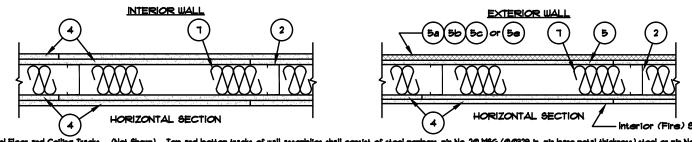
UL. DESIGN NO. U425 For Exterior Walls, Ratings Applicable (See Items 4 and 5) Bearing Wall Rating- 45 Min., 1, 1 1/2, or 2 HR (See Items 2 and 4)



L Steel Floor and Ceiling Tracks — (Not Shown) — Top and bottom tracks of wall assemblies shall consist of steel members, min No. 20 MSG (000329 in., min bare metal thickness) steel or min No. 20 MSG (00036 in. thick) gaiv steel or No. 20 MSG (00033 in. thick) primed steel, that provide a sound structural connection between steel stude, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor

thick) galv steel or No. 20 MBG (0033 in thick) primed steel, that provide a sound structural connection between steel stude, and to adjacent assemblies such as a Floor, ceiling, analor other waits. Attached to ricor and ceiling assemblies with steel fasteners spaced not greater than 24 in. O.C.

2. Steel Stude — Min 3-1/2 in, wide, No. 20 MBG (00329 in, min bare metal thickness) corrosion protected cold formed steel stude designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American iron and Steel institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the stude, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when item 5b is used). Stude attached to floor and ceiling tracks with 1/2 in. long Type 5-12 steel screws on both sides of stude or bolted connections designed in accordance with the AlSi specification of the Specification for the Design of Cold-Formed Steel Structural Members by the American iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the stude, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assembly including the axial design load of the stude, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assembly including the axial design load of the stude of bolted connections designed in accordance with the AlSi specifications.

2B. Franing Members* - Steel Stude — In lieu of Item 2 - Min 3-5/8 in. wide, No. 20 MSG (0036 in. min. thickness) corrosion protected cold formed steel stude designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the stude, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Stude attached to floor and ceiling tracks with 1/2 in. long Type 5-12 steel screws on both sides of stude or by welded or bolted connections designed in accordance with the BAILEY METAL PRODUCTS LTD

3. Lateral Support Members — (Not shown) — Where required for lateral support of stude, support may be provided by means of steel straps, channels or other similar means as specified in the design of a 4. Gypeum Board — Any 1/2 in, thick UL Classified Gypeum Board that is eligible for use in Design No. XBB, Any 5/8 in, thick UL Classified Gypeum Board that is eligible for use in Design Nos. LBØI, GBI2 or UBØ5.

Gypeum Board bearing the UL Classification Marking as to Fire Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr and 2 hr ratings are as follows:

<u>Interior Walls</u> Wallboard Protection Number of Layers and Thickness of Boards in Each Layer Design Load •1 Layer, 1/2 in. thick ol Layer, 5/8 in. thick 2 Layers, 1/2 in. thick 2 Layers, 5/8 in. thick or •3 Layers, 1/2 in. thick 2 Lauers, 3/4 in. thick Patings applicable to assemblies serving as exterior walls where Classified fire resistive gypsum sheathing type wallboard is substituted on the exterior face. Exterior Walls Wallboard Protection On Interior Side of Wall-Number of Layers and Thickness Percent of of Boards in Each Layer Design Load 1 Layer, 5/8 in. thick 2 Layer, i/2 in. thick 2 Layers, 5/8 in. thick 45 min. ACADIA DRYWALL SUPPLIES LTD —CKNXR25310 NATIONAL GYPSUM CO - CKNXR35ØI AMERICAN GYPSUM CO — CKNXR4196 BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — CKNXR19314 PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — CKNX/R1094 CERTAINTEED GYPOUM INC — CKNXR3660 CGC INC — CKNXR19151 CONTINENTAL BUILDING PRODUCTS OPERATING CO, L. L. C. — CKNXR18482 SIAM GYPSUM INDUSTRY (SARABURI) CO LTD —CKNXR19262 THAI GYPSUM PRODUCTS PCL —CKNXR2T511 UNITED STATES GYPSUM CO —CKNXR319

4A Gypeum Board —Nom. 3/4 in. gypeum board applied vertically with joints between layers staggered. The thickness and number of layers and percent of design load for the 2 hr ratings are shown in the table

USG BORAL ZAIJAUI DRYWALL L L C SFZ —CKNXR38438 USG MEXICO S A DE C V —CKNXR16089

CGC INC - Types AR, IP-AR, IP-X3, or ULTRACODE

GEORGIA-PACIFIC GYPSUM L L C — CKNXR2TI LOADMASTER SYSTEMS INC — CKNXR1809

UNITED STATES GYPSUM CO- Types AR, IP-AR, IP-X3, or ULTRACODE

USG MEXICO 6 A DE C \vee -Types AR, IP-AR, IP-X3, or ULTRACODE

4B. Gypsum Board* — (As an alternate to Items 4 and 4A) - Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws amax 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of stude on interior walls need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers on interior walls (multilayer systems) staggered a min of 12 in. GEORGIA-PACIFIC GYPSUM L.L.C.—GreenGlass Type X, Type DGG

NATIONAL GYPSUM CO - Type FSW-6.

4C. Gypsum Board* —(As an alternate to items 4 through 4B) - 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in item 6. CERTAINTEED GYPSUM INC — Type StientFX

GEORGIA-PACIFIC GYPSUM L L C - Type X ComfortGuard Sound Deadening Gypsum Board.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4D. Wall and Partition Facings and Accessories — (As an alternate to Items 4 through 4C) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4. PABCO BUILDING PRODUCTS L. L. C, DBA PABCO GYPSUM — Type QuietRock E6.

4E. Wall and Partition Facings and Accessories* — (As an alternate to items 4 through 4D) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in item 4. PABCO BUILDING PRODUCTS L. L. C, DBA PABCO GYPSUM — Type QuietRock 521.

4F. Gypeum Board* — (As an alternate to 5/8 in. Type FGW in Item 4) - Non. 5/16 in. thick gypeum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/18 in. gypeum board described in Item 4. Horizontal Joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in Item 4, spaced 24 in. OC. Outer layer of each double 5/16 in. layer

attached per item 4.

5. Gypsum Sheathing — For exterior walls, 1/2 or 5/8 in. thick Classified or unclassified exterior gypsum sheathing applied vertically and attached to stude and rumer tracks with 1 in. long Type 5-12 bugle head screws epaced 12 in. OC. along stude and tracks. One of the following exterior facings are to be applied over the gypsum sheathing.

a. Siding, Brick, or Stucco — Aluminum siding, steel siding, brick venser, or stude of the stude over gypsum sheathing and neeting the requirements of local code agencies. When a min 3-3/4 in. thick brick venser facing is used, the Exterior Wall Rating is applicable with exposure on either face. Brick venser wall attached to stude with corrugated metal wall ties attached to each stud with steel screws, not more than each stith course of brick. When a min 3-3/4 in. thick brick venser facing is used, Foamed Plastic (Item 10) may be used.

b. Cementitious Backer Units: — 1/2 or 5/8 in. thick, square edge boards, attached to steel stude over gypsum sheathing with 1-5/8 in. long, Type 5-12, corrosion resistant, wafer head steel screws, spaced 8 in. OC. Stude spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.

EVALUATES GYPSUM CO — Tupe DOB INITED STATES GYPSUM CO - Type DCB

c. Fiber-Cement 6iding —Fiber-cement exterior sidings including smooth and patterned panel or lap siding. d. Molded Plastic — Solid virul siding mechanically secured to framing members in accordance with manufacturer's recommended installation details. ALSIDE, DIV OF ASSOCIATED MATERIALS INC

Wood Structural Panel or Lap Siding - APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS I or APA Standard PRP-IDS, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

f. Building Units* — (Not Shown) - 3 in thick 18 x 24 in. cellular glass blocks, applied to the gypsum sheathing (Item 5) with PC 88 achiesive or fastened with F anchors spaced a maximum 24 in. OC. F anchors fastened to framing members with 1-1/4 in, long % drywall screws. PITTSBURGH CORNING CORP — Type FoamGlas

6. Fasteners — (Not shown) — Screws used to attach wallboard to stude: self-tapping bugle head sheet steel type, spaced 12 in. O.C. First layer Type 5-12 by 1 in. long for 1/2 and 5/8 in. thick wallboards and 1-1/4 in. long for 3/4 in. thick wallboard. Second layer Type 5-12 by 1-7/8 in. long for 1/2 and 5/8 in. thick wallboards and 2-1/4 in. long for 3/4 in. thick wallboard. Third layer Type 5-12 by 1-7/8 in. long.

1. Batts and Blankets* - Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance, of a trickness to completely fill stud cavity. See Batte and Blanketer (BZJZ) Category for names of Classified companies.

1A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 1) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.1 ib/ft3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 35 ib/ft3, in accordance with the application instructions supplied with the product.

U 6 GREENFIBER L L C — N6135 & N6145 for use with wet or dry application. N6165LD and N6110LD are to be used for dry application only.

1B. Fiber, Sprayed: — As an alternate to Item 1 and 1A — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft3. NU-WOOL CO INC — Cellulose insulation

1C. Fiber, Sprayed —As an alternate to Batts and Blankets (Item 1) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry idensity shall be 4.30 lbs/ft3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL.

1D. Fiber, Sprayed* —(optional) As an alternate to Batts and Blanksts (item 1) —Spray applied mineral wool insulation. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

Joint Tape and Compound — (Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in wide, embedded in first layer of compound over all joints of outer layer. ATLAS EPS, DIV OF ATLAS ROOFING CORP — Type Thermalstar

OWENS CORNING FOAM INSULATION L L C

IØA. Mortar Drop Protection — (Optional, Not shown) - foamed plastic with mortar control device attached, continuous, by drainage holes at bottom of air space behind brick veneer. CUENS CORNING FOAM INSULATION L. L. C. — WeepGuard

I/OB. Foamed Plastic* — Polyleccyanurate foamed plastic insulation boards, any thickness, Classified in accordance with BRYX and / or CCVIII. May be used with any exterior facing shown under items 5a, 5c, 5d and 5s. ATLAS ROOFING CORP — "EnergyShield Pro IIIali insulation" and "EnergyShield Pro 2 IIIali insulation." CARLIBLE COATINGS & WATERPROOFING INC -Type R2+ Sheath

HUNTER PANELS - Type Xci-Class A, Xci 286, "Xci CG", "Xci Foil"

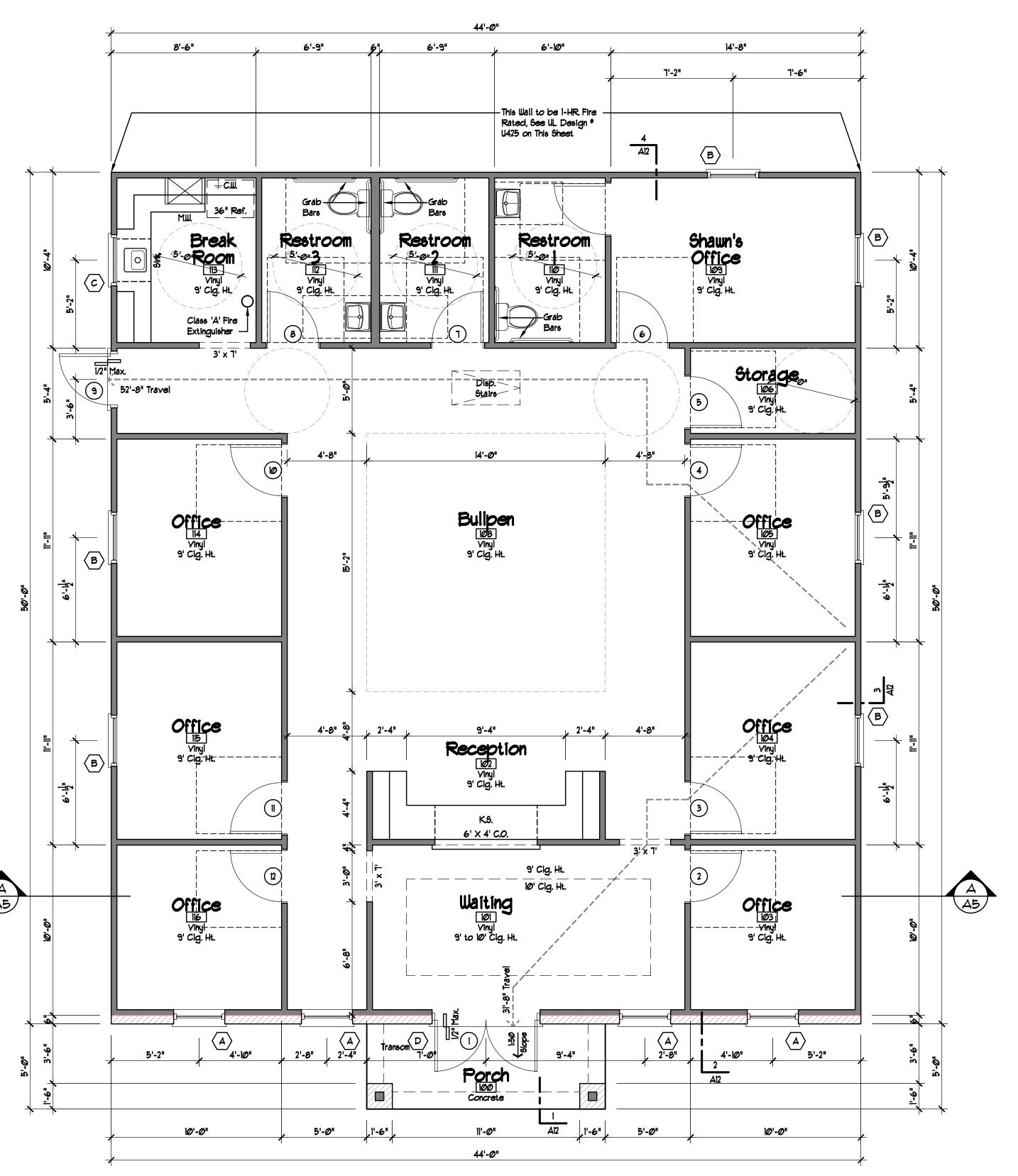
THE DOW CHEMICAL CO — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax Heavy Duty Plus (HDP), and TUFF-R™ ci Insulation

IGC. Building Unit* —Polyleccyanurate foamed plastic composite insulation boards, any thickness, Classified in accordance with BDXX. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e. HUNTER PANELS — Type "Xci NB" and "Xci Ply"

11. Cementitious Backer Units* — (Optional Item Not Shown - For Use On Face Of 1 Hr Or 2 Hr Systems With All Standard Items Required) - 7/16 in, 1/2 in, 5/8 in, 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over stude. Fastened to stude and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members epaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing. 2-Hr System - Applied vertically with vertical joints centered over stude. Face layer fastened over gypsum board to stude and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

2. Wall and Partition Facings and Accessories* — (Optional, Not Shown) — For use with Item 1, Items 2 and 2A, Item 3, Item 4 to 4B, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to 4B), install Reflexor membrane with the gold side facing outwards. Membrane installed with 150 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When Reflexor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in item 4 to 4B shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to 4B except the fastener length shall be increased by a minimum of 5% inch. Install Batts and Blanksts in the stud cavity as per item 1. On the other side of the wall prior to the installation of the Gypsum Board install Resilient Charmels. 25 156 except packed vertically 24 in. OC, flange portion screw attached to one side of stude with 1-1/4 in. long diamond shaped point, double lead Fhillips head steel screws. Over the Resilient Charmels with drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel and 8 in. OC in the field of the panel of the Charmels with drywall screws and washers epaced as the first before the faster and before the fas epecified in item 4 to 4B with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. MBL —Reflexor membrane, 80N0pan panel.

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



FIRST FLOOR PLAN

1. Horizontal continuity. Fire walls shall be continuous from exterior wall to exterior wall and shall extend at least 18 inches beyond the exterior surface of exterior walls.

--Exceptions: 1. Fire walls shall be permitted to terminate at the interior surface of combustible exterior sheathing or siding provided the exterior wall has fire-resistance rating of at least I hour from a horizontal distance of at least 4 feet on both sides of the fire wall. Openings within such exterior walls shall be protected by fire assemblies having a fire protection rating of not less than 3/4 hour. 2. Fire walls shall be permitted to terminate at the interior surface of noncombustible exterior sheathing, exterior siding or other noncombustible exterior finishes provided the sheathing, siding, or other exterior noncombustible finish extends a horizontal distance of at least 4 feet on both sides of the fire wall. 2. Vertical continuity. Fire walls shall extend from the foundation to a termination point at least 30 inches above both adjacent roofs.

--Exceptions: 4. In building of Type III, IV and V construction, walls shall be permitted to terminate at the underside of combustible roof sheathing or decks provided: 4.1 There are no openings in the roof within 4 feet of the fire wall, 42. The roof is covered with a minimum Class B roof covering, and 43. The roof sheathing or deck is constructed of fire-retardant-treated wood for a distance of 4 feet on both sides of the wall or the roof is protected with 5/8 inch Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by a minimum of 2-inch nominal ledgers attached to the sides of the roof framing members for a minimum distance of 4 feet on both sides of the fire wall.

3082. Forward Reach Unobstructed. Where a forward is unobstructed, the high forward reach shall be 48" (1220 mm) maximum and the low forward reach shall be 15" (380 mm) minimum above the finish floor or

ground.
30822 Forward Reach Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48" (1220 mm) maximum where the reach depth is 20" (510 mm) maximum. Where the reach depth exceeds 20" (510 mm), the high forward reach shall be 44" (1120 mm) maximum and the reach depth shall be 25" (635 mm) maximum.

3083.1 Side Reach Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48" (1220 mm) maximum and the low side reach shall be 15" (380 mm) minimum above the finish floor or ground.

- An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10" (255 mm) maximum.
- 2. Operable parts of fuel dispensers shall be permitted to be 54" (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

30832 Side Reach - Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34" (865 mm) maximum and the depth of the obstruction shall be 24" (610 mm) maximum. The high side reach shall be 48" (1220 mm) maximum for a reach depth of 10" (255 mm) maximum. Where the reach depth exceeds 10" (255 mm), the high side reach shall be 46" (1170 mm) maximum for a reach depth of 24" (610 mm) maximum. EXCEPTIONS:

- 1. The top of washing machines and clothes dryers shall be permitted to be 36" (915 mm) maximum above the floor.
- Operable parts of fuel dispensers shall be permitted to be 54" (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

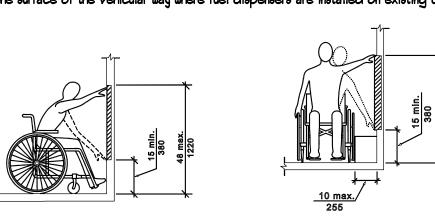
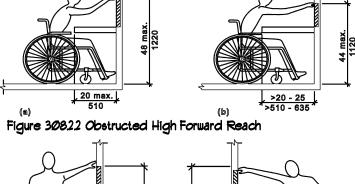
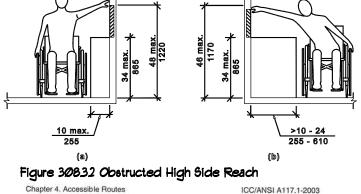
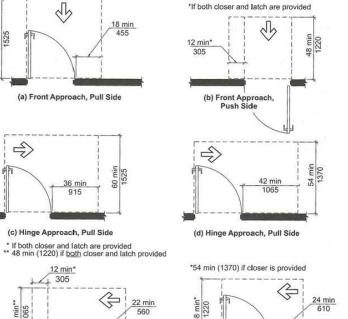


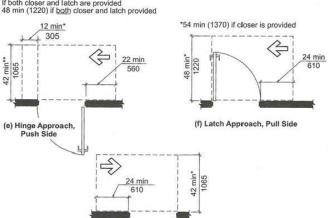
Figure 3082.1 Unobstructed Forward Reach

Figure 308.3.1 Unobstructed Side Reach









Maneuvering Clearance at Manual Swinging Doors

Total Covered	2270		
Porch 	7 Ø		
First Floor Office	2200		

Approximate Footage

PURSE	LR A	ARCH	ITECI	TURAL INC.
5702	FOU	RTI	H ST	REET
KATY	, TĒ	X A S	577	493
TEL:	281	• 2	93	9291
FAX:	281	. 2	93	· 7246

WWW.bonpurser.com

E-MAIL: PURSERAI@GMAIL.COM

12/19/2016 First Draft Revisions 12/20/2016



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