in. OC through welding washers. For shear wire spacing of 8 in. or less, the steel deck stress shall not exceed 20 KSI. For shear wire spacing greater than 8 in. OC but less than or equal to 12 in. OC, steel deck stress shall not exceed 12 KSI.

ASC STEEL DECK, DIV OF ASC PROFILES L L C — 32 in. wide Types NH-32, NHN-32, NHF-32; 36 in. wide Types BH-36, BHN-36, BHN-35-1/4, BHF-36, BHF-36A, 2WH-36, 2WHS-36, 2WHF-36, 2WHF-36A, 3WxH-36, 3WxHF-36, 3WxHF-36A, 3WH-36, 3WHF-36, 3WHF-36A, 3W-36, 3WF-36, DG3W-36, DG3WF-36. All units may be galvanized or Prime Shield. Non-cellular decks may be

(a) 1-1/2 in. deep, 24 in. wide, 22 MSG or thicker fluted with clear spans not more than 7 ft, 8 in.

(b) 1-1/2 in. deep, 24 in. wide, 20 MSG or thicker fluted with clear spans not more than 8 ft, 8 in.

(c) 1-1/2 in. deep, 24 in. wide, 16 MSG or thicker fluted and 18/18 MSG or thicker cellular with clear spans not more than 9 ft, 11 in.

(d) 3 in. deep, 36 in. wide, 18 MSG or thicker fluted and 24 in. wide, 20/18 MSG or thicker cellular with clear spans not more than 13 ft, 2 in.

5. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in more than one coat to the beam to the final thicknesses shown below. Beam surfaces shall be clean and free of dirt, loose scale and oil. Min avg and min ind density of 23 and 21 pcf, respectively for Type P-20. Min avg and min ind density of 18 and 16 pcf, respectively for Type CP-2.

Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr	Spray Applied Fire Resistive Mtl Thkns In.
1	1, 1-1/2, 2	1/2
1-1/2	1, 1-1/2, 2, 3	3/4
2	2, 3	15/16
3	3	1-7/16

The thickness of material required on the steel joist for the various Ratings are shown in the following table:

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Type of Concrete Slab	Spray Applied Fire Resistive Mtl Thkns In. Joist & Bridging
1	1	NW or LW	1-1/2
1-1/2	1-1/2	NW or LW	1-7/8
2	2	NW or LW	2-3/8
3	3	NW or LW	3

ISOLATEK INTERNATIONAL — Types CP-2, P-20.

NEWKEM PRODUCTS CORP — Type CP-2.

5A. **Alternate Spray-Applied Fire Resistive Materials* —** Applied by mixing with water according to instructions on each bag of mixture and spraying in one or more coats as necessary to the beam to the final thicknesses shown below. Beam surfaces shall be clean and free of dirt, loose scale and oil. Min avg and min ind density of 40 and 44 pcf, respectively. For a method of density determination, refer to Design Information Section.

Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr	Min Thkns
1	1, 1-1/2, 2	9/16
1-1/2	1, 1-1/2, 2, 3	7/8
2	2, 3	1-1/8
3	3	1-11/16

GREENTECH ASIA PACIFIC SDN BDH — Type M-II, investigated for exterior use.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types M-II or TG. Types M-II and TG investigated for exterior use.

ISOLATEK INTERNATIONAL — Type M-II or TG. Types M-II and TG investigated for exterior use.

NEWKEM PRODUCTS CORP — Type M-II or TG. Types M-II and TG investigated for exterior use.

6. **Shear-Connector Studs —** (Optional) — Studs 3/4 in. diam by 3 in. long, for 1-1/2 in. deep form units to 5-1/4 in. long for 3 in. deep form units, headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

7. **Electrical Inserts* —** (Not shown) Classified as "Outlet Boxes and Fittings Classified for Fire Resistance."

(1) **H. H. Robertson Co. —** Present Inserts. For use with 2-1/2 in. lightweight concrete topping over QL-WKX steel floor units. Installed over factory-punched holes in floor units per accompanying installation instructions. Spacing shall not be more than one insert in each 14 sq ft of floor area with spacing along floor units not less than 48 in. OC. The holes cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than wire. Restrained Assembly Rating is 3/4 hr with Tapmate II-FS-1 and 1 hr with Tapmate II-FS-2 inserts.
H H ROBERTSON — Tapmate II-FS-1, II-FS-2; Series KEB.

(2) **Wiremold Co. —** After set Inserts. Single-service after set inserts installed per accompanying installation instructions in 2-1/2 in. diam hole core-drilled through min 3-1/4 in. thick concrete topping to top of cell of any min 3 in. deep cellular steel floor unit specified under Item 3. Spacing shall be no more than one insert in each 10 sq ft of floor area in each span with a min center to center spacing of 16 in. If the high potential and low potential raceways of the cellular steel floor unit are separated by a valley filled with concrete, the center to center spacing of the high potential and low potential single-service after set inserts may be reduced to a min of 7-1/2 in. Restrained Assembly Rating is 2 hr or less with internally protected type 436 after set insert with Type M4-, M6- or M8- Series single-service activation fitting.
WIREMOLD CO — Internally protected Type 436 after set insert with Type M4-, M6- or M8- Series single-service activation fitting.

8. **Mineral and Fiber Boards* —** (Optional, not shown). Applied over concrete floor with no restriction on board thickness. When mineral and fiber boards are used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr. See Mineral and Fiber Board (CERZ) category for names of manufacturers.

9. **Roof Covering Materials* —** (Optional, not shown) — Consisting of materials compatible with insulations described herein which provide Class A, B or C coverings. See Built-Up Roof Covering Materials in Building Materials Directory.

10. **Insulating Concrete —** (Optional, not shown) — Various types of insulating concrete prepared and applied in the thickness indicated:

A. **Vermiculite Concrete —** (Optional, not shown)

1. Blend 6 to 8 cu ft of **Vermiculite Aggregate*** to 94 lb Portland Cement and air entraining agent. Min thickness of 2 in. as measured to the top surface of the structural concrete or foamed plastic (Item 11) when it is used.
MANDOVAL LTD

MANDOVAL VERMICULITE PRODUCTS INC

2. Blend 3.5 cu ft of **Vermiculite Aggregate*** to 94 lb Portland Cement. Slurry coat, 1/8 in. thickness beneath foamed plastic (Item 11) when used, 1 in. min topping thickness.
ELASTIZELL CORP OF AMERICA

MANDOVAL LTD

MANDOVAL VERMICULITE PRODUCTS INC

Vermiculite concrete may be covered with Roof Covering Materials (Item 9).

B. **Cellular Concrete-Roof Topping Mixture* —** Concentrate mixed with water and Portland cement per manufacturers specifications. Min. thickness of 2-in. as measured to the top surface of the structural concrete or foamed plastic (Item 11A) when used. Cast dry density and 28-day min compressive strength of 190 psi as determined with ASTM C495-66.
AERIX INDUSTRIES — Cast dry density of 37 (+ or -) 3.0 pcf.

CELCORE INC — Cast dry density of 31 (+ or -) 3.0 pcf.

ELASTIZELL CORP OF AMERICA — Type II. Mix #1 of cast dry density 39 (+ or -) 3.0 pcf, Mix #2 of cast dry density 40 (+ or -) 3.0 pcf, Mix #3 of cast dry density 47 (+ or -) 3.0 pcf.

C. **Cellular Concrete — Roof Topping Mixture* —** Concentrate mixed with water and Portland cement per manufacturers specifications. 28-day min compressive strength of 190 psi as determined with ASTM C495-66.
SIPLAST INC — Mix No. 1 or 2. Cast dry density of 32 to 35 pcf for Mix No. 1 or 36 to 39 pcf for Mix No. 2.

D. **Perlite Concrete —** 6 cu ft of **Perlite Aggregate*** to 94 lb of Portland Cement and 1-1/2 pt air entraining agent. Min thickness 2 in. as measured to the top surface of structural concrete or foamed plastic (Item 11A) when it is used. See Perlite Aggregate (CFFX) in Fire Resistance Directory for names of manufacturers.

E. **Cellular Concrete — Roof Topping Mixture* —** Foam concentrate mixed with water, Portland Cement and UL Classified Vermiculite Aggregate per manufacturer's application instructions. Cast dry density of 30 to 36 pcf and 28-day compressive strength of min 250 psi as determined in accordance with ASTM C495-86.
AERIX INDUSTRIES — Mix No. 3.

SIPLAST INC — Mix No. 3.

11. **Foamed Plastic* —** (Optional, not shown) — For use only with vermiculite (Item 10A) or cellular (Item 10C) concretes-Rigid polystyrene foamed plastic insulation having slots and/or holes sandwiched between vermiculite concrete slurry which is applied to the normal or lightweight concrete surface and vermiculite concrete topping (Item 10A).
SIPLAST INC

VERMICULITE PRODUCTS INC

11A. **Foamed Plastic* —** (Optional, not shown) — For use only with cellular concrete. Nom 24 by 48 in. polystyrene foamed plastic insulation boards having a density of 1.0 + 0.1 pcf encapsulated within cellular concrete topping (Item 10B). Each insulation board shall contain six nom 3 in. diam holes oriented in two rows of three holes each with the holes spaced 12 in. OC, transversely and 16 in. OC longitudinally.
See **Foamed Plastic*** (BRYX) category in the Building Materials Directory or Foamed Plastic* (CCVW) category in the Fire Resistance Directory for list of manufacturers.

12. **Foamed Plastic* —** (Optional, not shown). Polyisocyanurate roof insulation applied over concrete floor with no restriction on insulation thickness. When polyisocyanurate insulation is used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr. See Foamed Plastic (CCVW) category for list of manufacturers.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fi e Resist n e R tings - NSI/UL 263 Ce tified fo United St tes

BXUV7 - Fi e Resist n e R tings - C N/ULC-S101 Ce tified fo C n d

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

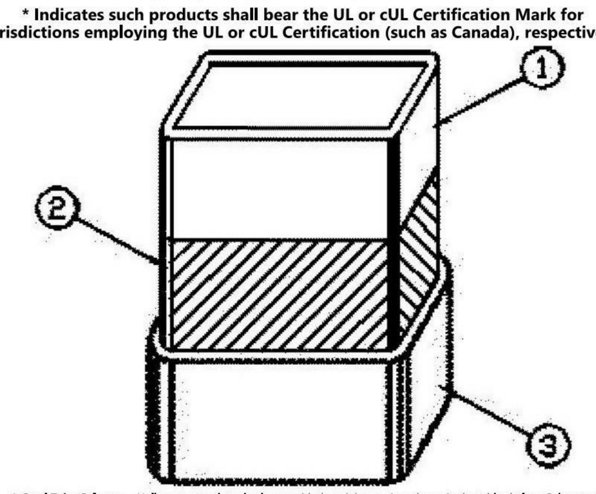
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. X661

December 11, 2013

Ratings - 1, 1-1/2, 2, and 3 Hr. (See Item 3 and 4)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Tube Column —** Hollow structural steel columns with the minimum sizes shown in the tables below. Columns shall be free of dirt, loose scale and oil.

2. **Primer Coating —** Two Component Epoxy or Phenolic Modified Alkyd applied at 0.002 in. dry film thickness.

3. **Mastic & Intumescent Coating* —** Coating spray or brush applied in accordance with the manufacturer's instructions at the minimum average dry thickness shown in the table below. The thickness shown does not include primer thickness.

Size	A/P	1 Hr. In.	1-1/2 Hr. In.	2 Hr. In.	3 Hr. In.
TS4x4x 1/4	0.24	0.073	0.226	0.367	NR
TS4.5x4.5x 1/4	0.24	0.073	0.226	0.367	NR
TS5x4x 1/4	0.24	0.073	0.226	0.367	NR
TS5x5x 1/4	0.24	0.073	0.226	0.367	NR
TS6x4x 1/4	0.24	0.073	0.226	0.367	NR
TS5.5x5.5x 1/4	0.24	0.073	0.226	0.367	NR
TS6x5x 1/4	0.24	0.073	0.226	0.367	NR
TS7x4x 1/4	0.24	0.073	0.226	0.367	NR
TS6x6x 1/4	0.24	0.073	0.226	0.367	NR
TS7x5x 1/4	0.24	0.073	0.226	0.367	NR
TS8x4x 1/4	0.24	0.073	0.226	0.367	NR
TS7x7x 1/4	0.24	0.073	0.226	0.367	NR
TS8x6x 1/4	0.24	0.073	0.226	0.367	NR
TS9x5x 1/4	0.24	0.073	0.226	0.367	NR
TS10x4x 1/4	0.24	0.073	0.226	0.367	NR
TS10x5x 1/4	0.24	0.073	0.226	0.367	NR
TS8x8x 1/4	0.24	0.073	0.226	0.367	NR
TS9x7x 1/4	0.24	0.073	0.226	0.367	NR
TS10x6x 1/4	0.24	0.073	0.226	0.367	NR
TS12x4x 1/4	0.24	0.073	0.226	0.367	NR
TS9x9x 1/4	0.24	0.073	0.226	0.367	NR
TS10x8x 1/4	0.24	0.073	0.226	0.367	NR
TS12x6x 1/4	0.24	0.073	0.226	0.367	NR
TS14x4x 1/4	0.24	0.073	0.226	0.367	NR
TS10x10x 1/4	0.24	0.073	0.226	0.367	NR
TS12x8x 1/4	0.24	0.073	0.226	0.367	NR
TS14x6x 1/4	0.24	0.073	0.226	0.367	NR
TS16x4x 1/4	0.24	0.073	0.226	0.367	NR
TS12x10x 1/4	0.25	0.069	0.212	0.348	NR
TS12x12x 1/4	0.25	0.069	0.212	0.348	NR
TS14x10x 1/4	0.25	0.069	0.212	0.348	NR
TS16x8x 1/4	0.25	0.069	0.212	0.348	NR
TS18x6x 1/4	0.25	0.069	0.212	0.348	NR
TS20x4x 1/4	0.25	0.069	0.212	0.348	NR
TS16x16x 1/4	0.25	0.069	0.212	0.348	NR
TS4x4x 5/16	0.29	0.056	0.160	0.273	NR
TS4.5x4.5x 5/16	0.29	0.056	0.160	0.273	NR
TS5x4x 5/16	0.29	0.056	0.160	0.273	NR
TS5x5x 5/16	0.30	0.055	0.157	0.267	NR
TS6x4x 5/16	0.30	0.055	0.157	0.267	NR
TS5.5x5.5x 5/16	0.30	0.055	0.157	0.267	NR
TS6x5x 5/16	0.30	0.055	0.157	0.267	NR
TS7x4x 5/16	0.30	0.055	0.157	0.267	NR
TS6x6x 5/16	0.30	0.055	0.157	0.267	NR
TS7x5x 5/16	0.30	0.055	0.157	0.267	NR
TS8x4x 5/16	0.30	0.055	0.157	0.267	NR
TS7x7x 5/16	0.30	0.055	0.157	0.267	NR
TS8x6x 5/16	0.30	0.055	0.157	0.267	NR
TS9x5x 5/16	0.30	0.055	0.157	0.267	NR
TS10x4x 5/16	0.30	0.055	0.157	0.267	NR
TS10x5x 5/16	0.30	0.055	0.157	0.267	NR
TS8x8x 5/16	0.30	0.055	0.157	0.267	NR
TS9x7x 5/16	0.30	0.055	0.157	0.267	NR
TS10x6x 5/16	0.30	0.055	0.157	0.267	NR
TS12x4x 5/16	0.30	0.055	0.157	0.267	NR
TS9x9x 5/16	0.30	0.055	0.157	0.267	NR
TS10x8x 5/16	0.30	0.055	0.157	0.267	NR
TS12x6x 5/16	0.30	0.055	0.157	0.267	NR
TS14x4x 5/16	0.30	0.055	0.157	0.267	NR
TS10x10x 5/16	0.30	0.055	0.157	0.267	NR
TS12x8x 5/16	0.30	0.055	0.157	0.267	NR
TS14x6x 5/16	0.30	0.055	0.157	0.267	NR
TS16x4x 5/16	0.30	0.055	0.157	0.267	NR
TS12x10x 5/16	0.31	0.053	0.151	0.258	NR
TS12x12x 5/16	0.31	0.053	0.151	0.258	NR
TS14x10x 5/16	0.31	0.053	0.151	0.258	NR
TS16x8x 5/16	0.31	0.053	0.151	0.258	NR
TS18x6x 5/16	0.31	0.053	0.151	0.258	NR
TS20x4x 5/16	0.31	0.053	0.151	0.258	NR
TS14x14x 5/16	0.31	0.053	0.151	0.258	NR
TS16x12x 5/16	0.31	0.053	0.151	0.258	NR
TS20x8x 5/16	0.31	0.053	0.151	0.258	NR
TS18x12x 5/16	0.31	0.053	0.151	0.258	NR
TS16x16x 5/16	0.31	0.053	0.151	0.258	NR
TS20x12x 5/16	0.31	0.053	0.151	0.258	NR
TS20x16x 5/16	0.31	0.053	0.151	0.258	NR
TS20x18x 5/16	0.31	0.053	0.151	0.258	NR
TS4x4x 3/8	0.34	0.047	0.128	0.224	NR
TS4.5x4.5x 3/8	0.35	0.047	0.128	0.224	NR
TS5x4x 3/8	0.35	0.047	0.128	0.224	NR
TS5x5x 3/8	0.35	0.047	0.128	0.224	NR
TS6x4x 3/8	0.35	0.047	0.128	0.224	NR
TS5.5x5.5x 3/8	0.35	0.047	0.128	0.224	NR
TS6x5x 3/8	0.35	0.047	0.128	0.224	NR
TS7x4x 3/8	0.35	0.047	0.128	0.224	NR
TS6x6x 3/8	0.36	0.046	0.123	0.217	NR
TS7x5x 3/8	0.36	0.046	0.123	0.217	NR
TS8x4x 3/8	0.36	0.046	0.123	0.217	NR
TS7x7x 3/8	0.36	0.046	0.123	0.217	NR
TS8x6x 3/8	0.36	0.046	0.123	0.217	NR
TS9x5x 3/8	0.36	0.046	0.123	0.217	NR
TS10x4x 3/8	0.36	0.046	0.123	0.217	NR
TS10x5x 3/8	0.36	0.046	0.123	0.217	NR
TS8x8x 3/8	0.36	0.046	0.123	0.217	NR
TS9x7x 3/8	0.36	0.046	0.123	0.217	NR
TS10x6x 3/8	0.36	0.046	0.123	0.217	NR
TS12x4x 3/8	0.36	0.046	0.123	0.217	NR
TS9x9x 3/8	0.36	0.046	0.123	0.217	NR
TS10x8x 3/8	0.36	0.046	0.123	0.217	NR
TS12x6x 3/8	0.36	0.046	0.123	0.217	NR
TS14x4x 3/8	0.36	0.046	0.123	0.217	NR
TS10x10x 3/8	0.36	0.046	0.123	0.217	NR
TS12x8x 3/8	0.36	0.046	0.123	0.217	NR
TS14x6x 3/8	0.36	0.046	0.123	0.217	NR
TS16x4x 3/8	0.36	0.046	0.123	0.217	NR
TS12x10x 3/8	0.36	0.046	0.123	0.217	NR
TS12x12x 3/8	0.37	0.045	0.119	0.211	NR
TS14x10x 3/8	0.37	0.045	0.119	0.211	NR
TS16x8x 3/8	0.37	0.045	0.119	0.211	NR
TS18x6x 3/8	0.37	0.045	0.119	0.211	NR
TS20x4x 3/8	0.37	0.045	0.119	0.211	NR
TS14x12x 3/8	0.37	0.045	0.119	0.211	NR
TS14x14x 3/8	0.37	0.045	0.119	0.211	NR
TS16x12x 3/8	0.37	0.045	0.119	0.211	NR
TS20x8x 3/8	0.37	0.045	0.119	0.211	NR
TS18x12x 3/8	0.37	0.045	0.119	0.211	NR
TS16x16x 3/8	0.37	0.045	0.119	0.211	NR
TS20x12x 3/8	0.37	0.045	0.119	0.211	NR
TS18x16x 3/8	0.37	0.045	0.119	0.211	NR
TS18x18x 3/8	0.37	0.045	0.119	0.211	NR
TS20x16x 3/8	0.37	0.045	0.119	0.211	NR
TS20x18x 3/8	0.37	0.045	0.119	0.211	NR
TS20x20x 3/8	0.37	0.045	0.119	0.211	NR
TS4x4x 1/2	0.45	0.038	0.097	0.175	0.319
TS4.5x4.5x 1/2	0.45	0.038	0.097	0.175	0.319
TS5x4x 1/2	0.45	0.038	0.097	0.175	0.319
TS5x5x 1/2	0.46	0.037	0.094	0.172	0.319
TS6x4x 1/2	0.46	0.037	0.094	0.172	0.319
TS6x5x 1/2	0.46	0.037	0.094	0.172	0.319
TS7x4x 1/2	0.46	0.037	0.094	0.172	0.319
TS6x6x 1/2	0.46	0.037	0.094	0.172	0.319
TS7x5x 1/2	0.46	0.037	0.094	0.172	0.319
TS8x4x 1/2	0.46	0.037	0.094	0.172	0.319
TS7x7x 1/2	0.47	0.037	0.092	0.168	0.319
TS8x6x 1/2	0.47	0.037	0.092	0.168	0.319
TS9x5x 1/2	0.47	0.037	0.092	0.168	0.319
TS10x4x 1/2	0.47	0.037	0.092	0.168	0.319
TS8x8x 1/2	0.47	0.037	0.092	0.168	0.319
TS9x7x 1/2	0.47	0.037	0.092	0.168	0.319
TS10x6x 1/2	0.47	0.037	0.092	0.168	0.319
TS12x4x 1/2	0.47	0.037	0.092	0.168	0.319
TS9x9x 1/2	0.48	0.036	0.091	0.166	0.319
TS10x8x 1/2	0.48	0.036	0.091	0.166	0.319
TS12x6x 1/2	0.48	0.036	0.091	0.166	0.319
TS14x4x 1/2	0.48	0.036	0.091	0.166	0.319
TS10x10x 1/2	0.48	0.036	0.091	0.166	0.319
TS12x8x 1/2	0.48	0.036	0.091	0.166	0.319
TS14x6x 1/2	0.48	0.036	0.091	0.166	0.319
TS16x4x 1/2	0.48	0.036	0.091	0.166	0.319
TS12x10x 1/2	0.48	0.036	0.091	0.166	0.319
TS12x12x 1/2	0.48	0.036	0.091	0.166	0.319
TS14x10x 1/2	0.48	0.036	0.091	0.166	0.319
TS16x8x 1/2	0.48	0.036	0.091	0.166	0.319
TS18x6x 1/2	0.48	0.036	0.091	0.166	0.319
TS20x4x 1/2	0.48	0.036	0.091	0.166	0.319
TS14x12x 1/2	0.48	0.036	0.091	0.166	0.319
TS14x14x 1/2	0.49	0.036	0.089	0.164	0.319
TS16x12x 1/2	0.49	0.036	0.089	0.164	0.319
TS20x8x 1/2	0.49	0.036	0.089	0.164	0.319
TS18x12x 1/2	0.49	0.036	0.089	0.164	0.319
TS16x16x 1/2	0.49	0.036	0.089	0.164	0.319
TS20x12x 1/2	0.49	0.036	0.089	0.164	0.319
TS18x16x 1/2	0.49	0.036	0.089	0.164	0.319
TS18x18x 1/2	0.49	0.036	0.089	0.164	0.319
TS20x16x 1/2	0.49	0.036	0.089	0.164	0.319
TS20x18x 1/2	0.49	0.036	0.089	0.164	0.319
TS20x20x 1/2	0.49	0.036	0.0 9	0.164	0.319
TS6x6x 5/	0.57	0.033	0.07	0.146	0.319
TS7x5x 5/	0.57	0.033	0.07	0.146	0.319
TS x4x 5/	0.57	0.033	0.07	0.146	0.319
TS7x7x 5/	0.5	0.032	0.07	0.145	0.319
TS9x5x 5/	0.5	0.032	0.07	0.145	0.319
TS10x4x 5/	0.5	0.032	0.07	0.145	0.319
TS x x 5/	0.5	0.032	0.07	0.145	0.319
TS9x7x 5/	0.5	0.032	0.07	0.145	0.319
TS10x6x 5/	0.5	0.032	0.07	0.145	0.319
TS12x4x 5/	0.5	0.032	0.07	0.145	0.319
TS9x9x 5/	0.59	0.032	0.076	0.143	0.319
TS10x x 5/	0.59	0.032	0.076	0.143	0.319
TS12x6x 5/	0.59	0.032	0.076	0.143	0.319
TS14x4x 5/	0.59	0.032	0.076	0.143	0.319
TS10x10x 5/	0.59	0.032	0.076	0.143	0.319
TS12x x 5/	0.59	0.032	0.076	0.143	0.319
TS14x6x 5/	0.59	0.032	0.076	0.143	0.319
TS12x12x 5/	0.60	0.032	0.076	0.141	0.319
TS14x10x 5/	0.60	0.032	0.076	0.141	0.319
TS16x x 5/	0.60	0.032	0.076	0.141	0.319
TS1 x6x 5/	0.60	0.032	0.076	0.141	0.319
TS14x14x 5/	0.60	0.032	0.076	0.141	0.319
TS16x12x 5/	0.60	0.032	0.076	0.141	0.319
TS20x x 5/	0.60	0.032	0.076	0.141	0.319
TS1 x12x 5/	0.60	0.032	0.076	0.141	0.319
TS16x16x 5/	0.61	0.031	0.075	0.140	0.319
TS20x12x 5/	0.61	0.031	0.075	0.140	0.319
TS1 x16x 5/	0.61	0.031	0.075	0.140	0.319
TS1 x1 x 5/	0.61	0.031	0.075	0.140	0.319
TS20x16x 5/	0.61	0.031	0.075	0.140	0.319
TS20x18x 5/8	0.61	0.031	0.075	0.140	0.319
TS20x20x 5/8	0.61	0.031	0.075	0.140	0.319
TS12x6x 3/4	0.70	0.029	0.068	0.129	0.319
TS16x16x 1	0.95	0.026	0.058	0.112	0.319
TS16x16x 1.5	1.38	0.023	0.050	0.099	0.319

CARBOLINE CO — TYPE THERMO-SORB, THERMO-SORB VOC. Investigated for Interior Conditioned Space and Interior General Purpose.

4. **Carbon Fiber Mesh —** (Optional, Not Shown) For three hour rating. Nom. 3/16 in. by 3/16 in. 3.50 oz/sq yd carbon fiber mesh to cover the entire surface. The depth at which the reinforcing mesh is placed shall be approximately 0.120 inches from the steel substrate.

5. **Top Coat —** (Not Shown) - No topcoat required for Interior Conditioned Space. Finishing topcoat for Interior General Purpose, Types Carboguard 893 SG or Santile 655 applied at 0.006 in. dry film thickness or Carbocrylic 3350 or Carbocoat 30R applied at 0.003 in. dry film thickness.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2013-12-11

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UL Product iQ™

BXUV.X771 -

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

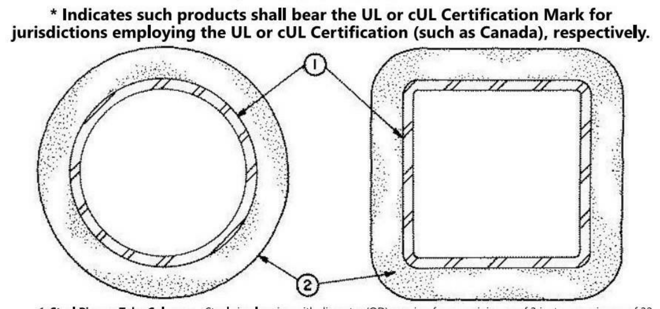
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. X771

October 26, 2017

Ratings — 3/4, 1, 1-1/2, 2, 3 and 4 h

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Pipe or Tube Column —** Steel circular pipe with diameter (OD) ranging from a minimum of 3 in. to a maximum of 32 in. with a minimum wall thickness of 3/16 in.
Steel square or rectangular tube with outside wall dimensions ranging from a minimum 3 in. to a maximum of 32 in. and a minimum wall thickness of 3/16 in.

The A/P ratio of the steel pipe or tube (see Item 2) shall range from 0.18 to 2.0.

2. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in one or more coats to steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and ind density of 15/14 pcf respectively. Min avg and min ind density of 22/19 pcf respectively for Types Z-106, Z-106/G. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. For method of density determination, see Design Information Section, preceding these designs.
The hourly rating of the structural member is dependent upon the ratio of A/P and the thickness of Spray-Applied Fire Resistive Materials, where A is the cross sectional area of the pipe or tube and P is the heated perimeter.

The A/P ratio of a circular pipe is determined by:

$$A/P\ pipe = \frac{t\,(d - t)}{d}$$

Where:

d = the outer diameter of the pipe (in.)

t = the wall thickness of the pipe (in.)

The A/P ratio of a rectangular or square tube is determined by:

$$A/P\ tube = \frac{t\,(a + b - 2t)}{a + b}$$

Where:

a = the outer width of the tube (in.)

b = the outer length of the tube (in.)

t = the wall thickness of the tube (in.)

The thickness of Spray-Applied Fire Resistive Materials for ratings of 3/4, 1, 1-1/2, 2, 3 and 4 h of a steel pipe or tube can be determined by the equation:

$$h = \frac{R - 0.20}{4.43\ (A/P)}$$

Where:

R = the hourly rating (hrs).

h = the thickness of Spray-Applied Fire Resistive Materials, minimum 1/4 in., maximum 3-7/8 in.

ARABIAN VERMICULITE INDUSTRIES — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Sonophone 1, Sonophone 5, Z-106, Z-106/G.

GCP KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, Z-106, Z-106/G.

PYROK INC — Type LD.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, 5, 5EF, 5GP, 5AR, 5GP/AR, 5EF/AR, 5MD/AR, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, RG, Z-106, Z-106/G.

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Last Updated on 2017-10-26

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Missouri: #000958

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E-2002023253

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Licensee's Certificate of Authority Number:
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MEP CONSULTANT

W.L. Cassell & Associates, Inc. now IMEG
1600 Baltimore, Suite 300
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Phone Number: 816.842.8437
Licensee's Certificate of Authority Number:
00127265

Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

BID PACKAGE #3 03.30.2020

A0.6

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U.L. DESIGN ASSEMBLIES

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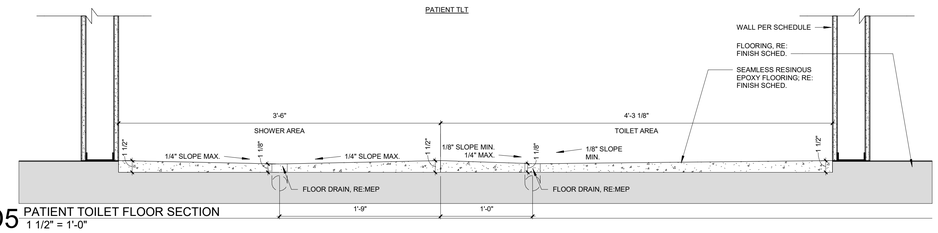


D5 PATIENT TOILET FLOOR SECTION
1 1/2" = 1'-0"

5

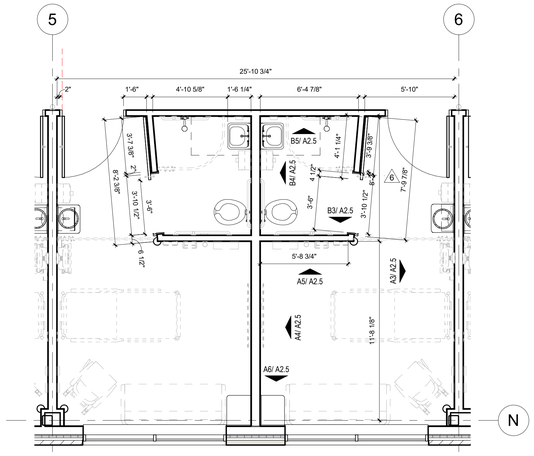
KEYNOTES - RCP

Number	Comments
1	NEW ARCHED SOFFIT TO MATCH EXISTING ARCHED SOFFIT IN CORRIDOR 02-1B007.1. FIELD VERIFY DIMENSIONS.
2	FACE OF SOFFIT TO BE SAME PAINT COLOR AS ADJACENT WALL
3	ALL MANUAL ROLLER SHADES BY OTHERS
4	NEW CEILING, GRID AND LIGHTS, REINSTALL EXIST. MECH. GRILLS.
5	NEW SOFFIT TO MATCH EXISTING WINDOW SOFFIT IN CORRIDOR 02-1B007.1. FIELD VERIFY DIMENSIONS.

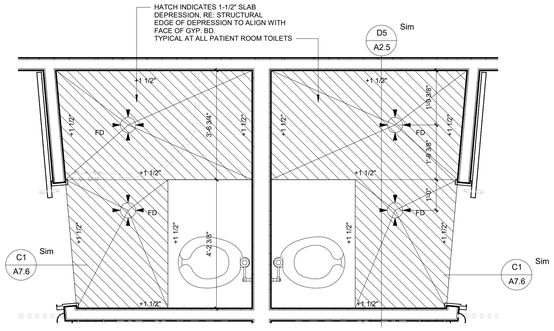
27

ROOM FINISH SCHEDULE - TYP. PATIENT ROOM

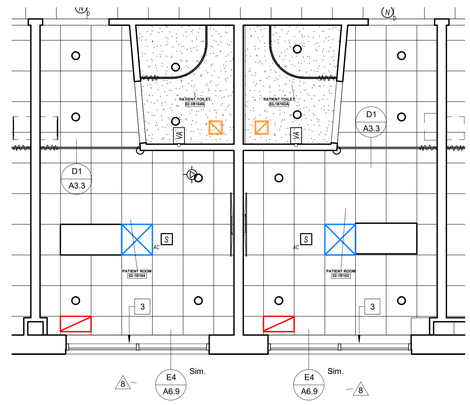
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS				CASEWORK				
				NORTH	EAST	SOUTH	WEST	BASE CABINETS	UPPER CABINETS	COUNTERTOPS	CEILING	NOTES
02-1B102	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-1.2 / P-1	P-1	WP-2 / P-1.8	PL-1	PL-1	SS-1	ACT-1	
02-1B102A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5	
02-1B104	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1.8	P-1	WP-1.2 / P-1	PL-1	PL-1	SS-1	ACT-1	
02-1B104A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5	



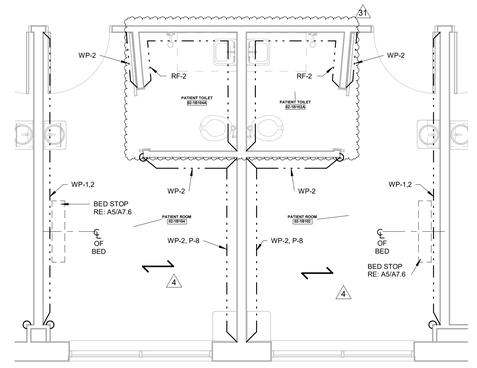
C5 DIMENSION PLAN - TYPICAL PATIENT ROOM
1/4" = 1'-0"



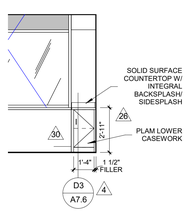
C4 TYPICAL SLAB RECESS AND SLOPING PLAN AT PATIENT ROOM TOILETS
1/2" = 1'-0"



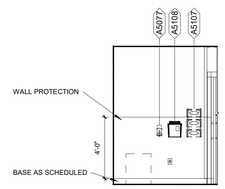
C3 RCP - TYP. ENLARGED PATIENT ROOMS
1/4" = 1'-0"



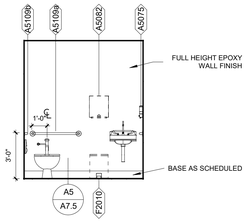
C1 FINISH FLOOR PLAN - TYP. PATIENT ROOM
1/4" = 1'-0"



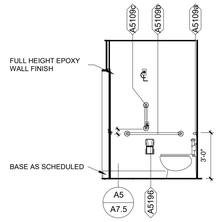
A6 02-1B102 - TYP. PATIENT ROOM - SOUTH
1/4" = 1'-0"
NOTE: ORIENTATION VARIES DEPENDING ON ROOM LAYOUT.



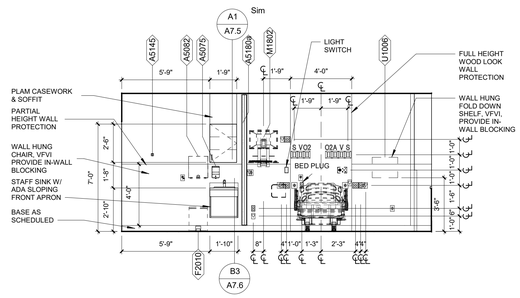
B5 TYP. PATIENT TOILET - NORTH
1/4" = 1'-0"
NOTE: ORIENTATION VARIES DEPENDING ON ROOM LAYOUT.



B4 TYP. PATIENT TOILET - WEST
1/4" = 1'-0"
NOTE: ORIENTATION VARIES DEPENDING ON ROOM LAYOUT.

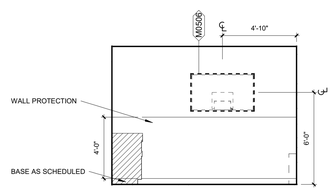


B3 TYP. PATIENT TOILET - SOUTH
1/4" = 1'-0"
NOTE: ORIENTATION VARIES DEPENDING ON ROOM LAYOUT.

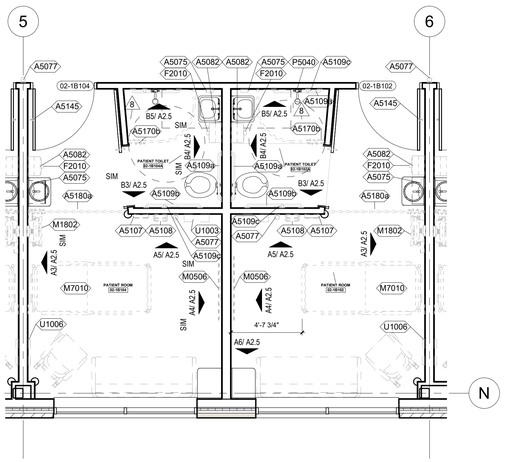


A3 TYP. PATIENT ROOM - HEADWALL
1/4" = 1'-0"

A5 TYP. PATIENT ROOM - STAFF WALL NORTH
1/4" = 1'-0"
NOTE: ORIENTATION VARIES DEPENDING ON ROOM LAYOUT.



A4 TYP. PATIENT ROOM - FOOTWALL WEST
1/4" = 1'-0"



A1 ENLARGED PLAN - TYPICAL PATIENT ROOM
1/4" = 1'-0"

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Flex Capacity Expansion
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Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
4	04.10.20	Bid Pkg 3 - ADD 01
5	04.17.20	ASI 3
6	04.24.20	ASI 4
8	05.04.20	RFI 30
26	07.08.20	ASI 14
27	07.02.20	RFI 90
30	07.23.20	ASI 15
31	08.14.20	ASI 16

A2.5

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TYPICAL PATIENT ROOM

BID PACKAGE #3 03.30.2020

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KEYNOTES - RCP

Number	Comments
1	NEW ARCHED SOFFIT TO MATCH EXISTING ARCHED SOFFIT IN CORRIDOR 02-1B007.1. FIELD VERIFY DIMENSIONS.
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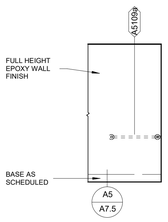
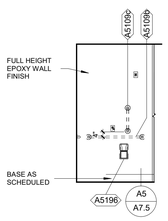
ROOM FINISH SCHEDULE - ADA PATIENT ROOM

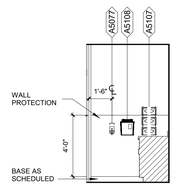
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS				CASEWORK			CEILING	NOTES
				NORTH	EAST	SOUTH	WEST	BASE CABINETS	UPPER CABINETS	COUNTERTOPS		
02-1B095	ADA PATIENT ROOM	SV-3	RWB-1	WP-2 / P-8	WP-2 / P-1	P-1	WP-1, 2 / P-1	PL-1	PL-1	SS-1	ACT-1	
02-1B095A	ADA TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	RF-2 / EP-1	EP-1	-	-	-	EP-5	
02-1B107	ADA PATIENT ROOM	SV-3	RWB-1	WP-2 / P-8	WP-1,2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1	
02-1B107A	ADA PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2 / EP-1	RF-2 / EP-1	-	-	-	EP-5	
02-1B115	ADA PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1	
02-1B115A	ADA TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5	



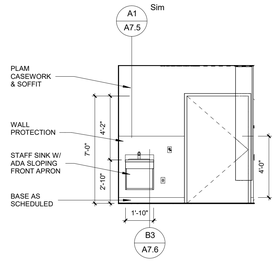
E6 TYP. ADA PATIENT TOILET - WEST
1/4" = 1'-0"



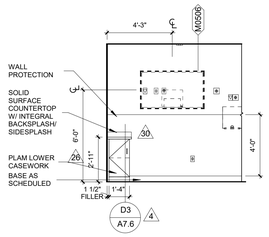
E5 TYP. ADA PATIENT TOILET - NORTH
1/4" = 1'-0"



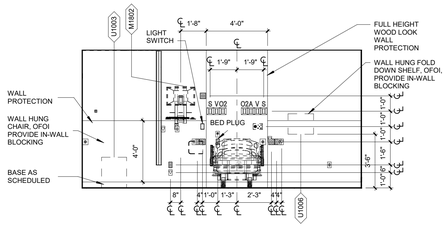
D6 TYP. ADA PATIENT ROOM - STAFF WALL
1/4" = 1'-0"



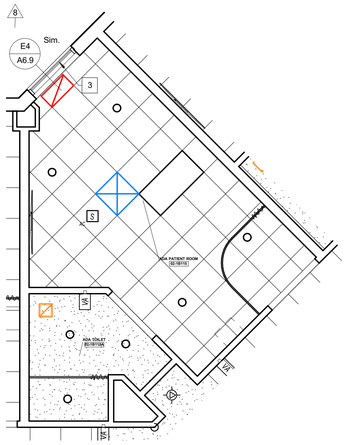
D5 TYP. ADA PATIENT ROOM SINK
1/4" = 1'-0"



C6 TYP. ADA PATIENT ROOM - FOOTWALL
1/4" = 1'-0"



C5 TYP. ADA PATIENT ROOM - HEADWALL
1/4" = 1'-0"



D4 02-1B115 - ADA PATIENT ROOM - RCP
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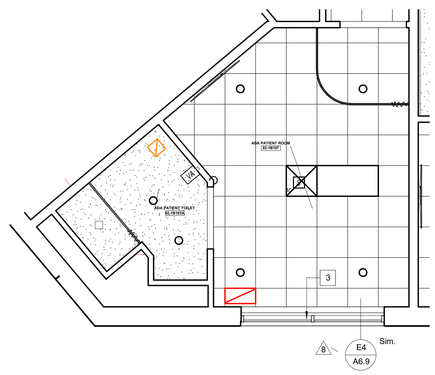

D3 02-1B107 - ADA PATIENT ROOM - RCP
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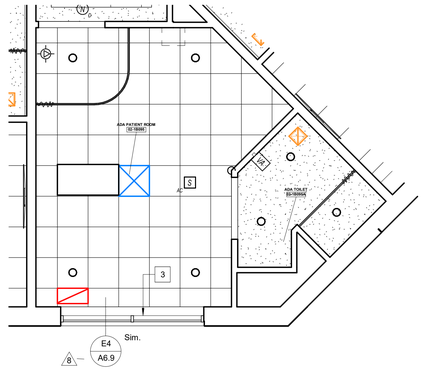
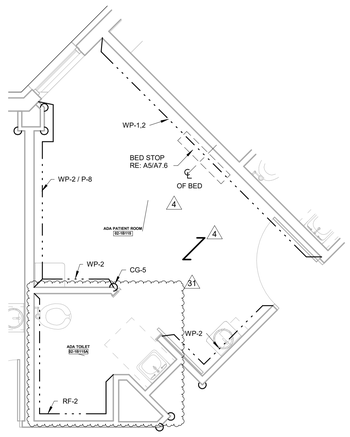
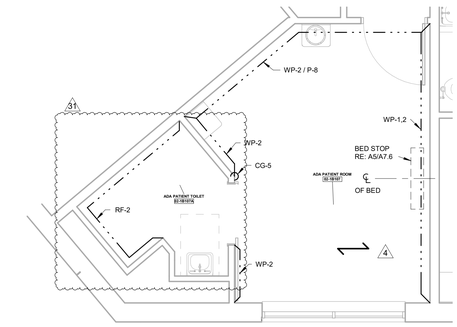


D2 02-1B095 - ADA PATIENT ROOM - RCP
1/4" = 1'-0"



C4 02-1B115 - ADA PATIENT ROOM - FINISH FLOOR PLAN
1/4" = 1'-0"



C3 02-1B107 - ADA PATIENT ROOM - FINISH FLOOR PLAN
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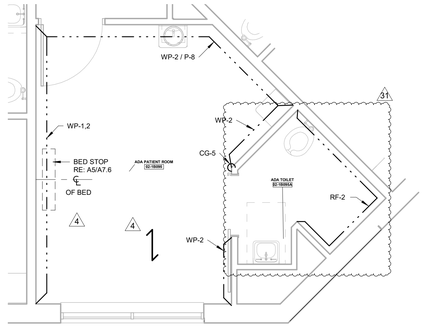
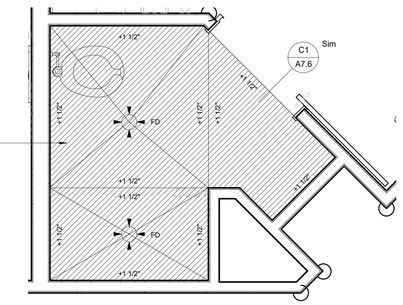
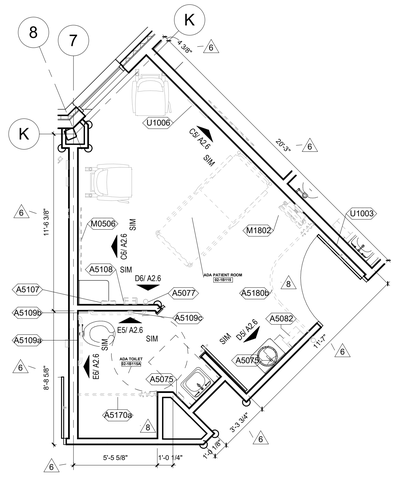


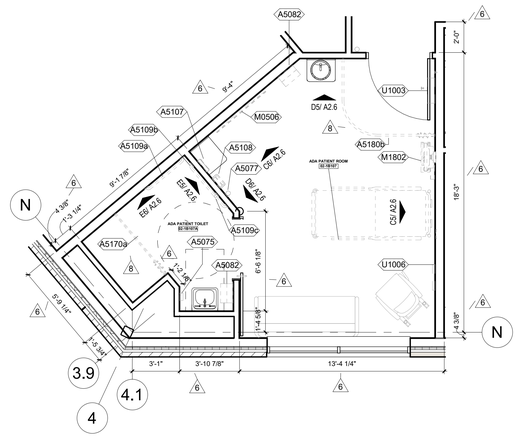
C2 02-1B095 - ADA PATIENT ROOM - FINISH FLOOR PLAN
1/4" = 1'-0"



A6 TYPICAL SLAB RECESS AND SLOPING PLAN AT ADA PATIENT TOILETS
1/2" = 1'-0"



A4 02-1B115 - ADA PATIENT ROOM - ENLARGED
1/4" = 1'-0"



A3 02-1B107 - ADA PATIENT ROOM - ENLARGED
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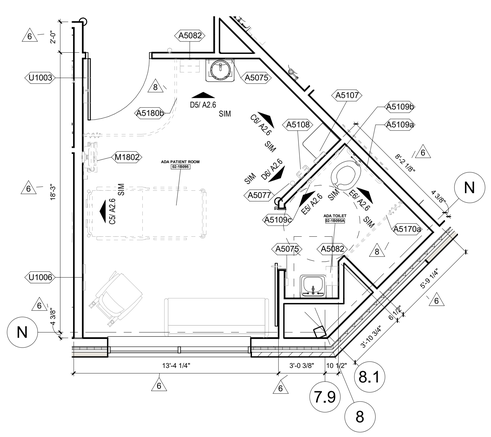

A2 02-1B095 - ADA PATIENT ROOM - ENLARGED
1/4" = 1'-0"

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Checked By	Checker

Revision

Number	Date	Description
4	04.10.20	Bid Pkg 3 - ADD 01
6	04.24.20	ASI 4
8	05.04.20	RFI 30
26	07.08.20	ASI 14
30	07.23.20	ASI 15
31	08.14.20	ASI 16

A2.6

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TYPICAL ADA PATIENT ROOMS

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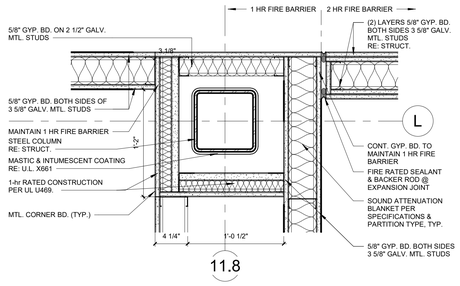
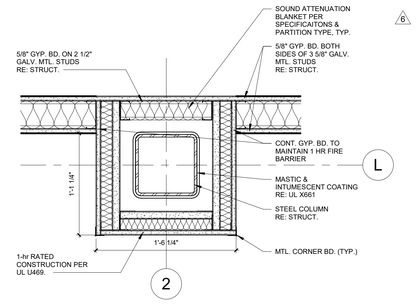
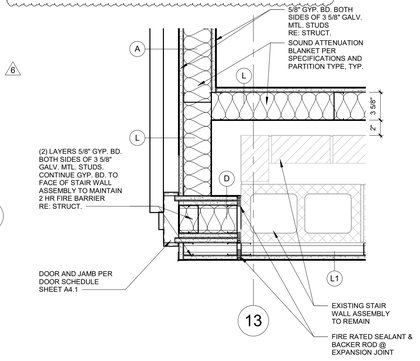


11.8

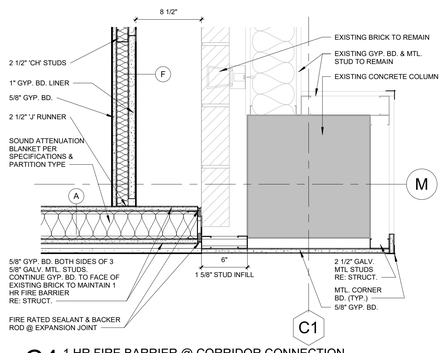
D4 STEEL COLUMN @ 1 HR FIRE BARRIER
1 1/2" = 1'-0"



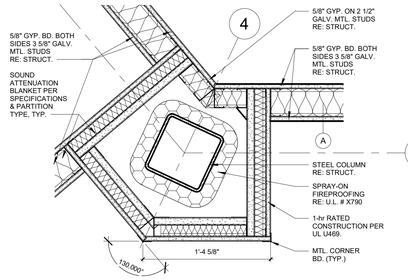
C6 DETAIL @ STEEL COLUMN
1 1/2" = 1'-0"



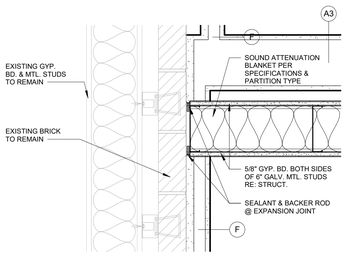
C5 2 HR FIRE BARRIER @ CORRIDOR CONNECTION
1 1/2" = 1'-0"



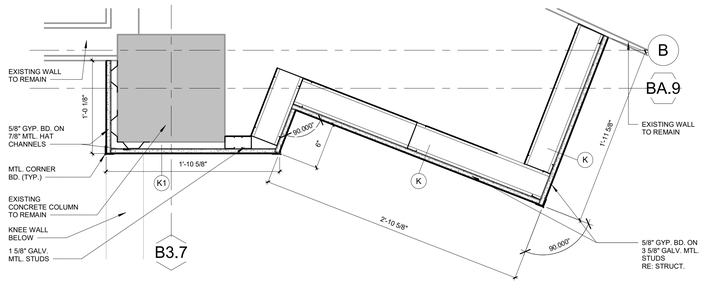
C4 1 HR FIRE BARRIER @ CORRIDOR CONNECTION
1 1/2" = 1'-0"



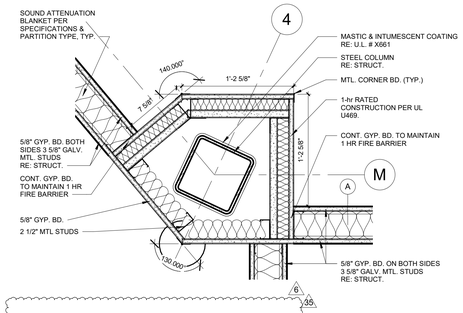
D1 STEEL COLUMN @ ELECTRIC ROOM
1 1/2" = 1'-0"



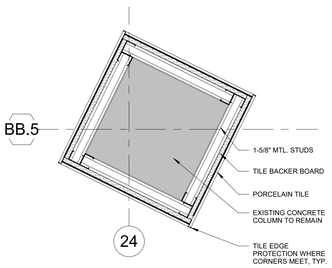
D2 1 HR FIRE BARRIER @ EXISTING EXTERIOR WALL
1 1/2" = 1'-0"



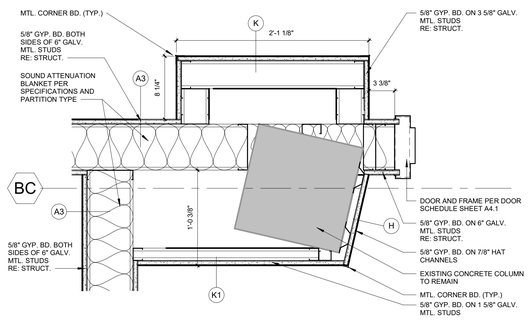
C2 CONCRETE COLUMN @ WAITING ROOM
1 1/2" = 1'-0"



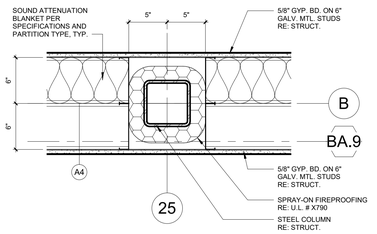
B6 STEEL COLUMN @ ELECTRIC ROOM
1 1/2" = 1'-0"



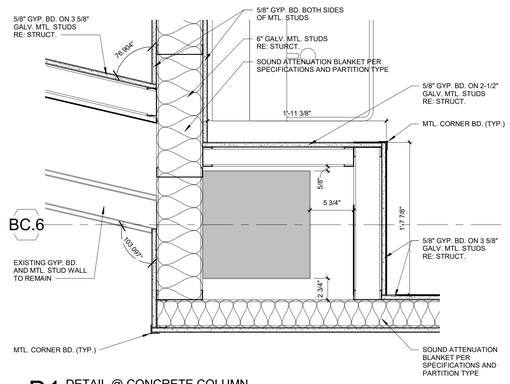
B5 TYP. CONCRETE COLUMN @ WAITING ROOM
1 1/2" = 1'-0"



B4 CONCRETE COLUMN @ TRIAGE
1 1/2" = 1'-0"

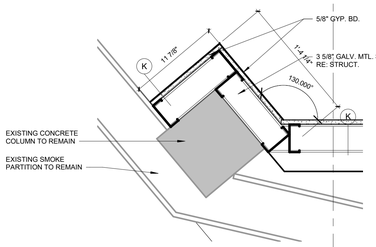


B2 DETAIL @ TUBE STEEL COLUMN
1 1/2" = 1'-0"

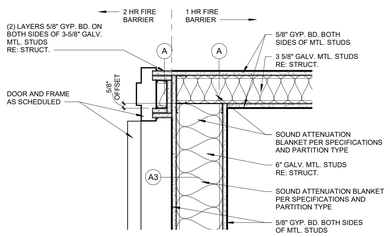


B1 DETAIL @ CONCRETE COLUMN
1 1/2" = 1'-0"

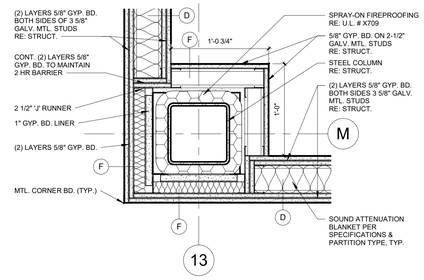
4.1



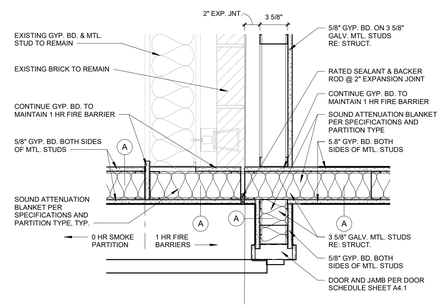
A6 DETAIL @ CONCRETE COLUMN
1 1/2" = 1'-0"



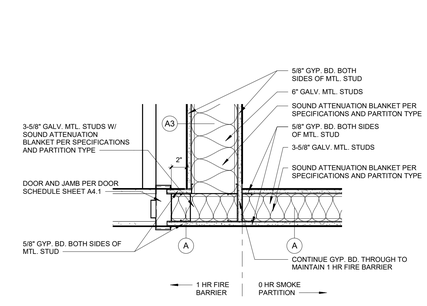
A5 2 HR FIRE BARRIER @ 1 HR FIRE BARRIER
1 1/2" = 1'-0"



A4 STEEL COLUMN @ 2 HR FIRE BARRIER
1 1/2" = 1'-0"



A2 1 HR FIRE BARRIER @ CORRIDOR CONNECTION
1 1/2" = 1'-0"



A1 1 HR FIRE BARRIER @ 0 HR SMOKE PARTITION
1 1/2" = 1'-0"

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
4	04.10.20	Bid Pkg 3 - ADD 01
6	04.24.20	ASI 4
35	09.09.20	RFI 145

A2.9

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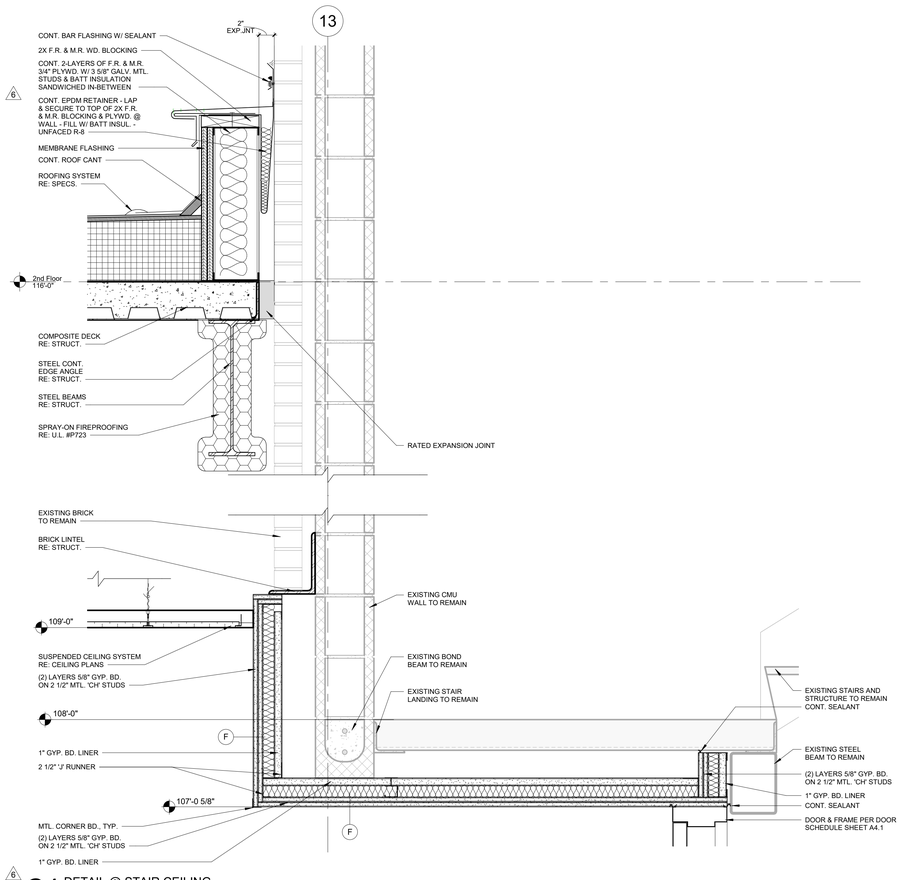
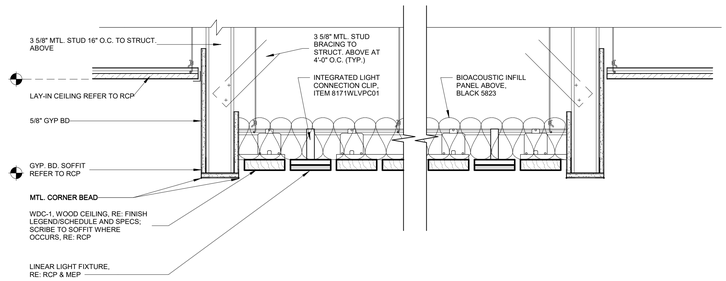
PLAN DETAILS

BID PACKAGE #3 03.30.2020

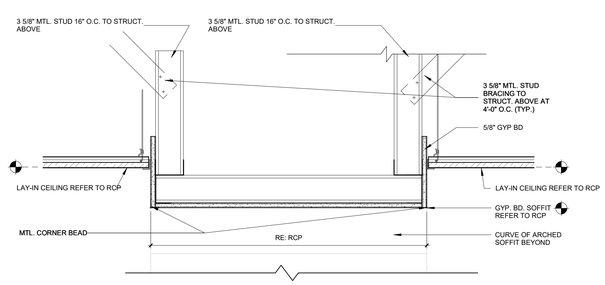
7/10/2020 1:17:53 PM



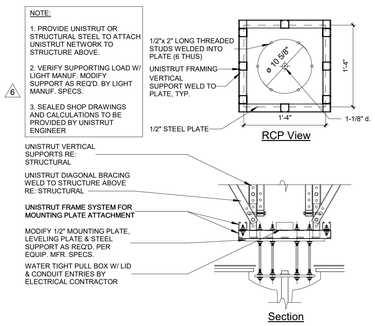
C4 DETAIL @ STAIR CEILING
1 1/2" = 1'-0"



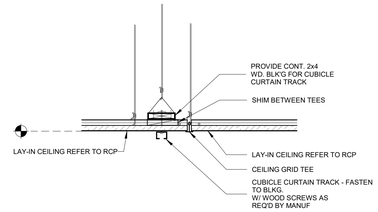
B4 DETAIL AT WOOD CEILING
1 1/2" = 1'-0"



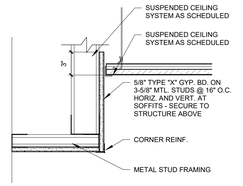
A4 DETAIL AT ARCHED SOFFIT
1 1/2" = 1'-0"



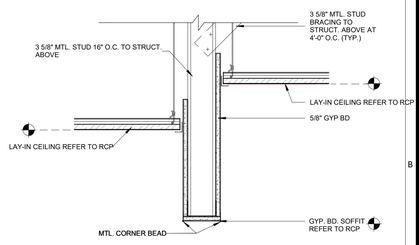
A2 LIGHT SUPPORT
1" = 1'-0"



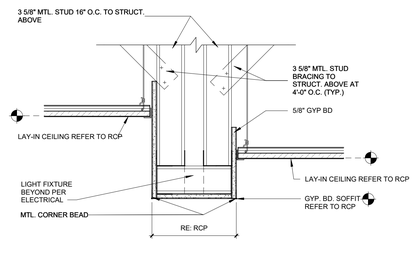
D1 CUBICLE CURTAIN TRACK DTL.
1 1/2" = 1'-0"



C1 GYPSUM BOARD SOFFIT
1 1/2" = 1'-0"



B1 BULKHEAD DETAIL
1 1/2" = 1'-0"



A1 SOFFIT DTL.
1 1/2" = 1'-0"

20

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	KB
Checked By	Checker

Revision

Number	Date	Description
6	04.24.20	ASI 4
26	07.08.20	ASI 14

A3.3

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REFLECTED CEILING PLAN DETAILS

BID PACKAGE #3 03.30.2020

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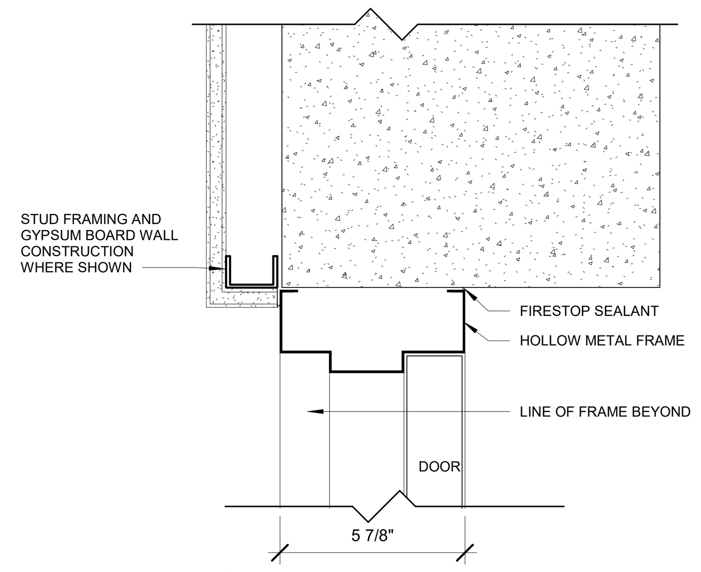
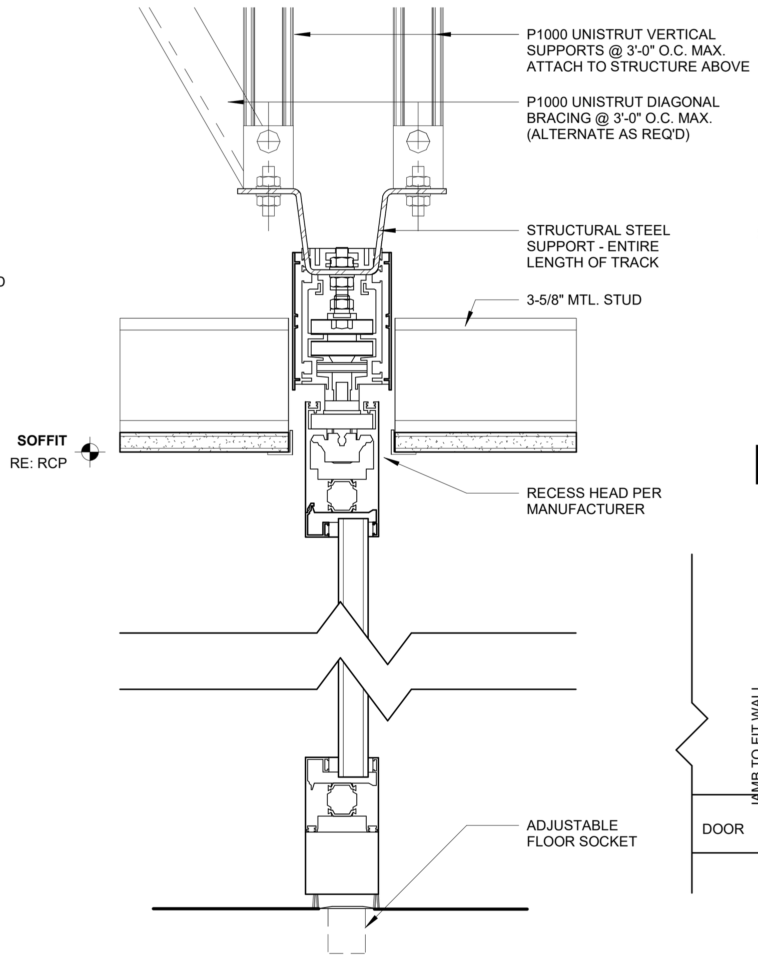
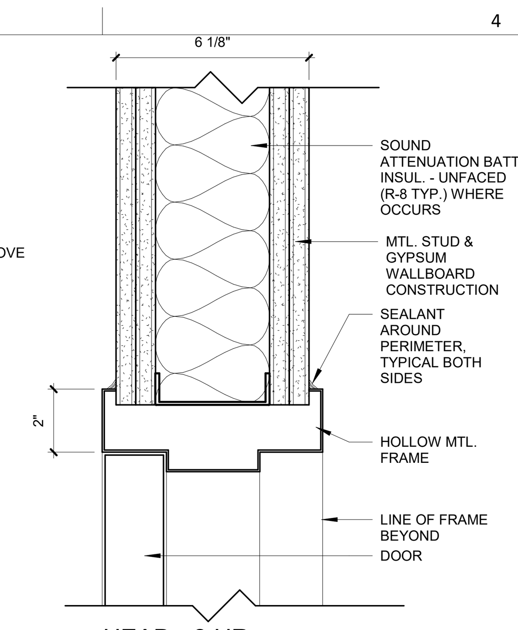
8/13/2020 8:04:41 AM



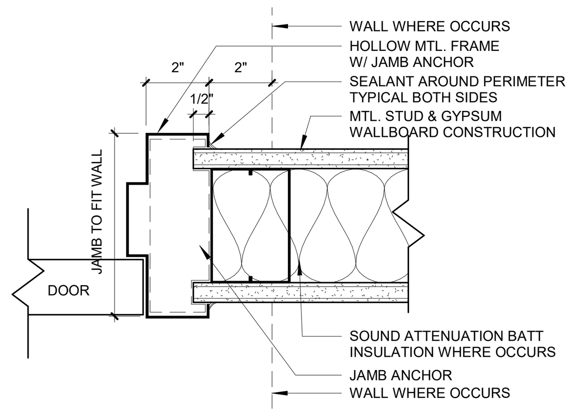
E6 HEAD - MASONRY
3" = 1'-0"



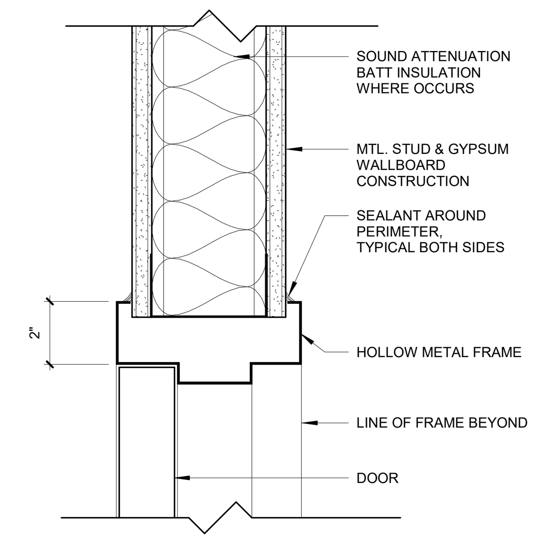
D5 TELESCOPING DOOR HEAD & SILL DETAILS
3" = 1'-0"



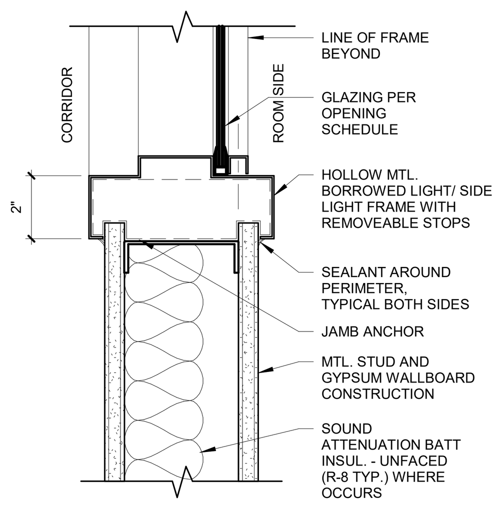
E5 HEAD - 2 HR
3" = 1'-0"



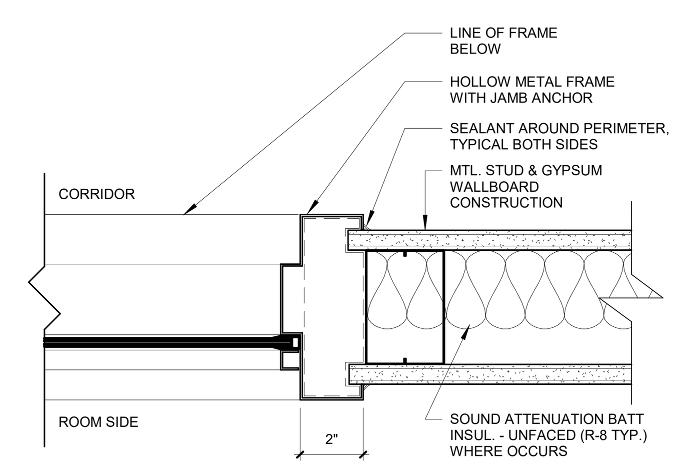
E4 TYPICAL HOLLOW METAL FRAME
3" = 1'-0"



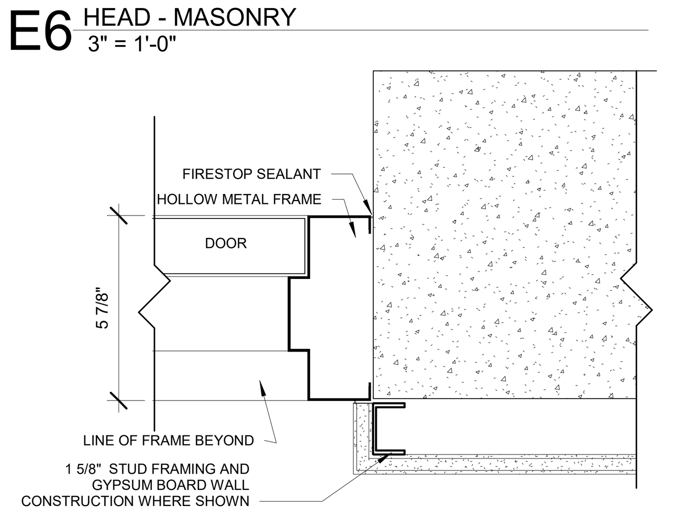
E3 TYPICAL HEAD- HOLLOW METAL DOOR FRAME
3" = 1'-0"



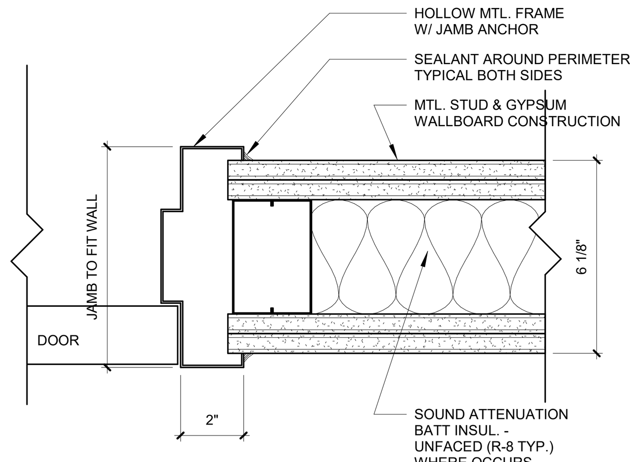
E2 SILL - HOLLOW MTL. SIDELITE/ BORROWED LITE FRAME
3" = 1'-0"



E1 JAMB - HOLLOW MTL. SIDELITE/ BORROWED LITE FRAME
3" = 1'-0"



D6 JAMB - MASONRY
3" = 1'-0"



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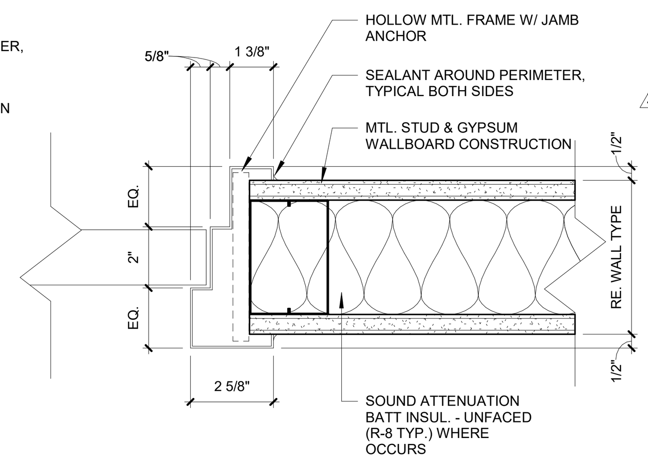
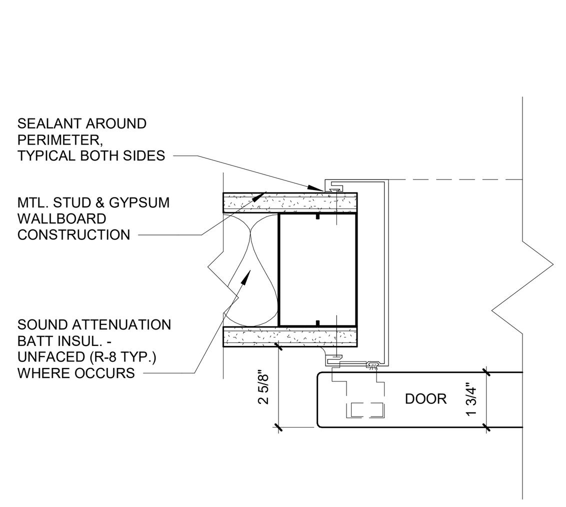
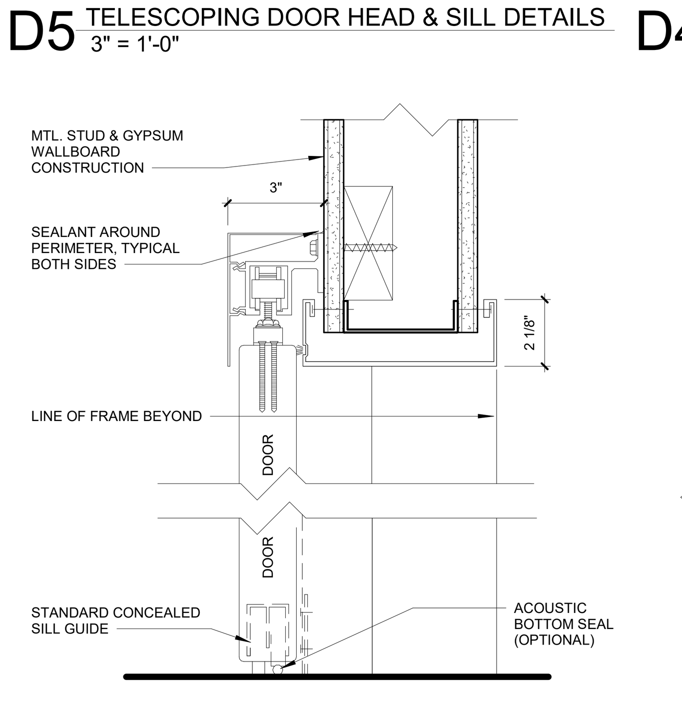


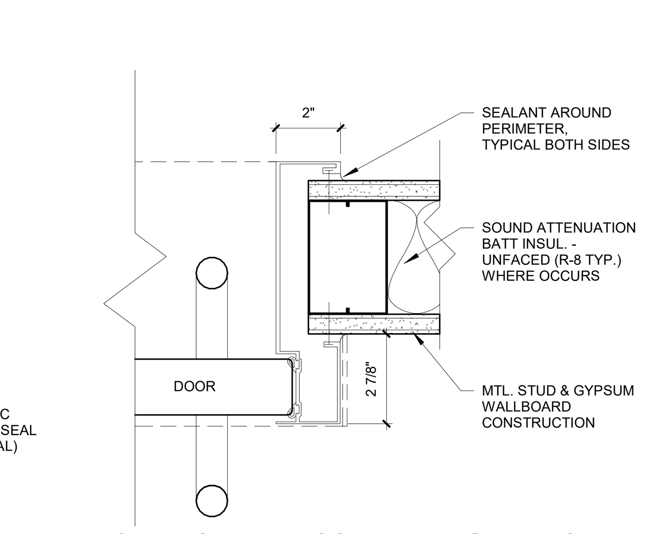
D3 JAMB - DOUBLE EGRESS FRAME
3" = 1'-0"



C6 SLIDING BARN DOOR - JAMB @ SILL GUIDE
3" = 1'-0"



C5 SLIDING BARN DOOR - HEAD & SILL
3" = 1'-0"



C4 SLIDING BARN DOOR - JAMB @ PULL SIDE
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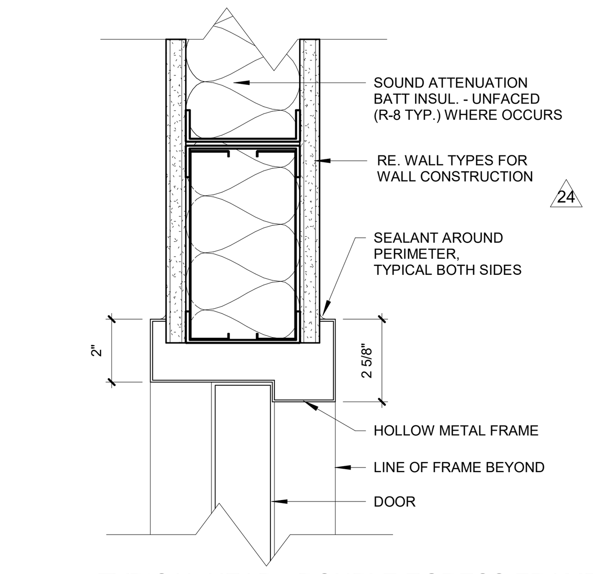
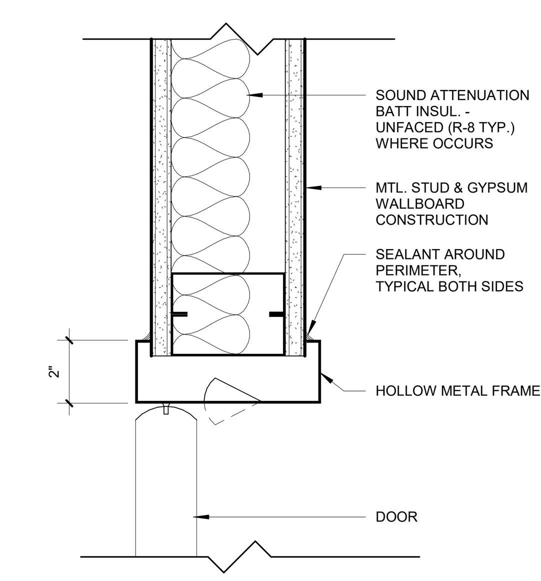
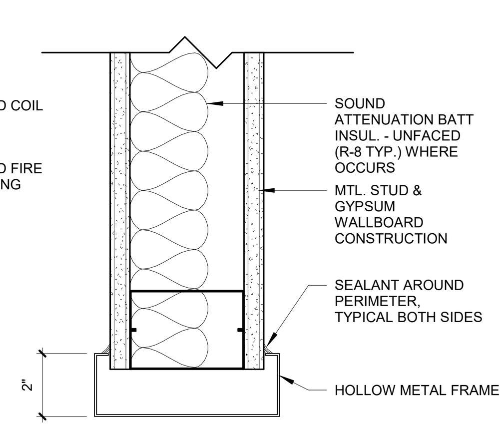


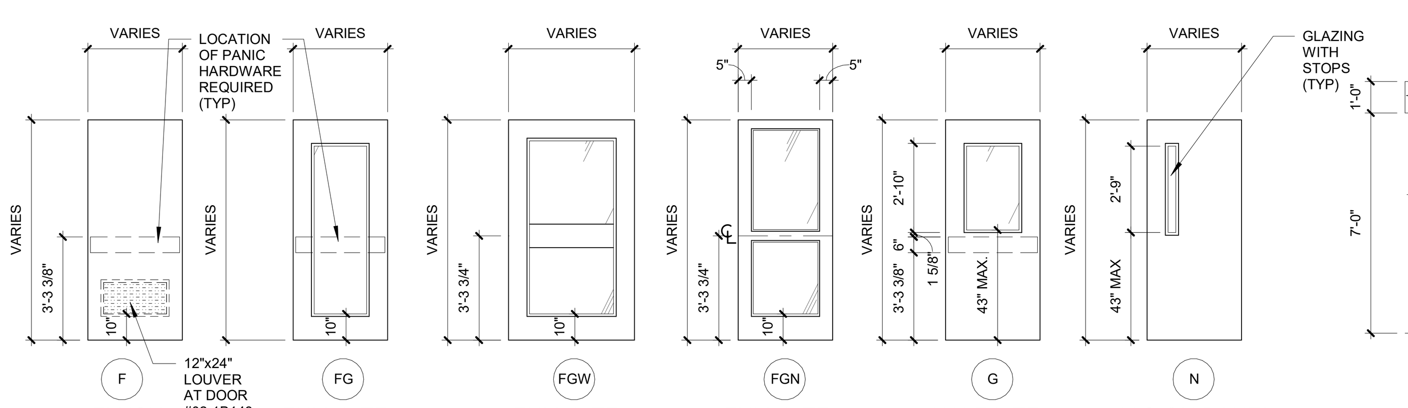
C3 TYPICAL HEAD - DOUBLE EGRESS FRAME
3" = 1'-0"

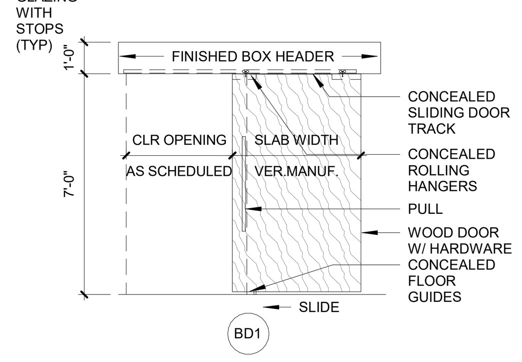


B3 JAMB-RESCUE HARDWARE-HEAD SIM.
3" = 1'-0"



A3 JAMB - CASED OPENING-HEAD SIM.
3" = 1'-0"

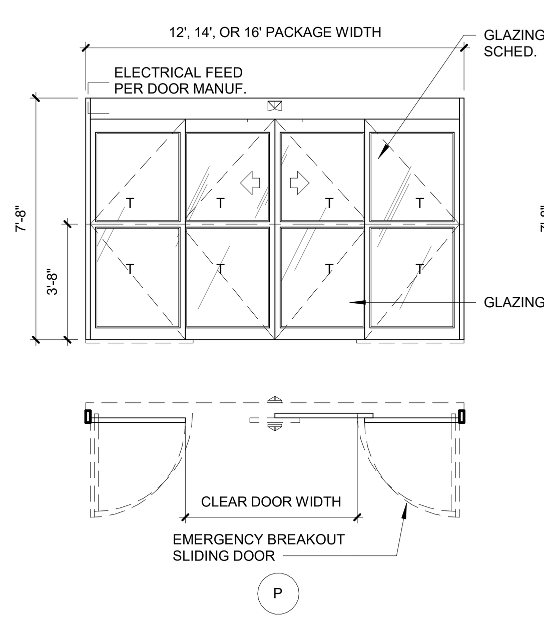




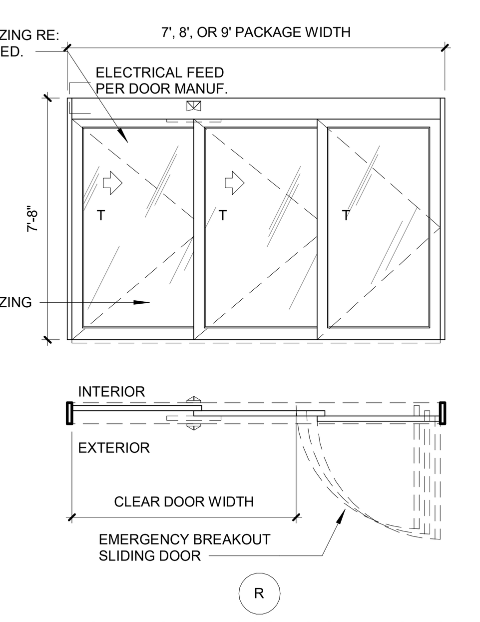
SLIDING BARN DOOR CONCEALED TRACK

NOTE: UNDERCUT DOOR AT ALL PATIENT TOILET ROOM DOORS

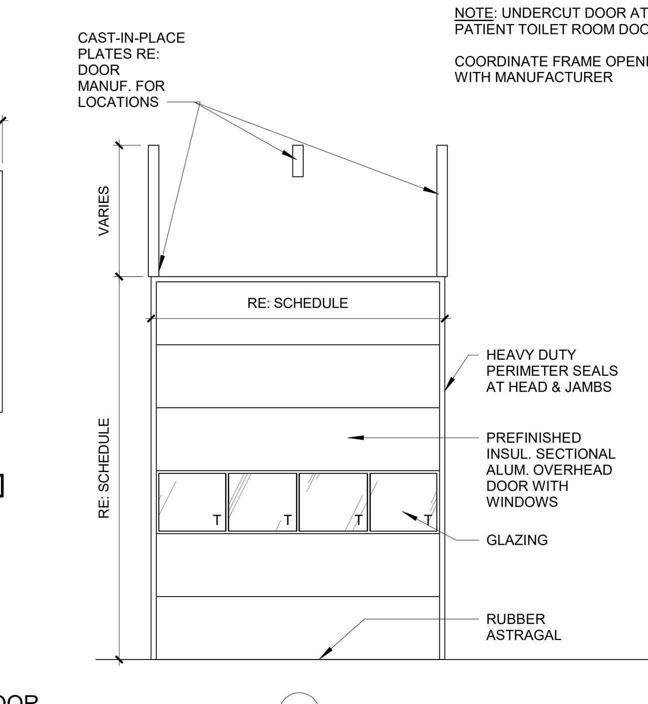
COORDINATE FRAME OPENING WITH MANUFACTURER



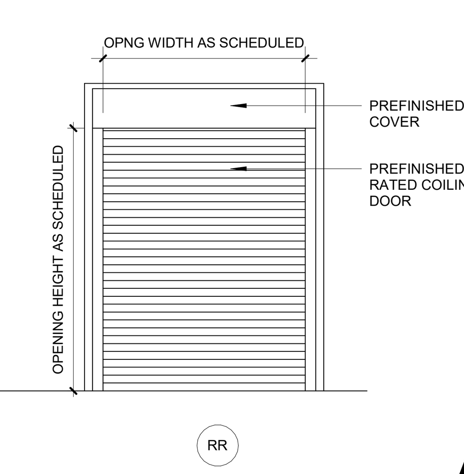
AUTOMATIC SLIDING DOOR
4 PANEL BI-PART



AUTOMATIC TELESCOPIC SLIDING DOOR
3 PANEL

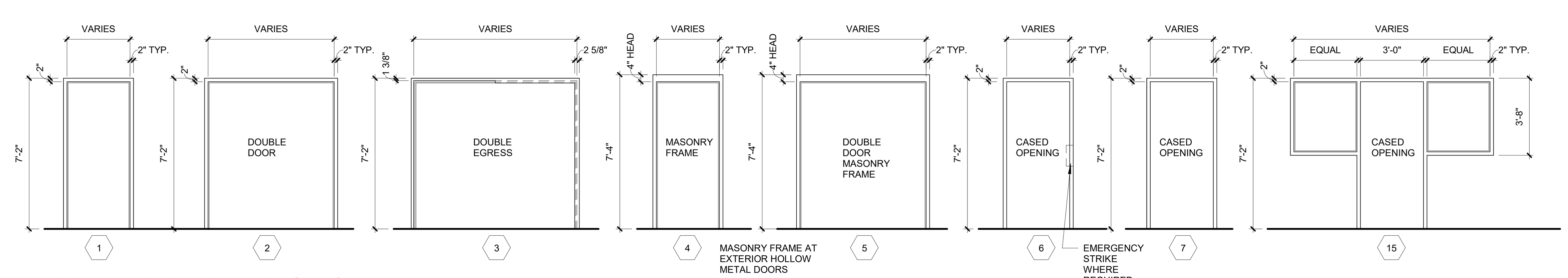


SECTIONAL OVERHEAD DOOR



ROLLING FIRE SHUTTER

DOOR ELEVATIONS:



FRAME ELEVATIONS:

DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR INFORMATION					FRAME INFORMATION		GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL		REMARKS	REVISION #
		WIDTH	HEIGHT	NO. OF LEAVES	ELEV.	MATL.	ELEV.	MATL.				HEAD	JAMB		
02-1B00A	VESTIBULE	12'-0"	8'-0"	4	P	ALUM	--	ALUM	T	--	29	A3/A6.8	D5/A6.7	CARD READER & AUTO OPENER	4
02-1B00B	VESTIBULE	12'-0"	8'-0"	4	P	ALUM	--	ALUM	T	--	29	A3/A6.8	D5/A6.7	CARD READER & AUTO OPENER	4
02-1B00D	WAITING ROOM	3'-0"	7'-0"	2	F	WD	2	HM	--	0 hr	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B00E	WAITING ROOM	3'-8"	7'-0"	1	FGN	ALUM	--	ALUM	T	--	12	E3	--		4,22
02-1B00J	SERVICE CORRIDOR	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	13	E3	E4	CARD READER	
02-1B00L	CORRIDOR	3'-0"	7'-0"	1	FG	ALUM	1	ALUM	--	--	05	B1/A6.9	A1/A6.9		
02-1B00M	CORRIDOR	3'-10"	7'-0"	2	N	WD	3	HM	FR	90 min	08	C3/A4.1	D3/A4.1	CARD READER & AUTO OPENER	4
02-1B00N	CORRIDOR	3'-10"	8'-6"	2	N	WD	3	HM	FR	90 min	07	C3/A4.1	D3/A4.1	CARD READER	
02-1B00O	CORRIDOR	3'-10"	7'-0"	2	N	WD	3	HM	FR	90 min	06	C3/A4.1	D3/A4.1	MAG. HOLD OPEN	
02-1B00P	CORRIDOR	3'-10"	7'-0"	2	N	WD	3	HM	FR	90 min	06	C3/A4.1	D3/A4.1	MAG. HOLD OPEN	
02-1B00Q	CORRIDOR	3'-6"	7'-0"	2	N	WD	3	HM	FR	0 hr	06	C3/A4.1	D3/A4.1	CARD READER	
02-1B00S	CORRIDOR	3'-6"	7'-0"	2	N	WD	3	HM	FR	0 hr	06	C3/A4.1	D3/A4.1	MAG. HOLD OPEN	8
02-1B00W	EXISTING CORRIDOR	3'-10"	8'-6"	2	N	WD	3	HM	FR	45 min	10	C3/A4.1	D3/A4.1	CARD READER & AUTO OPENER	
02-1B001	TOILET	3'-0"	7'-0"	1	F	WD	1	HM	--	--	23	E3	B3	RESCUE HARDWARE	4, 8
02-1B002	TOILET	3'-0"	7'-0"	1	F	WD	1	HM	--	--	23	E3	B3	RESCUE HARDWARE	4, 8
02-1B003A	TRIAGE	3'-8"	7'-0"	1	F	WD	1	HM	--	--	21	E3	E4		4
02-1B003B	TRIAGE	3'-8"	7'-0"	1	F	WD	1	HM	--	--	20	E3	E4		4
02-1B004A	TRIAGE	3'-8"	7'-0"	1	F	WD	1	HM	--	0 hr	21	E3	E4		4
02-1B004B	TRIAGE	3'-8"	7'-0"	1	F	WD	1	HM	--	0 hr	20	E3	E4		4
02-1B005A	TRIAGE	4'-0"	7'-0"	1	F	WD	1	HM	--	--	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B005B	TRIAGE	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B006A	FIRE COM./SECURITY	3'-0"	7'-0"	1	F	WD	1	HM	--	--	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B006B	RECEPTION	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B007	FIRE COM./SECURITY	4'-0"	7'-0"	1	G	WD	1	HM	--	--	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B008A	CONSULT	3'-0"	7'-0"	1	F	WD	1	HM	--	--	20	E3	E4		4
02-1B008B	CONSULT	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	20	E3	E4		4
02-1B009	WAITING ROOM	3'-0"	7'-0"	1	F	WD	1	HM	--	--	ETR	--	--	EXISTING FRAME AND HARDWARE TO REMAIN	4
02-1B043	EXAM ROOM	7'-11 1/2"	7'-3 3/4"	3	R	ALUM	--		T	--	28	REF. SECT.	REF. SECT.	RELOCATED EXISTING DOOR AND HRDWR	
02-1B049	TOILET	3'-0"	7'-0"	1	F	WD	1	HM	--	--	23	E3	B3	RESCUE HARDWARE	
02-1B059	EXAM ROOM	7'-11 1/2"	7'-3 3/4"	3	R	ALUM	--		T	--	28	REF. SECT.	REF. SECT.		
02-1B059A	EXAM ROOM	3'-0"	7'-0"	1	F	WD	1	HM	--	--	22	E3	E4		
02-1B061	OFFICE	3'-0"	7'-0"	1	F	WD	1	HM	T	0 hr	20	E3	E4		
02-1B062	STORAGE	3'-0"	7'-0"	2	F	WD	2	HM	FR	0 hr	30	E3	E4		12
02-1B068	BREAK ROOM	3'-0"	7'-0"	1	N	WD	1	HM	T	0 hr	13	E3	E4	CARD READER	
02-1B069	FAST TRACK NURSE STATION	4'-0"	7'-0"	1	G	WD	1	HM	T	0 hr	15	E3	E4	CARD READER & AUTO OPENER	
02-1B070	FAST TRACK 1	4'-0"	7'-0"	1	F	WD	1	HM		--	20	E3	E4		
02-1B071	FAST TRACK 2	3'-8"	7'-0"	1	F	WD	1	HM		--	20	E3	E4		4, 22
02-1B072	FAST TRACK 3	3'-8"	7'-0"	1	F	WD	1	HM		--	20	E3	E4		22
02-1B073	FAST TRACK 4	3'-8"	7'-0"	1	F	WD	1	HM		--	20	E3	E4		22
02-1B075	STORAGE	3'-6"	7'-0"	1	F	WD	1	HM	--	90 min	17	E5	D4		
02-1B076	STORAGE	3'-0"	7'-0"	1	F	WD	1	HM	--	45 min	16	E3	E4		
02-1B077A	DECON SHOWER	3'-6"	7'-0"	1	F	HM	1	HM	--	0 hr	19	E5	D4		4
02-1B077B	DECON SHOWER	4'-0"	7'-0"	1	F	HM	1	HM	--	90 min	19	E5	D4		
02-1B078	WATER SERVICE	3'-6"	7'-0"	1	F	HM	1	HM	--	--	36	B1A6.9	A1/A6.9	CARD READER	26
02-1B079	EMS BREAK	3'-0"	7'-0"	1	F	WD	1	HM	--	90 min	13	E5	D4	CARD READER	
02-1B080	SHARED OFFICE	3'-0"	7'-0"	1	N	WD	1	HM	FR	0 hr	14	E5	D4	CARD READER	
02-1B081	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B081A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B082A	SOILED	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E3	E4	CARD READER	
02-1B082B	SOILED	3'-6"	7'-0"	1	F	WD	1	HM	--	45 min	13	E3	E4	CARD READER	
02-1B083	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B083A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B084A	CLEAN SUPPLY	3'-6"	7'-0"	1	N	WD	1	HM	FR	45 min	13	E3	E4	CARD READER	
02-1B084B	CLEAN SUPPLY	3'-6"	7'-0"	1	N	WD	1	HM	FR	45 min	13	E3	E4	CARD READER	
02-1B085	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B085A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B086	MED ROOM	3'-0"	7'-0"	1	G	WD	1	HM	T	0 hr	13	E3	E4	CARD READER	
02-1B087	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B087A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B089	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B089A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B090A	CHARTING	4'-0"	7'-0"	1	--		--	--			--	A3	A3	CASED OPENING	
02-1B090B	CHARTING	4'-0"	7'-0"	1	--		--	--			--	A3	A3	CASED OPENING	
02-1B091	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B091A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B092	JANITOR	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	13	E3	E4	CARD READER	
02-1B093	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B093A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B094	TOILET	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	23	E3	B3	RESCUE HARDWARE	
02-1B095	ADA PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B095A	ADA TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B096	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B096A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B097	DATA ROOM	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	13	E3	E4	CARD READER	
02-1B098	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B098A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B100	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B100A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B101	STORAGE	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	13	E3	E4	CARD READER	
02-1B102	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B102A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B103	MANAGER OFFICE	3'-0"	7'-0"	1	N	WD	1	HM	T	0 hr	13	E3	E4	CARD READER	
02-1B104	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B104A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B105	TOILET	3'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	23	E3	B3	RESCUE HARDWARE	
02-1B106	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B106A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B107	ADA PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B107A	ADA PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B108	ELECTRIC ROOM	3'-0"	7'-0"	1	F	WD	1	HM	--	45 min	13	E3	E4	CARD READER & CLOSER	22
02-1B109	TRAUMA	7'-11 1/2"	7'-3 3/4"	3	R	ALUM	--		T	--	28	REF. SECT.	REF. SECT.		
02-1B110	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B110A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B111	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B111A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B112	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B112A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B113	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B113A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B114	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B114A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B115	ADA PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B115A	ADA TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B116	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B116A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B117	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B117A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B118	PATIENT ROOM	4'-0"	7'-0"	1	F	WD	1	HM	--	0 hr	25	E3	E4		
02-1B118A	PATIENT TOILET	3'-6"	7'-0"	1	SB	WD	--	ALUM	--	--	27	C5/A4.1	C4&C6/A4.1	3'-6" CLR. OPENING & UNDERCUT	31
02-1B118BB	GARAGE	4'-0"	7'-0"		--		--	HM			--	--	--	BULLNOSE BLOCK OPENING	
02-1B118U	CORRIDOR	3'-10"	7'-0"	2	F	WD	2	HM	--	--	09	C3/A4.1	D3/A4.1		12
02-1B118Y	CORRIDOR	3'-6"	7'-0"	2	N	WD	3	HM	FR	45 min	06	C3/A4.1	D3/A4.1	MAG. HOLD OPEN	
02-1B121	MANAGER OFFICE	3'-0"	7'-0"	1	N	WD	1	HM	T	--	20	E3	E4		
02-1B138.1	CORRIDOR	4'-0"	7'-0"	1	F	WD	1	HM	--	90 min	17	E3	E4		
02-1B138.2	STORAGE/ SHELL SPACE	4'-0"	7'-0"	1	F	WD	1	HM	--	90 min	17	E3	E4		
02-1B138.5	CORRIDOR	4'-0"	7'-0"	1	N	WD	1	HM	FR	45 min	16	E3	E4		8
02-1B140A	VESTIBULE	4'-0"	8'-6"	2	FG	ALUM	2	ALUM	T	--	35	B1/A6.9SIM	A1/A6.9SIM	CARD READER, PUSH BUTTON & AUTO OPENER	26, 31
02-1B140B	VESTIBULE	3'-10"	8'-6"	2	N	WD	2	HM	T	--	34	E5 SIM.	D4 SIM.	CAMERA, INTERCOM & AUTO OPENER	8, 26, 31
02-1B140C	VESTIBULE	3'-10"	7'-0"	2	N	HM	2	HM	T	90 min	33	E5 SIM.	D4 SIM.	CARD READER, PUSH BUTTON & AUTO OPENER	26, 31
02-1B141A	GARAGE	12'-0"	12'-0"	--	QQ	ALUM	--	STEEL	T	--	26	C1/A6.10	A1/A6.10		
02-1B141B	GARAGE	12'-0"	12'-0"	--	QQ	ALUM	--	STEEL	T	--	26	C1/A6.10	A1/A6.10		
02-1B141C	GARAGE	12'-0"	12'-0"	--	QQ	ALUM	--	STEEL	T	--	26	C1/A6.10	A1/A6.10	"AMBULANCE ENTRANCE" SIGNAGE ON OUTSIDE FACE OF DOOR, MATCH EXISTING	4
02-1B141D	GARAGE	12'-0"	12'-0"	--	QQ	ALUM	--	STEEL	T	--	26	C1/A6.10	A1/A6.10	"AMBULANCE ENTRANCE" SIGNAGE ON OUTSIDE FACE OF DOOR, MATCH EXISTING	4
02-1B141E	GARAGE	3'-0"	7'-0"	1	N	HM	1	HM	T	--	02	B1/A6.9SIM	A1/A6.9SIM	CARD READER	
02-1B142.1	GARAGE	4'-0"	7'-0"	1	F	HM	1	HM	--	45 min	16	E6	D6		
02-1B142.2	ELECTRICAL	3'-6"	7'-0"	2	F	HM	5	HM	--	--	01	B1/A6.9SIM	A1/A6.9SIM	PANIC HARDWARE	
02-1B143	ELECT.	4'-0"	7'-0"	1	F	HM	1	HM	--	0 hr	16	E6	D6	24"X12" REGULAR LOUVER	
02-2B201	PENTHOUSE	3'-2"	9'-0"	2	F	HM	2	HM	--	--	04	C6/A2.12	C6/A2.12		8
2C-S01	EXISTING STAIR	4'-0"	6'-10"	1	N	WD	1	HM	FR	90 min	11	E4/A3.3	D4	CARD READER	5, 6
2C-S01.1	CORRIDOR	4'-0"	7'-0"	1	N	WD	1	HM	T	--	03	B1/A6.9	A1/A6.9		
B102	CORRIDOR	4'-0"	7'-0"	2	N	WD	3	HM	FR	90 min	06	C3/A4.1	D3/A4.1	MAG. HOLD OPEN	4
C188	CORRIDOR	3'-6"	7'-0"	2	F	WD	2	HM	FR	90 min	10	C3/A4.1	D3/A4.1	CARD READER & AUTO OPENER	12, 24
CONST		4'-0"	7'-0"	1	F	WD	1	HM	--	--				TEMP. EGRESS DOOR	6
GEN01		3'-0"	7'-0"	1	F	WD	1	HM	--	--					

6 ASI 04: DOORS 02-1B00R & 02-1B138.3 REMOVED FROM SCHEDULE

DOOR & FRAME MATERIAL LEGEND

PL-1	LAMINATE. WALNUT HEIGHTS #7965K-12	PTM	PAINT TO MATCH
FR	FIRE-RATED, IMPACT RESISTANT SAFETY GLAZING	ALUM	ALUMINUM
0-HR	0-HR SMOKE RESISTIVE OPENING	HM	HOLLOW METAL
T	1/4" CLEAR, TEMPERED GLAZING	WD	SOLID CORE WOOD
ETR	EXISTING TO REMAIN	FRP	FIBER REINFORCED PANEL
EXIST.	EXISTING		

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
4	04.10.20	Bid Pkg 3 - ADD 01
5	04.17.20	ASI 3
6	04.24.20	ASI 4
8	05.04.20	RFI 30
12	05.15.20	ASI 8
22	06.12.20	ASI 13
24	06.18.20	RFI 73
26	07.08.20	ASI 14
31	08.14.20	ASI 16

BID PACKAGE #3 03.30.2020

A4.1

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DOOR AND FRAME SCHEDULE AND DETAILS

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INTERIOR FINISH LEGEND

MARK	ITEM	MANUFACTURER	MODEL/ PATTERN	COLOR	SIZE	REMARKS	REVISION #
FLOOR							
CS-1	CONCRETE SEALED	PER SPECIFICATIONS	PER SPECIFICATIONS	-	-	REFER TO ARCHITECTURAL SPEC	
LVT-1	LUXURY VINYL TILE	MANNINGTON	AMTICO WOOD	AROW8200 REGENCY WALNUT	4-1/2" X 36"	ALL CAMPUSES - SPECIFY STRAIGHT EDGE ONLY RANDOM INSTALL	
LVT-2	LUXURY VINYL TILE	MANNINGTON	AMTICO STONE	CORINTHIAN MARBLE AROSTV13	18" X 18"	ALL CAMPUSES - EXAMS, CORRIDORS, STAIR LANDING, SPECIFY STRAIGHT EDGE ONLY GRAIN	
PT-3	PORCELAIN TILE	ERGON	STONE PROJECT EMLSPBR1224F	BROWN	12" X 24"	1/3 OFFSET INSTALL, USE GROUT GR-2 OR GR-1 IN WET AREAS	
RF-1	EPOXY FLOORING	DESCO	QUARTZ CREMONA TG	S#0714-434TG	-	INTEGRAL BASE UP TO 6". TEXTURE TO BE ORANGE PEEL.	
SV-1	HOMOGENEOUS SHEET VINYL	ARMSTRONG	MEDINTONE, DIAMOND 10	#H5311 NATURAL WHITE	6'-0" ROLL	WELD ROD W0288; ALL CAMPUS/MOB-CLINICAL - STAFF SUPPORT SERVICES	
SV-2	HETEROGENEOUS SHEET VINYL	ARMSTRONG	REJUVENATIONS CLASSICS	#34335 LITHOS STONE PHYLLITE	6'-0" ROLL	WELD ROD W0739; ALL CAMPUS/MOB - RESTROOMS IN PATIENT CARE, STAFF, CLEAN, STERILE AND JANITOR ROOMS	
SV-3	HETEROGENEOUS SHEET VINYL	ARMSTRONG	REJUVENATIONS CLASSICS	37527 MAPLE LANE MAPLE SYRUP	6'-0" ROLL	WELD ROD WS035; ALL CAMPUSES/MOB PATIENT CARE ROOMS AND EXAM ROOMS	26
WOC-1	WALK-OFF CARPET	TARKETT	ASSERTIVE STRIA - #04839	LEAD SHOT #26207	6'-0" ROLL OR 24" X 24" TILE	INSTALLATION VERTICAL ASHLAR	
BASE							
IB-1	INTEGRAL BASE	ARMSTRONG	MEDINTONE, DIAMOND 10	#H5311 NATURAL WHITE	6" COVE	J' MOLD SCHLUTER STRIP AT TOP; TO BE USED WITH SV-1	
IB-2	INTEGRAL BASE	ARMSTRONG	REJUVENATIONS CLASSICS	#34335 LITHOS STONE PHYLLITE	6" COVE	J' MOLD SCHLUTER STRIP AT TOP; TO BE USED WITH SV-2	
IB-3	INTEGRAL RESINOUS BASE	DESCO	QUARTZ CREMONA TG	S#0714-434TG	6" COVE	6" INTEGRAL RESINOUS BASE. TEXTURE TO BE ORANGE PEEL.	
MTB-1	METAL COVE BASE TRIM	SCHLUTER	DILEX-AHK	STAINLESS STEEL	-	TO BE USED WITH PT-2 AND PT-3; PUBLIC RESTROOMS	
RWB-1	RUBBER WALL BASE	ROPPE	PINNACLE PLUS, PROFILE #65	#110 BROWN	4-5/8"	ALL CAMPUSES - PUBLIC SPACES	
RWB-2	RUBBER WALL BASE	ROPPE	PINNACLE	#110 BROWN	4" COVE	ALL CAMPUSES - SUPPORT SERVICES SPACE	
WALL							
CG-3	CORNER GUARDS	CS ACROVYN	SM-20AN-ACROVYN 4000	#858 PUMICE	3"	90 DEGREE, ABOVE BASE TO CEILING/INCLUDE ALL TRIM AND ACCESSORIES PIECES; TYPICAL	
CG-4	CORNER GUARDS	CS ACROVYN	SM-25AN-ACROVYN 4000	#858 PUMICE	2"	END WALL, ABOVE BASE TO CEILING/INCLUDE ALL TRIM AND ACCESSORIES PIECES; TYPICAL	
CG-5	CORNER GUARDS	CS ACROVYN	SM-20AN-ACROVYN 4000	#858 PUMICE	3" X 3"	SURFACE, 135 DEGREE, ABOVE BASE TO CEILING/INCLUDE ALL TRIM AND ACCESSORIES PIECES; TYPICAL	
EP-1	EPOXY PAINT	SHERWIN WILLIAMS	SW7036	ACCESSIBLE BEIGE	-	FIELD PAINT, EPOXY FINISH	
EP-5	EPOXY PAINT	SHERWIN WILLIAMS	SW7007	BRIGHT WHITE	-	CEILING PAINT, EPOXY FINISH	
EP-8	EPOXY PAINT	SHERWIN WILLIAMS	SW7621	SILVER MIST	-	ACCENT PAINT, EPOXY FINISH	
HR-1	HANDRAILS	CS ACROVYN	HRB-20N	#378 BRUSHED NICKEL	5 5/8" X 3"	VERIFY WITH EXISTING CENTER WHAT HANDRAILS ARE INSTALLED. THIS SPECIFICATION IS ANY NEW FACILITIES THAT NEED HANDRAILS GOING FORWARD.	
P-1	PAINT	SHERWIN WILLIAMS	SW7036	ACCESSIBLE BEIGE	-	FIELD PAINT, EGGSHELL FINISH	
P-4	PAINT	SHERWIN WILLIAMS	SW7509	TIKI HUT	-	DOOR FRAME PAINT, SEMI-GLOSS FINISH	
P-5	PAINT	SHERWIN WILLIAMS	SW7007	BRIGHT WHITE	-	CEILING PAINT, FLAT FINISH	
P-7	PAINT	SHERWIN WILLIAMS	SW6221	MOODY BLUE	-	ACCENT PAINT, EGGSHELL FINISH	
P-8	PAINT	SHERWIN WILLIAMS	SW7621	SILVER MIST	-	ACCENT PAINT, EGGSHELL FINISH	
PT-2	PORCELAIN TILE	ISC SURFACES	AMERICAN OLEAN	SCENE SHORE	12" X 24"	1/3 OFFSET INSTALL, USE GR-2 OR GR-1 IN WET AREAS, MINIMUM GROUT SIZE	
RF-2	EPOXY WALL	DESCO	QUARTZ CREMONA TG	S#0513-382TG	-	TO BE INSTALLED ABOVE RF-1, USE METAL TRIM CAP STAINLESS STEEL. TEXTURE TO BE ORANGE PEEL.	
WP-1	WALL PROTECTION	CS ACROVYN	CHAMELEON COLLECTION .040	#1350 SABLE ELM	4' X 10' SHEETS	PATIENT ROOM HEADWALL	
WP-2	WALL PROTECTION	CS ACROVYN	.040 ACROVYN 4000	#858 PUMICE	4' X 10' SHEETS	WALL PROTECTION AT 48" AFF INCLUDED ALL ACCESSORIES	
WT-4	WALL TILE	LUNADA BAY	LUNADA BAYTILE TOZEN	AHOU - FINISH NATURAL	1" X 2" BRICK	ACCENT WALL TILE	
CASEWORK							
EB-1	EDGE BANDING	DOELLKEN	8707E5	WALNUT HEIGHTS	-	3MM	
IS-1	INTEGRAL SINK	CORIAN	BONE	-	30" X 144" SHEET; 36" X 144" SHEET	ALL CAMPUSES	
PL-1	HIGH PRESSURE LAMINATE	WILSONART	#7965K-12	WALNUT HEIGHTS	-	CUSTOM 3MM PVC DOELLKEN WALNUT HEIGHTS 8707E5; ALL CAMPUSES - BASE AND UPPER CABINETS; MOB - RECEPTION, PUBLIC SPACES AND MILLWORK	
QTZ-1	QUARTZ SURFACE	CAMBRIA	DARLINGTON	-	55" X 120" SLAB	2 CM, 3 CM SEACLIFF EDGE PROFILE; ALL CAMPUSES - TRANSACTION COUNTER TOPS	
SS-1	SOLID SURFACE	CORIAN	CLAM SHELL	-	1/2"; 30" X 144" SHEET; 36" X 144" SHEET	ALL CAMPUSES - BULLNOSE EDGE AT RECEPTION DESK AND NURSE STATIONS. ALL CAMPUSES - PATIENT TOILET COUNTER TOPS MOB - WET COUNTER TOPS, RESTROOMS, BEHIND HAND DRYERS	
SS-2	SOLID SURFACE	CORIAN	BONE	-	1-1/2"; 30" X 144" SHEET; 36" X 144" SHEET	ALL CAMPUSES - INTERIOR WINDOW SILLS/TRANSITION AT RESTROOM FLOOR FROM DESCO FLOORING TO LVT. FLOOR ONLY WALL BASE AT DOOR TRANSITION TO BE WRAPPED WITH DESCO.	
CEILING							
ACT-1	ACOUSTIC CEILING TILE	USG	RADAR CLIMA PLUS #2210	WHITE	2' X 2'	SQUARE EDGE, DONN DX TEE 15/16" GRID SYSTEM; ALL CAMPUSES - PUBLIC SPACES/BACK OF HOUSE. RE: ROOM FINISH SCHEDULE FOR AREAS W/ HOLD DOWN CLIPS.	
ACT-3	ACOUSTIC CEILING TILE	USG	CLEAN ROOM CLIMA PLUS CLASS 100 #56099 (UNPERFORATED)	WHITE	2' X 2'	VINYL FACED W/ SQUARE EDGE, DONN DX 15/16" TEE GRID SYSTEM; ALL CAMPUSES - CLEAN ROOMS, SOILED, PROCEDURE & LABORATORY	4
WDC-1	WOOD CEILING	ARMSTRONG	6691W1 WOODWORKS LINEAR VENEERED PANELS	NATURAL VARIATIONS WALNUT	2' X 8', 6" NOMINAL WIDE PLANKS	UTILIZE 8171WLVPC01 INTEGRATED LIGHT CONNECTION CLIP. RE: RCP AND MEP DRAWINGS FOR LIGHTING LOCATIONS AND COORDINATION.	
MISC.							
CC-1	CUBICLE CURTAIN	-	-	-	-	CUBICLE CURTAIN TO BE OFOI	4
ETR	EXISTING TO REMAIN	-	-	-	-	-	
EXP	EXPOSED	-	-	-	-	-	
GR-1	GROUT	MAPEI	ULTRACOLOR PLUS	#11 SAHARA BEIGE	MINIMAL GROUT LINES	USE WITH PT-2, PT-3 AND WT-4 - EPOXY GROUT IN WET AREAS	
SC-1	SHOWER CURTAIN	-	-	-	-	OFOI, LOCATED IN PATIENT ROOM TOILETS. ROD/HOOKS/ACCESSORIES CFCI	8
TEP-1	TILE EDGE PROTECTION	SCHLUTER	QUADEC	STAINLESS STEEL	-	METAL TRIM PIECE; PUBLIC RESTROOMS	
TRS-1	TRANSITION STRIP	SCHLUTER	RENO-U	CLEAR SATIN ANODIZED ALUMINUM	-	-	
TRS-2	TRANSITION STRIP	SCHLUTER	SCHIENE	CLEAR SATIN ANODIZED ALUMINUM	-	-	
TRS-3	TRANSITION STRIP	TARKETT	CTA-XX-A ADAPTOR	TO BE SELECTED BY ARCHITECT	-	-	

GENERAL ROOM FINISH SCHEDULE NOTES

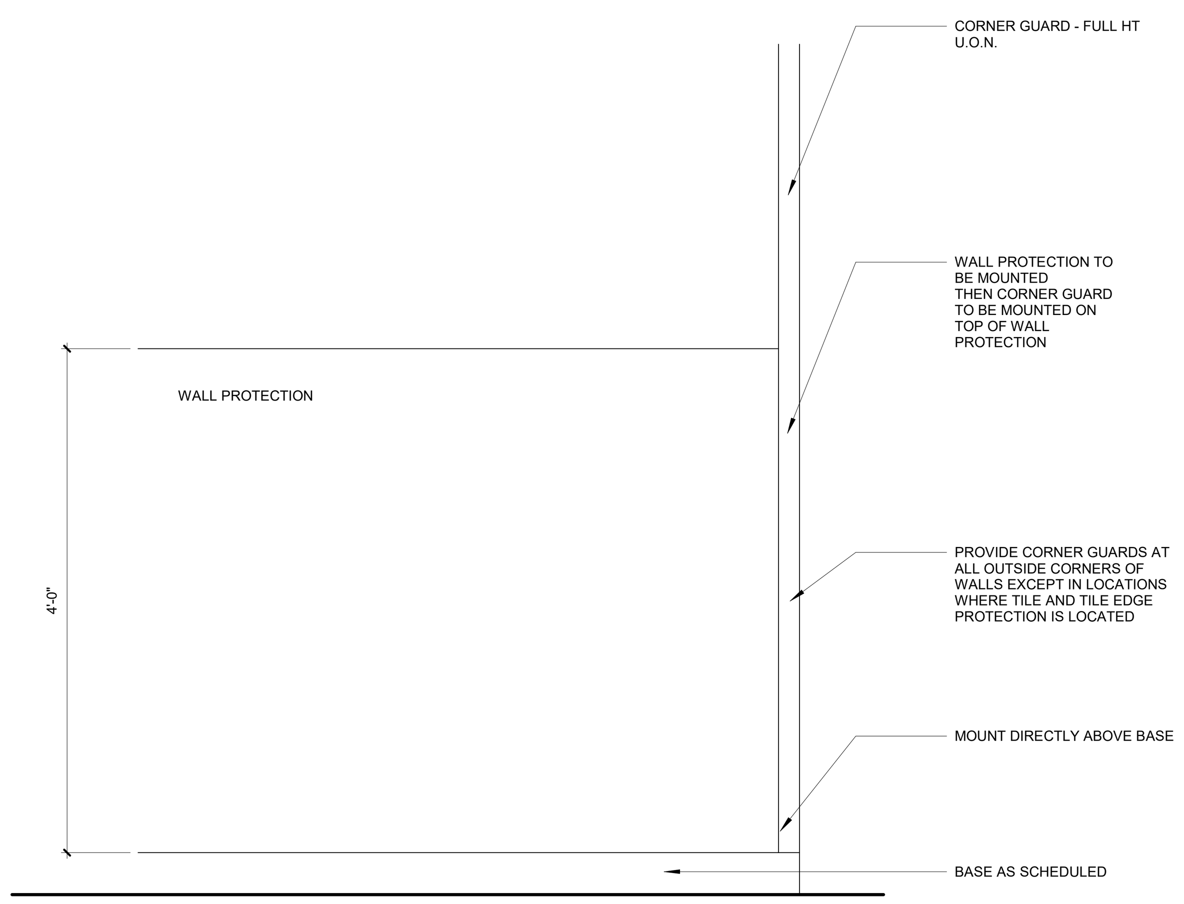
A	REFER TO FINISH PLAN AND INTERIOR ELEVATIONS FOR WALL FINISHES, WALL PROTECTION, CORNER GUARDS, WINDOW TREATMENTS, FLOOR FINISH APPLICATION AND LOCATIONS
B	ALL SOLID WOOD, WOOD VENEER, AND PLASTIC LAMINATE GRAIN SHALL BE VERTICALLY ORIENTED UNLESS OTHERWISE NOTED
C	DOOR FRAMES, HOLLOW METAL WINDOW FRAMES TO BE P-4 UNLESS OTHERWISE NOTED
D	ALL FACES AND UNDERSIDES OF SOFFITS AND HEADERS TO BE P-1 UNLESS OTHERWISE NOTED
E	WALL EXPANSION JOINTS TO BE P-1 UNLESS OTHERWISE NOTED
F	ALL ELECTRICAL PANELS AND METAL GRILLES SHALL BE PTD TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
G	ALL COLUMN SURROUND FINISHES TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
H	WHERE A WALL IS INDICATED TO HAVE PARTIAL OR FULL HT WALL PROTECTION, THE ENTIRE WALL IS TO BE PTD PRIOR TO WALL PROTECTION INSTALLATION
I	EXTEND ALL FINISHES BENEATH, BEHIND, AROUND ALL CASEWORK, EQUIPMENT, SIGNAGE, ETC
J	ALL WINDOW SILLS TO BE SS-2
K	REFER TO DETAIL OF TYPICAL ELEVATION OF WALL PROTECTION/CORNER GUARD MOUNTING HEIGHTS SHOWN ON A4.2.

SPECIFIC ROOM FINISH SCHEDULE NOTES

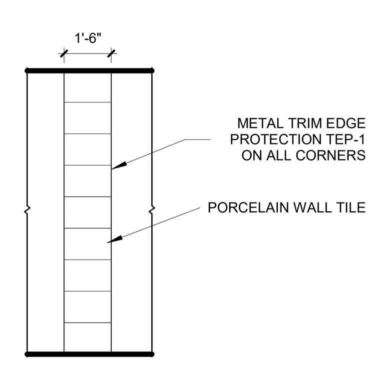
1	FACE OF SOFFIT TO BE SAME PAINT COLOR AS ADJACENT WALL. UNDERSIDE OF SOFFIT TO BE P-7.
2	REFER TO TYPICAL TOILET WALL TILE PATTERN DETAIL SHOWN ON A4.2 FOR MORE DIRECTION ON INSTALLATION.
3	ACT CEILINGS IN THIS AREA TO HAVE HOLD DOWN CLIPS.
4	LEAVE ONE AREA WHERE LABEL IS SHOWN, UNPAINTED, ON EACH PLYWOOD WALL IN THIS ROOM.
5	NEW CEILNIG AND GRID. REINSTALL EXISTING MECH GRILLS AND NEW LIGHTS, REF. MEP

ROOM FINISH SCHEDULE

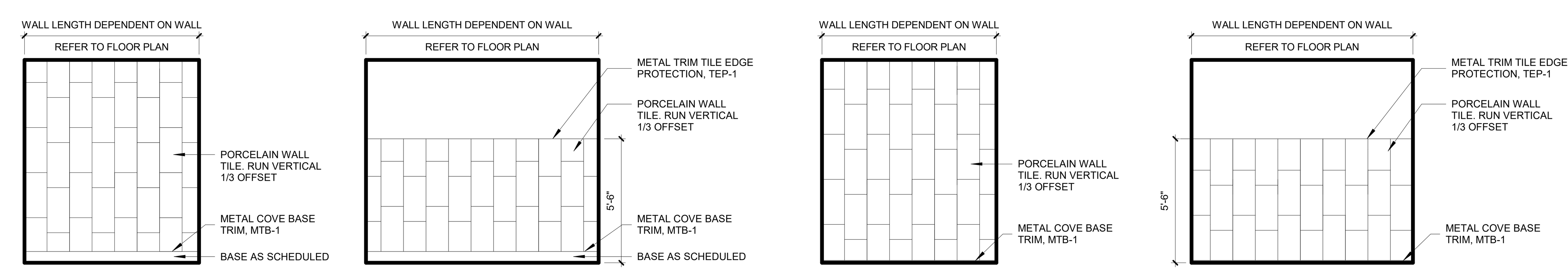
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS: NORTH	WALLS: EAST	WALLS: SOUTH	WALLS: WEST	CASEWORK: BASE CABINETS	CASEWORK: UPPER CABINETS	CASEWORK: COUNTERTOPS	CEILING	NOTES	REVISION #
02-1B00C	WAITING ROOM	LVT-1, 2	RWB-1	WP-2 / P-1 / PT-2	WP-2 / P-1 / PT-2	WP-2 / P-1, 8 / PT-2 / WT-4	WP-2 / P-1 / PT-2	-	-	SS-1	ACT-1 / WDC-1 / P-1,7		
02-1B00C.1	VENDING	LVT-2	RWB-1	P-1	P-1	P-1	P-1	-	-	-	ACT-1		
02-1B00D	VESTIBULE	WOC-1	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1	3	
02-1B00J	SERVICE CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B00M	CORRIDOR	LVT-1 / LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1 / P-7		
02-1B00N	CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B00O	CORRIDOR	LVT-1 / LVT-2	RWB-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	-	-	-	ACT-1 / P-7		
02-1B00P	CORRIDOR	LVT-1 / LVT-2	RWB-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	WP-2 / P-1 / HR-1	-	-	-	ACT-1 / P-7		
02-1B00Q	CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B00S	CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	-	ACT-1		
02-1B00W	EXISTING CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B001	TOILET	PT-3	MTB-1	PT-2 / EP-1	PT-2	PT-2 / EP-1	PT-2 / EP-1	-	-	-	ACT-1	2	
02-1B002	TOILET	PT-3	MTB-1	PT-2 / EP-1	PT-2	PT-2 / EP-1	PT-2 / EP-1	-	-	-	ACT-1	2	
02-1B003	TRIAGE	SV-3	RWB-2	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1	WP-2 / P-1	PL-1	-	SS-1	ACT-1		
02-1B004	TRIAGE	SV-3	RWB-2	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1	WP-2 / P-1	PL-1	-	SS-1	ACT-1		
02-1B005	TRIAGE	SV-3	RWB-2	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-8	PL-1	-	SS-1	ACT-1	5	
02-1B006	RECEPTION	LVT-1	RWB-2	P-1	P-1	P-8	P-1	-	-	QTZ-1	ACT-1 / P-5		
02-1B008	CONSULT	LVT-1	RWB-1	P-1	P-1	P-8	P-1	-	-	-	ACT-1	5	
02-1B009	TOILET	PT-3	MTB-1	PT-2	PT-2 / EP-1	PT-2 / EP-1	PT-2 / EP-1	-	-	-	ACT-1	2, 5	
02-1B043	EXAM ROOM	SV-1	IB-1	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B049	TOILET	SV-2	IB-2	PT-2 / EP-1	PT-2 / EP-1	PT-2	PT-2 / EP-1	-	-	-	ACT-1		
02-1B059	EXAM ROOM	SV-1	IB-1	WP-2 / P-1	P-1	WP-2 / P-8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B060	CORRIDOR	PATCH/MATCH	PATCH/MATCH	PATCH/MATCH	PATCH/MATCH	PATCH/MATCH	PATCH/MATCH	-	-	-	ACT-1		
02-1B061	OFFICE	LVT-1	RWB-2	P-1	P-1	P-8	P-1	-	-	-	ACT-1		
02-1B062	STORAGE	ETR	ETR	ETR / P-1	ETR	ETR	ETR / P-1	-	-	-	ETR		
02-1B063	EXISTING ELECT.	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR		
02-1B068	BREAK ROOM	LVT-1	RWB-2	P-1	P-8	P-1	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B069	FAST TRACK NURSE STATION	LVT-2	RWB-1	P-1	P-1	P-1	P-1	-	PL-1	-	ACT-1		
02-1B070	FAST TRACK 1	SV-1	IB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B071	FAST TRACK 2	SV-1	IB-1	WP-2 / P-8	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B072	FAST TRACK 3	SV-1	IB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B073	FAST TRACK 4	SV-1	IB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-8	WP-2 / P-1, 8	PL-1	PL-1	SS-1	ACT-1		
02-1B075	STORAGE	--	--	P-1	P-1	P-1	P-1	-	-	-	EXP		16
02-1B076	STORAGE	--	--	P-1	P-1	P-1	P-1	-	-	-	EXP		16
02-1B077	DECON SHOWER	RF-1	IB-3	RF-2	RF-2	RF-2	RF-2	-	-	-	EP-5		
02-1B078	WATER SERVICE	CS-1	RWB-2	EP-1	EP-1	EP-1	EP-1	-	-	-	EXP		26
02-1B079	EMS BREAK	LVT-1	RWB-2	P-1	P-1	P-1	P-8	PL-1	-	SS-1	ACT-1		
02-1B080	SHARED OFFICE	LVT-1	RWB-2	P-1	P-8	P-1	P-1	-	-	-	ACT-1		
02-1B081	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B081A	PATIENT TOILET	RF-1	IB-3	RF-2	EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5		31
02-1B082	SOILED	SV-1	IB-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	-	-	-	ACT-3		
02-1B083	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B083A	PATIENT TOILET	RF-1	IB-3	RF-2	EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5		31
02-1B084	CLEAN SUPPLY	SV-1	IB-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	-	-	-	ACT-3		
02-1B085	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B085A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	EP-1	RF-2	RF-2	-	-	-	EP-5		31
02-1B086	MED ROOM	SV-1	IB-1	WP-2 / P-1	P-1	WP-2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B087	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B087A	PATIENT TOILET	RF-1	IB-3	RF-2	EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5		31
02-1B088	NURSE STATION	LVT-1	RWB-1	P-8	P-8	P-8	P-8	WP-1	-	SS-1 / QTZ-1	ACT-1 / P-7		
02-1B089	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B089A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	EP-1	RF-2	RF-2	-	-	-	EP-5		31
02-1B090	CHARTING	LVT-1	RWB-1	P-8	P-8	P-8	P-8	-	-	-	ACT-1 / P-8		
02-1B091	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B091A	PATIENT TOILET	RF-1	IB-3	RF-2	EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5		31
02-1B092	JANITOR	CS-1	RWB-2	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-1	-	-	-	EXP		
02-1B093	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	WP-2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B093A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	EP-1	RF-2	RF-2	-	-	-	EP-5		31
02-1B094	TOILET	SV-2	IB-2	PT-2	PT-2 / EP-1	PT-2 / EP-1	PT -2 / EP-1	-	-	-	ACT-1	2	
02-1B095	ADA PATIENT ROOM	SV-3	RWB-1	WP-2 / P-8	WP-2 / P-1	P-1	WP-1, 2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B095A	ADA TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	RF-2 / EP-1	EP-1	-	-	-	EP-5		31
02-1B096	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B096A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5		31
02-1B097	DATA ROOM	CS-1	RWB-2	P-1	P-1	P-1	P-1	-	-	-	EXP	4	26
02-1B098A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5		31
02-1B099	WORK STATION	LVT-1	RWB-1	P-7	P-7	-	P-7	-	-	-	P-7	1	
02-1B100	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B100A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5		31
02-1B101	STORAGE	LVT-2	RWB-2	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B102	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B102A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5		31
02-1B103	MANAGER OFFICE	LVT-1	RWB-2	P-8	P-1	P-1	P-1	-	-	-	ACT-1		
02-1B104	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-2 / P-1,8	P-1	WP-1,2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B104A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	EP-1	RF-2 / EP-1	-	-	-	EP-5		31
02-1B105	TOILET	SV-2	IB-2	PT-2 / EP-1	PT-2 / EP-1	PT-2 / EP-1	PT-2	-	-	-	ACT-1	2	
02-1B106	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1	WP-1,2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B106A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2 / EP-1	EP-1	RF-2	-	-	-	EP-5		31
02-1B107	ADA PATIENT ROOM	SV-3	RWB-1	WP-2 / P-8	WP-1,2 / P-1	P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B107A	ADA PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2 / EP-1	RF-2 / EP-1	-	-	-	EP-5		31
02-1B108	ELECTRIC ROOM	CS-1	RWB-2	P-1	P-1	P-1	P-1	-	-	-	EXP	4	
02-1B109	TRAUMA	SV-1	IB-1	WP-2 / EP-1	WP-2 / EP-1	WP-2 / EP-8	EP-1	-	-	-	ACT-3		
02-1B110	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1,8	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B110A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	RF-2	RF-2	EP-1	-	-	-	EP-5		31
02-1B111	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1,8	WP-2 / P-1	WP-1,2 / P-1	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B111A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	RF-2 / EP-1	EP-1	-	-	-	EP-5		31
02-1B112	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1,8	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B112A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	RF-2	RF-2	EP-1	-	-	-	EP-5		31
02-1B113	PATIENT ROOM	SV-3	RWB-1	WP-2 / P-1,8	WP-2 / P-1	WP-1,2 / P-1	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B113A	PATIENT TOILET	RF-1	IB-3	RF-2	RF-2	RF-2 / EP-1	EP-1	-	-	-	EP-5		31
02-1B114	PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1,8	P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B114A	PATIENT TOILET	RF-1	IB-3	RF-2 / EP-1	RF-2	RF-2	EP-1	-	-	-	EP-5		31
02-1B115	ADA PATIENT ROOM	SV-3	RWB-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B115A	ADA TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2 / EP-1	RF-2	-	-	-	EP-5		31
02-1B116	PATIENT ROOM	SV-3	RWB-1	P-1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B116A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2	RF-2	-	-	-	EP-5		31
02-1B117	PATIENT ROOM	SV-3	RWB-1	P-1	WP-2 / P-1,8	WP-2 / P-1	WP-1,2 / P-1	PL-1	PL-1	SS-1	ACT-1		
02-1B117A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2	RF-2	RF-2 / EP-1	-	-	-	EP-5		31
02-1B118	PATIENT ROOM	SV-3	RWB-1	P1	WP-1,2 / P-1	WP-2 / P-1	WP-2 / P-1,8	PL-1	PL-1	SS-1	ACT-1		
02-1B118A	PATIENT TOILET	RF-1	IB-3	EP-1	RF-2 / EP-1	RF-2	RF-2	-	-	-	EP-5		31
02-1B119	WORK STATION	LVT-1	RWB-1	-	P-7	P-7	P-7	-	-	-	P-7	1	
02-1B120	STRETCHER /EQPT STORAGE	LVT-1	RWB-1	-	WP-2 / P-7	WP-2 / P-7	WP-2 / P-7	-	-	-	P-7	1	
02-1B121	MANAGER OFFICE	LVT-1	RWB-2	P-1	P-1	P-8	P-1	-	-	-	ACT-1		
02-1B133	NOURISH	LVT-1	RWB-1	P-1	P-1	WP-2 / P-1	WP-2 / P-1	PL-1	PL-1	SS-1	P-7		
02-1B134	CORRIDOR	LVT-1 / LVT-2	RWB-1	WP-2 / P-1	-	P-1	-	-	-	-	ACT-1		
02-1B135	EQUIPMENT ALCOVE	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1 / P-1		
02-1B136	CORRIDOR	LVT-2	RWB-1	-	WP-2 / P-1	-	WP-2 / P-1	-	-	-	ACT-1		
02-1B137.1	CORRIDOR	LVT-2	RWB-1	-	WP-2 / P-1	P-1	WP-2 / P-1	-	-	-	ACT-1		
02-1B138.1	STORAGE/ SHELL SPACE	--	--	P-1	P-1	P-1	P-1	-	-	-	EXP		16
02-1B138.2	STORAGE/ SHELL SPACE	--	--	P-1	P-1	P-1	P-1	-	-	-	EXP		16
02-1B138.5	STORAGE	--	--	P-1	P-1	P-1	P-1	-	-	-	EXP		16
02-1B140	VESTIBULE	WOC-1	RWB-2	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1	3	31
02-1B141	GARAGE	RE: SPEC	-	EP-1	EP-1	EP-1	EP-1	-	-	-	EXP		
02-1B142	ELECTRICAL	CS-1	RWB-2	P-1	P-1	P-1	P-1	-	-	-	EXP		4
02-1B143	ELECT.	CS-1	RWB-2	P-1	P-1	P-1	P-1	-	-	-	EXP		4
2C-S01	EXISTING STAIR	ETR	ETR	ETR/P-1	ETR/P-1	ETR/P-1	ETR/P-1	-	-	-	EXP / P-1		
B102	CORRIDOR	LVT-2	RWB-1	P-1	P-1	P-1 / HR-1	P-1	-	-	-	ACT-1 / P-1		
B103	CORRIDOR	LVT-2 / WOC-1	RWB-1	P-1	P-1	P-1	P-1 / HR-1	-	-	-	ACT-1 / ETR		
C188	CORRIDOR	LVT-2	RWB-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	WP-2 / P-1	-	-	-	ACT-1		



A6 TYPICAL ELEVATION OF WALL PROTECTION / CORNER GUARD
1" = 1'-0"



A4 TYPICAL WAITING ROOM COLUMN TILE PATTERN
1/4" = 1'-0"



A3 TYPICAL TOILET WALL TILE PATTERN
1/4" = 1'-0"

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Flex Capacity Expansion
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Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	KB
Checked By	Checker

Revision

Number	Date	Description
4	04.10.20	Bid Pkg 3 - ADD 01
8	05.04.20	RFI 30
16	05.22.20	RFI 34
26	07.08.20	ASI 14
31	08.14.20	ASI 16

BID PACKAGE #3 03.30.2020

A4.2

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ROOM FINISH SCHEDULE & FINISH LEGEND

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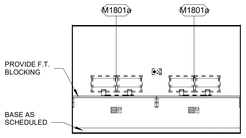
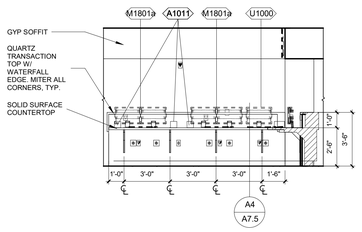
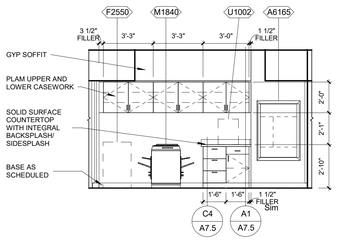
5/27/2020 2:53:12 PM



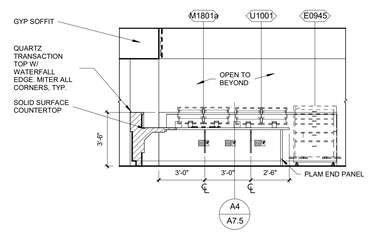
E6 02-1B090 - CHARTING - SOUTH
1/4" = 1'-0"



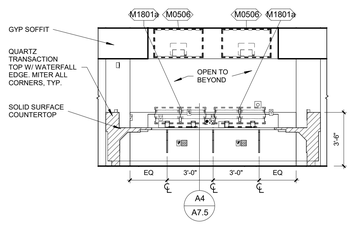
E5 02-1B088 - NURSE STATION - WEST
1/4" = 1'-0"



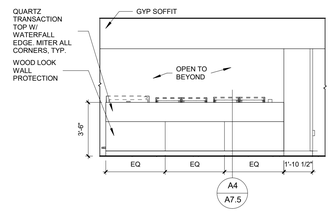
E4 02-1B088 - NURSE STATION - SOUTH
1/4" = 1'-0"



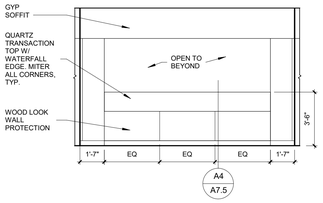
E3 02-1B088 - NURSE STATION - EAST
1/4" = 1'-0"



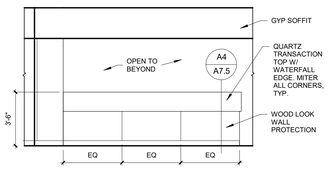
E2 02-1B088 - NURSE STATION - NORTH
1/4" = 1'-0"



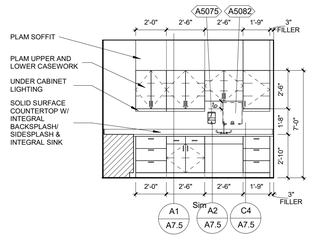
E1 02-1B088 - NURSE STATION SIDE - WEST
1/4" = 1'-0"



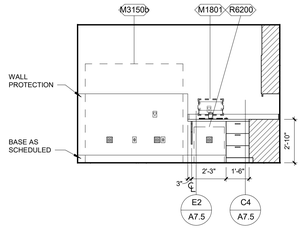
D6 02-1B088 - NURSE STATION FRONT - SOUTH
1/4" = 1'-0"



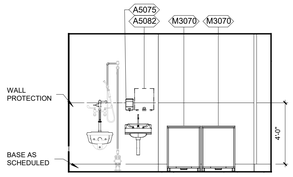
D5 02-1B088 - NURSE STATION SIDE - EAST
1/4" = 1'-0"



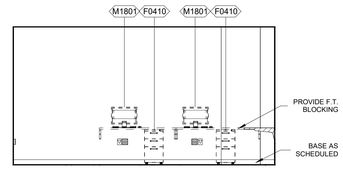
D4 02-1B086 - MED ROOM - EAST
1/4" = 1'-0"



D3 02-1B086 - MED ROOM - NORTH
1/4" = 1'-0"



D2 02-1B082 - SOILED - EAST
1/4" = 1'-0"



D1 02-1B080 - SHARED OFFICE -WEST
1/4" = 1'-0"

C6 02-1B079 EMS BREAK ROOM - SOUTH
1/4" = 1'-0"

C5 02-1B077 - DECON SHOWER - SOUTH
1/4" = 1'-0"

C4 02-1B109 - TRAUMA - WEST
1/4" = 1'-0"

C3 02-1B109 - TRAUMA - EAST
1/4" = 1'-0"

C2 02-1B073 - FAST TRACK 4 - SOUTH
1/4" = 1'-0"

C1 02-1B073 - FAST TRACK 4 - NORTH
1/4" = 1'-0"

B6 02-1B072 - FAST TRACK 3 - WEST
1/4" = 1'-0"

B5 02-1B072 - FAST TRACK 3 - NORTH
1/4" = 1'-0"

B4 02-1B071 - FAST TRACK 2 - SOUTH
1/4" = 1'-0"

B3 02-1B071 - FAST TRACK 2 - EAST
1/4" = 1'-0"

B2 02-1B071 - FAST TRACK 2 - NORTH
1/4" = 1'-0"

B1 02-1B069 - FAST TRACK NURSE STATION - SOUTH
1/4" = 1'-0"

A7 02-1B070 - FAST TRACK 1 WEST
1/4" = 1'-0"

A6 02-1B069 - FAST TRACK NURSE STATION - NORTH
1/4" = 1'-0"

A5 02-1B070 - FAST TRACK 1 - SOUTH
1/4" = 1'-0"

A4 02-1B070 - FAST TRACK 1 - NORTH
1/4" = 1'-0"

A3 02-1B068 - BREAK ROOM - NORTH
1/4" = 1'-0"

A2 02-1B059 - EXAM ROOM - SOUTH
1/4" = 1'-0"

A1 02-1B059 - EXAM ROOM - EAST
1/4" = 1'-0"

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Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
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Drawn By	KB
Checked By	Checker

Revision

Number	Date	Description
18	05.27.20	RFI 57

BID PACKAGE #3 03.30.2020

A7.3

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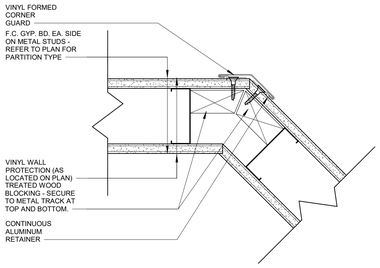
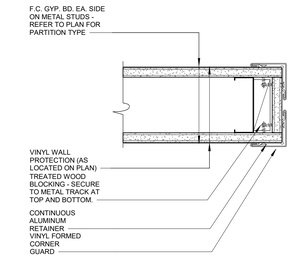
INTERIOR ELEVATIONS



E6 TYPICAL ANGLED VINYL CORNER GUARD
3" = 1'-0"



E5 TYPICAL DOUBLE VINYL CORNER GUARD
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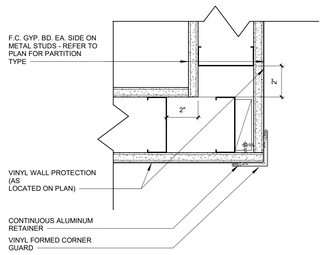
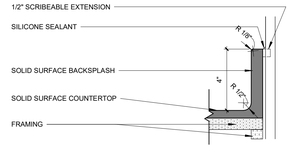
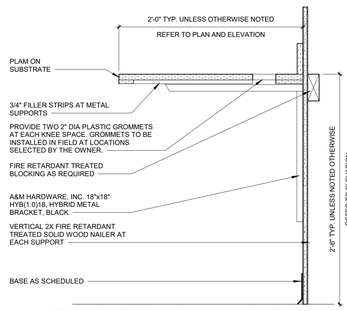


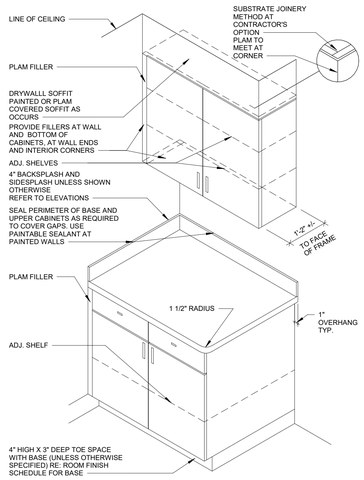
E4 TYPICAL SINGLE VINYL CORNER GUARD
3" = 1'-0"



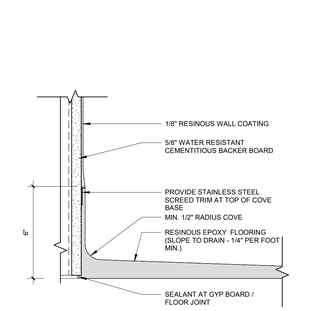
E3 SECTION DETAIL AT SOLID SURFACE BACKSPLASH
3" = 1'-0"



E2 SECTION DETAIL AT SUPPORT BRACKET / KNEE SPACE
1 1/2" = 1'-0"

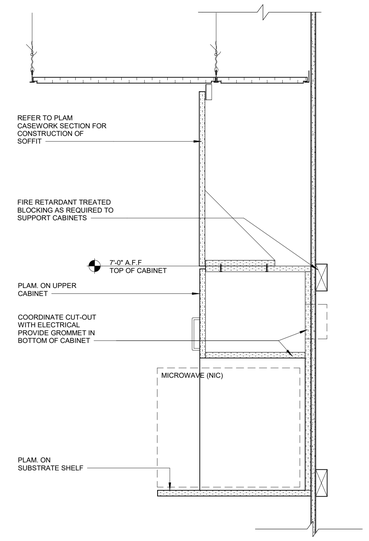


D6 RESILIENT SHEET COVE BASE TERMINATION
3" = 1'-0"

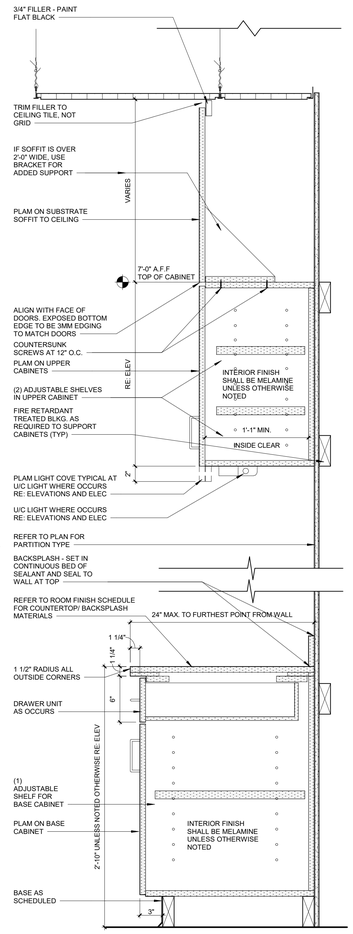


C5 DETAIL AT TERMINATION OF WALL TILE
6" = 1'-0"

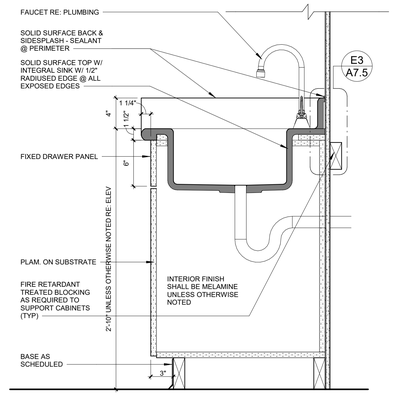
C4 DRAWER SECTION
1 1/2" = 1'-0"



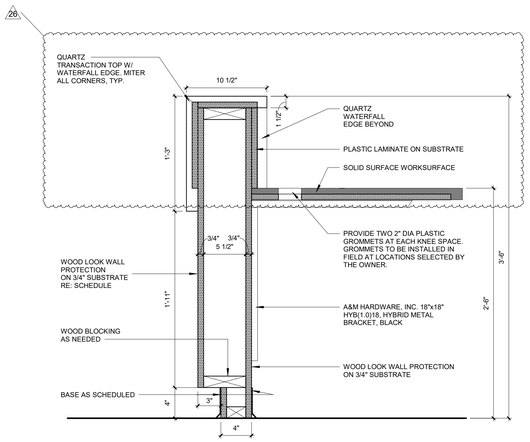
C2 WALL-MOUNTED MICROWAVE SHELF
1 1/2" = 1'-0"



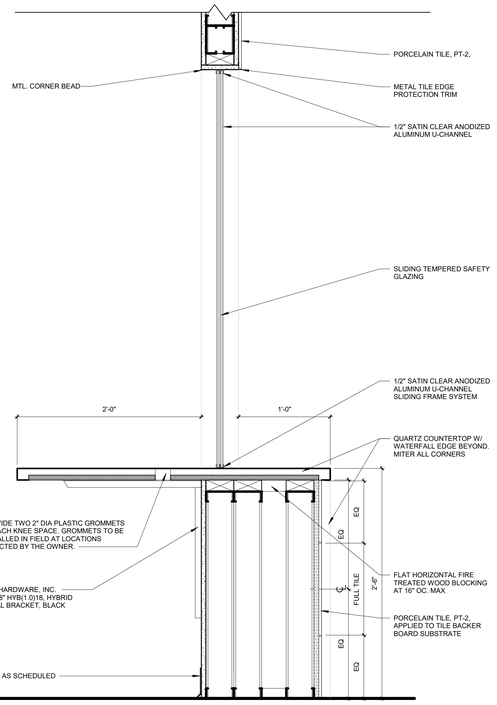
A1 CASEWORK SECTION
1 1/2" = 1'-0"



A2 SINK BASE CABINET SECTION
1 1/2" = 1'-0"

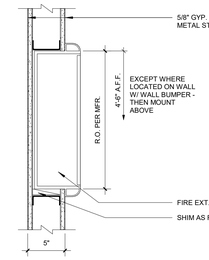


A4 SECTION AT NURSE STATION
1 1/2" = 1'-0"



A6 DETAIL AT RECEPTION DESK
1 1/2" = 1'-0"

A5 SHOWER BASE DETAIL
3" = 1'-0"



B5 DETAIL AT FFE CABINET
1 1/2" = 1'-0"

TYP. CABINET NOTES:

1. PROVIDE PLAM FILLER WHERE CABINETS BUTT UP TO WALLS.
2. ALL COUNTERTOPS HAVE A 4" BACKSPLASH (MATERIAL TO MATCH COUNTERTOP) AND OUTSIDE CORNERS HAVE 1 1/2" RADIUS EXCEPT WHERE NOTED OTHERWISE.
3. CASEWORK MFR. TO SUPPLY (2) - 2" [GROMMETS PER KNEESPACE. GROMMETS TO BE INSTALLED IN FIELD AS DIRECTED BY OWNER. COLOR TO BE SELECTED BY ARCHITECT.
4. PLASTIC LAMINATE COUNTERTOP EDGES SHALL BE 3 MM PLASTIC. COLOR AS SELECTED BY ARCHITECT)

D1 CASEWORK ISOMETRIC
1 1/2" = 1'-0"

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
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26	07.08.20	ASI 14

A7.5

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INTERIOR DETAILS

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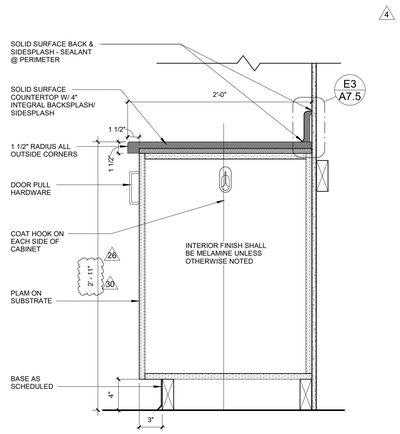
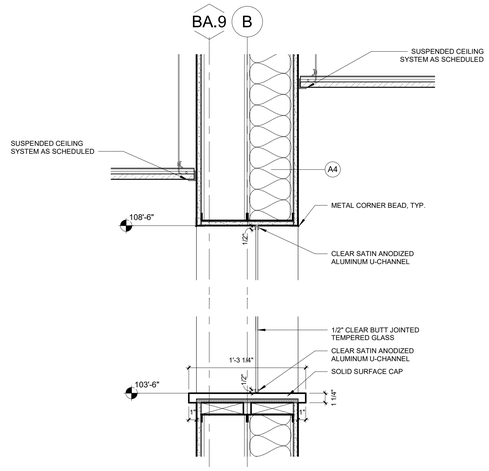
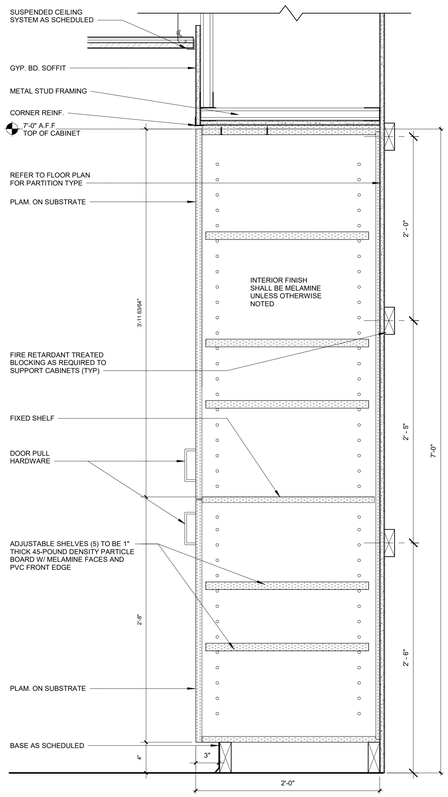


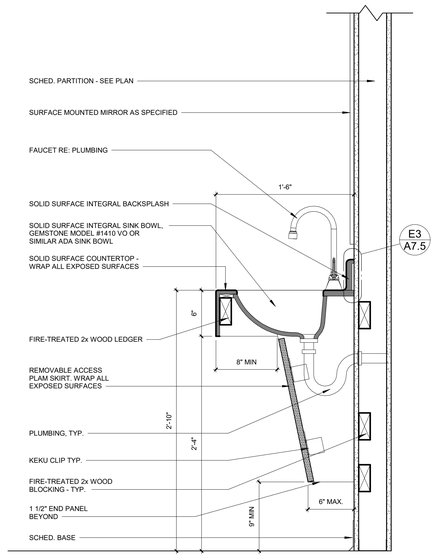
D3 DETAIL AT PATIENT ROOM WARDROBE
1 1/2" = 1'-0"



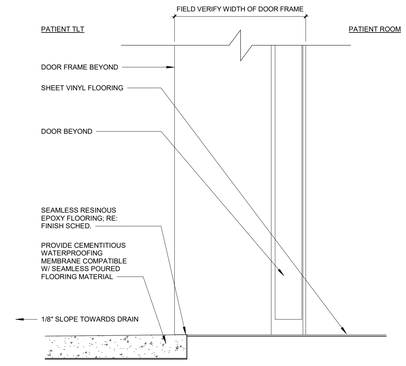
D1 WINDOW @ WAITING ROOM
1 1/2" = 1'-0"



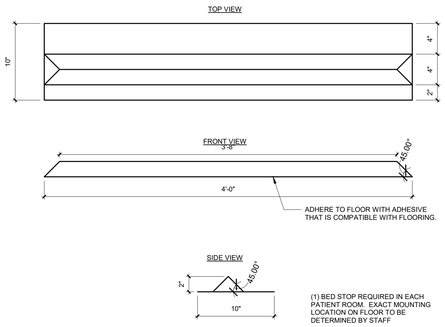
B4 DETAIL AT FULL HEIGHT CABINET
1 1/2" = 1'-0"



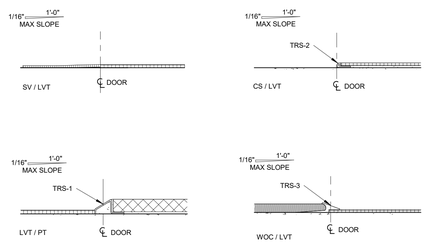
B3 SINK BASE CABINET SECTION
1 1/2" = 1'-0"



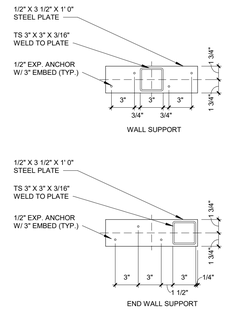
C1 PATIENT TOILET FLOORING TRANSITION
3" = 1'-0"



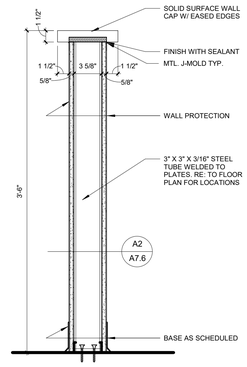
A5 DETAIL AT BED STOP
1 1/2" = 1'-0"



A4 TRANSITION STRIP DETAILS
6" = 1'-0"



A2 DETAIL AT HALF HT. WALL BASE PLATE
1 1/2" = 1'-0"



A1 DETAIL AT HALF HT. WALL
1 1/2" = 1'-0"

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Flex Capacity Expansion
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Date	03.30.2020
Job Number	3-19092
Drawn By	KGF
Checked By	Checker

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4	04.10.20	Bid Pkg 3 - ADD 01
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INTERIOR DETAILS

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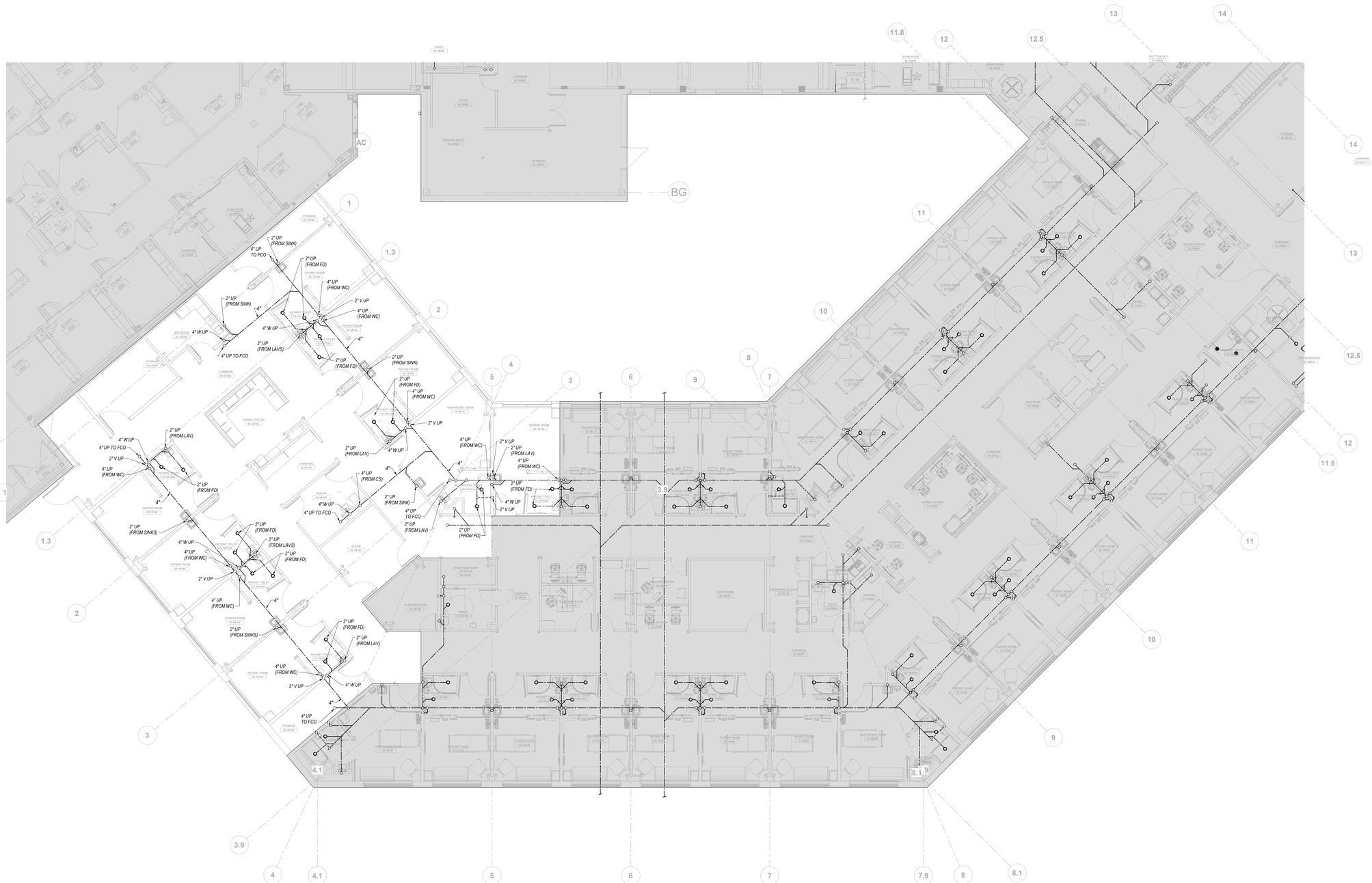

1 PLUMBING PLAN - UNDERSLAB AREA 2
1/8" = 1'-0"

NORTH

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10-09-2020

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PLUMBING PLAN - UNDERSLAB AREA 2

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SPRINKLER NOTE

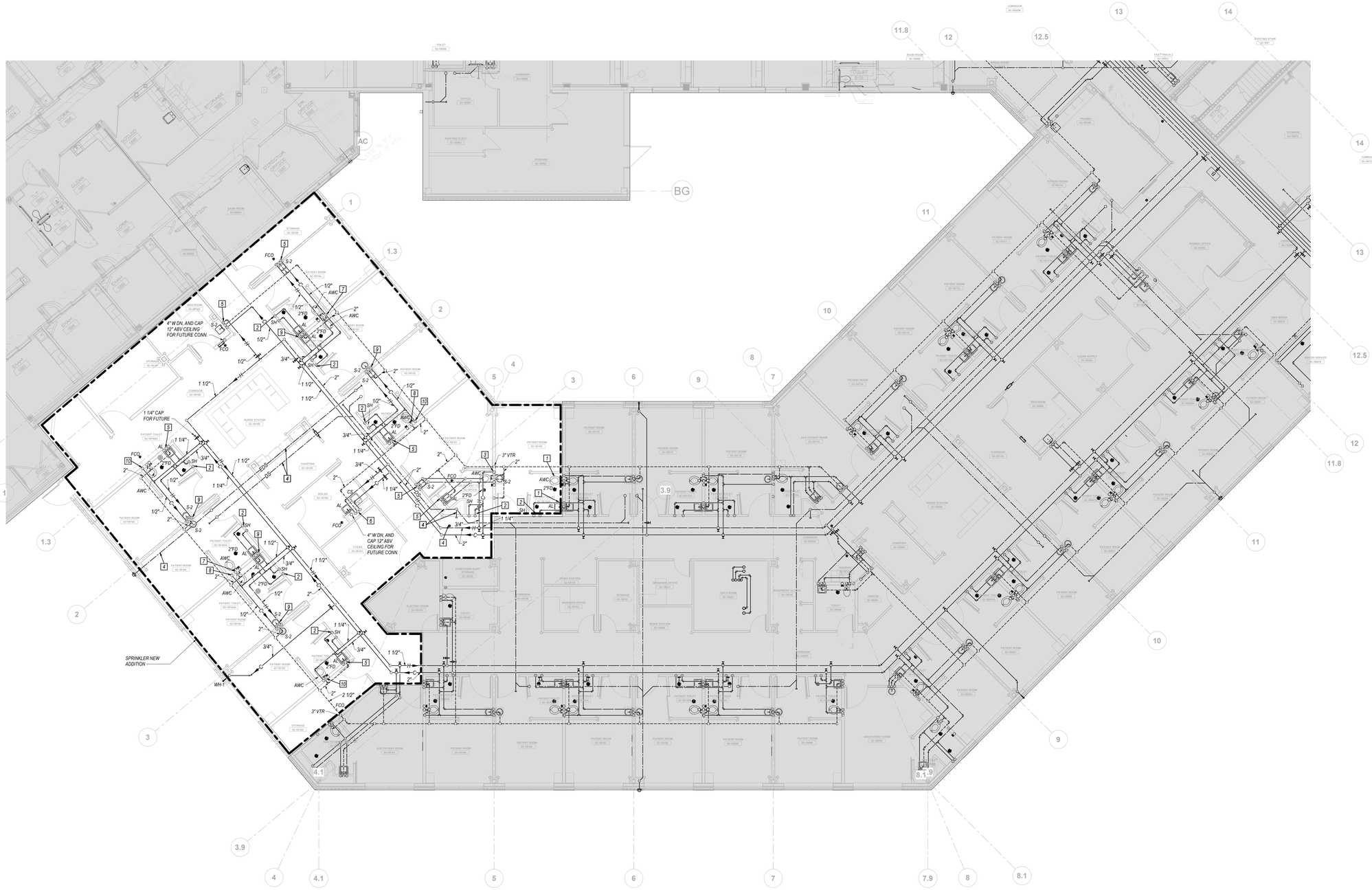
1 *SPRINKLER CONTRACTOR SHALL DISCONNECT, REMOVE, AND RELOCATE ANY AND/OR ALL SPRINKLER PIPING AND SPRINKLER HEADS AS REQUIRED BY MECHANICAL, ELECTRICAL AND GENERAL CONTRACTORS. AFTER ALL LARGER DUCTWORK AND PIPING HAVE BEEN INSTALLED, SPRINKLER CONTRACTOR SHALL REINSTALL SPRINKLER PIPING AND HEADS REQUIRED TO SPRINKLER REMODELED SPACE. SPRINKLER CONTRACTOR SHALL ALSO INSTALL NEW SPRINKLER HEADS AND/OR PIPING AS REQUIRED BY REMODEL OF SPACE.*

GENERAL NOTES

1 *SEE SHEET PM000 FOR GENERAL NOTES AND SYMBOLS LISTS.*

KEYED NOTES 0

1 *CONNECT FIXTURES TO PIPING IN WALL, RE: SHEET P1.2.*
2 *½"C AND ½"H DN TO SHOWER.*
3 *1 ¼" C, 2" V, ½" H AND 1 ½" V DOWN TO BACK-TO-BACK WATER CLOSET AND SINK. ALSO PROVIDE 4" WASTE DOWN THRU SLAB AND UP TO 12" ABOVE CEILING AND CAP FOR FUTURE CONNECTION. PROVIDE A WALL CLEANOUT FOR THAT 4" RISER, IN ACCESSIBLE LOCATION BESIDE WATER CLOSET AND NO HIGHER THAN NECESSARY.*
4 *STORM WATER (DS AND EDS) PIPING AND CLEANOUT IS SHOWN ON THIS SHEET FOR REFERENCE ONLY. REFER TO SHEET P1.2 FOR STORM WATER PIPING REQUIREMENTS.*
5 *¾" C, ½" H AND 1 ½" V DN TO LAVATORY OR SINK.*
6 *1 ¼" C, ½" H AND 2" V DN IN CHASE TO SERVE CLINICAL SINK AND LAVATORY.*
7 *1 ½" C AND 2"V DN TO BACK-TO-BACK WATER CLOSETS. ALSO PROVIDE 4"W DN THRU SLAB, AND UP TO 12" ABV CEILING AND CAP FOR FUTURE CONNECTION. PROVIDE A WALL CLEANOUT FOR THAT 4" RISER, IN ACCESSIBLE LOCATION BESIDE WATER CLOSET AND NO HIGHER THAN NECESSARY.*
8 *IN ADDITION TO THE WALLCLEANOUT FOR THE 4" WASTE RISER (NOTED SEPERATELY), ALSO PROVIDE WALL CLEANOUT FOR THE 4" UNDERGROUND WASTE MAIN, IN THE WALL ABOVE THE WATER CLOSET AND FLUSH VALVE, BUT NO HIGHER THAN NECESSARY.*
9 *½"C, ½"H AND 1 ½"V DN TO BACK-TO-BACK LAVATORIES.*
10 *1 ½" C AND 2"V DN TO WATER CLOSET, ALSO PROVIDE 4" WASTE DN THRU SLAB AND UP TO 12" ABV CEILING AND CAP FOR FUTURE CONNECTION. PROVIDE A WALL CLEANOUT FOR THAT 4" RISER, IN ACCESSIBLE LOCATION BESIDE WATER CLOSET AND NO HIGHER THAN NECESSARY.*



1 PLUMBING PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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Date	03.30.2020
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Number	Date	Description
42	10.09.20	PR #6

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P1.2.1

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PLUMBING PLAN - FIRST FLOOR AREA 2

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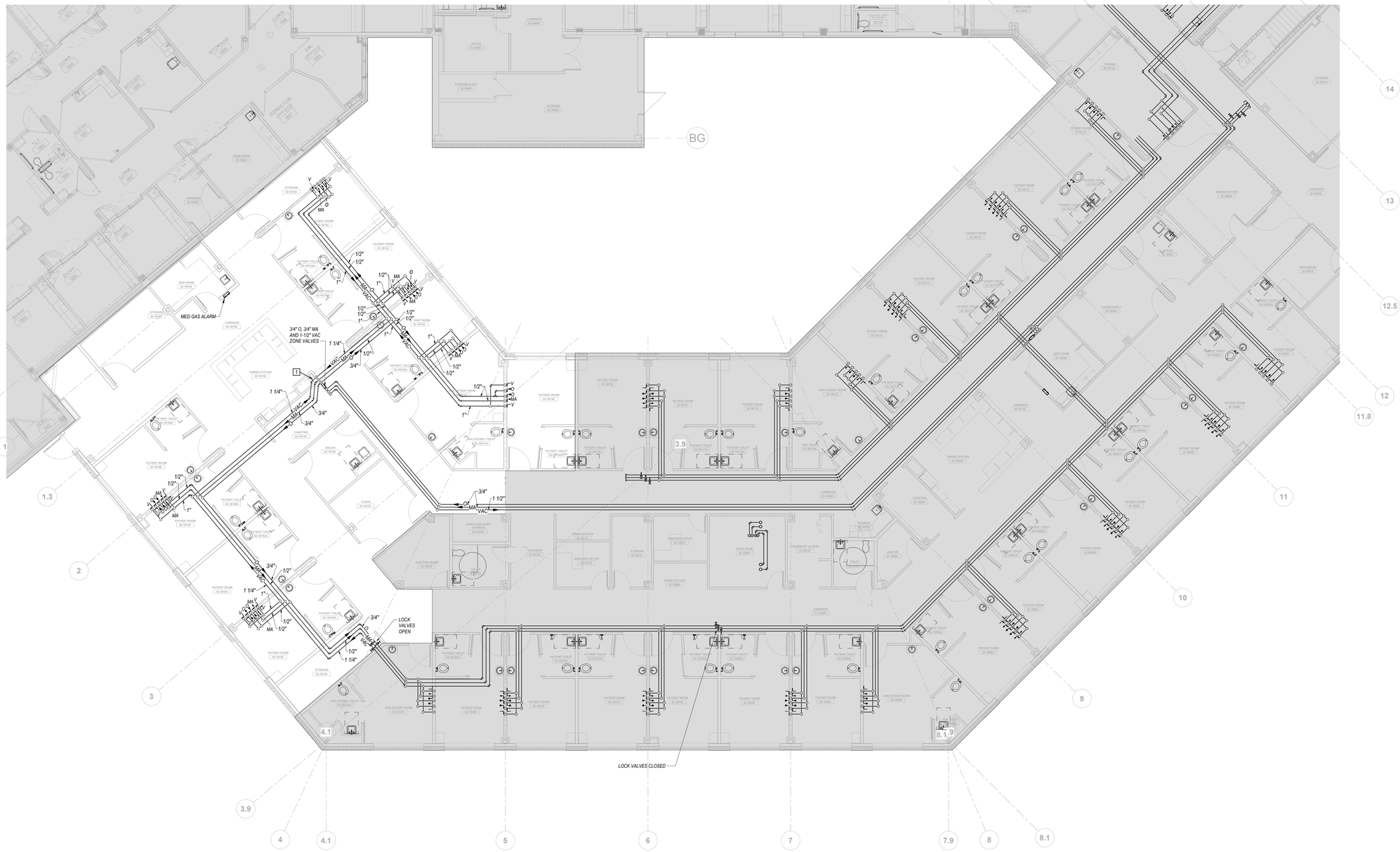
MEDICAL GAS GENERAL NOTES

1 REFER TO GENERAL NOTES ON SHEET PM000.
2 ALL ZONE VALVES SHALL FACE CORRIDORS.
3 COORDINATE EXACT QUANTITIES AND LOCATIONS OF MEDICAL GAS OUTLETS/ INLETS WITH ARCHITECTURAL ELEVATIONS.

KEYED NOTES 0

1 DUE TO SMALL SCALE OF DRAWINGS, PIPING APPEARS TO PASS THROUGH SPACE RESERVED FOR PNEUMATIC TUBE STATION. IN REALITY, CONTRACTOR SHALL INSTALL PIPING SUCH THAT IT DOES NOT INTERFERE WITH TUBE STATION.



1 MEDICAL GAS PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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MEDICAL GAS PLAN - FIRST FLOOR AREA 2

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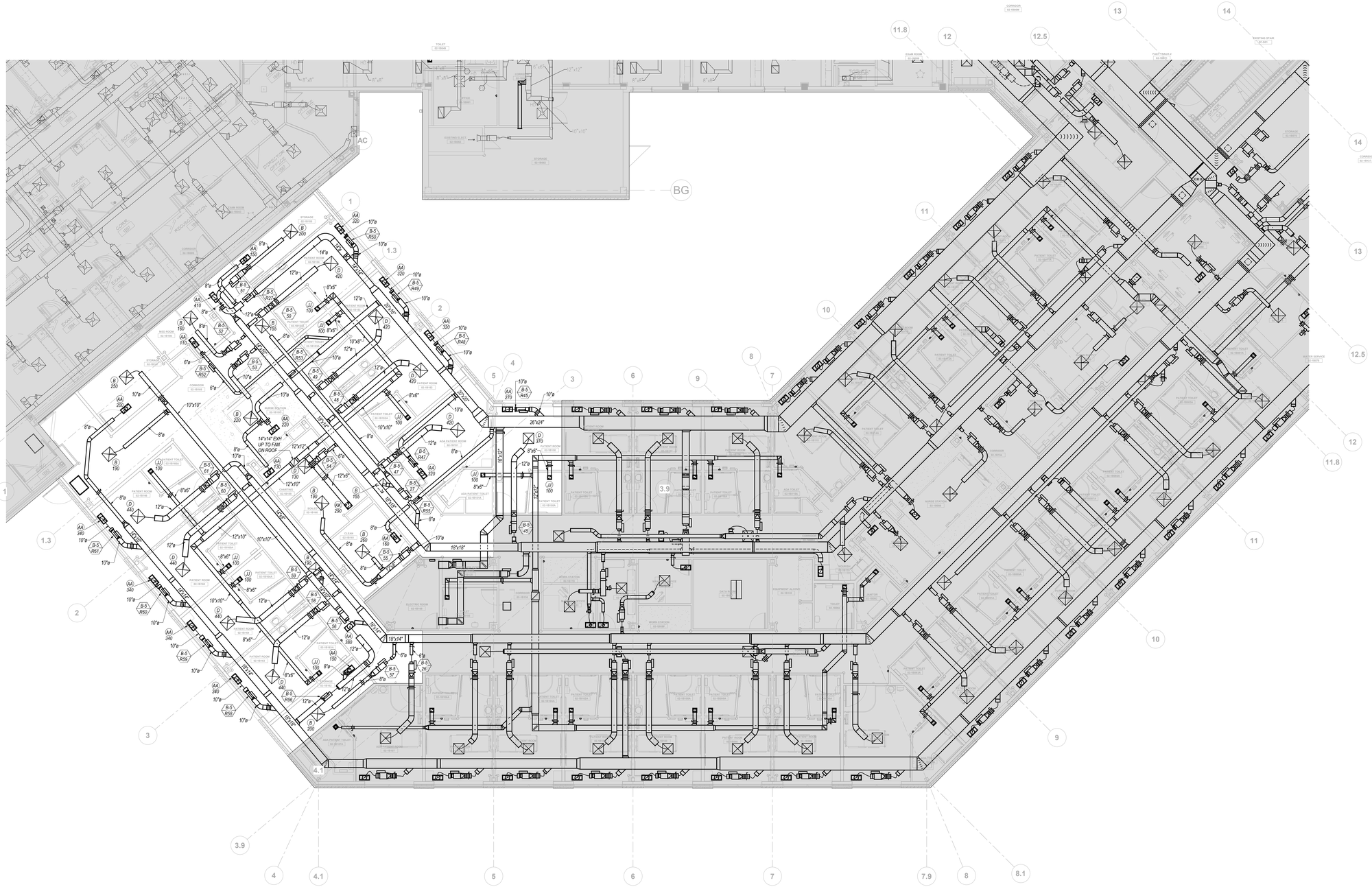
GENERAL NOTES

1 REFER TO GENERAL NOTES ON SHEET PM00.
2 WHERE A VAV BOX SERVES A SINGLE SUPPLY DIFFUSER OR RETURN GRILLE, THE MANUAL HAND DAMPER IS SERIES WITH BOX SHALL BE LOCKED WIDE OPEN, UNLESS OTHERWISE NOTED



1 MECHANICAL PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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MECHANICAL PLAN - FIRST FLOOR AREA 2

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MECHANICAL PIPING GENERAL NOTES

1 SEE SHEET PM000 FOR GENERAL NOTES AND SYMBOLS LISTS.

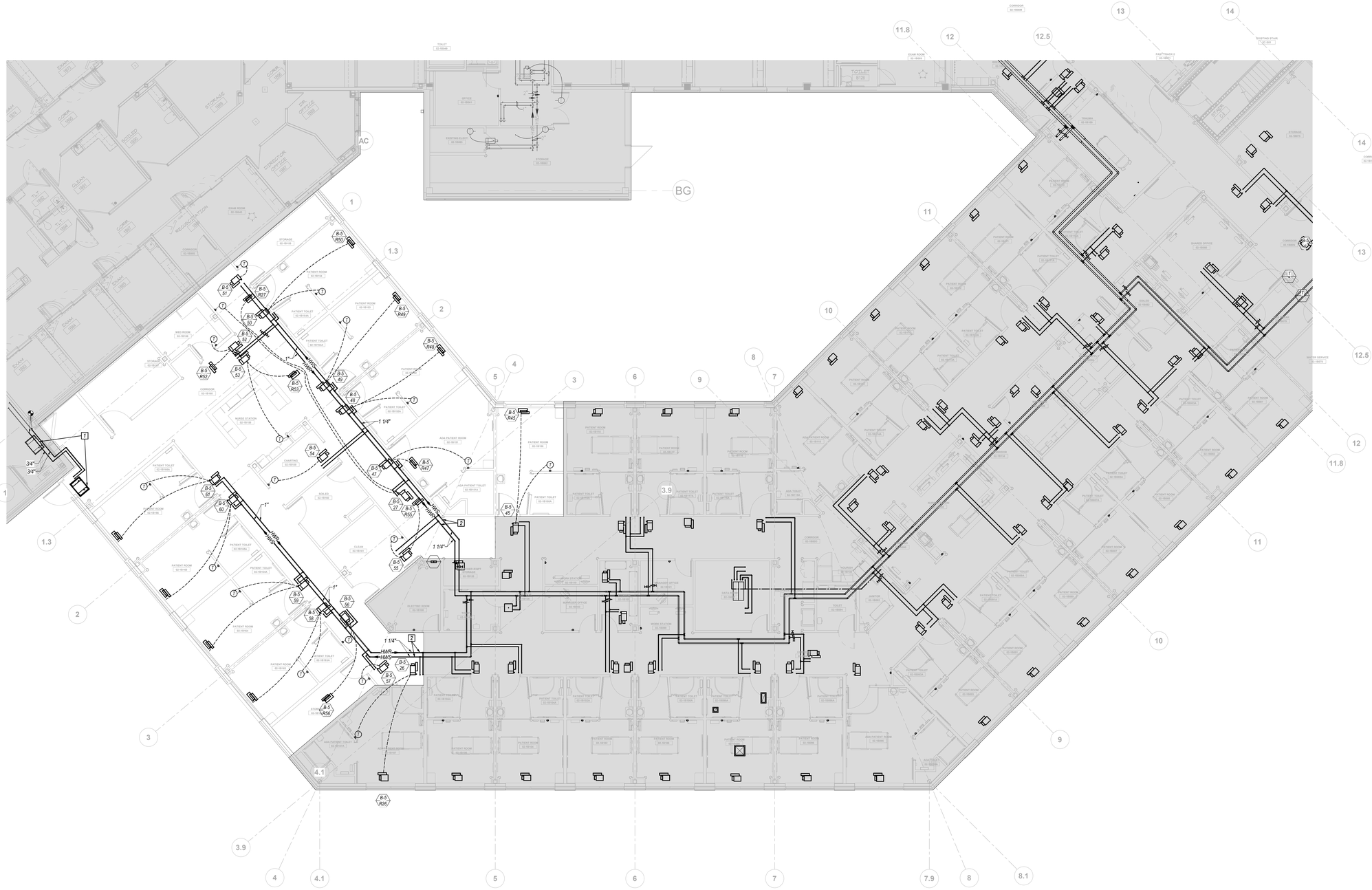
2 BRANCH PIPING TO BE 3/4" MINIMUM UNLESS NOTED OTHERWISE.

3 THERMOSTAT OR OTHER SENSOR MOUNTING AND PLACEMENT SHALL COORDINATE WITH OTHER TRADES AND FINISH SURFACES TO BE MOUNTED TO.

KEYED NOTES 0

1 CABINET UNIT HEATER AND ASSOCIATED PIPING ARE SHOWN ON THIS SHEET FOR REFERENCE ONLY. REFER TO SHEET MP1.2 FOR REQUIREMENTS.

2 PIPING SOUTH OF THIS POINT HAS BEEN INSTALLED DIFFERENTLY THAN ORIGINALLY SHOWN ON SHEET MP1.2 AND THE SHADED AREA ON THIS SHEET. REFER TO CONTRACTOR'S MECHANICAL PIPING COORDINATION DRAWINGS FOR MOST UP-TO-DATE LAYOUT OF PIPING.



1 FIRST FLOOR MECHANICAL PIPING PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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10-09-2020
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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
42	10.09.20	PR #6

BID PACKAGE #3 3.27.2020

MP1.2.1

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MECHANICAL PIPING PLAN - FIRST FLOOR AREA 2

10/9/2020 2:41:05 PM

GENERAL NOTES

1 REFER TO GENERAL NOTES ON SHEET PM000.
2 WHERE A VAV BOX SERVES A SINGLE SUPPLY DIFFUSER OR RETURN GRILLE, THE MANUAL HAND DAMPER IS SERIES WITH BOX SHALL BE LOCKED WIDE OPEN, UNLESS OTHERWISE NOTED

KEYED NOTES

1 ROUTE 1 1/8" AND 7/8" REFRIGERANT PIPING DOWN THRU ROOF. RE: DETAIL FOR PIPING PENETRATION.
2 EXPOSED PIPING OUTSIDE OF NEW PENTHOUSE AND ABOVE ROOF SHALL BE FULLY WELDED AND INSTALLED WITHOUT HIGH POINTS THAT COULD COLLECT AIR AND WITHOUT LOW POINTS THAT COULD HOLD WATER. PIPING SHALL BE INSTALLED TO DRAIN DOWN THRU ROOF INTO THE TUNNEL ACCESS ROOM BELOW. PIPING SHALL BE ELECTRICALLY HEATED TRACED AND INSULATED USING 2" THICK FLEXIBLE ELASTOMERIC INSULATION WITH VAPOR BARRIER AND FIELD-APPLIED ALUMINUM JACKETING. MINIMUM THICKNESS OF JACKET SHALL BE 0.024". REFER TO SHEET M3.2 FOR ADDITIONAL REQUIREMENTS ON HEAT TRACING. PROVIDE NEW ROOFTOP PIPE SUPPORTS AS REQUIRED. PATCH AND REPAIR ROOFING AT NEW SUPPORTS AND/OR AT THE ROOF PENETRATIONS AS REQUIRED TO MAINTAIN ROOF WARRANTY.

EF B7
EXISTING 28"x28" EXH DN
RE: SHEET M3.2 FOR CONTINUATION
6" CWR RACKED ABV 6" CWS
CWR
RE: SHEET M2.1 FOR CONTINUATION
10"x10" EXH DN
EF B9
NEW LOCATION FOR FAN (NOT LESS THAN 25' FROM EXISTING OUTSIDE AIR LOUVER ABOVE DOOR OF EXISTING PENTHOUSE).
PROVIDE AND INSTALL RELIEF HOOD ON 18" TALL ROOF CURB. HOOD SHALL BE A RELIEF LOUVERED PENTHOUSE (GREENHECK MODEL WRH OR APPROVED EQUAL) WITH HEAVY-GAUGE ALUMINUM CONSTRUCTION, 48"x72" THROAT, 62"x86" OUTSIDE DIMENSIONS, AND 9 TIERS WITH 35° OVERALL HEIGHT. PROVIDE HOOD WITH FACTORY-BAKED ENAMEL FINISH (COLOR TO BE SELECTED BY ARCHITECT).
48"x72" RELIEF AIR DN
12"x12" EXH DN
EF B2
NEW LOCATION FOR FAN (NOT LESS THAN 25' FROM NEW OUTSIDE AIR LOUVER)
NEW LOCATION FOR FAN (NOT LESS THAN 25' FROM EXISTING/NEW OUTSIDE AIR LOUVER).
10"x10" EXH DN
EF B8
24"x24" EXH DN
EF B14
EXIST'G EF-83
NOTE: REFER TO SHEET M3.2 FOR ENLARGED PLAN SHOWING WORK INSIDE PENTHOUSE AND NEW ROOFTOP TUNNEL.
RE: SHEET M3.1 FOR WORK ON ROOF OF AMBULANCE GARAGE
18"x18" EXH DN
EF B11
14"x14" EXH DN
EF B16
18"x18" EXH DN
EF B12
NEW AIR COOLED CONDENSERS FOR DATA ROOM IN ROW COOLERS. PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. SET ON ROOF EQUIPMENT RAILS.

1 MECHANICAL PLAN - ROOF AREA 2
1/8" = 1'-0"

NORTH

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FOR REFERENCE ONLY
PREVIOUSLY APPROVED UNDER PRCOM20200845

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Checked By	BEH

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M2.2

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MECHANICAL PLAN - ROOF AREA 2

10/9/2020 2:41:15 PM

UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	SUPPLY FAN CFM	SUPPLY FAN E.S.P. (IN. W.G.)	HEATING COIL EWT (F°)	HEATING COIL LWT (F°)	HEATING COIL GPM	HEATING COIL CAPACITY (BTU/HR)	HEATING COIL MAX WPD (FT.)	MOTOR DATA HP	MOTOR DATA VOLTS	MOTOR DATA PHASE	REMARKS
1	STERLING	HS-096B	HORIZONTAL UNIT HEATER	1,400	0.00	200	180	7	69,700	5.00	0.08	115	1	
2	STERLING	HS-096B	HORIZONTAL UNIT HEATER	1,400	0.00	200	180	7	69,700	5.00	0.08	115	1	
3	STERLING	HS-096B	HORIZONTAL UNIT HEATER	1,400	0.00	200	180	7	69,700	5.00	0.08	115	1	
4	STERLING	HS-096B	HORIZONTAL UNIT HEATER	1,400	0.00	200	180	7	69,700	5.00	0.08	115	1	
5	STERLING	HS-118A	HORIZONTAL UNIT HEATER	500	0.00	200	180	1.9	18,400	5.00	0.02	115	1	
6	STERLING	HS-048B	HORIZONTAL UNIT HEATER	750	0.00	200	180	3.5	34,800	5.00	0.05	115	1	
7	STERLING	HS-048B	HORIZONTAL UNIT HEATER	750	0.00	200	180	3.5	34,800	5.00	0.05	115	1	

NOTES:
1 PROVIDE WITH UNIT MOUNT TOGGLE DISCONNECT SWITCH.

AIR CURTAIN SCHEDULE

MARK	MANUF.	MODEL NO.	MAX CFM	VOLTAGE (V)	PHASE	ENTERING WATER TEMP.	HEATING CAPACITY (BTUH)	GPM	FANS NO.	FANS HP
1	MARS AIR SYSTEMS	PH1084-2WH-PW	3,160	460		180 °F	96,000	8.0	2	0.5

NOTES:
1 PROVIDE WITH UNIT WITH MCPA-1VH-VR CONTROL PANEL WITH INTEGRAL NON-FUSED DISCONNECT

RETURN AIR VAV BOX SCHEDULE AHU-B-5

TYPE	MARK	MANUFACTURER	MODEL	INLET/OUTLET SIZE (IN.)	BOX CFM
B-5	R1	TITUS	DESV	14"	1290
B-5	R2	TITUS	DESV	10"	550
B-5	R3	TITUS	DESV	10"	500
B-5	R4	TITUS	DESV	12"	900
B-5	R5	TITUS	DESV	10"	400
B-5	R6	NOT USED	-	0"	0
B-5	R7	TITUS	DESV	8"	220
B-5	R8	TITUS	DESV	12"	480
B-5	R9	TITUS	DESV	8"	290
B-5	R10	TITUS	DESV	8"	290
B-5	R11	TITUS	DESV	10"	420
B-5	R12	TITUS	DESV	8"	290
B-5	R13	TITUS	DESV	8"	290
B-5	R14	TITUS	DESV	8"	290
B-5	R15	TITUS	DESV	8"	290
B-5	R16	TITUS	DESV	8"	290
B-5	R17	TITUS	DESV	10"	360
B-5	R18	TITUS	DESV	8"	330
B-5	R19	TITUS	DESV	10"	540
B-5	R20	TITUS	DESV	8"	330
B-5	R21	TITUS	DESV	8"	330
B-5	R22	NOT USED	-	0"	0
B-5	R23	TITUS	DESV	8"	330
B-5	R24	TITUS	DESV	8"	330
B-5	R25	TITUS	DESV	8"	330
B-5	R26	TITUS	DESV	10"	350
B-5	R27	PRICE	RDV	10"	560
B-5	R28	NOT USED	-	0"	0
B-5	R29	TITUS	DESV	8"	270
B-5	R30	TITUS	DESV	8"	270
B-5	R31	TITUS	DESV	8"	270
B-5	R32	TITUS	DESV	12"	880
B-5	R33	NOT USED	-	0"	0
B-5	R34	TITUS	DESV	8"	240
B-5	R35	TITUS	DESV	8"	220
B-5	R36	TITUS	DESV	8"	220
B-5	R37	TITUS	DESV	10"	430
B-5	R38	TITUS	DESV	6"	180
B-5	R39	TITUS	DESV	8"	230
B-5	R40	TITUS	DESV	8"	220
B-5	R41	TITUS	DESV	8"	220
B-5	R42	TITUS	DESV	8"	280
B-5	R43	TITUS	DESV	8"	220
B-5	R44	TITUS	DESV	12"	1040
B-5	R45	PRICE	RDV	8"	270
B-5	R46	NOT USED	-	0"	0
B-5	R47	PRICE	RDV	8"	320
B-5	R48	PRICE	RDV	8"	320
B-5	R49	PRICE	RDV	8"	320
B-5	R50	PRICE	RDV	8"	320
B-5	R51	NOT USED	-	0"	0
B-5	R52	PRICE	RDV	6"	110
B-5	R53	PRICE	RDV	10"	350
B-5	R54	NOT USED	-	0"	0
B-5	R55	PRICE	RDV	6"	160
B-5	R56	PRICE	RDV	10"	530
B-5	R57	NOT USED	-	0"	0
B-5	R58	PRICE	RDV	8"	340
B-5	R59	PRICE	RDV	8"	340
B-5	R60	PRICE	RDV	8"	340
B-5	R61	PRICE	RDV	8"	340

VAV BOX SCHEDULE AHU-B-1

TYPE	MARK	MANUFACTURER	MODEL	INLET SIZE (IN.)	OUTLET WIDTH (IN.)	OUTLET HEIGHT (IN.)	BOX CFM	HEATING CFM	HEATING COIL EAT (°F)	LAT (°F)	BTUH	GPM	MIN. NO. OF ROWS
B-1	1	TITUS	DESV	5"	12"	8"	240	240	55	100	11,800	0.8	2
B-1	2	TITUS	DESV	9"	14"	13"	900	900	55	100	44,100	3	2
B-1	3	TITUS	DESV	14"	20"	18"	2200	2200	55	100	107,900	7.3	2
B-1	4	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2

VAV BOX SCHEDULE AHU-B-5

TYPE	MARK	MANUFACTURER	MODEL	INLET SIZE (IN.)	OUTLET WIDTH (IN.)	OUTLET HEIGHT (IN.)	BOX CFM	HEATING CFM	HEATING COIL EAT (°F)	LAT (°F)	BTUH	GPM	MIN. NO. OF ROWS
B-5	1	TITUS	DESV	12"	16"	15"	1290	1290	55	85	42,200	2.8	2
B-5	2	TITUS	DESV	8"	12"	10"	500	500	55	85	16,400	1.1	2
B-5	3	TITUS	DESV	8"	12"	10"	600	600	55	85	19,600	1.3	2
B-5	4	TITUS	DESV	10"	14"	13"	1000	1000	55	85	32,700	2.2	2
B-5	5	TITUS	DESV	8"	12"	10"	540	540	55	85	17,700	1.2	2
B-5	6	TITUS	DESV	8"	12"	10"	670	670	55	100	32,900	2.2	2
B-5	7	TITUS	DESV	5"	12"	8"	150	150	55	85	4,900	0.5	2
B-5	8	TITUS	DESV	6"	12"	8"	380	380	55	85	12,400	0.8	2
B-5	9	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	10	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	11	TITUS	DESV	7"	12"	10"	420	420	55	85	13,700	0.9	2
B-5	12	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	13	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	14	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	15	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	16	TITUS	DESV	7"	12"	10"	390	390	55	100	19,100	1.3	2
B-5	17	TITUS	DESV	7"	12"	10"	460	460	55	100	22,600	1.5	2
B-5	18	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	19	TITUS	DESV	7"	12"	10"	490	490	55	85	16,000	1.1	2
B-5	20	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	21	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	22	TITUS	DESV	5"	12"	8"	110	110	55	85	3,600	0.5	2
B-5	23	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	24	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	25	TITUS	DESV	7"	12"	10"	430	430	55	100	21,100	1.4	2
B-5	26	TITUS	DESV	7"	12"	10"	450	450	55	100	22,100	1.5	2
B-5	27	TITUS	DESV	8"	12"	10"	310	310	55	85	10,100	0.7	2
B-5	28	TITUS	DESV	7"	12"	10"	250	250	55	85	8,200	0.6	2
B-5	29	TITUS	DESV	6"	12"	8"	370	370	55	100	18,100	1.2	2
B-5	30	TITUS	DESV	6"	12"	8"	370	370	55	100	18,100	1.2	2
B-5	31	TITUS	DESV	6"	12"	8"	370	370	55	100	18,100	1.2	2
B-5	32	TITUS	DESV	8"	12"	10"	690	690	55	85	22,600	1.5	2
B-5	33	TITUS	DESV	5"	12"	8"	130	130	55	85	4,300	0.5	2
B-5	34	TITUS	DESV	6"	12"	8"	340	340	55	100	16,700	1.1	2
B-5	35	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2
B-5	36	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2
B-5	37	TITUS	DESV	6"	12"	8"	300	300	55	85	9,800	0.7	2
B-5	38	TITUS	DESV	5"	12"	8"	230	230	55	85	7,500	0.5	2
B-5	39	TITUS	DESV	8"	12"	10"	540	540	55	85	17,700	1.2	2
B-5	40	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2
B-5	41	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2
B-5	42	TITUS	DESV	6"	12"	8"	330	330	55	85	10,800	0.7	2
B-5	43	TITUS	DESV	6"	12"	8"	320	320	55	100	15,700	1.1	2
B-5	44	TITUS	DESV	10"	14"	13"	1040	0	55	55	0	0.5	2
B-5	45	TITUS	DESV	8"	12"	10"	370	370	55	100	18,100	1.2	2
B-5	46	TITUS	DESV	6"	12"	8"	230	230	55	85	7,500	0.5	2
B-5	47	TITUS	DESV	7"	12"	10"	420	420	55	100	20,600	1.4	2
B-5	48	TITUS	DESV	7"	12"	10"	420	420	55	100	20,600	1.4	2
B-5	49	TITUS	DESV	7"	12"	10"	420	420	55	100	20,600	1.4	2
B-5	50	TITUS	DESV	7"	12"	10"	420	420	55	100	20,600	1.4	2
B-5	51	TITUS	DESV	5"	12"	8"	200	200	55	100	9,800	0.7	2
B-5	52	TITUS	DESV	5"	12"	8"	160	160	55	85	5,200	0.5	2
B-5	53	TITUS	DESV	6"	12"	8"	220	220	55	85	7,200	0.5	2
B-5	54	TITUS	DESV	5"	12"	8"	130	130	55	85	4,300	0.5	2
B-5	55	TITUS	DESV	7"	12"	10"	450	450	55	85	14,700	1	2
B-5	56	TITUS	DESV	8"	12"	10"	630	630	55	85	20,600	1.4	2
B-5	57	TITUS	DESV	5"	12"	8"	200	200	55	100	9,800	0.7	2
B-5	58	TITUS	DESV	7"	12"	10"	440	440	55	100	21,600	1.5	2
B-5	59	TITUS	DESV	7"	12"	10"	440	440	55	100	21,600	1.5	2
B-5	60	TITUS	DESV	7"	12"	10"	440	440	55	100	21,600	1.5	2
B-5	61	TITUS	DESV	7"	12"	10"	440	440	55	100	21,600	1.5	2

REPLACE FINAL FILTERS IN EXIST'G AHU-B-1 WITH NEW MERV 17 (99.97% HEPA) FILTERS. PROVIDE NEW FILTER RACK AND/OR HARDWARE AS REQ'D.

AIR HANDLING UNIT SCHEDULE

	PLAN MARK	AREA SERVED	MANUFACTURER MODEL NO.	TYPE	TOTAL CFM	MIN. O.A. CFM	AIR BLENDER P.D. IN. W.C.	PRE-FILTERS EFF.	PRE-FILTERS AREA SQ. FT.	PRE-FILTERS INITIAL P.D. IN. W.C.	PRE-FILTERS FINAL P.D. IN. W.C.
EXIST'G TO REMAIN	AHU B-1	EMERGENT CARE	TEMTROL (WF) DH41	DRAW-THRU SINGLE DUCT	20,000	6,000	0.25	30%	42	0.30	0.90
NEW	AHU B-5	FLEX CAPACITY EXPANSION	TEMTROL	DRAW-THRU SINGLE DUCT	28,000	5,600	0.25	MERV8	56	0.30	1.0

PLAN MARK	HOT WATER COIL FACE AREA SQ. FT.	ENT. AIR FDB	LVG. AIR FDB	ROWS/ FINS	P.D. IN. W.C.	EWT °F	FLOW GPM	P.D. FT.
AHU B-1	-	-	-	-	-	-	-	-
AHU B-5	-	-	-	-	-	-	-	-

PLAN MARK	CHILLED WATER COIL FACE AREA SQ. FT.	ENT. AIR FDB/FWB	LVG. AIR FDB/FWB	ROWS/ FINS	P.D. IN. W.C.	EWT °F	FLOW GPM	P.D. FT.
AHU B-1	44	83.2/68.0	51.0/50.3	8/8	1.0	43	141	17
AHU B-5	58.3	80.0/67.2	50.0/50.0	8/10	1.0	43	182	14.7

PLAN MARK	SUPPLY AND RETURN AIR FANS	FINAL FILTERS EFF.	FINAL FILTERS AREA SQ. FT.	FINAL FILTERS INITIAL P.D. IN. W.C.	FINAL FILTERS FINAL P.D. IN. W.C.	HUMIDIFIER STM. PR. PSI	HUMIDIFIER FLOW LBS/HR	HUMIDIFIER NO. OF MANIFOLDS
AHU B-1	FANS IN AHU-B-1 WERE REPLACED WITH NEW FANS WALLS IN 2017. SUPPLY FAN WALL WAS SIZED FOR 20,000 CFM AT 7" T.S.P. AND HAS CAPACITY FOR ADDITIONAL AIRFLOW.	99.97%	42	1.0	1.5	15	200	3
AHU B-5	SEE FAN WALL SCHEDULE BELOW.	MERV 14	56	1.0	1.5	15	230	TBD

PLAN MARK	ULTRAVIOLET LIGHTS	MOTOR CONTROL DATA STARTER/ DISC. SWITCH	LOCAL CONTROL DEVICES @ STARTER	MISC. CONTROL DEVICES & NOTES	OP. WT. LBS.	REMARKS
AHU B-1	YES	VFD WITH DISCONNECT SWITCH	HOA SWITCH IN VFD COVER	CONTROLLED BY METASYS	22,000	
AHU B-5	YES	VFDS WITH DISC. SW (ONE VFD PER MOTOR)	HOA SWITCH IN VFD COVER	CONTROLLED BY BMS	21,700	INSTALL SST DRAIN PAN WITH 2" HIGH SIDES UNDER ENTIRE UNIT WITH TWO 1" DRAIN CONNECTIONS AT ENDS. ROUTE DRAIN PIPES TO FLOOR DRAIN.

NOTES:
1. MAXIMUM LENGTH OF AHU SHALL BE 26'-5". MAXIMUM WIDTH SHALL BE 9'-8". MAXIMUM HEIGHT OF MAIN AIR TUNNEL SHALL BE 8'-4 1/2". MAXIMUM OVERALL HEIGHT (INCLUDING RETURN FAN CABINET) SHALL BE 12'-10 1/2".
2. COMBINATIONS OF 24"x24" AND/OR 24"x12" FILTERS ONLY MAY BE USED.

DIFFUSER AND GRILLE SCHEDULE

PLAN MARK	SERVICE	MANUFACTURER	MODEL	STYLE	FACE SIZE (IN.)	NECK SIZE (IN.)	BORDER TYPE	FINISH	REMARKS
A	SUPPLY	TITUS	OMNI	SQUARE PLAQUE	24x24	6	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
B	SUPPLY	TITUS	OMNI	SQUARE PLAQUE	24x24	8	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
C	SUPPLY	TITUS	OMNI	SQUARE PLAQUE	24x24	10	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
D	SUPPLY	TITUS	OMNI	SQUARE PLAQUE	24x24	12	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
E	SUPPLY	TITUS	OMNI	SQUARE PLAQUE	24x24	14	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
S1	SUPPLY	TITUS	272RS	DOUBLE DIRECTION SUPPLY GRILLE	18x18	16x16	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
S2	SUPPLY	TITUS	272RS	DOUBLE DIRECTION SUPPLY GRILLE	8x8	6x6	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
S3	SUPPLY	TITUS	272RS	DOUBLE DIRECTION SUPPLY GRILLE	10x10	8x8	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
SL1	SUPPLY	TITUS	FL-30	LINEAR SLOT, HIGH THROW	2.5" SLOT	10	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	PROVIDE WITH 60" INSULATED PLENUM W/ NECK SIZE AS SHOWN. LINEAR SLOT LENGTH WILL BE AS NOTED ON PLAN.
T1	TRANSFER	TITUS	30RL	HEAVY DUTY BAR GRILLE	14x14	12x12	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
T2	TRANSFER	TITUS	30RL	HEAVY DUTY BAR GRILLE	26x14	24x12	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
AA	RETURN	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	24x12	22x10	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
BB	RETURN	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	24x24	22x22	LAY-IN	COLOR AS DIRECTED BY ARCHITECT	
CC	RETURN	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	18x26	16x24	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
DD	RETURN	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	8x8	6x6	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
JJ	EXHAUST	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	10x10	8x8	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
KK	EXHAUST	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	14x14	12x12	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	
LL	EXHAUST	TITUS	23RL	LOUVERED FACE 45 DEGREE DEFLECTION	18x18	16x16	SURFACE MOUNTED	COLOR AS DIRECTED BY ARCHITECT	

EXHAUST AIR FAN SCHEDULE

	PLAN MARK	AREA SERVED	MANUFACTURER MODEL NO.	TYPE	DESIGN CFM	FAN CFM	WHEEL SIZE	S.P. (IN. W.G.)	TIP SPEED FPM	SPEED RPM	BHP
DEMO	EF B-01	OLD AMBULANCE GARAGE	COOK ACE-B 270C 7B	DOWN BLAST CENTRIFUGAL	4,700	5,200	27"	0.375	3,700	525	0.69
EXIST'G, RELOCATE & REBALANCE AS REQ'D	EF B-02	ROOMS B140, B139 B127, B133	COOK ACE-B 100C 2B	DOWN BLAST CENTRIFUGAL	620	700	10"	0.375	4,000	1,540	0.103
EXIST'G TO REMAIN	EF B-03	ROOMS B126, & 128	COOK ACE-B 100C 3B	DOWN BLAST CENTRIFUGAL	450	500	10"	1.0	5,400	2,040	0.19
EXIST'G, REBALANCE AS REQ'D	EF B-04	ROOMS B109 & B110	COOK ACE-B 100C 3B	DOWN BLAST CENTRIFUGAL	420	470	10"	1.0	5,300	1,750	0.18
EXIST'G TO REMAIN	EF B-05	ROOMS B104, B115 & B117	COOK ACE-B 165C 3B	DOWN BLAST CENTRIFUGAL	1,400	1,550	16 1/2"	0.375	3,400	780	0.16
EXIST'G, REBALANCE AS REQ'D	EF B-06	ROOMS B104, B108 & B117	COOK ACE-B 165C 3B	DOWN BLAST CENTRIFUGAL	1,400	1,550	16 1/2"	0.375	3,400	780	0.16
EXIST'G TO REMAIN	EF B-07	PENTHOUSE	COOK ACE-B 300C 8B	DOWN BLAST CENTRIFUGAL	5,600	5,600	30"	0.375	3,500	450	0.72
EXIST'G, RELOCATE & REBALANCE AS REQ'D	EF B-08	ROOM B129	COOK ACE-B 100C 2B	DOWN BLAST CENTRIFUGAL	320	350	10"	1.0	5,300	2,007	0.13
EXIST'G, RELOCATE & REBALANCE AS REQ'D	EF B-09	ROOM B125	COOK ACE-B 100C 2B	DOWN BLAST CENTRIFUGAL	320	350	10"	1.0	5,300	2,007	0.13
EXIST'G TO REMAIN	EF B-10	(PRIOR ADDITION)									
NEW	EF B-11	FCE ADDITON 1ST FLOOR SE	COOK ACE-D 150C17D(VF)	DOWN BLAST CENTRIFUGAL	2010	2450	15"	0.75	5620	1430	0.64
NEW	EF B-12	FCE ADDITON 1ST FLOOR NW	COOK ACE-D 150C17D(VF)	DOWN BLAST CENTRIFUGAL	1620	2000	15"	0.75	4950	1260	0.43
NEW	EF B-13	NEW AMBULANCE GARAGE	COOK ACE-B 300C7B	DOWN BLAST CENTRIFUGAL	5750	6350	30"	0.375	3700	470	0.92
NEW	EF B-14	NEW PENTHOUSE ADDITION	COOK ACE-B 270C6B	DOWN BLAST CENTRIFUGAL	4350	4800	27"	0.375	3540	500	0.68
NEW	EF B-15	ELEC. RM 02-1B142	COOK GNVF-700	INLINE WITH EC MOTOR	600	660	7"	0.375	2830	1450	150W
NEW	EF B-16	FCE ADDITON 1ST FLOOR NORTH	COOK ACE-D 120C17D(VF)	DOWN BLAST CENTRIFUGAL	990	1200	12"	0.75	4760	1515	0.25

PLAN MARK	MOTOR HP	MOTOR VOLTS/PHASE	MOTOR CONTROL DATA STARTER/ DISC. SWITCH	LOCAL CONTROL DEVICES @ STARTER	MISC. CONTROL DEVICES & NOTES	REMARKS
EF B-01	1.0	480/3 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1
EF B-02	0.167	120/ 1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1
EF B-03	0.25	120/ 1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1. WHEEL SIZE REDUCED.
EF B-04	0.25	120/ 1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1. WHEEL SIZE REDUCED.
EF B-05	0.25	120/ 1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1
EF B-06	0.25	120/ 1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1
EF B-07	1.0	480/3 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	SUMMER VENTILATION
EF B-08	1/6	120/1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1. WHEEL SIZE REDUCED.
EF B-09	1/6	120/1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-1. WHEEL SIZE REDUCED.
EF B-10						
EF B-11	3/4	115/ 1 Ø	NON-FUSED DISC, SW UNDER MOTOR COVER	MOTOR MOUNTED SPEED CONTROL	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-5 (1)
EF B-12	3/4	115/1Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-5 (1)
EF B-13	1	460/3 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	(1) (2)
EF B-14	3/4	115/1 Ø	COMB. MAG. STARTER W/ DISC. SWITCH	HOA SWITCH IN STARTER COVER	CONTROLLED BY METASYS	SUMMER VENTILATION (1) (2)
EF B-15	4.4A	115/1 Ø	INETEGRAL RECEPTACLE	MOTOR MOUNTED SPEED CONTROL	CONTROLLED BY METASYS	SUMMER VENTILATION
EF B-16	1/3	115/ 1 Ø	NON-FUSED DISC, SW UNDER MOTOR COVER	MOTOR MOUNTED SPEED CONTROL	CONTROLLED BY METASYS	INTERLOCKED WITH AHU B-5 (1)

NOTES:
1. PROVIDE FAN WITH FACTORY MOUNTED DISCONNECT SWITCH, HINGED BASE KIT, 18" TALL ROOF CURB AND GRAVITY BACKDRAFT DAMPER.
2. PROVIDE FAN WITH PREMIUM EFFICENCY MOTOR.

FINTUBE RADIATOR SCHEDULE

MARK	MANUFACTURER	MODEL	ENCLOSURE STYLE	TUBE LENGTH	TUBE MATERIAL	TUBE SIZE	FINS MATERIAL	FINS SIZE	FINS/FT.	EAT (°F)	AVG. WATER TEMP. (°F)	BTUH/FT.
FT-1	SIGMA	24C100	SWE-10TF - FLOOR MOUNT TOP OUTLET FRONT INLET	AS NOTED ON DRWG'S	COPPER	1"	ALUMINUM	4.25"	50	65	170	760

NOTES:
1 PROVIDE MOUNTING BRACKETS FOR MOUNTING AND END CAPS AND COVERS FOR CONTINUOUS INSTALLATION BETWEEN WINDOW BAYS.

FAN WALL SCHEDULE

PLAN MARK	FAN TYPE	ARRAY SIZE	TOTAL CFM	CFM PER FAN	TOTAL S.P. IN. W.C.	TOTAL HP	NUMBER OF FANS	MOTOR HP PER FAN	VOLTS/PH
AHU-B-5 SUPPLY AIR	FAN WALL	3 WIDE x 2 HIGH	28,000	4667	8.25	72	6	12	460/3
AHU-B-5 RETURN AIR	FAN WALL	3 WIDE x 1 HIGH	25,200	8400	2.5	25.5	3	8.5	460/3

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FOR REFERENCE ONLY
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Flex Capacity Expansion
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Date	03.30.2020
Job Number	3-19092
Drawn By	MJL
Checked By	BEH

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1	4.10.20	ADDENDUM #1
2	4.24.20	Bid Pkg 3 -ASI 4 RFI'S
21	6.11.20	ASI #12
42	10.09.20	PR #6

BID PACKAGE #3 3.27.2020

M4.0

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MECHANICAL SCHEDULES

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ELECTRICAL LIGHTING GENERAL NOTES

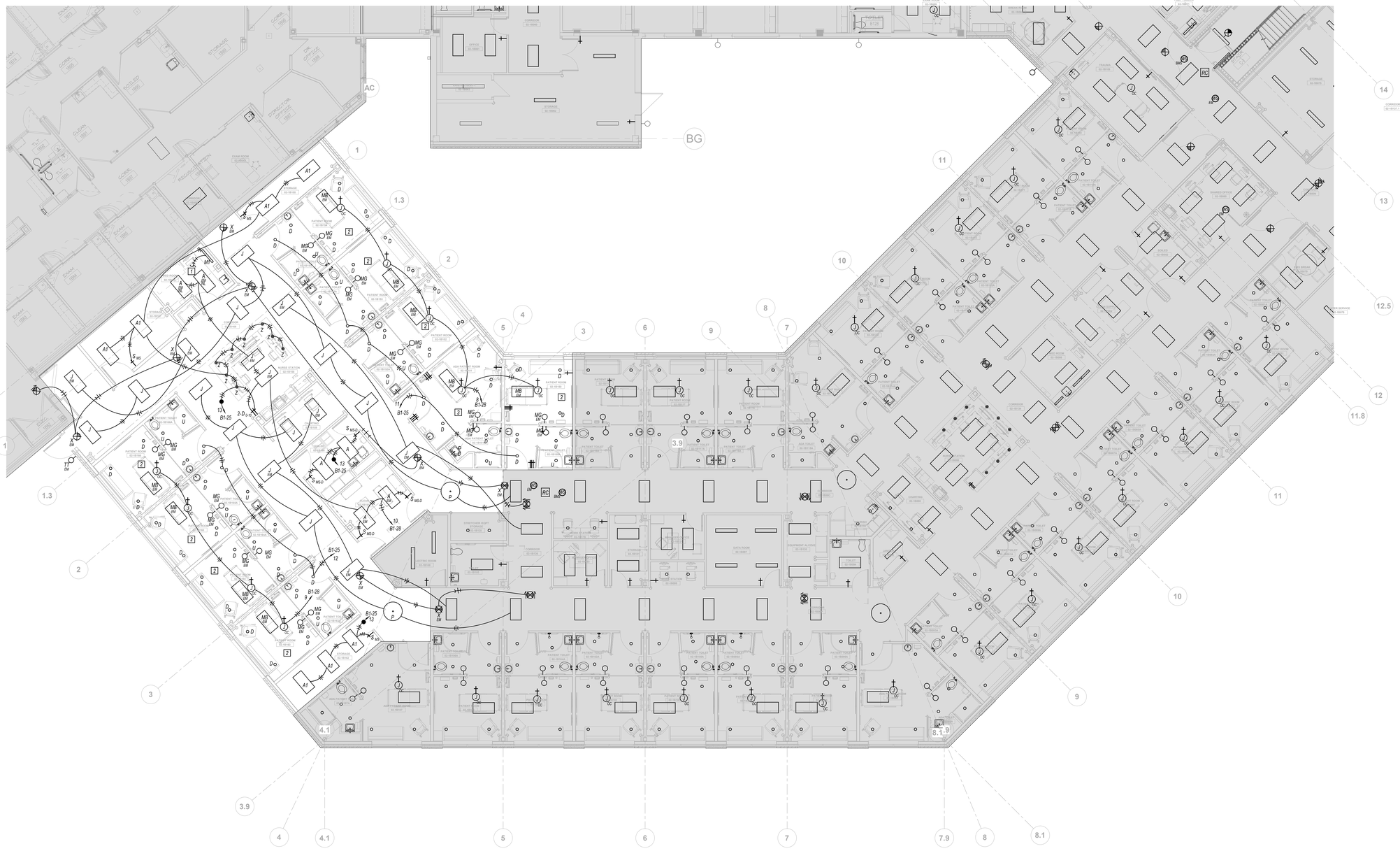
1 *REFER TO SHEET E000 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.*

KEYED NOTES

1 *EXTEND AND CONNECT TO RECEPTACLE CIRCUIT. SEE SHEET EP1.2.1 FOR CONTINUATION.*

2 *REFER TO TYPICAL PATIENT ROOM LIGHTING PLAN ON THIS SHEET FOR SWITCHING AND CIRCUITING OF FIXTURES WITHIN THIS ROOM.*

3 *REFER TO TYPICAL ADA PATIENT ROOM LIGHTING PLAN ON THIS SHEET FOR SWITCHING AND CIRCUITING OF FIXTURES WITHIN THIS ROOM.*



1 LIGHTING PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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EL1.2.1

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LIGHTING PLAN - FIRST FLOOR AREA 2.1

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ELECTRICAL POWER GENERAL NOTES

1 REFER TO SHEET E000 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.

KEYED NOTES

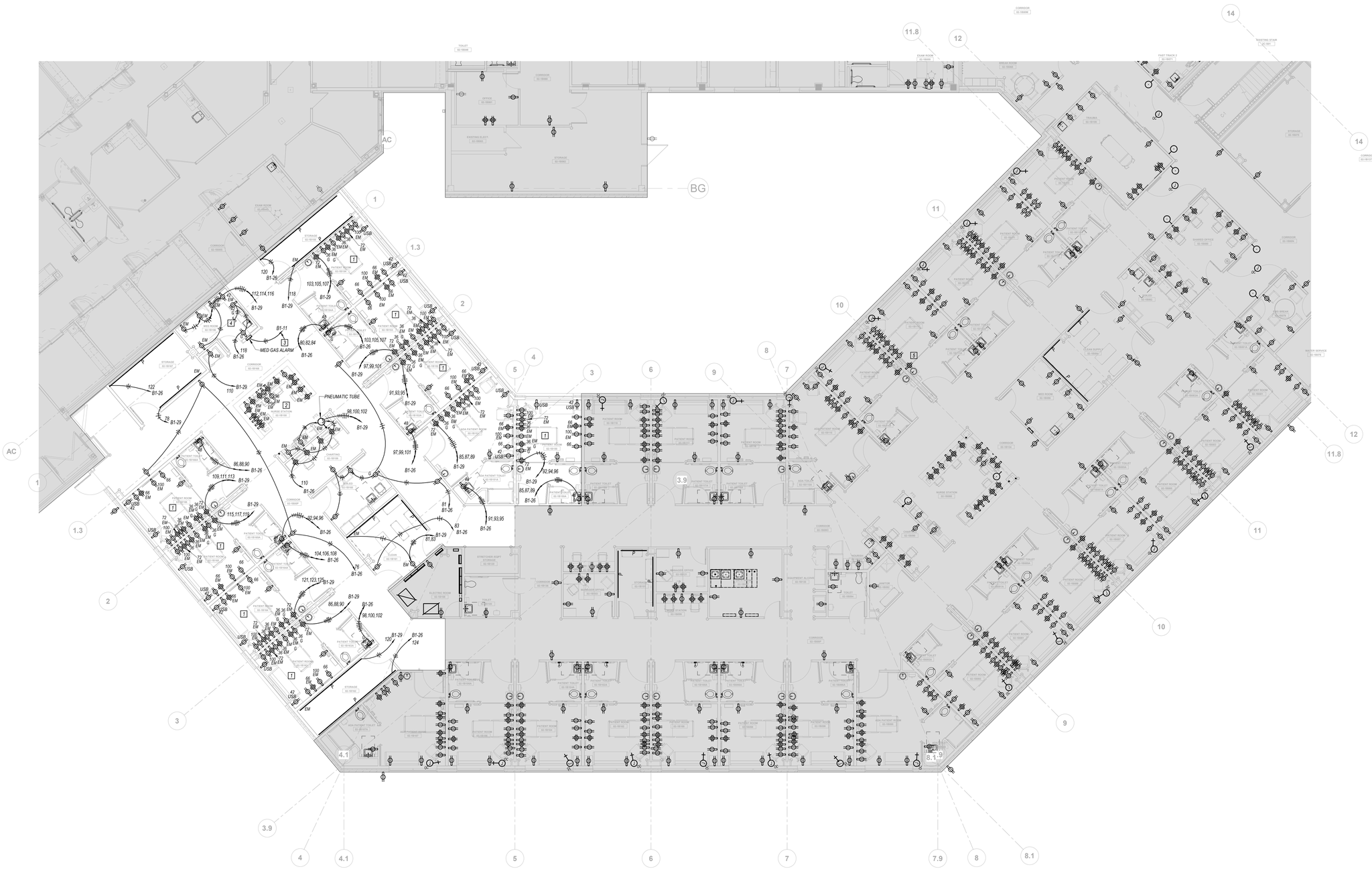
1 REFER TO TYPICAL PATIENT ROOM ELECTRICAL PLANS ON SHEET E3.2 FOR COMPLETE CIRCUITING INFORMATION. REFER TO ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT MOUNTING LOCATIONS OF DEVICES.

2 REFER TO ENLARGED NURSE STATION PLAN ON SHEET E3.2.1. FOR CIRCUITING OF RECEPTACLES IN THIS AREA.

3 FURNISH AND INSTALL 20A, 1P CIRCUIT BREAKER IN EXISTING PANELBOARD TO SERVE NEW LOAD.

4 EXTEND AND CONNECT TO UNDERCABINET LIGHT FIXTURE. SEE SHEET EL1.2.1 FOR CONTINUATION.

5 REFER TO TYPICAL PATIENT ROOM ELECTRICAL PLAN ON SHEET E3.2 FOR COMPLETE CIRCUITING INFORMATION.



1 ELECTRICAL PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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EP1.2.1

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ELECTRICAL POWER PLAN - FIRST FLOOR AREA 2.1

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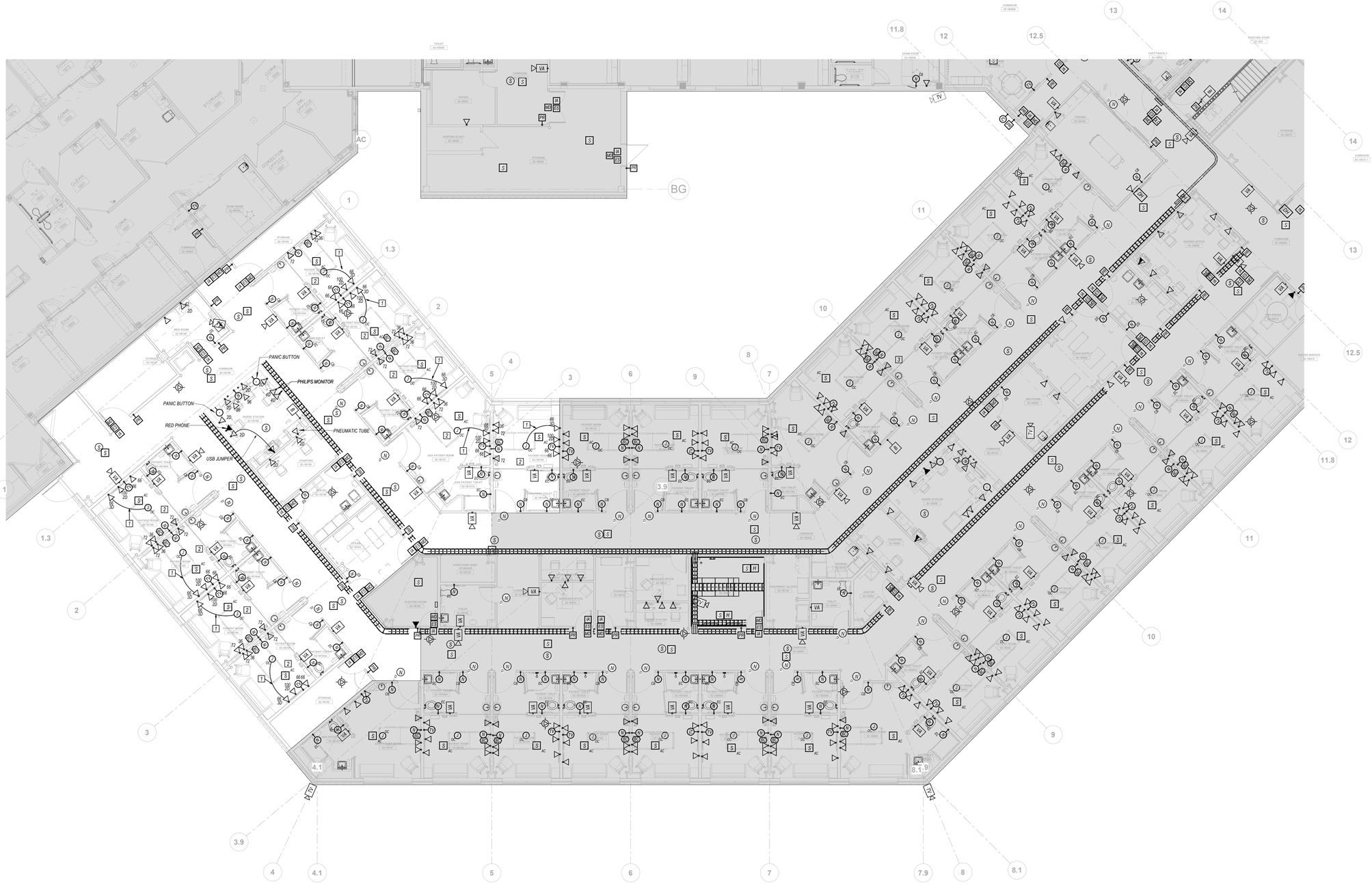
ELECTRICAL COMMUNICATIONS GENERAL NOTES

1 REFER TO SHEET EX00 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.
2 DEVICES SHOWN LIGHTLY ARE EXISTING TO REMAIN AND SHALL REMAIN IN SERVICE DURING CONSTRUCTION. ALL EXISTING SYTEMS SHALL BE TIED TOGETHER WITH NEW SYSTEM AT THE COMPLETION OF CONSTRUCTION.

KEYED NOTES

1 FURNISH AND INSTALL USB JUMPER BETWEEN VIRTUAL NURSE CAMERA AND MICROPHONE LOCATION. PROVIDE USB A FEMALE TERMINATION AT BOTH ENDS.
2 REFER TO TYPICAL ROOM COMMUNICATIONS PLANS ON SHEET E3.2 FOR DESCRIPTION OF DEVICES. REFER TO ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT MOUNTING LOCATIONS OF DEVICES.
3



1 COMMUNICATIONS PLAN - FIRST FLOOR AREA 2
1/8" = 1'-0"

NORTH

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COMMUNICATIONS PLAN - FIRST FLOOR AREA 2.1

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ELECTRICAL POWER GENERAL NOTES

1 REFER TO SHEET E000 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.

KEYED NOTES

1 RUN CONDUIT ACROSS ROOF TO TUNNEL ACCESS. EXTEND EMERGENCY FEEDER DOWN IN TUNNEL AND EXTEND TO EMERGENCY DISTRIBUTION BOARD IN ENERGY CENTER. EXTEND NORMAL FEEDER ACROSS FIRST FLOOR TO NEW BUILDING 'B' SWITCHGEAR. REFER TO SHEETS E2.1 AND E5.0 FOR FURTHER INFORMATION.

2 EXTEND CIRCUITING FROM RELOCATED EXHAUST FAN AND CONNECT TO EXISTING STARTER DISCONNECT SWITCH LOCATED IN EXISTING PENTHOUSE.

3 FURNISH AND INSTALL UNISTRUT SUPPORT AS REQUIRED FOR MOUNTING OF EQUIPMENT.

4 EXTEND AND CONNECT TO EXISTING SPARE CIRCUIT BREAKER(S) IN PANELBOARD SPECIFIED.

5 EXTEND AND RECONNECT TO EXISTING EXTERIOR LIGHT CIRCUIT.

6 EXHAUST FAN STARTER DISCONNECT SWITCHES FURNISHED BY MECHANICAL CONTRACTOR.

7 FURNISH AND INSTALL NEW 30A, 1P CIRCUIT BREAKER IN PANEL TO FEED NEW LOAD.

8 EXHAUST FAN LOCATED ON ROOF ABOVE.

9 RECEPTACLE FACTORY MOUNTED ON AHU.

10 EXTEND AND CONNECT TO LIGHT FIXTURES MOUNTED WITHIN AIR HANDLING UNIT. MAKE ALL CONNECTIONS AS REQUIRED BY AHU MANUFACTURER.

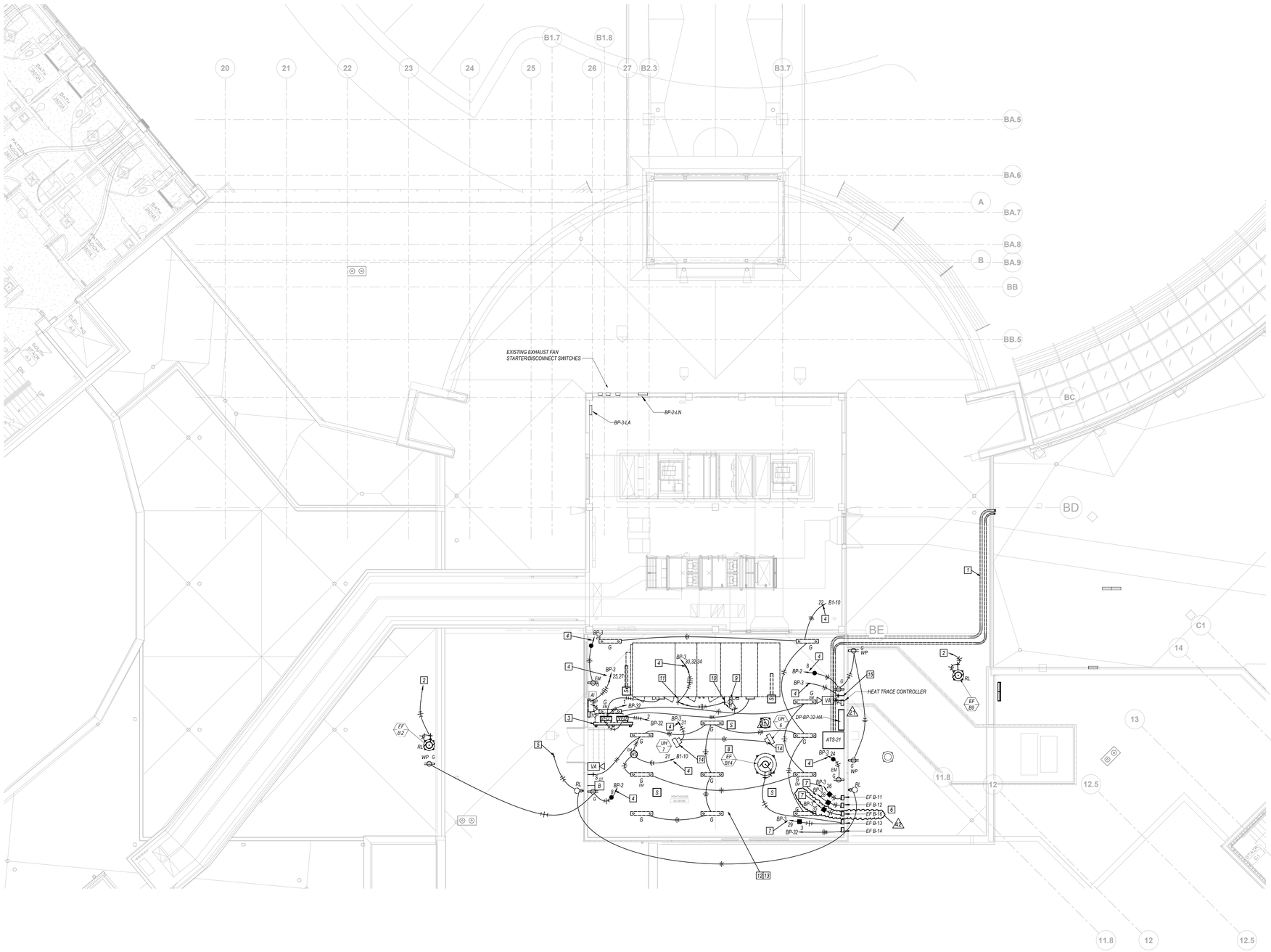
11 EXTEND AND CONNECT TO UV LIGHT FIXTURES WITH AHU. MAKE ALL CONNECTIONS AS REQUIRED BY AHU MANUFACTURER.

12 REWORK EXISTING LIGHTNING PROTECTION SYSTEM AND EXTEND AS REQUIRED.

13 FURNISH AND INSTALL LIGHTNING PROTECTION SYSTEM FOR ALL NEW STRUCTURES TO THE EXTEND REQUIRED.

14 REFER TO DETAIL SHEET E5.0 FOR ALL REQUIRED CONNECTIONS TO UNIT HEATER. (TYPICAL)

15 FURNISH AND INSTALL 20 AMP TOGGLE-TYPE DISCONNECT SWITCH FOR HEAT TRACE SYSTEM. EXTEND AND CONNECT CIRCUITING TO CONTROLLER AS REQUIRED.



1 ELECTRICAL PLAN - PENTHOUSE/ROOF AREA 1
1/8" = 1'-0"

NORTH

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41	9.24.20	RFI #121
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E2.2

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ELECTRICAL PLAN - PENTHOUSE/ROOF AREA 1

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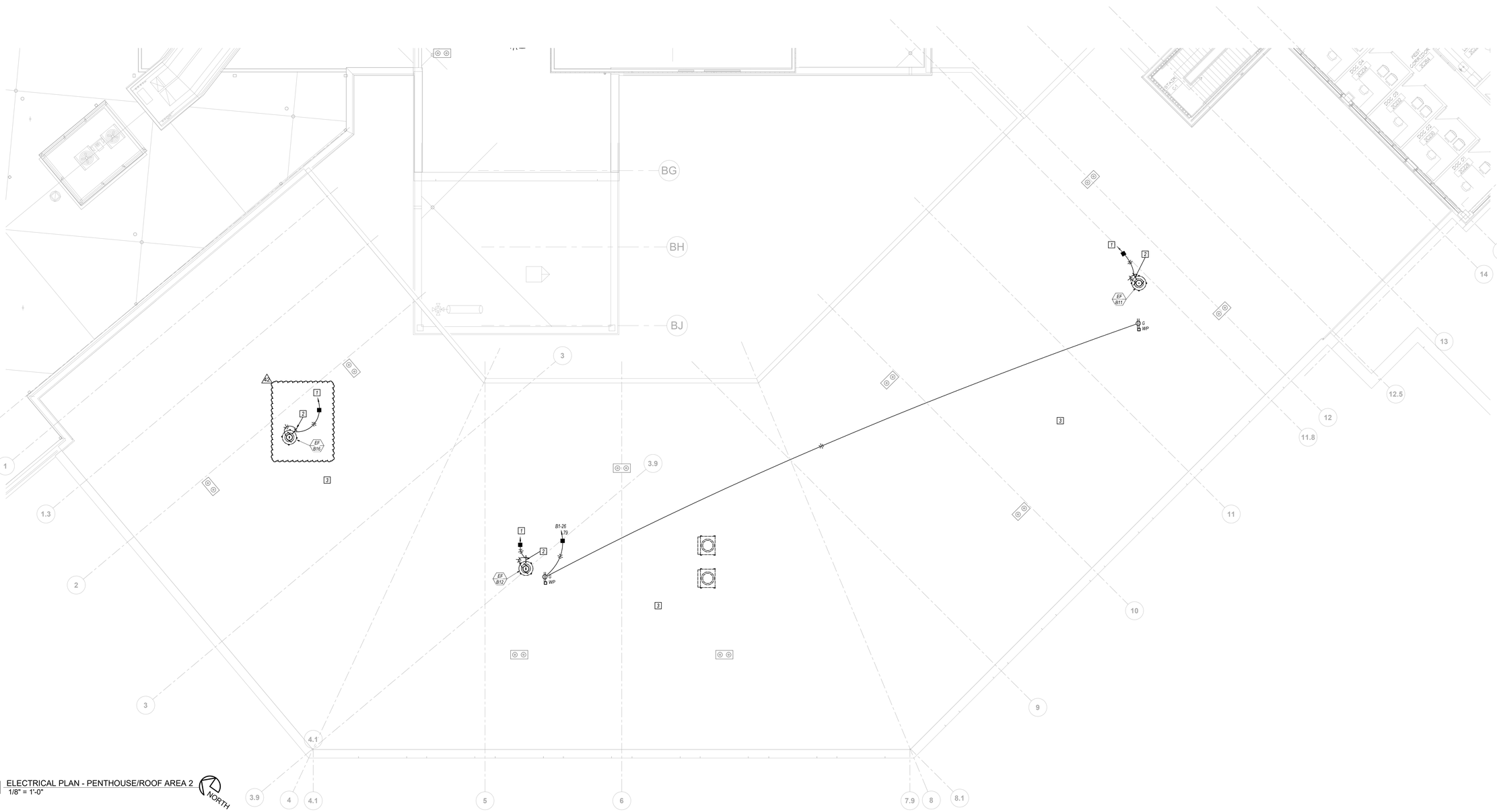
ELECTRICAL POWER GENERAL NOTES

1 *REFER TO SHEET E000 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.*

KEYED NOTES

1 *EXTEND AND CONNECT TO EXHAUST FAN STARTER DISCONNECT SWITCH IN PENTHOUSE.*
2 *FURNISH AND INSTALL 30AMP, 1P WEATHERPROOF TOGGLE-TYPE DISCONNECT SWITCH ON FAN HOUSING.*
3 *FURNISH AND INSTALL LIGHTNING PROTECTION SYSTEM FOR ALL NEW STRUCTURES TO THE EXTEND REQUIRED.*



1 ELECTRICAL PLAN - PENTHOUSE/ROOF AREA 2
1/8" = 1'-0"

NORTH

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STATE OF MISSOURI
BRUCE ELDON HART
NUMBER E-22817
PROFESSIONAL ENGINEER
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10-09-2020

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Saint Luke's East Hospital
Flex Capacity Expansion
100 NE Saint Luke's Blvd
Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	LLD
Checked By	BEH

Revision

Number	Date	Description
42	10.09.20	PR #6

BID PACKAGE #3 3.27.2020

E2.3

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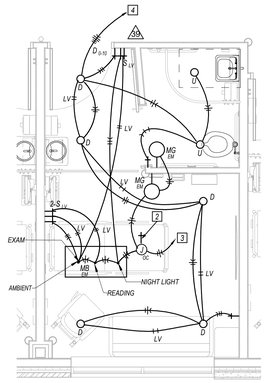
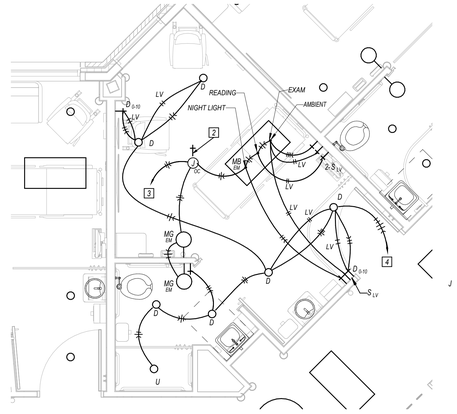
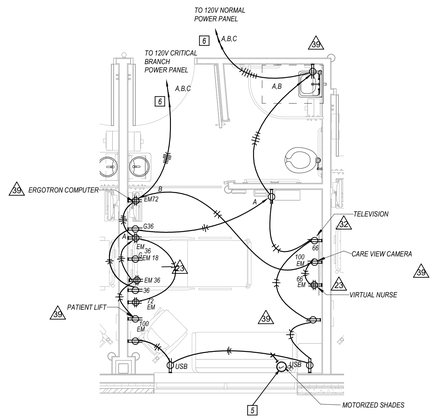
ELECTRICAL PLAN - PENTHOUSE/ROOF AREA 2



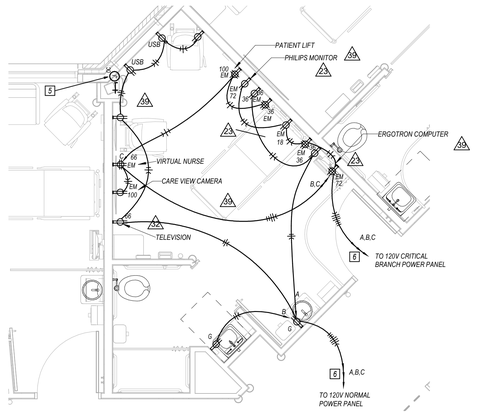
1 TYPICAL PATIENT ROOM LIGHTING PLAN
1/4" = 1'-0"



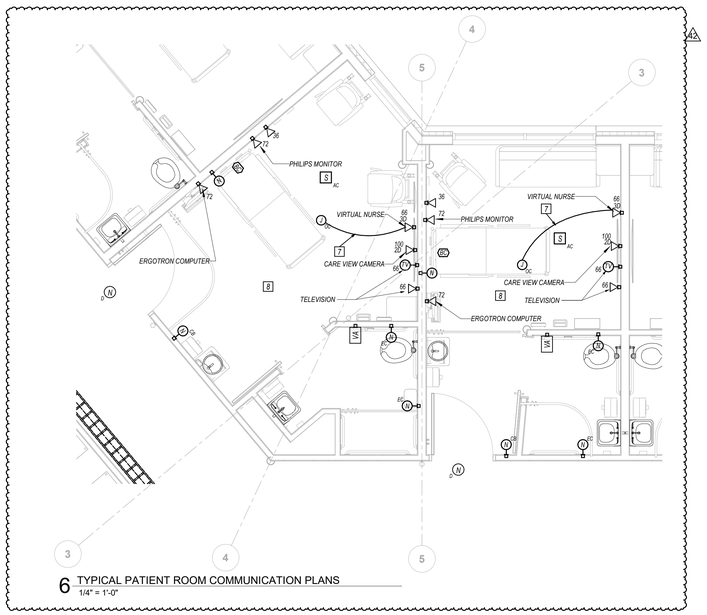
2 TYPICAL ADA PATIENT ROOM LIGHTING PLAN
1/4" = 1'-0"



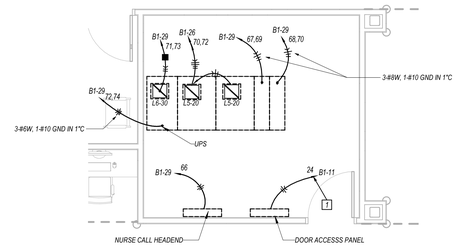
3 TYPICAL PATIENT ROOM ELECTRICAL PLAN
1/4" = 1'-0"



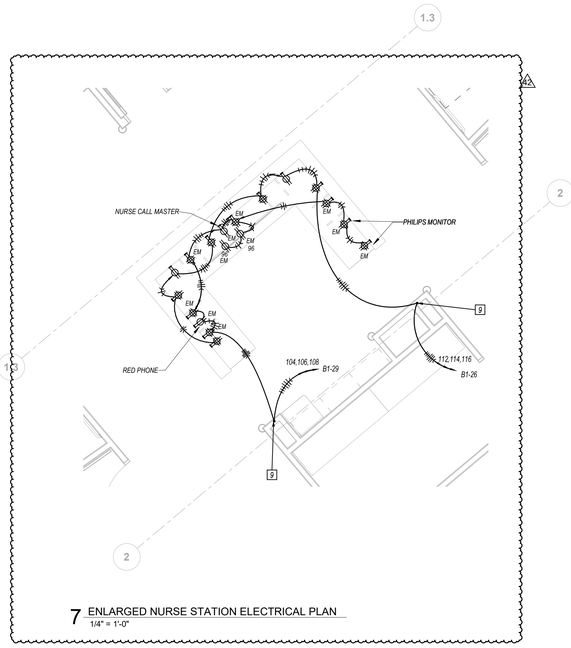
4 TYPICAL ADA PATIENT ROOM ELECTRICAL PLAN
1/4" = 1'-0"



6 TYPICAL PATIENT ROOM COMMUNICATION PLANS
1/4" = 1'-0"



5 ENLARGED COMMUNICATIONS ROOM ELECTRICAL PLAN
1/4" = 1'-0"



7 ENLARGED NURSE STATION ELECTRICAL PLAN
1/4" = 1'-0"

ELECTRICAL POWER GENERAL NOTES

1 REFER TO SHEET E000 FOR GENERAL NOTES. NOT ALL GENERAL NOTES MAY APPLY TO THIS SHEET.

KEYED NOTES

1 EXTEND AND CONNECT TO EXISTING SPARE CIRCUIT BREAKER(S) IN PANELBOARD SPECIFIED.
2 FURNISH AND INSTALL 20 AMP, 1 POLE DISCONNECT SWITCH ABOVE ACCESIBLE CEILING TO ALLOW FOR ISOLATION OF PATIENT LIGHTING FOR MAINTENANCE.
3 REFER TO LIGHTING PLAN SHEET FOR CONTINUATION OF CRITICAL BRANCH POWER CIRCUIT.
4 REFER TO LIGHTING PLAN SHEET FOR CONTINUATION OF NORMAL POWER CIRCUIT.
5 REFER TO ELECTRICAL PLAN SHEET FOR CIRCUITING OF SHADES.
6 REFER TO ELECTRICAL PLAN SHEET FOR PANEL AND CIRCUIT NUMBERS.
7 FURNISH AND INSTALL USB JUMPER BETWEEN VIRTUAL NURSE CAMERA AND MICROPHONE LOCATION. PROVIDE USB A FEMALE TERMINATION AT BOTH ENDS.
8 REFER TO TYPICAL ROOM COMMUNICATIONS PLANS ON SHEET E3.2 FOR DESCRIPTION OF DEVICES. REFER TO ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT MOUNTING LOCATIONS OF DEVICES.
9 DROP CONDUIT AND WIRING DOWN IN WALL AND EXTEND BELOW GRADE TO DEVICES MOUNTED IN PARTIAL HEIGHT WALL.

FOR REFERENCE ONLY
PREVIOUSLY APPROVED UNDER PRCOM20200845

Bruce E. Hart - Engineer
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Revision

Number	Date	Description
23	7.10.20	ASI 14
32	8.17.20	ASI 14R
39	9.23.20	ASI 21
42	10.09.20	PR #6

E3.2

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ENLARGED ELECTRICAL PLANS

BID PACKAGE #3 9.27.2020

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Lighting Fixture Schedule

TYPE	MANUFACTURER/MODEL	FIXTURE DESCRIPTION	MOUNTING	DRIVER/BALLAST	LAMP	VOLTAGE	328LFSched Wattage
							5 W
A	WILLIAMS 50 LED SERIES	2'x4' TROFFER FIXTURE FOR LED SOURCE. 0.125" PRISMATIC ACRYLIC LENS. SPRING LOADED CAM ACTION LATCHED. FIXTURE STEEL DOOR WITH MITERED CORNERS. ALL FIXTURE STEEL POST PAINTED BAKED WHITE ENAMEL. FURNISH WITH ALL HARDWARE AS REQUIRED FOR MOUNTING.	RECESSED	INTEGRAL 1%, 0-10V DIMMING DRIVER.	INTEGRAL 3500K CCT, 9000 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	72 W
A1	WILLIAMS 50 LED SERIES	2'x4' TROFFER FIXTURE FOR LED SOURCE. 0.125" PRISMATIC ACRYLIC LENS. SPRING LOADED CAM ACTION LATCHED. FIXTURE STEEL DOOR WITH MITERED CORNERS. ALL FIXTURE STEEL POST PAINTED BAKED WHITE ENAMEL. FURNISH WITH ALL HARDWARE AS REQUIRED FOR MOUNTING.	RECESSED	INTEGRAL 1%, 0-10V DIMMING DRIVER.	INTEGRAL 3500K CCT, 5900 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	48 W
B	WILLIAMS MX4R SERIES	4"'x4' GRID MOUNT FIXTURE FOR LED SOURCE. FLAT DIFFUSE ACRYLIC LENS.	RECESSED	INTEGRAL 1%, 0-10V DIMMING DRIVER.	INTEGRAL 3500K CCT 1500 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	14 W
BB	WILLIAMS 96 LED SERIES	4' INDUSTRIAL FULLY ENCLOSED AND GASKETEED FIXTURE FOR USE IN WET ENVIRONMENT. FIBERGLASS HOUSING WITH POLYCARBONATE LATCHES. FROSTED ACRYLIC INPACT RESISTANT SHIELD. WATERTITE HUB.	SURFACE	INTEGRAL ELECTRONIC NON-DIMMING DRIVER	INTEGRAL 3500K CCT, 6200 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	48 W
C	XAL PANO	3.25' RECESSED LED SLOT FIXTURE FOR USE IN WOOD WORK CEILING. OPAL COVER, CONTINUOUS LENGTH OF WOOD PANEL.	RECESSED	REMOTE 1%, 0-10V DIMMING DRIVER.	3500K CCT, 450 LUMEN PER FT, 80 CRI	120-277V	53 W
D	WILLIAMS 6DR SERIES	6" APERATURE DOWNLIGHT FOR LED SOURCE. WIDE DISTRIBUTION. F. FURNISH WITH SATIN GLOW ACCENT CONE AND FLUSH LENS. FURNISH WITH ALL REQUIRED MOUNTING HARDWARE.	RECESSED	0-10V ELECTRONIC DIMMING DRIVER	INTEGRAL 3500 K CCT, 3000 LUMENS DELIVERED MINIMUM 80 CRI LED	120-277V	37 W
F	LIGHTART SLIM RING	57.5' DECORATIVE CIRCLE PENDANT WITH WHITE OPAL DIFFUSER. SHADE COLOR AS DIRECTED BY ARCHITECT. WHITE CANOPY AND CABLES. CABLES TO CANOPY MOUNTING, FIELD ADJUSTABLE LENGTH	PENDANT MOUNT	INTEGRAL 1%, 0-10V DIMMING DRIVER.	3500 LED	120-277V	65 W
G	WILLIAMS 76 LED SERIES	NOMINAL 4' STRIP FIXTURE FOR LED SOURCE. ALL FIXTURE STEEL POST PAINTED BAKED WHITE ENAMEL FURNISH WITH 14 GA WIREGUARD. SUSPEND FIXTURE AT 8'-0" A.F.F.	SUSPENDED	INTEGRAL ELECTRONIC NON-DIMMING DRIVER	INTEGRAL 3500K CCT, 5300 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	36 W
J	WILLIAMS PT SERIES	2'x4' DIRECT/INDIRECT TROFFER FOR LED SOURCE. LINEAR SMOOTH CURVED PRISMATIC LENS WITH SURFACE RELIEF DIFFUSER. FIXTURE STEEL PAINTED BAKED WHITE ENAMEL. 1-1/2" TELESCOPING HOUSING. DLC LISTED. FURNISH WITH ALL HARDWARE AS REQUIRED FOR MOUNTING TYPE INDICATED.	RECESSED	INTEGRAL 1%, 0-10V DIMMING DRIVER.	INTEGRAL 3500K CCT, 5800 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	49 W
M1	WILLIAMS 1SF LED SERIES	3' UNDERCABINET FIXTURE WITH SOLID FRONT AND BOTTOM ACRYLIC LENS DIFFUSER. INTEGRAL ROCKER SWITCH.	SURFACE	INTEGRAL LED DRIVER	INTEGRAL 3500K CCT, 1200 LUMENS DELIVERED. MIN 80 CRI LED	120V	21 W
M2	WILLIAMS 1SF LED SERIES	2' UNDERCABINET FIXTURE WITH SOLID FRONT AND BOTTOM ACRYLIC LENS DIFFUSER. INTEGRAL ROCKER SWITCH.	SURFACE	INTEGRAL LED DRIVER	INTEGRAL 3500K CCT, 1200 LUMENS DELIVERED. MIN 80 CRI LED	120V	14 W
MB	VISA LIGHTING UNITY SERIES LED	2'x4' MULTI-FUNTION PATIENT LIGHTING GRID MOUNT FIXTURE FOR 14800 LUMEN, 3500K, THREE FUNCTION LED PACKAGE AND AMBER NIGHT LIGHT. ALL FIXTURE STELL POST PAINTED BAKED WHITE ENAMEL. OYSTER LINEN DIFFUSER. FURNISH WITH CONTROLLER TO ALLOW PATIENT CONTROL OF AMBIENT AND REDING LIGHT THRU PILLOW SPEAKER (FURNISHED BY NURSE CALL PROVIDER).	RECESSED	INTEGRAL ELECTRONIC NON-DIMMING DRIVER	INTEGRAL 3500K CCT, 3500 LUMENS DELIVERED,MIN 80 CRI LED (TBD).	120-277V	89 W
MG	KENALL MCSL-VO SERIES	LOW LEVEL SEMI-RECESSED NIGHT LIGHT WITH AMBER MODULE. CAST ALUMINUM HOUSING WITH UV STABILIZED HIGH IMPACT RESISTANT INJECTION MOLDED PEARLESCENT POLYCARBONATE LENS. MATTE WHITE FINISH. INTEGRAL PHOTOCELL. MOUNT AT 12" A.F.F.	SURFACE-WALL	INTEGRAL LED DRIVER	INTEGRAL LED	120-277V	4 W
N	WILLIAMS AX2WUD	2"X 4' WALL MOUNT UP AND DOWNLIGHT FIXTURE FOR LED SOURCE. EXTRUDED ALUMINUM HOUSING WITH FROSTED ACRYLIC LENS.	SURFACE-WALL	INTEGRAL 1%, 0-10V DIMMING DRIVER.	3500K, 2400 LUMEN UP AND 2400 LUMEN DOWN, 80 CRI	277 V	60 W
P	SHAPER 102-S SERIES	42" DIAMETER NATURAL ALUMINUM DRUM FIXTURE WITH NATURAL FLAX VINYL COATED SHADE.	SURFACE	0-10V DIMMING BALLAST	FOUR (4) 3500k 42 W CFL LED REPLACEMENT LAMPS	277 V	168 W
TT	TBD	EXTERIOR WALL MOUNT DIRECTIONAL FIXTURE FOR LED SOURCE. DIE-CAST ALUMINUM HOUSING WITH SAFETY GLASS LENS. COORDINATE FINISH COLOR WITH ARCHITECT. UL LISTED FOR WET LOCATION USE. MOUNT FIXTURE 8'-0" ABOVE GRADE UNLESS NOTED OTHERWISE. FURNISH AND INSTALL ROOF MOUNTED PHOTOCELL FOR CONTROLL OF ALL TYPE TT FIXTURES.	SURFACE-WALL	INTEGRAL ELECTRONIC DRIVER	INTEGRAL 3000K CCT, 85 CRI 1680 LUMEN	120-277V	18 W
U	KIRLIN LIGHTING LRR-05435 SERIES	5" APERATURE DEAD FRONT SHOWER DOWNLIGHT FIXTURE WITH ACRYLIC LENS. WET LOCATIN LISTED.O	RECESSED	INTEGRAL ELECTRONIC NON-DIMMING DRIVER	3000K, CCT 1287 LUMENS DELIVERED LED	120V	27 W
X	WILLIAMS EXIT SERIES	LED LIT EXIT SIGN. WHITE HOUSING WITH RED LETTERING. FURNISH WITH NECESSARY MOUNTING HARDWARE FOR CEILING OR WALL MOUNTING AND CONFIGURE FACES AND ARROWS AS SHOWN ON PLAN	PER DRAWINGS	INTEGRAL LED DRIVER	INTEGRAL LED	277V	5 W
Y	WILLIAMS EGL2 LED SERIES	4' INDUSTRIAL FULLY ENCLOSED AND GASKETEED FIXTURE. FIBERGLASS HOUSING WITH POLYCARBONATE LATCHES. FROSTED ACRYLIC INPACT RESISTANT SHIELD. WATERTITE HUB.	SURFACE	INTEGRAL ELECTRONIC NON-DIMMING DRIVER	INTEGRAL 4000K CCT, 10000 LUMENS DELIVERED. MIN 80 CRI LED	120-277V	89 W
Z	TECH LIGHTING ECHO	CLEAR TRANSLUCENT CYLINDER OVER WHITE GLASS CYLINDER PENDANT FIXTURE WITH REPLACEABLE LED MODULE. SATIN NICKEL FINISH. FEILD CUTABLE SUSPENSION CABLE. FREEJACK MOUNTING WITH FLUSH CANOPY.	PENDANT MOUNT	0-10V ELECTRONIC DIMMING DRIVER	300K LED	120-277 V	16 W

Branch Panel: B1-25-HN

Location: ELECTRIC ROOM 02-1B108
Supply From: MSG-B1-24-HN(A)
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10 K
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				2586...	1932...					1	20 A	LIGHTING ROOM 02-1B100, 02-1B102,...	2
3	X-B1-26-LN	125 A	3			3554...	1636...			1	20 A	LIGHTING ROOM 02-1B087, 02-1B089,...	4
5								3260...	1178...	1	20 A	LIGHTING ROOM 02-1B116, 02-1B117, 02-1B118	6
7	LIGHTING EMS BREAK 02-1B079	20 A	1	969 VA	956 VA					1	20 A	LIGHTING PATIENT ROOM 02-1B113	8
9	LIGHTING ROOM 02-1B103, 02-1B105	20 A	1			666 VA	2421...			1	20 A	CORRIDOR 02-1B00O	10
11	LIGHTING PATIENT RMS 02-1B-150, 1B-151,...	20 A	1					1205...	956 VA	1	20 A	LIGHTING PATIENT RMS 02-1B162, 1B-163,...	12
13	LIGHTING 02-1B-159, 1B-161, 1B157, 1B-166,...	20 A	1	614 VA	0 VA					1	20 A	SPARE	14
15	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	16
17	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	18
19	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	30339 VA		40265 VA		35945 VA					
			Total Amps:	110 A		148 A		133 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	11773 VA	100.00%	11773 VA		
Other	949 VA	100.00%	949 VA	Total Conn. Load:	106549 VA
Power	360 VA	100.00%	360 VA	Total Est. Demand:	64815 VA
Receptacle	93468 VA	55.35%	51734 VA	Total Conn. Current:	128 A
				Total Est. Demand Current:	78 A

Notes:

Branch Panel: B1-26-LN

Location: ELECTRIC ROOM 02-1B108
Supply From: X-B1-27-LN
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10K
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTACLE ADA PATIENT ROOM 02-1B107	20 A	1	360 VA	0 VA					1	20 A	SHADES 02-1B107, 02-1B106, 02-1B104	2
3	RECEPTACLE ADA PATIENT ROOM 02-1B107	20 A	1			720 VA	0 VA			1	20 A	SHADES 02-1B102, 02-1B100, 02-1B098	4
5	RECEPTACLE ADA PATIENT TOILET 02-1B107A	20 A	1					180 VA	0 VA	1	20 A	SHADES 02-1B096, 02-1B095, 02-1B093	6
7	RECEPTACLE PATIENT TOILET 02-1B104A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B106A	8
9	RECEPTACLE PATIENT ROOM 02-1B104	20 A	1			360 VA	720 VA			1	20 A	RECEPTACLE PATIENT ROOM 02-1B106	10
11	RECEPTACLE PATIENT ROOM 02-1B104	20 A	1					720 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B106	12
13	RECEPTACLE PATIENT TOILET 02-1B102A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B100A	14
15	RECEPTACLE PATIENT ROOM 02-1B102	20 A	1			180 VA	720 VA			1	20 A	RECEPTACLE PATIENT ROOM 02-1B100	16
17	RECEPTACLE PATIENT ROOM 02-1B102	20 A	1					720 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B100	18
19	RECEPTACLE PATIENT TOILET 02-1B098A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B096A	20
21	RECEPTACLE PATIENT ROOM 02-1B098	20 A	1			360 VA	1080...			1	20 A	RECEPTACLE PATIENT ROOM 02-1B096	22
23	RECEPTACLE PATIENT ROOM 02-1B098	20 A	1					720 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B096	24
25	RECEPTACLE ADA TOILET 02-1B095A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B093A	26
27	RECEPTACLE ADA PATIENT ROOM 02-1B095	20 A	1			360 VA	720 VA			1	20 A	RECEPTACLE PATIENT ROOM 02-1B093	28
29	RECEPTACLE ADA PATIENT ROOM 02-1B095	20 A	1					720 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B093	30
31	RECEPTACLE PATIENT TOILET 02-1B091A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B089A	32
33	RECEPTACLE PATIENT ROOM 02-1B091	20 A	1			720 VA	360 VA			1	20 A	RECEPTACLE PATIENT ROOM 02-1B089	34
35	RECEPTACLE PATIENT ROOM 02-1B091	20 A	1					360 VA	720 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B089	36
37	SHADES 02-1B091, 02-1B089	20 A	1	0 VA	1025...								38
39	SHADES ROOM 02-1B116, 02-1B117, 02-1B118	20 A	1			0 VA	1065...			3	100 A	B1-30-LN	40
41	SHADES ROOM 02-1B114, 02-1B115	20 A	1					0 VA	1101...				42
43	RECEPTACLE PATIENT TOILET 02-1B118A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE PATIENT TOILET 02-1B117A	44
45	RECEPTACLE PATIENT ROOM 02-1B118	20 A	1			720 VA	360 VA			1	20 A	RECEPTACLE PATIENT ROOM 02-1B117	46
47	RECEPTACLE PATIENT ROOM 02-1B118	20 A	1					360 VA	720 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B117	48
49	RECEPTACLE PATIENT TOILET 02-1B116A	20 A	1	180 VA	180 VA					1	20 A	RECEPTACLE ADA TOILET 02-1B115A	50
51	RECEPTACLE PATIENT ROOM 02-1B116	20 A	1			360 VA	360 VA			1	20 A	RECEPTACLE ADA PATIENT ROOM 02-1B115	52
53	RECEPTACLE PATIENT ROOM 02-1B116	20 A	1					720 VA	1080...	1	20 A	RECEPTACLE ADA PATIENT ROOM 02-1B115	54
55	RECEPTACLE PATIENT ROOM 02-1B114	20 A	1	720 VA	540 VA					1	20 A	RECEPTACLE ROOM 02-1B00P, 02-1B00O,...	56
57	RECEPTACLE PATIENT TOILET 02-1B114A	20 A	1			180 VA	360 VA			1	20 A	RECEPTACLE NURSE STATION 02-1B088	58
59	RECEPTACLE PATIENT ROOM 02-1B114	20 A	1					360 VA	360 VA	1	20 A	RECEPTACLE NURSE STATION 02-1B088	60
61	RECEPTACLE ROOM 02-1B105, 02-1B108	20 A	1	360 VA	360 VA					1	20 A	RECEPTACLE NURSE STATION 02-1B088	62
63	RECEPTACLE ROOM 02-1B00P, 02-1B00O,...	20 A	1			1440...	360 VA			1	20 A	RECEPTACLE WORK STATION 02-1B119	64
65	RECEPTACLE MANAGER OFFICE 02-1B103	20 A	1					720 VA	892 VA	1	20 A	PLUGMOLD STORAGE 02-1B101	66
67	RECEPTACLE MANAGER OFFICE 02-1B121	20 A	1	720 VA	1719...					1	20 A	PLUGMOLD STORAGE 02-1B101	68
69	RECEPTACLE WORK STATION 02-1B099	20 A	1			360 VA	180 VA			1	20 A	CEILING RECEPTACLE DATA ROOM 02-1B097	70
71	RECEPTACLE DATA ROOM 02-1B097	20 A	1					360 VA	180 VA	1	20 A	CEILING RECEPTACLE DATA ROOM 02-1B097	72
73	RECEPTACLE NOURISH 02-1B116	20 A	1	180 VA	360 VA					1	20 A	RECEPTACLE CHARTING 02-1B090	74
75	MICROWAVE NOURISH 02-1B116	20 A	1			1200...	540 VA			1	20 A	RECEPTACLES 02-1B161, 1B-00P, , 1B-166	76
77	COFFEE NOURISH 02-1B116	20 A	1					180 VA	720 VA	1	20 A	EXTERIOR RECEPTACLES	78
79	ROOFTOP RECEPTACLES	20 A	1	360 VA	360 VA					1	20 A	RECEPTACLES ROOM 1B154	80
81	RECEPTACLE CORRIDOR 02-1B00O	20 A	1			1080...	900 VA			1	20 A	RECEPTACLES ROOM 1B154	82
83	PLUGMOLD CLEAM 1B160	20 A	1					1547...	360 VA	1	20 A	RECEPTACLES ROOM 1B154	84
85	RECEPTACLES ROOM 1B150	20 A	1	360 VA	360 VA					1	20 A	RECEPTACLES ROOM 1B165	86
87	RECEPTACLES ROOM 1B150	20 A	1			900 VA	900 VA			1	20 A	RECEPTACLES ROOM 1B165	88
89	RECEPTACLES ROOM 1B150	20 A	1					360 VA	360 VA	1	20 A	RECEPTACLES ROOM 1B165	90
91	RECEPTACLES ROOM 1B151	20 A	1	360 VA	360 VA					1	20 A	RECEPTACLES ROOM 1B164	92
93	RECEPTACLES ROOM 1B151	20 A	1			900 VA	360 VA			1	20 A	RECEPTACLES ROOM 1B164	94
95	RECEPTACLES ROOM 1B151	20 A	1					360 VA	900 VA	1	20 A	RECEPTACLES ROOM 1B164	96
97	RECEPTACLES ROOM 1B152	20 A	1	360 VA	900 VA					1	20 A	RECEPTACLES ROOM 1B162	98
99	RECEPTACLES ROOM 1B152	20 A	1			900 VA	360 VA			1	20 A	RECEPTACLES ROOM 1B162	100
101	RECEPTACLES ROOM 1B152	20 A	1					360 VA	360 VA	1	20 A	RECEPTACLE SPACE 137	102
103	RECEPTACLES ROOM 1B153	20 A	1	360 VA	360 VA					1	20 A	RECEPTACLES ROOM 1B163	104
105	RECEPTACLES ROOM 1B153	20 A	1			900 VA	720 VA			1	20 A	RECEPTACLES ROOM 1B163	106
107	RECEPTACLES ROOM 1B153	20 A	1					360 VA	360 VA	1	20 A	RECEPTACLES ROOM 1B163	108
109	SPARE	20 A	1	0 VA	360 VA					1	20 A	RECEPTACLES CHARTING 1B158	110
111	SPARE	20 A	1			0 VA	360 VA			1	20 A	NS 1B157 RECEPTACLES	112
113	SPARE	20 A	1					0 VA	540 VA	1	20 A	NS 1B157 RECEPTACLES	114
115	SPARE	20 A	1	0 VA	360 VA					1	20 A	NS 1B157 RECEPTACLES	116
117	SPARE	20 A	1			0 VA	381 VA			1	20 A	MED ROOM 02-1B156 RECEPTACLES\	118
119	SPARE	20 A	1					0 VA	3494...	1	20 A	02-1B155 PLUGMOLD	120
121	SPARE	20 A	1	0 VA	2910...					1	20 A	02-1B167 PLUGMOLD	122
123	SPARE	20 A	1			0 VA	3506...			1	20 A	RECEPTACLE SPACE 133	124
125	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	126
			Total Load:	25868 VA		35543 VA		32606 VA					
			Total Amps:	216 A		305 A		280 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	189 VA	100.00%	189 VA		
Other	0 VA	0.00%	0 VA	Total Conn. Load:	94017 VA
Power	360 VA	100.00%	360 VA	Total Est. Demand:	52283 VA
Receptacle	93468 VA	55.35%	51734 VA	Total Conn. Current:	261 A
				Total Est. Demand Current:	145 A

Notes:

Switchboard: MSG-B1-24-HN(A)

Location: ELECTRICAL 02-1B142
Supply From:
Mounting:
Enclosure:
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65K
Mains Type: MCB
Mains Rating: 1200 A
MCB Rating: 1200 A

Notes:
1. ALL CIRCUIT BREAKERS WITHIN THIS EQUIPMENT SHALL BE FURNISHED WITH GROUND FAULT PROTECTION AS SPECIFIED. 2. FURNISH WITH INTEGRAL SURGE SUPPRESSION AND DISCONNECT SWITCH FOR SAME. 3. EQUIPMENT SHALL BE U.L. LISTED AS SERVICE ENTRANCE EQUIPMENT.

CKT	Circuit Description	# of Poles	Frame Size	Trip Size	Load	Wire and Conduit Size
1	B1-25-HN	3	150 A	150 A	128 A	4-#1/0W, 1-#6 GND IN 2"C
2	ATS-20	3	250 A	250 A	110 A	4-#250 MCMW, 1-#4 GND IN 3"C
3	SPARE	--	150 A	--	0 A	--
4	SPARE	--	150 A	--	0 A	--
5	TVSS	--	--	--	0 A	--
				Total Conn. Load:	197635 VA	
				Total Amps:	238 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	16804 VA	100.00%	16804 VA		
Other	6037 VA	100.00%	6037 VA	Total Conn. Load:	197635 VA
Power	360 VA	100.00%	360 VA	Total Est. Demand:	115418 VA
Receptacle	174435 VA	52.87%	92217 VA	Total Conn. Current:	238 A
				Total Est. Demand Current:	139 A

Notes:

Switchboard: MSG-B1-24-HN(B)

Location: ELECTRICAL 02-1B142
Supply From:
Mounting:
Enclosure:
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65K
Mains Type: MCB
Mains Rating: 1200 A
MCB Rating: 1200 A

Notes:
1. ALL CIRCUIT BREAKERS WITHIN THIS PIECE OF EQUIPMENT SHALL BE FURNISHED WITH GROUND FAULT PROTECTION AS SPECIFIED. 2. FURNISH WITH INTEGRAL SURGE SUPPRESSOR AND DISCONNECT SWITCH FOR SAME. 3. EQUIPMENT SHALL BE U.L. LISTED AS SERVICE ENTRANCE EQUIPMENT.

CKT	Circuit Description	# of Poles	Frame Size	Trip Size	Load	Wire and Conduit Size
1	ATS-21	3	250 A	250 A	51 A	4-#250 MCMW, 1-#4 GND IN 3"C
2	MSB-B1-1-HN	3	600 A	600 A	401 A	2 SETS(4-#350MCMW, 1-#1GND IN 3"C)
3	SPARE	--	150 A	--	0 A	--
4	SPARE	--	150 A	--	0 A	--
5	TVSS	--	--	--	0 A	--
				Total Conn. Load:	376169 VA	
				Total Amps:	452 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1745 VA	100.00%	1745 VA		
Other	374424 VA	100.00%	374424 VA	Total Conn. Load:	376169 VA
Power	0 VA	0.00%	0 VA	Total Est. Demand:	376169 VA
				Total Conn. Current:	452 A
				Total Est. Demand Current:	452 A

Notes:

Distribution Panel: DP-B1-27-HC

Location: ELECT. 02-1B143
Supply From: ATS-20
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65K
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A

Notes:
1. FURNISH WITH MAXIMUM HEIGHT ENCLOSURE WITH FULL BUSSING. ANY EXTRA SPACE WINTIN PANEL SHALL BE EQUIPPED WITH PROVISIONS FOR FUTURE SWITCHES.
2. FURNISH WITH INTEGRAL SURGE SUPPESSOR AND DISCONNECT SWITCH FOR SAME

CKT	Circuit Description	# of Poles	Switch Size	Fuse Size	Load	Wire and Conduit Size
1	B1-28-HC	3	150 A	150 A	110 A	4 - #1/0W, 1-#6 GND ON 2"C
2	SPARE	--	150 A	--	0 A	--
3	SPARE	--	150 A	--	0 A	--
4						
5						
6						
7						
8						
9						
10						
11						
12	TVSS	--	--	--	0 A	--
					91086 VA	
				Total Amps:	110 A	

Legend:

Branch Panel: B1-28-HC

Location: ELECTRIC ROOM 02-1B108
Supply From: DP-B1-27-HC
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10K
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1				2481...	1455...					1	20 A	OTHER ADA PATIENT ROOM 02-1B107	2
3	X-B1-29-LC	125 A	3			2922...	873 VA			1	20 A	OTHER ROOM 02-1B118, 02-1B117, 02-1B116	4
5								3202...	812 VA	1	20 A	LIGHTING ROOM 02-1B077	6
7	LIGHTING	20 A	1	632 VA	485 VA					1	20 A	LIGHTING PATIENT RMS 1B-150, 1B-151,...	8
9	LIGHTING PATIENT RMS 02-1B162, 1B-163,...	20 A	1			388 VA	387 VA			1	20 A	LIGHTING 02-1B160, 1B-157, 1B-156	10
11	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	12
13	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	14
15	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	16
17	SPARE	20 A	1					0 VA					18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	27382 VA		30871 VA		32833 VA					
			Total Amps:	99 A		113 A		120 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	5031 VA	100.00%	5031 VA		
Other	5088 VA	100.00%	5088 VA	Total Conn. Load:	91086 VA
Power	0 VA	0.00%	0 VA	Total Est. Demand:	55602 VA
Receptacle	80967 VA	56.18%	45483 VA	Total Conn. Current:	110 A
				Total Est. Demand Current:	67 A

Notes:

FOR REFERENCE ONLY
PREVIOUSLY APPROVED UNDER PRCOM20200845

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Saint Luke's East Hospital
Flex Capacity Expansion
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Lee's Summit, MO 64086

Date	03.30.2020
Job Number	3-19092
Drawn By	LLD
Checked By	BEH

Revision

Number	Date	Description
1	4.10.20	ADDENDUM #1
42	10.09.20	PR #6

BID PACKAGE #3 3.27.2020

E4.0

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ELECTRICAL SCHEDULES

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Branch Panel: B1-29-LC

Location: ELECTRIC ROOM 02-1B108 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10K
Supply From: X-B1-28-LC | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 250 A
Enclosure: Type 1 | **MCB Rating:** 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTACLE ADA PATIENT ROOM 02-1B107	20 A	1	360 VA	360 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B106	2
3	RECEPTACLE ADA PATIENT ROOM 02-1B107	20 A	1		360 VA	540 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B106	4
5	RECEPTACLE ADA PATIENT ROOM 02-1B107	20 A	1			360 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B106	6
7	RECEPTACLE PATIENT ROOM 02-1B104	20 A	1	360 VA	540 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B102	8
9	RECEPTACLE PATIENT ROOM 02-1B104	20 A	1		540 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B102	10
11	RECEPTACLE PATIENT ROOM 02-1B104	20 A	1			180 VA	180 VA	1	20 A	RECEPTACLE PATIENT TOILET 02-1B102A	12
13	RECEPTACLE PATIENT ROOM 02-1B100	20 A	1	540 VA	360 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B098	14
15	RECEPTACLE PATIENT ROOM 02-1B100	20 A	1		360 VA	540 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B098	16
17	RECEPTACLE PATIENT ROOM 02-1B100	20 A	1			360 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B098	18
19	RECEPTACLE PATIENT ROOM 02-1B096	20 A	1	540 VA	540 VA		1	20 A	RECEPTACLE ADA PATIENT ROOM 02-1B095	20
21	RECEPTACLE PATIENT ROOM 02-1B096	20 A	1		540 VA	360 VA	1	20 A	RECEPTACLE ADA PATIENT ROOM 02-1B095	22
23	RECEPTACLE PATIENT ROOM 02-1B096	20 A	1			360 VA	180 VA	1	20 A	RECEPTACLE ADA PATIENT ROOM 02-1B095	24
25	RECEPTACLE PATIENT ROOM 02-1B093	20 A	1	360 VA	360 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B091	26
27	RECEPTACLE PATIENT ROOM 02-1B093	20 A	1		540 VA	540 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B091	28
29	RECEPTACLE PATIENT ROOM 02-1B093	20 A	1			180 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B091	30
31	RECEPTACLE PATIENT ROOM 02-1B089	20 A	1	360 VA	360 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B118	32
33	RECEPTACLE PATIENT ROOM 02-1B089	20 A	1		540 VA	540 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B118	34
35	RECEPTACLE PATIENT ROOM 02-1B089	20 A	1			180 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B118	36
37	RECEPTACLE PATIENT ROOM 02-1B117	20 A	1	540 VA	540 VA		1	20 A	RECEPTACLE PATIENT ROOM 02-1B116	38
39	RECEPTACLE PATIENT ROOM 02-1B117	20 A	1		360 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B116	40
41	RECEPTACLE PATIENT ROOM 02-1B117	20 A	1			360 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B116	42
43	RECEPTACLE ADA PATIENT ROOM 02-1B115	20 A	1	720 VA	540 VA		1	20 A	RECEPTACLE ROOM 02-1B113, 02-1B114	44
45	RECEPTACLE ADA PATIENT ROOM 02-1B115	20 A	1		360 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B114	46
47	RECEPTACLE ADA PATIENT ROOM 02-1B115	20 A	1			360 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B114	48
49	PNEUMATIC TUBE STATION 02-1B00UU	20 A	1	180 VA	500 VA		1	20 A	CRASH CART NURSE STATION 02-1B088	50
51	PHONE CHARGE STATION NURSE STATION...	20 A	1		1000...	540 VA	1	20 A	RECEPTACLE NURSE STATION 02-1B088	52
53	MFD NURSE STATION 02-1B088	20 A	1			180 VA	360 VA	1	20 A	RECEPTACLE NURSE STATION 02-1B088	54
55	RECEPTACLE NURSE STATION 02-1B088	20 A	1	360 VA	180 VA		1	20 A	RECEPTACLE ELECTRIC ROOM 02-1B108	56
57	RECEPTACLE NURSE STATION 02-1B088	20 A	1		360 VA	0 VA	1	20 A	VAV TRANSFORMER PANEL ELECTRIC ROO...	58
59	RECEPTACLE NURSE STATION 02-1B088	20 A	1			360 VA	180 VA	1	20 A	RECEPTACLE MANAGER OFFICE 02-1B103	60
61	RECEPTACLE WORK STATION 02-1B099	20 A	1	540 VA	540 VA		1	20 A	RECEPTACLE WORK STATION 02-1B119	62
63	RECEPTACLE MANAGER OFFICE 02-1B121	20 A	1		180 VA	1628...	1	20 A	PLUGMOLD STORAGE 02-1B101	64
65	RECEPTACLE DATA ROOM 02-1B097	20 A	1			360 VA	0 VA	1	20 A	NURSE CALL HEADEND DATA ROOM 02-1B097	66
67	IN-ROW COOLER DATA ROOM 02-1B097	40 A	2	0 VA	0 VA		2	20 A	RECEPTACLE DATA ROOM 02-1B097	68
69					0 VA	0 VA				70
71	L6-30 DATA ROOM 02-1B097	30 A	2			0 VA	2000...	2	50 A	UPS DATA ROOM 02-1B097	72
73				0 VA	2000...						74
75	CRASH CART CORRIDOR 02-1B135	20 A	1		180 VA	360 VA	1	20 A	RECEPTACLE CHARTING 02-1B090	76
77	REFRIGERATOR NOURISH 02-1B116	20 A	1			180 VA	1874...	1	20 A	02-1B167 PLUGMOLD	78
79	ICE NOURISH 02-1B116	20 A	1	750 VA	7700...						80
81	BLANKET WARMER CLEAN ROOM 02-1B160	30 A	1		180 VA	8730...		3	100 A	B1-31-LC	82
83	PLUGMOLD CLEAM 1B160	20 A	1				2329...	1047			84
85	RECEPTACLES ROOM 1B151	20 A	1	360 VA	360 VA		1	20 A	RECEPTACLES ROOM 1B162	86
87	RECEPTACLES ROOM 1B151	20 A	1		360 VA	720 VA	1	20 A	RECEPTACLES ROOM 1B162	88
89	RECEPTACLES ROOM 1B151	20 A	1			720 VA	360 VA	1	20 A	RECEPTACLES ROOM 1B162	90
91	RECEPTACLES ROOM 1B152	20 A	1	360 VA	360 VA		1	20 A	RECEPTACLES ROOM 1B150	92
93	RECEPTACLES ROOM 1B152	20 A	1		360 VA	360 VA	1	20 A	RECEPTACLES ROOM 1B150	94
95	RECEPTACLES ROOM 1B152	20 A	1			540 VA	720 VA	1	20 A	RECEPTACLES ROOM 1B150	96
97	RECEPTACLES ROOM 1B153	20 A	1	360 VA	540 VA		1	20 A	RECEPTACLES CHARTING 1B158	98
99	RECEPTACLES ROOM 1B153	20 A	1		720 VA	180 VA	1	20 A	NS 1B157 PNEUMATIC TUBE	100
101	RECEPTACLES ROOM 1B153	20 A	1			360 VA	1200...	1	20 A	NS 1B167 MFD	102
103	RECEPTACLES ROOM 1B154	20 A	1	360 VA	540 VA		1	20 A	NS 1B157 RECEPTACLES	104
105	RECEPTACLES ROOM 1B154	20 A	1		720 VA	540 VA	1	20 A	NS 1B157 RECEPTACLES	106
107	RECEPTACLES ROOM 1B154	20 A	1			360 VA	900 VA	1	20 A	NS 1B157 RECEPTACLES	108
109	RECEPTACLES ROOM 1B165	20 A	1	360 VA	180 VA		1	20 A	CORRIDOR 02-1B164 CRASH CART	110
111	RECEPTACLES ROOM 1B165	20 A	1		720 VA	540 VA	1	20 A	OTHER MED ROOM 02-1B086	112
113	RECEPTACLES ROOM 1B165	20 A	1			360 VA	180 VA	1	20 A	MED ROOM 02-1B156 OMNICELL	114
115	RECEPTACLES ROOM 1B164	20 A	1	360 VA	180 VA		1	20 A	MED ROOM 02-1B156 OMNICELL	116
117	RECEPTACLES ROOM 1B164	20 A	1		720 VA	2745...	1	20 A	02-1B155 PLUGMOLD	118
119	RECEPTACLES ROOM 1B164	20 A	1			360 VA	2808...	1	20 A	RECEPTACLE SPACE 133	120
121	RECEPTACLES ROOM 1B163	20 A	1	360 VA	0 VA		1	20 A	SPARE	122
123	RECEPTACLES ROOM 1B163	20 A	1		360 VA	0 VA	1	20 A	SPARE	124
125	RECEPTACLES ROOM 1B163	20 A	1			720 VA	0 VA	1	20 A	SPARE	126
				Total Load:	7451 VA	8223 VA	8021 VA				
				Total Amps:	207 A	249 A	273 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	5088 VA	100.00%	5088 VA	
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 86055 VA
Receptacle	80967 VA	56.18%	45483 VA	**Total Est. Demand:** 50571 VA
				Total Conn. Current: 239 A
				Total Est. Demand Current: 140 A

Notes:

Branch Panel: B1-30-LN

Location: SERVICE CORRIDOR 02-1B00J | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10K
Supply From: B1-26 | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: Type 1 | **MCB Rating:** 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTACLE EXAM ROOM 02-1B059	20 A	1	540 VA	561 VA		1	20 A	RECEPTACLE FAST TRACK 4 02-1B073	2
3	RECEPTACLE EXAM ROOM 02-1B059	20 A	1			360 VA	561 VA	1	20 A	RECEPTACLE FAST TRACK 3 02-1B072	4
5	REFRIGERATOR BREAK ROOM 02-1B068	20 A	1			1500...	561 VA	1	20 A	RECEPTACLE FAST TRACK 2 02-1B071	6
7	RECEPTACLE FAST TRACK NURSE STATION...	20 A	1	360 VA	360 VA						8
9	RECEPT AND UC LGTS FAST TRACK NURSE...	20 A	1			222 VA	1500...				10
11	RECEPTACLE ROOM 02-1B00M, 02-1B069	20 A	1				900 VA	1400...	1	20 A	COFFEE MAKER BREAK ROOM 02-1B068	12
13	RECEPTACLE DECON SHOWER 02-1B077	20 A	1	720 VA	180 VA						14
15	RECEPTACLE FAST TRACK 1 02-1B070	20 A	1			561 VA	360 VA				16
17	RECEPTACLE PATIENT TOILET 02-1B087A	20 A	1				180 VA	720 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B085	18
19	RECEPTACLE PATIENT ROOM 02-1B087	20 A	1	360 VA	0 VA						20
21	RECEPTACLE PATIENT ROOM 02-1B087	20 A	1			720 VA	0 VA				22
23	RECEPTACLE PATIENT TOILET 02-1B083A	20 A	1				180 VA	180 VA	1	20 A	RECEPTACLE PATIENT TOILET 02-1B081A	24
25	RECEPTACLE PATIENT ROOM 02-1B083	20 A	1	360 VA	360 VA						26
27	RECEPTACLE PATIENT ROOM 02-1B083	20 A	1			720 VA	720 VA				28
29	RECEPTACLE PATIENT TOILET 02-1B113A	20 A	1				180 VA	180 VA	1	20 A	RECEPTACLE PATIENT TOILET 02-1B112A	30
31	RECEPTACLE PATIENT ROOM 02-1B113	20 A	1	360 VA	720 VA						32
33	RECEPTACLE PATIENT ROOM 02-1B113	20 A	1			720 VA	360 VA				34
35	RECEPTACLE PATIENT TOILET 02-1B111A	20 A	1				180 VA	180 VA	1	20 A	RECEPTACLE PATIENT TOILET 02-1B110A	36
37	RECEPTACLE PATIENT ROOM 02-1B111	20 A	1	360 VA	720 VA						38
39	RECEPTACLE PATIENT ROOM 02-1B111	20 A	1			720 VA	360 VA				40
41	RECEPTACLE BREAK ROOM 02-1B068	20 A	1				900 VA	720 VA	1	20 A	RECEPTACLE ROOM 02-1B137.1, 02-1B075,...	42
43	RECEPTACLE TRAUMA 02-1B109	20 A	1	360 VA	720 VA						44
45	RECEPTACLE TRAUMA 02-1B109	20 A	1	1086...		540 VA	540 VA				46
47	MFD SHARED OFFICE 02-1B080	20 A	1				180 VA	360 VA	1	20 A	RECEPTACLE SHARED OFFICE 02-1B080	48
49	RECEPTACLE SHARED OFFICE 02-1B080	20 A	1	360 VA	1080...						50
51	RECEPTACLE SHARED OFFICE 02-1B080	20 A	1			540 VA	402 VA				52
53	RECEPTACLE CLEAN ROOM 02-1B084	20 A	1				773 VA	540 VA	1	20 A	RECEPTACLE GARAGE 02-1B139	54
55	RECEPTACLE CLEAN ROOM 02-1B084	20 A	1	1058...	0 VA						56
57	REFRIGERATOR EMS BREAK 02-1B079	20 A	1			750 VA	0 VA				58
59	MICROWAVE EMS BREAK 02-1B079	20 A	1				1200...	0 VA	1	20 A	SPARE	60
61	RECEPTACLE EMS BREAK 02-1B079	20 A	1	720 VA	0 VA						62
63	SPARE	20 A	1			0 VA	0 VA				64
65	SPARE	20 A	1				0 VA	0 VA	1	20 A	SPARE	66
67	SPARE	20 A	1	0 VA	0 VA						68
69	SPARE	20 A	1			0 VA	0 VA				70
71	SPARE	20 A	1				0 VA	0 VA	1	20 A	SPARE	72
73	SPARE	20 A	1	0 VA	0 VA						74
75	SPARE	20 A	1			0 VA	0 VA				76
77	SPARE	20 A	1				0 VA	0 VA	1	20 A	SPARE	78
79	SPARE	20 A	1	0 VA	0 VA						80
81	SPARE	20 A	1			0 VA	0 VA				82
83	SPARE	20 A	1				0 VA	0 VA	1	20 A	SPARE	84
				Total Load:	10259 VA	10656 VA	11014 VA				
				Total Amps:	85 A	89 A	92 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	168 VA	100.00%	168 VA	
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 31929 VA
Receptacle	31761 VA	65.74%	20880 VA	**Total Est. Demand:** 21048 VA
				Total Conn. Current: 89 A
				Total Est. Demand Current: 58 A

Notes:

Branch Panel: B1-31-LC

Location: SERVICE CORRIDOR 02-1B00U | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10K
Supply From: B1-29 | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: Type 1 | **MCB Rating:** 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTACLE FAST TRACK 1 02-1B070	20 A	1	540 VA	540 VA		1	20 A	RECEPTACLE FAST TRACK 4 02-1B073	2
3	MFD FAST TRACK NURSE STATION 02-1B069	20 A	1			1200...	540 VA	1	20 A	RECEPTACLE FAST TRACK 3 02-1B072	4
5	OMNICELL FAST TRACK NURSE STATION...	20 A	1					1000...	528 VA	1	20 A	UNIT HEATERS	6
7	RECEPTACLE FAST TRACK NURSE STATION...	20 A	1	360 VA	540 VA						20 A	RECEPTACLE EXAM ROOM 02-1B059	8
9	RECEPTACLE FAST TRACK NURSE STATION...	20 A	1			1380...	0 VA				20 A	RECEPTACLE TRAUMA 02-1B109	10
11	RECEPTACLE FAST TRACK 4 02-1B073	20 A	1					540 VA	180 VA	1	20 A	MFD RECEPTION 02-1B004	12
13	RECEPTACLE SPACE 02-1B00AA	20 A	1	360 VA	540 VA						20 A	RECEPTACLE SPACE 02-1B00AA	14
15	RECEPTACLE SPACE 02-1B00AA	20 A	1			360 VA	360 VA				20 A	RECEPTACLE PATIENT ROOM 02-1B085	16
17	RECEPTACLE PATIENT ROOM 02-1B087	20 A	1					180 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B085	18
19	RECEPTACLE PATIENT ROOM 02-1B087	20 A	1	360 VA	360 VA						20 A	RECEPTACLE PATIENT ROOM 02-1B085	20
21	RECEPTACLE PATIENT ROOM 02-1B087	20 A	1			360 VA	540 VA				20 A	RECEPTACLE PATIENT ROOM 02-1B083	22
23	RECEPTACLE PATIENT ROOM 02-1B081	20 A	1					540 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B083	24
25	RECEPTACLE PATIENT ROOM 02-1B081	20 A	1	180 VA	360 VA						20 A	RECEPTACLE PATIENT ROOM 02-1B083	26
27	RECEPTACLE PATIENT ROOM 02-1B081	20 A	1			180 VA	540 VA				20 A	RECEPTACLE PATIENT ROOM 02-1B113	28
29	RECEPTACLE PATIENT ROOM 02-1B112	20 A	1					540 VA	360 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B113	30
31	RECEPTACLE PATIENT ROOM 02-1B112	20 A	1	360 VA	360 VA						20 A	RECEPTACLE PATIENT ROOM 02-1B113	32
33	RECEPTACLE PATIENT ROOM 02-1B112	20 A	1			360 VA	540 VA				20 A	RECEPTACLE PATIENT ROOM 02-1B111	34
35	RECEPTACLE PATIENT ROOM 02-1B110	20 A	1					540 VA	180 VA	1	20 A	RECEPTACLE PATIENT ROOM 02-1B111	36
37	RECEPTACLE PATIENT ROOM 02-1B110	20 A	1	360 VA	360 VA						20 A	RECEPTACLE PATIENT ROOM 02-1B111	38
39	RECEPTACLE PATIENT ROOM 02-1B110	20 A	1			360 VA	750 VA				20 A	ICE/WATER BREAK ROOM 02-1B068	40
41	SPACE	--	--					0 VA	2222...	1	20 A	BLANKET WARMER CLEAN ROOM 02-1B084	42
43	RECEPTACLE TRAUMA 02-1B109	20 A	1	540 VA	1200...						20 A	PLUGMOLD CLEAN ROOM 02-1B084	44
45	RECEPTACLE TRAUMA 02-1B109	20 A	1			360 VA	180 VA				20 A	RECEPTACLE MED ROOM 02-1B086	46
47	RECEPTACLE MED ROOM 02-1B086	20 A	1					180 VA	540 VA	1	20 A	RECEPTACLE MED ROOM 02-1B086	48
49	HELIPAD LIGHTING CONTROLS GARAGE...	20 A	1	0 VA	200 VA						20 A	AMBULANCE GARAGE DOOR 02-1B139	50
51	AMBULANCE GARAGE DOOR 02-1B139	20 A	1			0 VA	180 VA				20 A	RECEPTACLE GARAGE 02-1B139	52
53	AMBULANCE GARAGE DOOR 02-1B139	20 A	1					0 VA	180 VA	1	20 A	RECEPTACLE GARAGE 02-1B139	54
55	AMBULANCE GARAGE DOOR 02-1B139	20 A	1	0 VA	180 VA						20 A	RECEPTACLE GARAGE 02-1B139	56
57	RECEPTACLE ROOM C-5, C-4	20 A	1			540 VA	0 VA				20 A	SPARE	58
59	HILIPS MONITOR	20 A	1					2400...	0 VA	1	20 A	SPARE	60
61					0 VA						20 A	SPARE	62
63	SPARE	20 A	1			0 VA	0 VA				20 A	SPARE	64
65	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	66
67	SPARE	20 A	1	0 VA	0 VA						20 A	SPARE	68
69	SPARE	20 A	1			0 VA	0 VA				20 A	SPARE	70
71	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	72
73	SPARE	20 A	1	0 VA	0 VA						20 A	SPARE	74
75	SPARE	20 A	1			0 VA	0 VA				20 A	SPARE	76
77	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	78
79	SPARE	20 A	1	0 VA	0 VA						20 A	SPARE	80
81	SPARE	20 A	1			0 VA	0 VA				20 A	SPARE	82
83	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	84
				Total Load:	7700 VA	8730 VA	10470 VA				
				Total Amps:	64 A	74 A	89 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	728 VA	100.00%	728 VA	
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 26900 VA
Receptacle	26172 VA	69.10%	18086 VA	**Total Est. Demand:** 18814 VA
				Total Conn. Current: 75 A
				Total Est. Demand Current: 52 A

Notes:

Distribution Panel: DP-BP-32-HA

Location: PENTHOUSE 02-2B100 | **Volts:** 480/277 Wye | **A.I.C. Rating:** 22K
Supply From: ATS-21 | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 250 A
Enclosure: Type 1 | **MCB Rating:** 250 A

Notes:
1. FURNISH WITH MAXIMUM HEIGHT ENCLOSURE WITH FULL BUSSING. ANY EXTRA SPACE WITHIN PANEL SHALL VE EQUIPPED WITH PROVISIONS FOR FUTURE SWITCHES.
2. FURNISH WITH INTEGRAL SURGE SUPPRESSION AND DISCONNECT SWITCH FOR SAME.

CKT	Circuit Description	# of Poles	Switch Size	Fuse Size	Apparent Load	Wire and Conduit Size
1	AHU B-5 RETURN FANWALL	3	60 A	40 A	11340 VA	3-#8W, 1-#10 GND IN 1"C
2	AHU B-5 SUPPLY FANWALL	3	100 A	100 A	28296 VA	3-#1W, 1-#8 GND IN 1-1/2"C
3	EF B-14	3	15 A	15 A	1745 VA	3-#12W, 1-#12 GND IN 3/4C
4	AIR CURTAIN VESTIBULE 02-1B140	3	20 A	20 A	1000 VA	3-#12W, 1-#12 GND IN 3/4"C
5						
6						
7						
8						
9						
10						
11						
12	TVSS	--	--	--	--	--
					42381 VA	
				Total Amps:	51 A	

Legend:

TRANSFER SWITCH SCHEDULE

DESIGN.	EQUIPMENT SERVED	SIZE (AMPACITY)	POLES	TRANSITION	PRIORITY	LOAD SHEDDING
ATS -20	DP-B1-27-HC	250	4 POLE	CLOSED W/ BYPASS ISOLATION	2	MANUAL
ATS-21	DP-BP-32-HA	250	4 POLE	CLOSED W/ BYPASS ISOLATION	3	

FOR REFERENCE ONLY
PREVIOUSLY APPROVED UNDER PRCOM20200845

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Date	03.30.2020
Job Number	3-19092
Drawn By	Author
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42	10.09.20	PR #6

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ELECTRICAL SCHEDULES

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