

PROPOSED HISTORIC RENOVATION

THE LOFTS @ 1800 BROAD

1800 BROAD STREET

AUGUSTA, GA 30901

CODE ANALYSIS:

APPLICABLE CODES:

BUILDING CODES:	2018 IBC, WITH GEORGIA AMENDMENTS NFPA 2018, LIFE SAFETY CODE
ACCESSIBILITY CODE:	2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
MECHANICAL CODE:	2018 IMC, WITH GEORGIA AMENDMENTS
ELECTRICAL CODE:	2017 NEC, WITH GEORGIA AMENDMENTS
PLUMBING CODE:	2018 IPC, WITH GEORGIA AMENDMENTS
ENERGY CODE:	2015 IECC WITH GEORGIA AMENDMENTS

OCCUPANCY CLASSIFICATION:

EXISTING APARTMENT BUILDINGS, CH. 31 (LSC 2018)
R-2 RESIDENTIAL (IBC 2018)

TYPE OF CONSTRUCTION:

VB
1ST FLOOR NON SPRINKLERED
2ND FLOOR SPRINKLERED (NFPA 13R)

FIRE RESISTANCE RATINGS FOR BUILDING ELEMENTS: (2018 IBC TABLE 601)

STRUCTURAL	0
BEARING WALLS- EXT.	0
BEARING WALLS- INT.	0
NON-BEARING WALLS	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

BUILDING AREA & HEIGHT:

ALLOWABLE BUILDING AREA/ FL.=	7,000 SQ. FT.
ALLOWABLE HEIGHT=	40'-0"
ALLOWABLE STORIES=	3 (THREE)

ACTUAL BUILDING AREA/ FL.=	2,569 SQ. FT.
ACTUAL HEIGHT=	+/- 31'-1"
ACTUAL STORIES=	2 (TWO)

FIRE PROTECTION & SEPARATION REQUIREMENTS:

SHAFT	1 HR. (IBC 713.4)
STAIRWAYS	1 HR. (LSC 7.1.3.2.1(1))
MECH. ROOM	N/A
STORAGE	0
DWELLING UNIT	1 HR. (IBC 708)
DWELLING UNIT TO CORRIDOR	1 HR. (LSC 31.2.6.1(2))
DWELLING UNIT TO BUS./MERC./ASSEM.	2 HR. (IBC 508.4)

OCCUPANT LOAD: (PER LSC 2018, TABLE 7.3.1.2)

FIRST FLOOR (ASSUMED BUSINESS)	2,569 SQ. FT. @ 150 GROSS=	18
SECOND FLOOR APARTMENTS	2,569 SQ. FT. @ 200 GROSS=	13
TOTAL OCCUPANT LOAD		31

EGRESS: RESIDENTIAL APARTMENT BUILDINGS- SPRINKLERED (LSC TABLE A.7.6)

TRAVEL DISTANCE LIMIT:	325' (TOTAL)
COMMON PATH LIMIT:	50' (CORRIDOR COMMON PATH)
DEAD-END LIMIT:	50'
TRAVEL DISTANCE W/IN DWELLING UNIT:	125' (LSC 31.2.6.1(2))

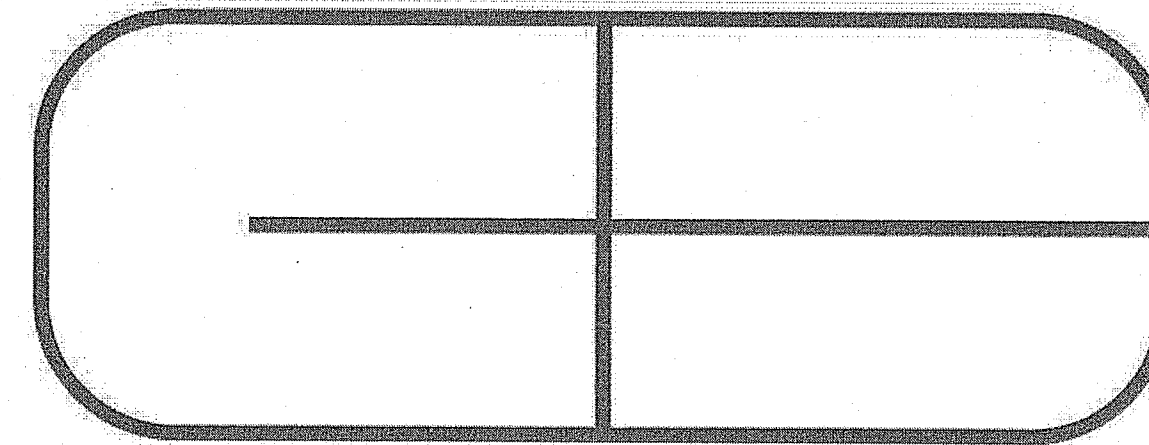
STAIRS: (EXISTING)

WIDTH:	36" MIN. CLEAR (LSC TABLE 7.2.2.2.1.1(b))
MAXIMUM RISER:	8" (LSC TABLE 7.2.2.2.1.1(b))
MINIMUM TREAD:	9" (LSC TABLE 7.2.2.2.1.1(b))
MAXIMUM HEAD CLEARANCE:	80" (LSC TABLE 7.2.2.2.1.1(b))
MAXIMUM HEIGHT B/W LANDINGS:	12'-0" (LSC TABLE 7.2.2.2.1.1(b))
LANDING DEPTH:	LEVEL FLOOR HT. AT DOOR (LSC 7.2.1.3)
	DOOR SWING (LSC 7.2.1.4.3.1)
OPENINGS BETWEEN TREADS:	NOT PERMITTED (ADA 2010)

SPRINKLER SYSTEM & FIRE ALARM NOTES: (2ND FLOOR ONLY)

SPRINKLER SYSTEM: SUPERVISED AUTOMATIC SPRINKLER TO BE A NFPA 13R SYSTEM (PER 2018 LSC 30.3.5 & 2018 IBC 903.3.1.2) DESIGNED AND INSTALLED BY LICENSED SPRINKLER SUB-CONTRACTOR. DRAWINGS TO BE PROVIDED FOR APPROVAL TO THE COUNTY/ CITY FIRE MARSHAL'S OFFICE.

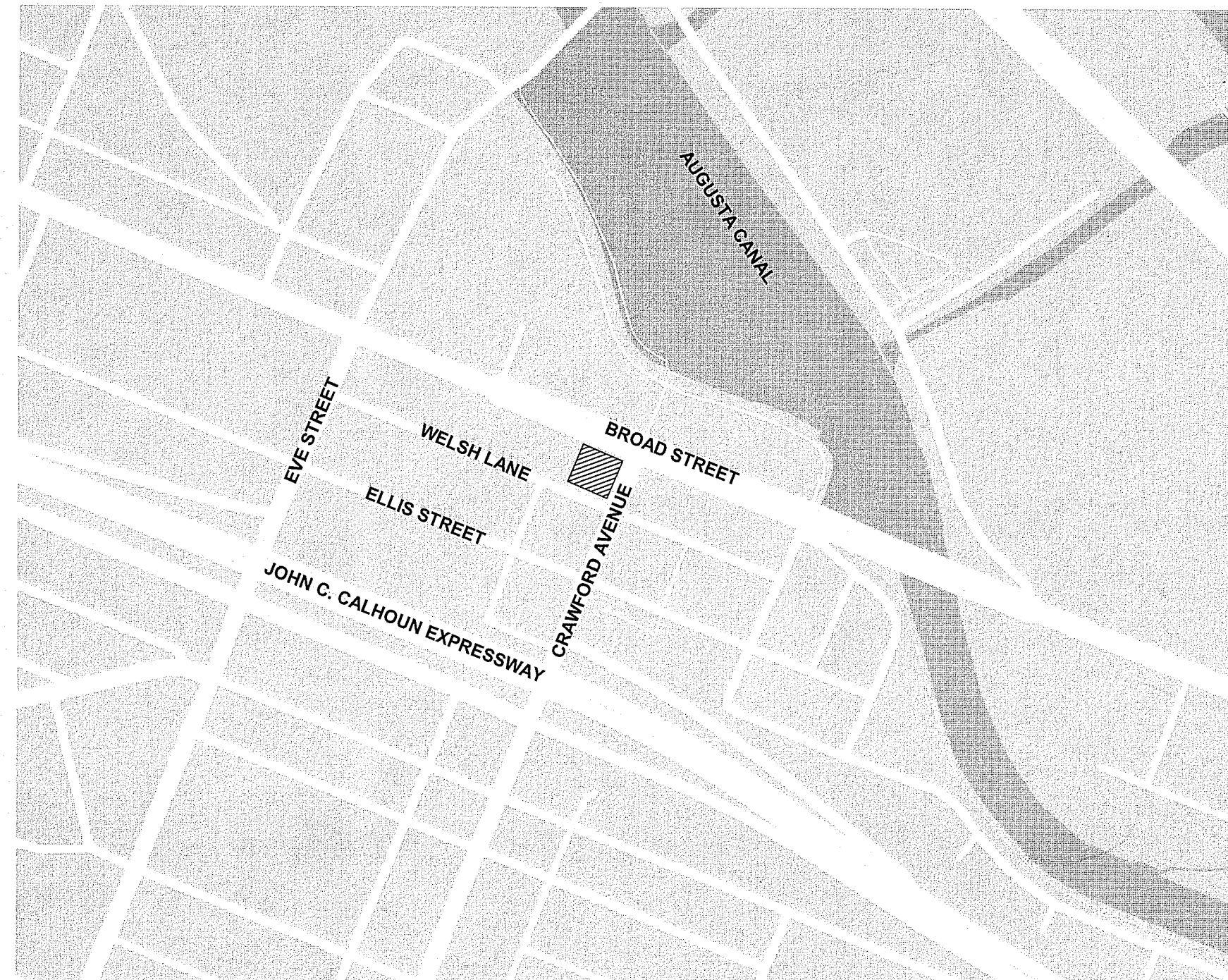
FIRE ALARM: FIRE ALARM SYSTEM IN ACCORDANCE WITH 2018 LSC 9.6. FIRE ALARM PANEL WILL BE NEEDED FOR THIS BUILDING. FIRE ALARM AND DETECTION IS TO BE DESIGNED AND INSTALLED (PER NFPA 72) BY A LICENSED FIRE ALARM SUB-CONTRACTOR. DRAWINGS TO BE PROVIDED FOR APPROVAL TO THE COUNTY/ CITY FIRE MARSHAL'S OFFICE.



ARCHITECTS

Christopher Booker & Associates, PC

PROJECT LOCATION:



INDEX TO DRAWINGS:

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A3.1	PROPOSED ELEVATIONS		
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A3.3	INTERIOR ELEVATIONS		
	WALL SECTION		
A4.1	DOOR AND FINISH SCHEDULE		

PROJECT DIRECTORY:

ARCHITECTURE FIRM: CHRISTOPHER BOOKER & ASSOCIATES, P.C.
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 SCOTT HAMBY, Assoc. AIA
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 AUGUSTA, GEORGIA 30901
 706-798-6792
PHONE: NATHAN@CBARCHITECTSPC.COM
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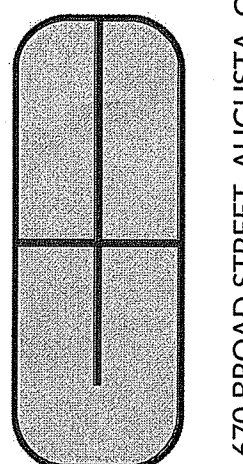
MECHANICAL/PLUMBING ENGINEERING FIRM:

CONTACT: GREENCO
CHCKD BY: JOE GREEN, P.E.
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 HARLEM, GEORGIA 30814
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EMAIL: GREENCOOFAUGUSTA@GMAIL.COM

ELECTRICAL ENGINEERING FIRM:

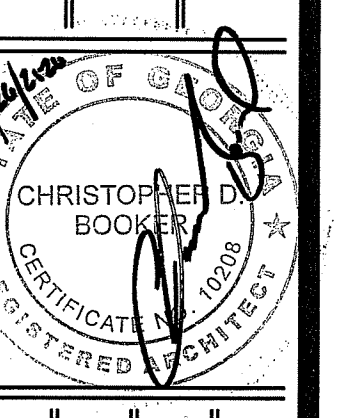
CONTACT: CLIFFORD LUSK, P.E.
 CLIFFORD LUSK, P.E.
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ARCHITECTS
 Christopher Booker & Associates, PC



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RENOVATION @ 1800 BROAD
 H. USRY, J. MORRIS, T. SCHUETZE
 1800 BROAD STREET
 AUGUSTA, GA 30901

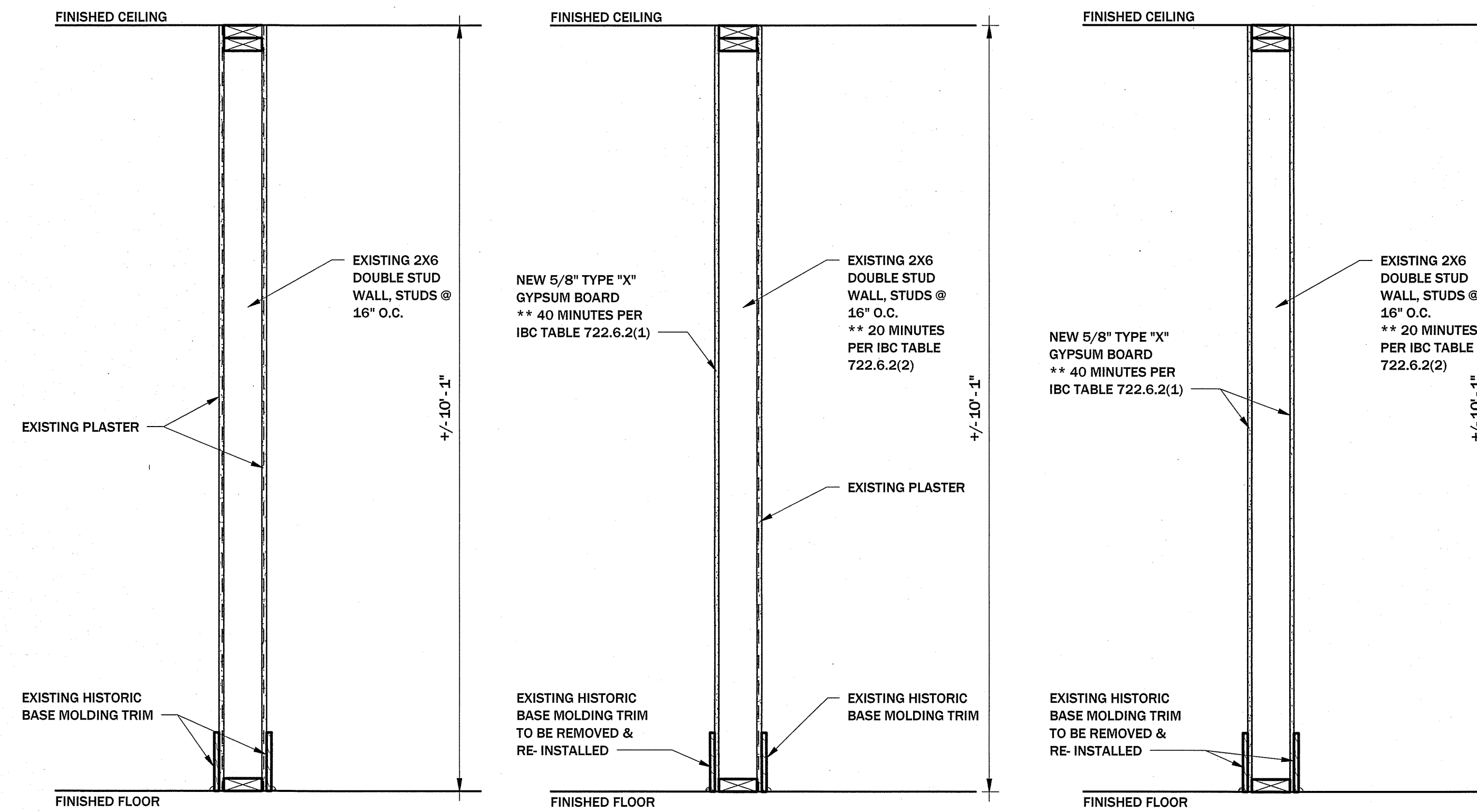


COVER SHEET

DRWN BY: SSB
 CHCKD BY:
 DATE: April 24th, 2020
 REVISIONS
 1 05/14/2020
 COUNTY COMMENTS

JOB NO.
 2012
 SHEET NO.

CS1.0



EXISTING WALL

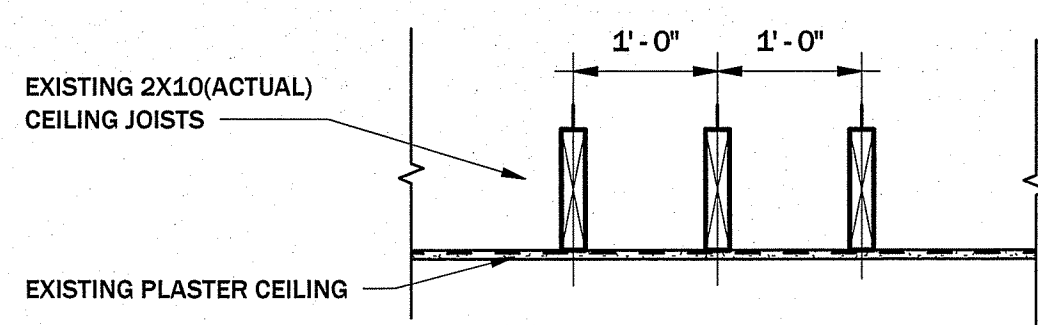
PROPOSED 1 HOUR RATED WALL
DAMAGED PLASTER ON ONE SIDE

PROPOSED 1 HOUR RATED WALL
DAMAGED PLASTER ON BOTH SIDES

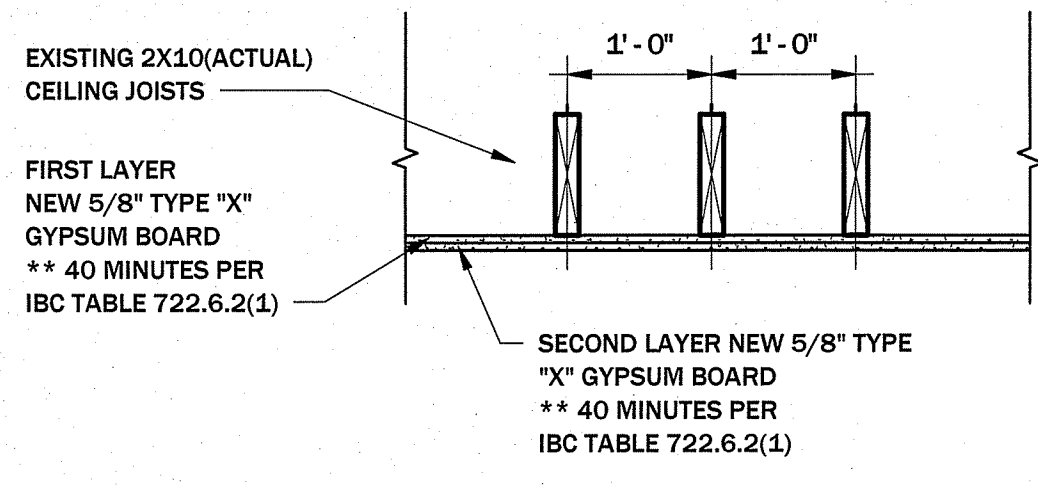
NOTE:
1. COORDINATE FASTENING REQUIREMENTS FOR NEW 5/8" TYPE "X" GYPSUM BOARD WITH FASTENING REQUIREMENTS SPECIFIED IN UL DESIGN U379. SEE SHEET A0.2.

1
A0.3 **CALCULATED FIRE RESISTANCE #2**

SCALE: 3/4" = 1'-0"



EXISTING ROOF/CEILING ASSEMBLY DETAILS



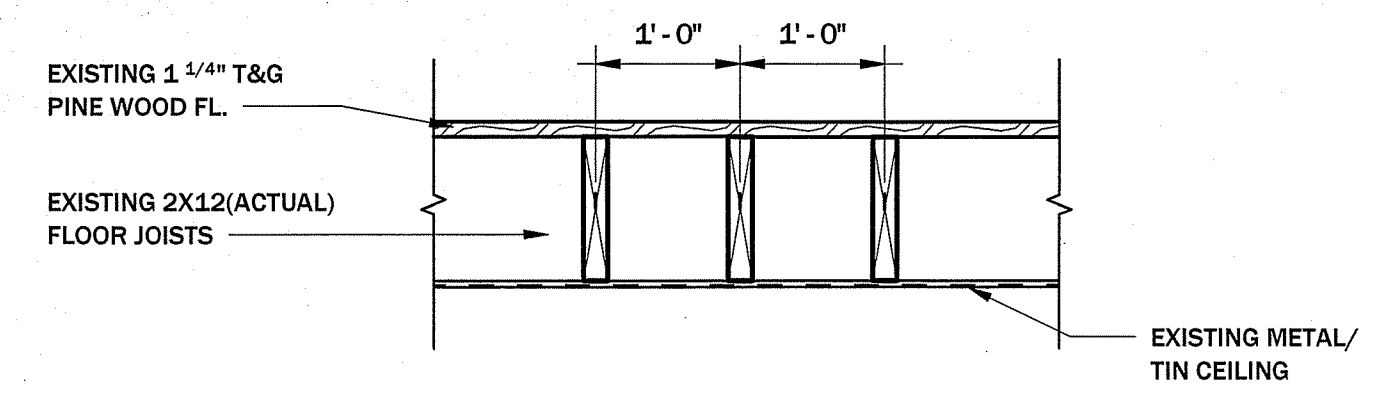
CALCULATED TOTAL = 80 MINUTES
1 HOUR (60 MINUTES) MIN. REQUIRED

PROPOSED FIRE RATED ROOF/CEILING ASSEMBLY

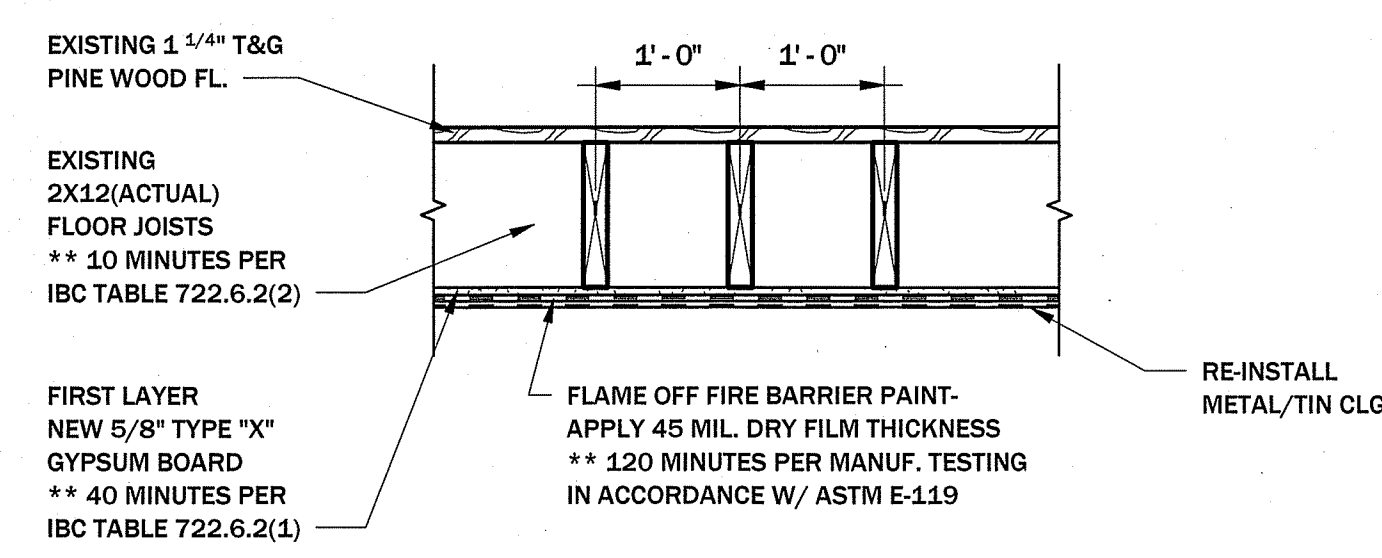
NOTE:
1. TO BE INSTALLED AT THE CEILING/ROOF ASSEMBLY BETWEEN ABOVE THE 2ND FLOOR GYPSUM BOARD; NOM. 5/8" THICK 4FT. WIDE GYPSUM BOARD. BASE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. BUTTED END JOINTS IN ADJACENT ROWS STAGGERED MIN. 32 INCHES. BASE LAYER SECURED TO THE EXISTING WOOD JOISTS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 16 INCHES OC IN THE FIELD. END JOINTS OF BASE LAYER SIMILARLY FASTENED TO ADDITIONAL WOOD BLOCKING POSITIONED AT END JOINT LOCATIONS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED AT 8 INCHES OC. FACE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. FACE LAYER SECURED TO WOOD JOISTS WITH 1-5/8 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC IN THE FIELD. BUTTED END JOINTS SECURED TO BASE LAYER WITH 1-1/2 INCH LONG TYPE G BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC. FACE LAYER SIDE JOINTS OFFSET MIN 24 INCHES FROM BASE LAYER SIDE JOINTS.
2. THE TWO (2) LAYERS OF 5/8" TYPE "X" GYP. BOARD ARE TO BE CONTINUOUS THROUGHOUT. NOTE THE ONE (1) HOUR WALLS SEPARATING THE APARTMENT UNITS & THE ONE (1) HOUR WALLS SEPARATING THE APARTMENT UNITS FROM THE CORRIDORS MAY INTERSECT THE ONE (1) HOUR RATED CEILING.

4
A0.3 **CALCULATED FIRE RESISTANCE #4**

SCALE: 3/4" = 1'-0"



EXISTING FLOOR/CEILING ASSEMBLY DETAILS



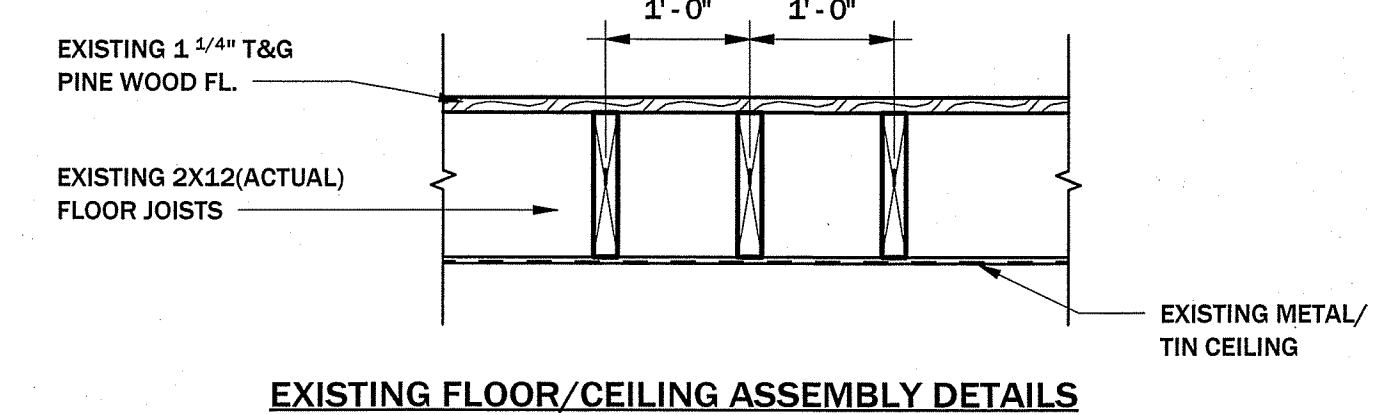
CALCULATED TOTAL = 170 MINUTES
2 HOUR (120 MINUTES) MIN. REQUIRED

PROPOSED FIRE RATED FLOOR/CEILING ASSEMBLY

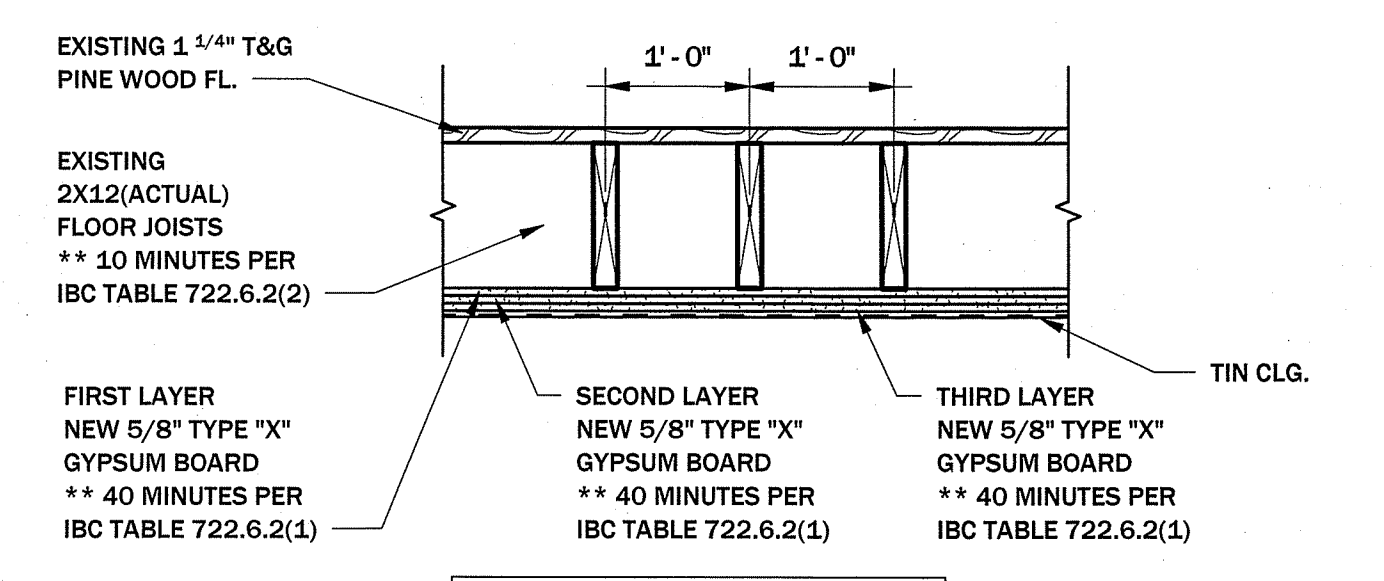
NOTE:
1. TO BE INSTALLED AT THE FLOOR/CEILING ASSEMBLY BETWEEN THE 1ST AND 2ND FLOORS GYPSUM BOARD; NOM. 5/8" THICK 4FT. WIDE GYPSUM BOARD. BASE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. BUTTED END JOINTS IN ADJACENT ROWS STAGGERED MIN. 32 INCHES. BASE LAYER SECURED TO THE EXISTING WOOD JOISTS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 16 INCHES OC IN THE FIELD. END JOINTS OF BASE LAYER SIMILARLY FASTENED TO ADDITIONAL WOOD BLOCKING POSITIONED AT END JOINT LOCATIONS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED AT 8 INCHES OC.
2. FLAME OFF: INTUMESCENT FIRE BARRIER COATING, 45 MIL DRY FILM THICKNESS (TO BE TESTED BY THIRD PARTY SPECIAL INSPECTIONS COMPANY), CERTIFIED ASTM E-119. PRODUCT BROCHURE, SUBMITTAL DATA, AND APPLICATION GUIDE CAN BE PROVIDED ON REQUEST.

3
A0.3 **CALCULATED FIRE RESISTANCE #3 ALT.**

SCALE: 3/4" = 1'-0"



EXISTING FLOOR/CEILING ASSEMBLY DETAILS



CALCULATED TOTAL = 130 MINUTES
2 HOUR (120 MINUTES) MIN. REQUIRED

PROPOSED FIRE RATED FLOOR/CEILING ASSEMBLY

NOTE:
1. TO BE INSTALLED AT THE FLOOR/CEILING ASSEMBLY BETWEEN THE 1ST AND 2ND FLOORS GYPSUM BOARD; NOM. 5/8" THICK 4FT. WIDE GYPSUM BOARD. BASE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. BUTTED END JOINTS IN ADJACENT ROWS STAGGERED MIN. 32 INCHES. BASE LAYER SECURED TO THE EXISTING WOOD JOISTS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 16 INCHES OC IN THE FIELD. END JOINTS OF BASE LAYER SIMILARLY FASTENED TO ADDITIONAL WOOD BLOCKING POSITIONED AT END JOINT LOCATIONS WITH 1 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED AT 8 INCHES OC. MIDDLE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. MIDDLE LAYER SECURED TO WOOD JOISTS WITH 1-5/8 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC IN THE FIELD. BUTTED END JOINTS SECURED TO BASE LAYER WITH 1-1/2 INCH LONG TYPE G BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC. MIDDLE LAYER SIDE JOINTS OFFSET MIN 24 INCHES FROM BASE LAYER SIDE JOINTS. FACE LAYER INSTALLED WITH LONG DIMENSIONS PARALLEL WITH WOOD JOISTS. FACE LAYER SECURED TO WOOD JOISTS WITH 2-1/2 INCH LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC IN THE FIELD. BUTTED END JOINTS SECURED TO BASE LAYER WITH 2 INCH LONG TYPE G BUGLE HEAD STEEL SCREWS SPACED 8 INCHES OC. FACE LAYER SIDE JOINTS OFFSET MIN 24 INCHES FROM MIDDLE LAYER SIDE JOINTS.
2. THE THREE (3) LAYERS OF 5/8" TYPE "X" GYP. BOARD ARE TO BE CONTINUOUS THROUGHOUT.

2
A0.3 **CALCULATED FIRE RESISTANCE #3**

SCALE: 3/4" = 1'-0"

CALCULATED WALL TYPES - 1 HOUR:

CALCULATED FIRE RESISTANCE #1: EXISTING MASONRY WALL

CONSTRUCTION DESCRIPTION:
EXISTING CLAY MASONRY (BRICK) WALLS
TABLE 722.4.1(1) RATED FIRE RESISTANCE PERIODS OF CLAY MASONRY WALLS
SOLID BRICK OF CLAY OR SHALE 6" = 4 HOURS
ACTUAL WALL THICKNESS = 9 1/2"
FIRE RESISTANCE RATING OF ONE HOUR IS EXCEEDED BY EXISTING WALL CONSTRUCTION CALCULATED FIRE RESISTANCE RATINGS

CALCULATED FIRE RESISTANCE #2: EXISTING WOOD STUD WALL

CONSTRUCTION DESCRIPTION:
EXISTING WOOD STUD WALL W/ EXISTING PLASTER & WOOD LATH.
TABLE 722.6.2(2) TIME ASSIGNED FOR CONTRIBUTION OF WOOD FRAME
WOOD STUDS 16" O.C. = 20 MIN.
EXISTING CALCULATED WALL EQUALS 20 MIN.
TO ACHIEVE 1 HOUR RATED ADD- (PLASTER DAMAGE ON BOTH SIDES OF WALL)
1 LAYER OF 5/8" TYPE "X" GYPSUM ON EACH SIDE OF THE WOOD STUDS
TABLE 722.6.2(1) TIME ASSIGNED TO WALLBOARD MEMBRANES
5/8" TYPE "X" GYPSUM WALLBOARD (1 LAYER) = 40 MIN.
NEW CALCULATED WALL EQUALS = 100 MIN.
TO ACHIEVE 1 HOUR RATED ADD- (PLASTER DAMAGE ON ONE SIDE OF WALL)
1 LAYER OF 5/8" TYPE "X" GYPSUM BOARD ON EXPOSED WOOD STUD SIDE.
TABLE 722.6.2(1) TIME ASSIGNED TO WALLBOARD MEMBRANES
5/8" TYPE "X" GYPSUM WALLBOARD (1 LAYER) = 40 MIN.
NEW CALCULATED WALL EQUALS = 60 MIN.

CALCULATED FLR./CLNG. TYPES - 2 HOUR:

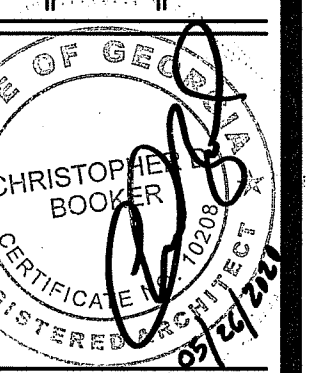
CALCULATED FIRE RESISTANCE #3: EXISTING FLOOR/CEILING

CONSTRUCTION DESCRIPTION:
EXISTING WOOD JOIST (ACTUAL) 2"x12" W/ 1 1/4" T&G WOOD PINE FLOORING & A HISTORIC METAL/TIN CEILING.
TABLE 722.6.2(2) TIME ASSIGNED FOR CONTRIBUTION OF WOOD FRAME
WOOD FLOOR 16" O.C. = 10 MIN.
EXISTING CALCULATED FLOOR CEILING EQUALS 10 MIN.
TO ACHIEVE 2 HOUR RATED ADD/MODIFY- REMOVE & SALVAGE THE HISTORIC METAL/TIN CEILING. ADD 3 LAYERS OF 5/8" TYPE "X" GYPSUM BOARD ON THE BOTTOM SIDE OF THE FLOOR JOISTS.
TABLE 722.6.2(1) TIME ASSIGNED TO WALLBOARD MEMBRANES
5/8" TYPE "X" GYPSUM WALLBOARD (1 LAYER) = 40 MIN.
NEW CALCULATED WALL EQUALS = 130 MIN.
RE-INSTALL HISTORIC METAL/TIN CEILING.
**ALTERNATE- REMOVE & SALVAGE THE HISTORIC METAL/TIN CEILING. ADD 1 LAYER OF 5/8" TYPE "X" GYPSUM BOARD ON THE BOTTOM SIDE OF THE FLOOR JOIST. APPLY 45 MIL DRY FILM THICKNESS FLAME OFF FIRE BARRIER PAINT
TABLE 722.6.2(1) TIME ASSIGNED TO WALLBOARD MEMBRANES
5/8" TYPE "X" GYPSUM WALLBOARD (1 LAYER) = 40 MIN.
45 MIL DFT FLAME OFF = 120 MIN.
NEW CALCULATED WALL EQUALS = 170 MIN.
RE-INSTALL HISTORIC METAL/TIN CEILING.

CALCULATED ROOF/CLNG. TYPES - 1 HOUR:

CALCULATED FIRE RESISTANCE #4: EXISTING ROOF/CEILING

CONSTRUCTION DESCRIPTION:
EXISTING WOOD JOIST (ACTUAL) 2"x12" W/ PLASTER FINISH.
TABLE 722.6.2(2) TIME ASSIGNED FOR CONTRIBUTION OF ROOF FRAME
WOOD ROOF 16" O.C. = 10 MIN.
EXISTING CALCULATED FLOOR CEILING EQUALS 10 MIN.
TO ACHIEVE 1 HOUR RATED ADD- 2 LAYERS OF 5/8" TYPE "X" GYPSUM BOARD ON THE BOTTOM SIDE OF THE ROOF JOISTS.
TABLE 722.6.2(1) TIME ASSIGNED TO WALLBOARD MEMBRANES
5/8" TYPE "X" GYPSUM WALLBOARD (1 LAYER) = 40 MIN.
NEW CALCULATED WALL EQUALS = 90 MIN.

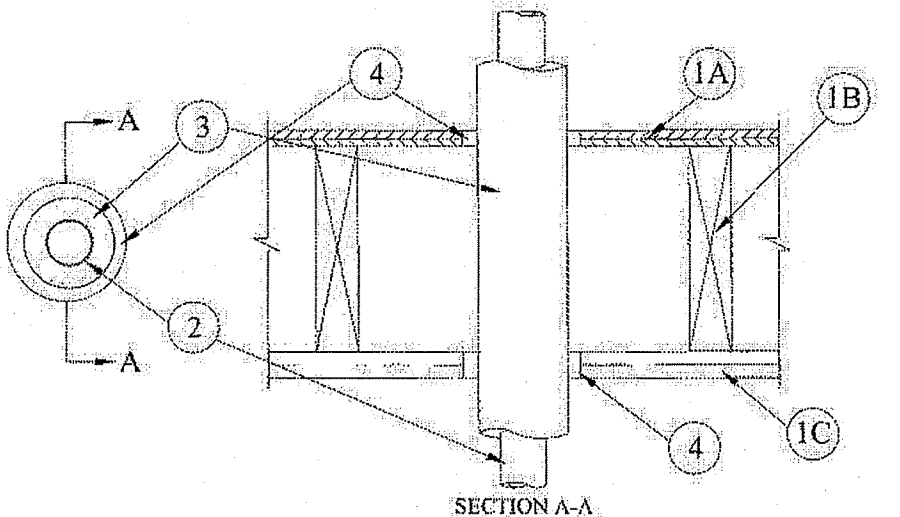


FLOOR PENETRATION (F-C-5037) - 1 HR CONSTRUCTION

System No. F-C-5037

January 20, 2015

ANSI/UL479 (ASTM E814)	CAN/ULC S115
F Rating - 1 and 2 Hr (See Item 1)	F Rating - 1 and 2 Hr (See Item 1)
T Rating - 1/4 and 1-3/4 Hr (See Item 1)	FT Rating - 1/4 and 1-3/4 Hr (See Item 1)
	FIH Rating - 1 and 2 Hr (See Item 1)
	FIH Rating - 1/4 and 1-3/4 Hr (See Item 1)



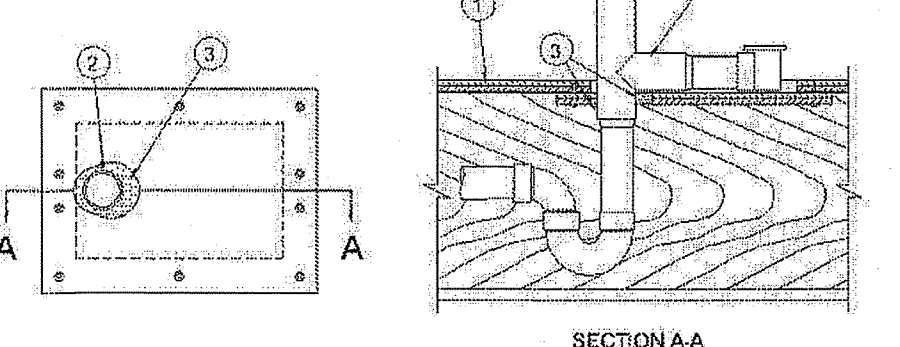
- Floor-Ceiling Assembly** - The 1 and 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
 - Finishing System** - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Material* as specified in the individual Floor-Ceiling Design. Rectangular gypboard is required to accommodate the bathtub drain piping (Item 2) to be max 8 in. (203 mm) by 12 in. (305 mm). Cutout to be placed on underside of finished floor. Finish floor shall be 1/4 in. (6 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum board (Dens-IC) sized to top min 2 in. (51 mm) beyond each edge of rectangular cutout. Drain pipe into one plane at opening and fastened for bathtub drain piping. Cham of opening hole sized through patch to accommodate drain piping (Item 2) to be 1 in. (25 mm) larger than outside diam of drain piping and positioned such that the annular space between drain piping and periphery of opening is min 5 in. (point contact) to max 1 in. (25 mm). Two plates positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1/4 in. (6 mm) long steel screws spaced max 8 in. (152 mm) OC.
 - Wood Joist*** - 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 fastened.
 - Gypsum Board*** - Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide as specified in the individual Floor-Ceiling Design.
 - Drain Piping** - Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 acrylonitrile butadiene styrene (ABS) or polypropylene (PPC) pipe with fittings connected together and provided with ABS or PVC bathtub waste/overflow fittings. Annular space shall be min 0 in. (point contact) to max 1 in. (25 mm).
 - Fill, Void or Cavity Material*** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of plywood or gypsum board joints. A min 1/2 in. (13 mm) diameter bead of sealant applied at the pipe/plywood or pipe/gypsum board interface at point contact location on the bottom side of patch.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - PS-ONE Sealant or PS-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.**

FLOOR PENETRATION (F-C-2262) - 1 HR CONSTRUCTION

System No. F-C-2262

January 15, 2015

ANSI/UL479 (ASTM E814)	CAN/ULC S115
F Rating - 1 Hr	F Rating - 1 Hr
T Rating - 1 Hr	FT Rating - 1 Hr



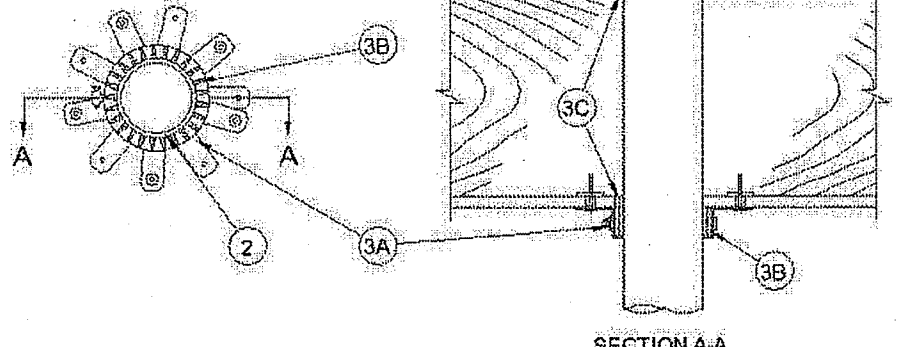
- Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
 - Finishing System** - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Material* as specified in the individual Floor-Ceiling Design. Rectangular gypboard is required to accommodate the bathtub drain piping (Item 2) to be max 8 in. (203 mm) by 12 in. (305 mm). Cutout to be placed on underside of finished floor. Finish floor shall be 1/4 in. (6 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum board (Dens-IC) sized to top min 2 in. (51 mm) beyond each edge of rectangular cutout. Drain pipe into one plane at opening and fastened for bathtub drain piping. Cham of opening hole sized through patch to accommodate drain piping (Item 2) to be 1 in. (25 mm) larger than outside diam of drain piping and positioned such that the annular space between drain piping and periphery of opening is min 5 in. (point contact) to max 1 in. (25 mm). Two plates positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1/4 in. (6 mm) long steel screws spaced max 8 in. (152 mm) OC.
 - Wood Joist*** - 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 fastened.
 - Gypsum Board*** - Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide as specified in the individual Floor-Ceiling Design.
 - Drain Piping** - Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 acrylonitrile butadiene styrene (ABS) or polypropylene (PPC) pipe with fittings connected together and provided with ABS or PVC bathtub waste/overflow fittings. Annular space shall be min 0 in. (point contact) to max 1 in. (25 mm).
 - Fill, Void or Cavity Material*** - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of plywood or gypsum board joints. A min 1/2 in. (13 mm) diameter bead of sealant applied at the pipe/plywood or pipe/gypsum board interface at point contact location on the bottom side of patch.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - PS-ONE Sealant or PS-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.**

FLOOR PENETRATION (F-C-2232) - 1 HR CONSTRUCTION

System No. F-C-2232

January 15, 2015

ANSI/UL479 (ASTM E814)	CAN/ULC S115
F Rating - 1 Hr	F Rating - 1 Hr
T Rating - 3/4 and 1 Hr (See Item 3)	FT Rating - 3/4 and 1 Hr (See Item 3)



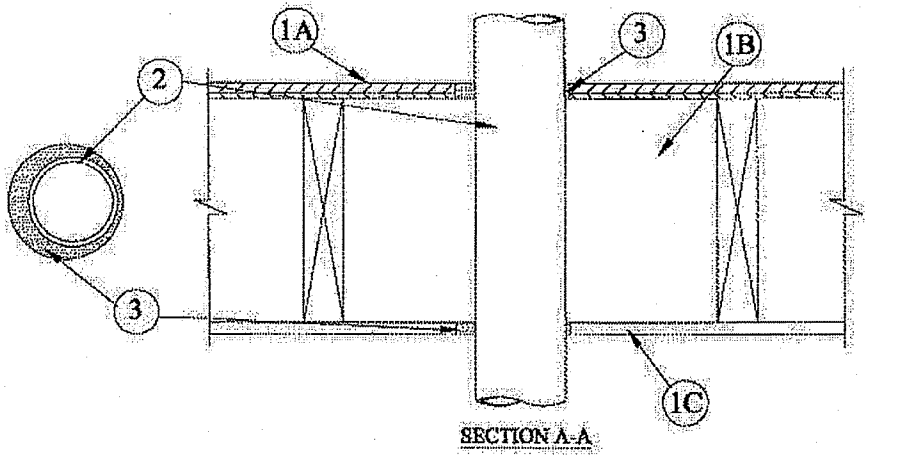
- Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
 - Finishing System** - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Material* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).
 - Wood Joist*** - 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 fastened.
 - Gypsum Board*** - Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).
 - Through Penetrants** - One metallic tube or pipe to be installed within the firestop system. Annular space between pipe or conduit and edge of opening to be min 0 in. (point contact) and max 1/2 in. (13 mm). Pipe or conduit to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of nonmetallic pipe or conduits may be used:
 - Polyvinyl Chloride (PVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - Chlorinated Polyvinyl Chloride (CPVC) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core CPVC pipe for use in closed (process or supply) piping systems.
 - Acrylonitrile Butadiene Styrene (ABS) Pipe** - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - Nonmetallic Pipe Conduits** - (Optional) Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC, Schedule 40 ABS or Schedule 40 CPVC coupling corresponding to pipe type installed such that the top of the conduit is flush with the bottom surface of the ceiling and extending downward.
 - Firestop System** - The firestop system shall consist of the following:
 - Fill, Void or Cavity Material*** - Wrap Strip - Nom 3/16 in. (5 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Layers of wrap strip continuously wrapped around the pipe and held in place with tape. Wrap strip butted tightly against surface of ceiling.
 - HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - CP648-E WS/1-3/4" Wrap Strip**
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - PS-ONE Sealant or PS-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.**

FLOOR PENETRATION (F-C-7013) - 1 HR CONSTRUCTION

System No. F-C-7013

January 20, 2015

ANSI/UL479 (ASTM E814)	CAN/ULC S115
F Rating - 1 Hr	F Rating - 1 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FIH Rating - 1 Hr
	FIH Rating - 0 Hr



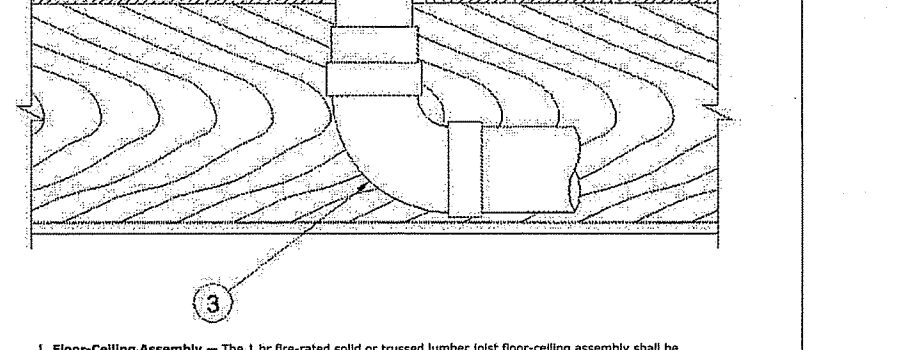
- Floor-Ceiling Assembly** - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
 - Finishing System** - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Material* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5-1/4 in. (133 mm).
 - Wood Joist*** - 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 fastened.
 - Gypsum Board*** - Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5-1/4 in. (133 mm).
 - Chase Wall** - (Not Shown, Optional) The through penetrant (Item 2) may be routed through a 1 hr fire-rated, 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 L500 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
 - Studs** - Nom 2 by 4 in. (51 by 102 mm) lumber or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
 - Soile Plate** - Nom 2 by 4 in. (51 by 102 mm) lumber or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening shall be 5-1/4 in.
 - Top Plate** - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm) lumber plates or two sets of nom 2 by 4 in. (51 by 102 mm) lumber plates tightly butted. Max diam of opening is 5-1/4 in. (133 mm).
 - Gypsum Board*** - Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
 - Steel Duct** - Nom 4 in. (102 mm) diam (or smaller) No. 28 gauge (or heavier) steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space between duct and periphery of opening shall be min of 1/4 in. (6 mm) to max 3/4 in. (19 mm). Steel duct to be rigidly supported on both sides of floor-ceiling assembly.
 - Fill, Void or Cavity Material*** - Sealant - Min 3/4 in. (19 mm) thickness of sealant applied within the annular space, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of sealant applied within the annular space, flush with bottom surface of gypsum board or lower top plate.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - PS-ONE Sealant or PS-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.**

FLOOR PENETRATION (F-C-2263) - 1 HR CONSTRUCTION

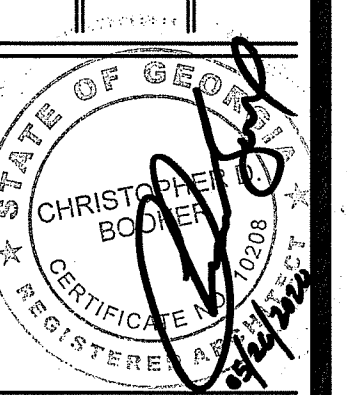
System No. F-C-2263

January 18, 2017

ANSI/UL479 (ASTM E814)	CAN/ULC S115
F Rating - 1 Hr	F Rating - 1 Hr
T Rating - 1 Hr	FT Rating - 1 Hr



- 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 Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
 - Finishing System** - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Material* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).
 - Wood Joist*** - 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 fastened.
 - Gypsum Board*** - Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide as specified in the individual Floor-Ceiling Design.
 - Close Flange** - Acrylonitrile butadiene styrene (ABS) or polypropylene (PPC) close flange sized to accommodate drain pipe. Close flange installed over drain piping ceiling floor ceiling with flange secured by screws. Annular space between close flange and periphery of opening shall be 1/4 in. (6 mm).
 - Drain Piping** - Nom 1 in. (25 mm) diam (or smaller) Schedule 40 acrylonitrile butadiene styrene (ABS) or polypropylene (PPC) pipe and 10 gage elbow for use in vented (drain, waste or vent) piping systems. Pipe installed concentrically within firestop system.
 - Fill, Void or Cavity Material*** - Sealant - Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with the bottom surface of floor.
 - Water Check** - (Not Shown) - Flap mounted without chime water check.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - CP 608 Flexible Firestop Sealant, PS-ONE Sealant or PS-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.**



GENERAL NOTES:

1. ALL RENOVATIONS AND MODIFICATIONS ARE TO COMPLY WITH THE SECRETARY OF INTERIOR'S STANDARDS FOR REHABILITATION.
2. ALL EXISTING INTERIOR/EXTERIOR WALL DIMENSIONS ARE SHOWN TO THE EXISTING FINISHED FACE OF WALLS. UNLESS NOTED OTHERWISE.
3. NEW INTERIOR/EXTERIOR WALL DIMENSIONS ARE TO SHOWN TO THE FACE OF WOOD STUD. UNLESS NOTED OTHERWISE.
4. TYPICAL INTERIOR WALL TO BE S.Y.P. WOOD STUDS @ 16" O.C. WITH 5/8" GWB PANELS. UNLESS NOTED OTHERWISE.
5. SEE SHEET A4.1 FOR DOOR SCHEDULE AND DOOR FRAME TYPES
6. WET WALLS TO HAVE MOISTURE RESISTANT GYPSUM BOARD
7. ALL TRADES ARE TO BE FAMILIAR WITH ALL DRAWING AND SPECIFICATIONS PROVIDED WITHIN THE CONSTRUCTION DOCUMENT PACKAGE. MECHANICAL, PLUMBING, ELECTRICAL, AND STRUCTURAL NOTES MAY BE PROVIDED ON THE ARCHITECTURAL DRAWINGS AND ARE TO BE INCLUDED WITHIN THE CONTRACT

WALL LEGEND:

- EXISTING WALLS TO REMAIN (ASSUME HISTORIC, NON-HISTORIC WALLS NOTED ON PLANS)
- NEW WALLS
- WALLS/COMPONENTS TO BE REMOVED/CHANGED

SYMBOLS LEGEND:

- | | | | |
|--------------------|---------------------|--------------------|-------------|
| COLUMN GRID | (A) | DETAIL/SECTION | 1
A101 |
| | | WINDOW TAG | W1 |
| | | WALL TAG | A |
| | | ROOM TAG | ROOM
101 |
| | | DOOR TAG | 101B |
| | | ENLARGED NOTES TAG | {?} |
| INTERIOR ELEVATION | 4
A101
2
3 | | |
| REVISION TAG | 3 | | |
| ELEVATION | +2'-0" | | |

WALL TYPES:

SEE U.L. DESIGN U379 - SHEET A0.2

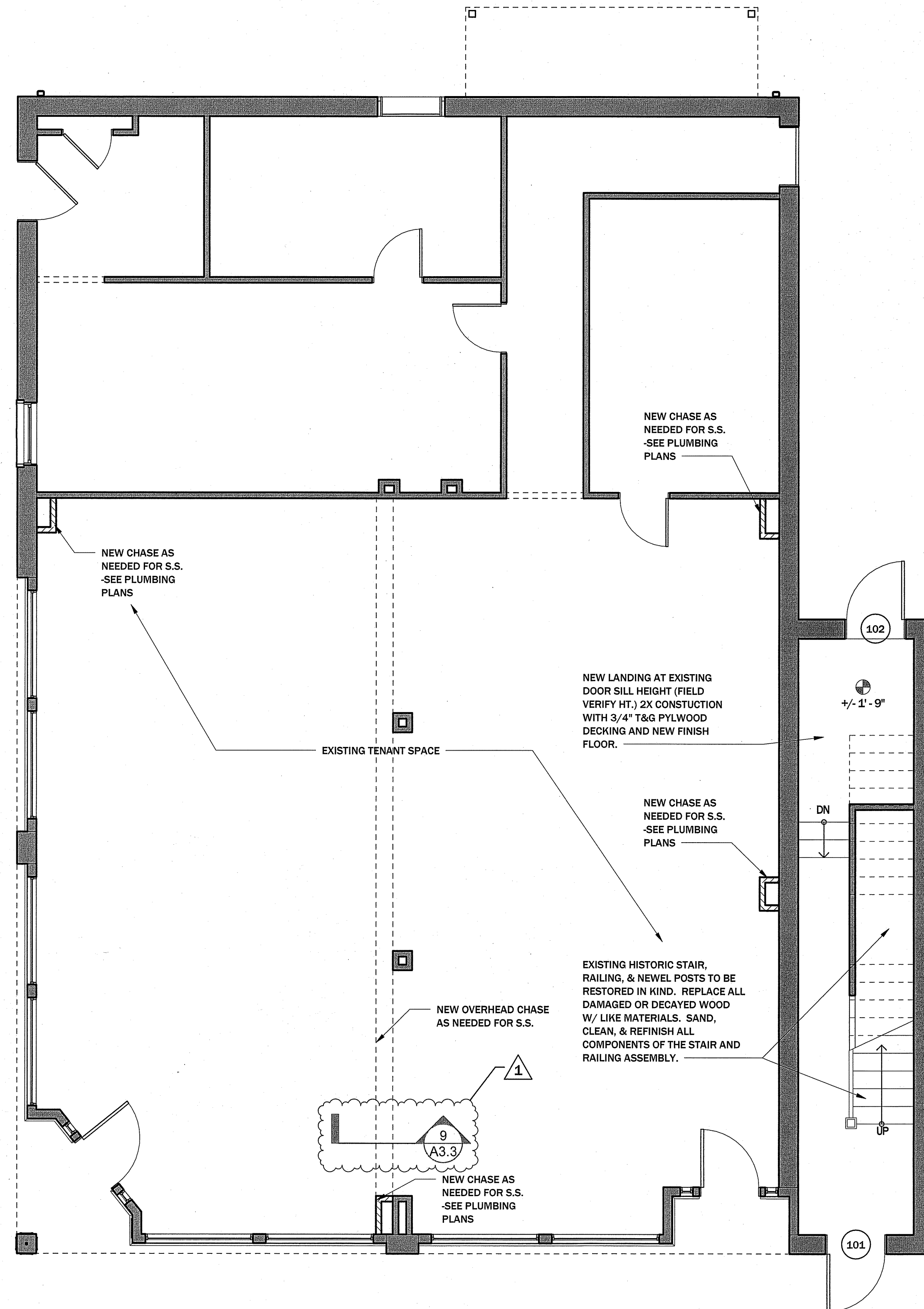
WALL TYPE 1

*EXTEND TO RATED CEILING ABOVE

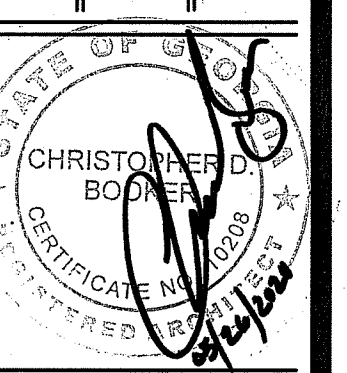
1/2" GWB
2X4 WOOD STUD @ 16" O.C.
INSULATE CAVITY
1/2" GWB

WALL TYPE 2

*EXTEND TO CEILING ABOVE



1
A2.1
PROPOSED FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



DRWN BY: SSH
CHKD BY:
DATE: April 24th, 2020
REVISIONS



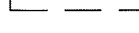
1	05/14/2020 COUNTY COMMENTS
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JOB NO. 2012
SHEET NO.














GENERAL NOTES:

1. ALL RENOVATIONS AND MODIFICATIONS ARE TO COMPLY WITH THE SECRETARY OF INTERIOR'S STANDARDS FOR REHABILITATION.
2. ALL EXISTING INTERIOR/EXTERIOR WALL DIMENSIONS ARE SHOWN TO THE EXISTING FINISHED FACE OF WALLS. UNLESS NOTED OTHERWISE.
3. NEW INTERIOR/EXTERIOR WALL DIMENSIONS ARE TO SHOWN TO THE FACE OF WOOD STUD. UNLESS NOTED OTHERWISE.
4. TYPICAL INTERIOR WALL TO BE S.Y.P. WOOD STUDS @ 16" O.C. WITH 5/8" GWB PANELS. UNLESS NOTED OTHERWISE.
5. SEE SHEET A4.1 FOR DOOR SCHEDULE AND DOOR FRAME TYPES
6. WET WALLS TO HAVE MOISTURE RESISTANT GYPSUM BOARD
7. ALL TRADES ARE TO BE FAMILIAR WITH ALL DRAWING AND SPECIFICATIONS PROVIDED WITHIN THE CONSTRUCTION DOCUMENT PACKAGE. MECHANICAL, PLUMBING, ELECTRICAL, AND STRUCTURAL NOTES MAY BE PROVIDED ON THE ARCHITECTURAL DRAWINGS AND ARE TO BE INCLUDED WITHIN THE CONTRACT

WALL LEGEND:

-  EXISTING WALLS TO REMAIN (ASSUME HISTORIC, NON-HISTORIC WALLS NOTED ON PLANS)
-  NEW WALLS
-  WALLS/COMPONENTS TO BE REMOVED/CHANGED

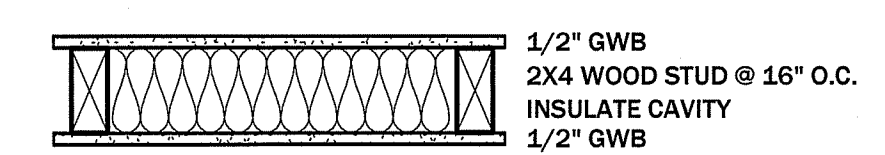
SYMBOLS LEGEND:


- | | | | |
|---|--------------------|---|--------------------|
|  | COLUMN GRID |  | DETAIL/SECTION |
|  | |  | WINDOW TAG |
|  | |  | ROOM TAG |
|  | |  | ROOM TAG |
|  | INTERIOR ELEVATION |  | DOOR TAG |
|  | REVISION TAG |  | ENLARGED NOTES TAG |
|  | ELEVATION | | |

WALL TYPES:

SEE U.L. DESIGN U379 - SHEET A0.2

- WALL TYPE  *EXTEND TO RATED CEILING ABOVE

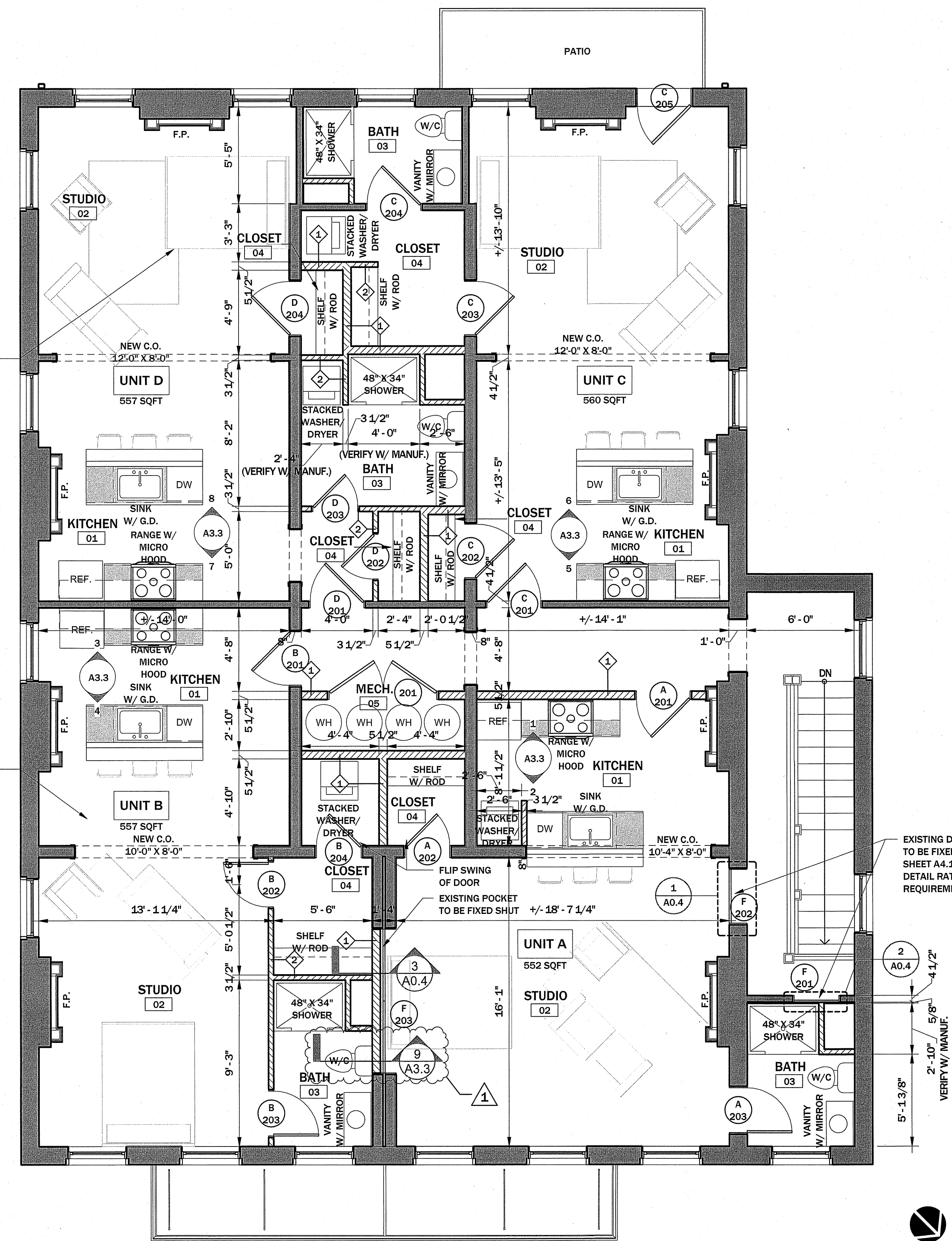


- WALL TYPE  *EXTEND TO CEILING ABOVE

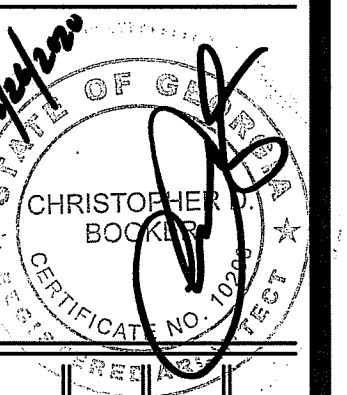
EXISTING DOORS ARE TO BE FIXED SHUT. SEE SHEET A4.1 FOR DETAIL RATING REQUIREMENTS

WALL FINISH NOTE:
ALL MINOR DAMAGED PLASTER FINISHED AREAS ARE TO BE REPAIRED IN KIND. AREAS WITH MAJOR PLASTER FINISH & LATH DAMAGED ARE TO BE REMOVED AND REPLACED W/ GYPSUM BOARD (5/8" TYPE "X"), PLASTER & GYPSUM BOARD SEAMS ARE TO BE FINISHED SMOOTH & FLUSH. (TYPICAL FOR ALL WALLS)

FLOOR FINISH NOTE:
EXISTING WOOD FINISH FLOOR IS TO BE STRIPPED OF NON HISTORIC FINISHES, CLEANED, AND PREPED FOR NEW STAINED FINISH. COLOR BY OWNER (TYPICAL ALL FLOORS)

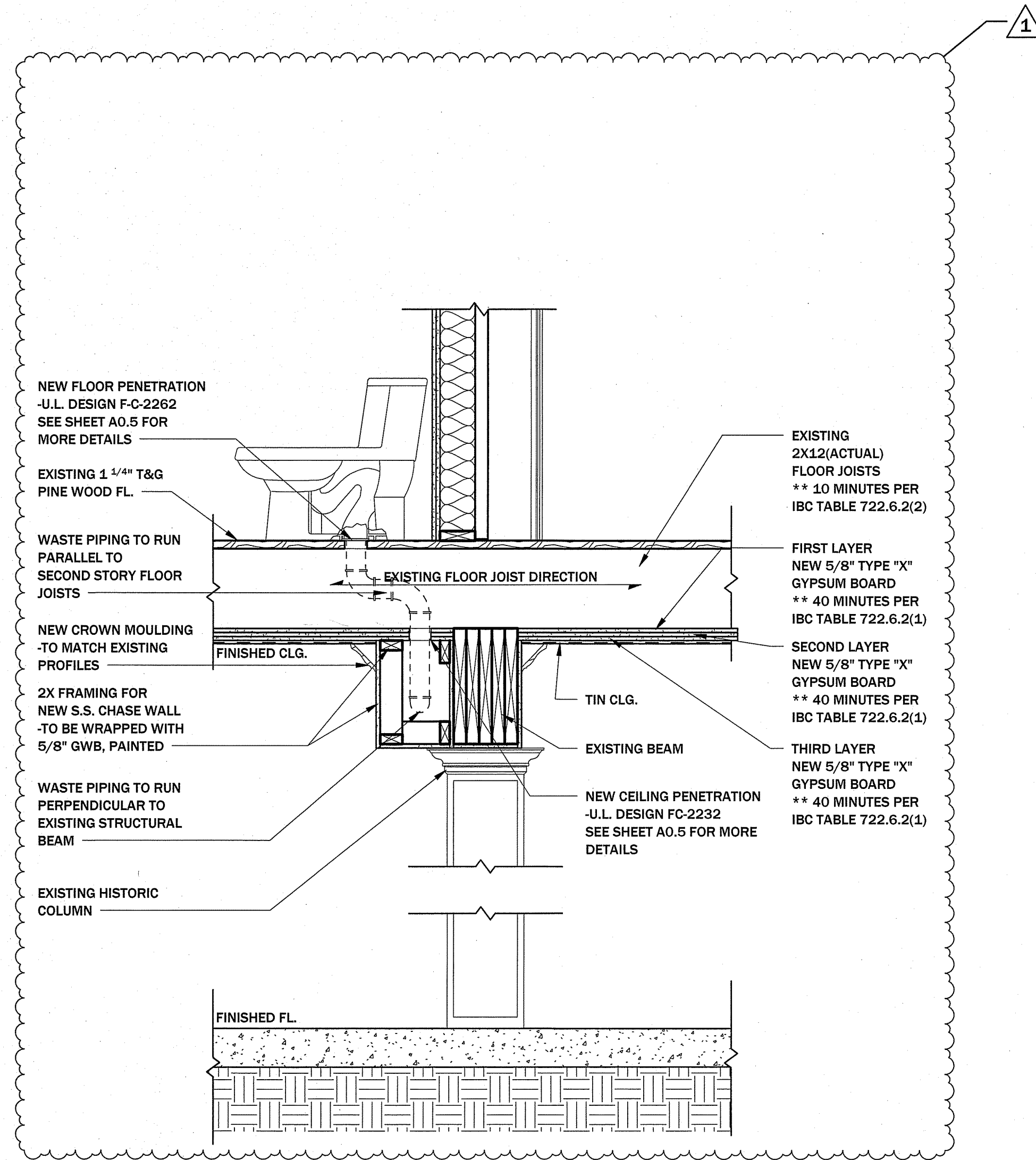


1
A2.2 **PROPOSED SECOND FLOOR PLAN**
SCALE: 1/4" = 1'-0"

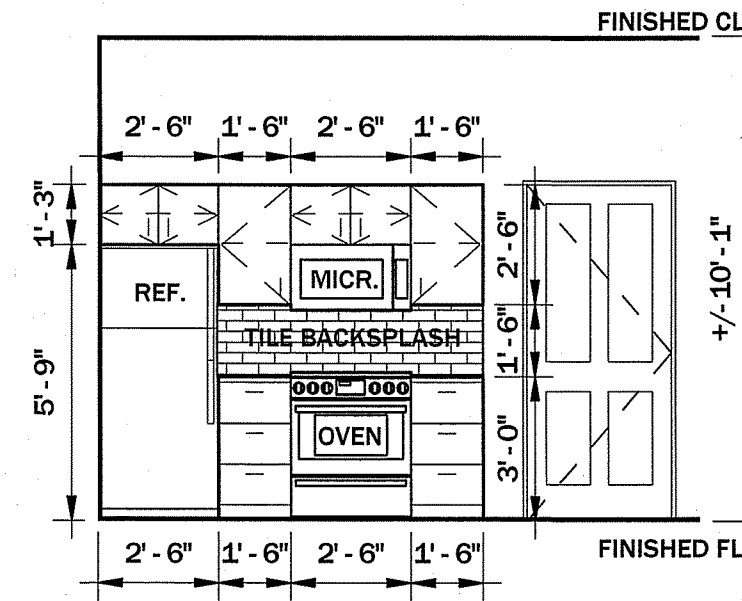


DRWN BY: SSM
 CHKD BY:
 DATE: April 24th, 2020
 REVISIONS

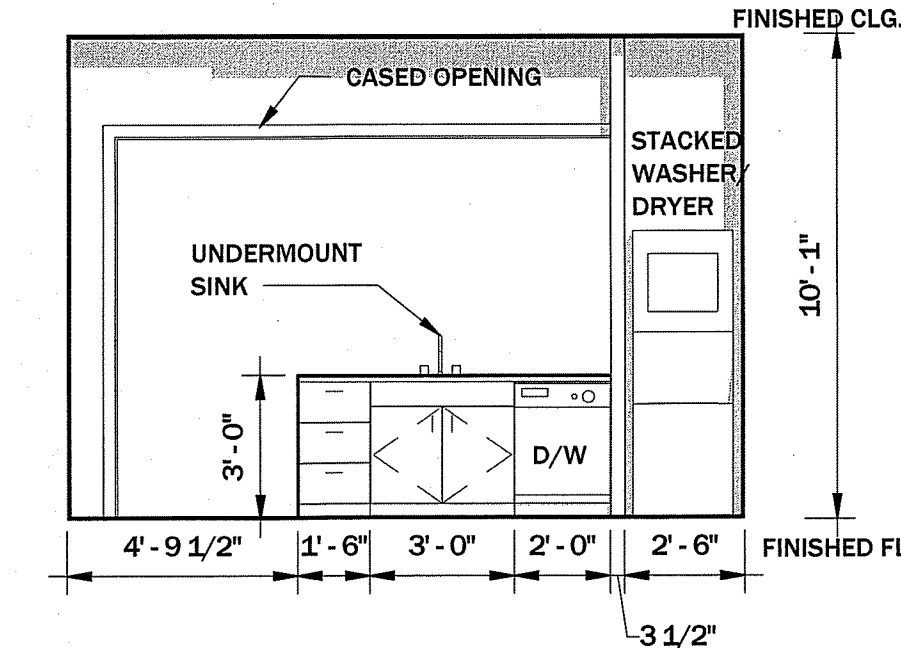
1	05/14/2020 COUNTY COMMENTS
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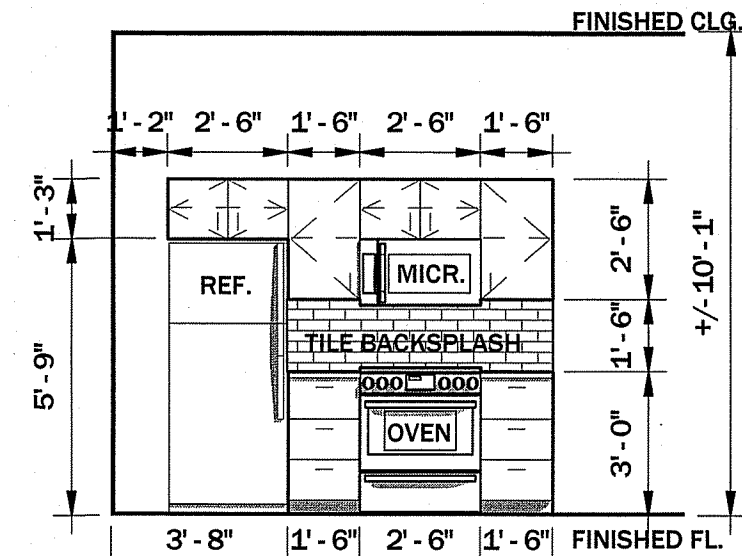
9 OVERHEAD CHASE @ NEW S.S.
 A3.3 SCALE: 3/4" = 1'-0"



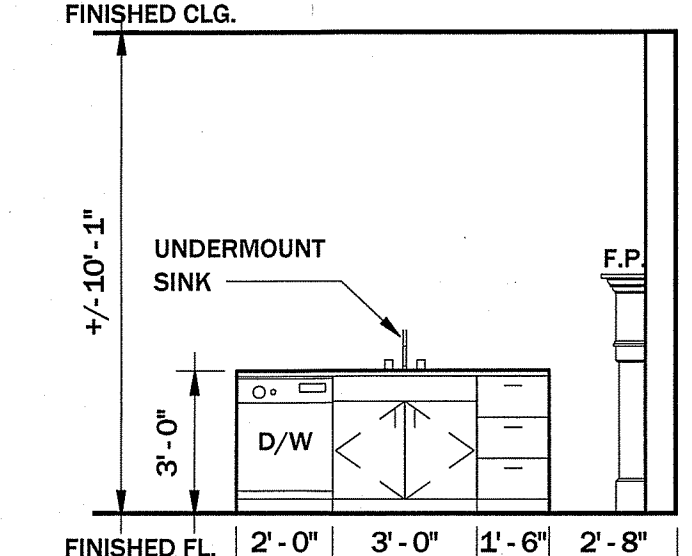
1 UNIT A - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



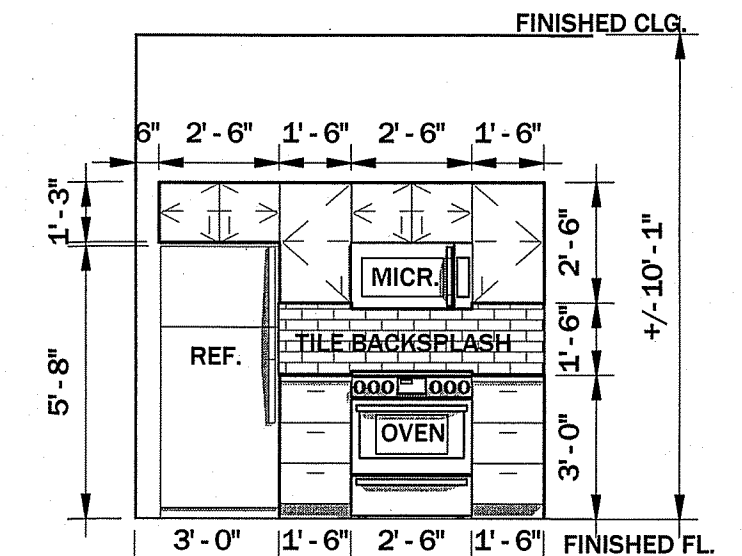
2 UNIT A - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



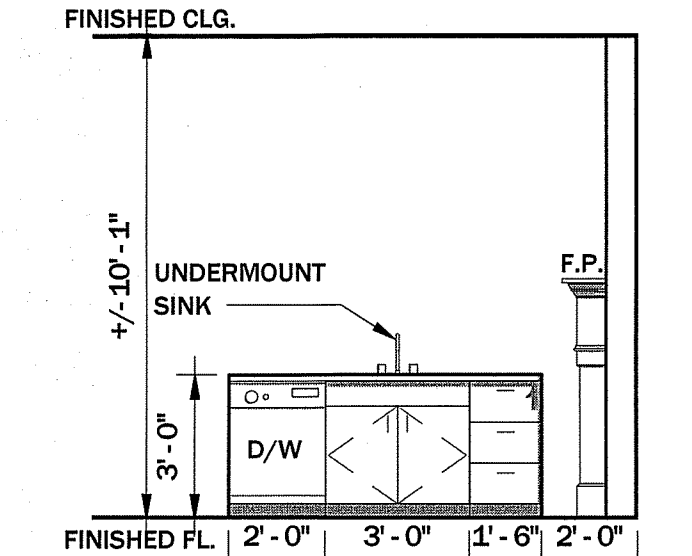
3 UNIT B - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



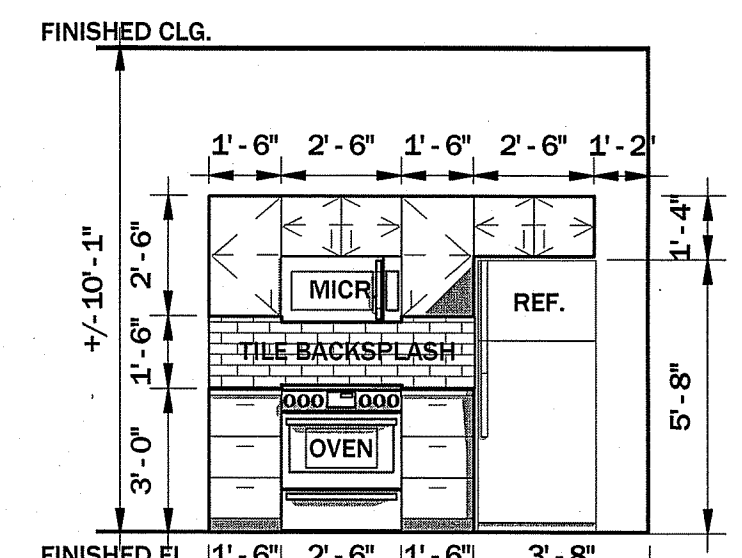
4 UNIT B - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



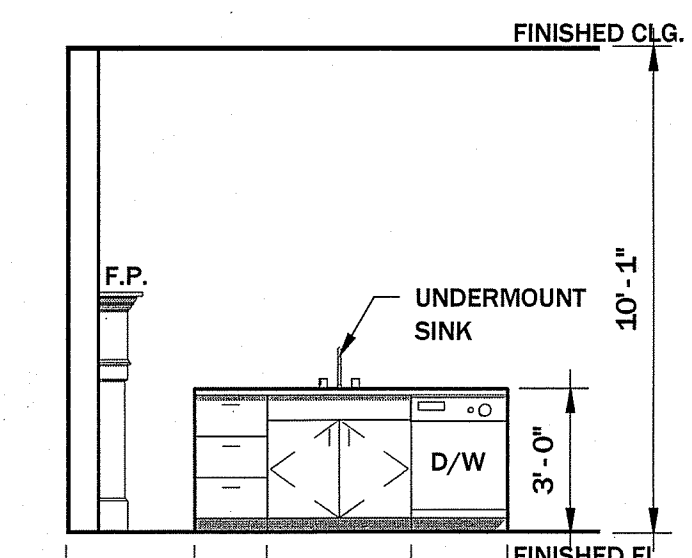
5 UNIT C - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



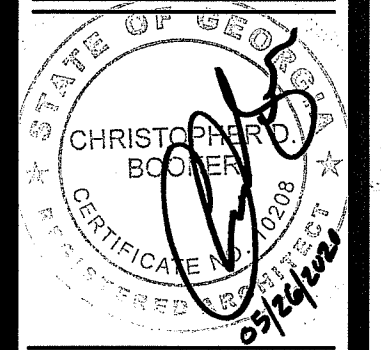
6 UNIT C - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



7 UNIT D - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



8 UNIT D - KITCHEN
 A3.3 SCALE: 1/4" = 1'-0"



DRAWN BY: SSH
 CHECKED BY:
 DATE: April 24th, 2020

REVISIONS	DATE	COMMENTS
1	05/14/2020	COUNTY COMMENTS

SECTION 23 05 03
 PIPES AND TUBES FOR HVAC PIPING AND EQUIPMENT
 PART 1 GENERAL
 1.1 SUMMARY
 A. Section Includes: Pipe and pipe fittings for the following systems:
 1. Equipment drains and over flows.
 2. Refrigerant piping.
 3. Unions, flanges, and couplings.
 1.2 REFERENCES
 B. American Society of Mechanical Engineers:
 1. ASME B16.3 - Malleable Iron Threaded Fittings.
 2. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
 3. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
 4. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
 5. ASME B31.5 - Refrigeration Piping.
 6. ASME B31.9 - Building Services Piping.
 B. American Society for Testing and Materials:
 1. ASTM B32 - Standard Specification for Solder Metal.
 2. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
 3. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric).
 4. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
 C. American Welding Society:
 1. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
 2. AWS D1.1 - Structural Welding Code - Steel.
 1.3 SYSTEM DESCRIPTION
 A. Where more than one piping system material is specified, provide compatible system components and joints. Provide flanges, union, and couplings at locations requiring servicing.
 B. Provide unions, flanges, and couplings downstream of valves and at equipment or apparatus connections.
 C. Provide non-conducting dielectric connections whenever jointing dissimilar metals in open systems.
 D. Do not use direct welded or threaded connections to valves, equipment or other apparatus.
 1.4 SUBMITTALS
 A. Product Data: Submit data on pipe materials and fittings. Submit manufacturers catalog information.
 1.5 DELIVERY, STORAGE, AND HANDLING
 A. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.
 B. Protect piping from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.
 C. Maintain charge of refrigeration components until installation in piping system.
 1.6 FIELD MEASUREMENTS
 A. Verify field measurements prior to fabrication.
 PART 2 PRODUCTS
 2.1 EQUIPMENT DRAINS AND OVERFLOWS
 A. Copper Tubing: ASTM B88, Type M, hard drawn.
 1. Fittings: ASME B16.18, cast brass, or ASME B16.22 solder wrought copper.
 2. Joints: Solder, lead free, 95-5 tin-antimony, or tin and silver, with melting range 430 to 535 degrees F (220 to 280 degrees C).
 B. PVC Pipe: ASTM D1785, Schedule 40.
 1. Fittings: ASTM D2466 or ASTM D2467, PVC.
 2. Joints: ASTM D2855, solvent weld.
 2.2 REFRIGERANT PIPING
 A. Copper Tubing: ASTM B280, Type ACR hard drawn or annealed.
 1. Fittings: ASME B16.22 wrought copper.
 2. Joints: Braze, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 degrees F.
 2.3 UNIONS, FLANGES, AND COUPLINGS
 A. Unions for Pipe 2 inches (50 mm) and Smaller:
 1. Ferrous Piping: 150 pig malleable iron, threaded.
 2. Copper Pipe: Bronze, soldered joints.
 B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
 PART 3 EXECUTION
 3.1 PREPARATION
 A. Ream pipe and tube ends. Remove burrs.
 B. Remove scale and dirt on inside and outside before assembly.
 C. Prepare piping connections to equipment with flanges or unions.
 D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
 3.2 INSTALLATION
 A. Install refrigerant in accordance with ASME B31.5.
 B. Route piping parallel to building structure and maintain gradient.
 C. Install piping to conserve building space, and not interfere with use of space.
 D. Group piping whenever practical at common elevations.
 E. Sleeve pipe passing through partitions, walls and floors.
 F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
 G. Provide access where valves and fittings are not accessible.
 H. Provide unions at all valves except in refrigerant systems.
 I. Slope piping and arrange systems to drain at low points.
 J. Arrange refrigeration piping to return oil to compressor. Provide traps and loops in piping, and where necessary provide double risers.
 K. Where pipe support members are noted to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.
 L. Insulate piping; refer to drawing notes.
 END OF SECTION

SECTION 23 05 29
 HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT AND FIRESTOPPING
 PART 1 GENERAL
 1.1 SUMMARY
 A. Section Includes:
 1. Pipe hangers and supports.
 2. Hanger rods.
 3. Flashing.
 4. Sleeves.
 5. Formed steel channel.
 6. Equipment bases and supports.
 B. Related Sections:
 1. Section 230503 - Pipes and Tubes: Execution requirements for placement of hangers and supports specified by this section.
 1.2 REFERENCES
 A. American Society of Mechanical Engineers:
 1. ASME B31.5 - Refrigeration Piping.
 2. ASME B31.9 - Building Services Piping.
 B. American Society for Testing and Materials:
 1. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
 2. ASTM E119 - Method for Fire Tests of Building Construction and Materials.
 3. ASTM E814 - Test Method of Fire Tests of Through Penetration Firestops.
 4. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
 C. American Welding Society:
 1. AWS D1.1 - Structural Welding Code - Steel.
 D. Manufacturers Standardization Society of the Valve and Fittings Industry:
 1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 2. MSS SP 89 - Pipe Hangers and Supports - Selection and Application.
 3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
 E. Underwriters Laboratories Inc.
 1. UL 263 - Fire Tests of Building Construction and Materials.
 2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
 3. UL - Fire Resistance Directory.
 1.3 DELIVERY, STORAGE, AND HANDLING
 A. Accept materials on site in original factory packaging, labeled with manufacturer's identification.
 B. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.
 PART 2 PRODUCTS
 2.1 PIPE HANGERS AND SUPPORTS
 A. Manufacturers:
 1. Carpenter & Paterson Inc.
 2. Grinnell
 3. Elen
 B. Refrigerant Piping:
 1. Hangers for Pipe Sizes 1/2 to 1-1/2 inch (13 to 38 mm): Malleable iron or Carbon steel, adjustable swivel, split ring.
 2. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
 3. Wall Support for Pipe Sizes 3 inches (75 mm) and Smaller: Cast iron hook.
 4. Vertical Support: Steel riser clamp.
 5. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
 6. All Copper Pipe Supports: Copper-plated.
 2.2 ACCESSORIES
 A. Hanger Rods: Mild steel threaded both ends, threaded on one end, or continuous threaded.
 2.3 FLASHING
 A. Metal Flashing: 26 gage thick galvanized steel.
 B. Lead Flashing:
 1. Waterproofing: 5 lb./sq. ft sheet lead
 2. Soundproofing: 1 lb./sq. ft sheet lead.
 2.4 SLEEVES
 A. Sleeves for Pipes through Non-fire Rated Floors: 18 gage thick galvanized steel.
 B. Sleeves for Pipes through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe galvanized steel.
 C. Sleeves for Round Ductwork: Galvanized steel.
 D. Sleeves for Rectangular Ductwork: Galvanized steel.
 E. Sealant: Acrylic except at fire barrier partitions and rated fire walls. Install sealants to continue fire ratings. Seal with U.L. listed firestopping sealant system where required.
 2.5 FORMED STEEL CHANNEL
 A. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.
 PART 3 EXECUTION
 3.1 EXAMINATION
 A. Verify openings are ready to receive sleeves.
 3.2 PREPARATION
 A. Obtain permission from Architect before drilling or cutting structural members.
 3.3 INSTALLATION - PIPE HANGERS AND SUPPORTS
 A. Support horizontal piping as scheduled.
 B. Install hangers with minimum 1/2 inch space between finished covering and adjacent work.
 C. Place hangers within 12 inches of each horizontal elbow.
 D. Use hangers with 1-1/2 inch minimum vertical adjustment.
 E. Support vertical piping at every floor.
 F. Where piping is installed in parallel and at same elevation, provide multiple pipe or trapeze hangers.
 G. Support riser piping independently of connected horizontal piping.
 H. Provide copper plated hangers and supports for all copper piping.
 I. Design hangers for pipe movement without disengagement of supported pipe.
 J. Prime coat exposed steel hangers and supports. Hangers and supports located in pipe shafts and suspended ceiling spaces are not considered exposed.
 K. Provide clearance in hangers and from structure and other equipment for installation of insulation.
 L. Provide 18 gage galvanized shields 12 inches long for all insulated piping at supports.
 3.4 INSTALLATION - EQUIPMENT BASES AND SUPPORTS
 A. Using templates furnished with equipment, install anchor bolts, and accessories for mounting and anchoring equipment.
 B. Construct supports of steel members or formed steel channel. Brace and fasten with flanges bolted to structure.
 C. Provide rigid anchors for pipes after vibration isolation components are installed.
 3.5 INSTALLATION - HVAC DUCTWORK
 A. Install ductwork supports per SMACNA HVAC Duct Construction Standards Metal and Flexible 2005.
 3.6 INSTALLATION - FLASHING
 A. Provide flexible flashing and metal Counterflashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.
 B. Flash vent and soil pipes projecting 3 inches minimum above finished roof surface with lead worked 1 inch minimum into hub, 8 inches minimum clear on sides with 24 x 24 inches sheet size. For pipes through outside walls, turn flanges back into wall and caulk, metal counter-flash, and seal.
 3.7 INSTALLATION - SLEEVES
 A. Exterior watertight entries: Seal with mechanical sleeve seals.
 B. Set sleeves in position in forms. Provide reinforcing around sleeves.
 C. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
 D. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
 E. Where piping or ductwork penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with stuffing or firestopping insulation (if fire rated) and caulk airtight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
 3.8 SCHEDULES

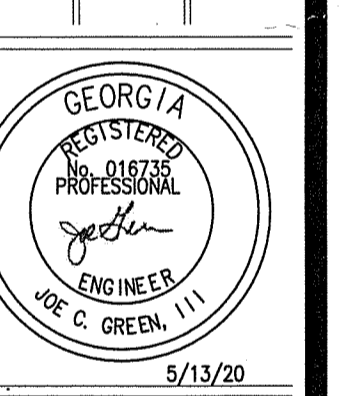
PIPE HANGER SPACING

PIPE SIZE	MAX. HANGER SPACING	DIAMETER
Inches (mm)	Feet (m)	Inches (mm)
1/2 (12)	7 (2.1)	3/8 (9)
3/4 (20)	7 (2.1)	3/8 (9)
1 (25)	7 (2.1)	3/8 (9)
1-1/4 (32)	7 (2.1)	3/8 (9)
1-1/2 (38)	9 (2.7)	3/8 (9)
2 (50)	10 (3)	3/8 (9)
2-1/2 (65)	11 (3.4)	1/2 (13)
3 (75)	12 (3.7)	1/2 (13)
4 (100)	14 (4.3)	5/8 (15)
PVC (All Sizes)	6 (1.8)	3/8 (9)

END OF SECTION

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RENOVATION @ 1800 BROAD
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HVAC SPECIFICATIONS

JOB NO. 2012
 SHEET NO. M2.1

DATE: 4/22/20
 REVISIONS

PLUMBING NOTES:

- ALL WORK SHALL CONFORM TO THE LATEST INTERNATIONAL PLUMBING CODE ADOPTED W/ LATEST STATE AMENDMENTS AND ALL APPLICABLE LOCAL CODES.
- EXACT LOCATIONS AND ROUGHING REQUIREMENTS FOR ALL FIXTURES AND EQUIPMENT SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS, LARGE SCALE ARCHITECTURAL DETAILS AND APPROVED MANUFACTURER'S SHOP DRAWINGS. PARTICULAR ATTENTION SHALL BE DIRECTED TO FIXTURES OR EQUIPMENT FURNISHED UNDER OTHER DIVISIONS. COORDINATE ALL NEW WORK WITH ANY EXISTING CONDITIONS.
- PIPING IS SHOWN IN ITS GENERAL LOCATION (UNLESS DIMENSIONED). EXACT LOCATION SHALL BE DETERMINED BY JOB CONDITIONS. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HIS WORK WITH THAT OF OTHER TRADES & ARRANGE PIPING TO CLEAR STRUCTURAL MEMBERS & DUCTWORK. IF THE PLUMBING CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE. CONTRACTOR SHALL VERIFY LOCATIONS OF SEWER, WATER, GAS & ANY OTHER UTILITY CONNECTIONS FROM APPROVED SITE PLANS PRIOR TO BID. REROUTING OF UTILITIES FROM THAT SHOWN ON PLANS AT CONTRACTOR'S RISK. THE PLUMBING CONTRACTOR TO FURNISH ALL REQUIRED MATERIAL TO PROVIDE FOR THE PROPER INSTALLATION OF ALL PLUMBING EQUIPMENT. ANY CONFLICTS OR DISCREPANCIES REGARDING WHAT IS REQUIRED AS TO WHAT IS INDICATED ON PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID & PRIOR TO CONSTRUCTION SO THIS CAN BE CLARIFIED. IF DISCREPANCIES ARE NOT BROUGHT TO THE ARCHITECT'S ATTENTION PRIOR TO FINAL BIDS THEN THE PLUMBING CONTRACTOR ACCEPTS THE DRAWINGS AS SUFFICIENT & CHANGE ORDERS DURING CONSTRUCTION WILL NOT BE CONSIDERED. IF INSTALLED PLUMBING WORK & SPECIFICATIONS VARY FROM WHAT IS INDICATED ON DRAWINGS & THE AUTHORITY HAVING JURISDICTION REQUIRES DRAWINGS TO BE REVISED OR FORMAL ENGINEER'S APPROVAL THE PLUMBING CONTRACTOR SHALL PAY ALL COSTS INVOLVED IN DRAWING REVISIONS AND/OR ENGINEER'S DOCUMENTED CORRESPONDENCE GENERATION.
- RISERS FOR FIXTURES, UNLESS OTHERWISE NOTED, SHALL BE CONCEALED IN WALLS OR PIPE CHASES. MINIMUM SIZE WATER LINE FOR ANY TWO FIXTURES SHALL BE 3/4".
- PROVIDE SLEEVES FOR PIPES PASSING THRU FLOORS, MASONRY WALLS AND FIRE OR SMOKE PARTITIONS. PACK MINERAL WOOL IN ANNULAR SPACE BETWEEN PIPE SLEEVE AND SEAL WITH FIRE CAULK.
- PLUMBING FIXTURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL FIXTURES SHALL BE APPROVED BY OWNER, U.O.S.
- ARRANGEMENT OF WORK SHALL BE AS SHOWN. DRAWINGS ARE NOT INTENDED TO INDICATE ALL OFFSETS AND FITTINGS. EXAMINE ALL DRAWINGS, INVESTIGATE CONDITIONS TO BE ENCOUNTERED AND ARRANGE WORK ACCORDINGLY FOR ALL PROJECT PHASES. FURNISH ALL FITTINGS AND OFFSETS.
- INSTALL SYSTEMS, EQUIPMENT AND COMPONENTS LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED IN FINISHED SPACES.
- COPPER PIPE SHALL NOT BE INSTALLED IN DIRECT CONTACT WITH MASONRY, CEMENT MORTAR, CONCRETE, OR DISSIMILAR METALS.
- INSTALL EXTERIOR HOSE BIBBS 18" ABOVE GRADE.
- ROUTE WATER PIPING UNDER CEILING INSULATION WHERE POSSIBLE.
- PLUMBING PIPING TO BE INSTALLED UNDER BUILDING FOUNDATION SLAB TURNDOWN. PLUMBING CONTRACTOR TO WORK OUT PIPING INVERTS TO ROUTE ALL PLUMBING SERVICE PIPING TO AVOID INTERFERENCE WITH CONCRETE SLAB TURNDOWN.
- WHERE APPLICABLE, COORDINATE INSTALLATION OF ALL PLUMBING LINES AT CMU WALLS SO THAT PLUMBING LINES ARE PLACED IN WALL DURING CMU WALL CONSTRUCTION. CUTTING & PATCHING OF CMU WALLS IN PLACE NOT PERMITTED.
- VERIFY BACKFLOW PREVENTER REQUIREMENTS OF LOCAL AUTHORITY & PROVIDE BACKFLOW PREVENTER AS REQUIRED. COORDINATE LOCATION WITH OTHER TRADES, ARCHITECT & OWNER PRIOR TO INSTALLATION. PROVIDE PRESSURE REDUCING VALVES WHERE REQUIRED BY CODE.
- FIRE STOP ALL PENETRATIONS BY PIPING OR CONDUITS OF FIRE RATED WALLS OR FLOORS AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED & LISTED AS COMPLYING WITH ASTM E-184 & INSTALL IN ACCORDANCE WITH CONDITIONS OF THEIR TESTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN "F" RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PROTECTED.
- GENERAL CONTRACTOR/PLUMBING CONTRACTOR SHALL VERIFY PLUMBING SCHEDULE WITH ARCHITECT & OWNER PRIOR TO BID & PRIOR TO PERFORMING ANY WORK.
- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES, i.e., ARCHITECTURAL, HVAC, ELECTRICAL, STRUCTURAL, CIVIL & FIRE PROTECTION. IF THE PLUMBING CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE.
- THE PLUMBING CONTRACTOR SHALL COORDINATE/VERIFY UTILITY LOCATIONS (ELECTRICAL, SIGNAL, SANITARY SEWER, VENT, CONDENSATE DRAINS, POTABLE WATER, FIRE WATER & NATURAL GAS), & SIZES PRIOR TO CONSTRUCTION. ADEQUATE EXISTING INVERT ELEVATIONS TO BE VERIFIED PRIOR TO BID. NOTIFY OWNER IF INADEQUATE INVERT ELEVATIONS EXIST PRIOR TO BID.
- PROVIDE CLEANOUTS IN ALL SEWER LINES, WHETHER INDICATED OR NOT, AT SPACING NOT TO EXCEED 100 FEET, AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES & AT THE BASE OF ALL VERTICAL RISER STACKS (APPROXIMATELY 24" ABOVE FINISHED FLOOR).
- WHERE WATER PIPING IS ROUTED IN EXTERIOR WALLS, POSITION WATER PIPING ON THE HEATED SIDE (INTERIOR SIDE) OF THE WALL INSULATION.
- ALL CONDENSATE DRAIN, SEWER & VENT PIPING SHALL BE RODDED & CLEANED AT END OF CONSTRUCTION. ALL TRAPS SHALL BE CLEANED & PRIMED AT THE END OF CONSTRUCTION.
- PROVIDE WATER HAMMER ARRESTORS IN FIXTURE BRANCHES WHERE QUICK CLOSING VALVES ARE INSTALLED SUCH AS FLUSH VALVES, ICE MAKERS, DISHWASHERS, ETC.
- ALL WATER PIPING SHALL BE INSULATED WITH 1" THICK INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/H X FT² X °F PER THE INTERNATIONAL ENERGY CONSERVATION CODE. INSULATION JACKET SHALL BE PER ASTM C921, TYPE 1, FOR BELOW AMBIENT SERVICE AND PER ASTM C921, TYPE 2, FOR ABOVE AMBIENT SERVICE.
- PROVIDE HEAT TRAP PIPING FOR WATER HEATERS NOT HAVING INTERNAL HEAT TRAPS PER MANUFACTURERS INSTRUCTIONS.
- PROVIDE TEMPERED WATER FOR ALL HAND WASHING FACILITIES & EYEWASHES THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO IPC SECTION 416.5. SYMMONS MAXLINE SERIES OR EQUAL. PROVIDE THERMOSTATIC MIXING VALVES FOR SAFETY SHOWERS, ETC., PER CODES WITH MODEL NUMBERS AS RECOMMENDED BY THE FIXTURE MANUFACTURER.
- PROVIDE & IDENTIFY VALVES & PIPING IN COMPLIANCE WITH THE INTERNATIONAL PLUMBING CODE.
- PROVIDE ACCESS DEVICES/DOORS AS NEEDED FOR VALVES, EQUIPMENT, ETC. COORDINATE SIZE & SELECTION W/ GENERAL CONTRACTOR & ARCHITECTURAL FINISHES.
- ALL ALTERNATES DESIRED BY THE PLUMBING CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE. OTHERWISE THE PLUMBING CONTRACTOR SHALL PAY FOR ANY DRAWING REVISIONS OR CORRESPONDENCE REQUIRED OF THE ENGINEER TO OBTAIN THE BUILDING INSPECTORS APPROVAL OF INSTALLED EQUIPMENT, MATERIALS, ETC., THAT ARE NOT DESIGN BASIS PER THESE PLUMBING NOTES, PLUMBING SPECIFICATIONS, PLUMBING PLANS, AND/OR PLUMBING SCHEDULES.
- INSTALL ALL PLUMBING EQUIPMENT SUCH THAT THE RECOMMENDED MANUFACTURER CLEARANCES ARE MAINTAINED FOR SERVICEABILITY & MAINTENANCE.
- ROUTE ALL DRAINS FROM WATER HEATERS TO NEAREST PLUMBING DRAINS OR TO EXTERIOR OF BUILDING. PROVIDE 2" FLOOR OR HUB DRAIN IF NEEDED.
- WHERE EXISTING PVC PLUMBING LINES ARE LOCATED OR TO BE LOCATED IN HVAC CEILING RETURN PLENUMS EITHER WRAP THE PIPING WITH CODE APPROVED FIRE WRAP BLANKET OR REPLACE THE PIPING WITH CAST IRON PIPING OR OTHER MEANS APPROVED BY THE AUTHORITY HAVING JURISDICTION. INSPECT ANY PROPOSED HVAC CEILING RETURN PLENUMS PRIOR TO BID FOR THIS CONDITION. WHERE THIS CONDITION EXISTS OBTAIN APPROVAL FROM AUTHORITY HAVING JURISDICTION FOR THE PROPOSED TREATMENT OF THE PVC PIPING PRIOR TO BID.

PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE	NOM. PIPE, INCHES				DESCRIPTION OR EQUAL
		CW	HW	W	V	
P1	WATER CLOSET (H.C.)	1/2"	-	4"	2"	KOHLER K-3999, 1.28 GPF, ELONGATED OPEN FRONT SEAT & TRIM
P2	LAVATORY (H.C.)	1/2"	1/2"	1 1/2"	2"	KOHLER K-2196, LATIN CHINA LAV, DELTA 500-WCS-DST FST W/ 0.5GPM RESTRICTOR & TRIM & TRAP COVERS
P3	SHOWER	1/2"	1/2"	2"	2"	36X36 FIBERGLASS SHOWER W/ 2.5 GPM SHOWER VALVE & TRIM
DW	DISHWASHER	1/2"	1/2"	2"	2"	PROVIDE ALL PIPE, FITTINGS, EQUIPMENT NEEDED TO MAKE DW FUNCTIONAL
IMB	ICE MAKER BOX	1/2"	-	-	-	WATER-TITE AB9700
WMB	WASH MACH BOX	1/2"	1/2"	2"	2"	WATER-TITE 4700
WH	ELEC WATER HEATER	-	-	-	-	RHEEM, ELDS2, 240V/1PH/4.5KW, 0.91 EF
CO	CLEAN OUT	-	-	-	-	JR SMITH 4031
FD	FLOOR DRAIN	-	-	-	-	JR SMITH 2005, BRASS

NOTE: REFERENCE ARCHITECTURAL DRAWINGS FOR FIXTURE RIM HEIGHTS. ALL FIXTURES SHALL MEET CURRENT ADA REQUIREMENTS. ALL FIXTURES TO BE SUPPLIED WITH ALL TRIM, FAUCETS, ETC., REQUIRED. OWNER SHALL APPROVE ALL FIXTURE SELECTIONS & SIZES. INSTALL 5 GAL EXPANSION TANK W/ WATER HEATER. FLUSH HANDLES/LEVERS TO WIDE SIDE OF STALL. PROVIDE PROSET TRAP GUARD FOR ALL FLOOR DRAINS.

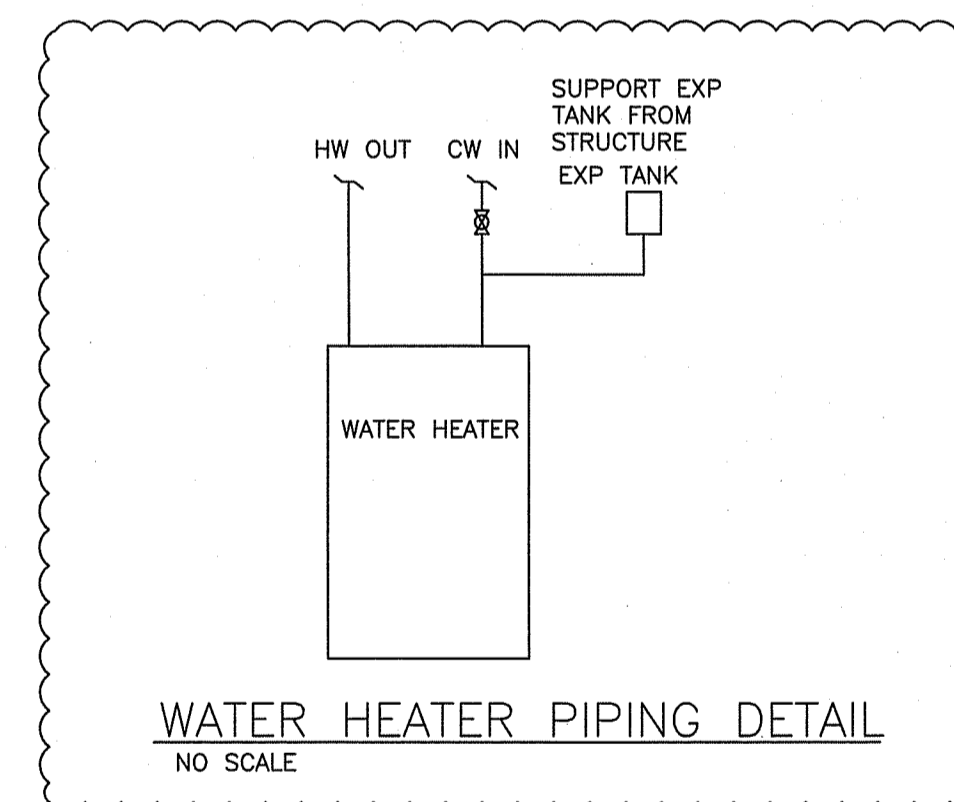
PIPING INDEX	
SERVICE	MATERIAL
WATER, INTERIOR, ABOVE GRADE	COPPER, ASTM B88, TYPE L, DRAWN OR CPVC OR VIEGA PEX
WATER, BELOW GRADE	COPPER, ASTM B88, TYPE K, DRAWN OR CPVC OR VIEGA PEX
WASTE & VENT	SCH 40 PVC-DWV PER ASTM D2665 W/ SOCKET FITTINGS, SOCKETS PER ASTM D2564, NO FOAMCORE.
	OR
	SERVICE WT. CAST IRON OR HUBLESS, CAST IRON FITTINGS, NEOPRENE GASKET SYSTEM OR HUBLESS CLAMP & SHIELD

NOTE- NO PVC IN CEILING RETURN PLENUMS WHERE APPLICABLE.
NOTE- PEX PIPING SYSTEMS TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S DESIGN GUIDES & INSTALLATION INSTRUCTIONS. PAY PARTICULAR ATTENTION TO SUPPORTING, FIRE RATINGS/PROTECTION, EXPANSION & CONTRACTION REQUIREMENTS, INCREASE SIZES FOR SERVICE LINES AND MAINS ONE PIPE SIZE LARGER THAN SHOWN ON PLANS FOR PEX SYSTEMS. ENSURE CORRECT PEX MATERIAL SPEC IS USED FOR INTENDED SERVICE.

VALVES SCHEDULE		
CALLOUT	SYMBOL	NOTE 1
Ball	☉	FULL PORT BRASS BALL VALVES

PLUMBING LEGEND

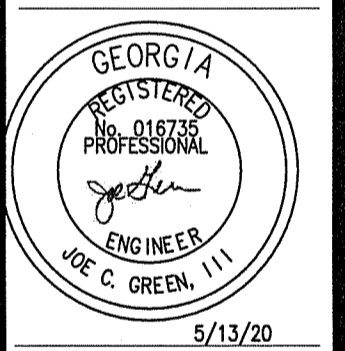
- SANITARY SEWER PIPING
- - - VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- VTR VENT THROUGH ROOF



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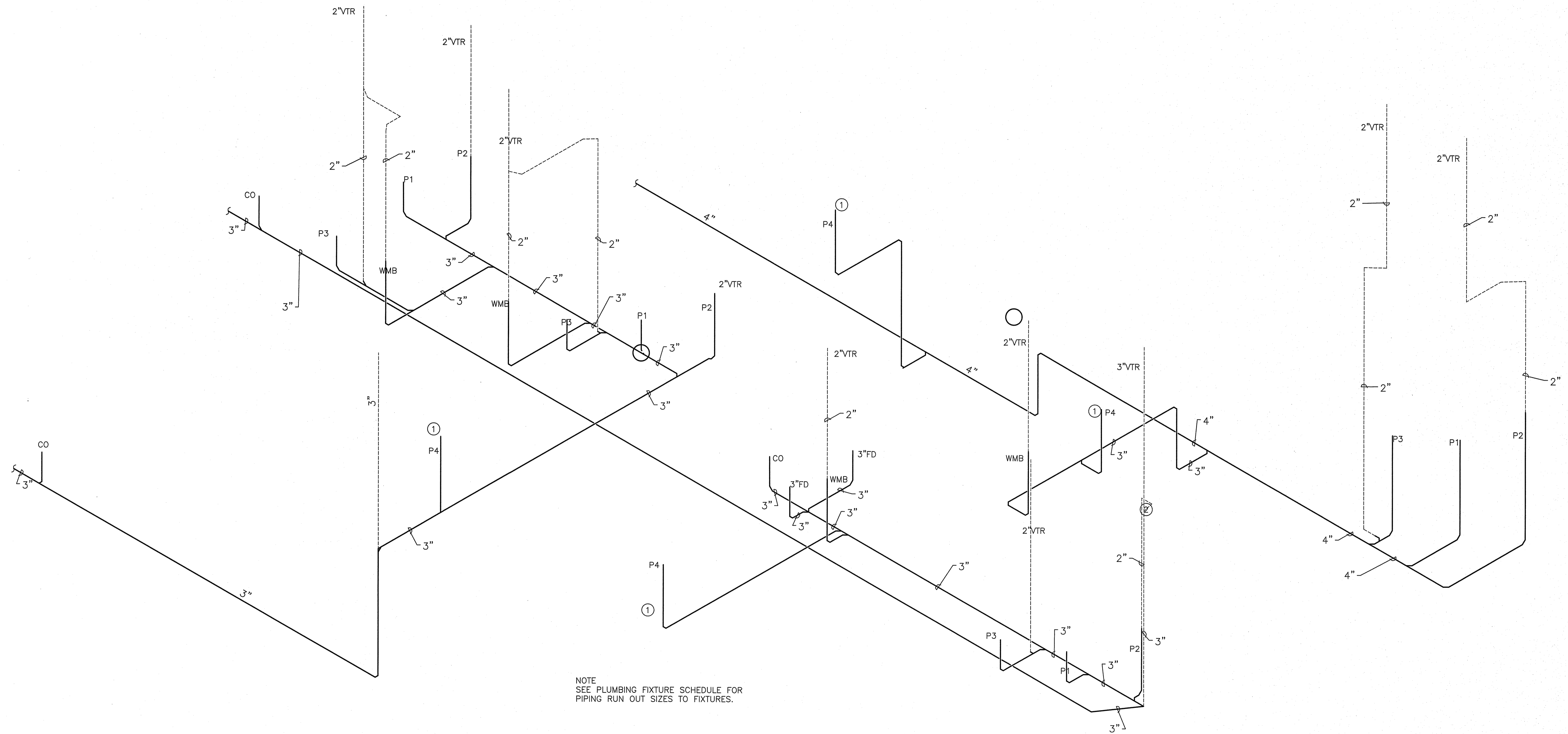
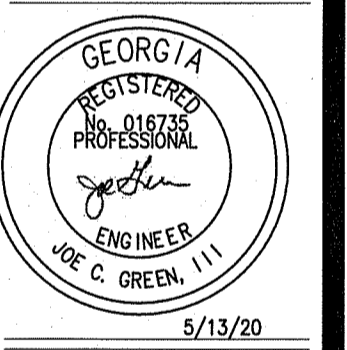
RENOVATION @ 1800 BROAD
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PLUMBING NOTES & SCHEDULES

DRWN BY: JG
CHKD BY:
DATE: 4/22/20
REVISIONS
1 5/13/20

JOB NO. 2012
SHEET NO. P2.0



NOTE
 SEE PLUMBING FIXTURE SCHEDULE FOR
 PIPING RUN OUT SIZES TO FIXTURES.

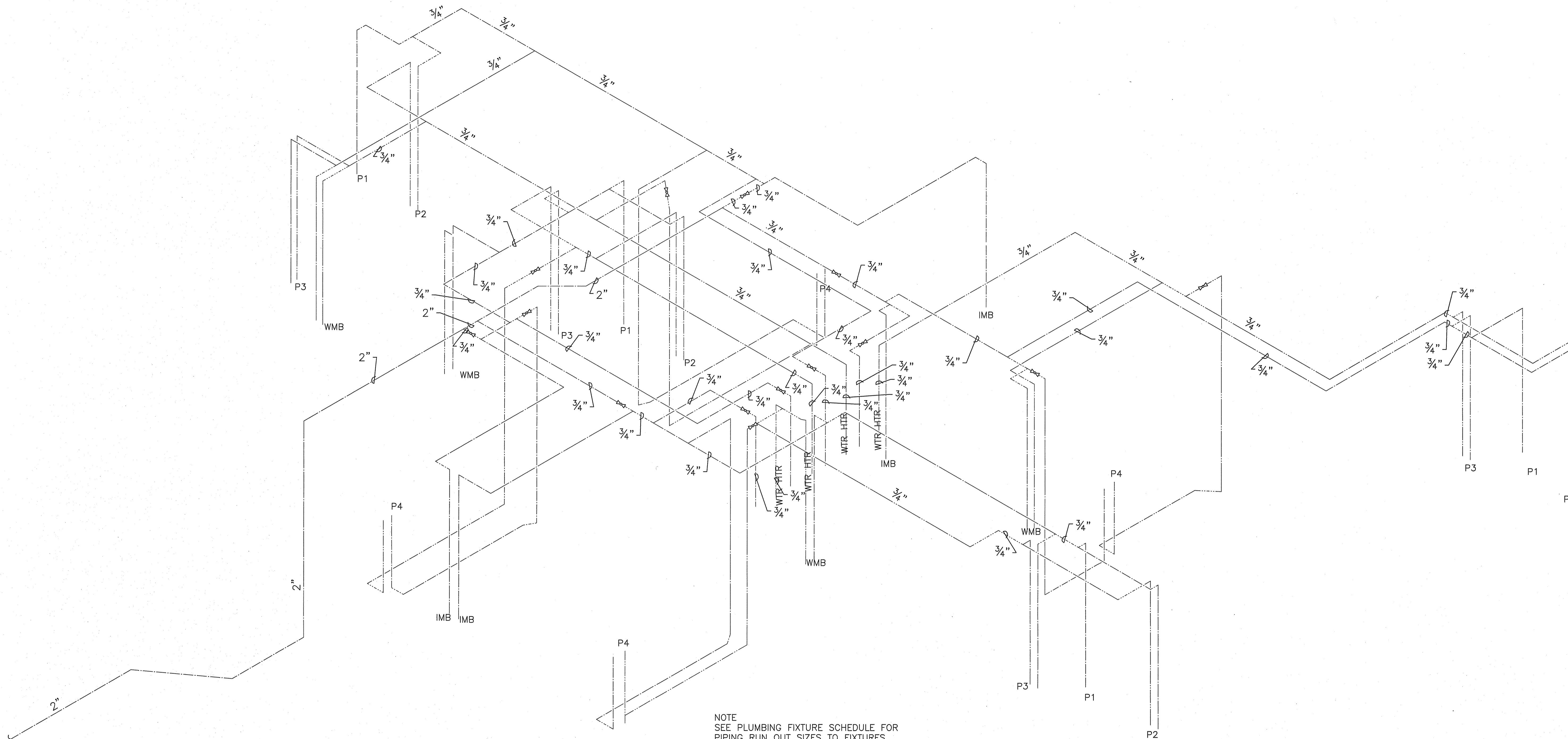
WASTE RISER
 SCALE: NONE

WASTE RISER

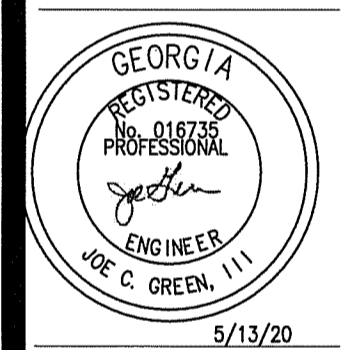
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P2.1



WATER RISER
 SCALE: NONE



WATER RISER

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