Design No. F-C-2355

December 08, 2008

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1 and 2 Hr (See Item 1)

L Rating At Ambient — Less Than 1 CFM/sq ft

L Rating At 400 F — Less Than 1 CFM/sq ft

1. **Floor-Ceiling Assembly —** The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. The F and T Ratings of the firestop system are equal to the rating of the floor-ceiling assembly. The general construction features of the floor-ceiling assembly are summarized below:
A. **Flooring System —** Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Diam of opening hole-sawed in flooring shall be max 1/2 in. (13 mm) larger than diam of through penetrant (Item 3).
B. **Wood Joists*** — For 1 hr fire-rated floor-ceiling assemblies nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assembly, nom 2 by 10 in. (51 by 250 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging with ends firestopped.
C. **Furring Channels —** (Not Shown)— Resilient galv steel furring installed perpendicular to wood joists between first and second layers of gypsum board (Item 1D) in 2 hr fire-rated assembly.
D **Gypsum Board* —** Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. First layer of gypsum board nailed to wood joists. Second layer of gypsum board (2 hr fire-rated assembly) screw-attached to furring channels. Diam of opening shall be max 1/2 in. (13 mm) larger than nom diam of through penetrant (Item 3).
2. **Chase Wall —** (Optional, Not Shown)—The through-penetrant (Item 3) may be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and which includes the following construction features:
A. **Studs —** Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
B. **Sole Plate —** Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening hole-sawed in sole plate to be max 1/2 in. (13 mm) larger than diam of through penetrant (Item 3).
C. **Top Plate —** The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be max 1/2 in. (13 mm) larger than diam of through penetrant (Item 3).
D. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in the individual Wall or Partition Design.
3 **Through Penetrants —** One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe or conduit and the periphery of the opening shall be min 0 in. (0 mm, point contact) to a max 1/2 in. (13 mm). Pipe or conduit to be rigidly supported on both sides of floor-ceiling. The following types and sizes of pipes or conduits may be used:
A. **Polyvinyl Chloride (PVC) Pipe —** Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe —** Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CVPC pipe for use in closed (process or supply) piping systems.
C. **Acrylonitrile Butadiene Styrene (ABS) Pipe —** Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular core or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
D. **Rigid Nonmetallic Conduit+ —** Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code, (NFPA No. 70).
4. **Firestop System —** The firestop system shall consist of the following:
A. **Fill, Void or Cavity Material* — Sealant —** Min 3/8 in. (10 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate.
SPECIFIED TECHNOLOGIES INC — SpecSeal Series SSS Sealant or SpecSeal LCI Sealant
B. **Fill, Void or Cavity Material* — Wrap Strip —** Nom 1/8 in. (3.2 mm) or 3/16 in. (4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. or 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. For nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam pipes/conduits, a min of two layers of wrap strip are required. For nom 2-1/2 in. (64 mm) or 3 in. (76 mm) diam pipes/conduits, a min of three layers of wrap strip are required. For nom 3-1/2 in (89 mm) and 4 in. (102 mm) diam pipes/conduits, a min of four layers of wrap strip are required. The layers of wrap strip are to be eccentrically installed such that the layers do not completely encircle the penetrant. The layers are wrapped around the penetrant flush with bottom surface of ceiling or top plate such that the ends butt up to the tangent of the periphery of the opening at the point contact location. Layers of wrap strip temporarily held in place with tape.
SPECIFIED TECHNOLOGIES INC — SpecSeal RED Wrap Strip, SpecSeal BLU Wrap Strip or SpecSeal BLU2 Wrap Strip
C. **Steel Collar —** Collar fabricated from coils of precut 0.016 in. (4 mm) thick (No. 30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be nom 1-1/2 in. (38 mm) or 2 in. (51 mm) deep (dependent upon width of wrap strip) with min four 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for attachment to the ceiling or top plate. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 3/8 in. (10 mm) wide and located opposite the anchor tabs, are folded 90 degree toward through-penetrant surface to maintain the annular space around the through-penetrant and to retain the wrap strips. Steel collar wrapped around wrap strips and through penetrant with a 1 in. (25 mm) wide overlap along its perimeter joint. Steel collar tightened around wrap strips and through penetrant using min 1/2 in. (13 mm) wide by 0.028 in. (7 mm) thick stainless steel hose clamp installed at midheight of the collar or using three symmetrically located No. 8 steel sheet metal screws. Collar secured to gypsum board surface with 1/8 in. (3 mm) diam steel hollow wall anchors in conjunction with min 1 in. (25 mm) diam steel fender washers installed symmetrically opposite the point contact location. When installed inside chase wall, the collar is fastened to the top plate with nom 3/4 in. (19 mm) long steel wood screws in conjunction with nom 1 in. (25 mm) diam steel fender washers. The number of fasteners used is dependent upon the nom diam of the through penetrant. Two fasteners, symmetrically located, are required for nom 1-1/2 in (38 mm) and 2 in. (51 mm) diam through penetrants. Three fasteners, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Five fasteners, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants.

*Bearing the UL Classification Mark

+Bearing the UL Listing Mark

Last Updated on 2008-12-08

H1 UL F-C-2355
NTS

Design No. F-C-2368

December 27, 2007

F Rating — 1 Hr

T Rating — 1 Hr

1. **Floor - Ceiling Assembly —** The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Designs in the UL Fire Resistance Directory, as summarized below:
A. **Flooring System —** Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 4 in. (102 mm).
B. **Wood Joists —** Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped.
C. **Gypsum Board* —** Nom 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Wallboard secured to joists as specified in the individual Floor-Ceiling Design. Max diam of ceiling opening is 4 in. (102 mm).

2. **Through Penetrants —** One nonmetallic pipe to be centered within the firestop system. The annular space between pipe and periphery of opening shall be nom 1/4 in. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes may be used:
A. **Polyvinyl Chloride (PVC) Pipe —** Nom 3 in. (76mm) Schedule 40 solid core PVC or cellular core PVC (ccPVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
B. **Acrylonitrile Butadiene Styrene (ABS) Pipe —** Nom 3 in. (76mm) Schedule 40 solid core ABS or cellular core ABS (ccABS) for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. **Firestop System —** The firestop system shall consist of the following:
A. **Fill, Void or Cavity Material* - Wrap Strip —** One layer of nom 1/4 in. thick by 2 in. wide intumescent wrap strip tightly wrapped around the outer circumference of the pipe with ends butted and held in place with foil tape. Wrap strip slid into the annular space with the bottom edge of the wrap strip extending 1/4 in. below gypsum board ceiling.
RECTORSEAL — Blostop Wrap Strip
B. **Fill, Void or Cavity Material* - Caulk —** Min 3/4 in. (19 mm) thickness of fill material applied within annulus, flush with top surface of floor.
RECTORSEAL — Blostop 500+

*Bearing the UL Classification Mark

Last Updated on 2007-12-27

H3 UL F-C-2368
NTS

Design No. F-C-3012

January 20, 2015

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1 and 1-3/4 Hr (See Item 3)	FT Ratings — 0, 1 and 1-3/4 Hr (See Item 3)
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Ratings — 0, 1 and 1-3/4 Hr (See Item 3)

1. **Floor-Ceiling Assembly —** The 1 or 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

A. **Flooring System —** Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening for 1 or 2 hr assembly is 2-1/2 in. (64 mm) or 2 in. (51 mm), respectively.
B. **Wood Joists* —** Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped.
C. **Furring Channels —** (Not Shown) — (As required) - Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.
D. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Max diam of opening for 1 or 2 hr assembly is 2-1/2 in. (64 mm) or 2 in. (51 mm), respectively.
The F Rating of the firestop system is equal to the rating of the floor-ceiling assembly.

2. **Chase Wall —** (Optional) - The through penetrant (Item 3) shall be routed through a fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. **Studs —** Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
B. **Sole Plate —** Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening for 1 or 2 hr rated assembly is 2-1/2 in. (64 mm) or 2 in. (51 mm), respectively.
C. **Top Plate —** The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening for 1 or 2 hr rated assembly is 2-1/2 in. (64 mm) or 2 in. (51 mm), respectively.
D. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. **Cables —** In 1 hr fire-rated assemblies, aggregate cross-sectional area of cables in opening to be max 45 percent of the cross-sectional area of the opening (max 2 in. (51 mm) diam bundle). Cables to be rigidly supported on both sides of floor assembly. Any combination of the following types and sizes of copper conductors may be used:

A. RG 59 coaxial cable with single copper conductor, cellular polyethylene cellular foam insulation and polyvinyl chloride (PVC) jacket.
B. Max 8/C No. 22 AWG telephone cable with polyvinyl chloride (PVC) jacketing.
C. Max 2/C No. 12 AWG cable with polyvinyl chloride (PVC) insulation and jacketing.
D. Max 3/C with ground No. 2/0 AWG aluminum or copper Type SER cable with polyvinyl chloride (PVC) insulation.
E. Max 3/C with ground No. 2/0 AWG Type NM cable with polyvinyl chloride (PVC) insulation.
F. Max 3/C No. 12 AWG MC (BX) cable with polyvinyl chloride (PVC) insulation.
G. Max 1 in. diam metal clad TEK cable with PVC jacket.
H. Max 4/C with ground No. 300 kcmil (or smaller) aluminum SER cable with PVC insulation and jacket.
I. **Through Penetrating Product*** - Any cables, **Metal-Clad Cable+** or **Armored Cable+** currently Classified under the **Through Penetrating Products** category.
See **Through Penetrating Product** (XHLY) category in the Fire Resistance Directory for names of manufacturers.
The T Rating is 1 and 1-3/4 hr for 1 and 2 hr rated assemblies, respectively, for cables 3A through 3G. The T Rating is 0 hr for cables 3H and 3I.

4. **Fill, Void or Cavity Material* — Sealant —** Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material also applied within the annulus, flush with bottom surface of ceiling or lower top plate.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A Sealant or FS-One Sealant or FS-ONE MAX Intumescent Sealant

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

Last Updated on 2015-01-20

H5 UL F-C-3012
NTS

Design No. F-C-7002

December 08, 2008

F Rating — 1 Hr

T Rating — 3/4 Hr

1. **Floor-Ceiling Assembly —** The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

A. **Flooring System —** Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 5 in.
B. **Wood Joists —** Nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required with ends firestopped.
C. **Furring Channels —** (Not Shown) — Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between wallboard (Item 1D) and wood joists or furring channels as required in the individual Floor-Ceiling Design.
D. **Gypsum Board* —** Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Wallboard secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design. Max diam of ceiling opening is 5 in.

1.1 **Chase Wall —** (Not Shown, optional) The through penetrant (Item 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
B. **Sole Plate —** Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
C. **Top Plate —** The double top plate shall consist of two nom by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 5 in.
D. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

2. **Steel Duct —** Nom 4 in. diam (or smaller) No. 30 gauge (or heavier) steel duct. One duct to be centered within the firestop system. Diam of openings hole-sawed through flooring system and through gypsum wallboard ceiling to the nom 1/2 in. larger than the outside diam of through-penetrant. Steel duct to be rigidly supported on both sides of floor-ceiling assembly.

3. **Fill, Void or Cavity Material* — Sealant —** Min 3/4 in. thickness of fill material applied within annulus on top surface of floor. Min 5/8 in. thickness of fill material applied within annulus on bottom surface of ceiling or lower top plate of chase wall assembly. Additional fill material to be installed such that a min 1/8 in. crown is formed around the penetrating item on bottom surface of ceiling or lower top plate of chase wall assembly.

SPECIFIED TECHNOLOGIES INC — SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

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

Last Updated on 2008-12-08

H7 UL F-C-7002
NTS

Design No. F-C-8009

January 21, 2015

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 1 Hr	FT Rating — 1 Hr
	FH Rating — 1 Hr
	FTH Rating — 1 Hr

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. **Floor-Ceiling Assembly —** The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

A. **Flooring System —** Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 3 in. (76 mm).
B. **Wood Joists —** Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members*** with bridging as required and with ends firestopped.
C. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Max diam of opening in ceiling [when chase wall (Item 2) is not provided] is 3 in. (76 mm).

2. **Chase Wall —** (Optional, Not Shown) — The through penetrant (Item 3) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Nom 2 by 6 in. (51 by 152 mm) lumber or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
B. **Sole Plate —** Nom 2 by 6 in. (51 by 152 mm) lumber or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening shall be 3 in. (76 mm).
C. **Top Plate —** The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) lumber plates or 2 sets of parallel nom 2 by 4 in. (51 by 102 mm) lumber, tightly butted. Max diam of opening is 3 in. (76 mm).
D. **Gypsum Board* —** Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. **Through Penetrants —** Pipe, cable and tubing to be bundled and rigidly supported on both sides of floor assembly. A nom annular space of min 0 in. (point contact) to max 1/2 in. (13 mm) is required within the firestop system. The following types and sizes of pipe, cable and tubing are to be used in the firestop system in sufficient quantities to fill the firestop device:

A. **Cable —** Type PJT thermoset cable, 5/C No. 18 AWG copper conductor, plastic insulation and jacket.
B. **Polyvinyl Chloride (PVC) Pipe —** Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
C. **Copper Tubing —** Nom 3/4 in. (19 mm) diam (or smaller) Type L (or heavier) copper tubing.
D. **Copper Tubing —** Nom 1/2 in. (13 mm) diam (or smaller) Type L (or heavier) copper tubing.

4. **Tube Insulation — Plastics+ —** Nom 1/2 in. (13 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Insulation to be installed only on one through reverant having a max nom diam of 3/4 in. (19 mm).
See **Plastics+** (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

5. **Firestop System —** The firestop system shall consist of the following:

A. **Firestop Device* — Firestop Collar —** Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the penetrants and secured to underside of gypsum wallboard ceiling using the anchor hooks provided with the collar. The anchor hooks are to be secured to the surface of the ceiling with min 3/16 in. diam min 2-1/2 in. long toggle bolts.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 64-3 90/3"N, CP 64-3 63/2"N, CP 64-3 50/1-1/2"N .

B. **Fill, Void or Cavity Material* — Sealant —** Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom surface of ceiling or lower top plate. Caulk to be forced into interstices of penetration group to max extent possible at top surface of floor or sole plate and bottom surface of ceiling or lower top plate.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS611A, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

+Bearing the UL Recognized Component Mark
*Bearing the UL Classification Marking

Last Updated on 2015-01-21

H9 UL F-C-8009
NTS

PERMIT REVIEW STAMP

ISSUE HISTORY

No.	Date	Description
1	1/18/2018	ISSUE FOR PERMIT

REVISION HISTORY

No.	Date	Description

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CONSULTANT

MICHAEL E. GOVE
FLORIDA LICENSE # AR94111

STATE OF FLORIDA · MICHAEL E. GOVE · AR94111 · REGISTERED ARCHITECT

Digitally signed by Michael Gove
Date: 2018.01.22 13:57:12-05'00'

SUMMER BAY APTS. II	Drawn: Author
LAKE COUNTY, FL	Checked: Checker
	Approval: Approver
	Date: Issue Date
	Project #: 5389

UL REFERENCE DIRECTORY - FLOOR PENETRATIONS

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