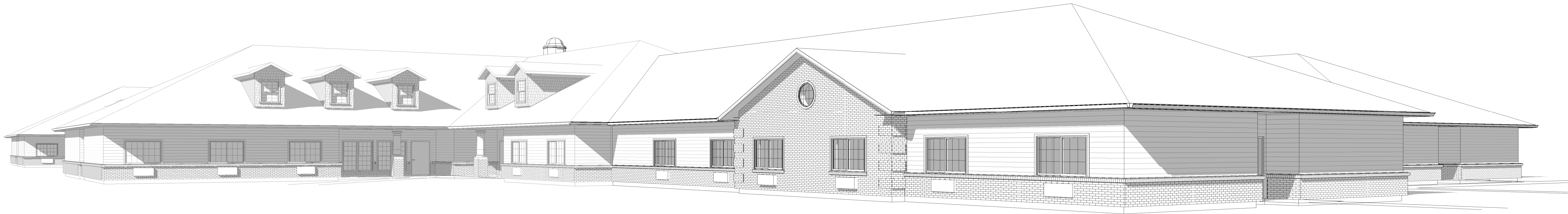


CONSTRUCTION DOCUMENTS

SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION

195 SPRINGBROOK AVE, CLAYTON, NC



DRAWING INDEX

GENERAL												FINISH SCHEDULE & LEGEND	
1.1	G1.00	COVER SHEET	2.1	D-1.0	LANDSCAPE PLAN	4.1	A1.03	LEVEL 1 ENLARGED PLAN - BLDG A & B	5.1	I1.00			
1.1	G1.01	APPENDIX B	2.1	D-1.1	STORM DRAINAGE DETAILS	4.1	A1.04	LEVEL 1 ENLARGED RCP - BLDG A & B					
1.1	G1.02	PARTITION TYPES	2.1	D-1.2	UTILITY DETAILS	4.1	A1.05	LEVEL 1 ENLARGED PLAN - BLDG C	6	STRUCTURAL			
1.1	G2.01	LEVEL 1 LIFE SAFETY PLAN	2.1	EC-1.0	EROSION CONTROL PLAN	4.1	A1.06	LEVEL 1 ENLARGED RCP - BLDG C					
1.1	G2.02	DHSR PLAN	2.1	EC-1.1	EROSION CONTROL DETAIL I	4.1	A1.07	ROOF PLAN	6.1	S001	GENERAL NOTES		
1.1	G2.03	TEMP LIFE SAFETY PLAN	2.1	EC-1.2	EROSION CONTROL DETAIL II	4.1	A2.01	EXTERIOR ELEVATIONS	6.1	S004	SPECIAL INSPECTIONS		
1.1	G3.01	UL ASSEMBLIES	2.1	L-1.0	LANDSCAPE PLAN	4.1	A2.02	EXTERIOR ELEVATIONS	6.1	S100	FOUNDATION PLAN - AREA A		
1.1	G3.02	UL ASSEMBLIES	2.1	L-2.0	LANDSCAPE DETAILS	4.1	A2.03	EXTERIOR ELEVATIONS	6.1	S101	FOUNDATION PLAN - AREA B		
1.1	G3.03	UL ASSEMBLIES	3	LANDSCAPE		4.1	A3.01	BUILDING SECTIONS	6.1	S102	FOUNDATION PLAN - AREA C		
1.1	G3.04	UL ASSEMBLIES				4.1	A3.02	WALL SECTIONS	6.1	S200	ROOF FRAMING PLAN - AREA A		
1.1	G3.05	UL ASSEMBLIES	4	ARCHITECTURAL		4.1	A3.03	WALL SECTIONS	6.1	S201	ROOF FRAMING PLAN - AREA B		
1.1	G3.05	UL ASSEMBLIES				4.1	A3.04	ENLARGED PLAN DETAILS	6.1	S202	ROOF FRAMING PLAN - AREA C		
1.1	G3.05	UL ASSEMBLIES				4.1	A4.01	ENLARGED PLANS	6.1	S301	TYPICAL SLAB-ON-GRADE & FOUNDATION DETAILS		
2	CIVIL					4.1	A5.01	INTERIOR ELEVATIONS					
2.1	C-0.0	COVER	4.1	A0.01	LEVEL 1 DEMO PLAN	4.1	A5.01	INTERIOR ELEVATIONS	6.1	S601	TYPICAL WOOD DETAILS		
2.1	C-1.0	CIVIL NOTES	4.1	A0.02	LEVEL 1 DEMO REFLECTED CEILING PLAN	4.1	A5.02	INTERIOR ELEVATIONS					
2.1	C-2.0	EXISTING CONDITION AND DEMOLITION	4.1	A0.03	LEVEL 1 ENLARGED DEMO PLAN - BLDG A & B	4.1	A6.01	MILLWORK & INTERIOR DETAILS					
2.1	C-3.0	OVERALL SITE PLAN	4.1	A0.04	LEVEL 1 ENLARGED DEMO RCP - BLDG A & B	4.1	A6.02	MILLWORK & INTERIOR DETAILS	7	FIRE PROTECTION			
2.1	C-3.1	SITE PLAN	4.1	A0.05	LEVEL 1 ENLARGED DEMO PLAN - BLDG C	4.1	A6.04	TYP. ROOF DETAILS	8	PLUMBING			
2.1	C-4.0	GRADING & DRAINAGE PLAN	4.1	A0.06	LEVEL 1 ENLARGED DEMO RCP - BLDG C	4.1	A7.01	DOOR SCHEDULE					
2.1	C-5.0	UTILITY PLAN	4.1	A0.07	ROOF DEMO PLAN	4.1	A7.02	DOOR AND WINDOW DETAILS	9	MECHANICAL			
2.1	C-6.0	LIGHTING PLAN	4.1	A1.01	LEVEL 1 FLOOR PLAN								
2.1	C-6.0	LIGHTING PLAN	4.1	A1.02	LEVEL 1 REFLECTED CEILING PLAN	5	INTERIORS		10	ELECTRICAL			

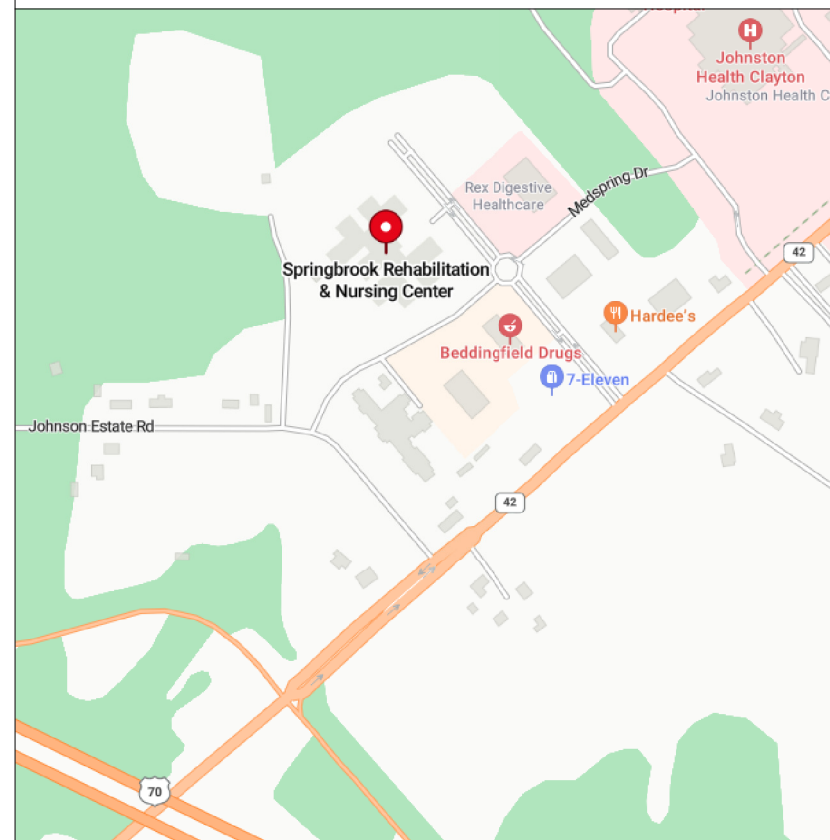
Town of Clayton Plan Review Stamp

Project Number: _____



Department	Review Complete	Review Complete	Review Complete	Review Not	Signature Stamp
	Correction Required	No Major Issues	No Comments	Required	
Planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stormwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inspections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public Works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Electric	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NC DOT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

VICINITY MAP



CIVIL ENGINEER

CURRY ENGINEERING GROUP

205 S. FUQUAY AVE.,
FUQUAY-VARINA, NC
(919) 552-0849

LANDSCAPE ARCHITECT

N/A

STUDIO WALES

architecture

3151 Milhaven Lake Dr. | WINSTON-SALEM, NC 27106
p. 414.704.6764 | www.studio-wales.com

STRUCTURAL ENGINEER

LABELLA ASSOC.

400 S. TRYON, STE 1300
CHARLOTTE, NC
(704) 376-6423

MEP ENGINEER

LABELLA ASSOC.

400 S. TRYON, STE 1300
CHARLOTTE, NC
(704) 376-6423

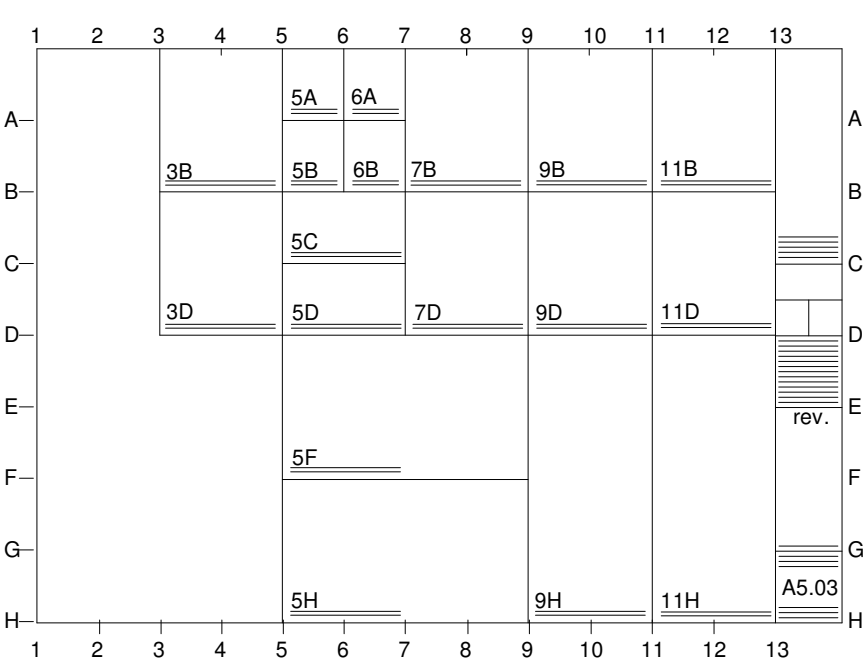
DATE: 02/06/2024

PROJECT NUMBER: NH-3138

ABBREVIATIONS

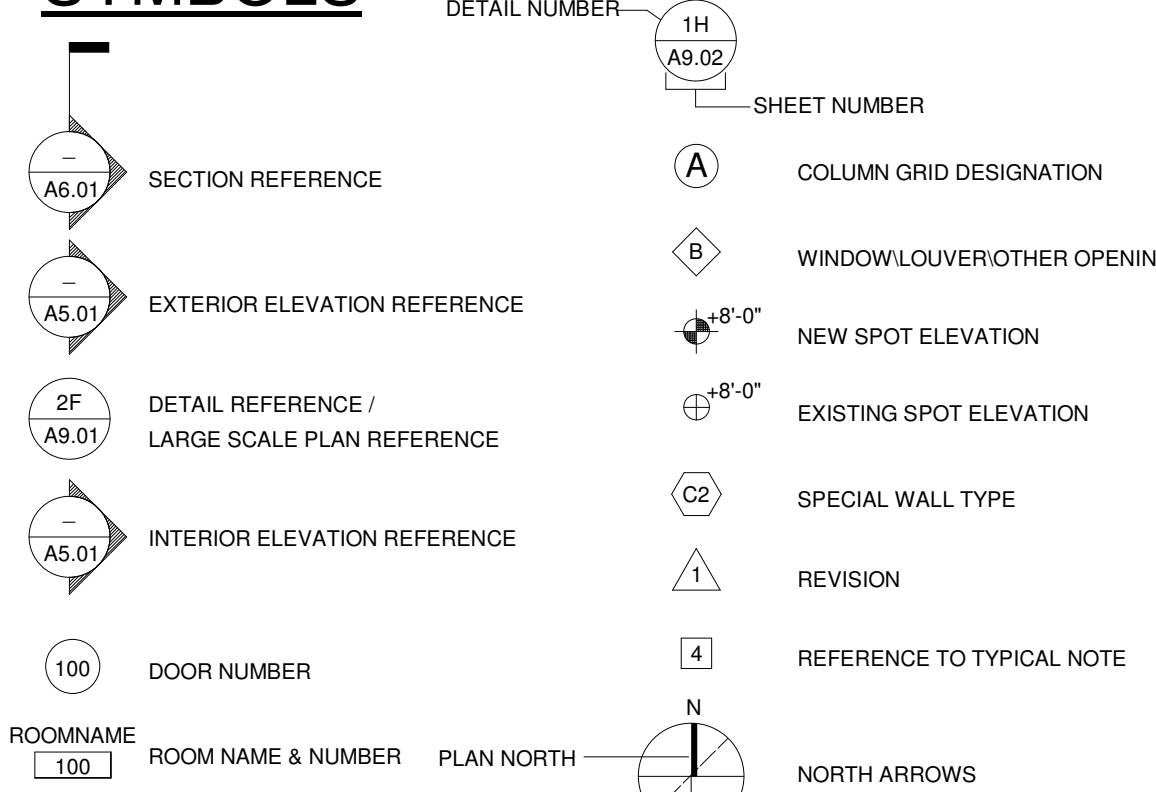
& angle	C.H. ceiling height	E. east	GYP. gypsum	MAX. maximum	Q.T. quarry tile	SUSP. suspended
∠ at	C.I. cast iron	E.C. electrical contractor	H.B. hose bibb	H.B. hose bibb	R. riser, radius	SW. switch
@ centerline	E.W.C. electric water cooler	E.J. expansion joint	H.C. hollow core	H.C. hollow core	R.A. return air	SYM. symmetry (call)
⊖ diameter or round	E.A. each	E.L. elastomeric	H.M. hollow metal	H.M. hollow metal	R.C.P. reinforced concrete pipe	T&G. top and groove
⊥ perpendicular	E.LAS. elastomeric	ELEC. electric (all)	H.P. horsepower	H.P. horsepower	R.D. root drain	T. tongue and groove
# pound or number	ELEC. CAB. electric cabinet	ELEV. elevator, elevation	HDW. hardware	HDW. hardware	R.H. right hand	T.C. top of curb
A.B. anchor bolt	ENCL. enclosure (ure)	EMER. emergency	HORIZ. horizontal	HORIZ. horizontal	R.O. rough opening	T.P. top of pavement
A.F.F. above finish floor	ENTR. entrance	ENCL. enclosure (ure)	HT. height	HT. height	R.O.W. right of way	T.P.D. toilet paper dispenser
A.P. access panel	EQ. equal	ENCL. enclosure (ure)	HVAC. heating/ventilating	HVAC. heating/ventilating	REBAR. reinforced	T.W. top of wall
A.C.T. acoustical tile ceiling	EQUIP. equipment	ENTR. entrance	HWY. highway	HWY. highway	REC. recessed	TEL. telephone
A.C. air conditioning	EXP. expansion	ENTR. entrance	INV. invert	INV. invert	REF. reference	TEMP. tempered or temperature
ABV. above	EXT. exterior	ENTR. entrance	INVT. invert elevation	INVT. invert elevation	REFRIG. refrigerator	TERZ. terrazzo
ACOUS. acoustical	F.D. fire extinguisher	ENTR. entrance	JAN. janitor	JAN. janitor	REG. register	THK. threshold
ADD. addendum	F.E. fire extinguisher cab.	ENTR. entrance	JT. joint	JT. joint	REIN. reinforced	TLT. top of footing
ADJ. adjacent or adjustable	F.H.C. fire hose cabinet	ENTR. entrance	K.D. kitchen	K.D. kitchen	RESIL. resilient	T.O.F. top of footing
AGG. aggregate	F.I. face of concrete	ENTR. entrance	KIT. kitchen	KIT. kitchen	RET. return	TV. typical
AL. aluminum	F.O.F. face of fresh	ENTR. entrance	KNOCK. knockout	KNOCK. knockout	REV. revisions(s), revised	TYP. typical
ALT. alternate	F.O.S. face of studs	ENTR. entrance	L. left	L. left	RFG. roofing	U.O.N. unless otherwise noted
ANOD. anodize	F.S. full size	ENTR. entrance	L.H. left hand	L.H. left hand	RM. room	UNFIN. unfinished
APPROX. approximate	F.T.F. face to face	ENTR. entrance	L.L. live load	L.L. live load	S.P. single-ply	UTIL. utility
APT. apartment	FDN. foundation	ENTR. entrance	L.P. low point	L.P. low point	S. south	V.B. vinyl base
ARCHT. architect (ural)	FIN. finish (ed)	ENTR. entrance	L.R. living room	L.R. living room	S.C. solid core	V.C.T. vinyl composition tile
AUTO. automatic	FL. floor (ing)	ENTR. entrance	L.W. lightweight	L.W. lightweight	S.C.J. structural control joint	V.I.F. vinyl fabric
AVG. average	FLASHG. flashing	ENTR. entrance	LAB. laboratory	LAB. laboratory	S.D. soap dispenser or storm drain	V.F. vinyl fabric
B.U.R. built-up roofing	FLUOR. fluorescent	ENTR. entrance	LAV. lavatory	LAV. lavatory	S.N.D. sanitary napkin dispenser	V.V. vinyl wall fabric
BD. board	FRFP. freeze proof (ing)	ENTR. entrance	LTG. lighting	LTG. lighting	S.N.R. sanitary napkin receptacle	V.W.F. ventilating
BEV. beveled	F.P.W.H. foot or feet	ENTR. entrance	LTV. lighting	LTV. lighting	S.S. stainless steel	VENT. ventilating
BLK. block	F.T. foot or feet	ENTR. entrance	LVR. louver	LVR. louver	S.T.C. structural control joint	VEST. vestibule
BLKG. blocking	FUT. future	ENTR. entrance	LWR. lumber	LWR. lumber	S4S. surfaced 4 sides	VOL. volume
BM. beam or bench mark	G.B. grab bar	ENTR. entrance	LX. lighting	LX. lighting	SAN. sanitary	W. west, women
BR. bracing	G.C. general contractor	ENTR. entrance	LTV. lighting	LTV. lighting	SCHED. schedule	W.C. water closet
BRG. bearing	GA. gauge, gauge	ENTR. entrance	LTV. lighting	LTV. lighting	SECT. section	W.F. wide flange
BSMT. basement	GALV. galvanized	ENTR. entrance	LTV. lighting	LTV. lighting	SFTWD. softwood	W.I. wrought iron
BTW. between	GL. glass, glazing	ENTR. entrance	LTV. lighting	LTV. lighting	SHT. sheet	W.W.F. welded wire fabric
C.B. catch basin	GR. grade	ENTR. entrance	LTV. lighting	LTV. lighting	SIM. similar	W. with
		ENTR. entrance	LTV. lighting	LTV. lighting	SPEC. specification	W.O. without
		ENTR. entrance	LTV. lighting	LTV. lighting	SQ. square	WD. wood
		ENTR. entrance	LTV. lighting	LTV. lighting	SQ. FT. square foot	WDW. window
		ENTR. entrance	LTV. lighting	LTV. lighting	STD. standard	WP. waterproofing
		ENTR. entrance	LTV. lighting	LTV. lighting	STL. steel	WSCT. wainscot
		ENTR. entrance	LTV. lighting	LTV. lighting	STOR. storage	WT. weight
		ENTR. entrance	LTV. lighting	LTV. lighting	STRUC. structure (al)	YD. yard
		ENTR. entrance	LTV. lighting	LTV. lighting	SURF. surface	

DETAIL REFERENCE

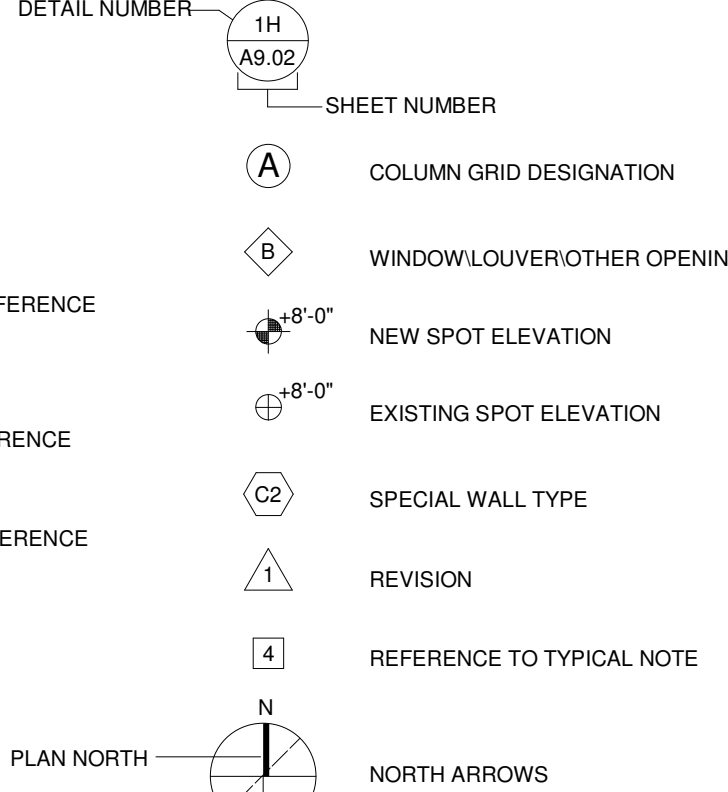


DETAILS ARE REFERENCED ACCORDING TO THEIR POSITION ON THE DRAWING SHEET. THE SYSTEM IS SIMILAR TO THAT OF A MAP. THE DRAWING SHEET IS DIVIDED INTO A GRID WITH LETTERS ON THE SIDES AND NUMBERS GOING ACROSS AS SHOWN ABOVE. FOR EXAMPLE DETAIL 9D A5.03 WOULD BE FOUND AT THE INTERSECTION OF LINES 9 AND ON SHEET A5.03

SYMBOLS



REFERENCES:



MATERIAL DESIGNATIONS

	EARTH		FINISHED WOOD
	GRAVEL		PLYWOOD
	CONCRETE		ROUGH WOOD FRAMING
	TERRAZZO		BLOCKING
	PLASTER, SAND, GROUT		BATT INSULATION
	BRICK		RIGID INSULATION
	CMU		ACOUSTICAL TILE
	75% SOLID CMU		CERAMIC TILE
	STEEL		CARPET

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: SPRINGBROOK NURSING AND REHABILITATION CENTER ADDITION
Address: 195 SPRINGBROOK AVE, CLAYTON, NC
Proposed Use: NURSING HOME
Owner/Authorized Agent: JON WHITE Phone #: 919-428-7361 E-Mail: JONWHITE.NC@OUTLOOK.COM
Owned By: ☐ City / County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City ☒ County JOHNSTON ☐ State

CONTACT:

DESIGNER:	FIRM:	NAME:	LICENSE #:	TELEPHONE #:	E-MAIL:
Architectural	STUDIO WALES	KEITH WALES JR.	13140	414-704-6764	KEITH@STUDIO-WALES.COM
Civil	CURRY ENGINEERING GROUP	JARED MATTHEWS	048484	919-552-0849	JAREDC@CURRYENC.COM
Electrical	ABELLA ASSOC.	KEVIN HOWARD	045198	704-376-6423	KHOWARD@ABELLAPC.COM
Fire Alarm		KEVIN HOWARD	045198	704-376-6423	KHOWARD@ABELLAPC.COM
Plumbing	ABELLA ASSOC.	MICHAEL GROSE	047719	704-376-6423	MGROSE@ABELLAPC.COM
Mechanical	ABELLA ASSOC.	MICHAEL GROSE	047719	704-376-6423	MGROSE@ABELLAPC.COM
Sprinkler-Standpipe		PROVIDED BY GC / SPRINKLER SUB-CONTRACTOR			
Structural	ABELLA ASSOC.	DAN HILL	040156	704-376-6423	DHILL@ABELLAPC.COM
Retaining Walls>5'	High	ABELLA ASSOC.			
Landscape	N/A				

2018 EDITION OF NC CODE FOR: ☐ New Construction ☒ Addition ☐ Renovation ☐ 1st Time Interior
☐ Shell / Core ☐ Phased Construction ☐ Shell / Core
2018 EXISTING BUILDING CODE: ☐ Prescriptive ☐ Repair ☐ Ch. 14 ☐ Historic Property
Alteration: ☐ Level 1 ☒ Level 2 ☐ Level 3 ☐ Change of Use

CONSTRUCTED: (date) 2014 CURRENT OCCUPANCY (Ch. 3): I-2, CONDITION 1
RENOVATED: (date) - PROPOSED OCCUPANCY (Ch. 3): I-2, CONDITION 1

RISK CATEGORY (NCBC1604.5) ☐ I ☐ II ☐ III ☐ IV
Current: ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA:

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☒ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☐ V-B
Sprinklers: ☐ No ☐ Partial ☒ Yes* ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
*SPRINKLER HEADS ARE FAST RESPONSE AS PER NCBC 407.2.5.4
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes
Special Insp. ☐ No ☒ Yes - NCFC 909.5 SMOKE PRESSURE, SEE ALSO STRUCTURAL DWGS.

Gross Building Area:			
FLOOR	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL (SQ. FT.)
FLOOR 3	- SF	- SF	- SF
FLOOR 2	- SF	- SF	- SF
FLOOR 1	26,070 SF	8,172 SF	34,242 SF
BUILDING C - LEVEL 1	12,704 SF	0 SF	12,704 SF
BUILDING B - LEVEL 1	26,290 SF	0 SF	26,290 SF
BUILDING A - LEVEL 1	65,064 SF	8,172 SF	73,236 SF

*AREA INCLUDES INTERIOR SF AND COVERED EXTERIOR AREA
**AREA INCLUDES INTERIOR SF & EXTERIOR DECKS

Occupancy:

ALLOWABLE AREA
Assembly ☐ A-1 ☒ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☒ I-2 ☒ I-1 ☐ I-2
☐ I-3 ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4 ☐ I-5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancy Classification(s): B, S-1 EA, LESS THAN 10%

Incidental Uses (Table 509): -

Special Uses (Ch.4 - List Sections): 407

Special Provisions (Ch.5 - List Sections): -

Mixed Occupancy: ☐ No ☒ Yes Separation: - Hr. Exception: -
☒ Non-Separated Use (508.3)

The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy}}{\text{Allowable Area of Occupancy}} + \frac{\text{Actual Area of Occupancy}}{\text{Allowable Area of Occupancy}} \leq 1$$
$$\frac{-}{-} + \frac{-}{-} + \dots = \frac{-}{-} \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,3}	(D) ALLOWABLE AREA OR UNLIMITED
BLDG A - LEVEL 1	I-2, COND. 1*, A-2	26,290 SF	38,000 SF*	NOT USED	38,000 SF
BLDG B - LEVEL 1	I-2, COND. 1*, A-2	12,704 SF	38,000 SF*	NOT USED	38,000 SF
BLDG B - LEVEL 1	I-2, COND. 1*, A-2	34,242 SF	38,000 SF*	NOT USED	38,000 SF
-	-	-	-	-	-

*AREA CALCULATION BASED UPON MOST RESTICTIVE OCCUPANCY (I-2, COND. 1) NCBC 508.3

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = -'-"- (F)
b. Total Building Perimeter = -'-0" (P)
c. Ratio (F/P) = - (F/P)
d. W = Minimum width of public way = 30 (W)
e. Percent of frontage increase $\left[= 100 \left[\frac{F}{P} - 0.25 \right] \times \frac{W}{30} = - \right]$ (%)
2 Unlimited area applicable under conditions of Section 507.

3 Maximum Building Area = total number of stories in the building x D (max. 3 stories)(506.2)

4 The maximum area of parking garages must comply with 406.5.4

5 Frontage increase is based upon the unsprinklered area value in Table 506.2

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE ¹
Building Height in Feet (Table 5.4.3) ²	Feet <u>50'-0"</u> *	Feet <u>41'-10"</u>	-
Building Height in Stories (Table 5.4.4) ³	Stories <u>1*</u>	Stories <u>1</u>	-

1. Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4
2. The maximum height of air traffic control towers must comply with Table 412.3.1
3. The maximum height of an open parking garage must comply with table 406.5.4

* AREA CALCULATION BASED UPON MOST RESTICTIVE OCCUPANCY (I-2, COND. 1) NCBC 508.3

FIRE PROTECTION REQUIREMENTS									
BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	PROVIDE (W/REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS		
Structural frame, including columns, girders, trusses		1 HR	1 HR						
Bearing walls	>30								
Exterior									
North		1 HR	1 HR	G3.02	U-356	G1.02	G1.02		
East		1 HR	1 HR	G3.02	U-356	G1.02	G1.02		
West		1 HR	1 HR	G3.02	U-356	G1.02	G1.02		
South		1 HR	1 HR	G3.02	U-356	G1.02	G1.02		
Interior		1 HR	1 HR	G3.01	U-305	G1.02	G1.02		
Nonbearing walls and partitions - Exterior	>30								
North		0 HR	-	-	-	-	-		
East		0 HR	-	-	-	-	-		
West		0 HR	-	-	-	-	-		
South		0 HR	-	-	-	-	-		
Interior walls and partitions		0 HR	0 HR	G3.01	U-305	G1.02	G1.02		
Floor Construction including supporting beams and joists	1 HR	N/A	N/A	N/A	N/A	N/A	N/A		
Floor Ceiling Assembly	1 HR	N/A	N/A	N/A	N/A	N/A	N/A		
Columns Supporting Floors	1 HR	N/A	N/A	N/A	N/A	N/A	N/A		
Roof Construction including supporting beams and joists	1 HR	1 HR	G3.02	RC-2602	G3.02	A6.01	A6.01		
Roof Ceiling Assembly	1 HR	1 HR	G3.02	RC-2602	G3.02	A6.01	A6.01		
Columns Supporting Roof	1 HR	1 HR	G3.02	RC-2602	G1.02	G1.02	G1.02		
Shafts Enclosures - Exit	-	N/A	N/A	N/A	N/A	N/A	N/A		
Shafts Enclosures - Other	-	N/A	N/A	N/A	N/A	N/A	N/A		
Corridor Separation	0HR/SP	0HR/SP	G3.01	U-305	G1.02	G1.02	G1.02		
Occupancy/Fire Barrier Separation	1 HR	1 HR	G3.01	U-305	G1.02	G1.02	G1.02		
Party/Fire Wall Separation	2HR	2HR	EXG	U-305	EXG	EXG	EXG		
Smoke Barrier Separation	1 HR	1 HR	EXG	U-305	EXG	EXG	EXG		
Smoke Partition	0HR/SP	0HR/SP	G3.01	U-305	G1.02	G1.02	G1.02		
Tenant/Dwelling/Sleeping Separation	-	N/A	N/A	N/A	N/A	N/A	N/A		
Incidental Use Separation	NR	-	-	-	-	-	-		

* Indicates section number permitting reduction
** All code references are for NC Building Code, U.N.O.
*** Indicates calculated equivalent thickness

PERCENTAGE OF WALL OPENING CALCULATIONS			
FIRE SEPERATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENING PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
SOUTH >30'-0"	UP,S	NO LIMIT	27%
NORTH >30'-0"	UP,S	NO LIMIT	16%
WEST >30'-0"	UP,S	NO LIMIT	21%
EAST >30'-0"	UP,S	NO LIMIT	21%

LIFE SAFETY SYSTEM REQUIREMENTS	
Emergency Lighting:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Exit Signs:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Fire Alarm:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Smoke Detection Systems:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partial
Carbon Monoxide Detection:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes NCFC 915.1

LIFE SAFETY PLAN REQUIREMENTS	
Life Safety Plan Sheet #:	<u>G2.01</u>
<input checked="" type="checkbox"/> Fire and/or smoke rated wall locations (Chapter 7)	
<input checked="" type="checkbox"/> Assumed and real property line locations (if not on the site plan)	
<input checked="" type="checkbox"/> Exterior wall opening area with respect to distance to assumed property lines (705.8) N/A	
<input checked="" type="checkbox"/> Occupancy Use for each area as it relates to occupant load calculations (Table 1004.1.2)	
<input checked="" type="checkbox"/> Occupant loads for each area	
<input checked="" type="checkbox"/> Exit access travel distances (1017)	
<input checked="" type="checkbox"/> Common path of travel distances (1006.2.1 & 1006.3.2(1))	
<input checked="" type="checkbox"/> Dead end lengths (1020.4) - NOT ALLOWED	
<input checked="" type="checkbox"/> Clear exit widths for each exit door	
<input checked="" type="checkbox"/> Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)	
<input checked="" type="checkbox"/> Actual occupant load for each exit door	
<input checked="" type="checkbox"/> A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation SE/A6.01	
<input checked="" type="checkbox"/> Location of doors with panic hardware (1010.1.10)	
<input type="checkbox"/> Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) NONE	
<input checked="" type="checkbox"/> Location of doors with electromagnetic egress locks (1010.1.9.9) EXG. TO REMAIN UNMODIFIED	
<input type="checkbox"/> Location of doors with hold-open devices	
<input type="checkbox"/> Location of emergency escape windows (1030) IN EACH SLEEPING ROOM	
<input type="checkbox"/> The square footage of each fire area (202) N/A	
<input checked="" type="checkbox"/> The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)	
<input type="checkbox"/> Note any code exceptions or table notes that may have been utilized regarding the items above N/A	

ACCESSIBLE DWELLING UNITS (SECTION 1107)						
TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED
-	-	-	-	-	-	-

ACCESSIBLE PARKING (SEE CIVIL DRAWINGS) SECTION 1106						
LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED	REGULAR WITH 5' VAN SPACES WITH 13' ACCESS AISLE	ACCESSIBLE B ACCESS AISLE	IDAH # ACCESSIBLE PROVIDED
TOTAL						

STRUCTURAL DESIGN: (SEE STRUCTURAL DRAWINGS)	
DESIGN LOADS:	
Importance Factor	$\gamma_w = -$
Snow	$\gamma_s = -$
Seismic	$\gamma_e = -$
Live Loads:	$\gamma_l = -$ psf.
Roof	$\gamma_r = -$ psf.
Catwalks	$\gamma_{cw} = -$ psf.
Floor	$\gamma_f = -$ psf.
Ground Snow Load:	$\gamma_g = -$ psf.
Wind Load:	Basic Wind Speed $\gamma_{ws} = -$ mph (ASCE-7) Exposure Category $\gamma_{ex} = -$ Wind Base Shears (for MWFRS) $\gamma_{wx} = -K$ $\gamma_{wy} = -K$

SEISMIC DESIGN CATEGORY <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	
Provide the following Seismic Design Parameters:	
Occupancy Category (Table 1604.5)	<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV
Spectral Response Accelerations	$\gamma_s = -$ %g $\gamma_{s1} = -$ %g
Site Classification (Table 1613.5.2)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F
Data Source:	<input type="checkbox"/> Field Test <input type="checkbox"/> Presumptive <input type="checkbox"/> Historical Data
Basic structural system (check one)	
<input type="checkbox"/> Bearing Wall	<input type="checkbox"/> Dual w/Special Moment Frame
<input type="checkbox"/> Building Frame	<input type="checkbox"/> Dual w/Intermediate R/C or Special Steel
<input type="checkbox"/> Moment Frame	<input type="checkbox"/> Inverted Pendulum
Seismic Base Shear:	$\gamma_v = -K$ $\gamma_{vy} = -K$
Analysis Procedure:	<input type="checkbox"/> Simplified <input type="checkbox"/> Equivalent Lateral Force <input type="checkbox"/> Dynamic
Architectural/Mechanical/Components anchored to structure:	<input type="checkbox"/> No <input type="checkbox"/> Yes
LATERAL DESIGN CONTROL: Earthquake <input type="checkbox"/> Wind <input type="checkbox"/>	

SOIL BEARING CAPACITIES:	
Field Test (provide copy of test report)	$\gamma_{bf} = -$ psf
Presumptive Bearing Capacity	$\gamma_{bp} = -$ psf
Soil size, type, and capacity	$\gamma_{bs} = -$ psf

SPECIAL INSPECTIONS REQUIRED: ☐ Yes ☐ No
PLUMBING FIXTURE REQUIREMENTS NO CHANGE IN OCCUPANCY OR FIXTURES PROVIDED IN RENOVATION AREA. AREA OF ADDITION IS ONLY CARE RECEIPTS WHICH MEETS NC DHSR REQ'S

	WATERCLOSETS			URINALS			LAVATORIES			SHOWERS/TUBS		DRINKING FOUNTAINS	
	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX	REGULAR	ACCESSIBLE	REGULAR	ACCESSIBLE
Floor 1 Existing	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor 1 New	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor 1 Required*	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor 2 Existing	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor 2 New	-	-	-	-	-	-	-	-	-	-	-	-	-
Floor 2 Required*	-	-	-	-	-	-	-	-	-	-	-	-	-

SPECIAL APPROVALS - N/A
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)
Division of Health Service Regulation at NC Department of Health and Human Services, Johnston County Health Dept.

ENERGY REQUIREMENTS: ENERGY SUMMARY
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.
Existing building envelope complies w/ code ☒ NO ☐ YES (Remainder of section is not applicable)

Exempt Building ☒ NO ☐ YES (Provide Code Reference) _____

Climate Zone: ☒ 3A ☐ 4A ☐ 5A
Method of Compliance:
☒ Prescriptive (Energy Code) ☐ Prescriptive (ASHRAE 90.1)
☐ Performance (Energy Code) ☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE *NO MODIFICATION TO THERMAL ENVELOPE [NCBC 2018 811.1]
Roof/Ceiling Assembly (each assembly)
Description of Assembly: WOOD FRAME W/ SHINGLES
U-Value of total assembly: U=0.027
R-Value of insulation: R=38
Skylights in each assembly: 0
U-Value of skylight: U=0.0 MIN.
total square footage of skylights in each assembly: 0 SF
Exterior Walls (each assembly)
Description of Assembly (1): WOOD FRAME W/ SIDING
U-Value of total assembly: U=0.064
R-Value of insulation: R=20
Description of Assembly (2): WOOD FRAME W/ MASONRY VENEER
U-Value of total assembly: U=0.064
R-Value of insulation: R=20
Openings (windows or doors with glazing)
U-Value of assembly: U=0.45
Solar heat gain coefficient: 0.25
projection factor: 0.0
Door R-Values: U=0.70

Walls below grade (each assembly)
Description of Assembly: N/A
U-Value of total assembly: -
R-Value of insulation: -
Floors over unconditioned space (each assembly)
Description of Assembly: N/A
U-Value of total assembly: -
R-Value of insulation: -
Floors slab on grade
Description of Assembly: CONC. S.O.G.
U-Value of total assembly: NR
R-Value of insulation: NR
Horizontal/vertical requirement: NR
slab heated: N

MECHANICAL SUMMARY (SEE MECHANICAL DRAWINGS)
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
Method of Compliance: ☐ Prescriptive (Energy Code)
Thermal Zone -
winter dry bulb: -
summer dry bulb: -
Interior Design Conditions
winter dry bulb: -
summer dry bulb: -
relative humidity: -
Building heating load: -
Building cooling load: -
Mechanical Spacing Conditioning System
Unitary
description of unit: -
heating efficiency: -
cooling efficiency: -
heat output of unit: -
size category of unit: -
Boiler Size category. If oversized, state reason: -
Chiller Size category. If oversized, state reason: -
List equipment efficiencies: -

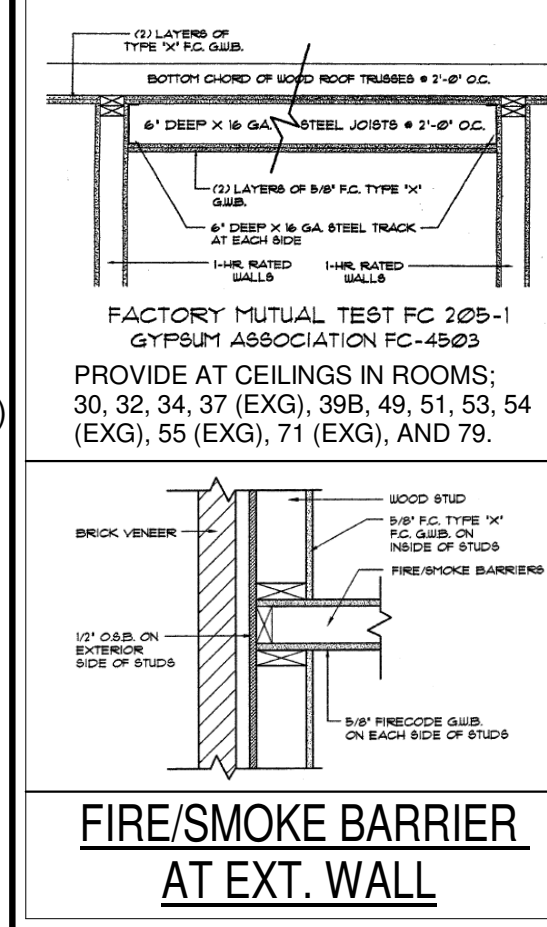
ELECTRICAL SUMMARY (SEE ELECTRICAL DRAWINGS)
ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance:
Energy Code: ☐ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance
Lighting schedule (each fixture type)
lamp type required in fixture -
number of lamps in fixture -
ballast type used in fixture -
number of ballasts in fixture -
total wattage per fixture -
total interior wattage specified or allowed (whole building or space by space) -
total exterior wattage specified or allowed -
Additional Prescriptive Compliance
☐ 506.2.1 More Efficient Mechanical Equipment
☐ 506.2.2 Reduced Lighting Power Density

BUILDING A
26, 290 SF

BUILDING B
12, 704 SF

BUILDING C
34, 242 SF

1 HR CLG FIRE BARRIER



LIFE SAFETY NOTES

1. ALL SMOKE PARTITIONS, SMOKE BARRIERS AND RATED WALLS SHALL:
 - EXTEND AND SEAL TO UNDERSIDE OF CEILING ASSEMBLY.
 - EXTEND AND SEAL TO UNDERSIDE OF FIRE-RATED SUB-CEILING ASSEMBLY WHERE INDICATED.
 - EXTEND AND SEAL TO EXTERIOR WALL SHEATHING. SEAL ALL VOIDS AND PENETRATIONS WITH THE SPECIFIED RESPECTIVE RATED FIRESTOP SYSTEM.
2. HIGHER FIRE RATED WALLS / PARTITIONS SHALL BE CONSTRUCTED FIRST WITH WALLS OF LOWER RATING ABUTTING AND SEALING TO THEM.
3. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION ON EXIT AND EMERGENCY LIGHTING.
4. DOOR OCC. LOAD AS PER SMOKE COMPARTMENT OCCUPANT LOAD.

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**SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION**
195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION		
Revisions		
No.	Description	Date

date: 02/18/2024
commission: NH-3138

sheet title:
LEVEL 1 LIFE SAFETY PLAN

sheet number:

G2.01

SMOKE COMPARTMENT A
14,231 SF (MAX. 22,500 SF NCBC407.5)
192 OCC.

SMOKE COMPARTMENT D
12,704 SF (MAX. 22,500 SF NCBC407.5)
122 OCC.

SMOKE COMPARTMENT D
18,194 SF (MAX. 22,500 SF NCBC407.5)
210 OCC.

SMOKE COMPARTMENT E
16,047 SF (MAX. 22,500 SF NCBC407.5)
197 OCC.

SMOKE COMPARTMENT B
12,591 SF (MAX. 22,500 SF NCBC407.5)
185 OCC.

LEVEL 1 EGRESS PLAN

1/16" = 1'-0"

1A

120

KEY

RENOVATION (8,955 SF)

SMOKE COMPARTMENT D
2,704 SF (MAX. 22,500 SF NCBC407.5)
122 OCC.

6- PVT. BR., 13- 2 BR.

SMOKE COMPARTMENT A
14,231 SF (MAX. 22,500 SF NCBC407.5)
192 OCC.

ACTIVITY AREA : 354SF
(13D.3201.b.1C 160 SF MIN.)
WINDOW TYPE B(2) : 72SF
(13D.3201.b.7 13 SF MIN.), TYP.
DINING AREA : 408SF
(13D.3201.b.1A 320 SF MIN.)
WINDOW TYPE B(2) : 72SF
(13D.3201.b.7 26 SF MIN.), TYP.
ACTIVITY AREA : 357SF
(13D.3201.b.1B 320 SF MIN.)

CONTROL POINT REMOTENES
(MAX. 150'-0" 13D3201.f.9)

CONTROL POINT REMOTENESS = 147'-3"
(MAX. 150'-0" 13D3201.f.9)

DINING AREA : 357SF
(13D.3201.b.1B 320 SF MIN.) -
WINDOW TYPE B(2) : 72SF
(13D.3201.b.7 26 SF MIN.), TYP.
WINDOW TYPE B(2) : 72SF
(13D.3201.b.7 39 SF MIN.), TYP.

COMBINED ACTIVITY AREA :
985SF (13D.3201.b.1C 480 SF M

SMOKE COMPARTMENT B
591 SF (MAX. 22,500 SF NCBC407.5)
185 OCC.

6- PVT. BR., 13- 2 BR.

18- PVT. BR., 0- 2 BR.

SMOKE COMPARTMENT D
18,194 SF (MAX. 22,500 SF NCBC407.5)
210 OCC.

8- PVT. BR., 0- 2 BR.

12- PVT. BR., 0- 2 BR

18- PVT. BR., 0- 2 BR

NOTE:

A. ALL RENOVATED AND NEW CORRIDORS TO BE PROVIDED WITH HANDRAILS AS PER 13D 3202.a). SEE 7E/A6.01. HANDRAILS ARE FOR W/ GC TO PROVIDE PREScribed BLOCKING.

B. RENOVATION OF COMMUNITY ROOM (18) WILL MAKE 985 SF OF REQUIRED RESIDENT SPACE [10A NCAC 13D 3201.b.1 A,B,C] UNAVAILABLE. COMMUNITY AREAS 35,76, AND 77 HAVE 1,348 SF OF SPACE IN EXCESS OF THE REQUIREMENTS AND WILL BE USED TO ACCOMMODATE THE REQUIREMENTS.

C. GC TO PHASE CONSTRUCTION SO THAT RENOVATION OF NURSING STATION 29 AND 48 ARE STAGGERED. EACH NURSING STATION WILL SERVE TO MEET THE REQUIREMENTS OF 10A NCAC 13D 3201.1-10) WHILE THE OTHER IS RENOVATED. FAMILY ROOMS 16 WILL SERVE AS NURSING CONTROL POINTS DURING RENOVATION TO BLDG AS NURSING STATION W/ TEMPORARY PATIENT CALL AND ALARM ANNUNCIATION SYSTEMS LOCATED WITHIN. OFFICE 74 AND MEDICAL ASSESSMENT 80 WILL SERVE AS NURSING CONTROL POINTS DURING RENOVATION TO BLDG AS NURSING STATION W/ TEMPORARY PATIENT CALL AND ALARM ANNUNCIATION SYSTEMS LOCATED WITHIN.

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**SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION**

195 SPRINGBROOK AVE., CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

[illegible]

date: 02/06/2024

commission: NH-3138

sheet title: DHSR PLAN

sheet number :

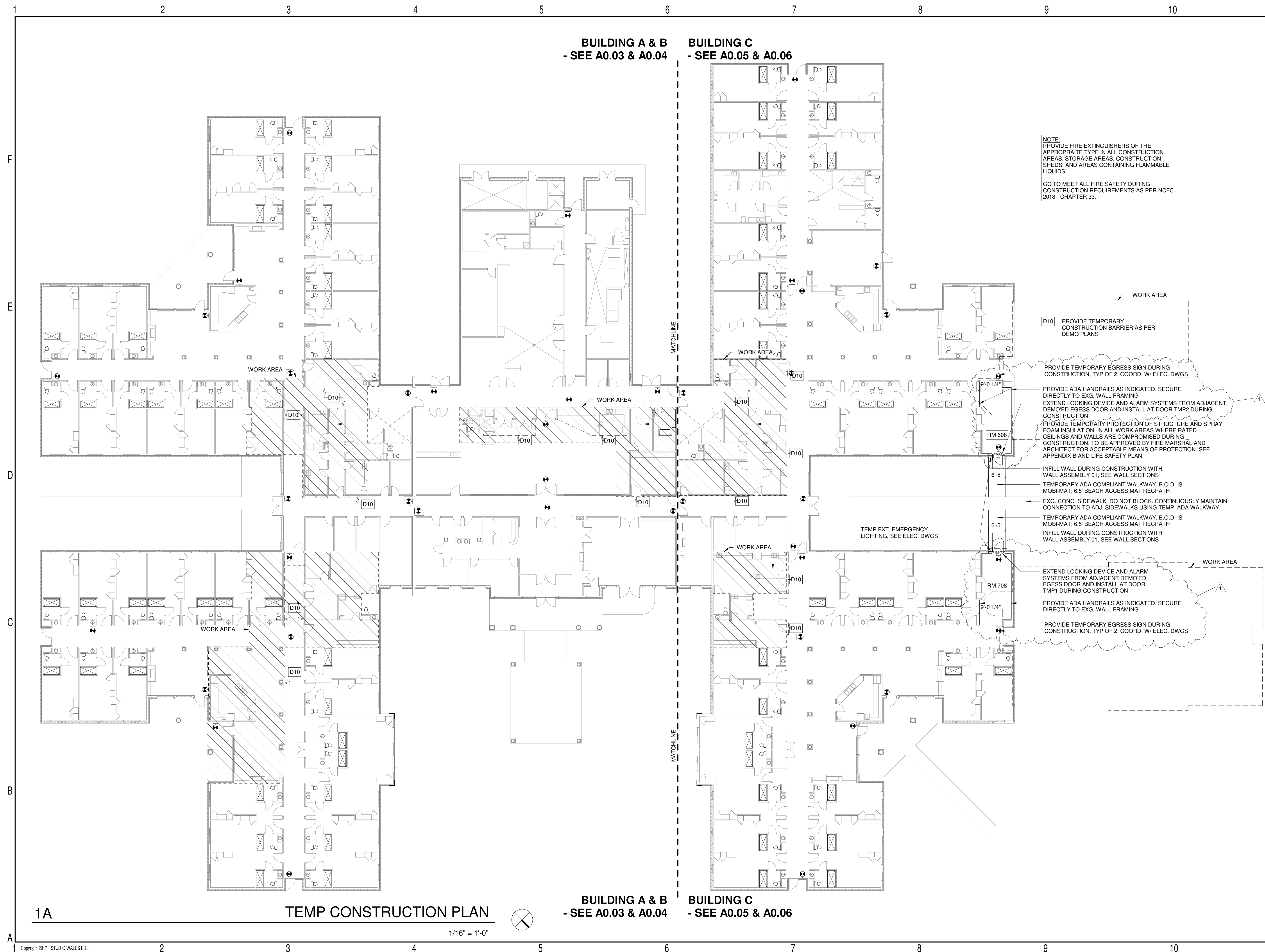
G2.02

LEVEL 1 DHSR PLAN

$$1/16'' = 1'-0''$$

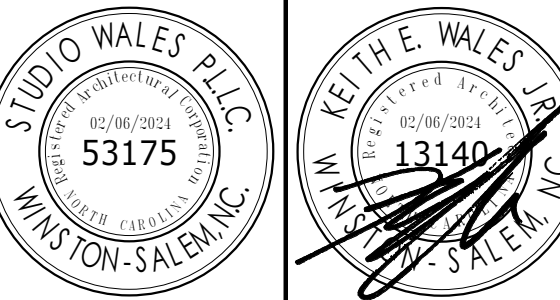
COLOR	NFPA 101 & NCSB® TERMINOLOGY	CODE REFERENCE NCSB (NFPA 101)*	FIRE RESISTANCE RATING	SEPARATION USE
Red	Fire Walls	Section 706	4 hr, 3 hr, 2 hr	building separations
Pink	Fire Barriers	Section 707 (Section 5.3)	2 hr	shalls, doors, exit passageways, horizontal exits, incidental use areas; different occupancies, fire areas
Yellow & Pink	Fire Smoke Barriers	Section 707 & 710 (Section 3.3 & 5.3)	1 hr (Yellow) 1-2 hr (Pink)	combinations, smoke barrier & 3 hr fire barrier as defined above
Blue	Fire Barriers	Section 707 (Section 5.3)	1 hr	shalls, doors, exit passageways, incidental use areas, different occupancies, fire areas
Blue	Fire Partitions	Section 709	1 hr	dwellings, unit separations, sleeping units, retail corridors, elevator lobbies
Yellow	Smoke Barriers	Section 710 (Section 5.5)	1 hr	smoke-tight corridor walls
Green	Smoke Partition	Section 711 & 607.3 (Section 3.6 & 5.2)	Smoke-Tight	smoke delineation
Orange	Smoke Penetrator	Section 1014.2.7 & 711 (Section 5.3)	Smoke-Tight	smoke delineation

*2012 North Carolina State Building Code; Building Code; National Fire Protection Association (NFPA) 101 Life Safety Code 2012 Edition
 **NFPA 101 Code References are in parentheses.



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**SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION**

195 SPRINGBROOK AVE, CLAYTON, NC

195 SPRINGBROOK AVE., CLAYTON, NC

CONSTRUCTION DOCUMENTS

OR CONSTRUCTION

Revisions		
No.	Description	Date
1	DHSR	1/30/202

ate: 02/06/2024

Commission: NH-3138

Sheet title

TEMP LIFE SAFETY PLAN

Sheet number

G2.03

F

E

D

C

B

A

System No. W-L-1001

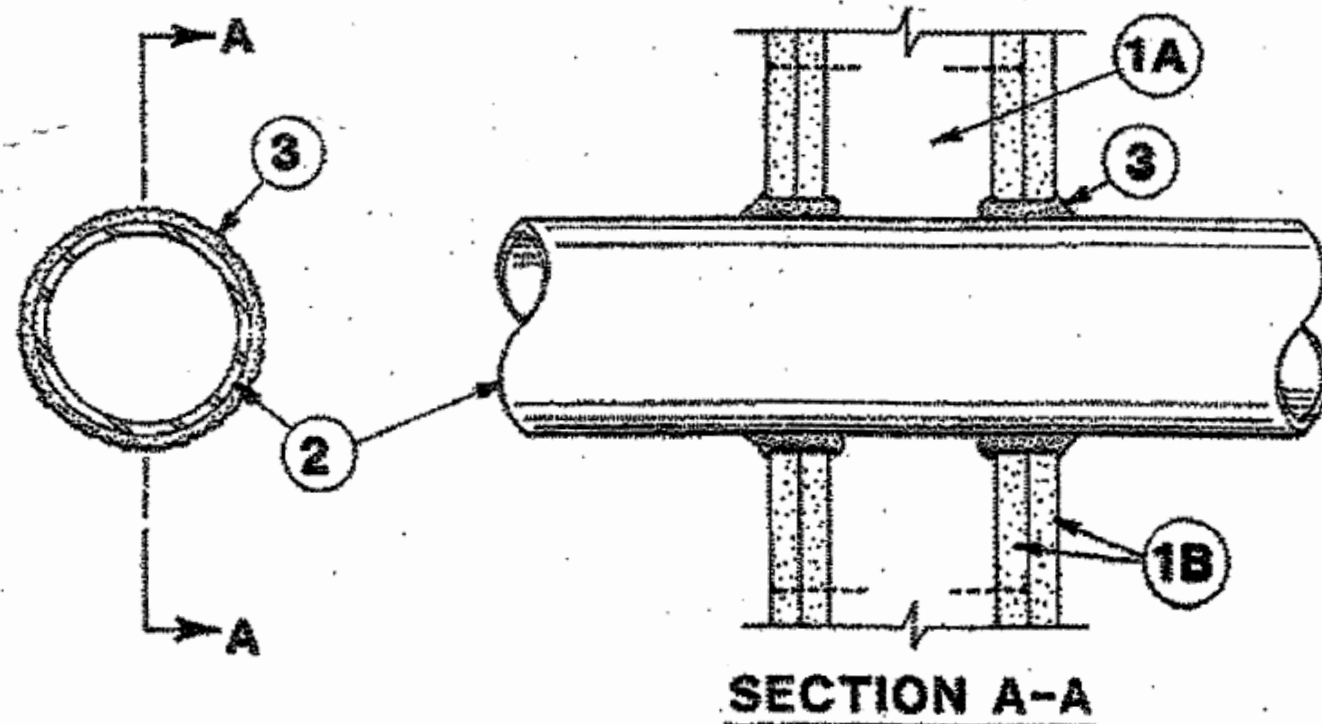
June 15, 2005

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

**SECTION A-A**

1. **Wall Assembly** — The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/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 TITELFLX

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 L LC

3. **Fill, Void or Cavity Materials*** — **Caulk or Sealant** — Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 51 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) diam 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 hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T 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

System No. W-L-5001

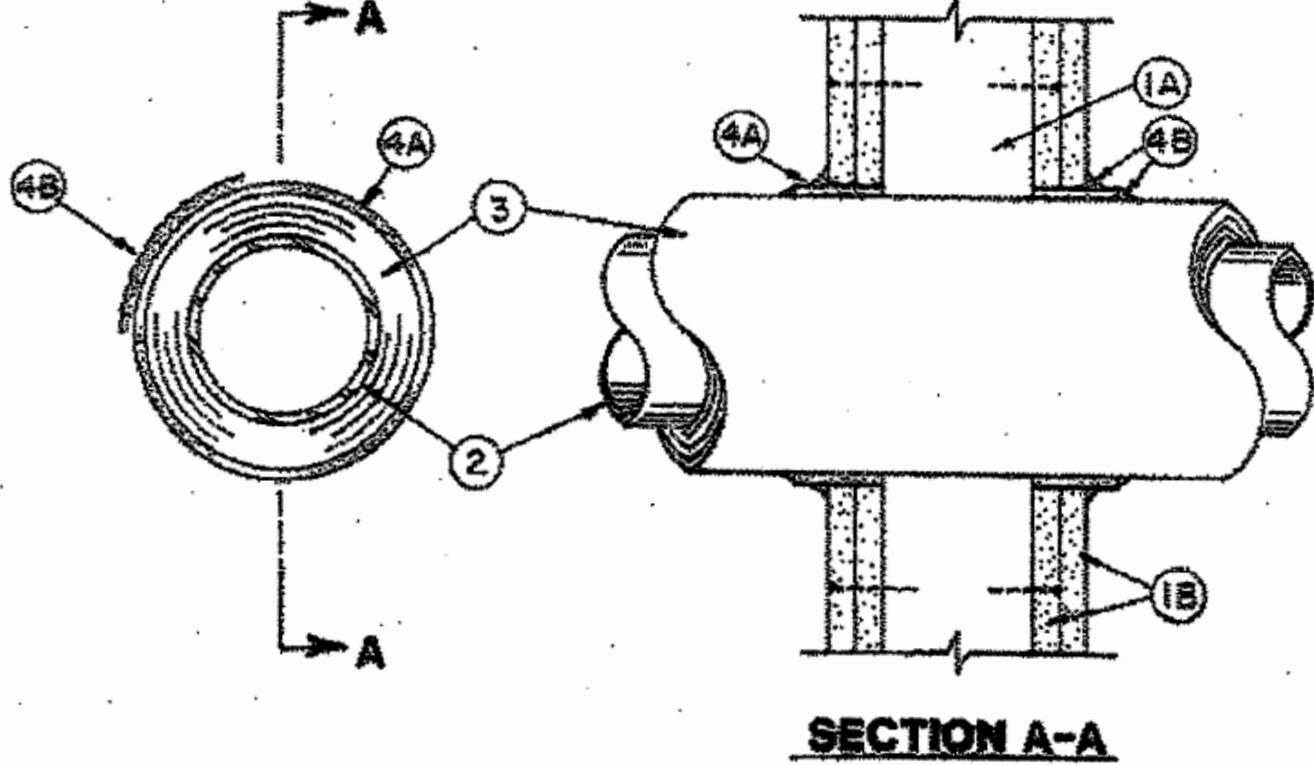
May 19, 2005

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 3/4, 1 and 1-1/2 Hr (See Item 3)

L Rating At Ambient — 2 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft

**SECTION A-A**

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 described in the individual U300, U400 or V400 Series Wall or 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 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 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 Design in the UL Fire Resistance Directory. Max diam of opening is 14-1/2 (368mm) in for wood stud walls and 18 in. (457 mm) for steel stud walls.

The hourly F Rating of the firestop system is 1 hr when installed in a 1 hr fire rated wall and 2 hr when installed in a 2 hr fire rated wall.

2. **Through Penetrants** — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:

A. **Steel Pipe** — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

C. **Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. **Pipe Covering*** — Nom 1 or 2 in. (25 or 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 86 kg/m³) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints sealed with metal fasteners or with butt strip tape supplied with the product. When nom 1 in. (25 mm) thick pipe covering is used, the annular space between the pipe covering and the circular cutout in the gypsum wallboard layers on each side of the wall shall be min 1/4 in. (6 mm) to max 3/8 in. (10 mm) When nom 2 in. (51 mm) thick pipe covering is used, the annular space between the pipe covering and the circular cutout in the gypsum board layers on each side of the wall shall be min 1/2 in. (13 mm) to max 3/4 in. (19 mm)

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.

The hourly T Rating of the firestop system is 3/4 hr when nom 1 in. (25 mm) thick pipe covering is used. The hourly F Rating of the firestop system is 1 hr and 1-1/2 hr when nom 2 in. (51 mm) thick pipe covering is used with 1 hr and 2 hr fire rated walls, respectively.

4. **Firestop System** — Installed symmetrically on both sides of wall assembly. 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 strip tightly wrapped around pipe covering (foil side out) with seam butted. Wrap strip layer securely bound with steel wire or aluminum foil tape and slid into annular space approx 1-1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip width protrudes from the wall surface. One layer of wrap strip is required when nom 1 in. (25 mm) thick pipe covering is used. Two layers of wrap strip are required when nom 2 in. (51 mm) thick pipe covering is used.

3M COMPANY — FS-195+

B. **Fill, Void or Cavity Materials*** — **Caulk or Sealant** — Min 1/4 in. (6 mm) diam continuous bead applied to the wrap strip/wall interface and to the exposed edge of the wrap strip layer approx 3/4 in. (19 mm) from the wall surface.

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

*Bearing the UL Classification Mark

System No. W-L-5009

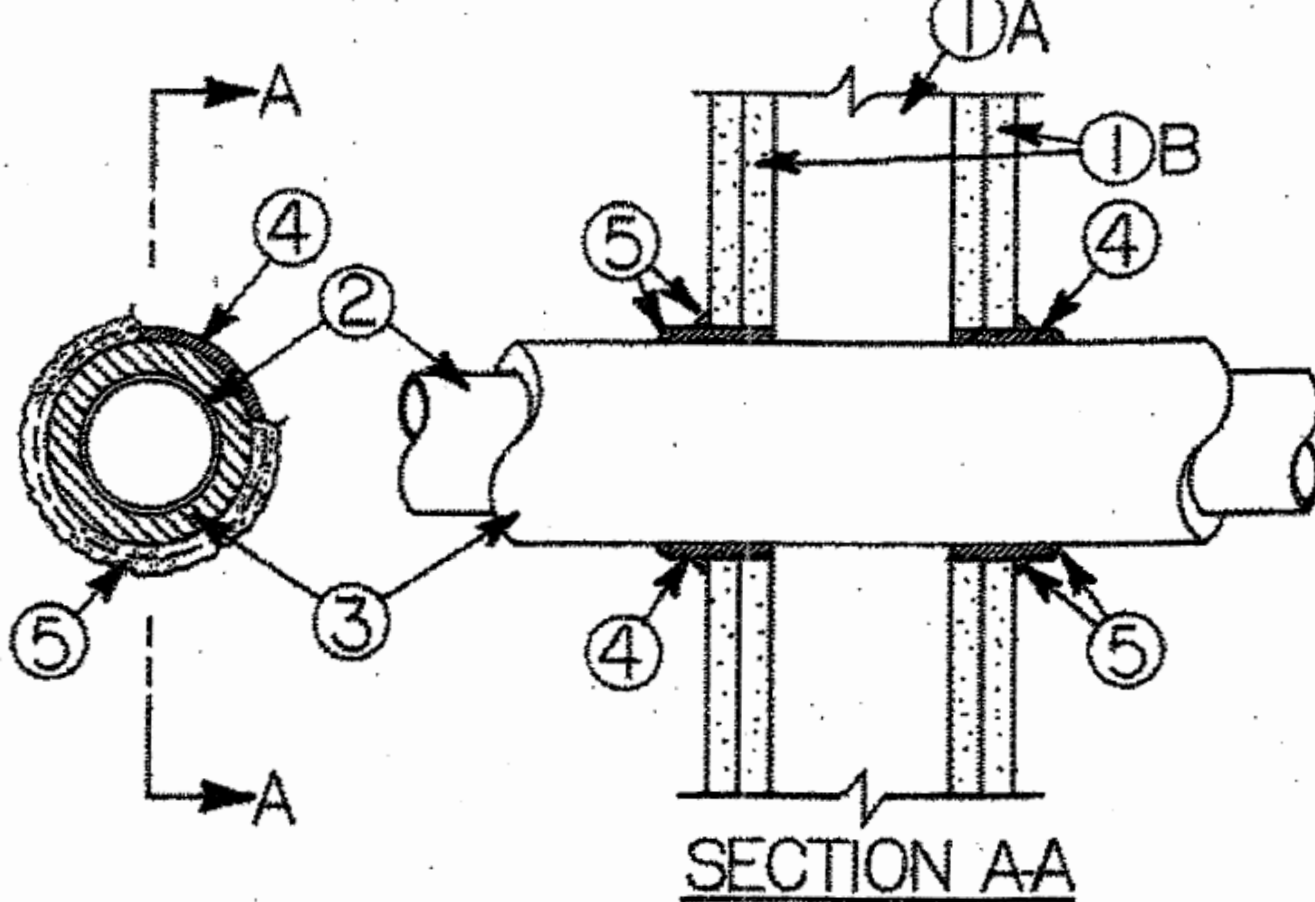
May 19, 2005

F Rating — 2 Hr

T Rating — 1/2 Hr

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

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

**SECTION AA**

1. **Wall Assembly** — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described 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 mm by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board*** — Two layers of nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Diam of opening cut in gypsum board layers on each side of wall assembly (concentric with pipe, Item 2) to be 1/2 to 3/4 in. (13 to 19 mm) larger than outside diam of pipe insulation (Item 3) such that, when installed, a 1/4 to 3/8 in. (6 to 10 mm) annular space will be present between the pipe insulation and the gypsum board around the entire circumference of the opening. Max diam of opening is 4 in. (102 mm).

2. **Copper Pipe** — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper pipe. A max of one pipe is permitted in the firestop system. Pipe to be installed near center of stud cavity width and is to be rigidly supported on both sides of wall assembly.

3. **Pipe Insulation** — **Plastic*** — Nom 5/8 in. (16 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam supplied in the form of tubes with skin. Pipe insulation to be sized to outside diam of copper pipe.

See **Plastics (QMF2)** category in the Recognized Component Directory for names of manufacturers. Any Recognized Component pipe insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-V0A may be used.

4. **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 strip tightly wrapped around pipe insulation (foil side out) with seam butted. Wrap strip layer securely bound with steel wire or aluminum foil tape and slid into annular space approx 1-1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip width protrudes from the wall surface. Wrap strip installed symmetrically on both sides of wall.

3M COMPANY — FS-195+

*Bearing the UL Recognized Component Marking.

*Bearing the UL Classification Mark

System No. W-L-2005

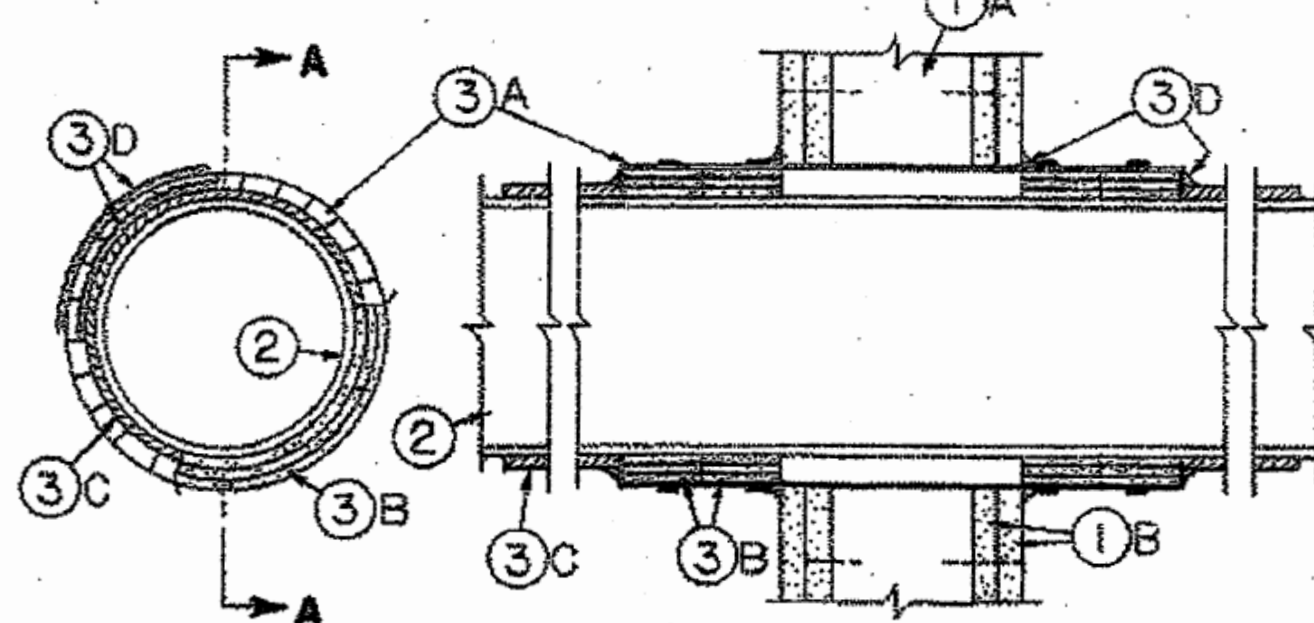
April 11, 2006

F Ratings — 1 and 2 Hr

T Ratings — 0, 3/4, 1, 1-1/2 and 2 Hr

L Rating At Ambient — 7 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft

**SECTION A-A**

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 described 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 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*** — 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 13-3/4 in. (349 mm).

2. **Nonmetallic Pipe** — Nom 6, 8 or 10 in. (152, 203 or 254 mm) diam Schedule 40 polyvinyl chloride (PVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. One pipe to be centered in the firestop system. Pipe to be installed near center of stud cavity width and to be rigidly supported on both sides of wall.

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 size of nonmetallic pipe and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Nom Pipe Diam In.	Annular Space In.	Wall Fire Rating Hr	F Rating Hr	T Rating Hr
6 (152)	3/4 (19)	1	1	1
6 (152)	3/4 (19)	2	2	2
8 (203)	1 (25)	1	1	3/4
8 (203)	1 (25)	2	2	1-1/2
10 (254)	1-1/2 (38)	1	1	3/4
10 (254)	1-1/2 (38)	2	1	3/4

The details of the firestop system shall be as follows.

A. **Steel Sleeve** — Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick (28 gauge) galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Length of steel sleeve shall be equal to thickness of wall plus 9-1/2 in. (241 mm), 10 in. (254 mm) or 11 in. (279 mm) for the 6, 8 and 10 in. (152, 203 and 254 mm) diam pipe sizes, respectively. Inside diam of steel sleeve and diam of through opening in the gypsum wallboard layers to be equal to outside diam of wrap strip (Item B) layers on pipe. Cylindrical sleeve inserted in annular space around nonmetallic pipe and centered in wall. After installation of wrap strip (Item B) layers, min 1/2 in. (13 mm) wide by min 0.008 in. (0.71 mm) thick stainless steel band clamps installed around steel collar on both sides of wall assembly with one band clamp located near the wall surface and another located approx 1 in. (25 mm) from the outer edge of the wrap strip layers. Edges of steel sleeve to be silt approx 1 in. (25 mm) OC around circumference of sleeve on both sides of wall, with length of slit approximately equal to thickness of mat wrap layers, to form retainer tabs. Retainer tabs bent 90 deg toward pipe to lock wrap strip layer(s) in position.

B. **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 by 24 in. (610 mm) long strips. Two stacks of wrap strip (nom 4 in. or 102 mm high stock) tightly-wrapped around nonmetallic pipe on each side of wall and slid into steel sleeve (Item A) such that inner edges are flush with or recessed max 1/4 in. (6 mm) into surface of wall. For nom 6 in. (152 mm) diam pipes, three layers of wrap strip are required in each stack. For nom 8 in. (203 mm) diam pipes, four layers of wrap strip are required in each stack. For nom 10 in. (254 mm) diam pipes, six layers of wrap strip are required in each stack. Each layer of wrap strip to be installed with butted seams, with the butted seams in successive layers staggered. Wrap strips temporarily held in position using aluminum foil tape, filament tape, steel wire tie, or equivalent.

3M COMPANY — Type FS-195+

C. **Pipe Covering*** — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 86 kg/m³) glass fiber units jacketed on the outside with an all service jacket. Min 6 in. (152 mm) length of pipe covering installed around PVC pipe at its egress from the wrap strip layers (Item B) on both sides of the wall. Pipe covering secured to pipe with steel wire ties spaced max 4 in. (102 mm) OC. Edge of pipe covering abutting wrap strip to be sealed with a min 1/4 in. (6 mm) diam bead of caulk (Item D).

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 Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

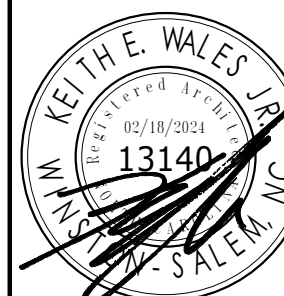
D. **Fill, Void or Cavity Materials*** — **Caulk or Sealant** — Generous bead of caulk to be applied to outer perimeter of steel sleeve at interface with wall surfaces and to perimeter of pipe covering material wrap at its interface with the wrap strip layers.

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

*Bearing the UL Classification Mark

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SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION
195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS**FOR CONSTRUCTION**

Revisions		
No.	Description	Date

date: 02/18/2024

commission: NH-3138

sheet title:

UL ASSEMBLIES

sheet number:

G3.03

F
E
D
C
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A

System No. W-L-2003

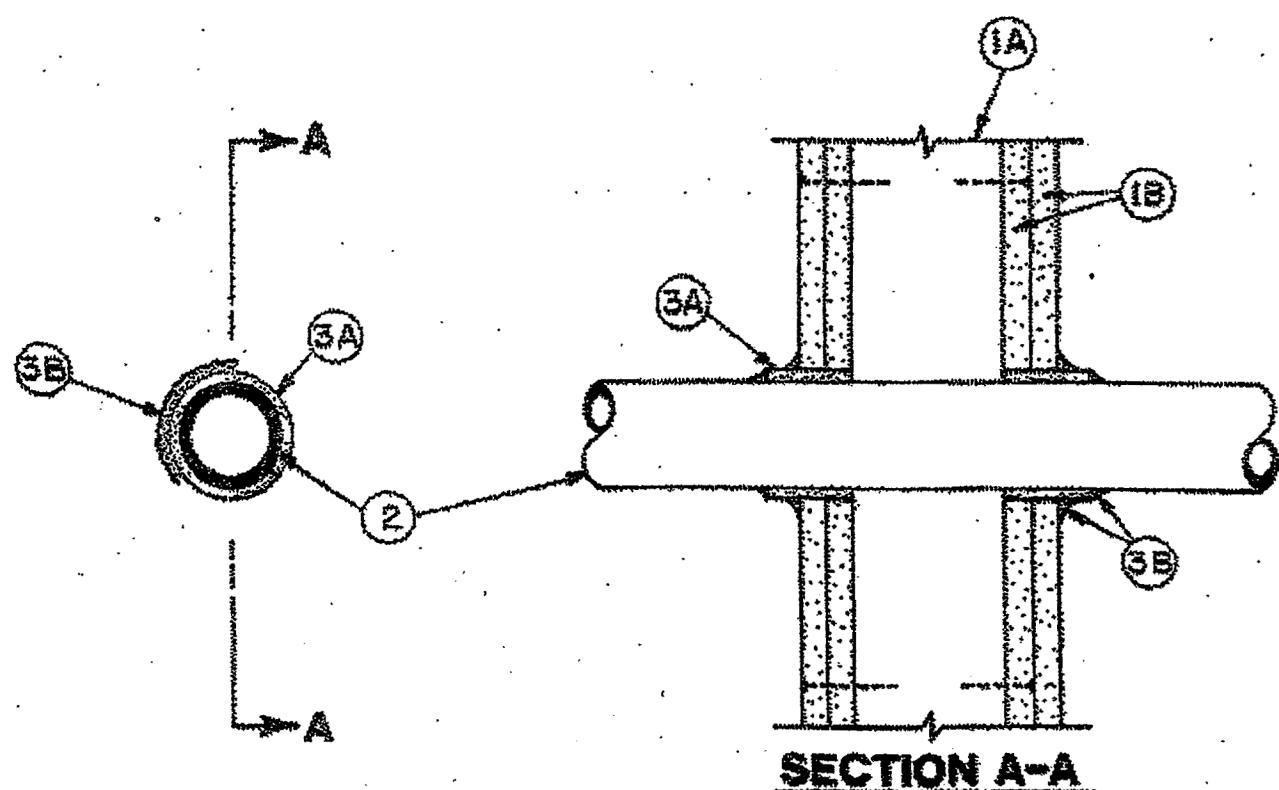
May 23, 2005

F Ratings — 1 and 2 Hr (See Item 3)

T Ratings — 1 and 2 Hr (See Item 3)

L Rating At Ambient — 7 CFM/sq ft (See Item 3B)

L Rating At 400 F — less than 1 CFM/sq ft (See Item 3B)



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 described in the individual U300, U400 or U400 Series Wall or 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. (405 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber and 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*** — 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 U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3-1/8 in. (76 mm).

2. **Through Penetrants** — One nonmetallic pipe or conduit to be centered in the through opening. The annular space between pipe or conduit and periphery of opening shall be min 1/4 in. (6 mm) and max 3/8 in. (10 mm). Pipe or conduit to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes or conduits may be used:

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. (51 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.

B. **Rigid Nonmetallic Conduit**** — Nom 2 in. (51 mm) diam (or smaller) (Schedule 40 or 60) PVC conduit installed in accordance with the National Electric Code (NFPA No. 70).

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

D. **Cellular Core Polyvinyl Chloride (ccPVC) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

E. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

F. **Cellular Core Acrylonitrile Butadiene Styrene (ccABS) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. **Firestop System** — Installed symmetrically on both sides of wall assembly. The hourly F and T Ratings for the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. 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 incompressible elastomeric material faced on one side with aluminum foil, supplied in 2 in. (51 mm) wide strips. Nom 2 in. (51 mm) wide strip tightly wrapped around nonmetallic pipe (foil side out) with seam butted. Wrap strip layer securely bound with steel wire or aluminum foil tape and slid into annular space approx 1-1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip protrudes from the wall surface.

3M COMPANY — PS-195+

B. **Fill, Void or Cavity Materials*** — **Caulk, Sealant or Putty** — Min 5/8 in. (16 mm) thickness of caulk or putty applied into annular space between wrap strip and periphery of opening. A nom 1/4 in. (6 mm) diam bead of caulk or putty to be applied to the wrap strip/wall interface and to the exposed edge of the wrap strip layers approx 3/4 in. (19 mm) from the wall surface.

3M COMPANY — CP 25WB+ caulk or MP+ Stix putty, IC 15WB+ caulk, FireDam 150+ caulk or FB-3000 WT sealant. (Note: L Ratings apply only when Type CP 25WB+ caulk or FB-3000 WT sealant is used. CP 25WB+ not suitable for use with CPVC pipes.)

C. **Foil Tape** — (not shown) — Nom 4 in. (102 mm) wide, 3 mil thick aluminum tape wrapped around pipe prior to the installation of the wrap strip (Item 3A). Min of one wrap, flush with both sides of wall and proceeding outward. Tape is not required for pipes shown in Items 2A, 2B and 2C.

*Bearing the UL Classification Mark

System No. W-L-3001

September 07, 2004

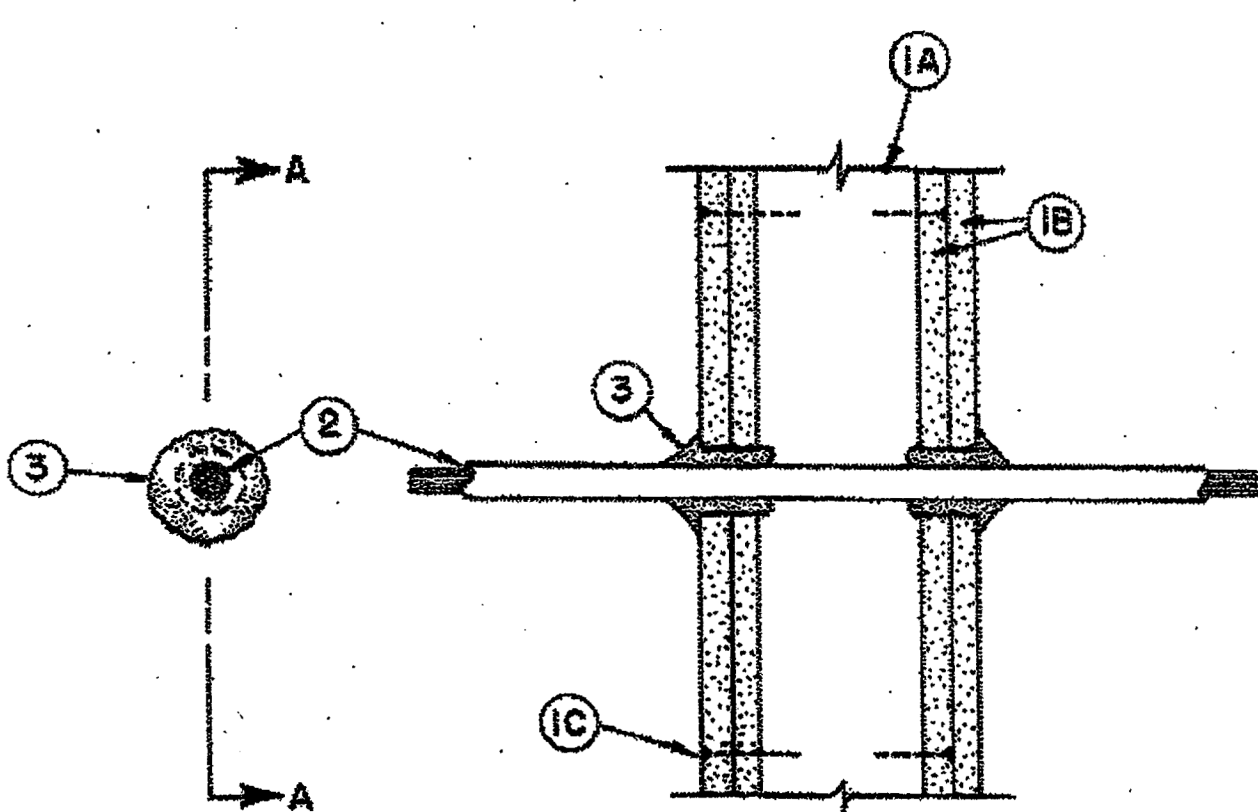
(Formerly System No. 149)

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 3/4, 1, 1-1/2 and 2 Hr (See Item 2)

L Rating At Ambient — 15 CFM/sq ft (See Item 3)

L Rating At 400 F — less than 1 CFM/sq ft (See Item 3)



1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/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 or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber and plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. **Gypsum Board*** — Nom 1/2 or 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers and sheet orientation shall be as specified in the individual Wall or Partition Design. Diam of circular through opening to be 3/8 in. to 5/8 in. larger than outside diam of cable or cable bundle.

C. **Fasteners** — When wood stud framing is employed gypsum wallboard layers attached to studs with cement coated nails as specified in the individual Wall or Partition Design. When steel channel stud framing is employed, gypsum wallboard attached to studs with Type S self-drilling, self-tapping single-head steel screws as specified in the individual Wall or Partition Design.

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. **Cables** — Individual cable or max 1 in. diam cable bundle installed in through opening with an annular space of min 0 in. (point contact) to max 3/4 in. Cable to be rigidly supported on both sides of wall assembly. The following types and sizes of cables may be used:

A. Max 150 pair No. 24 AWG copper conductor telephone cable with polyvinyl chloride (PVC) insulation and jacket materials. When max 25 pair telephone cable is used, T Rating is 2 hr. When 50 to 150 pair telephone cable is used in 1 hr fire rated wall, T Rating is 3/4 hr. When 50 to 150 pair telephone cable is used in 2 hr fire rated wall, T Rating is 1 hr.

cable is used in 2 hr fire rated wall, T Rating is 1 hr.

B. Max No. 10 AWG multiple copper conductor Type NM ("Romex") nonmetallic sheathed cable with PVC insulation and jacket materials. When Type NM cable is used, max T Rating is 2-1/2 hr.

C. Multiple fiber optical communication cable jacketed with PVC and having a max outside diam of 5/8 in. When fiber optic cable is used, max T Rating is 2 hr.

D. Max 12 AWG multiconductor (max seven conductors) power/control cable with cross-linked polyethylene (XLPE) insulation and XLPE or PVC jacket materials. When multiconductor power/control cable is used, max T Rating is 2 hr.

E. Max four conductor with ground No. 2 AWG (or smaller) aluminum SER cables with polyvinyl chloride insulation and jacket materials.

3. **Fill, Void or Cavity Materials*** — **Caulk, Sealant or Putty** — Caulk or putty fill material installed to completely fill annular space between cable and gypsum wallboard on both sides of wall and with a min 1/4 in. diam bead of caulk or putty applied to perimeter of cable(s) at its egress from each side of the wall.

3M COMPANY — MP+ putty, CP 25WB+ caulk or FB-3000 WT sealant. (Note: L Ratings apply only when Type CP 25WB+ caulk or FB-3000 WT sealant is used.)

*Bearing the UL Classification Mark

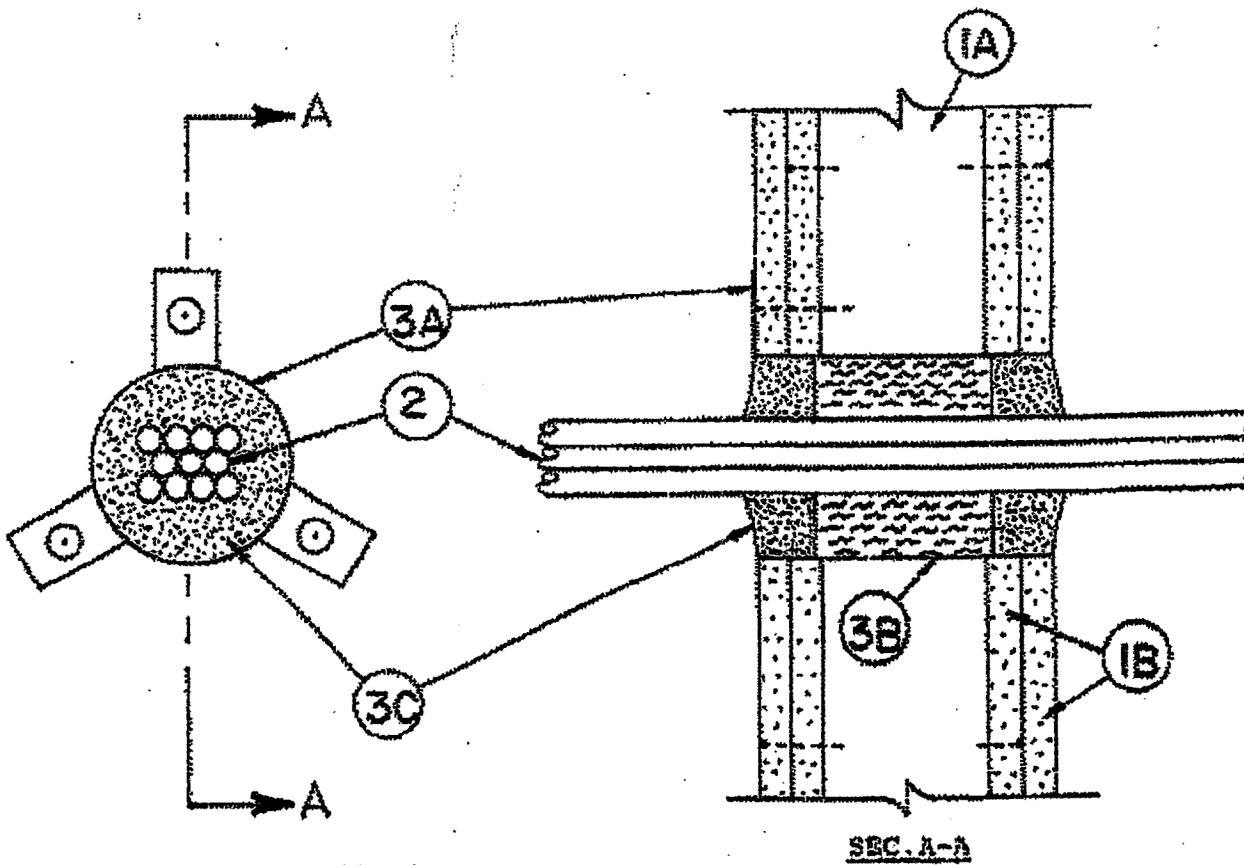
System No. W-L-3005

June 23, 2000

(Formerly System No. 235)

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1-1/2 Hr



FIRESTOP CONFIGURATION A

1. **Wall Assembly** — The 1 or 2 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. In 2 hr fire-rated assemblies, steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC. In 1 hr fire-rated assemblies, steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.

B. **Gypsum Board*** — 5/8 in. thick, 4 ft 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 3 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. **Cables** — Aggregate cross-sectional area of cable in opening to be max 40 percent of the aggregate cross-sectional of the opening. Cables to be centered and rigidly supported on both sides of floor or wall assembly. The following types and sizes of copper conductor cables may be used:

A. Max 50 pair No. 24 AWG (or smaller) copper conductor telephone cables with polyvinyl chloride (PVC) insulation and jacket materials.

B. Max 2/C (with ground) — 12 AWG (or smaller) PVC insulated and jacketed nonmetallic sheathed cable.

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

A. **Steel Sleeve** — Cylindrical sleeve friction fitted into the opening with nom 1 in.

by 1 in. long mounting flanges and secured to gypsum wallboard with 2 in. long Type S self-drilling, self-tapping steel screws and fender washers. Sleeve may be field fabricated from min 0.016 in. thick (No. 30 gauge) galv sheet metal in accordance with the manufacturer's installation instructions.

B. **Packing Material** — In 2 hr fire-rated assemblies, min 2-1/2 in. thickness of min 4 per mineral wool insulation firmly packed into opening as a permanent form. In 1 hr fire-rated assemblies, min 2-3/8 in. thickness of min 4 per mineral wool insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

C. **Fill, Void or Cavity Material*** — **Caulk or Putty** — Min 1-1/4 in. thickness of fill material applied within annulus flush with both surfaces of wall. Fill material to be forced into interstices of cable bundle max extent possible. Additional fill material to be installed such that a min 1/2 in. crown is formed around the penetrating item.

W B GRACE & CO - CONN — PS900, PS901, PS903, PS903CG, PS905, PS905CG, PS928, PS9301, PS9303 or PS9305 Sealant or PSF 1000 Putty

System No. W-J-1010

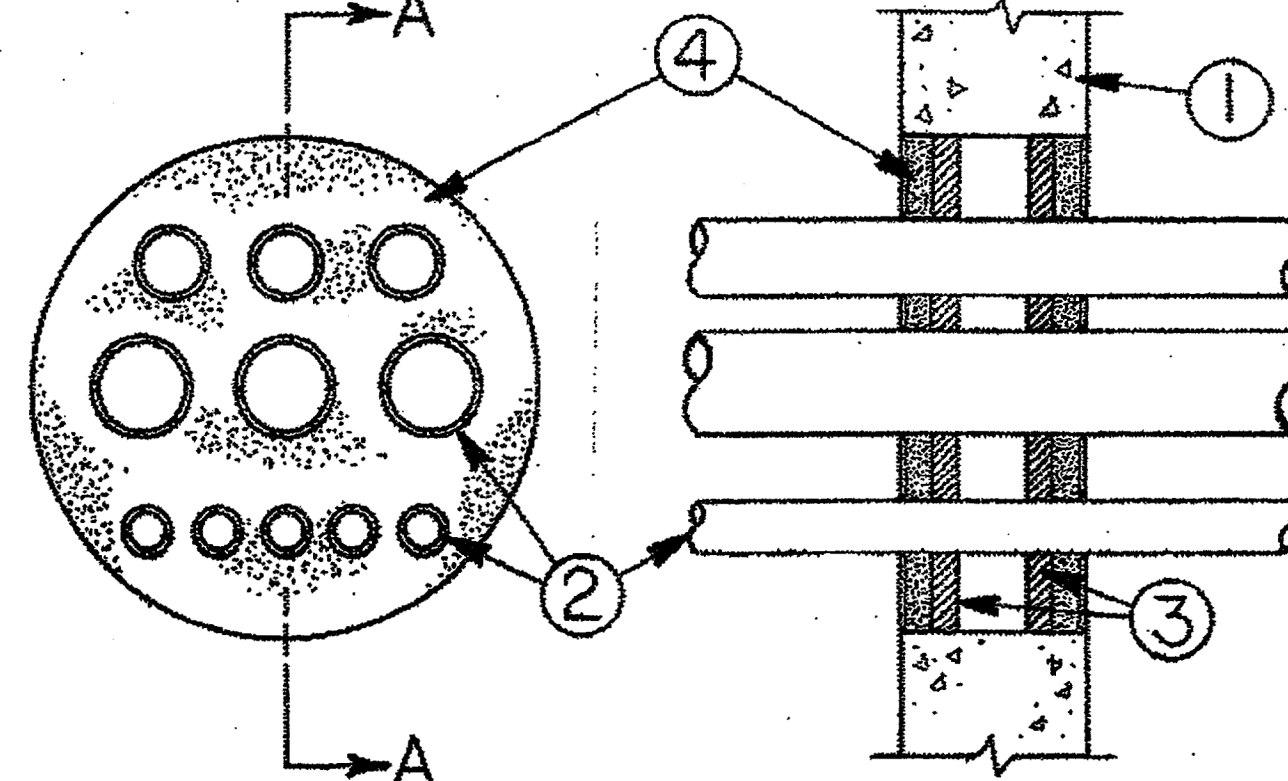
June 15, 2005

F Rating — 3 Hr

T Ratings — 1, 1-1/2 and 2 Hr (See Item 2)

L Rating At Ambient — 2 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly** — Min 6 in. (152 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Block*. Max diam of opening is 12 in. (305 mm).

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

2. **Steel Pipe or Conduit** — Nom 3 in. (76 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe, steel conduit or steel electrical metallic tubing. Multiple pipes and/or conduit permitted in opening provided a min separation of 1/4 in. (6 mm) is maintained between pipes or conduits. Pipes and/or conduits to be rigidly supported on both sides of the wall assembly. The T Rating of the firestop system is dependent upon the max diam of the pipes or conduits, as tabulated below:

Max Pipe or Conduit Diam In.	T Rating Hr
3 (76)	1
1 (25)	1-1/2
3/4 (19)	2

3. **Packing Material** — Min 1 in. (25 mm) thick rigid glass fiber insulation or mineral wool batt insulation firmly packed into opening on both sides of wall assembly as a permanent form. Packing material to be recessed min 1 in. (25 mm) from surface of wall on both sides of wall assembly.

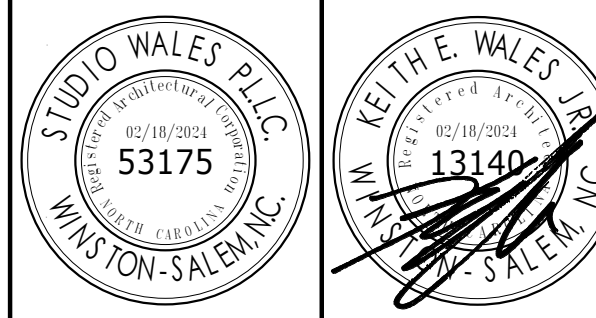
4. **Fill, Void or Cavity Materials*** — **Caulk or Sealant** — Applied to fill the through opening to a min depth of 1 in. (25 mm) on both sides of wall assembly.

3M COMPANY — CP 25WB+ or FB-3000 WT

*Bearing the UL Classification Mark

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SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION
195 SPRINGBROOK AVE, CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions		
No.	Description	Date

date: 02/18/2024

commission: NH-3138

sheet title:

UL ASSEMBLIES

sheet number:

G3.04

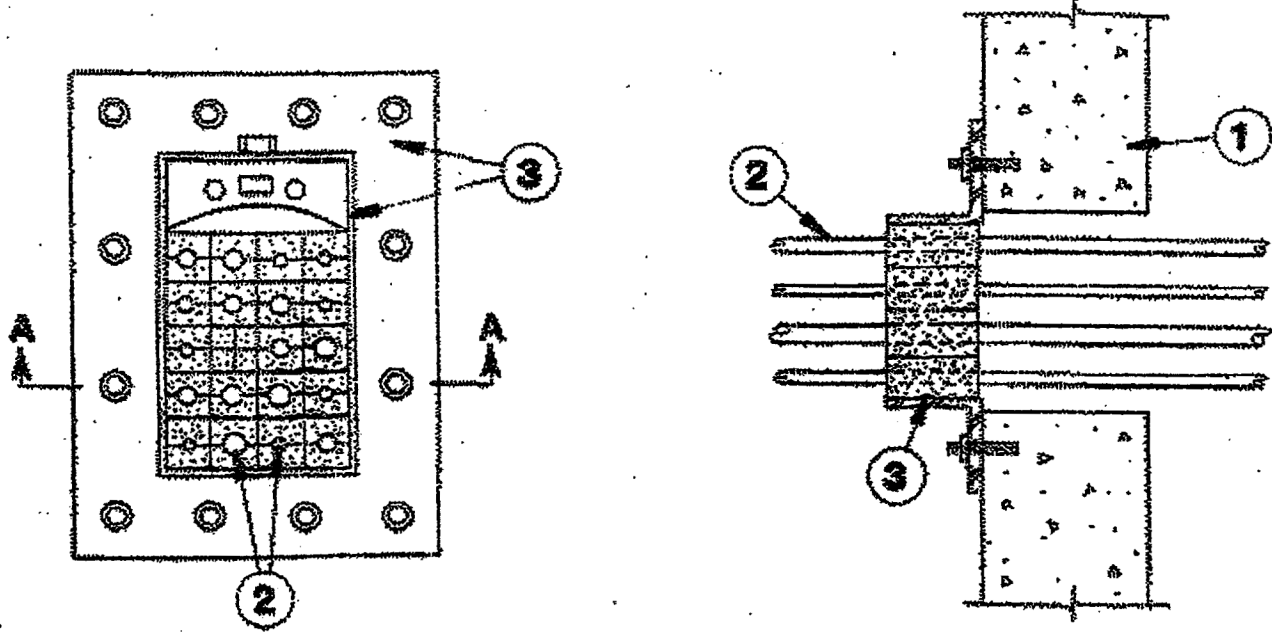
System No. W-J-1016

December 05, 1996

(Formerly System No. 497)

F Rating — 3 Hr

T Rating — 0 Hr



SECTION A-A

1. **Wall Assembly** — Min 4 in. thick reinforced normal weight (140-180) concrete. Wall assembly may also be constructed of any UL Classified **Concrete Blocks**®. Max area of opening is 72.2 sq in. with max dimension of 10-17/64 in.

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

2. **Through Penetrants** — One metallic pipe or conduit to be positioned within the firestop device. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or conduits may be used:

A. **Steel Pipe** — Nom 2 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.

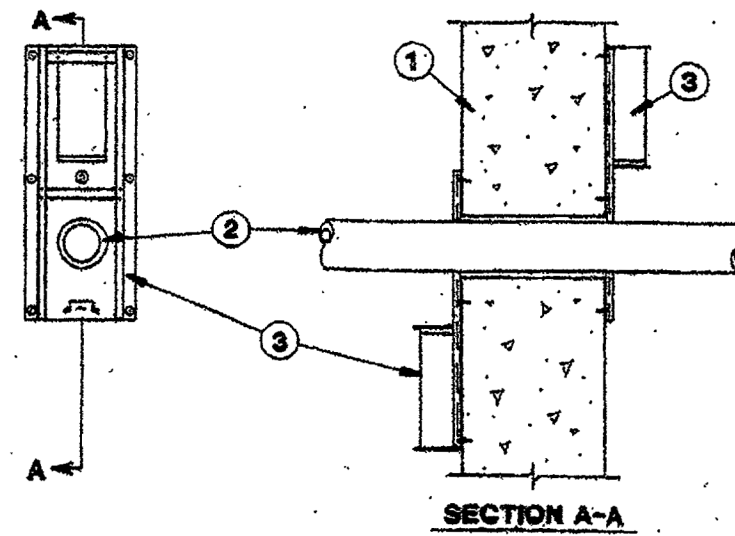
B. **Conduit** — Nom 2 in. diam (or smaller) rigid galv steel conduit.

3. **Firestop Device** — Firestop device shall be installed in accordance with the accompanying installation instructions. Firestop device consists of a steel frame, compression unit, stay plates and elastomeric insert blocks. The firestop device may be installed on either side of a solid concrete wall assembly. When wall is constructed of concrete blocks, devices are to be installed symmetrically on both sides of wall assembly. Device secured by means of 3/8 in. diam by 1-7/8 in. long steel expansion anchors spaced a max 4 in. OC. The annular space between the through-penetrants and the periphery of the steel frame shall be filled with elastomeric insert blocks and a compression unit sized to fit the specific penetrating items and steel frame. During the installation of the insert blocks within the steel frame, thin metal stay plates shall be used to separate each row of insert blocks and retain the insert blocks within the steel frame. After installation of the blocks, the bolts of the compression unit are tightened to form an effective seal around the through-penetrants and elastomeric insert blocks. The size of device is dependent upon the thickness of the wall and the size of the opening as tabulated below:

Thkns of Wall In.	Opening Size In.	Size of Device
8	4-11/32 x 5-1/2	RGB-2
8	7-1/32 x 5-1/2	RGB-4
8	9-11/32 x 5-1/2	RGB-6
8	7-1/32 x 10-17/64	RGB-4x2
4	4-11/32 x 5-1/2	RGB-2
4	7-1/32 x 5-1/2	RGB-4
4	9-11/32 x 5-1/2	RGB-6
4	7-1/31 x 10-17/64	RGB-4x2

EGS NELSON FIRESTOP — Types RGB-2, RGB-4, RGB-4x2, RGB-6

System No. WJ2009
(Formerly System No. 527)
F Ratings—1, 2 and 3 Hr (See Item 3)
T Ratings—1, 2 and 3 Hr (See Item 3)



WALL ASSEMBLY

1. **Wall Assembly**—Min 7-5/8 in. thick wall assembly constructed of any UL Classified **Concrete Blocks**® or common bricks, laid up with mortar. Max diam of opening is 7 in. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Through Penetrants**—One nonmetallic pipe or conduit to be centered within the firestop system. Pipe to be rigidly supported on both sides of wall assembly. A nom annular space of 1/4 to 3/8 in. is required within the firestop system. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types of nonmetallic pipes or conduits may be used:

A. **Polyvinyl Chloride (PVC) Pipe**—Nom 6 in. diam (or smaller) Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

B. **Polyethylene (PE) Pipe**—Nom 6 in. diam (or smaller) Schedule 40 PE pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe**—Nom 6 in. diam (or smaller) Schedule 40 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

D. **Polypropylene (PP) Pipe**—Nom 6 in. diam (or smaller) Schedule 40 PP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Pipe to be rigidly supported on both sides of wall assembly.

3. **Firestop Device**—Devices consist of rectangular metal frame with a spring-loaded guillotine blade mechanism installed around outer circumference of opening. Devices to be mounted to each surface of wall assembly using 1-5/8 in. long steel masonry anchors in accordance with accompanying installation instructions. The hourly F and T ratings of the devices are dependent upon the type, size and schedule of the penetrating item, as shown in the following table:

Max Device Size (In.)	Type Of Pipe	Nom Pipe Diam In.	Pipe Schedule	F Rating, Hr	T Rating, Hr
4	PE	4	Sch 40	1	1
3	PP	3	Sch 40	2	2
2	CPVC	2	Sch 80	3	2
1-1/2	PVC	1-1/2	Sch 80	3	2
3	PVC	3	Sch 40	3	3
6	PVC	6	Sch 40	3	2

Orion Industries Inc.—Types 1-1/2, 2, 3, 4 and 6 in.

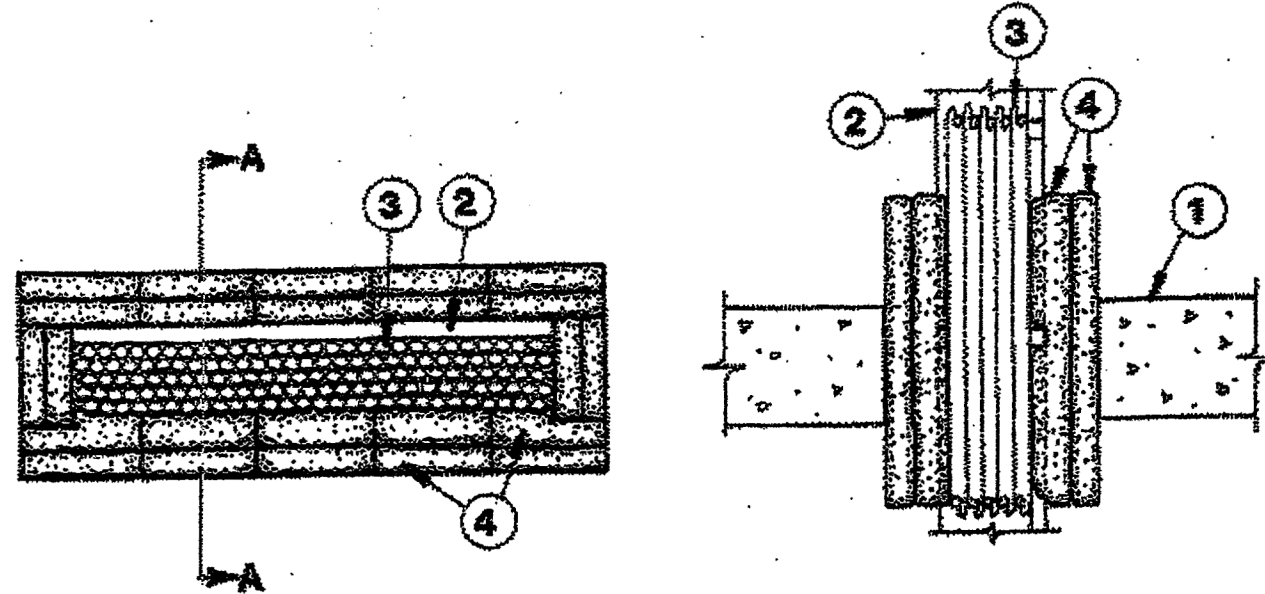
*Bearing the UL Classification Marking

System No. W-J-4005

January 08, 1993

F Rating — 3 Hr

T Rating — 0 Hr



SECTION A-A

1. **Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks**®. Max area of opening is 176 sq in. with max dimension of 22 in.

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

2. **Cable Tray** — Max 18 in. wide by 4 in. deep open ladder cable tray with channel-shaped side-rails formed of min 0.064 in. thick steel and with 1 in. wide by 1 in. deep rungs spaced 9 in. OC. One cable tray to be installed in the opening. The annular space between the cable tray and the periphery of the opening shall be min 2 in. Cable tray to be rigidly supported on both sides of wall assembly.

3. **Cables** — Aggregate cross-sectional area of cables in cable tray to be max 40 percent of the cross-sectional area of the cable tray based on a max 3 in. cable loading depth within the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:

A. Max 100 pair No. 24 AWG copper conductor communication cables with polyvinyl chloride (PVC) insulation and jacket materials.

B. Max 7/C No. 12 AWG copper conductor control cables with polyvinyl chloride (PVC) insulation and jacket materials.

C. Max 350 kcmil single conductor power cables with polyvinyl chloride (PVC) insulation.

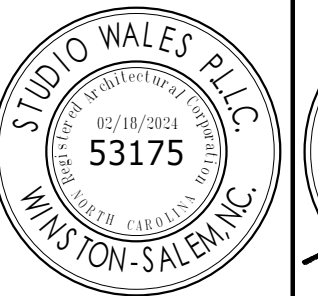
4. **Fill, Void or Cavity Material** — **Cushions** — Nominal 13 in. long by 4-1/2 or 7-1/2 in. wide by 1 in. thick fabric covered insulating cushions. Cushions installed flat with nominal 13 in. length of each cushion passing through the wall opening with its ends projecting equally beyond the wall surface on each side of the wall assembly. Cushions tightly-packed into through opening between cables, cables and cable tray and cable tray and periphery of opening.

TREMCO ZMC — TREMstop-PS

*Bearing the UL Classification Mark

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SPRINGBROOK NURSING AND
REHABILITATION CENTER
ADDITION
195 SPRINGBROOK AVE., CLAYTON, NC

CONSTRUCTION DOCUMENTS

FOR CONSTRUCTION

Revisions		
No.	Description	Date

date: 02/18/2024

commission: NH-3138

sheet title:

UL ASSEMBLIES

sheet number:

G3.05