

# FIRE STATION #2

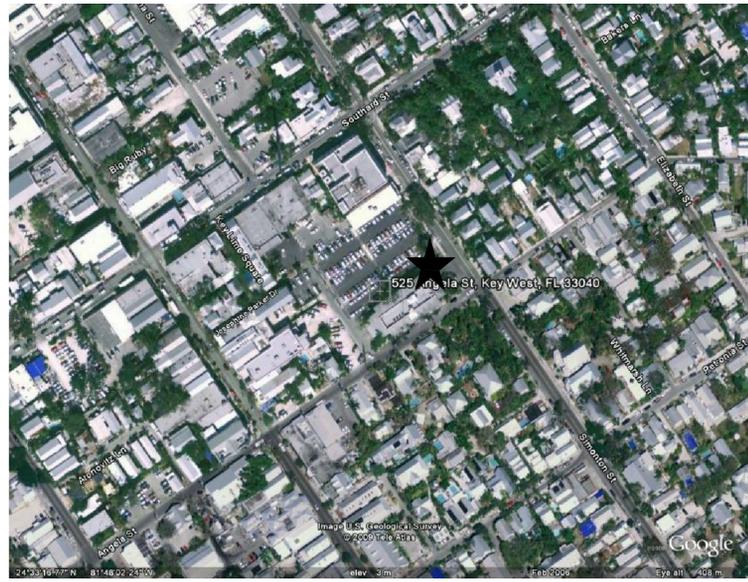
## BUILDING AND SITE DEVELOPMENT

### 616 SIMONTON STREET, KEY WEST

THE CITY OF KEY WEST  
 3132 FLAGLER AVENUE, KEY WEST, FLORIDA 33040

# BIDDING DOCUMENTS

## FEBRUARY 15, 2013

CITY OF KEY WEST	PROJECT APPROVALS	LOCATION MAP
 <p><b>BOARD OF CITY COMMISSIONERS</b>                      Mayor - Craig Cates                      District I - Commissioner Jimmy Weekley                      District II - Commissioner Mark Rossi                      District III - Commissioner Billy Wardlow                      District IV - Commissioner Tony (Fat) Yaniz                      District V - Commissioner Teri Johnston                      District VI - Commissioner Clayton Lopez</p> <p><b>CITY MANAGER</b>                      Bob Vitas</p>	<p><b>HISTORIC ARCHITECTURAL REVIEW COMMISSION</b>                      SUBMITTED - BUILDING:                      APPROVED: MAY 9, 2012                      JUNE 12, 2012                      # H1201-0776</p> <p>SUBMITTED - SITE AND HARDSCAPE:                      SUBMITTED - SITE AND HARDSCAPE:                      APPROVED: JULY 11, 2012 (NO QUORUM)                      AUGUST 9, 2012                      AUGUST 28, 2012                      # H12-01-1181</p> <p><b>TREE COMMISSION</b>                      SUBMITTED: JULY 25, 2012                      APPROVED: AUGUST 16, 2012                      # 6097</p> <p><b>DRC / MAJOR DEVELOPMENT PROCESS</b>                      SUBMITTED: SEPTEMBER 6, 2012                      DRC MEETING: SEPTEMBER 27, 2012                      REVISED PLANNING SUBMISSION: OCTOBER 18, 2012                      REVISED PLANNING SUBMISSION: NOVEMBER 12, 2012                      PLANNING BOARD MEETING: NOVEMBER 15, 2012                      CITY COMMISSION MEETING: DECEMBER 4, 2012</p>	 <p>PROJECT LOCATION ★</p>

### FIRE STATION #2

#### THE CITY OF KEY WEST

#### BIDDING DOCUMENTS

**mbi | k2m**  
 ARCHITECTURE, INC.

1001 Whitehead St., Suite 101, Key West, Florida 33040  
 Tel: 305-292-7722 | Fax: 305-292-2162  
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 PROF. REG. AA26001059

**SUBMISSIONS**  
 February 15, 2013 - Bidding Documents

Project No. 12 060	Phase: Bidding Documents
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COVER SHEET

# A0.1.1

DATE: February 15, 2013

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PLOTTED: 2/15/2013 12:01 PM

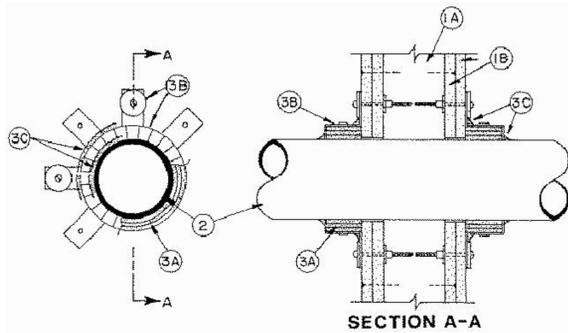
K:\2013\MBI-12060 - City of Key West - Fire Station #2\Drawings\MBI-K2M.dwg, 2/15/2013 12:01 PM, user: f-c, plot: f-c



## W-L-2002 DETAIL

Through-penetration Firestop Systems  
See General Information for Through-penetration Firestop Systems  
System No. W-L-2002  
May 23, 2005

F Ratings — 1, 1-1/2 and 2 Hr (See Item 3)  
T Ratings — 3/4, 1, 1-1/2 and 2 Hr (See Item 3)  
L Rating At Ambient — 7 CFM/sq ft (See Item 3C)  
L Rating At 400 F — 1 CFM/sq ft (See Item 3C)



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
- B. Gypsum Board\* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 7 in. (178 mm).
- 2. Nonmetallic Pipe or Conduit — One nonmetallic pipe or conduit is centered within the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall. The following types and sizes of nonmetallic pipes or conduit may be used:
  - A. Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid-core polyvinyl chloride (PVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - B. Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular core polyvinyl chloride (PVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - C. Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid-core acrylonitrile-butadiene-styrene (ABS) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - D. Nom 4 in. (102 mm) diam (or smaller) Schedule 40 fire retardant polypropylene (FRPP) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
  - E. Nom 4 in. (102 mm) diam (or smaller) Rigid Nonmetallic Conduit formed of PVC.
  - F. Nom 1 in. (25 mm) diam (smaller) Electrical Nonmetallic Tubing formed of PVC.
- G. Nom 6 in. (152 mm) diam (or smaller) SDR13.5 chlorinated polyvinyl chloride (CPVC) pipe for use in closed (process or supply) piping systems. See Rigid Nonmetallic Conduit (DZKT) and Electrical Nonmetallic Tubing (FKHU) categories in UL Electrical Construction Materials Directory for names of manufacturers.

3. Firestop System — Installed symmetrically on both sides of wall assembly. The hourly F and T Ratings for the firestop system are dependent upon the type and size of nonmetallic pipe or conduit, the piping system type (closed systems such as process or supply piping or vented systems such as drain, waste or vent piping) and the hourly fire rating of the wall assembly in which it is installed, as shown in the following table.

Pipe or Conduit Type	Nom Pipe Diam In. (mm)	Annular Space In. (mm)	Piping System (a)	Wall Fire Rating Hr	F Rating Hr	T Rating Hr
FRPP	1/2 to 2 (13 to 51)	0-3/16 (0-5)	V	2	1-1/2	1-1/2
FRPP, PB	1/2 to 2 (13 to 51)	0-3/16 (0-5)	C	2	2	2
ABS	1/2 to 4 (13 to 102)	0-3/16 (0-5)	C,V	1	1	3/4
ABS	1/2 to 4 (13 to 102)	0-3/16 (0-5)	C,V	2	1-1/2	1-1/2
PVC	1/2 to 4 (13 to 102)	0-3/16 (0-5)	C,V	1	1	1
PVC	1/2 to 4 (13 to 102)	0-3/16 (0-5)	C,V	2	2	2
FRPP+	2-1/2 to 4 (64 to 102)	0-3/16 (0-5)	C,V	2	1-1/2	1-1/2
PVC+	5, 6 (127 to 152)	0-3/16 (0-5)	C,V	2	1-1/2	1-1/2

\*Pipe covering material wrap required on pipe on both sides of wall.

(a)C = closed systems, V = vented systems.

The details of the firestop system shall be as follows.

A. Fill, Void or Cavity Materials\* — Wrap Strip — Nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. (51 mm) wide strips. Nom 2 in. (51 mm) wide strips tightly wrapped around nonmetallic pipe or conduit (full side exposed) with the edges butted against the surface of the wall. Sufficient layers of wrap strip shall be installed to lap a min of 3/16 in. (5 mm) on the wall surface around the entire perimeter of the circular through opening. For nom 1/2 in. (13 mm) to nom 2 in. (51 mm) diam pipes or conduits, a min of one layer of wrap strip is required. For nom 2-1/2 in. (64 mm) and nom 3 in. (76 mm) diam pipes, a min of two layers of wrap strip is required. For nom 3-1/2 in. (89 mm) and nom 4 in. (102 mm) diam pipes, a min of three layers of wrap strip is required. For nom 5 and 6 in. (127 and 152 mm) diam, two tiers (4 in. (102 mm) overall length) of three layers of wrap strip is required, with adjoining wrap strip layer edges between tiers tightly butted. Each layer of wrap strip to be installed with butted seams, with butted seams in successive layers staggered. Wrap strip layers temporarily held in position using aluminum foil tape, steel wire tie or equivalent.

3M COMPANY — Type FS-195+

B. Steel Collar\* — Nom 2 or 4 in. (51 or 102 mm) deep collar with 1-1/4 in. (32 mm) wide by 2 in. (51 mm) long anchor tabs and min 3/4 in. (19 mm) long tabs to retain wrap strip layers. Collar of precut 0.016 in. (0.41 mm) thick (No. 30 28 gauge) galv sheet steel available from wrap strip manufacturer. As an alternate, collar may be field-fabricated from min 0.016 in. (0.41 mm) thick (No. 30 28 gauge) galv sheet steel in accordance with instruction sheet supplied by wrap strip manufacturer. Steel collar, with anchor tabs bent outward 90 deg, wrapped tightly around wrap strip layers with min 1 in. (25 mm) overlap at the seam. With steel collar anchor tabs pressed tightly against wall surface, compress collar around wrap strip layers using a min 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel band clamp with worm drive tightening mechanism at the collar midheight. As an alternate to the stainless steel band clamp, the steel collar may be compressed around nom 4 in. diam (or smaller) nonmetallic pipes using two min 18 SWG (0.0625 in. (0.016 mm) diam) steel wires secured with multiple twists. As an alternate to the band clamps or steel wires, collars may be secured by a means No. 10 by 1/2 in. (13 mm) long sheet metal screws installed in the vertical axis at the center of the 1 in. (25 mm) overlap along the perimeter joint of the collar. A min of three screws is required. Secure collar to wall surface with 3/16 in. (5 mm) diam steel toggle bolts in conjunction with min 1-1/2 in. (38 mm) diam steel washers.

Three bolts, symmetrically located, required for 2 in. (51 mm) deep steel collar for nom 1/2 in. (13 mm) to nom 3 in. (76 mm) diam pipes. Four bolts, symmetrically located, required for 2 in. (51 mm) deep steel collar for nom 3-1/2 and 4 in. (89 and 102 mm) diam pipes. Five to seven bolts (every other anchor tab) required for 4 in. (102 mm) deep steel collar for nom 5 and 6 in. (127 and 152 mm) diam pipes. As a final step, bend retainer tabs 90 deg toward pipe to lock wrap strip layers in position.

C. Fill, Void or Cavity Materials\* — Caulk, Sealant or Putty — Generous bead of caulk applied to outer perimeter of wrap strip at interface with wall surface and to perimeter of pipe or conduit as it egress from the wrap strip layers.

3M COMPANY — CP 25WB+ caulk and MP+ Six putty, IC 15WB+ caulk, FireDam 150+ caulk, or FB-3000 WT sealant

(Note: L Ratings apply only when CP 25WB+ caulk or FB-3000 WT sealant is used. CP 25WB+ not suitable for use with CPVC pipes.)

D. Pipe Covering\* — (Not Shown) — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m<sup>3</sup>) glass fiber units jacketed on the outside with an all service jacket. When required (see table), min 6 in. (152 mm) length of pipe covering installed around PVC pipe at its egress from steel collar on both sides of wall. Pipe covering secured to pipe with steel wire ties spaced max 4 in. (102 mm) OC. Edge of pipe covering abutting steel collar to be sealed with a min 1/4 in. (6 mm) bead of caulk (Item C).

See Pipe and Equipment Covering — Materials (BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

E. Firestop Device\* — (Not shown) — As an alternate to Items A, B and C for nom 1-1/2, 2, 3 or 4 in. (38, 51, 76 or 102 mm) diam nonmetallic pipes, a firestop device consisting of a sheet-steel split collar lined with intumescent material and provided with steel clips for attachment may be used. Firestop device to be installed on both sides of wall in accordance with the accompanying installation instructions.

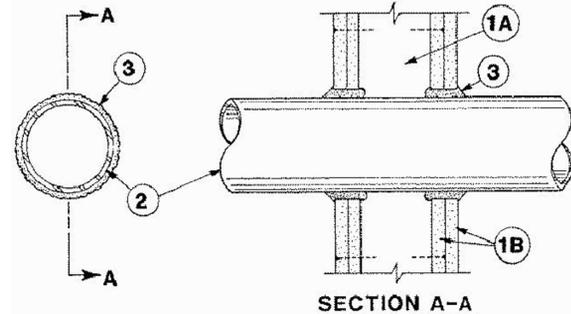
3M COMPANY — Types PPD 150, PPD 200, PPD 300, PPD 400

\*Bearing the UL Classification Mark

## W-L-1001 DETAIL

Through-penetration Firestop Systems  
See General Information for Through-penetration Firestop Systems  
System No. W-L-1001  
June 15, 2005

F Ratings — 1, 2, 3 and 4 Hr (See Items 2 and 3)  
T Ratings — 0, 1, 2, 3, and 4 Hr (See Item 3)  
L Rating At Ambient — less than 1 CFM/sq ft  
L Rating At 400 F — less than 1 CFM/sq ft



1. Wall Assembly — The 1, 2, 3 or 4 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
- B. Gypsum Board\* — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).
- 2. Through-Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm), (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
  - A. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - B. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
  - C. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing
  - D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing
  - E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
  - F. Through Penetrating Product\* — Flexible Metal Piping The following types of steel flexible metal gas piping may be used:
    - 1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEXLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG LLC

3. Fill, Void or Cavity Material\* — Caulk or Sealant — Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In. (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

\*When copper pipe is used, T Rating is 0 hr.

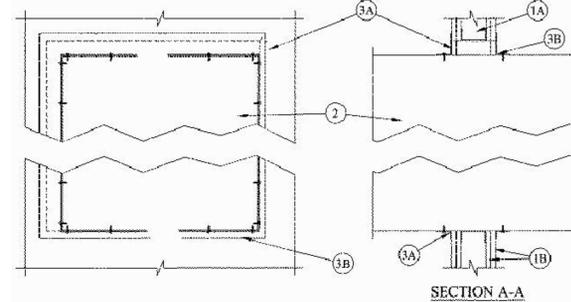
3M COMPANY — CP 25WB+ or FB-3000 WT.

\*Bearing the UL Classification Mark

## W-L-7040 DETAIL

Through-penetration Firestop Systems  
See General Information for Through-penetration Firestop Systems  
System No. W-L-7040  
November 13, 2001

F Ratings — 1 and 2 Hrs (See Items 1 and 3)  
T Rating — 0 Hr



1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. Additional framing members shall be used to completely frame around opening.
- B. Gypsum Board\* — Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 1300 in. with the dimension of 50 in. The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
- 2. Steel Duct — Nom 24 in. by 48 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 0 (point contact) in. to a max 2 in. Duct to be rigidly supported on both sides of the wall assembly.
- 3. Firestop System — The firestop system shall consist of the following:
  - A. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location, a min 1/2 in. clam bead of fill material shall be applied to the wall/duct interface on both surfaces of wall.

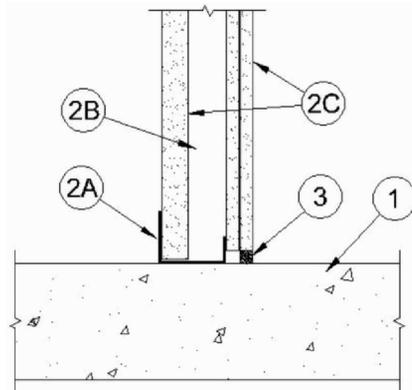
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP601S Elastomeric Firestop Sealant or CP606 Flexible Sealant.

B. Steel Retaining Angle\* — No. 18 MSG (0.048 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on the duct and a min 1 in. overlap on the gypsum board assembly on both surfaces of wall. 2 in. leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws, spaced a max of 6 in. OC. When bead of fill material is used at joint contact locations, angles shall be installed prior to full material curing.

\*Bearing the UL Classification Mark

## BW-S-0016 DETAIL

Assembly Ratings — 1 and 2 Hr (See Item 2)  
Joint Width — 1/2 In. Max



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) structural concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units\*.

See Precast Concrete Units (CTV) category in the Fire Resistance Directory for names of manufacturers.

2. Wall Assembly — The 1 or 2 hr fire rated gypsum board/steel stud shaft wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features:
 

- A. Steel Floor Runner — "J"-shaped runners, min 2-1/2 in. (64 mm) deep, with unequal legs of 1 in. (25 mm) and 2 in. (51 mm), fabricated from min 24 MSG 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. (51 mm) from ends and not greater than 24 in. (610 mm) OC.
- B. Studs — "C-H", "E" (back-to-back) or "C-T"-shaped studs, min 2-1/2 in. (64 mm) deep, fabricated from min 25 MSG galv steel. Cut to lengths 3/8 to 1/2 in. (10 to 13 mm) less than floor-to-ceiling height and spaced 24 in. (610 mm) OC.
- C. Gypsum Board\* — 1 in. (25 mm) thick gypsum liner panels and 1/2 in., 5/8 in. or 3/4 in. (13, 16 or 19 mm) thick gypsum panels installed as specified in the individual U400 or V400 Series shaft wall designs in the UL Fire Resistance Directory.

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

3. Fill, Void or Cavity Material\* — Sealant — Max separation between top of floor and bottom of gypsum board on the finish side is 1/2 in. Min 1/2 in. (13 mm) thickness of fill material installed on finish side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with surface of the finish side of wall.

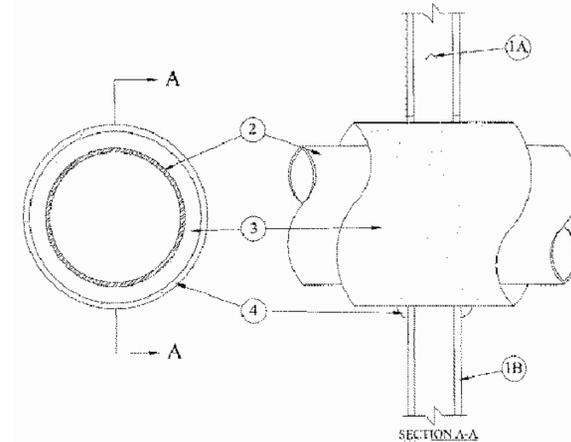
UNITED STATES GYPSUM CO — Type A or AS

\*Bearing the UL Classification Mark

## W-L-5189 DETAIL

Through-penetration Firestop Systems  
See General Information for Through-penetration Firestop Systems  
System No. W-L-5189  
April 16, 2009

F Rating — 1 Hr  
T Rating — 1 Hr



1. Wall Assembly — The 1 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
- B. Gypsum Board\* — One layer of nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 20-1/2 in.
- 2. Through Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
  - A. Steel Pipe — Nom 12 in. diam (or smaller) Schedule ST 40 (or heavier) steel pipe.
  - B. Iron Pipe — Nom 12 in. diam (or smaller) cast or ductile iron pipe.
  - C. Conduit — Nom 4 in. diam (or smaller) steel metallic tubing or steel conduit.
  - D. Copper Tubing — Nom 2 in. diam (or smaller) pipe Type L (or heavier) copper tubing.
  - E. Copper Pipe — Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.

3. Pipe Covering — Max 3 in. thick hollow cylindrical Calcium Silicate pipe covering. Longitudinal joints sealed with metal fasteners or 8 AWG steel wire. The annular space between the insulated pipe and the edge of the through opening shall be min 0 in. (point contact) to a max 1-1/2 in.

See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Mark with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and wallboard, a min 1/2 in. diam bead of fill material shall be applied at the wallboard/pipe covering interface on both sides of wall.

PASSIVE FIRE PROTECTION PARTNERS — 3600EX

\*Bearing the UL Classification Mark

**mbi | k2m**  
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MEP/FF ENGINEER:  
TEC Engineering For Architecture  
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Key West, Florida 33907

LANDSCAPE ARCHITECT:  
LANDSCAPE ARCHITECTURE, LLC  
2025 Porco de Leon Blvd., Suite 300  
Coral Gables, Florida 33134

Submissions:

2013.07.15 - Bidding Documents

FIRE STATION #2

616 Simonton Street, Key West, Florida

BUILDING AND SITE DEVELOPMENT

FOR  
City of Key West, 3132 Flagler Avenue, Key West, Florida 33040

Drawing Size: 24x36  
Project #: MK-12060  
Drawn By: AAG  
Checked By: ADS

Title:

UL DETAILS

Sheet Number:

A0.2.1

Date: February 15, 2013

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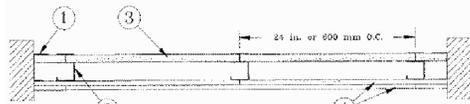
# U415 DETAIL

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr

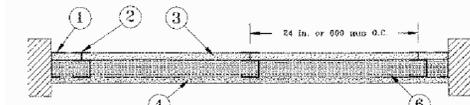
System A - 1 Hr.



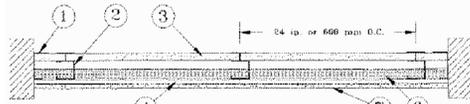
Horizontal Section System B - 2 Hr.



Horizontal Section System C - 2 Hr.



Horizontal Section System D - 2 Hr.



Horizontal Section System E - 2 Hr.



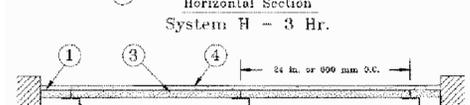
Horizontal Section System F - 2 Hr.



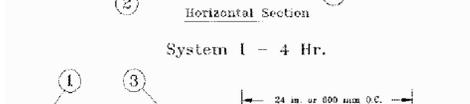
Horizontal Section System G - 3 Hr.



Horizontal Section System H - 3 Hr.



Horizontal Section System I - 4 Hr.



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 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" 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 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.

2A. Steel Studs — (Not Shown) — "E" shaped studs installed back to back in place of "C" 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 height.

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" 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 1 - "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. OC.

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, 2-3/8 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 installed vertically only and attached to furring channels as described in Item b.

b. Steel Framing Members\* — Used to attach furring channels (Item 2D) 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.

PAC INTERNATIONAL INC — Type RSIC-1.

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" 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.

CANADIAN GYPSUM COMPANY — Type SLX

UNITED STATES GYPSUM CO — Type SLX

USG MEXICO S A D E C V — Type SLX

4. Gypsum Board\* —

System A - 1 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 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.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

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

USG MEXICO S A D E C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, 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 studs 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.

CANADIAN GYPSUM COMPANY — 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, 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, SHX, WRC, WRX

USG MEXICO S A D E 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, 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 bats per Item 6.

CANADIAN GYPSUM COMPANY — Types IP-X3, or ULTRACODE

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

USG MEXICO S A D E C V — Types IP-X3, or ULTRACODE

System 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 bats per Item 6.

CANADIAN GYPSUM COMPANY — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

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

USG MEXICO S A D E C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, 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.

CANADIAN GYPSUM COMPANY — 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, 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, SHX, WRC, WRX

USG MEXICO S A D E 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, 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 24 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.

CANADIAN GYPSUM COMPANY — 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, 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, SHX, WRC, WRX

USG MEXICO S A D E C V — 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, 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 12 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 adjacent layers.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR, WRC

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

USG MEXICO S A D E C V — Types C, IP-X2, IPC-AR, WRC

System H - 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, 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. 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. 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.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR, WRC

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

USG MEXICO S A D E 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, 48 in. or 1200 mm wide, applied vertically or horizontally in 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. 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. 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.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR, WRC

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

USG MEXICO S A D E 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, self-tapping 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.

CANADIAN GYPSUM COMPANY — Types IP-X3, or ULTRACODE

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

USG MEXICO S A D E 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 fire drill) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA

NELCO — Nelco

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 bat mineral bearing the UL Classification Marking as to Fire Resistance.

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.

THERMAFIBER INC — Type SAFB

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 gypsum 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 — DURROCK Exterior Cement Board or DURROCK Brand Cement Board.

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 to the stud with two min. 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 required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

10. Lead Discs or Tabs\* — (Not Shown, For Use With Item 4A) - Used in lieu of or in addition to the lead batten strips (Item 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-2011, Grade "C".

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 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 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 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

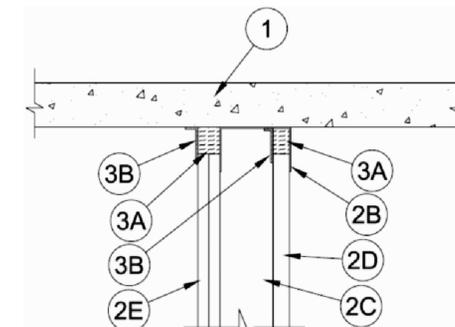
\*Bearing the UL Classification Mark

# HW-D-0572 DETAIL

Assembly Ratings — 1 and 2 Hr (See Item 2)

Nominal Joint Width — 1-1/2 in.

Class II Movement Capabilities — 50% Compression or Extension



1. Floor Assembly — Min 2-1/2 in. (64 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) structural concrete. Floor may also consist of any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units\*

See Precast Concrete Units (CAZT) category in the Fire Resistance Directory for names of manufacturers.

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

A. Floor and Wall Runners — (Not Shown) - J-shaped runner, sized equal in width to steel studs (Item 2C) with unequal legs of 1 in. (25 mm) and 2 in. (51 mm), fabricated from 24 MSG galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to floor with steel fasteners located not greater than 2 in. (51 mm) from ends and not greater than 24 in. (610 mm) OC.

B. Ceiling Runner — Ceiling runner shall consist of galv steel channel sized to accommodate steel studs (Item 2C). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner secured with steel fasteners located not more than 2 in. (51 mm) from ends and spaced not greater than 24 in. (610 mm) OC.

B1. Light Gauge Framing\* - Slotted Ceiling Runner — As an alternate to the ceiling runner in Item 2B, slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2C). Flange height of slotted ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Slotted ceiling runner secured with steel fasteners located not more than 2 in. (51 mm) from ends and spaced max 24 in. (610 mm) OC.

B2. Ceiling Runner — Caller runner shall consist of galv steel channel sized to accommodate steel studs (Item 2C). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner secured with steel fasteners located not more than 2 in. (51 mm) from ends and spaced not greater than 24 in. (610 mm) OC.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK CALIFORNIA EXPANDED METAL PRODUCTS CO — CST CLARKWESTERN BUILDING SYSTEMS INC — Type SLT, SLT-H METAL-LITE INC — The System

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track C. Steel Studs — C-H shaped studs, min 4 in. (102 mm) wide by 1-1/2 in. (38 mm) deep, fabricated from 25 MSG galv steel, cut to lengths 3/4 to 1 in. (19 to 25 mm) less than floor to ceiling height and spaced 24 in. (610 mm) OC.

D. Gypsum Board\* — Nom 1 in. (25 mm) thick gypsum board liner panels. Panels cut 1-1/2 in. (38 mm) less in length than floor to ceiling height. Vertical edges inserted in H-shaped section of C-H studs. At the ends of the assembly, the free edge of the end panels are attached to the long leg of vertical L-runners (Item 2A) with 1-5/8 in. (41 mm) long Type S steel screws spaced max 12 in. (305 mm) OC.

E. Gypsum Board\* — Nom 5/8 in. (16 mm) thick gypsum board applied vertically in one or two layers for 1 hr and 2 hr fire rated assemblies, respectively. Panels cut 1-1/2 in. (38 mm) less in length than floor to ceiling height. The screws attaching the gypsum board layers to the C-H studs shall be located 1 to 1-1/2 in. (25 to 38 mm) below the bottom of the ceiling runner or slotted ceiling track. No gypsum board attachment screws are to penetrate the ceiling runner or slotted ceiling track.

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

3. Joint System — Max separation between bottom of floor and top of gypsum board (at the time of installation of the joint system) is 1 1/2 in. (38 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of the following:

A. Forming Material\* — Min 4 pcf (64 kg/m3) density mineral wool bat insulation cut to a thickness twice larger than the distance between the top of the gypsum board and the bottom of the floor. Material compressed 50 percent and installed within ceiling runner above top of liner panel flush with the inside surface of the panel. Material compressed and installed on finished side of the wall between the top of the gypsum board and the bottom of the floor, flush with the surface of the wall.

FIBREX INSULATIONS INC — FBX Safing Insulation ROCK WOOL MANUFACTURING CO — Delta Board ROXUL INC — SAFE THERMAFIBER INC — Type SAF

A1. Forming Material\* - Strips — As an alternate to Item 2A, the strips are stacked to a height twice larger than the distance between the top of the gypsum board and the bottom of the floor. Strips compressed 50 percent and installed within ceiling runner above top of liner panel flush with the inside surface of the panel. Strips compressed and installed

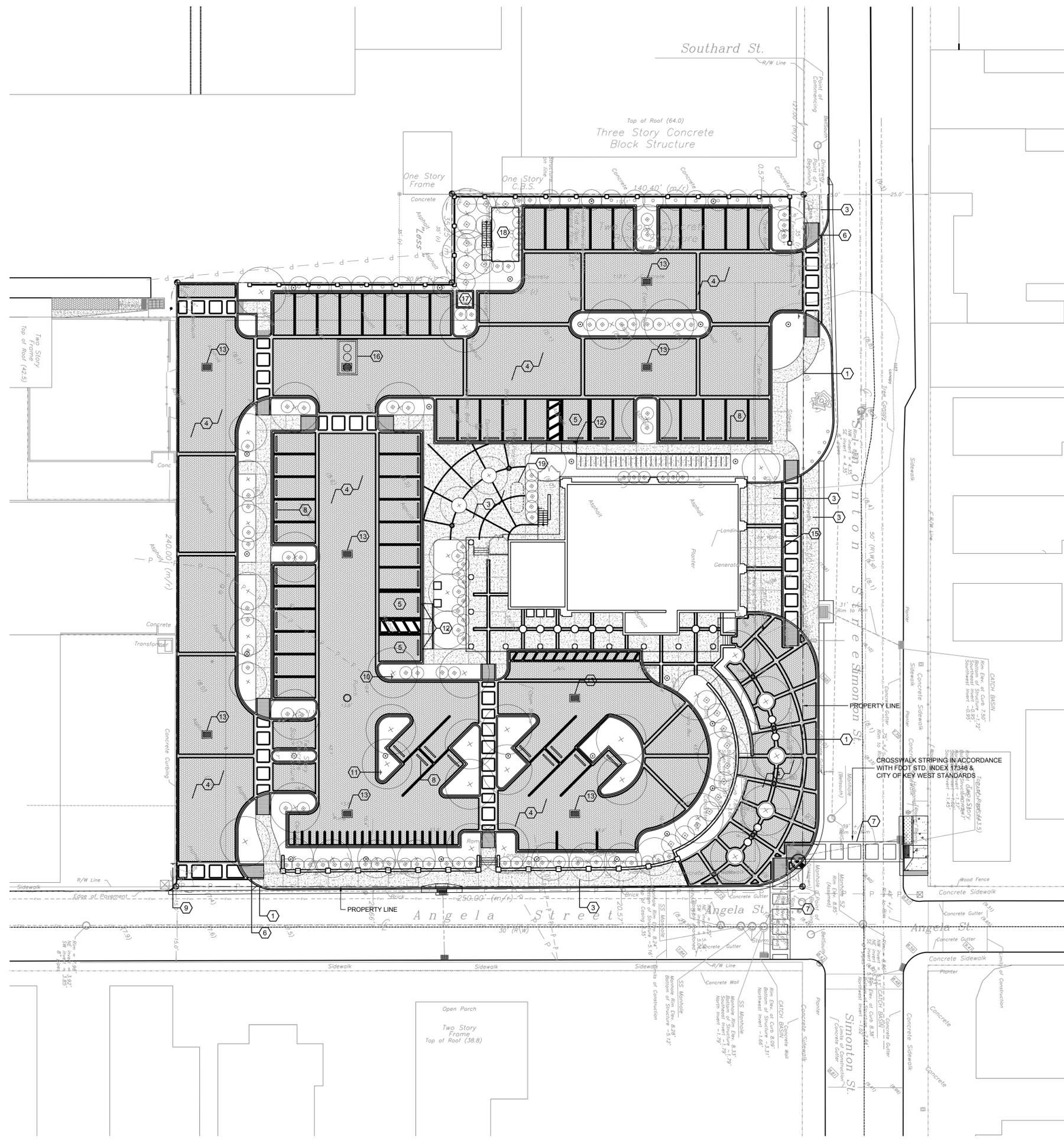








20' 0 20'  
SCALE 1"=20'  
BAR IS TWO INCHES ON ORIGINAL DRAWINGS IF  
NOT TWO INCHES ON THIS SHEET ADJUST  
SCALES ACCORDINGLY



**SITE PLAN KEY NOTES**

- ① PROJECT LIMITS / PROPERTY LINE
- ② ASPHALT PAVEMENT (EXISTING)
- ③ CONCRETE PAVEMENT
- ④ ASPHALT PAVEMENT (STAMPED PATTERN)
- ⑤ HANDICAP PARKING
- ⑥ ADA DETECTABLE WARNING, TYP.
- ⑦ PEDESTRIAN CROSSWALK
- ⑧ PARKING BUMPER, TYP.
- ⑨ R1-1 24" STOP SIGN
- ⑩ R5-1 "DO NOT ENTER" SIGN
- ⑪ R6-2 "ONE WAY" SIGN
- ⑫ HANDICAP PARKING SIGNAGE
- ⑬ STORM INLET (DITCH BOTTOM INLET)
- ⑭ STORM INLET (CURB INLET)
- ⑮ STORM INLET (TRENCH DRAIN)
- ⑯ TRIPLE CHAMBER BAFFLE BOX W/ WELL
- ⑰ GROUND MOUNTED TRANSFORMER
- ⑱ GENERATOR
- ⑲ PROPANE TANK (UNDERGROUND)

**SITE PLAN NOTES:**

1. LANDSCAPING IS SHOWN FOR GENERAL REFERENCE ONLY. SEE LANDSCAPE DWGS. FOR INSTALLATION / REMOVAL REQUIREMENTS AND STANDARDS.
2. SEE LANDSCAPE DWGS. FOR SPECIFIC SURFACE MATERIALS FINISHES.

**LEGEND**

- PROJECT LIMITS
- ▨ ASPHALT (STAMPED PATTERN)
- ▩ CONCRETE PAVEMENT
- ▧ ADA DETECTABLE WARNING SURFACE

NOTE: SYMBOLS IN LEGEND ARE NOT TO SCALE

Seal:

Consultants:  
STRUCTURAL ENGINEER:  
TKW Consulting Engineers  
5621 Banner Drive,  
Fort Myers, Florida 33912

CIVIL ENGINEER:  
Paces Engineering & Development, Inc.  
1010 Kennedy Dr., Suite 201  
Key West, Florida 33040

MEP/FP ENGINEER:  
TLC Engineering for Architecture  
1400 Colonial Boulevard, Suite 203  
Fort Myers, Florida 33907

LANDSCAPE ARCHITECT:  
Landscape Architecture, LLC  
2525 Ponce de Leon Blvd., Suite 300  
Coral Gables, Florida 33134

Submissions:  
2013.02.15 - Bidding Documents

**FIRE STATION #2**  
616 Simonton Street, Key West, Florida  
**BUILDING AND SITE DEVELOPMENT**  
FOR  
City of Key West, 3132 Flagler Avenue, Key West, Florida 33040

Drawing Size | Project #  
| MK-12060  
Drawn By: | Checked By:

Title:  
**SITE PLAN**

Sheet Number:  
**C-3**  
Date: February 15, 2013  
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