

# ALTA VIEW HOSPITAL - ACUTE REHABILITATION UNIT



INTERMOUNTAIN HEALTHCARE 9660 SOUTH 1300 EAST, SANDY, UT 84096

CONSTRUCTION DOCUMENTS 15 DECEMBER 2020 524 SOUTH 600 EAST SALT LAKE CITY, UT 84102 801.575.8800 | VCBO.COM

STEVE BROWN INTERMOUNTAIN HEALTHCARE 36 SOUTH STATE STREET, Suite 2300 SALT LAKE CITY, UT 84111 steve.brown@imail.org 801.442.3365

owner

architect

JEFF PINEGAR, AIA VCBO ARCHITECTURE 524 SOUTH 600 EAST SALT LAKE CITY, UT 84102 jpinegar@vcbo.com 801.575.8800

**Civil engineer** MARK BABBIT GREAT BASIN ENGINEERING P.O. BOX 150048 OGDEN JLT 84415

OGDEN, UT 84415 pca@greatbasingeng.com 801.394.4515 structural engineer

JESSICA CHAPPELL REAVELEY ENGINEERS & ASSOCIATES 675 EAST 500 SOUTH SUITE 400 SALT LAKE CITY, UT 84102 jchappell@reaveley.com 801.486.3883

mechanical engineer

BRAD ROSENHAN VAN BOERUM & FRANK ASSOCIATES 330 SOUTH 300 EAST SALT LAKE CITY, UT 84111 brosenhan@vbfa.com 801.530.3148

electrical engineer PETER JOHANSEN SPECTRUM ENGINEERS 324 S. STATE ST. #400 SALT LAKE CITY, UT 84111 pej@spectrum-engineers.com 801.328.5151

1

# 

ABBKE	:VIATIONS	NOT
& @	AND AT	LAV LB / LBS
ACT ADJ AFF ALT AL / ALUM APPROX ARCH	ACOUSTICAL CEILING TILE ADJUSTABLE ABOVE FINISH FLOOR ALTERNATE ALUMINUM APPROXIMATE ARCHITECTURAL	MAT MAX MDF MECH MEMB MEZZ MFR MGR MIN
BLDG BLK BO BRG BSMT BS BW	BUILDING BLOCK(ING) BOTTOM OF BEARING BASEMENT BOTH SIDES BOTH WAYS	MIR MISC MO MTD MTL MW
CAB CB CCSA CG	CABINET CATCH BASIN CUSTOM COLOR SELECTED BY ARCHITECT CORNER GUARD	N NIC NO. NOM NRC NTS
CHAM CJ CL CLG CLR	CHAMFER CONTROL JOINT CENTER LINE CEILING CLEAR	OC OD OFCI
CM COL COMP CONC CONT CMU CSBA	CONSTRUCTION MANAGER COLUMN COMPUTER CONCRETE CONTINUOUS CONCRETE MASONRY UNIT COLOR SELECTED BY ARCHITECT	OFD OH OPG OPP OSB OZ
CI DB DBL DEPT DF DIA DIM DN DRN DTL/DET DW DWG	CERAMIC TILE DEPTH DECK BEARING DOUBLE DEPARTMENT DRINKING FOUNTAIN DIAMETER DIMENSION DOWN DRAIN DETAIL DISHWASHER DRAWING	PERI PERM PL PLAM PNL PNT P.O. PR PT PART PLY
E (E) EA EIFS EJ ELEC ELEV EQ EQUIP EVAP EXIST EXP	EAST EXISTING EACH EXTERIOR INSULATION SYSTEM EXPANSION JOINT ELECTRICAL ELEVATION EQUAL EQUIPMENT EVAPORATIVE EXISTING EXPANSION	R / RAD RCP REC REF REFG REINF REM REPL REQD REV RM RO
EXT EWC FA FD FDN FE FEC FG FH FIN FLR F.O. FT FRP FRT FTG FV	EXTERIOR ELECTRIC WATER COOLER FIRE ALARM FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH GRADE FIRE HYDRANT FINISHED FLOOR FACE OF FOOT, FEET FIBER REINFORCED PANEL FIRE RETARDANT TREATED WOOD FOOTING FIELD VERIFY	S SALV SECT SF SIM SLNT SPEC SQ SS STC STD STL STOR STRUC SUSP SYM T
GA GALV GB GC GFRC GYP GWB	GAUGE GALVANIZED GRAB BAR GENERAL CONTRACTOR GLASSFIBER REINFORCED PANEL GYPSUM GYPSUM WALLBOARD	T & B T & G TBD TEMP THRU T.O. TRANS TS TYP
HB HC HDW HDF HM H HOR	HOSE BIB HANDICAP ACCESSIBLE HARDWARE HIGH DENSITY FIBERBOARD HOLLOW METAL HEIGHT HORIZONTAL	UNF UNO VAR VB VCT
ID ICF IN INCL INFO INT INSUL	INSIDE DIAMETER INSULATED CONCRETE FORM INCH INCLUDE INFORMATION INTERIOR INSULATE, (D). (ION)	VERT VEST VWC W W W/ W/ WC
INV JST JT	INVERT JOIST JOINT	WD W/O WSCT WWF

### LAVATORY LB / LBS POUND (S) MATERIAL (S) MAXIMUM MEDIUM DENSITY MECH MECHANICAL MEMB MEMBRANE MEZZ MEZZANINE MANUFACTURER MGR MANAGER MINIMUM MIRROR MISCELANEOUS MISC MASONRY OPENING MTD MOUNT (ED) METAL MICROWAVE NORTH NOT IN CONTRACT NUMBER NOM

NOT ALL ABBREVIATIONS MAY BE USED

- 3

R / RAD

STRUC

NOMINAL NOISE REDUCTION COEFFICIENT NOT TO SCALE ON CENTER

OUTSIDE DIAMETER OWNER FURNISHED/ CONTRACTOR INSTALLED OVERFLOW DRAIN OVERHEAD OPENING OPPOSITE ORIENTED STRAND BOARD

PERIMETER PERMANENT PLATE PLASTIC LAMINATE PANEL PAINT (ED) POINT OF PAIR POST TENSIONED PARTITION PLYWOOD

OUNCE

QUARRY TILE RADIUS REFLECTED CEILING PLAN RECESSED REFERENCE

REFRIGERATOR REINFORCE (ED) REMOVE (ED) REPLACE REQUIRED REVISION (S) ROOM ROUGH OPENING

SOUTH SALVAGE (ED) SECTION SQUARE FOOT SIMILAR SEALANT SPECIFICATION (S) SQUARE STAINLESS STEEL SOUND TRANSMISSION CLASS STANDARD STEEL STORAGE

STRUCTURE (AL) SUSPENDED SYMMETRY (ICAL) THICKNESS TOP AND BOTTOM

TONGUE AND GROOVE TO BE DETERMINED TEMPORARY THROUGH TOP OF TRANSFORMER

TUBE STEEL

TYPICAL UNFINISHED UNLESS OTHERWISE NOTED

VARIES VAPOR BARRIER VINYL COMPOSITION TILE VERTICAL VESTIBULE VINYL WALL COVERING

WEST WIDTH WITH WATER CLOSET WOOD WITHOUT

WAINSCOT WELDED WIRE FABRIC



4

PROJECT TEAM

INTERMOUNTAIN HEALTHCARE

owner

STEVE BROWN

UTILITY CONTACTS

ROCKY MOUNTAIN POWER

power



9 3D DRAWINGS + PERSPECTIVES

## VICINITY MAP

JT





- 4. EXCEPT WHERE DIRECTED TO PLACE ITEMS OF WORK AT THE APPROXIMATE LOCATION SHOWN; DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN OR MAY BE DERIVED FROM THOSE SHOWN ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, DETAILS, SCHEDULES AND SPECIFICATIONS. IF DIMENSIONS ARE NOT PRESENT, THE ARCHITECT IS TO BE NOTIFIED SO THAT A CLARIFICATION CAN BE ISSUED.
- 5. CONTRACTOR TO FOLLOW CURRENT ANSI 117-1 STANDARDS AS REPRESENTED ON SHEET G301, GENERAL ACCESSIBILITY GUIDELINES. NOTIFY ARCHITECT IF THE DESIGN DRAWINGS CONFLICT WITH THIS SHEET.

# NOTES TO BIDDERS

- 1. THIS SHEET CONTAINS A LIST OF DRAWINGS WHICH COMPRISE A FULL SET OF DRAWINGS FOR THIS PROJECT. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR THE INFORMATION CONTAINED IN ANY AND ALL SHEETS OF DRAWINGS AND SPECIFICATIONS. IF ANY PERSON, PARTY OR ENTITY ELECTS TO SUBMIT BIDS FOR ANY PORTION, OR ALL, OF THIS PROJECT, THAT PERSON, PARTY OR ENTITY SHALL BE RESPONSIBLE FOR ANY AND ALL INFORMATION CONTAINED IN THESE DRAWINGS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, ANY SUBSEQUENT ADDENDUMS OR CLARIFICATIONS THAT MAY BE ISSUED.
- 2. THESE DOCUMENTS SHOW THE DESIGN INTENT. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE EVERYTHING SHOWN ON THE DRAWINGS OR SPECIFIED REGARDLESS OF WHERE IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS. FOR EXAMPLE; SOME MILLWORK DETAILS HAVE STEEL FRAMES WHICH MAY BE PROVIDED BY DIVISION 05 OR WITH THE MILLWORK AT THE CONTRACTOR'S DISCRETION, BUT IT SHALL BE PROVIDED AS PART OF THE CONTRACT.
- 3. EVERYTHING CALLED FOR IN THESE DOCUMENTS SHALL BE "NEW" AND PROVIDED BY THE CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT UNLESS NOTED OTHERWISE AS EXISTING (EXIST), NOT IN CONTRACT (NIC) OR FOR REFERENCE ONLY. FURNISHINGS SHOWN DASHED SHALL BE FOR REFERENCE ONLY.

# SHEET INDEX

	SHEET INDEX
SHEET NUMBER	SHEET NAME
GENERAL CV	COVER
G001	
G101 G201	UL RATED METAL STUD WALL ASSEMBLIES
G202	UL RATED CAVITY WALL + COLUMN ASSEMBLIES
G203	GYPSUM ASSOCIATION RATED ASSEMBLIES
0.001	
CD-101 CS-101	SITE PLAN
CG-101	GRADING & DRAINAGE PLAN
CU-101 CD-501	UTILITY PLAN DETAILS
ARCHITECTURAL	SITE
AS101	
A5102	
DEMOLITION	I
AD110.1 AD110.2	DEMOLITION PLAN - LEVEL 1 / LEVEL 2
AD110.2 AD110.3	DEMOLITION ENLARGED PLANS AND ELEVATIONS
ARCHITECTURAL A110.0	OVERALL PLAN - LEVEL 01 / LEVEL 02
A110.1	ANNOTATED PLAN - LEVEL 1 / LEVEL 2
A110.1A	
A110.2 A110.3	REFLECTED CEILING PLAN - LEVEL 1 / LEVEL 2
A110.4	FINISH PLAN - LEVEL 1/ LEVEL 2
A110.5	EQUIPMENT & FURNITURE PLAN - LEVEL 1 / LEVEL 2
A201 A202	EXTERIOR ELEVATIONS
A400	FINISH LEGEND + SCHEDULE
A401	ENLARGED PLANS + ELEVATIONS
A402	ENLARGED PLANS + ELEVATIONS
A403 A404	ENLARGED PLANS + ELEVATIONS ENLARGED PLANS + ELEVATIONS
A405	ENLARGED PLANS + ELEVATIONS
A406	ENLARGED PLANS + ELEVATIONS
A407 A408	ENLARGED PLANS + ELEVATIONS
A500	WALL TYPES + GENERAL NOTES
A510	
A520 A530	INTERIOR FRAMING DETAILS
A570	CASEWORK DETAILS
A571	
A572 A600	DOOR SCHEDULE + ELEVATIONS
STRUCTURAL	
S001	GENERAL STRUCTURAL NOTES
S002	
S101	LEGENDS & ABBREVIATIONS
S102	LEVEL 2 FRAMING
S103	
S104 S105	STRUCTURAL DETAILS
S106	STRUCTURAL SCHEDULES
S107	STRUCTURAL SCHEDULES
MECHANICAL	
ME000 ME001	MECHANICAL SYMBOLS AND LEGEND
MD101	MECHANICAL DEMOLITION PLAN - LEVEL 1
MD102	MECHANICAL DEMOLITION PLAN - LEVEL 2
MH101 MH102	
MH501	MECHANICAL DETAILS
MH502	MECHANICAL DETAILS
MH601 MGD101	MECHANICAL SCHEDULES
MG101	MEDICAL GAS DEMOLITION FLAN - LEVEL 1 MEDICAL GAS PLAN - LEVEL 1
MPD101	MECHANICAL PIPING DEMOLITION PLAN - LEVEL 1
MPD102	MECHANICAL PIPING DEMOLITION PLAN - LEVEL 2
MP101 MP102	
PD100	PLUMBING DEMOLITION PLAN - LEVEL 0
PD101	PLUMBING DEMOLITION PLAN - LEVEL 1
PL100 PL101	PLUMBING PLAN - LEVEL 0 PLUMBING PLAN - LEVEL 1
FPD101	FIRE PROTECTION DEMOLITION PLAN - LEVEL 1
FP101	FIRE PROTECTION PLAN - LEVEL 1
ELECTRICAI	
EE001	SHEET INDEX, ABBREVIATIONS AND GENERAL NOTES
EE002	SYMBOLS LEGEND
EE701 FD101A	I YPICAL MOUNTING HEIGHT DETAILS ELECTRICAL DEMOLITION PLANS
ED101B	LIGHTING DEMOLITION PLANS
EP101	POWER PLANS
EL101	
EL602	LIGHTING CONTROL SCHEDULES
ET502	TELECOM DETAILS
ET601	TELECOM RISER DIAGRAMS
EY101 FY601	AUXILIARY PLANS
EY602	ACCESS CONTROL DOOR TYPES
EC101	SYSTEMS PLANS
EC601 FA101	SYSTEMS DETAILS

Grand total: 91





801.575.8800

VCBO.COM



	6	
DE	SIGN DATA	
ov	ERNING BUILDING CODES: IBC 2018, to include Appendix J; IRC 2015, ANSI 117-1 2009; NFPA 10 IMC 2018; IPC 2018; IECC 2018, for commercial projects; IFGC 2018; N	1 LIFE SAFE IEC 2017
CC	<u>UPANCY TYPE</u> - CH.3 I-2 - INSTITUTIONAL (308.3) - LEVEL 1 B - BUSINESS (304) - LEVEL 2	
UIL	DING AREA: PER TABLE 506.2: ACTUAL AREA - 24,518 SQUARE FEET - LEVEL 1 ACTUAL AREA - 23,891 SQUARE FEET - LEVEL 2	
NLI	MITED AREA BUILDINGS: PER SECTION 507	
RO	<b>TECTION:</b> PER SECTION 509.4.2 Where Table 509 permits an automatic sprinkler system without a fire base be separated from the remainder of the building by construction capable smoke. Doors shall be self- or automatic-closing upon detection of smoke 716.2.6.6. Doors shall not have air transfer openings and shall not be unter the clearance permitted in accordance with NFPA 80. Walls surrounding have air transfer openings unless provided with smoke dampers in accordance with smoke dampers in accordance statements.	rrier, the inci of resisting t e in accordar dercut in exc the incidenta dance with S
IRE	RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS	S:
	PRIMARY STRUCTURAL FRAME BEARING WALLS	- <b>2</b> HOUR
	EXTERIOR INTERIOR	- <b>2</b> HOUR - <b>2</b> HOUR
	NON-BEARING WALLS & PARTITION INTERIOR FLOOR CONSTRUCTION & ASSOCIATED SECONDARY MEMBERS ROOF CONSTRUCTION & ASSOCIATED SECONDARY MEMBERS	- 0 HOUR - 1 HOUR - 1 HOUR
UTC	DMATIC SPRINKLER SYSTEM: PER SECTION 903 - YES	moon
ESI	GN OCCUPANCY LOAD: PER SECTION 1004	
	OCCUPANCY GROUP I-2 (LEVEL 1) - 246 OCCUPANTS (ENT OCCUPANCY GROUP B (LEVEL 2) - 239 OCCUPANTS (ENT	IRE LEVEL IRE LEVEL
- - - - -	AND EMERGENCY VOICE/ALARM PER 907.5.2.2 OTHER EGRESS: 0.2 IN / OCC. <u>OR</u> 0.15 IN / OCC. IF AUTOMATIC PE AND EMERGENCY VOICE/ALARM PER 907.5.2.2 REQUIRED STAIR WIDTH: XXX OCCS. x 0.3 = XXX" TOTAL STAIR WIDTH PROVIDED LEVEL 1: 246 OCCS. x 0.2 = 49.2" REQUIRED (DOORS, CORRIDOR, PROVIDED: 306" (NOT INCL. MECH. RM. EXIT DOORS) LEVEL 2: 239 OCCS. x 0.2 = 47.8" REQUIRED OTHER EGRESS COMPONENTS (DOORS, CORRIDOR, ETC) PROVIDED: 128" (NOT INCL. MECH. RM. EXIT DOORS)	ER 903.3.1.1 ER 903.3.1.1 ETC)
<u>XIT</u>	ACCESS - CH. 10	
OM	<ul> <li>MON PATH OF EGRESS TRAVEL: PER TABLE 1006.2.1</li> <li>(Measured from the most remote point within a story to that point where access to two exits or exit access doorways)</li> <li>75 FEET FOR I-2 OCCUF OCCUPANCY</li> <li>1006.2.1 Where the design occupant load or the common path of egress values listed in Table 1006.2.1</li> </ul>	the occupant PANCY / <b>100</b> travel distar
EXI	ITS REQUIRED - PER 1006.3.2 WHERE THE OCCUPANCY LOAD TOTALS MORE THAN 50 PLACE FAR ENOUGH APART - NOT LESS THAT 1/2 MAXIMUM DIAG AREA SERVED (MEASURED STRAIGHT LINE BETWEEN EXITS)	Gonal Dim
RA	VEL DISTANCE: PER TABLE 1017.2 WITHOUT SPRINKLER SYSTEM - 200' MAXIMUM LENGTH OF EXIT A WITH SPRINKLER SYSTEM - 200' MAXIMUM LENGTH OF EXIT ACCI 300' MAXIMUM LENGTH OF EXIT ACCI SEE MEASUREMENT 1017.3 (INCLUDES COMMON PATH DISTANCI	ACCESS TR ESS TRAVE ESS TRAVEI E)
OR	RIDOR FIRE RESISTANCE RATING: PER TABLE 1020.1 WITHOUT SPRINKLER SYSTEM - 1 HOUR FIRE RATED CONSTRUC LOAD OF $\geq$ 30	TION WITH
	WITH SPRINKLER SYSTEM - X HOUR FIRE RATED CONSTRUCTION	N
INI	MUM CORRIDOR WIDTH: PER TABLE 1020.2 IN INCHES 44 UNLESS NOTED OTHERWISE 36 WITH AN OCCUPANT LOAD OF LESS THAN 50	
	72 GROUP E WITH OCCUPANT LOAD OF 100 OR MORE	
EAI	<b>D ENDS:</b> PER 1020.4 MUST BE LESS THAN 20' WHERE MORE THAN ONE EXIT IS REQUI OR 50' IN SPRINKLERED BUILDING (EXCEPTION 2) OR THE LENGTH IS 2.5 TIMES THE WIDTH (EXCEPTION 3)	RED;
ITE	<b>RIOR WALL &amp; CEILING FINISH REQUIREMENTS:</b> 803.1.1 Interior wall and ceiling finish materials tested in accordance with 803.1.2 Interior wall and ceiling finish materials tested in accordance with	n NFPA 286. NASTM E84
⊏K	IN SPRINKLERED BUILDING : EXIT ENCLOSURES AND EXIT PASSAGEWAYS - CLASS <u>B</u> (I-2 / B) / CORRIDORS AND OTHER EXIT WAYS - CLASS <u>B</u> (I-2) / CLASS C (B)	CLASS <u>C</u> (E

 ROOMS AND ENCLOSED SPACES - CLASS <u>B</u> (I-2) / CLASS <u>C</u> (B)
 INTERIOR FLOORS FINISH: PER 804
 IN SPRINKLERED BUILDING - CLASS I & II MATERIALS SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E648 OR NFPA 253

# FIRE RATING LEGEND

•••••	

- 1 HOUR FIRE BARRIER WALL CONSTRUCTION 2 HOUR FIRE WALL - WALL CONSTRUCTION
- PATH OF TRAVEL TO EXIT
- COMMON PATH OF TRAVEL TO EXIT



### UL DESIGN No. U415 - 1, 2, 3 OR 4 HR SHAFT WALL

### Design No. U415 Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr



$$\begin{array}{c} \hline \\ 2 \hline \\ 2 \hline \\ 4 \\ \hline \\ Horizontal Section \\ \hline \\ 2 \hline \\ 1 \hline \\ 3 \hline \\ 2 \hline \\ 4 \\ \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \\ 1 \hline \\ 1 \hline \\ 3 \hline \\ 4 \hline \\ 4 \hline \\ 1 \hline \hline \\ 1 \hline \\ 1 \hline \\ 1 \hline \hline 1 \hline \hline \\ 1 \hline \hline 1 \hline \hline \\ 1 \hline \hline 1 \hline 1 \hline \hline 1 \hline 1$$

### 1. Floor, Side and Ceiling Runners — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. 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. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.

2. Steel Studs — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. 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 4A, 4B, 4C, or 4D are

2A. Steel Studs — (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" - shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), 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 to 1/2 in. less than floor to ceiling heights.

**2B.** Furring Channels — (Optional, not shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7).

**2C.** Furring Channels — For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in.

**2D.** Steel Framing Members\* — (Optional, not shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7):

- 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. Gypsum board installed vertically only and attached to furring channels as described in Item 4.
- b. Steel Framing Members\* Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and 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. 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)

2E. Steel Framing Members\* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. . Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B), Type X-Ray Shielded Gypsum (Item 4C), Type RPP-Lead Lined Drywall (Item 4F) or cementitious backer units

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

b. Steel Framing Members\* — Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 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

2F. Steel Framing Members\* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B) or cementitious backer units (Item 7)

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 study. Channels secured to study as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3. b. Steel Framing Members\* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 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 GENIECLIP

2G. **Steel Framing Members\*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B), Type X-Ray Shielded Gypsum (Item 4C), Type RPP-Lead Lined Drywall (Item 4F) or cementitious backer units

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 2Gb. 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 2Ga) to studs. Clips spaced 24 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

2H. Steel Framing Members\* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum wallboard, Type RB-LBG (Item 4A), Type Nelco (Item 4B), Type X-Ray Shielded Gypsum (Item 4C), Type RPP-Lead Lined Drywall (Item 4F) or cementitious backer units (Item 7)

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 2Ha) 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

3. Gypsum Board\* — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

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\* — System A - 1 H

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in, thick, 48 in, or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, Batts and Blankets\* is required and minimum stud depth is

**USG BORAL DRYWALL SFZ LLC** — Types C, SCX, SGX, USGX USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX System B - 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to study with 1-5/8 in. long Type S 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.

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX USGX WRC WRX UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR, or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX. USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, USGX USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR. SCX. SHX. ULX. USGX. WRC. WRX

# System C — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, secured with 1-1/4 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field when installed vertically or 8 in. OC along the vertical edges and in the field when installed horizontally. Horizontal joints need not be backed by steel framing. Screws along side joints offset 4 in. Requires min 4 in. deep framing per Items 1, 2 and 3, Requires min 3 in thick mineral wool batts per Item 6

### **CGC INC** — Types IP-X3 or ULTRACODE **UNITED STATES GYPSUM CO** — Types IP-X3 or ULTRACODE **USG BORAL DRYWALL SFZ LLC** — Type ULTRACODE **USG MEXICO S A DE C V** — Types IP-X3 or ULTRACODE

# Svstem D — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached directly to studs with 1 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing. Requires face layer of 1/2 or 5/8 in. thick cementitious backer units per Item 7 and min 1-1/2 in. thick mineral wool batts per Item 6.

CGC INC — Types AR. C. IP-AR. IP-X1. IP-X2. IPC-AR. SCX. SHX. ULX. USGX. WRC. WRX UNITED STATES GYPSUM CO - Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX. **USG BORAL DRYWALL SFZ LLC** — Types C, SCX, SGX, USGX USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

System E — 2 Hr Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX. **USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, USGX USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX,

### SHX, ULX, USGX, WRC, WRX System F — 2 Hr

Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 12 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered

CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, USGX, WRC, WRX. **USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX USG MEXICO S A DE C V - 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-

### AR. SCX. SHX. ULX. USGX. WRC. WRX System G — 3 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent 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. on

### CGC INC — Types C, IP-X2, IPC-AR, WRC UNITED STATES GYPSUM CO — Types C. IP-X2, IPC-AR, WRC

USG BORAL DRYWALL SFZ LLC — Type C USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

# System H — 3 Hr

adiacent lavers.

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent 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. on adjacent layers.

### CGC INC — Types C, IP-X2, IPC-AR, WRC UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, WRC

USG BORAL DRYWALL SFZ LLC — Type C USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC

# System I — 4 Hr

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, selftapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

### **CGC INC** — Types IP-X3 or ULTRACODE **UNITED STATES GYPSUM CO** — Types IP-X3 or ULTRACODE **USG BORAL DRYWALL SFZ LLC** — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE

4A. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. 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. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9) or Lead Discs or Tabs (see Item 10). **RAY-BAR ENGINEERING CORP** — Type RB-LBG

### 4B. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) - Nominal 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 (or #6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. **NEW ENGLAND LEAD BURNING CO INC, DBA NELCO** — Type Nelco

4C. Gypsum Board\* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. 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. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A). 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 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4D. Gypsum Board\* - (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) - 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

### 5. Joint Tape and Compound — (Not Shown) Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

### 6. Batts and Blankets\* ----Systems A, B, E, F, G, H, I (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance. System A With Type ULIX Gypsum Boards 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 Systems C & D Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

**ROCKWOOL** — Type AFB **THERMAFIBER INC** — Type SAFB, SAFB FF

7. Cementitious Backer Units\* - (System D) - Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from avpsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints. **UNITED STATES GYPSUM CO** — Type DCB

### 8. Laminating Adhesive\* — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. Lead Batten Strips — (Not Shown, For Use With Item 4A) — 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 wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

9A. Lead Batten Strips — (Not Shown, for use with Item 4C) — 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 (Item 6) and optional at remaining stud locations.

10. Lead Discs or Tabs — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Iter 9) 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 4A) 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 4C) — 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. 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 0.142 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, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. Lead Tabs — (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs frictionfit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary. \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL

Certification (such as Canada), respectively. Reprinted from the Online Certifications Directory with permission from UL

© 2019 UL LLC

UL DESIGN NO. U419 - 1, 2, 3 OR 4 HR NON-BEARING WALL (SEE ITEMS 4 & 5 THROUGH 5K)

Last Updated on 2018-09-27



1. Floor and Ceiling Runners — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25<sup>™</sup> Track CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25<sup>™</sup> Track **FUSION BUILDING PRODUCTS** — Viper25<sup>™</sup> Track **IMPERIAL MANUFACTURING GROUP INC** — Viper25<sup>™</sup> Track

1B. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep 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<sup>™</sup> Track **IMPERIAL MANUFACTURING GROUP INC** — Viper20<sup>™</sup> Track

1C. Framing Members\* — Floor and Ceiling Runners — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

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

1D. Floor and Ceiling Runners — (Not Shown) — For use with Item 2A — 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. 1E. Framing Members\* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with

Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized 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

1E. Framing Members\* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized 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

1F. Framing Members\* - Floor and Ceiling Runner - Not Shown - In lieu of Item 1 - For use with Item 2F. proprietary channel shaped runners, minimum width to accommodate stud size, with 1-1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC SUPER STUD BUILDING PRODUCTS — The Edge

1G. Framing Members\* — Floor and Ceiling Runner — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 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 0.018 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 FUSION BUILDING PRODUCTS — Viper20<sup>™</sup> Track VT100 **IMPERIAL MANUFACTURING GROUP INC** — Viper20<sup>™</sup> Track VT100

11. Framing Members\* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min, 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max. TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max. **TELLING INDUSTRIES L L C** — Viper25<sup>™</sup> Track

1K. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep 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

1L. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep 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

# UL DESIGN No. U419 (continued)

1M. Framing Members\* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item 20, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. RONDO BUILDING SERVICES PTY LTD - Rondo Wall Track 1N. Framing Members\* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item

2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max. **OEG BUILDING MATERIALS** — OEG Track

10. Framing Members\* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. Steel Studs — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in, OC, Studs to be cut 3/8 to 3/4 in, less than assembly height. 2A. Steel Studs — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) — 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. 2B. Framing Members\* - Steel Studs — (As an alternate to Item 2, For use with Items 5C, 5I or 5K) — Proprietary

channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of avosum board only. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ CRACO MFG INC — SmartStud25™ MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

FUSION BUILDING PRODUCTS — Viper25™ **IMPERIAL MANUFACTURING GROUP INC** — Viper25<sup>™</sup>

2C. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ FUSION BUILDING PRODUCTS — Viper20™ **IMPERIAL MANUFACTURING GROUP INC** — Viper20™

2D. Framing Members\* — Steel Studs — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5. 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 CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

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

2E. Framing Members\* — Steel Studs — (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized 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

2F. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights. SUPER STUD BUILDING PRODUCTS — The Edge

2G. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height. STUDCO BUILDING SYSTEMS - CROCSTUD

2H. Framing Members\* — Steel Studs — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized 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™

21. Framing Members\* — Steel Studs — (As an alternate to Item 2, For use with Items 5C or 5L or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly heigh and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of avpsum board only. TELLING INDUSTRIES L L C — Viper25™

2J. Framing Members\* — Metal Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights TELLING INDUSTRIES L L C — Viper20™

2K. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. EB METAL INC — NITROSTUD

2L. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. **OLMAR SUPPLY INC** — PRIMESTUD

2M. Framing Members\* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, 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™

2N. Framing Members\*— Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height. **STEEL INVESTMENT GROUP L L C** — AlphaSTUD

20. Framing Members\* - Steel Studs - As an alternate to Item 2 - proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. Framing Members\* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max. **OEG BUILDING MATERIALS** — OEG Stud

2Q. Framing Members\* — Steel Studs — Not Shown — In lieu of Item 2 — For use with Item 10, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights. CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. Wood Structural Panel Sheathing — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. Batts and Blankets\* — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4A. Batts and Blankets\* — (Optional) — Placed in stud cavities, any glass fiber or mineral wool 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.

4B. Batts and Blankets\* — For use with Item 5K. 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.

4C. Fiber, Sprayed\* - (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required -Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber**, Sprayed (CCAZ). AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. Gypsum Board\* — 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. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge ioints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Rating, Hr	Min Stud Depth, in. Itoms 2, 20, 20, 25, 26, 20,	No. of Layers & Thkns of Panel	Min Thkn Insulatior
1	3-1/2	1 laver. 5/8 in. thick	Optional
1	2-1/2	1 laver, 1/2 in, thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 lavers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C. IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C. IP-AR, IP-X1, IP-X2, IPC-AR, SCX. SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE UNITED STATES GYPSUM CO - 1/2 in. thick Type C. IP-X2, IPC-AR or WRC: 5/8 in. thick Type SCX, SGX, SHX. WRX. IP-X1. AR. C. WRC. FRX-G. IP-AR. IP-X2. IPC-AR: 3/4 in. thick Types IP-X3 or ULTRACODE USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members\*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

**UNITED STATES GYPSUM CO** — Type FRX-G, SHX. **USG MEXICO S A DE C V** — Type SHX.

nkns of

5A. Gypsum Board\* — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6. CGC INC — Type SHX

5B. Gypsum Board\* — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5. Wallboard Protection on

Each Side of Wall table. Nom 5/8 in. or 3/4 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 20 MSG steel studs Item 2A 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 11) or Lead Discs or Tabs (see Item 12). **RAY-BAR ENGINEERING CORP** — Type RB-LBG

5C. Gypsum Board\* — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as

CGC INC — Type SCX. **UNITED STATES GYPSUM CO** — Type SCX, SGX. **USG BORAL DRYWALL SFZ LLC** — Type SCX USG MEXICO S A DE C V — Type SCX

outlined under section VI of Volume 1 in the Fire Resistive Directory.

5D. Gypsum Board\* — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only CGC INC — Type USGX

**UNITED STATES GYPSUM CO** — Type USGX USG BORAL DRYWALL SFZ LLC — Type USGX

**USG MEXICO S A DE C V** — Type USGX

5E. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 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

in. OC in the field. NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

**USG BORAL DRYWALL SFZ LLC** — 5/8 in. thick Type SCX, SGX

5F. Gypsum Board\* — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in. **UNITED STATES GYPSUM CO** — 5/8 in. thick Type SCX, SGX

1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12

5G. Gypsum Board\* — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) 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 (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

	Rating, Hr	Min Stud Depth, in. Items 2E	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
	2	1-5/8	2 layers, 1/2 in. thick	Optional
iin	2	1-5/8	2 layers, 5/8 in. thick	Optional
	3	1-5/8	3 layers, 1/2 in. thick	Optional
	3	1-5/8	3 layers, 5/8 in. thick	Optional
	4	1-5/8	4 layers, 5/8 in. thick	Optional
	4	1-5/8	4 layers, 1/2 in. thick	Optional
			-	

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE **USG BORAL DRYWALL SFZ LLC** — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel 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. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or \_ead Discs (see Item 12A) MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

51, Gypsum Board\* — (As an alternate to Item 5) — Nom, 5/8 in thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5. CGC INC — Type ULX

**UNITED STATES GYPSUM CO** — Type ULX USG MEXICO S A DE C V — Type ULX

5J. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). 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

**RADIATION PROTECTION PRODUCTS INC** — Type RPP - Lead Lined Drywall

5K. Gypsum Board\* — (Not Shown) — (As an alternate to Item 5) — 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. Vertical joints in adjacent layers (multilayer systems) 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 (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows: Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 lavers, 5/8 in, thick	Optional

**UNITED STATES GYPSUM CO** — 5/8 in. thick Type ULIX

6. Fasteners — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer-1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in. 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third laver- 2-1/4 in, long for 1/2 in, thick panels or 2-5/8 in, long for 5/8 in, thick panels, spaced 24 in, OC, Fourth laver- 2-5/8 in, long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. Furring Channels — (Optional, Not Shown, for single or double layer systems) — 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. Not for use with Item 5A.

- 7A. Framing Members\* (Optional on one or both sides, not shown, for single or double layer systems) As an alternate to Item 7, 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. Gypsum board attached to furring
- b. Steel Framing Members\* Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. JC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 X 1-1/2 in. minimum seit-drilling, S-12 steel scre through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum selfdrilling. 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). 7B. Framing Members\* - (Optional, Not Shown) - As an alternate to Item 7, for single or double layer systems, furring

channels as described in Item 6. Not for use with Item 5A.

- channels and Steel Framing Members on only one side of studs 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. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of 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 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips. **KINETICS NOISE CONTROL INC** — Type Isomax
- 7C. Framing Members\* (Not Shown) (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, 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 as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Ca) 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 GENIECLIP

- 7D. Steel Framing Members\* (Optional on one or both sides, not shown, for single or double layer systems) 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 6. Not for use with Item 5A.
- b. Steel Framing Members\* Used to attach furring channels (Item 7Da) 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 A237 or A237R
- 7E. Steel Framing Members\* (Optional on one or both sides, not shown, for single or double layer systems) 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 study as described in Item 7Eb. 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 6. Not for use with Item 5A and 5E.

b. Steel Framing Members\* — Used to attach furring channels (Item 7Ea) 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

- 7F. Steel Framing Members\* (Optional on one or both sides, not shown, for single or double layer systems) 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 and 5E. b. Steel Framing Members\* — Used to attach resilient channels (Item 7Fa) 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

8. Joint Tape and Compound — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in, wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. Siding, Brick or Stucco - (Optional, Not Shown) - Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. 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

11. Lead Batten Strips — (Not Shown, For Use With Item 5B) — 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 wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. Lead Batten Strips — (Not Shown, For Use With Item 5H) — 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.

12. Lead Discs or Tabs — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) 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 5B) 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".

12A. Lead Discs — (Not Shown, for use with Item 5H) — 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".

13. Lead Batten Strips — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 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, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. Lead Tabs — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

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

Reprinted from the Online Certifications Directory with permission from UL © 2019 UL LLC

Last Updated on 2018-09-28





DATE DESCRIPTION REV

VCBO NUMBER CLIENT NUMBER: DATE:

15 DECEMBER 2020



UL Design No. X772 Rating - 1, 1 1/2, 2, 3 AND 4 HR COL. PROTECTION

Design No. X772 Ratings — 1, 1-1/2, 2, 3 and 4 hr.



to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min avg and min 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, Z-106/HY. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. Min avg and min ind density of 40/36 pcf respectively for Types Z-146, Z-146PC and Z-146T cementitious mixture. Min avg and min ind density of 50/45 pcf respectively for Types Z-156, Z-156T and Z-156PC. For method of density determination, see Design Information Section, Sprayed Material. The thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the column (Item 1) required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h may be determined by the equation:

h =  $\frac{\kappa}{1.05 (W/D) + 0.6^{1}}$ Where:

h = Spray-Applied Fire Resistive Materials thickness in the range 0.25-3.875 in.

**R** = Fire resistance rating in hours (1 - 4 h) **D** = Heated perimeter of steel column in inches

W = Weight of steel column in lbs per foot W/D = 0.33 to 6.62

Min Col Size W/D Min Thk In.

As an alternate to the equation, the minimum thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed columns may be determined from the table below:

		<u>1 Hr</u>	1-1/2 Hr	<u>2 Hr</u>	3 Hr	<u>4 Hr</u>
W4x13 W5x16	0.556	14/16 14/16	1 5/16 1 5/16	1 11/16 1 11/16	2 8/16 2 8/16	3 6/16 3 6/16
W5x19	0.644	13/16	1 3/16	1 9/16	2 6/16	3 2/16
W6x9	0.338	1 1/16	1 8/16	2	2 8/16	3 13/16
W6x12 W6x15	0.448	15/16 1	1 7/16 1 7/16	1 14/16 1 15/16	2 8/16 2 8/16	3 12/16 3 13/16
W6x16	0.584	13/16	1 4/16	1 11/16	2 8/16	3 5/16
W6x20	0.563	14/16	1 4/16	1 11/16	2 8/16	3 6/16
W6x25	0.696	12/16	1 2/16	1 6/16	2	2 11/16
W8x10 W8x13	0.327	1 1/16 1	1 10/16 1 7/16	2 2/16	3 3/16 2 8/16	N/A 3 13/16
W8x15	0.481	15/16	1 6/16	1 13/16	2 8/16	3 10/16
W8x18	0.499	15/16	1 6/16	1 13/16	2 8/16	3 9/16
W8x21	0.577	14/16	1 4/16	1 11/16	2 8/16	3 5/16
W8x28	0.688	12/16	1 3/16	1 6/16	2 0/10	2 11/16
W8x31	0.665	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W8x35	0.749	12/16	1 2/16	1 6/16	2	2 11/16
W8x40	0.849	11/16 10/16	14/16 14/16	1 2/16	1 11/16	2 8/16 2 7/16
W8x58	1.200	9/16	13/16	1 2/16	1 10/16	2 3/16
W8x67	1.370	8/16	12/16	1	1 8/16	2
W10x12	0.347	1 1/16	1 8/16	2	2 8/16	3 13/16
W10x13	0.429	15/16	1 6/16	1 13/16	2 8/16	3 10/16
W10x19	0.538	14/16	1 5/16	1 12/16	2 8/16	3 7/16
W10x22	0.523	14/16	1 5/16	1 12/16	2 8/16	3 8/16
W10x26 W10x30	0.612	13/16	1 4/16	1 10/16	2 //16	3 4/16
W10x33	0.661	13/16	1 3/16	1 9/16	2 5/16	3 2/16
W10x39	0.780	12/16	1 1/16	1 6/16	2	2 11/16
W10x45	0.888	11/16	14/16	1 2/16	1 11/16	2 8/16
W10x49 W10x54	0.840	11/16 11/16	14/16 14/16	1 2/16	1 11/16	2 8/16
W10x54	1.010	10/16	14/16	1 2/16	1 11/16	2 7/16
W10x68	1.150	9/16	14/16	1 2/16	1 11/16	2 4/16
W10x77	1.280	9/16	13/16	1 1/16	1 9/16	2 1/16
W10x88 W10x100	1.450	8/16 7/16	12/16	1 14/16	1 //16	1 15/16
W10x100	1.810	7/16	10/16	13/16	1 4/16	1 10/16
W12x14	0.363	1 1/16	1 8/16	2	2 8/16	3 13/16
W12x16	0.410	1	1 8/16	1 15/16	2 8/16	3 13/16
W12x19 W12x22	0.485	15/16 14/16	1 6/16	1 13/16	2 8/16	3 10/16
W12x22	0.531	14/16	1 5/16	1 12/16	2 8/16	3 7/16
W12x30	0.607	13/16	1 4/16	1 10/16	2 7/16	3 4/16
W12x35	0.703	12/16	1 2/16	1 6/16	2	2 11/16
W12x40	0.734 0.920	12/16	1 2/16	1 6/16	2	2 11/16
W12X45 W12x50	0.829	11/16 11/16	1 1/16 14/16	1 6/16	2 1 11/16	2 11/10 2 8/16
W12x53	0.855	11/16	14/16	1 2/16	1 11/16	2 8/16
W12x58	0.925	11/16	14/16	1 2/16	1 11/16	2 8/16
W12x65	0.925	11/16	14/16	1 2/16	1 11/16	2 8/16
W12x72	1.020	10/16	14/16	1 2/16	1 11/16	2 7/16
W12x79 W12x87	1.110	9/16	14/16	1 1/16	1 10/16	2 3/16
W12x96	1.340	8/16	12/16	1	1 8/16	2
W12x106	1.470	8/16	12/16	15/16	1 7/16	1 14/16
W12x120	1.650	7/16	11/16	14/16	1 5/16	1 12/16
W12x136	1.860	//16 6/16	10/16	13/16	1 3/16	1 9/16
W12x132	2.260	6/16	9/16 9/16	11/16	1 1/16	1 6/16
W12x190	2.500	5/16	8/16	10/16	15/16	1 4/16
W12x210	2.730	5/16	7/16	9/16	14/16	1 3/16
W12x230	2.960	5/16 5/16	7/16	9/16 0/16	13/16	1 2/16
W12x252 W12x279	3.200	5/16 4/16	6/16	9/10 8/16	12/16	15/16
W12x305	3.760	4/16	6/16	8/16	11/16	15/16
W12x336	4.060	4/16	5/16	7/16	10/16	14/16
W14x22	0.476	15/16	1 6/16	1 13/16	2 8/16	3 10/16
W14X20 W14x30	0.559	14/10	1 5/16	1 11/16	2 8/16	3 6/16
W14x34	0.633	13/16	1 3/16	1 10/16	2 6/16	3 3/16
W14x38	0.706	12/16	1 2/16	1 6/16	2	2 11/16
W14x43	0.752	12/16	1 2/16	1 6/16	2	2 11/16
W14X48 W14x53	0.835	11/10	1 1/16	1 0/10	Z 1 11/16	2 11/10 2 8/16
W14x61	0.928	11/16	14/16	1 2/16	1 11/16	2 8/16
W14x68	1.040	10/16	14/16	1 2/16	1 11/16	2 6/16
W14x74	1.120	9/16	14/16	1 2/16	1 11/16	2 4/16
W14X82 W14x90	1.230	9/16 10/16	13/16 14/16	1 1/16 1 2/16	1 10/16	2 2/16
W14x99	1.180	9/16	13/16	1 2/16	1 10/16	2 3/16
W14x109	1.290	9/16	13/16	1 1/16	1 9/16	2 1/16
W14x120	1.420	8/16	12/16	1	1 7/16	1 15/16
W14x132	1.560	8/16	11/16	15/16	1 6/16	1 13/16
W14x145 W14x159	1.040	7/16	10/16	13/16	1 4/16	1 12/16
W14x176	1.960	6/16	9/16	12/16	1 2/16	1 8/16
W14x193	2.140	6/16	9/16	12/16	1 1/16	1 7/16
W14x211	2.320	6/16 5/16	8/16 9/16	11/16 0/16	1	1 6/16
W14x255	2.780	5/16	7/16	9/16 9/16	14/16	1 3/16
W14x283	3.030	5/16	7/16	9/16	13/16	1 1/16
W14x311	3.300	4/16	6/16	8/16	12/16	1
₩14X342 ₩1 <i>4</i> ×270	3.380 3.840	4/10 Δ/16	0/16 6/16	0/16 7/16	11/16 11/16	10/16 14/16
W14x398	4.090	4/16	5/16	7/16	10/16	14/16
W14x426	4.320	4/16	5/16	7/16	10/16	13/16
W14x455	4.590	4/16	5/16	6/16 6/46	9/16 0/46	12/16
W14x550	4.900 5.340	4/16	J/ 10 4/16	6/16	סו וס 8/16	12/10 11/16
W14x605	5.820	4/16	4/16	5/16	8/16	10/16
W14x665	6.210	4/16	4/16	5/16	7/16	9/16
W14x730	6.760	4/16 15/46	4/16	5/16	6/16	9/16
W16x31	0.499 0.592	15/10 13/16	1 0/10 1 4/16	1 13/16 1 10/16	∠ 0/10 2 7/16	5 9/10 3 4/16
W16x36	0.617	13/16	1 4/16	1 10/16	2 7/16	3 3/16
W16x40	0.686	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W16x45	0.767	12/16	1 1/16	1 6/16	2	2 11/16
W16x50 W16x57	0.846 0.962	11/16 10/16	14/16 14/16	1 2/16 1 2/16	1 11/16 1 11/1e	∠ ୪/16 2 8/16
W16x67	0.936	11/16	14/16	1 2/16	1 11/16	2 8/16
W16x77	1.070	10/16	14/16	1 2/16	1 11/16	2 5/16
W16x89	1.220	9/16	13/16	1 1/16	1 10/16	2 2/16
W18x25	1.3/U 0.602	0/10 13/16	12/10 1	1 1 10/16	1 0/10 2 7/16	∠ 3
W18x40	0.688	12/16	1 3/16	1 6/16	2	2 11/16
W18x46	0.786	12/16	1 1/16	1 6/16	2	2 11/16
W18x50	0.778	12/16	1 1/16	1 6/16	2	2 11/16
W18x55 W18ven	U.850 n agg	11/16 11/16	14/16 1 <i>4/</i> 16	1 2/16 1 2/16	1 11/16 1 11/16	2 8/16 2 8/16
W18x65	0.923 0.997	10/16	14/16	1 2/10 1 <u>2</u> /16	1 11/10 1 11/16	∠ 0/10 2 7/16
W18x71	1.080	10/16	14/16	1 2/16	1 11/16	2 5/16
W18x76	0.971	10/16	14/16	1 2/16	1 11/16	2 8/16
W18x86	1.090	10/16	14/16	1 2/16	1 11/16	2 5/16
W18X97 W18v106	1.220 1.330	9/16 8/16	13/16 12/16	1 1/16 1	1 10/16 1 8/16	z 2/16 2
W18x119	1.480	8/16	12/16	15/16	1 7/16	- 1 14/16
W21x44	0.672	13/16	1 3/16	1 9/16	2 5/16	3 1/16
W21x50	0.754	12/16	1 2/16	1 6/16	2	2 11/16
vv21X5/ W21x62	0.82/ 0.876	11/16 11/16	14/16 14/16	1 2/16 1 2/16	1 11/16 1 11/1e	∠ ŏ/16 2 8/16
W21x68	0.926	11/16	14/16	1 2/16	1 11/16	2 8/16
W21x73	0.989	10/16	14/16	1 2/16	1 11/16	2 7/16
W21x83	1.120	9/16 0/46	14/16	1 2/16	1 11/16	2 4/16
vv21X93 W21x101	1.240 1.130	9/16 9/16	13/16 14/16	1 1/16 1 2/16	1 10/16 1 11/16	∠ 2/16 2 4/16
W21x111	1.240	9/16	13/16	1 1/16	1 10/16	2 2/16
W21x122	1.350	8/16	12/16	1	1 8/16	2
W21x132	1.450	8/16 7/46	12/16	1	1 7/16 1 5/40	1 15/16
112 18 14/	1.010	1/10	11/10	10/10	ı J/10	ı 1 <b>2</b> /10

Design No. X	772 CON	TINUED				
Min Col Size	W/D	Min Thk	<u>in.</u>	0.11-	2.11-	411-
		1 Hr	1-1/2 Hr	2 Hr	3 Hr	<u>4 Hr</u>
W24x55	0.749	12/16	1 2/16	1 6/16	2	2 11/16
W24x62	0.844	11/16	14/16	1 2/16	1 11/16	2 8/16
W24x68	0.837	11/16	1 1/16	1 6/16	2	2 11/16
W24x70 W24x84	0.935	10/16	14/16	1 2/16	1 11/16	2 0/10 2 7/16
W24x94	1.140	9/16	14/16	1 2/16	1 11/16	2 4/16
W24x104	1.070	10/16	14/16	1 2/16	1 11/16	2 5/16
W24x117	1.200	9/16	13/16	1 2/16	1 10/16	2 3/16
W24x131	1.330	8/16 8/40	12/16	1	1 8/16	2
W24X140 W24x162	1.480	8/16 7/16	12/16 11/16	15/16 14/16	1 //10	1 14/16 1 12/16
W27x84	0.921	11/16	14/16	1 2/16	1 11/16	2 8/16
W27x94	1.030	10/16	14/16	1 2/16	1 11/16	2 6/16
W27x102	1.110	10/16	14/16	1 2/16	1 11/16	2 5/16
W27x114	1.230	9/16	13/16	1 1/16	1 10/16	2 2/16
W2/X146	1.350	8/16 9/16	12/16	1 15/16	1 8/16	2 1 1 1 / 1 6
W27x178	1.400	7/16	11/16	14/16	1 5/16	1 12/16
W30x99	1.000	10/16	14/16	1 2/16	1 11/16	2 7/16
W30x108	1.090	10/16	14/16	1 2/16	1 11/16	2 5/16
W30x116	1.160	9/16	14/16	1 2/16	1 11/16	2 4/16
W30x124	1.240	9/16	13/16	1 1/16	1 10/16	2 2/16
W30x132 W20x172	1.320	9/16 8/16	13/16	1 1/16	1 9/16	2 1/16
W30x173	1.470	7/16	11/16	14/16	1 5/16	1 12/16
W30x211	1.760	7/16	10/16	14/16	1 4/16	1 11/16
W33x118	1.080	10/16	14/16	1 2/16	1 11/16	2 5/16
W33x130	1.180	9/16	13/16	1 2/16	1 10/16	2 3/16
W33x141	1.280	9/16	13/16	1 1/16	1 9/16	2 1/16
W33X152	1.370	8/16 9/16	12/16	1 15/16	1 8/16	2 1 12/16
W33x201	1.300	7/16	10/16	14/16	1 4/16	1 11/16
W33x241	1.870	7/16	10/16	13/16	1 3/16	1 9/16
W36x135	1.150	9/16	14/16	1 2/16	1 11/16	2 4/16
W36x150	1.270	9/16	13/16	1 1/16	1 9/16	2 1/16
W36x160	1.350	8/16	12/16	1	1 8/16	2
W36X1/U	1.430	8/16 9/16	12/16	1 15/16	1 //16	1 15/16
W30X102 W36x194	1.520	0/10 7/16	11/16	10/10	1 5/16	1 12/16
W36x210	1.740	7/16	10/16	14/16	1 4/16	1 11/16
W36x230	1.690	7/16	11/16	14/16	1 5/16	1 11/16
W36x245	1.790	7/16	10/16	13/16	1 4/16	1 10/16
W36x260	1.900	7/16	10/16	13/16	1 3/16	1 9/16
W36x280	2.030	6/16 6/16	9/16 0/16	12/16	1 2/16	1 8/16
The thickness Materials app	ses conta lied to co	ained in th olumns' fla	e table be ange tips a <u>Min Thk</u>	low are a are reduce In.	pplicable v ed to one-	when the Spray-Applied Fire Resistive half that shown in the table below:
Col Size	W/D	1 hr	1.5 hr	2 hr	3 hr	<u>4 hr</u>
W6x9	0.338	1-1/8	1-5/8	2-1/16	3-1/8	4-3/16
W6x16	0.584	7/8	1-5/16	1-3/4	2-9/16	3-3/8
W8x28	0.688	13/16	1-3/16	1-1/2	2-1/4	2-15/16
W10x49	0.840	3/4	1-1/16	1-3/8	2-1/16	2-3/4
W14x233	2.55	5/16	1/2	11/16	1-3/16	1-5/8
W14x/30	6.76	5/16	5/16	5/16	9/16	3/4
As an alterna Z-146PC, Z-14 sprayed or bo	te to the 46T, Z-15 oxed wide	equation, 6, Z-156T e flange co	the min th and Z-156I olumns are	iickness o PC requir e shown i	of Spray-A ed for vari in the table	pplied Fire Resistive Materials Types Z-146 ous fire resistance ratings of contours e below:
Column	4	Min The	ins In.	) L	1 h	_
SIZE IN	1 <b>nr</b>	1.5 hr	∠ nr	3 nr	4 nr	_
W6x9	1-1/16	1-7/16	1-1/2	2-1/4	3	
W6x12	1	1-3/8	1-1/2	2-1/4	3	
W6x16	13/16	1-1/4	1-1/2	2-1/4	2-15/16	
W8x28	3/4	1-3/16	1-3/8	2	2-1/2	
W10x49	11/16	7/8	1-1/8	1-9/16	1-15/16	
W21X/3 W12v106	11/10 9/16	7/8	1-1/8 1-1/8	1-9/16	1-15/16	
W14x233	5/16	1/2	9/16	7/8	1-1/4	
W14x730	5/16	5/16	5/16	3/8	9/16	
ARABIAN VE Extended Set, GCP KOREA MK-6s, Z-106, PYROK INC – SOUTHWEST 9EF, 9GP, 9M GCP APPLIEI	RMICULI MK-6/HB INC — Ty Z-106/G, Type LI FIREPR ID. D TECHN	TE INDUS B, MK-6s, Z ypes MK-6, , Z-106/HY D. OOFING F OLOGIES	TRIES — 1 -106, Z-10 /HY, MK-6/	Γypes MK- 6/G, Z-100 HY Exten <b>5 CO —</b> T pes MK-6/	-6/HY, MK- 6/HY. ded Set, M ypes 4, 5, { ′HY, MK-6/	6/HY Extended Set, MK-10 HB, MK-10 HB K-10 HB, MK-10 HB Extended Set, MK-6/HB, 5EF, 5GP, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, HY Extended Set, MK-10 HB, MK-10 HB
Extended Set, MK-6/HB, MK-6s, RG, Z-106, Z-106/G, Z-106/HY, Z-146, Z-146PC, Z-146T, Z-156, Z-156T and Z-156PC (Types Z-146, Z-146PC, Z-146T, Z-156, Z-156PC, Z-156T also investigated for exterior use).						

2. Metal Lath — (Optional for contour application) — 3.4 lb/sq yd galvanized or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 18 SWG galvanized steel; wire spaced vertically 6 in. O.C.

3. Steel Column — Wide flange steel column, min/max sizes as specified above.

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

Reprinted from the Online Certifications Directory with permission from UL © 2019 UL LLC Last Updated on 2017-10-26



2B. Gypsum Board\* — (As an alternate to Items 2 and 2A) — Nominal 5/8 in. thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

2C. Wall and Partition Facings and Accessories\* — (As an alternate to Item 2 through 2B) — Composite Gypsum Panel — Nominal 5/8 in. thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer of composite gypsum panel and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR

3. Steel Stud — 1-5/8 in. wide with 1-5/16 and 1-7/16 in. legs having a 1/4- in. folded flange, fabricated from No. 25 MSG galv steel. Length to be 1/2 in. less than the assembly height.

3A. As an alternate to Item 3 Steel Framing Members\* — galv. steel clips spaced 4 ft OC and 1-1/4 in. from top and bottem of column. A No. 28 MSG galv steel support angle with 1-1/4 in. length shall be placed over clips and secured with screws attaching the wallboard. The angle cut 1 in. less than assembly height splices in angle to occur over clips. The clips for use with wide flange columns only. JOHN WAGNER ASSOCIATES INC, DBA GRABBER — Types CB, CB1Clips.

4. Corner Beads — No. 28 MSG galv steel, 1-1/4 in. legs to be attached to the wallboard with No. 6 by 1 in. screws spaced 12 in. OC max.

5. Tie Wire — No. 18 SWG steel wire spaced 24 in. OC used with second layer of wallboard.

6. Screws — For attaching first layer of wallboard to steel studs, and third layer of wallboard to 2 in. by 2 in. steel angle (25 Ga) to be No. 6 by 1 in. (or 1-1/4 in. for 3/4 in. thick wallboard) Phillips head selfdrilling, self-tapping double lead screws spaced 24 in. OC For attaching second layer of wallboard to steel studs and fourth layer of wallboard to 2 in. by 2 in. steel angle (25 Ga) to be No. 6 by 1-3/4 in. (or 2-1/4 in. for 3/4 in. thick wallboard) steel screws of the same type spaced 12 in. OC For attaching third layer of wallboard to steel studs to be No. 8 by 2-1/4 in. screws of the same type spaced 12 in. OC 7. Finishing System — (Not Shown) — Joint compound applied over corner beads to a thickness of

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

Reprinted from the Online Certifications Directory with permission from UL © 2019 UL LLC Last Updated on 2017-10-24

### Design No. X771 Rating

Design No. X771



Ratings — 3/4, 1, 1-1/2, 2, 3 and 4 hr

maximum of 32 in. with a minimum wall thickness of 3/16 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.

steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and ind density of 15/14 pcf 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

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

Where:

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

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

Where:

a = the outer width 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 = <u>R - 0.20</u> 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,

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.

Z-106, Z-106/G.

cUL Certification (such as Canada), respectively.

# UL DESIGN No. No. F-A-2136

F Rating — 2 Hr



cellular core PVC pipe for use in vented (drain, waste or vent) piping system.

of the outer rim of the water closet. **TREMCO INC** — TREMstop Intumescent Acrylic, FyreCaulk or TREMstop IA+

1/16 in.





WALLS AND	INTERIOR PARTITIONS, NO	NCOMBUSTI	BLE
GA FILE NO. WP 1052	GENERIC	1 HOUR FIRE	50 to 54 S SOUND
GYPSUM WALLBO	DARD, STEEL STUDS	1	
Fire Design:			mmm
right angles to each side of 3-5/8", 18 mil 8" o.c. at vertical joints and 12" o.c. at w layer 5/8" type X gypsum wallboard or g right angles to ONE SIDE with 1-5/8" Typ	all perimeter and intermediate studs. Face gypsum veneer base applied parallel or at e S screws 12" o.c.		
Joints staggered 24" each layer and side. (N	LB)	Thickness: Approx. Weight:	5-1/2" (Fire and Sound) 8 psf (Fire and Sound)
Sound Design:		Fire Test:	See WP 1350
Sound tested with 3-1/2" glass fiber friction fi		OSU T-1770, 8-61; ULC 79T484, 79T500,	
* Contact the manufacturer for more	detailed information on proprietary products.		ULC Design W415)

WALLS AND	INTERIOR PARTITIONS, NO	NCOMBUST	IBLE
GA FILE NO. WP 1072	GENERIC	1 HOUR FIRE	45 to 49 STC SOUND
GYPSUM WALLBOA	RD, STEEL STUDS		
One layer 5/8" type X gypsum wallboard or right angles to each side of 3-5/8", 18 mil 8" o.c. at vertical joints and 12" o.c. at 1 studs.	gypsum veneer base applied parallel or at steel studs 24" o.c. with 1" Type S screws floor and ceiling runners and intermediate		
Joints staggered 24" on each side and on O	PPOSITE SIDES. (NLB)		
Sound Design: Sound tested with 3-1/2" glass fiber friction f	it in stud space.	Thickness: Approx. Weight: Fire Test:	4-7/8" (Fire and Sound) 6 psf (Fire and Sound) See WP 1350 (FM WP-45, 6-19-68; OSU T-1770, 8-61; ULC 79T484, 9T500,79T497.
* Contact the manufacturer for more of	detailed information on proprietary products.	Sound Test:	8-12-81, ULC Design W415) RAL TL11-074, 3-23-11
www.gypsum.org	©2018 by the Gypsum Association		

WALLS AND INTERIOR PARTITIONS, NONCOMBUSTIBLE						
GA FILE NO. WP 1522 GENERIC		2 HOUR FIRE	55 to 59 STC SOUND			
GYPSUM WALLBOA	RD, STEEL STUDS					
Fire Design:			000000000			
Base layer 5/8" type X gypsum wallboard at right angles to each side of 3-5/8", screws 24" o.c. Face layer 5/8" type X applied parallel or at right angles to each	or gypsum veneer base applied parallel or 18 mil steel studs 24" o.c. with 1" Type S gypsum wallboard or gypsum veneer base n side with 1-5/8" Type S screws 12" o.c.					
Joints staggered 24" each layer and side. (I	NLB)					
Sound Design:		Thickness: Approx. Weight:	6-1/8" (Fire and Sound) 12 psf (Fire and Sound)			
Sound tested with 3-1/2" glass fiber friction	fit in stud space.	Fire Test:	See WP 1548 (WHI-495-0236 & 237,			
* Contact the manufacturer for mor	re detailed information on proprietary products.	Sound Test:	1-30-80) NRCC TL-92-369			
www.gypsum.org	©2018 by the Gypsum Association					

WALLS AND I	NTERIOR PARTITIONS, NO	ONCOMBUST	IBLE
GA FILE NO. WP 1546	GENERIC	2 HOUR FIRE	50 to 54 ST SOUND
GYPSUM WALLBOARD	, STEEL STUDS		
Fire Design:			
Base layer 1/2" type X gypsum wallboard or g each side of 2-1/2", 18 mil steel studs 24" o layer 1/2" type X gypsum wallboard or gy each side with 1-5/8" Type S screws 12" o.c	ypsum veneer base applied parallel to c. with 1" Type S screws 24" o.c. Face psum veneer base applied parallel to		
Joints staggered 24" each layer and side. (NLB)		Thickness: Approx. Weight:	4-1/2" (Fire and Sound) 9 psf (Fire and Sound)
Sound Design:		Fire Test:	UC, 9-7-64;
Sound tested with 2-1/2" glass fiber friction fit in	n stud space.		ULC Design W414
* Contact the manufacturer for more detai	Sound Test:	NRCC TL-93-046	

©2018 by the Gypsum Association

www.gypsum.org

GA FILE NO. SRS 7206	GENERIC	2 HOUR FIRE	
STEEL RUNNER (TRACK), STEEL S	TUDS, FLEXIBLE SEALANT		
ire Design:		T	the second
cut 1/2" to 3/4" short and positioned into flo applied to the wall as specified in the listing rated system with a maximum gap of 5/8" be and bottom spray-applied fire-resistive mate barrier sealant. The first row of screws in eac less than 1" below the edge of the drywall track	or and ceiling runners. Gypsum board for the one or two-hour fire-resistance etween the top edge of gypsum boards rial and filled with smoke and sound ch layer of gypsum panel is located not k applied to the ceiling.		
he perimeter relief system is intended for use NLB fire-resistance rated steel stud wall syste be constructed of the materials and in the ma	in any one or two-hour load-bearing or m in this Manual. The wall system shall nner described in the individual GA File		
Number.			
* Contact the manufacturer for more d	etailed information on proprietary products	Fire Test: UL R11822,	10CA41771, 9-2-10;









Retain & Protect











EXR	STING	
WO	MENS	CLINIC
EL.	4696.	51

2

1

# Const. 22.22'± t RD Line @ S=11

( ----+ 1 ? )

4



### GENERAL GRADING NOTES: . All work shall be in accordance with the City Public Works Standard. Cut slopes shall be no steeper than 2 horizontal to 1 vertical. Fill slopes shall be no steeper than 2 horizontal to 1 vertical.

- 4. Fills shall be compacted per the recommendations of the geotechnical report prepared for the project and shall be certified by the geotechnical engineer. 5. Areas to receive fill shall be properly prepared and approved by the City inspector and
- geotechnical Engineer prior to placing fill. 6. Fills shall be benched into competent material as per specifications and geotechnical
- 7. All trench backfill shall be tested and certified by the site geotechnical engineer per the
- grading code. 8. A geotechnical engineer shall perform periodic inspections and submit a complete report 9. The final compaction report and certification from the geotechnical engineer shall contain the type of field testing performed. Each test shall be identified with the method of obtaining the in-place density, whether sand cone or drive ring and shall be so noted for each test. Sufficient maximum density determinations shall be performed to verify the accuracy of the maximum density curves used by the field technician.
- 10. Dust shall be controlled by watering. 11. The location and protection of all utilities is the responsibility of the permitee. 12. Approved protective measures and temporary drainage provisions must be used to protect adjoining properties during the grading project.
- 13. All public roadways must be cleared daily of all dirt, mud and debris deposited on them as a result of the grading operation. Cleaning is to be done to the satisfaction of the
- city engineer. 14. The site shall be cleared and grubbed of all vegetation and deleterious matter prior to grading. 15. The contractor shall provide shoring in accordance with OSHA requirements for trench
- walls. 16. Aggregate base shall be compacted per the geotechnical report prepared for the project.
- 17. Elevations shown on this plan are finish grades. Rough grades are the subgrades of the improvements shown hereon.
- 18. The recommendations in the following Geotechnical Engineering Report by Applied GeoTech are included in the requirements of grading and site preparation. The report is titled "GEOTECHNICAL INVESTIGATION PROPOSED ALTA VIEW HOSPITAL CAMPUS RECONFIGURATION PROJECT" Job No.: 1150624 Address: 9660 South 1300 East
- Dated: SEPTEMBER 4, 2015 Sandy, Utah Sandy City Standard Specifications and Details shall govern, however, unless geotechnical report recommendations are more stringent. 19. As part of the construction documents, owner has provided contractor with a topographic survey performed by manual or aerial means. Such survey was prepared for project
- design purposes and is provided to the contractor as a courtesy. It is expressly understood that such survey may not accurately reflect existing topographic conditions. 20. Erosion Control: Protect all inlet boxes, catch basins, etc. with straw bales or other approved method to strain the storm water during construction. Protect surrounding
- properties and streets from site runoff with sandbags and earth berms. CURB AND GUTTER CONSTRUCTION NOTES: 1. Open face gutter shall be constructed where drainage is directed away from curb.
- Open face gutter locations are indicated by shading and notes on site and grading plan. 3. It is the responsibility of the surveyor to adjust top of curb grades at the time
- construction staking. 4. Refer to the typical details for a standard and open face curb and gutter for
- dimensions. 5. Transitions between open face and standard curb and gutter are to be smooth. Hand form these areas if necessary. ADA NOTES:

Contractor must maintain a running slope on Accessible routes no steeper than 5.0% (1:20). The cross slope for Accessible routs must be no steeper than 2.0% (1:50). All Accessible routes must have a minimum clear width of 36". If grades on plans do not meet this requirement notify Consultants immediately. The Client, Contractor, and Subcontractor should immediately notify the Consultant of any conditions of the project that they believe do not comply with the current state of the ADA and/or FHAA.

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property: that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY



708.55	
75.54	
	Exist.
55. 36. 36. 36. 36. 37. 37. 37. 37. 37. 37. 37. 37	ine @ 5=2.31%
<u>Const. 74.89 I 70 proso-so-so-so-so-so-so-so-so-so-so-so-so-</u>	
Exist. Inlet Box ist. Top=4708.14 mote F.D.CFL=4705.79	
	500 C
Exist. 6" Floor Drain Top=4706.85 FL 6"=4704.50± FL 4"=4705.40	
Const. 13.90'± SD Line @ S=2 にての10の1000	4"ø PVC —) .00%
WOMENS	CLINIC
EL. 4696.6	51



3

4



Cable Barrier

- GENERAL UTILITY NOTES:
  1. Coordinate all utility connections to building with plumbing plans and building contractor.
  2. Verify depth and location of all existing utilities prior to constructing any new utility lines. Notify Civil Engineer of any discrepancies or conflicts prior to any connections being made.
- All catch basin and inlet box grates are to be bicycle proof.
   All inlet boxes located in curb and gutter are to be placed parallel to the curb and gutter and set under the frame and grate. Improperly placed boxes will be removed and replaced at no additional cost to the
- owner. Precast or cast in place boxes are acceptable. 5. Refer to the site electrical plan for details and locations of electrical lines, transformers and light poles. 6. Gas lines, telephone lines, and cable TV lines are not a part of these plans unless otherwise noted.
- Water meters are to be installed per city standards and specifications. It will be the contractor's responsibility to install all items required.
- Water lines, valves, fire hydrants, fittings etc. are to be constructed as shown. Contractor is responsible to construct any vertical adjustments necessary to clear sewer, storm drain or other utilities as necessary
- including valve boxes and hydrant spools to proper grade.9. Field verify all existing and/or proposed Roof Drain/Roof Drain down spout connections to Storm Water System with Civil, Plumbing & Architectural plans. Notify Engineer of any discrepancies.
- 10. All gravity flow utility lines shall be installed prior to any pressurized utilities unless written permission is obtained from the engineer of record before construction begins.
- **UTILITY PIPING MATERIALS:** All piping to be installed per manufacturers recommendations. Refer to project specifications for more detailed information regarding materials, installation, etc.
- **CULINARY SERVICE LATERALS** 1. 3/4" to 2" diameter pipe — copper tube ASTM B, Type K, Soft Temper 2. Over 2" diameter pipe: Sandy City Lines— CL52 D.I.P.

\_\_\_\_\_X\_\_\_\_\_

- Private Lines (Post Meter)- AWWA C-900 Class 150 pipe
- WATER MAIN LINES AND FIRE LINES
  Pipe material as shown on utility plan view or to meet city standards.
  Notify Sandy City Public Utilities Inspector Roy Thacker, 801-568-7280, at least two working days prior to beginning any construction.
  All construction shall conform to the latest revision of the Sandy City Standard
- Specifications and Details for Municipal Construction and/or other requirements as set forth in the final approval letter established for the development. Specifications and details can be obtained at http://sandy.utah.gov/government/public—works/standardspecifications.html or from Sandy City Public Works
- department (568—2999). 4. Locate water line 4' off lip of gutter on the north and east side of the roadway 5. A minimum of 48" of cover from the top of the pipe to the finish grade is required.
- 6. Use thickness class 52 or better Ductile Iron Pipe. 7. Use 6" compression type hydrant by Mueller Centurion or Clow Medallion. Existing
- hydrants required for fire protection that do not meet current standards shall be upgraded to meet current Sandy City Standards. 8. All dead ends to be plugged with a 2" washout or end with a fire hydrant. 9. All water lines shall be poly-bagged in accordance with Sandy City Specifications and
- Details for Municipal Construction. 10. All waterlines shall be bedded in Sand 6" under, 12" around.
- SANITARY SEWER LINES
- All sewer piping to be Polyvinyl Chloride (PVC) sewer pipe, ASTM D 3034, Type PSM, SDR 35
   Sewer improvements shall be constructed in strict accordance with Sandy Suburban Improvement District (SSID) design standards and construction specifications. Copies of the district standards and specifications are available at the district office, 8855 S. 700 W. Sandy, Utah 84070.
- 3. Video inspection, air tests, vacuum tests of manholes and deflection tests shall be performed on all installed sewer improvements prior to final accceptance. Additional tests may be required by the district engineer or inspector. Defects designated by the district engineer or inspector shall be repaired at no cost to the district prior to acceptance of the sewer improvements.
- STORM DRAIN LINES1. 10" pipes or smaller Polyvinyl Chloride (PVC) sewer pipe, ASTM D3034, Type PSM, SDR352. 12" to 21" pipes Reinforced Concrete Pipe, ASTM C14, Class III up to 13' of cover. For
- greater than 13' feet of cover, use reinforced concrete pipe and classes listed below. 3. 24" pipes or larger — Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover, Class IV for 13' to 21' of cover, Class V for 21' to 32' of cover, and Special Design for cover greater than 32 feet.
- SANDY CITY NOTES
  Notify Sandy City Public Utilities Inspector Roy Thacker and UPDES at 801-568-7280, at least five working days prior to beginning any construction.
  Construction work shall be conducted in accordance with SWPPP and/or NOI requirements. Inspections shall be completed per the requirements of the SWPPP and/or NOI. All inspections shall be documented and made available via the online SWPPP management system. Regular review of the online SWPPP management system and inspections will be completed by the Public Utilities Department to confirm that
- construction work is being performed in accordance with SWPPP, NOI, and UGCP requirements. Review and inspection reports completed by the Sandy City Public Utilities Department will be provided to the Contractor which are to be posted to the online SWPPP management system. All identified violations are to be addressed and documented on the online SWPPP management system. 3. A pre-construction meeting is required once Final Approval has been granted. This is where the
- developer/owner and the contractor meet with the City's inspectors to review the approved plans. The pre-construction meeting shall be scheduled through the Planning Department.
  4. All materials and work done on flood control facilities shall conform to the latest revision of the Sandy City Standard Specifications and Details for Municipal Construction. Specifications and details can be obtained at http://sandv.utah.gov/government/publicworks/standard-specifications.html
- or from Sandy City Public Works department (568-2999) 5. Non-shrinking grout shall be used wherever grout is required for the storm water facilities. 6. Cut pipes off flush with the inside wall of the box or manhole and grout at connection of pipe to box to a smooth finish. Additionally, all jagged or sharp edges at pipe connections are to be removed and
- grouted smooth.
  7. Grout between grade rings. For each inlet box that is proposed to be located next to a curb, the curb and gutter contractor is responsible to remove all protruding, jagged or sharp concrete edges and to grout between bottom of inlet lid frame and top of concrete. Grout to create a smooth, beveled transition at all edges in clean out and inlet boxes. Grout around all edges of the restrictive orifice plate.
  8. Remove snap ties, nails, rebar and other protrusions from the box or pipe inside surface,
- as well as all form work, plastic and cardboard. 9. Silt and debris are to be cleaned out of all inlet, clean out boxes, and pipe. The boxes and pipes are to be maintained in a cleaned condition until after the final bond release inspection.
- Clean off all manhole lids and inlet grates of asphalt, concrete, tar or other adhesives to allow access.
   All precast inlet, combo and junction boxes shall be set on 12" (min.) compacted 1" minus gravel.
- Submittals are required for all sand bedding, sand backfill, pipe, precast clean out boxes and precast catch basins for all facilities. They should be submitted at least five working days before construction. Submittals should have sufficient information to show that the proposed items conform to Sandy City specifications.
   Pipes shall be video camera to see if they need to be fixed or replaced before the 80% or
- 90% bond release and before final bond release.

CAUTION NOTICE TO CONTRACTOR The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the propose improvements shown on the plans.

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property: that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WA











# GENERAL SITE PLAN NOTES

- GRADING AT THE BUILDING SHALL HAVE A 5% MINIMUM SLOPE AWAY FROM THE BUILDING FOR A MINIMUM OF 10'-0", UNO. CONCRETE SHALL BE SLOPED 2% AWAY FROM BUILDING. IBC 2012 SECTION 1804.3
- FOUNDATION TO BE 6" ABOVE FINISHED GRADE UNO. (8" FOR DFCM PROJECT, ALSO REVIEW IBC 2012 SECTION 1808)
- ALL CONNECTIONS FROM CITY STREETS TO THE BUILDING ARE TO BE PROVIDED UNDER THIS CONTRACT. CONTRACTOR TO VERIFY CITY STANDARDS FOR ROAD, CURB, UTILITY AND SIGNAGE REQUIREMENTS.
- 4. ALL EXTERIOR SIDEWALKS, STAIRS AND LANDINGS TO HAVE POSITIVE DRAINAGE BUT NO MORE THAN A MAXIMUM OF 1/4" SLOPE PER FOOT TO ALLOW POSITIVE DRAINAGE. ALL STAIRS AND RAMPS TO HAVE A LANDING OF 48 INCHES LONG AT THE TOP AND BOTTOM WITH A MAXIMUM SLOPE OF 1/4" PER FOOT. ALL REBAR IN EXTERIOR APPLICATIONS TO BE EPOXY COATED.
- ALL HARDSCAPE TO BE A MINIMUM OF 4" THICK AIR ENTRAINED CONCRETE OVER 6" ROAD BASE, UNO, AND ALL SIDEWALKS SHALL BE NO LESS THAN 5'-0" WIDE.
- FINISH GRADE OF SOFTSCAPE SHALL BE 2" UNIFORMLY BELOW PAVING SURFACES UNLESS NOTED OTHERWISE.
   FINISH GRADE OF SOFTSCAPE SHALL BE 2" UNIFORMLY BELOW PAVING SURFACES
- UNLESS NOTED OTHERWISE.
  8. 12" X 4" X CONTINUOUS MINIMUM CONCRETE MOW STRIP, TO BE PROVIDED AROUND ENTIRE BUILDING EXCEPT WHERE CONCRETE SIDEWALKS OR PLANTERS OCCUR, TYP,
- SEE DETAIL XX/AXXX.
  9. LIGHT POLE BASE IN ALL LANDSCAPE LOCATIONS TO BE 6" ABOVE FINISHED GRADE, BE LOCATED AT LEAST 36" FROM FACE OF POLE BASE TO BACK OF CURB AND HAVE A
- CONCRETE MOW STRIP PER DETAIL XX/AXXX. VERIFY LOCATION ON SITE WITH ARCHITECT PRIOR TO ANY INSTALLATION.10. LIGHT POLE BASE IN ALL PAVED LOCATIONS TO BE 36" ABOVE FINISHED GRADE. VERIFY
- LOCATION ON SITE WITH ARCHITECT PRIOR TO ANY INSTALLATION. 11. REMOTE FDC TO HAVE VAULT FOR DRAINAGE, SEE DETAIL XX/ASXX.
- COORDINATE ORIENTATION OF FIRE HYDRANT OUTLETS WITH THE FIRE MARSHALL'S OFFICE PRIOR TO THE FINAL INSTALLATION OF THE HYDRANT ASSEMBLY.

**KEYED NOTES** 





VCBO NUMBER: 19740.00 CLIENT NUMBER: DATE: 15 DECEMBER 2020 UNIT REHABILITATION CUTE VIEW HOSI ARE NDY, TS THC/ , SAN EAST, TAIN | 1300 INTERMOUNT 9660 SOUTH ALTA CON SITE PLAN

AS101

		1			2	
E						
D						
с					<b>≁</b> ►	
					10- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	
[						
				A202	4	470 •
				A1 A202		
В						
						4706
			(BB)			
A						P
A1 Ni s	EW BUILDING E	NTRANCE - ENLARGED	PLAN			



4

A202

5

# GENERAL SITE PLAN NOTES

- 1. GRADING AT THE BUILDING SHALL HAVE A 5% MINIMUM SLOPE AWAY FROM THE BUILDING FOR A MINIMUM OF 10'-0", UNO. CONCRETE SHALL BE SLOPED 2% AWAY FROM BUILDING. IBC 2012 SECTION 1804.3
- 2. FOUNDATION TO BE 6" ABOVE FINISHED GRADE UNO. (8" FOR DFCM PROJECT, ALSO REVIEW IBC 2012 SECTION 1808)
- 3. ALL CONNECTIONS FROM CITY STREETS TO THE BUILDING ARE TO BE PROVIDED UNDER THIS CONTRACT. CONTRACTOR TO VERIFY CITY STANDARDS FOR ROAD, CURB, UTILITY AND SIGNAGE REQUIREMENTS.
- ALL EXTERIOR SIDEWALKS, STAIRS AND LANDINGS TO HAVE POSITIVE DRAINAGE BUT NO MORE THAN A MAXIMUM OF 1/4" SLOPE PER FOOT TO ALLOW POSITIVE DRAINAGE. ALL STAIRS AND RAMPS TO HAVE A LANDING OF 48 INCHES LONG AT THE TOP AND BOTTOM WITH A MAXIMUM SLOPE OF 1/4" PER FOOT. ALL REBAR IN EXTERIOR APPLICATIONS TO BE EPOXY COATED.
- 5. ALL HARDSCAPE TO BE A MINIMUM OF 4" THICK AIR ENTRAINED CONCRETE OVER 6" ROAD BASE, UNO, AND ALL SIDEWALKS SHALL BE NO LESS THAN 5'-0" WIDE.
- 6. FINISH GRADE OF SOFTSCAPE SHALL BE 2" UNIFORMLY BELOW PAVING SURFACES UNLESS NOTED OTHERWISE. 7. FINISH GRADE OF SOFTSCAPE SHALL BE 2" UNIFORMLY BELOW PAVING SURFACES
- UNLESS NOTED OTHERWISE. 8. 12" X 4" X CONTINUOUS MINIMUM CONCRETE MOW STRIP, TO BE PROVIDED AROUND ENTIRE BUILDING EXCEPT WHERE CONCRETE SIDEWALKS OR PLANTERS OCCUR, TYP, SEE DETAIL XX/AXXX.
- 9. LIGHT POLE BASE IN ALL LANDSCAPE LOCATIONS TO BE 6" ABOVE FINISHED GRADE, BE LOCATED AT LEAST 36" FROM FACE OF POLE BASE TO BACK OF CURB AND HAVE A CONCRETE MOW STRIP PER DETAIL XX/AXXX. VERIFY LOCATION ON SITE WITH
- ARCHITECT PRIOR TO ANY INSTALLATION. 10. LIGHT POLE BASE IN ALL PAVED LOCATIONS TO BE 36" ABOVE FINISHED GRADE. VERIFY
- LOCATION ON SITE WITH ARCHITECT PRIOR TO ANY INSTALLATION. 11. REMOTE FDC TO HAVE VAULT FOR DRAINAGE, SEE DETAIL XX/ASXX.
- 12. COORDINATE ORIENTATION OF FIRE HYDRANT OUTLETS WITH THE FIRE MARSHALL'S OFFICE PRIOR TO THE FINAL INSTALLATION OF THE HYDRANT ASSEMBLY.







VCBO NUMBER **CLIENT NUMBER:** DATE: 15 DECEMBER 2020

19740.00



**ALTA VIEW HOSPIT** 

ΥDΥ INTERMOUNTAIN HEALTHC/ 9660 SOUTH 1300 EAST, SAN

S **JEN** CONSTRUCTION DO

ENLARGED SITE PLAN

AS102



![](_page_14_Figure_1.jpeg)

![](_page_14_Picture_3.jpeg)

200.0	SEE TYPICAL PATIENT ROOM DEMOLITION NOTES
200.0	
215.0	
215.1	EXISTING PLUMBING, REMOVE & DISPOSE IN ITS ENTIRETY, CAP UTILITY LINES
218.0	EXISTING WINDOW/DOOR/FRAME, PROTECT AS NECESSARY, REPAIR AS REQUIRED
218.1	EXISTING WINDOW/DOOR/FRAME, REMOVE & DISPOSE IN ITS ENTIRETY, DISPOAL
219.0	EXISTING MILLWORK, PROTECT AS NECESSARY, REPAIR AS REQUIRED, RELOCATE AS DIRECTED
219.1	EXISTING MILLWORK, REMOVE & DISPOSE IN ITS ENTIRETY
221.0	EXISTING STUD WALL, PROTECT AS NECESSARY, REPAIR AS REQUIRED
221.1	EXISTING STUD WALL, REMOVE & DISPOSE IN ITS ENTIRETY
222.1	EXISTING FLOORING, REMOVE & DISPOSE IN ITS ENTIRETY
223.1	EXISTING BASE, REMOVE & DISPOSE IN ITS ENTIRETY
225.1	EXISTING TILE WALL, REMOVE & DISPOSE IN ITS ENTIRETY. PREPARE WALL FOR NEW FINISH
226.1	EXISTING MEDICAL GASES (WALL), REMOVE IN ITS ENTIRETY, CAP PIPES IN PLACE
227.1	EXISTING CURB AND FLOORING, REMOVE & DISPOSE IN ITS ENTIRETY
227.2	EXISTING SHOWER UNIT, REMOVE & DISPOSE OF IN ITS ENTIRETY
228.1	REMOVE SECTION OF SLAB TO INSTALL NEW LINEAR TRENCH DRAIN AT DOOR
229.0	EXISTING DRINKING FOUNTAIN, REMOVE AND RELOCATE
230.1	EXISTING NURSE CALL, REMOVE & DISPOSE IN ITS ENTIRETY
234.1	REMOVE/CHIP EXISTING TOP 1 1/2" OF CONCRETE SLAB AND PREP FOR NEW DRAIN AND FLOORING

![](_page_15_Figure_0.jpeg)

![](_page_16_Figure_0.jpeg)

# GENERAL DEMOLITION NOTES

- 1. FIELD VERIFY DIMENSIONS AND CONDITIONS INCLUDING EXISTING UTILITIES PRIOR TO BIDDING. BRING DIFFERING DIMENSIONS AND CONDITIONS TO ARCHITECT'S ATTENTION PRIOR TO BIDDING.
- 2. A HAZARDOUS MATERIAL SURVEY IS AVAILABLE FROM THE OWNER. ABATEMENT MUST BE COMPLETED PRIOR TO DEMOLITION OF BUILDINGS OR BUILDING ELEMENTS.
- 3. PROVIDE DUSTPROOF ENCLOSURES AT PERIMETER OF CONSTRUCTION & DEMOLITION FOR PROTECTION OF ADJACENT SPACES.
- 4. COORDINATE MAINTENANCE OF FIRE EGRESS FOR OCCUPANTS IN EXISTING BUILDING WITH THE OWNER AND FIRE MARSHAL. PROVIDE NECESSARY TEMPORARY WALLS OR ENCLOSURES, EMERGENCY LIGHTS, ETC., FOR THE DURATION OF CONSTRUCTION.
- 5. BRING TO ARCHITECT'S ATTENTION EXISTING CONDITIONS THAT PRESENT ANY CODE VIOLATIONS, INCORRECT CONSTRUCTION OR SAFETY PROBLEMS.
- 6. MAINTAIN EXISTING FIRE RATINGS, AND ASSOCIATED FIRE PROTECTION SYSTEMS (I.E. FIRE SPRINKLERS AND FIRE ALARM SYSTEMS) THROUGHOUT CONSTRUCTION. COORDINATE ANY INTERRUPTION TO THESE SYSTEMS WITH THE OWNER AND FIRE MARSHAL. PROVIDE FIRE WATCH REQUIREMENTS ASSOCIATED WITH INTERRUPTIONS TO THESE SYSTEMS.
- 7. PROTECT EXISTING STRUCTURE, FINISHES, AND SITE ELEMENTS NOT SCHEDULED FOR DEMOLITION. RESTORE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION OR REPLACE AT CONTRACTOR'S EXPENSE.
- 8. REMOVE BUILDINGS TO BE DEMOLISHED IN THEIR ENTIRETY, INCLUDING CONCRETE FOOTINGS AND FOUNDATIONS. DISPOSE PER CITY REQUIREMENTS.
- 9. REMOVE AND DISPOSE SELECTIVE DEMOLITION MATERIAL PER CITY REQUIREMENTS.
- 10. SALVAGE MATERIAL WHERE INDICATED. REMOVE ITEMS FROM CURRENT LOCATIONS & PREPARE FOR TRANSPORT BY THE OWNER.

### GENERAL PLAN DEMOLITION NOTES

- 1. REFER TO ELECTRICAL AND MECHANICAL PLANS FOR REQUIRED ADDITIONAL DEMOLITION
- 2. MAINTAIN EXISTING FIRE RATINGS THROUGHOUT CONSTRUCTION
- 3. DO NOT DISTURB EXISTING FIRE RATED ELEMENTS INCLUDING FIREPROOFING. PATCH/REPAIR DAMAGED OR DISTURBED ITEMS.
- 4. AFTER DEMOLITION, PRIOR TO FINISH, PATCH AND REPAIR EXISTING WALLS TO PROVIDE SMOOTH SURFACE SUITABLE FOR PAINTING OR WALL COVERING.
- 5. PATCH & LEVEL EXISTING CONCRETE SLABS FOR NEW FINISHES WITH FLOOR LEVELING COMPOUND.
- 6. FIELD VERIFY AND COORDINATE SAW CUTTING OF THE CONCRETE FLOOR SLAB WITH PLUMBING AND ELECTRICAL.
- 7. REPLACE SLAB AND TRENCH BY COMPACTING CLEAN GRAVEL IN 8 INCH LIFTS. DRILL #4 EPOXY-COATED REBAR INTO EXISTING SLAB @ 12 INCHES OC. POUR SLAB TO PROVIDE A SMOOTH EVEN FLOOR.
- 8. WHERE ELECTRICAL CIRCUIT CONTINUITY IS INTERRUPTED, BUT MUST BE MAINTAINED, MAKE NECESSARY MODIFICATIONS TO MAINTAIN CIRCUIT INTEGRITY.
- 9. REMOVE ELECTRICAL BOXES BEHIND RELOCATED MILLWORK AND CAP AS REQUIRED.
- 10. CAP EXISTING DUCT WORK FOR DUST CONTROL.

# DEMOLITION LEGEND

HALF-TONE LINE DENOTES ITEMS TO REMAIN DASHED LINE DENOTES ITEMS TO BE DEMOLISHED AREA TO REMAIN UNDISTURBED DURING CONSTRUCTION

Key Value	Keynote Text
205.1	EXISTING CONCRETE SIDEWALK, REMOVE AND DISPOSE, SEE CIVIL
218.0	EXISTING WINDOW/DOOR/FRAME, PROTECT AS NECESSARY, REPAIF REQUIRED
218.1	EXISTING WINDOW/DOOR/FRAME, REMOVE & DISPOSE IN ITS ENTIRE DISPOAL
218.2	EXISTING EIFS, REMOVE UP TO WALL SUBSTRATE
3210.0	EXISTING SITE STAIR TO REMAIN. PROTECT IN PLACE
3211.0	EXISTING RAILING. REMOVE & DISPOSE IN ITS ENTIRETY

![](_page_16_Picture_40.jpeg)

![](_page_17_Figure_0.jpeg)

LABOR & DELIVERY - PHASE 1 ACUTE REHABILITATION - PHASE 2

![](_page_17_Figure_6.jpeg)

![](_page_18_Figure_0.jpeg)

219.0	EXISTING MILLWORK, PROTECT AS NECESSARY, REPAIR AS REQUIRED, RELOCATE AS DIRECTED
612.0	WOOD HAND RAIL
1010.0	LOCKERS, METAL/PLASTIC
1010.2	LOCKERS, DOUBLE TIER
1010.4	LOCKER, ADA ACCESSIBLE
2208.3	DRAIN, TRENCH

![](_page_19_Figure_0.jpeg)

219.0	EXISTING MILLWORK, PROTECT AS NECESSARY, REPAIR AS REQUIRED, RELOCATE AS DIRECTED
922.0	
1010.0	LOCKERS, METAL/PLASTIC
1010.4	LOCKER, ADA ACCESSIBLE
2208.3	DRAIN, TRENCH