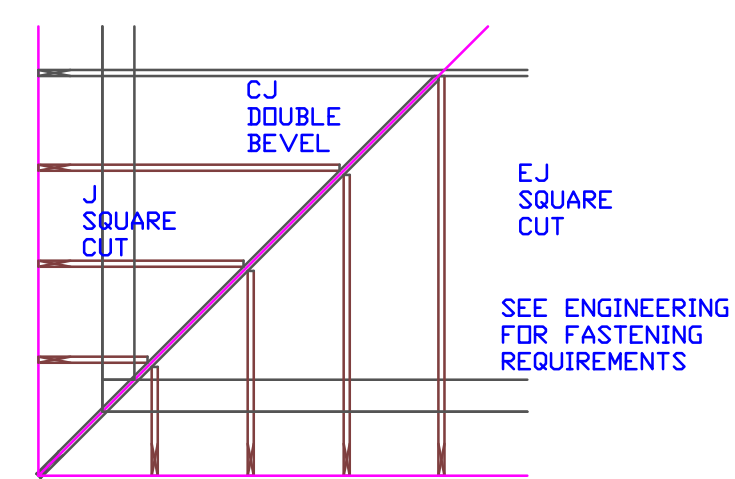
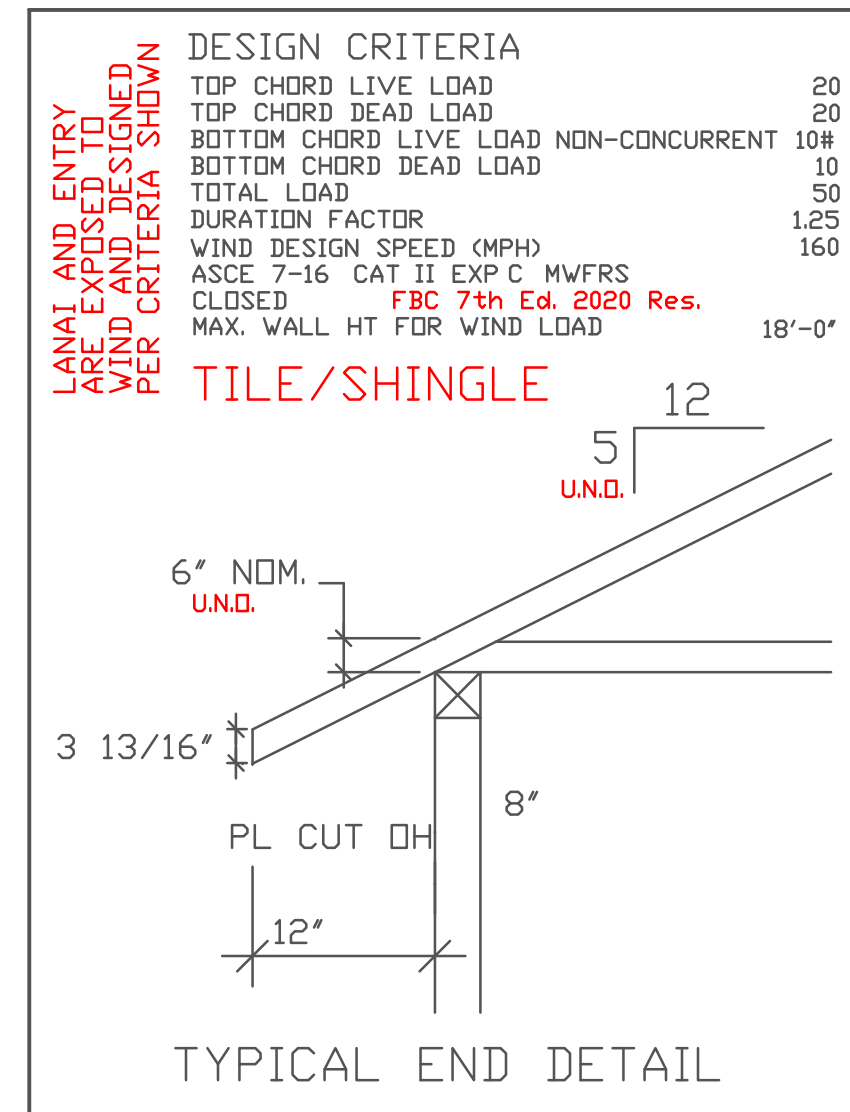
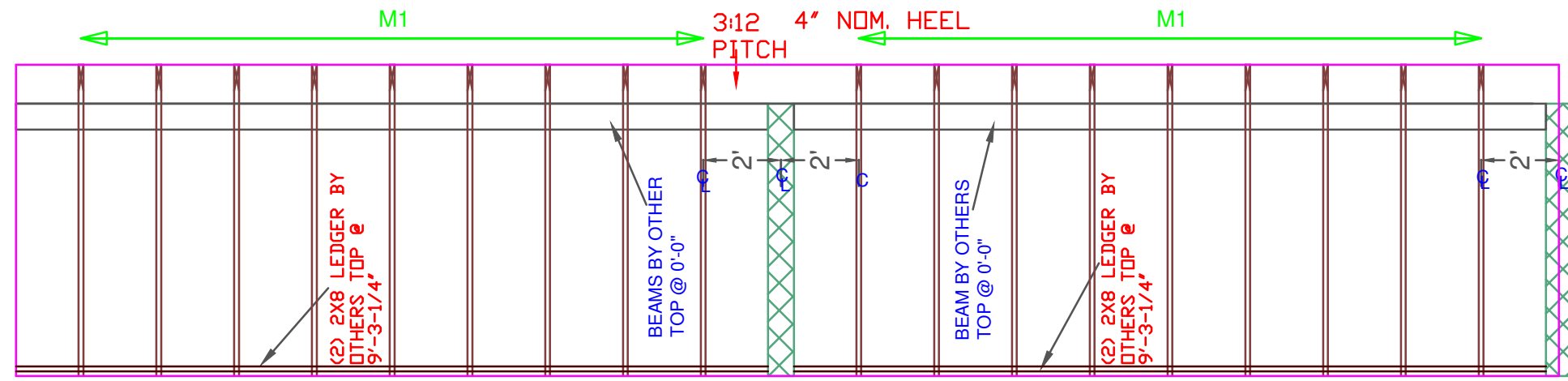


TYPICAL JACK CUTS



LOWER ROOF



Engineer of Record for the Structure  
Structural Systems of N. Fl. Inc.  
Derek Bergener, PE 58552  
1634 SE 47th Street #3  
Cape Coral, FL 33904

This document has been reviewed for  
conformance with the design intent of the  
structure and specified design criteria.

☒ Accepted As-Is ☐ Accepted As Noted ☐ Revise and Resubmit

**\*\*UNLESS NOTED\*\***

REACTION VALUES ARE UNDER 5000#

UPLIFT VALUES ARE UNDER 1000#

ALL TRUSSES 24"o.c. UNLESS NOTED OTHERWISE

**\*\*\*\*\*CAUTION\*\*\*\*\***

DO NOT ATTEMPT TO ERECT TRUSSES WITH-  
OUT REFERRING TO THE ENGINEERING DWGS.

IT IS NECESSARY TO REFER TO THE ENGINEERING  
DRAWINGS FOR NUMBER OF MEMBERS, BEARING LOCATION,  
ORIENTATION AND WEB BRACING

REFER TO WTCA/TPI BSCI-B1 SUMMARY  
SHEET FOR HANDLING METHODS & TEMPORARY  
BRACING, WHICH IS ALWAYS REQUIRED

BEARING HEIGHTS BASED ON PLANS PROVIDED TO  
SCOSTA CORP. +/- BEARING DIFFERENCES SHOWN ARE  
CRITICAL. IF ANY HEIGHTS DEVIATE - INFORM SCOSTA  
CORP.

BEARING WALL & BEAM HEIGHTS

8'-8" A.F.F.	0'-0"	ELEV.
18'-0" A.F.F.	+9'-4"	ELEV.
	RAKED WALL BY OTHERS	ELEV.
		ELEV.
		ELEV.
		ELEV.
		ELEV.

TYPICAL HANGER SCHEDULE

(C) SIMPSON HUS 26	(M) SIMPSON HGUS 28-3
(F) SIMPSON HUS 28	(N) SIMPSON HHUS 48
(H) SIMPSON HGUS 28	(P) SIMPSON LUS 24
(I) SIMPSON HGUS 28-2	(B) SIMPSON THA 422
(W) SIMPSON THJA26	(X)

HANGER VALUES HAVE BEEN BASED ON 16D  
COMMON NAILS EXCEPT THE FOLLOWING:  
LUS24 - 10D COMMON THJA26 - 10D x 1-1/2

**\*\*\*\*\*ATTENTION\*\*\*\*\***

APPROVAL OF THIS TRUSS LAYOUT IS NECESSARY  
BEFORE FABRICATION CAN BEGIN. VERIFY DIMENSIONS,  
PITCHES, OVERHANGS, ELEVATIONS, CEILING &  
BEARING CONDITIONS. SCOSTA CORPORATION IS  
RESPONSIBLE FOR ACCURACY IN ACCORDANCE WITH  
PLANS AND/OR INFORMATION PROVIDED BY  
CUSTOMER, WITH ANY DEVIATIONS NOTED HEREIN.  
CUSTOMER IS RESPONSIBLE TO VERIFY ACCURACY OF  
INFORMATION AND PLANS PROVIDED TO SCOSTA  
CORPORATION, AND TO VERIFY CONFORMANCE TO  
FIELD CONDITIONS, AND/OR OWNER CHANGES.  
TRUSSES WILL BE BUILT IN ACCORDANCE WITH THE  
APPROVED LAYOUT.

APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_ REQUESTED DELIVERY DATE: \_\_\_\_\_  
JOBSITE CONTACT NAME: \_\_\_\_\_  
PHONE #: \_\_\_\_\_  
E-MAIL: \_\_\_\_\_

**SCOSTA CORP.**

WOOD, STEEL OR TIMBER  
ROOF & FLOOR TRUSSES

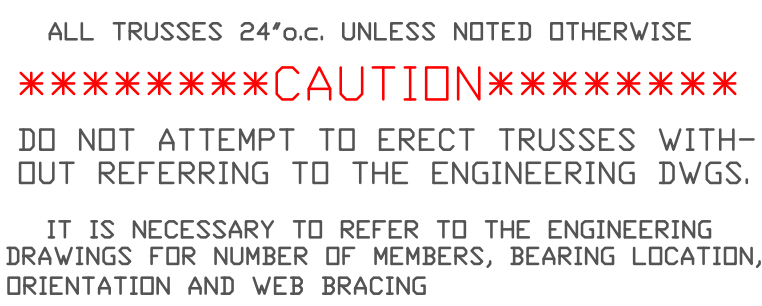
3670 COMMERCE CENTER DRIVE  
SEBRING, FL 33870  
(863) 385-8242

SCALE: 1/4"=1'-0" DATE: 01/20/22 REVISED BY: BRAWN BY: KCD  
JOB ADDRESS: SOLUNA 6 UNIT  
CUSTOMER: D.R. HORTON JOB #: DRSOLU6  
1 OF 1



This document has been reviewed for conformance with the design intent of the structure and specified design criteria.







☒ Accepted As-Is      ☐ Accepted As Noted      ☐ Revise and Resubmit



REFER TO WTCA/TPI BSCI-B1 SUMMARY SHEET FOR HANDLING METHODS & TEMPORARY BRACING, WHICH IS ALWAYS REQUIRED

BEARING HEIGHTS BASED ON PLANS PROVIDED TO SCOSTA CORP. "+/-" BEARING DIFFERENCES SHOWN ARE CRITICAL. IF ANY HEIGHTS DEVIATE - INFORM SCOSTA CORP.

## BEARING WALL & BEAM HEIGHTS

8'-8" A.F.F.		0'-0"	ELEV.
18'-0" A.F.F.		+9'-4"	ELEV.
		RAKED WALL BY OTHERS	ELEV.
			ELEV.
			ELEV.
			ELEV.
			ELEV.

## TYPICAL HANGER SCHEDULE

- (C) SIMPSON HUS 26 (M) SIMPSON HGUS 28-3  
(F) SIMPSON HUS 28 (N) SIMPSON HHUS 48  
(H) SIMPSON HGUS 28 (P) SIMPSON LUS 24  
(I) SIMPSON HGUS 28-2 (B) SIMPSON THA 422  
(W) SIMPSON THJA26 (X)

HANGER VALUES HAVE BEEN BASED ON 16D  
COMMON NAILS EXCEPT THE FOLLOWING  
LUS24 - 10D COMMON THJA26 - 10D x 1-1/2

\*\*\*\*\*ATTENTION\*\*\*\*\*

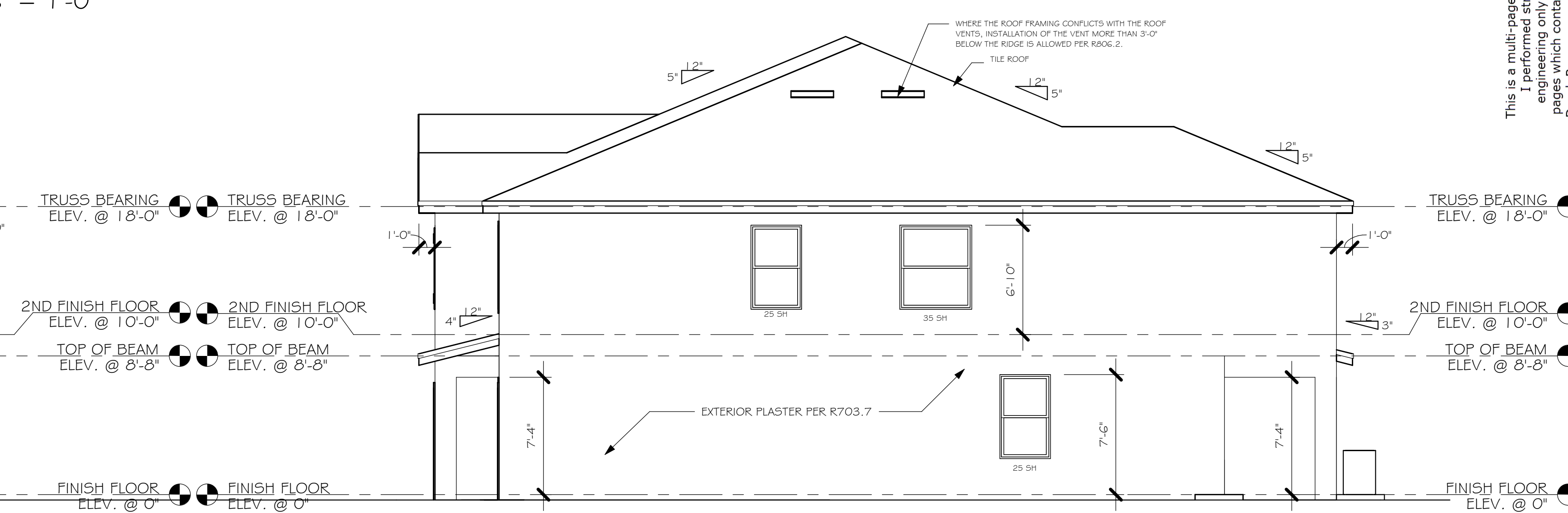
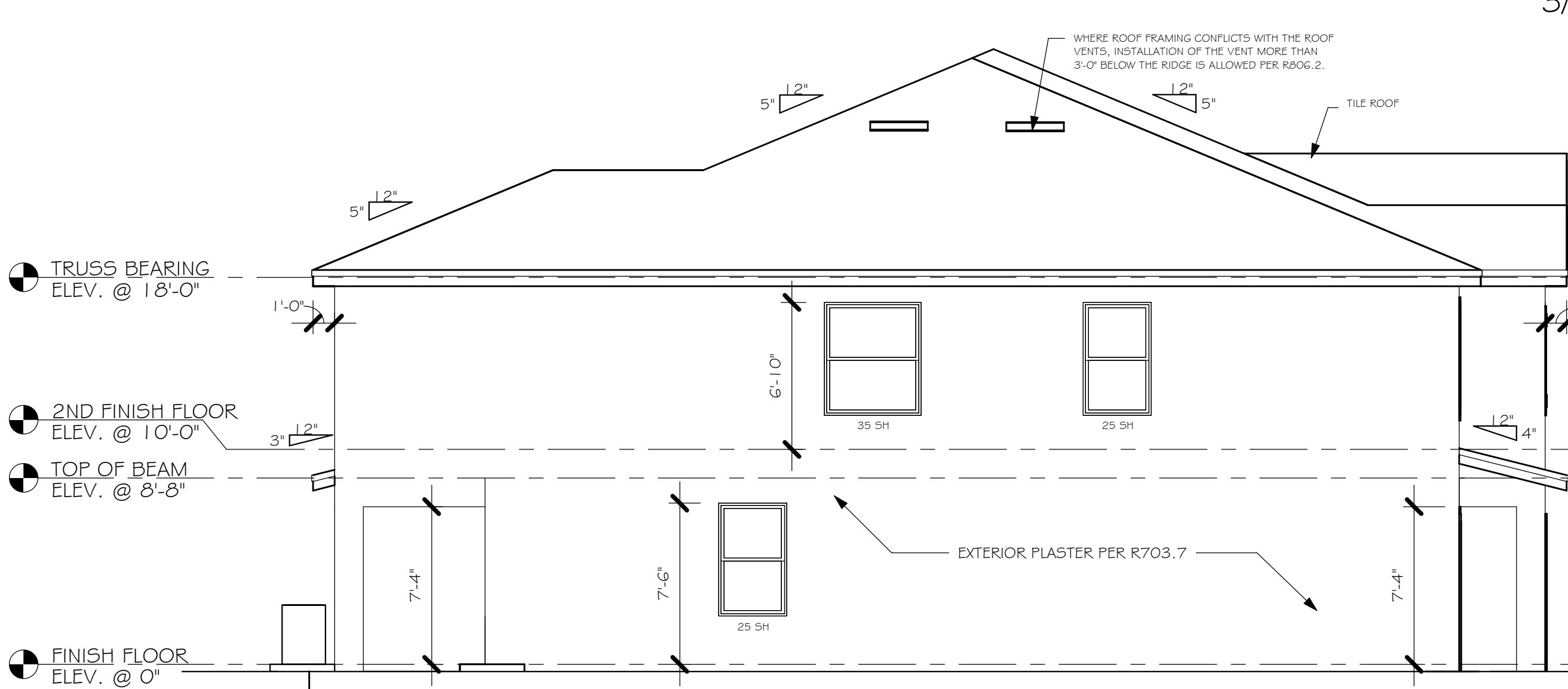
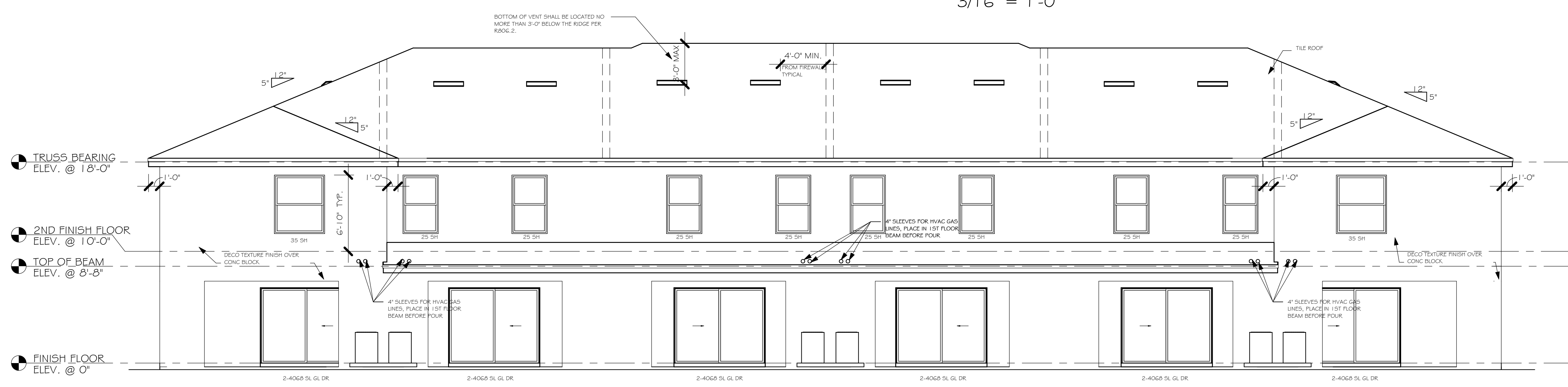
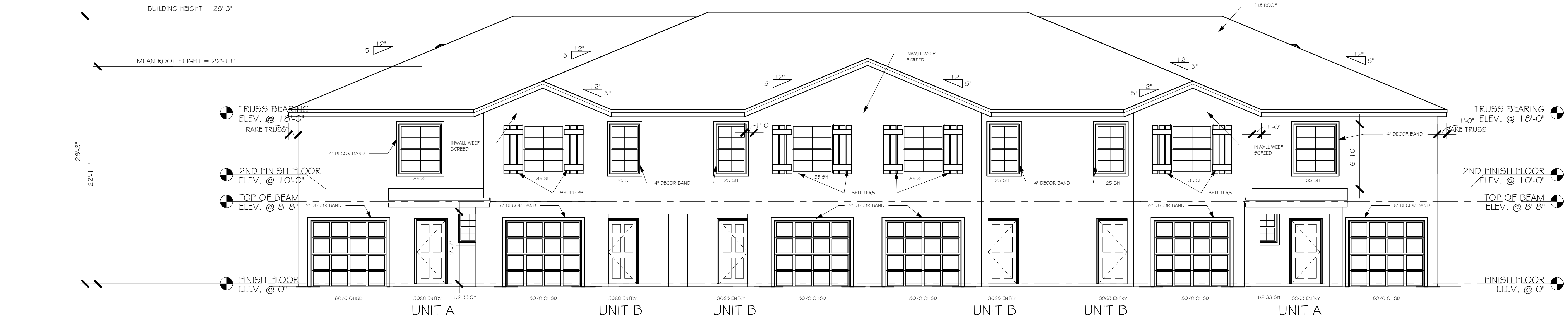
APPROVAL OF THIS TRUSS LAYOUT IS NECESSARY BEFORE FABRICATION CAN BEGIN. VERIFY DIMENSIONS, PITCHES, OVERHANGS, ELEVATIONS, CEILING & BEARING CONDITIONS. SCOSTA CORPORATION IS RESPONSIBLE FOR ACCURACY IN ACCORDANCE WITH PLANS AND/OR INFORMATION PROVIDED BY CUSTOMER, WITH ANY DEVIATIONS NOTED HEREIN. CUSTOMER IS RESPONSIBLE TO VERIFY ACCURACY OF INFORMATION AND PLANS PROVIDED TO SCOSTA CORPORATION, AND TO VERIFY CONFORMANCE TO FIELD CONDITIONS, AND/OR OWNER CHANGES. TRUSSES WILL BE BUILT IN ACCORDANCE WITH THE APPROVED LAYOUT.

APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_ REQUESTED DELIVERY DATE: \_\_\_\_\_  
JOBSITE CONTACT NAME: \_\_\_\_\_  
PHONE #: \_\_\_\_\_  
E-MAIL: \_\_\_\_\_

SCOSTA CORP.			
WOOD, STEEL OR TIMBER ROOF & FLOOR TRUSSES			
3670 COMMERCIAL CENTER DRIVE SEBRING, FL 33870 (863) 385-8242			
SCALE: 1/4"=1'-0"	DATE: 01/20/22	REVISED BY:	DRAWN BY: KCD
JOB ADDRESS: SOLUNA 6 UNIT FLRS		1 OF 1	
CUSTOMER: D.R. HORTON		JOB # DRSOLU6	

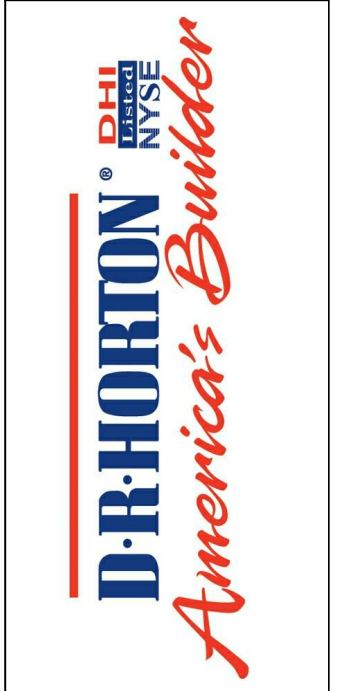


Y:\1-MASTER 2019\2019-BUILDERS\DR HORTON\2019SUBDIVISION\SOLUNA TOWNHOMES\14150 UNITS 33-36 SOLUNA TOWN HOME BLDG 7\REV\14150 SOLUNA 6 UNIT BLDG 7.rvt

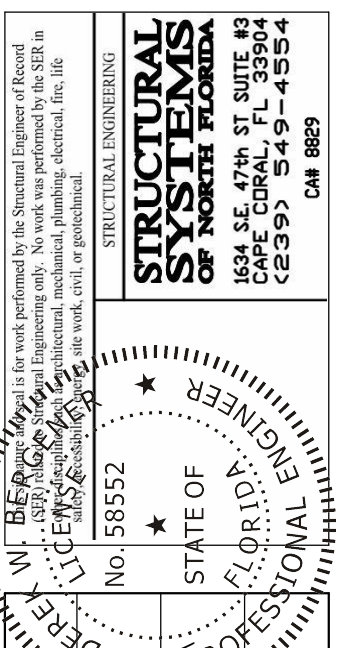


BUILDING CODE ANALYSIS		
APPLICABLE CODES: FLORIDA BUILDING CODE 7TH EDITION (2020) RESIDENTIAL		
I. OCCUPANCY CLASSIFICATION		R-3
TYPE OF CONSTRUCTION		V-B
FIRE SEPARATION DISTANCE		= 5' TO PROPERTY LINE
10'-0" BUILDING SEPARATION		
II. WIND DESIGN CRITERIA ASCE7-16, 160 MPH (V <sub>asd</sub> = 124 MPH), EXPOSURE C.		
(FOR STRUCTURAL DESIGN CRITERIA, AND FIRE RESISTANT CONSTRUCTION REQUIREMENTS SEE SHEET S-1)		
III. ALLOWABLE HEIGHTS & BUILDING AREAS (PER FCB-B 504.3-504.4-506.2)		
	ALLOWED	PROPOSED
BUILDING HEIGHT	40'	28'-0"
# OF STORIES	3	2
AREA PER STORY	U	

This is a multi-page document.  
I performed structural engineering only on those pages which contain my seal, Derek B. Greer, PE, and company name Structural Systems.



**Gulf Coast**  
Drafting & Design, Inc.  
EMAIL: PLANS@GULFCOASTDRAFTING.COM  
PHONE: 336-540-8222  
1515 SE 47th ST. CAPE CORAL, FL 33904



LOT: 33, 34, 35, 36, 37, 38  
SUBDIVISION: SOLUNA  
ADDRESS: 3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP  
D.R.H. #: 547630033, 034, 035, 036, 037, 038

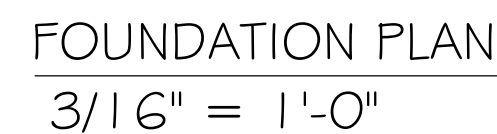
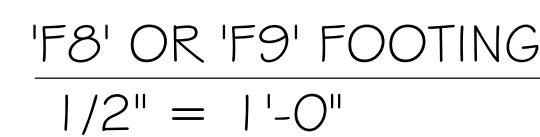
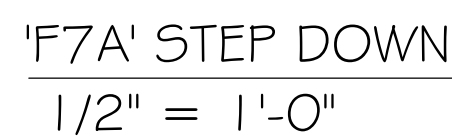
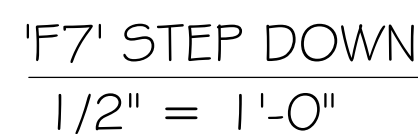
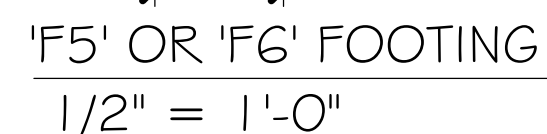
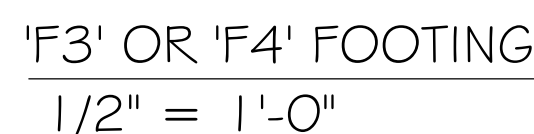
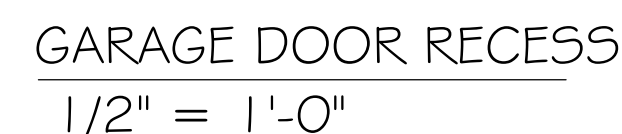
SOLUNA  
TOWNHOMES  
GCD# 14150

DATE: 03/03/22  
DRAWN BY: CWL  
CHECKED BY: JWC  
REVISED:  
PLAN: ELEVATION  
SCALE: 3/16" = 1'-0"

A-1

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION





## FOUNDATION PLAN

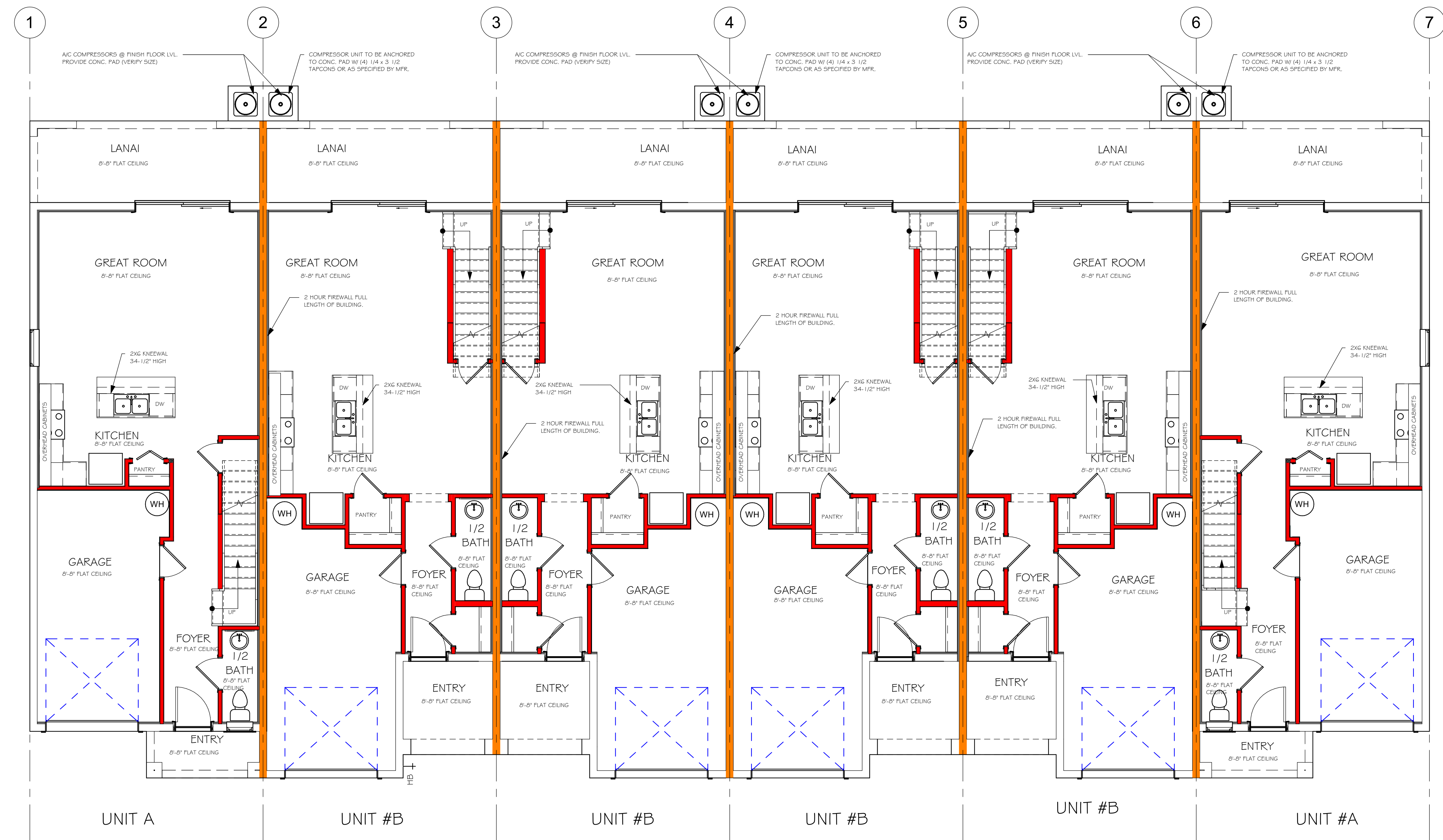
**SCALE: 1/4" = 1'-0"**

- PLAN NOTES:**
1. TOP OF GROUND FLOOR SLAB DATUM ELEVATION 0'-0"
  2. FOOTING MAY BE STEPPED DOWN TO ACCOMMODATE SLOPE IN FINISHED GRADE PER DETAIL 6/S-1.
  3. "F#F" DENOTES CONTINUOUS WALL FOOTING TYPE PER SCHEDULE THIS SHEET.
  4. "D#ENOTES PAD FOOTING AT CONCENTRATED LOADS PER SCHEDULE THIS SHEET.
  5. PROVIDE #5 VERTICAL REINFORCING AT DOT LOCATIONS SHOWN ON PLAN FROM FOOTING TO THE BEAM.
  6. ALL DIMENSIONS ARE TO OUTSIDE FACE OF MASONRY WALLS. SOME SLAB EDGES MAY EXTEND BEYOND FACE OF WALL.
  7. FORM DIMENSIONS FOR ROUGH OPENINGS IN MASONRY WALLS, COORDINATE WITH WINDOW/ DOOR SUPPLIER.
  8. PROVIDE PRESSURE TREATED BUCKS AT WINDOWS/ DOORS PER DETAIL 7/S-1.

NOTE: REINFORCING IN FOOTINGS SHALL BE CONTINUOUS AT CORNERS AND INTERSECTIONS. ADD CORNER BARS 25"x25" AT EACH LONGITUDINAL SEE BAR 6/5-1.

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
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FLORIDA BUILDING CODE 2020 - 7TH EDITION

**D·R·HORTON®** DHI  
EXCHANGE  
NYSE  
*America's Builder*

**Gulf Coast**  
Drafting & Design, Inc.

EMAIL: [PLANS@GULFCOASTDRAFTING.COM](mailto:PLANS@GULFCOASTDRAFTING.COM)  
PHONE: 239-540-1822

1515 SE 47TH ST. CAPE CORAL, FL 33904

**STRUCTURAL SYSTEMS**  
OF NORTH FLORIDA

1634 S.E. 47th ST. SUITE #3  
CAPE CORAL, FL 33904  
(239) 549-4554

CAL 0000

LOT: 33,34,35,36,37,38	BLDG: 7
SUBDIVISION: SOLUNA	
ADDRESS: 3690,3686,3682,3678,3674,3670 S	
LOOP	
D.R.H. #: 547630033,034,035,036,037,038	

SOLUNA  
TOWNHOMES

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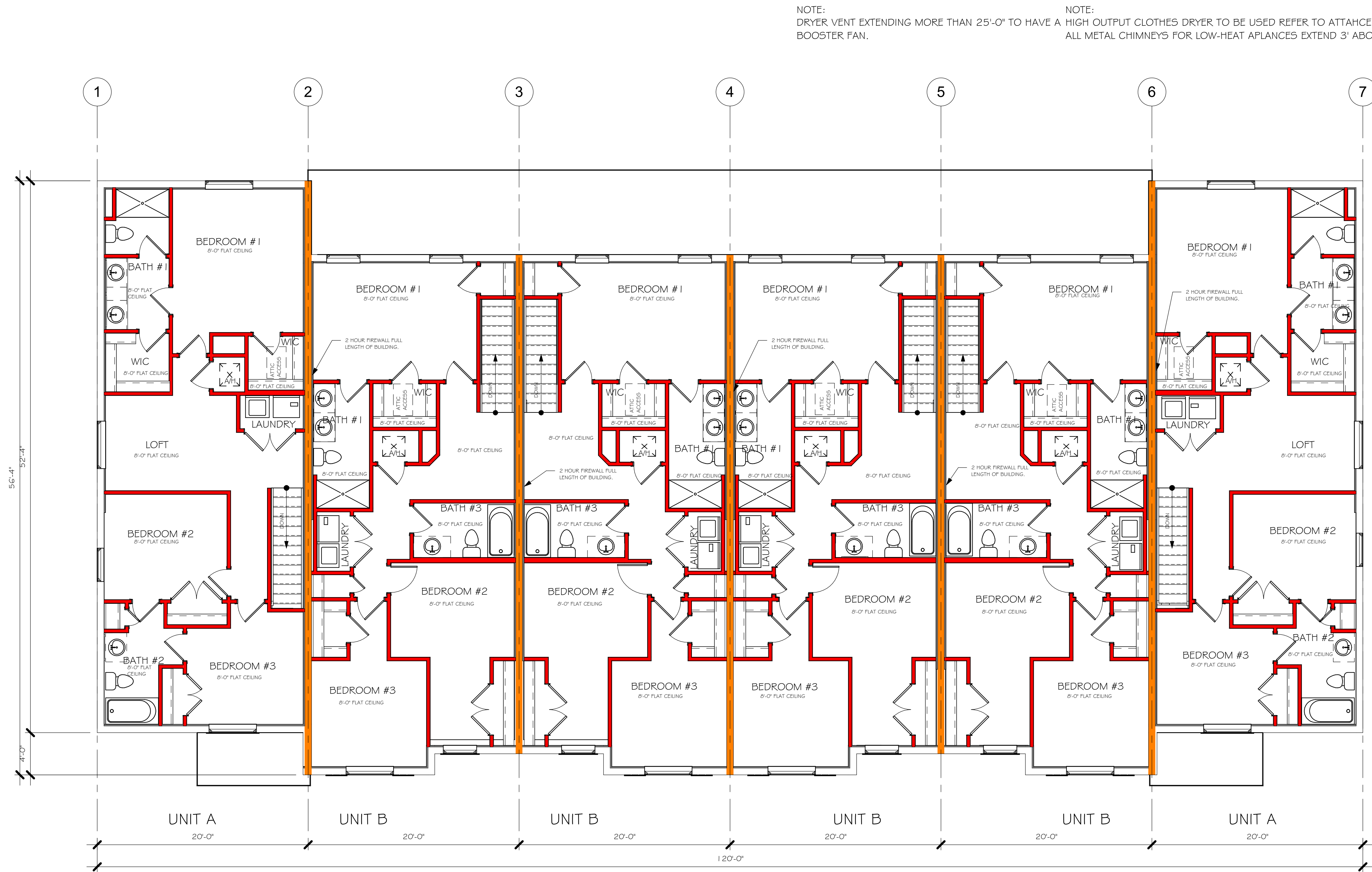
GCD# 14150

DATE:	03/03/22
DRAWN BY:	CWL
CHECKED BY:	JWC
REVISED:	
PLAN:	FLOOR
SCALE:	3/16" = 1'-0"

A-3.1



Y:\J-MASTER 2019\2019-BUILDERS\DR HORTON\2019SUBDIVISION\SOLUNA TOWNHOMES\14150-UNIT5-33-30 SOLUNA TOWN HOME BLDG-7\REV\14150-SOLUNA 6 UNIT BLDG 7.rvt



NOTE:  
DRYER VENT EXTENDING MORE THAN 25'-0" TO HAVE A HIGH OUTPUT CLOTHES DRYER TO BE USED REFER TO ATTACHED CUTSHEETS BOOSTER FAN.

NOTE:  
ALL METAL CHIMNEYS FOR LOW-HEAT APPLANCES EXTEND 3' ABOVE THE ROOF

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I performed structural engineering only on those pages which contain my seal, Derek Bergener, and company name Structural Systems.



DOOR SCHEDULE					
MARK	DESCRIPTION	HEIGHT	WIDTH	COMMENTS	QTY
1	3068 ENTRY	6'-8"	3'-0"		6
2	8070 OHGD	7'-0"	8'-0"		6
3	2-4068 SL GL DR	6'-8"	8'-0"		6

NOTE: QUANTITY IS FOR  
ENTIRE 6 UNIT BUILDING

WINDOW SCHEDULE					
MARK	DESCRIPTION	WIDTH	HEIGHT	COMMENTS	QTY
A	35 SH	4'-8"	5'-5"		10
B	1/2 33 SH	2'-5"	3'-5"		2
C	25 SH	3'-4"	5'-5"		16

NOTE: QUANTITY IS FOR  
ENTIRE 6 UNIT BUILDING

#### VINYL SHELF NOTES:

- ALL CLOSET SHELVES TO BE 12"
- ALL PANTRY & LINEN TO BE (4) 16" SHELVES 16" A.F.F. W/ 15" INCREMENT.

#### CABINET BACKING

KITCHEN	UPPER TOP @ 84"	BASE TOP @ 35"
MASTER BATH	UPPER	BASE TOP @ 35"
GUEST BATH	UPPER	BASE TOP @ 31"
LAUNDRY ROOM	UPPER TOP @ 84"	BASE

#### PLAN NOTES

- VERIFY ALL ROUGH OPENING DIMENSIONS FOR ALL WINDOWS AND DOORS
- PROVIDE SAFETY GLAZING WITHIN 24" FROM EXIT PER FLORIDA BUILDING CODE R 308.4.2.
- PROVIDE SAFETY GLAZING AT BATH/ SHOWER PER FLORIDA BUILDING CODE R 308.4.5.
- NON BEARING INTERIOR FRAME WALLS SHALL BE FRAMED W/ WOOD OR METAL STUDS. SPACING SHALL NOT EXCEED 24" O.C. (NON BEARING WALLS ONLY)
- PROVIDE DEAD WOOD IN FLOOR TRUSSES FOR OVERHEAD GARAGE DOOR HARDWARE
- 2X6 KITCHEN KNEE WALL TO BE FRAMED W/ TOP @ 34 1/2" A.F.F.
- INSTALL SMOOTH WALLS IN KITCHEN AND ALL BATHROOM AREAS
- WHERE DRYWALL CEILING IS APPLIED TO TRUSSES @ 24" O.C. USE 5/8" DRYWALL OR 1/2" SAG RESISTANT PER SEC. R702.3.5
- THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE & ATTIC BY NOT LESS THEN 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. GARAGES BENEATH HABITABLE ROOMS SHALL BE SEPARATED WITH NOT LESS THAN 5/8" TYPE "X" GYPSUM BOARD OR EQUIVALENT. WHERE THE SEPARATION IS A FLOOR - CEILING ASSEMBLY, THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY NOT LESS THAN 1/2" GYPSUM BOARD OR EQUIVALENT
- INSTALL 1 - 3/8" THICK SOLID WOOD DOOR BETWEEN LIVING AND GARAGE PER FLORIDA BUILDING CODE R302.5.1.
- ALL WINDOWS INSTALLED 72" ABOVE GRADE MUST COMPLY WITH R312.2 MIN 24" SILL HEIGHT OR PROVIDED WITH AN APPROVED WINDOW FALL PREVENTION DEVICE
- DOOR FROM GARAGE TO HOUSE: 83-1/2" HEADER.
- ALL MECHANICAL AND ELECTRICAL EQUIPMENT TO BE INSTALLED AT OR ABOVE FLOOD PLUS 1'-0" FREEBOARD.

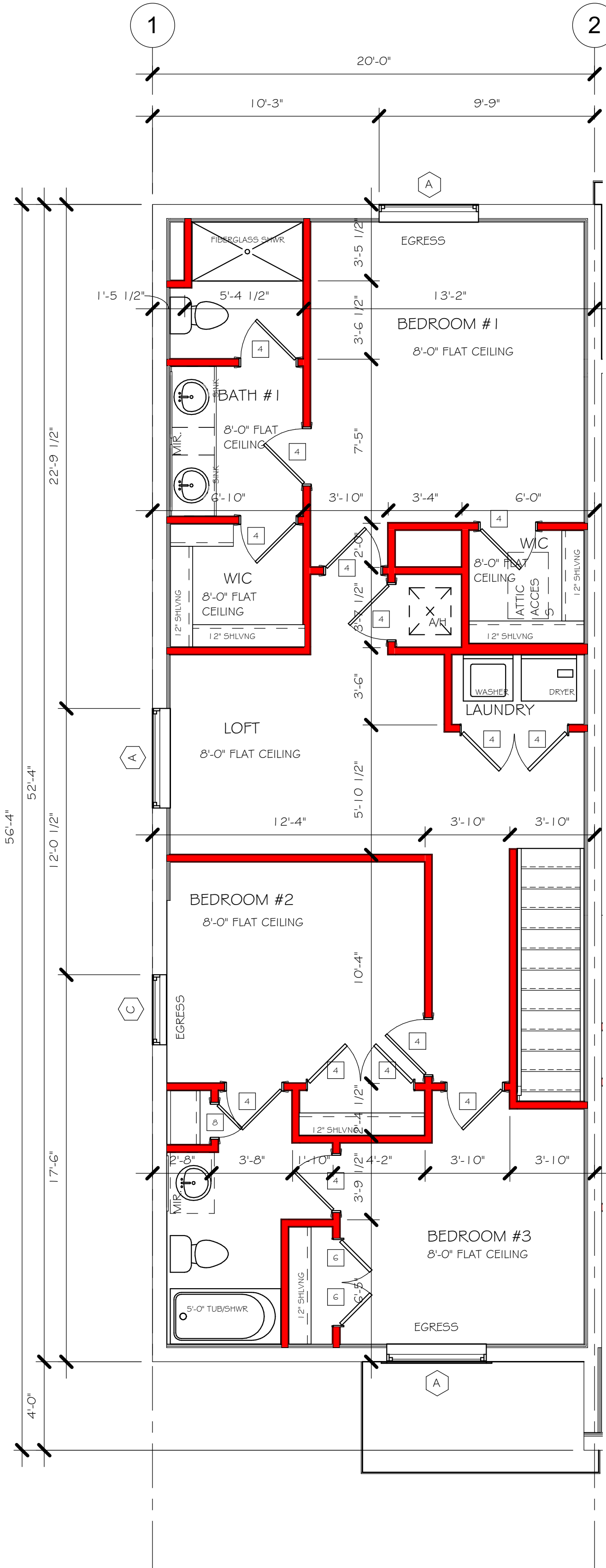
#### DOOR HEADERS

6'-8" BI-FOLD	HEADER HEIGHT	82" A.F.F.
6'-8" SWING	HEADER HEIGHT	82 1/2" A.F.F.
8'-0" SWING	HEADER HEIGHT	98 1/2" A.F.F.

#### UNIT A

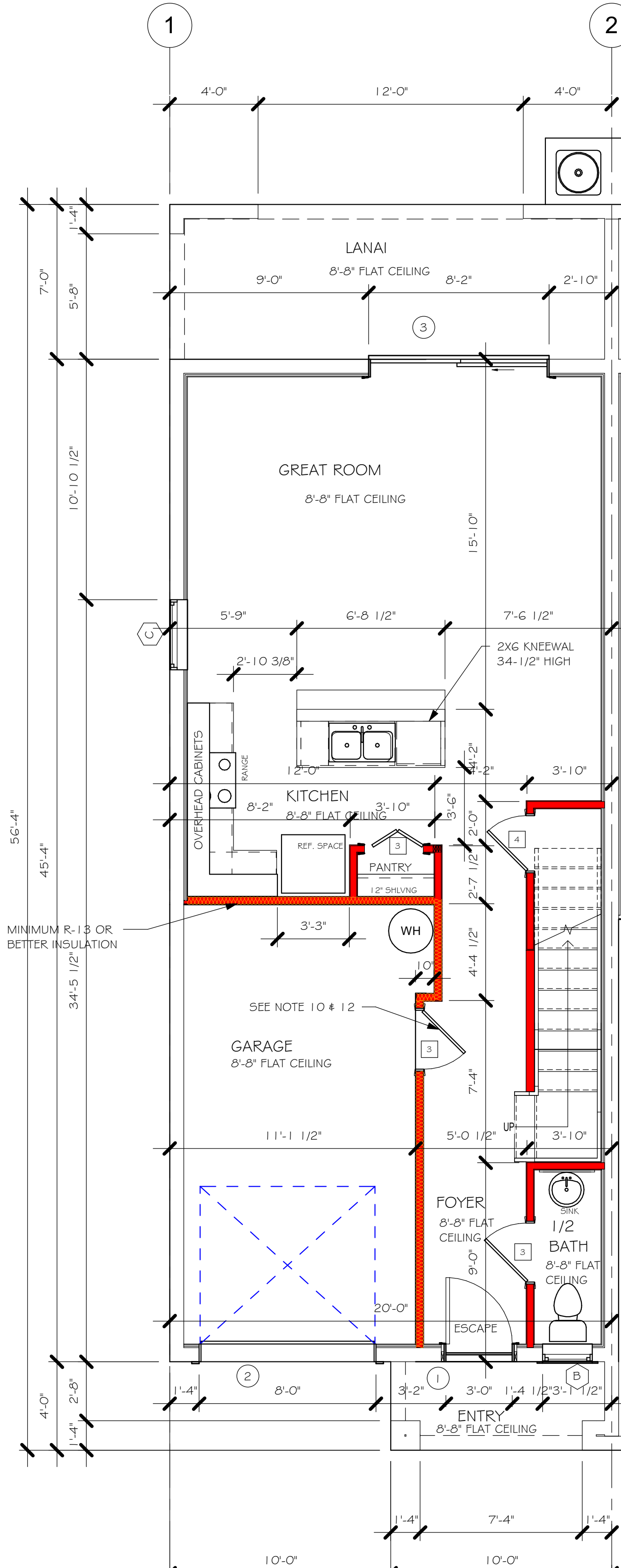
UNIT A ENTRY	40 SF
UNIT A LANAI	140 SF
UNIT A GARAGE	234 SF
UNIT A 1ST FLOOR LIVING	673 SF
UNIT A 2ND FLOOR LIVING	1007 SF
GRAND TOTAL	2094 SF

INTERIOR DOOR SCHEDULE		
MARK	DOOR WIDTH	NOTES
1	3'-0"	P.K. = POCKET DOOR
2	2'-10"	B.F. = BI-FOLD DOOR
3	2'-8"	B.P. = BI-PASS DOOR
4	2'-6"	
5	2'-4"	L.V. = LOUVERED DOOR
6	2'-0"	
7	1'-8"	
8	1'-6"	



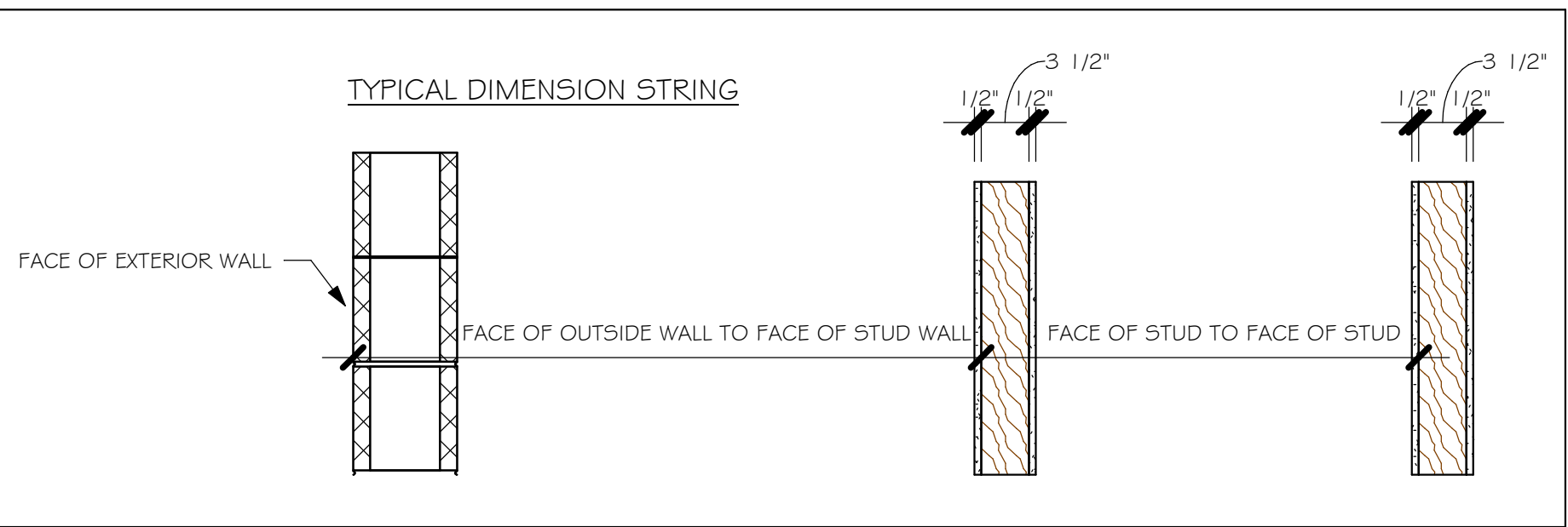
2ND FLOOR PLAN - UNIT A

1/4" = 1'-0"



1ST FLOOR PLAN - UNIT A

1/4" = 1'-0"



DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION



Y:\1-MASTER 2019\2019-BUILDERS\DR HORTON\2019SUBDIVISION\SOLUNA TOWNHOMES\14150 UNITS 33-36 SOLUNA TOWN HOME BLDG 7\REV\14150 SOLUNA 6 UNIT BLDG 7.rvt

DOOR SCHEDULE					
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NOTE: QUANTITY IS FOR  
ENTIRE 6 UNIT BUILDING

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NOTE: QUANTITY IS FOR  
ENTIRE 6 UNIT BUILDING

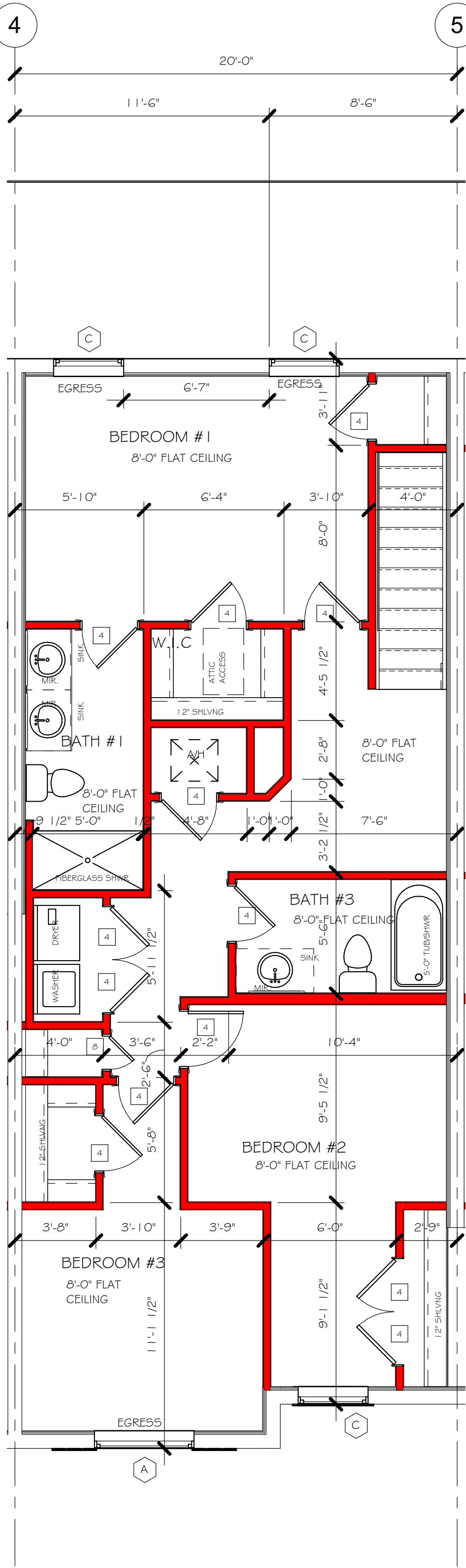
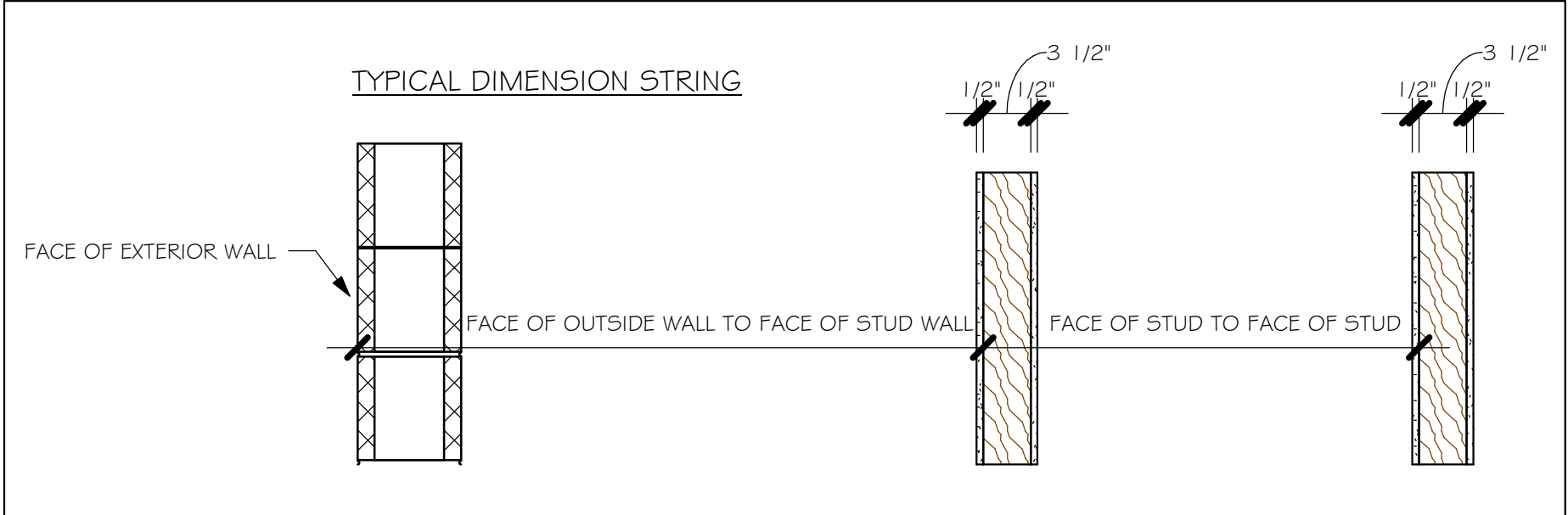
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PLAN NOTES	
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2)	PROVIDE SAFETY GLAZING WITHIN 24" FROM EXIT PER FLORIDA BUILDING CODE R 308.4.2.
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6)	2X6 KITCHEN KNEE WALL TO BE FRAMED W/ TOP @ 34 1/2" A.F.F.
7)	INSTALL SMOOTH WALLS IN KITCHEN AND ALL BATHROOM AREAS
8)	WHERE DRYWALL CEILING IS APPLIED TO TRUSSES @ 24" O.C. USE 5/8" DRYWALL OR 1/2" SAG RESISTANT PER SEC. R702.3.5
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12)	DOOR FROM GARAGE TO HOUSE: 83-1/2" HEADER.
13)	ALL MECHANICAL AND ELECTRICAL EQUIPMENT TO BE INSTALLED AT OR ABOVE FLOOD PLUS 1'-0" FREEBOARD.

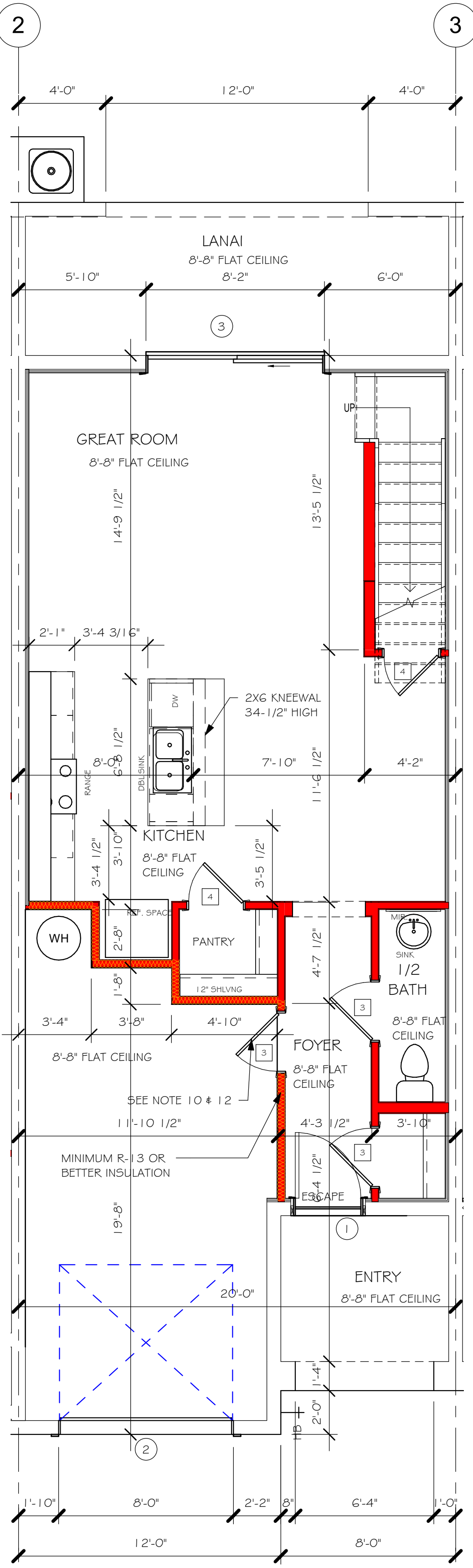
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6'-8" SWING	HEADER HEIGHT	82 1/2" A.F.F.
8'-0" SWING	HEADER HEIGHT	98 1/2" A.F.F.

UNIT B	
UNIT B ENTRY	64 SF
UNIT B LANAI	140 SF
UNIT B GARAGE	256 SF
UNIT B 1ST FLOOR LIVING	650 SF
UNIT B 2ND FLOOR LIVING	933 SF
GRAND TOTAL	2044 SF

INTERIOR DOOR SCHEDULE		
MARK	DOOR WIDTH	NOTES
1	3'-0"	P.K. = POCKET DOOR
2	2'-10"	B.F. = BI-FOLD DOOR
3	2'-8"	B.P. = BI-PASS DOOR
4	2'-6"	L.V. = LOUVERED DOOR
5	2'-4"	
6	2'-0"	
7	1'-8"	
8	1'-6"	



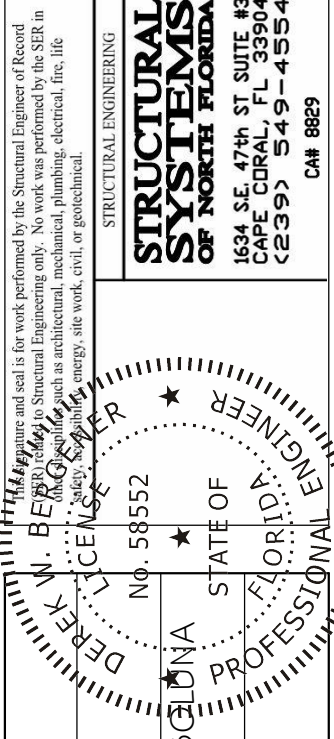
2ND FLOOR PLAN - UNIT B  
1/4" = 1'-0"



1ST FLOOR PLAN - UNIT B  
1/4" = 1'-0"

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION

This is a multi-page document.  
I performed structural  
engineering only on those  
pages which contain my seal,  
Derek Bergener, and company  
name Structural Systems.



LOT: 33, 34, 35, 36, 37, 38  
SUBDIVISION: SOLUNA  
ADDRESS: 3690, 3686, 3682, 3678, 3674, 3670, 3666, 3662, 3658, 3654, 3650, 3646, 3642, 3638, 3634, 3630, 3626, 3622, 3618, 3614, 3610, 3606, 3602, 3598, 3594, 3590, 3586, 3582, 3578, 3574, 3570, 3566, 3562, 3558, 3554, 3550, 3546, 3542, 3538, 3534, 3530, 3526, 3522, 3518, 3514, 3510, 3506, 3502, 3498, 3494, 3490, 3486, 3482, 3478, 3474, 3470, 3466, 3462, 3458, 3454, 3450, 3446, 3442, 3438, 3434, 3430, 3426, 3422, 3418, 3414, 3410, 3406, 3402, 3398, 3394, 3390, 3386, 3382, 3378, 3374, 3370, 3366, 3362, 3358, 3354, 3350, 3346, 3342, 3338, 3334, 3330, 3326, 3322, 3318, 3314, 3310, 3306, 3302, 3298, 3294, 3290, 3286, 3282, 3278, 3274, 3270, 3266, 3262, 3258, 3254, 3250, 3246, 3242, 3238, 3234, 3230, 3226, 3222, 3218, 3214, 3210, 3206, 3202, 3198, 3194, 3190, 3186, 3182, 3178, 3174, 3170, 3166, 3162, 3158, 3154, 3150, 3146, 3142, 3138, 3134, 3130, 3126, 3122, 3118, 3114, 3110, 3106, 3102, 3098, 3094, 3090, 3086, 3082, 3078, 3074, 3070, 3066, 3062, 3058, 3054, 3050, 3046, 3042, 3038, 3034, 3030, 3026, 3022, 3018, 3014, 3010, 3006, 3002, 2998, 2994, 2990, 2986, 2982, 2978, 2974, 2970, 2966, 2962, 2958, 2954, 2950, 2946, 2942, 2938, 2934, 2930, 2926, 2922, 2918, 2914, 2910, 2906, 2902, 2898, 2894, 2890, 2886, 2882, 2878, 2874, 2870, 2866, 2862, 2858, 2854, 2850, 2846, 2842, 2838, 2834, 2830, 2826, 2822, 2818, 2814, 2810, 2806, 2802, 2798, 2794, 2790, 2786, 2782, 2778, 2774, 2770, 2766, 2762, 2758, 2754, 2750, 2746, 2742, 2738, 2734, 2730, 2726, 2722, 2718, 2714, 2710, 2706, 2702, 2698, 2694, 2690, 2686, 2682, 2678, 2674, 2670, 2666, 2662, 2658, 2654, 2650, 2646, 2642, 2638, 2634, 2630, 2626, 2622, 2618, 2614, 2610, 2606, 2602, 2598, 2594, 2590, 2586, 2582, 2578, 2574, 2570, 2566, 2562, 2558, 2554, 2550, 2546, 2542, 2538, 2534, 2530, 2526, 2522, 2518, 2514, 2510, 2506, 2502, 2498, 2494, 2490, 2486, 2482, 2478, 2474, 2470, 2466, 2462, 2458, 2454, 2450, 2446, 2442, 2438, 2434, 2430, 2426, 2422, 2418, 2414, 2410, 2406, 2402, 2398, 2394, 2390, 2386, 2382, 2378, 2374, 2370, 2366, 2362, 2358, 2354, 2350, 2346, 2342, 2338, 2334, 2330, 2326, 2322, 2318, 2314, 2310, 2306, 2302, 2298, 2294, 2290, 2286, 2282, 2278, 2274, 2270, 2266, 2262, 2258, 2254, 2250, 2246, 2242, 2238, 2234, 2230, 2226, 2222, 2218, 2214, 2210, 2206, 2202, 2198, 2194, 2190, 2186, 2182, 2178, 2174, 2170, 2166, 2162, 2158, 2154, 2150, 2146, 2142, 2138, 2134, 2130, 2126, 2122, 2118, 2114, 2110, 2106, 2102, 2098, 2094, 2090, 2086, 2082, 2078, 2074, 2070, 2066, 2062, 2058, 2054, 2050, 2046, 2042, 2038, 2034, 2030, 2026, 2022, 2018, 2014, 2010, 2006, 2002, 1998, 1994, 1990, 1986, 1982, 1978, 1974, 1970, 1966, 1962, 1958, 1954, 1950, 1946, 1942, 1938, 1934, 1930, 1926, 1922, 1918, 1914, 1910, 1906, 1902, 1898, 1894, 1890, 1886, 1882, 1878, 1874, 1870, 1866, 1862, 1858, 1854, 1850, 1846, 1842, 1838, 1834, 1830, 1826, 1822, 1818, 1814, 1810, 1806, 1802, 1798, 1794, 1790, 1786, 1782, 1778, 1774, 1770, 1766, 1762, 1758, 1754, 1750, 1746, 1742, 1738, 1734, 1730, 1726, 1722, 1718, 1714, 1710, 1706, 1702, 1698, 1694, 1690, 1686, 1682, 1678, 1674, 1670, 1666, 1662, 1658, 1654, 1650, 1646, 1642, 1638, 1634, 1630, 1626, 1622, 1618, 1614, 1610, 1606, 1602, 1598, 1594, 1590, 1586, 1582, 1578, 1574, 1570, 1566, 1562, 1558, 1554, 1550, 1546, 1542, 1538, 1534, 1530, 1526, 1522, 1518, 1514, 1510, 1506, 1502, 1498, 1494, 1490, 1486, 1482, 1478, 1474, 1470, 1466, 1462, 1458, 1454, 1450, 1446, 1442, 1438, 1434, 1430, 1426, 1422, 1418, 1414, 1410, 1406, 1402, 1398, 1394, 1390, 1386, 1382, 1378, 1374, 1370, 1366, 1362, 1358, 1354, 1350, 1346, 1342, 1338, 1334, 1330, 1326, 1322, 1318, 1314, 1310, 1306, 1302, 1298, 1294, 1290, 1286, 1282, 1278, 1274, 1270, 1266, 1262, 1258, 1254, 1250, 1246, 1242, 1238, 1234, 1230, 1226, 1222, 1218, 1214, 1210, 1206, 1202, 1198, 1194, 1190, 1186, 1182, 1178, 1174, 1170, 1166, 1162, 1158, 1154, 1150, 1146, 1142, 1138, 1134, 1130, 1126, 1122, 1118, 1114, 1110, 1106, 1102, 1098, 1094, 1090, 1086, 1082, 1078, 1074, 1070, 1066, 1062, 1058, 1054, 1050, 1046, 1042, 1038, 1034, 1030, 1026, 1022, 1018, 1014, 1010, 1006, 1002, 998, 994, 990, 986, 982, 978, 974, 970, 966, 962, 958, 954, 950, 946, 942, 938, 934, 930, 926, 922, 918, 914, 910, 906, 902, 898, 894, 890, 886, 882, 878, 874, 870, 866, 862, 858, 854, 850, 846, 842, 838, 834, 830, 826, 822, 818, 814, 810, 806, 802, 798, 794, 790, 786, 782, 778, 774, 770, 766, 762, 758, 754, 750, 746, 742, 738, 734, 730, 726, 722, 718, 714, 710, 706, 702, 698, 694, 690, 686, 682, 678, 674, 670, 666, 662, 658, 654, 650, 646, 642, 638, 634, 630, 626, 622, 618, 614, 610, 606, 602, 598, 594, 590, 586, 582, 578, 574, 570, 566, 562, 558, 554, 550, 546, 542, 538, 534, 530, 526, 522, 518, 514, 510, 506, 502, 498, 494, 490, 486, 482, 478, 474, 470, 466, 462, 458, 454, 450, 446, 442, 438, 434, 430, 426, 422, 418, 414, 410, 406, 402, 398, 394, 390, 386, 382, 378, 374, 370, 366, 362, 358, 354, 350, 346, 342, 338, 334, 330, 326, 322, 318, 314, 310, 306, 302, 298, 294, 290, 286, 282, 278, 274, 270, 266, 262, 258, 254, 250, 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SOLUNA  
TOWNHOMES

GCD# 14150

DATE: 03/03/22

DRAWN BY: CWL

CHECKED BY: JWC

REVISED:

PLAN: FLOOR

SCALE: As indicated

A-3.4

STRUCTURAL SYSTEMS  
OF NORTH FLORIDA  
INC.  
1515 SE 47th ST. CAPE CORAL, FL 33904  
(239) 549-4554  
FAX 889

Gulf Coast  
Drafting & Design, Inc.  
EMAIL: PLANS@GULFCOASTDRAFTING.COM  
PHONE: 239-540-8223

D-R-HORTON  
NYSE  
America's Builder



I.	<p>F.B.C. TABLE 722.3.2</p> <p><u>FIRE RESISTANCE RATING</u></p> <p><u>OF CONCRETE MASONRY WALLS</u></p> <p>MINIMUM EQUIVALANT THICKNESS (IN) BEARING OR NON-BEARING CONCRETE MASONRY WALLS</p>

TYPE OF AGGREGATE	FIRE - RESISTANCE RATING (HOURS)		
PUMICE OR EXPANDED SLAG			3.2"
EXPANDED SHALE, CLAY OR SLATE			3.6"
LIMESTONE, CINDERS, OR UNEXPANDED SLAG			4.0"
CALCAREOUS OR SILICEOUS GRAVEL			4.2"

FOR THE 2 HOUR FIREWALL, PURCHASE ONLY BLOCK WITH 2 HOUR FIRE RATED MARKING, LABEL OR DOCUMENTATION.

2.

WALL ABOVE WITH BOND BEAM AT TOP

#5 VERTICAL, ABOVE LINTEL ONLY WHERE NOTED ON PLAN

'1'B' DENOTES 1#5 BOTTOM WITH 7" HOOK EACH END.

'0'B' DENOTES "NO REBAR"

8" PRECAST LINTEL

8F8-1B  
8F8-0B

GROUT SOLID

1"4" GROUTED

1#5 TOP

1#5 BOTTOM




8F16-1B/1T

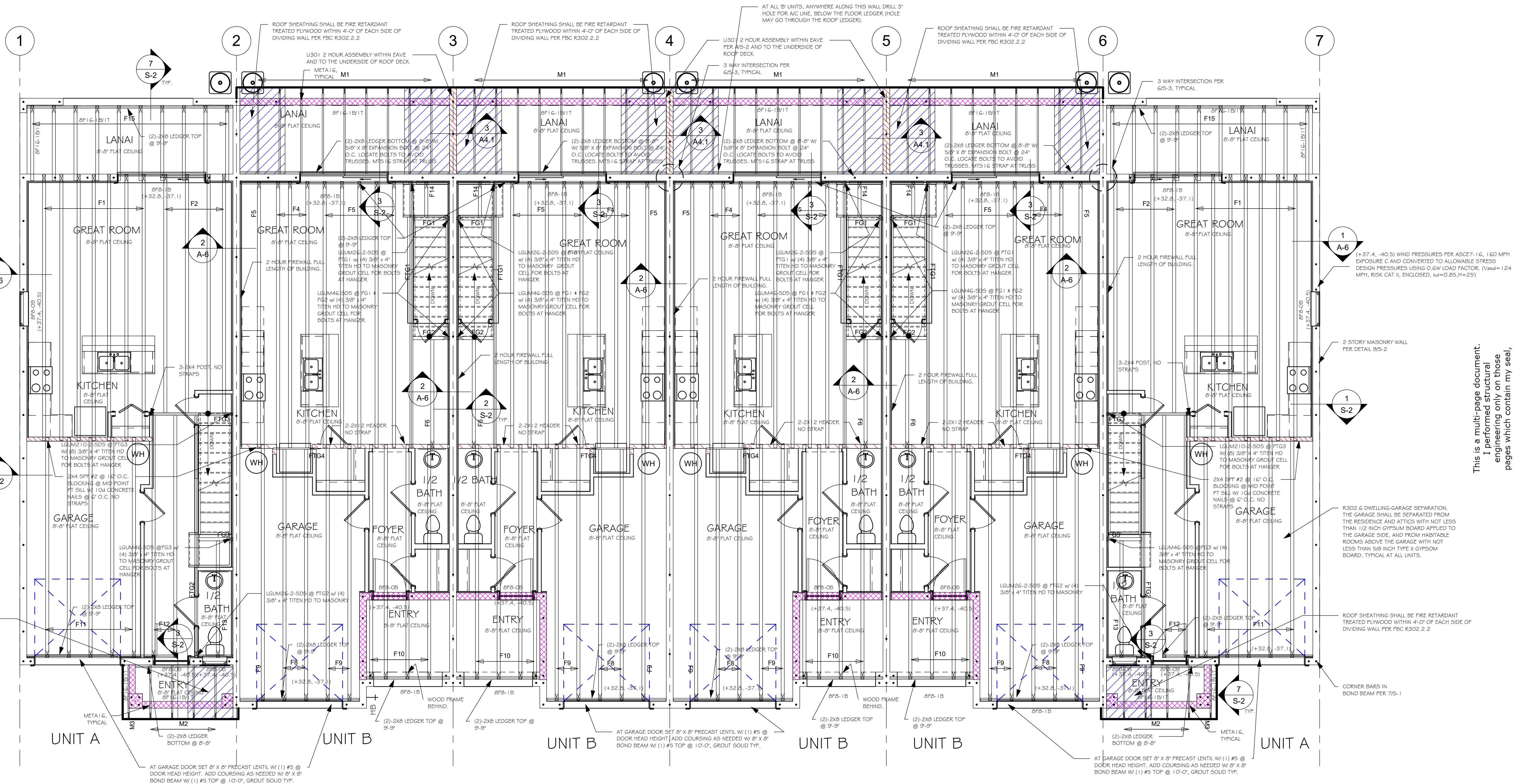
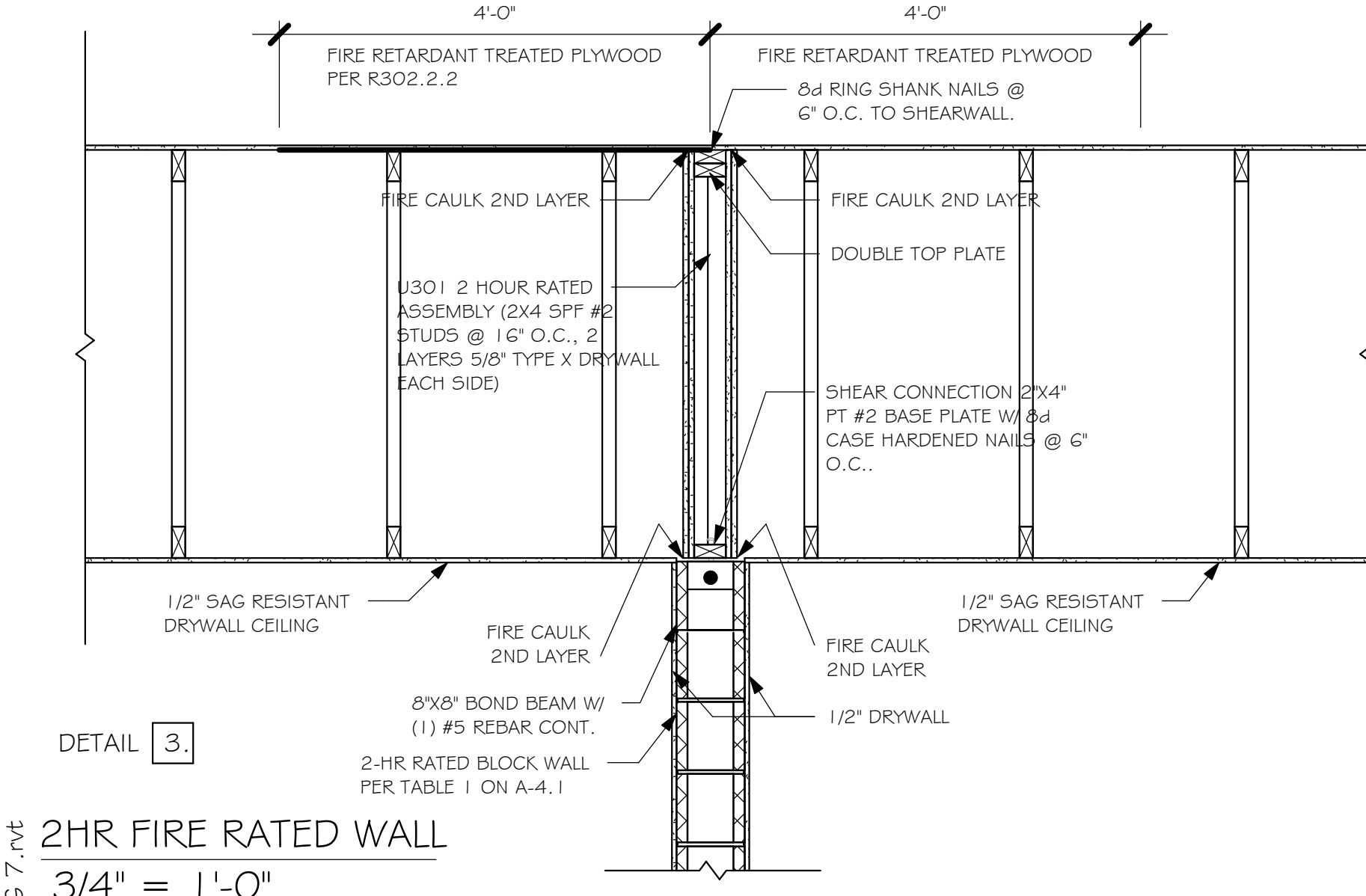
**PRECAST LINTEL SCHEDULE**

AT SWING DOORS, USE 2" REC555 STYLE LINTEL IF NEEDED FOR ROUGH OPENING.

LINELS BEAR 4" MIN. EACH END

## BEARING HEIGHT

	= TOP OF BOND BEAM @ 10'-0" AND @ 18'-0"
	= BEARING @ 8'-8" W/ U301 TO UNDERSIDE OF ROOF DECK
	= BEARING @ 8'-8"



2ND FLOOR AND LOW ROOF FRAMING PLAN  
3/16" = 1'-0"

TRUSS STRAPPING TO MASONRY		
	MAX TRUSS UPLIFT (LBS)	STRAP/ANCHOR Valid lengths x/w/ FASTENER
INSTALL META 1 G AT META 1 G AT ALL TRUSSES TO 1450 lb UPLIFT. FOR HIGHER UPLIFTS, SEE NOTES ON PLAN.	1450 (1 PLY)	(1) META 1 G 1/8x20
	1810 (1 PLY)	(1) META 1 G/20
	1875 (1 PLY)	(1) META 1/8x1/2, 8/20
	1920 (1 PLY)	(2) META 1 G/20
	2120 (1 PLY)	(2) HMETA 1 G/20
	1795 (2 OR 3 PLY)	(2) META 1 G 1/8x20
	2365 (2 OR 3 PLY)	(2) META 1 G/20
	3965 DF /SF (2 PLY)	MGT
	3000 DF /SF (1 PLY 2x4)	HTT4
	4455 DF /SF (1 PLY 2x6)	HTT4
	4235 DF /SF (2 PLY 2x4)	HTT4
	4555 DF /SF (1 PLY 2x6)	HTT5
	4670 DF /SF (2 PLY 2x4)	HTT5
	5445 DF /SF (2 PLY 2x4)	HTTSKT
	10690 /DF /SF (2 PLY)	(1)HGT - 2
	10790 /SF (3PLY)	(1)HGT - 3
		(8) 0.148x1 - 1/2", EMBED 4" (9) 0.148x1 - 1/2", EMBED 4" (10) 0.148x1 - 1/2", EMBED 4" (10) 0.148x1 - 1/2", EMBED 4" (10) 0.148x1 - 1/2", EMBED 4" (14) 0.162x3 - 1/2", EMBED 4" (1) 0.162x3 - 1/2", EMBED 4" (22) 0.148x3" ATR, EPOXY 12" (18) 0.148x1 - 1/2", 5/8" ATR, EPOXY 12" (18) 5D#1 0x2 - 1/2", 5/8" ATR, EPOXY 12" (18) 0.162x2 - 1/2", 5/8" ATR, EPOXY 12" (26) 5D#1 0x1 - 1/2", 5/8" ATR, EPOXY 12" (26) 0.148x3", 5/8" ATR, EPOXY 12" (26) 5D#1 0x2 - 1/2", 5/8" ATR, EPOXY 18" (16) 0.148x3", (2) 3/4" ATR, EPOXY 12" (16) 0.148x3", (2) 3/4" ATR, EPOXY 12"

NOTES:

1. PROVIDE A STRAP FROM THE ABOVE LIST AT EACH ROOF TRUSS BEARING POINT, BASED ON THE TRUSS UPLIFT VALUES IN THE SIGNED AND SEALED TRUSS DESIGN PACKAGE AND SUITABLE FOR THE GEOMETRY, EMBED STRAP ON CENTERLINE OF WALL.
2. ANY OF THE VALID LENGTHS SHOWN MAY BE USED IN PLACE OF THE LENGTH SPECIFIED ON PLAN.
3. CONNECTORS ARE SIMPSON STRONG TIE. ALL CONNECTORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SIMPSON PRINTED INSTRUCTIONS. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD.
4. WHERE EMBEDDED STRAPS ARE MISSING, OR MIS-LOCATED, INSTALL RETROFIT STRAP PER 1095-3, PER UPLIFT IN TRUSS ENGINEERING.

SIMPSON CATALOG C-C-202 I

TRUSS BEARING CONDITIONS AND STRAPPING IS  
BASED ON LAYOUT PREPARED BY SCOSTA  
CORP, JOB# DRSOLUGF DATE: 01/20/22  
REVISED: NONE

TRUSS BEARING CONDITIONS AND STRAPPING IS  
BASED ON TRUSS LAYOUT PREPARED BY  
SCOSTA CORP, JOB# DRSOLU6 DATE:  
1/20/202REVISED: NONE

## DRAFTSTOPPING

R302.12 DRAFTSTOPPING: IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1,000 SQUARE FEET (92.9m<sup>2</sup>). DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS. WHERE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND CEILING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES:



1. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
2. FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN WEB OR PERFORATED MEMBERS.

R302.12.1 MATERIALS: DRAFTSTOPPING MATERIALS SHALL NOT BE LESS THAN 1/2" (12.7mm) GYPSUM BOARD, 3/8" (9.5mm) WOOD STRUCTURAL PANELS OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO THE FLOOR FRAMING MEMBERS UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL. THE INTEGRITY OF THE DRAFTSTOPS SHALL BE MAINTAINED.

PLAN NOTES:

1. ROOF AND FLOOR TRUSS BEARING ELEVATION VARIES, SEE LEGEND.
2. ROOF AND FLOOR FRAMING SHALL BE WOOD TRUSSES DESIGNED BY A DELEGATED TRUSS ENGINEER PER DESIGN CRITERIA ON SHEET S-1.
3. PROVIDE STRAPPING AT TRUSSES PER NOTES ON THIS SHEET.
4. FOR NAILING OF ROOF AND FLOOR DECK, SEE 1 AND 2 OF S-3.
5. **(8F5-B)** etc., DENOTES PRECAST LINTEL ABOVE DOOR/WINDOW OPENING PER SCHEDULE THIS SHEET.
6. AT TRUSS BEARING, PROVIDE 6x6 MASONRY BOND BEAM CONTINUOUS OVER ALL TRUSS DETAILS ON S-2, S-3 & A-6.
7. NAIL MULTI-PLY BEAMS AND POSTS PER 9F5-1.
8. PROVIDE BUCKS AT WINDOWS AND DOORS PER DETAIL 9F5-1.

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION

 <b>D.R. HORTON</b> A DIVERSIFIED HOME BUILDING COMPANY <i>America's Builder</i>		 <b>Gulf Coast</b> Drafting & Design, Inc. EMAIL: PLANS@GULFCDRAFTING.COM PHONE: 239-540-1822 1515 SE 47th ST. CAPE CORAL, FL 33904	
ALL DRAWINGS AND SPECIFICATIONS WERE PREPARED BY THE STRUCTURAL ENGINEER OF RECORD OR BY AN INDIVIDUAL UNDER HIS OR HER CLOSE PERSONAL SUPERVISION AND IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE FLORIDA MECHANICAL, ELECTRICAL, PLUMBING AND GAS (F.M.E.P.G.) CODES.		NO. 58552 STATE OF FLORIDA LICENSED PROFESSIONAL ENGINEER (C.E. GIBSON, P.E., 11/13/92) 12345 GOLF, FL 33904 (239) 540-1822	
LOT: 33, 34, 35, 36, 37, 38 SUBDIVISION: SOLUNA ADDRESS: 3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP D.R.H. #: 5476300033, 034.035, 036, 037, 038		BLDG: 7 SUBDIVISION: SOLUNA ADDRESS: 3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP D.R.H. #: 5476300033, 034.035, 036, 037, 038	
DATE: 03/03/22 DRAWN BY: CWL CHECKED BY: JWC REVISED: PLAN: FLOOR FRAMING SCALE: As indicated		SOLUNA TOWNHOMES GCD# 14150	
A-4.1			



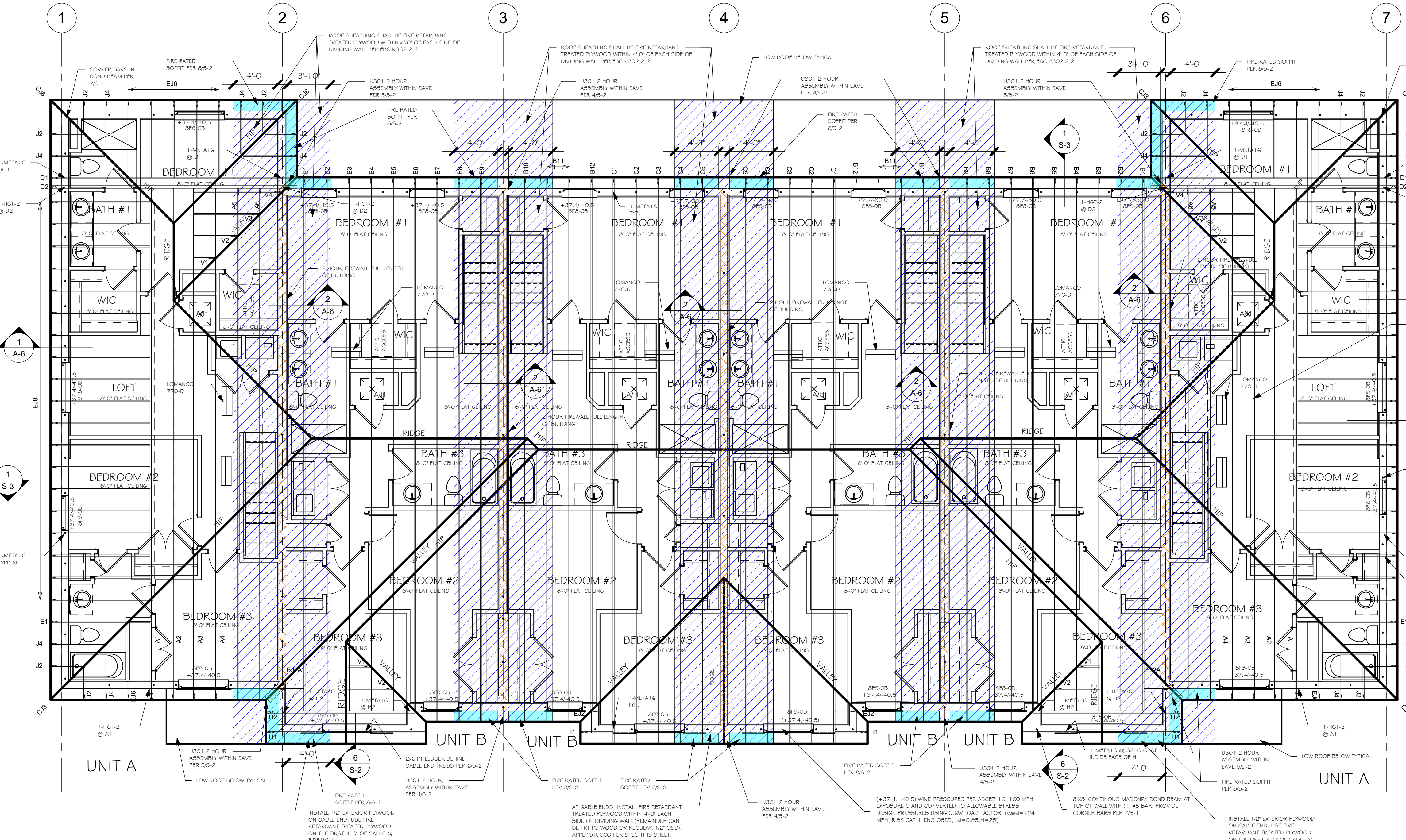
At Exterior Stud Walls and Gable Ends with Wall Sheathing, apply plaster over metal lath over water resistive barrier as follows  
**Water Resistive Barrier (WRB) R703.7.3:**  
Water-resistive vapor-permeable barrier with a performance at least equivalent to 2 layers of grade D paper. The individual layers shall be installed independently. An approved house wrap may be used for the 1st layer and metal lath with approved paper backing may be the 2nd layer (Note: ZIP wall sheathing with seam tape qualifies as the first layer).  
**Metal Lath R703.7.1:** Self furring paper backed 2.5lb diamond mesh metal lath per ASTM C847, G60 galvanized, fastened per ASTM C1063 with 1-1/2" long, 11 gauge nails with 7/16" head (roofing nails) at 7" oc, or 1-1/2" long 16 gauge staples at 6" oc, into the framing members (i.e., the nails or staples must align with and penetrate 3/4" into the framing studs).  
**Plaster R703.7.2:** 3-coat 7/8" thick portland cement based plaster per ASTM C926.  
**Paint:** A good quality paint is widely recognized as essential for water resistance.

ALL SOFFITS SHALL BE ACM QUAD, FULL VENT, NARROW PATTERN, 8.15% FREE AIR FLOW. OTHER BRANDS OF SOFFIT MAY BE USED, WITH AT LEAST 8.15% FREE AIR FLOW AND MEET R704 FOR WIND PRESSURES.  
ROOF VENTS-INSTALL 2 LOMANCO 770-D ROOF VENTS (0.97 SQ. FT FREE AIR) AT EACH UNIT AT EACH LOCATION SHOWN. ROOF VENTS SHALL NOT PENETRATE THE FIRE RETARDANT PLYWOOD.

PROVIDE DOUBLE-FUR AT ALL ELECTRICAL BOXES TO BE INSTALLED ON 2 HR FIREWALL. NO PENETRATION OF WALL PERMITTED.

PLAN NOTES:

- ROOF AND FLOOR TRUSS BEARING ELEVATION VARIES, SEE LEGEND.
- ROOF AND FLOOR FRAMING SHALL BE WOOD TRUSSES DESIGNED BY A DELEGATED TRUSS ENGINEER PER DESIGN CRITERIA ON SHEET S-3.
- PROVIDE STRAPPING AT TRUSSES PER NOTES ON THIS SHEET.
- FOR NAILING OF ROOF AND FLOOR DECK, SEE 1 AND 2 ON S-1.
- AFB-1B etc., DENOTES PRECAST LINTEL ABOVE DOOR/WINDOW OPENING PER SCHEDULE ON A4.1.
- AT TRUSS BEARING, PROVIDE 8x8 MASONRY BOND BEAM W/ 1 #5 CONTINUOUS, SEE DETAILS ON S-2, S-3 & A-6



2ND FLOOR ROOF PLAN  
3/16" = 1'-0"

BEARING HEIGHT

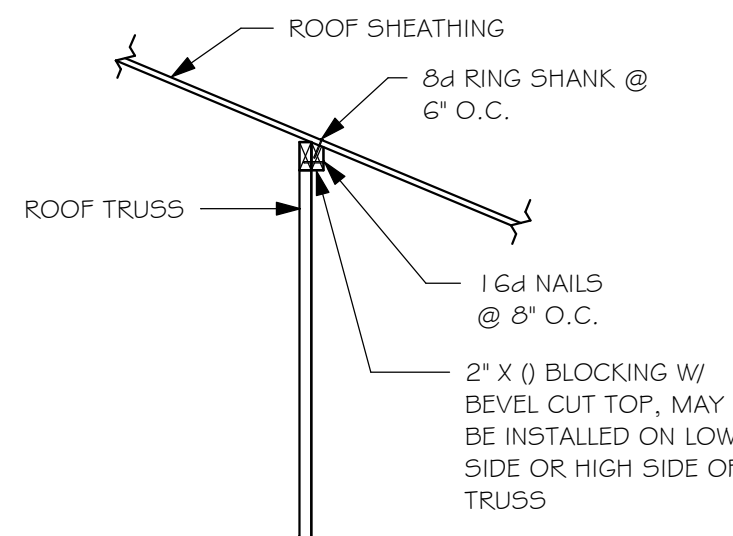
— = BEARING @ 18'-0"  
— = BOND BEAM @ 18'-0", U301 ASSEMBLY TO UNDERSIDE OF ROOF DECK

TRUSS BEARING CONDITIONS AND STRAPPING IS BASED ON TRUSS LAYOUT PREPARED BY SCOSTA CORP., JOB # DR50LUG DATE: 01/20/22 REVISED: NONE

TRUSS STRAPPING TO MASONRY		
MAX TRUSS UPLIFT (LBS)	STRAP/ANCHOR Valid lengths x/y	FASTENER
1450 (1 PLY)	(1) META 1 G/1 8/20	(8) 0.148x1-1/2", EMBED 4"
1810 (1 PLY)	(1) META 1 G/20	(9) 0.148x1-1/2", EMBED 4"
1875 (1 PLY)	(2) META 1 G/1 8/20	(10) 0.148x1-1/2", EMBED 4"
1920 (1 PLY)	(2) META 1 G/20	(10) 0.148x1-1/2", EMBED 4"
2120 (1 PLY)	(2) HHETA 1 G/20	(10) 0.148x1-1/2", EMBED 4"
1795 (2 OR 3 PLY)	(2) META 1 G/1 8/20	(14) 0.162x3-1/2", EMBED 4"
2365 (2 OR 3 PLY)	(2) META 1 G/20	(12) 0.162x3-1/2", EMBED 4"
3965 /DF /SP (2 PLY)	MG1	(22) 0.148x3" ATR, EPOXY 12"
3000 /DF /SP (1 PLY 2x4)	HIT4	(18) 0.148x1-1/2", 5/8" ATR, EPOXY 12"
4455 /DF /SP (1 PLY 2x4)	HIT4	(18) SD#10x1-1/2", 5/8" ATR, EPOXY 12"
4235 /DF /SP (2 PLY 2x4)	HIT4	(18) 0.162x2-1/2", 5/8" ATR, EPOXY 12"
4555 /DF /SP (1 PLY 2x4)	HIT5	(26) SD#10x2-1/2", 5/8" ATR, EPOXY 12"
4670 /DF /SP (2 PLY 2x4)	HIT5	(26) 0.148x3", 5/8" ATR, EPOXY 12"
5445 /DF /SP (2 PLY 2x4)	HIT5KT	(26) SD#10x2-1/2", 5/8" ATR, EPOXY 18"
10690 /DF /SP (2 PLY)	(1) HGT - 2	(16) 0.148x3", (2) 3/4" ATR, EPOXY 12"
10790 /SYP (3PLY)	(1) HGT - 3	(16) 0.148x3", (2) 3/4" ATR, EPOXY 12"

- NOTES:
- PROVIDE A STRAP FROM THE ABOVE LIST AT EACH ROOF TRUSS BEARING POINT, BASED ON THE TRUSS UPLIFT VALUES IN THE SIGNED AND SEALED TRUSS DESIGN PACKAGE AND SUITABLE FOR THE GEOMETRY. EMBED STRAP ON CENTERLINE OF WALL.
  - ANY OF THE VALID LENGTHS SHOWN MAY BE USED IN PLACE OF THE LENGTH SPECIFIED ON PLAN.
  - CONNECTORS ARE SIMPSON STRONG TIE. ALL CONNECTORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SIMPSON PRINTED INSTRUCTIONS. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD.
  - WHERE EMBEDDED STRAPS ARE MISSING, OR MIS-LOCATED, INSTALL RETROFIT STRAP PER 10/5-3. PER UPLIFT IN TRUSS ENGINEERING.

SIMPSON CATALOG C-C- 2021

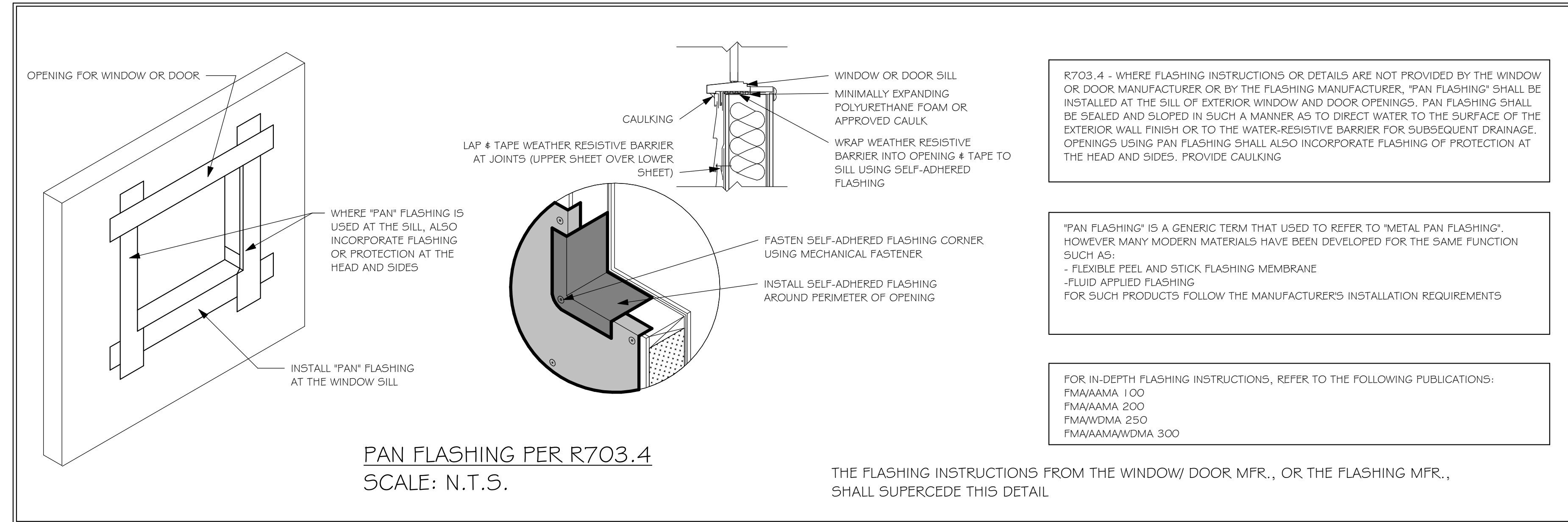


2 BEVELLED BLOCKING DETAIL

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL FLORIDA BUILDING CODE 2020 - 7TH EDITION



Y:\J-MASTER 2019\2019-BUILDERS\DR HORTON\2019\SUBDIVISIONS\SOLUNA TOWNHOMES\14150 UNITS 33-36 SOLUNA TOWN HOME BLDG 7\REV\14150 SOLUNA 6 UNIT BLDG 7.rvt



**Design No. U905**  
Bearing Wall Rating - 2 HR.  
Nonbearing Wall Rating - 2 HR.

1. **Concrete Blocks\*** - Various designs. Classification D-2 (2 hr.)  
See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar** - Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume), vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster** - Add 1/2 hr to classification if used, where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. **Loose Masonry Fill** - If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellent vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

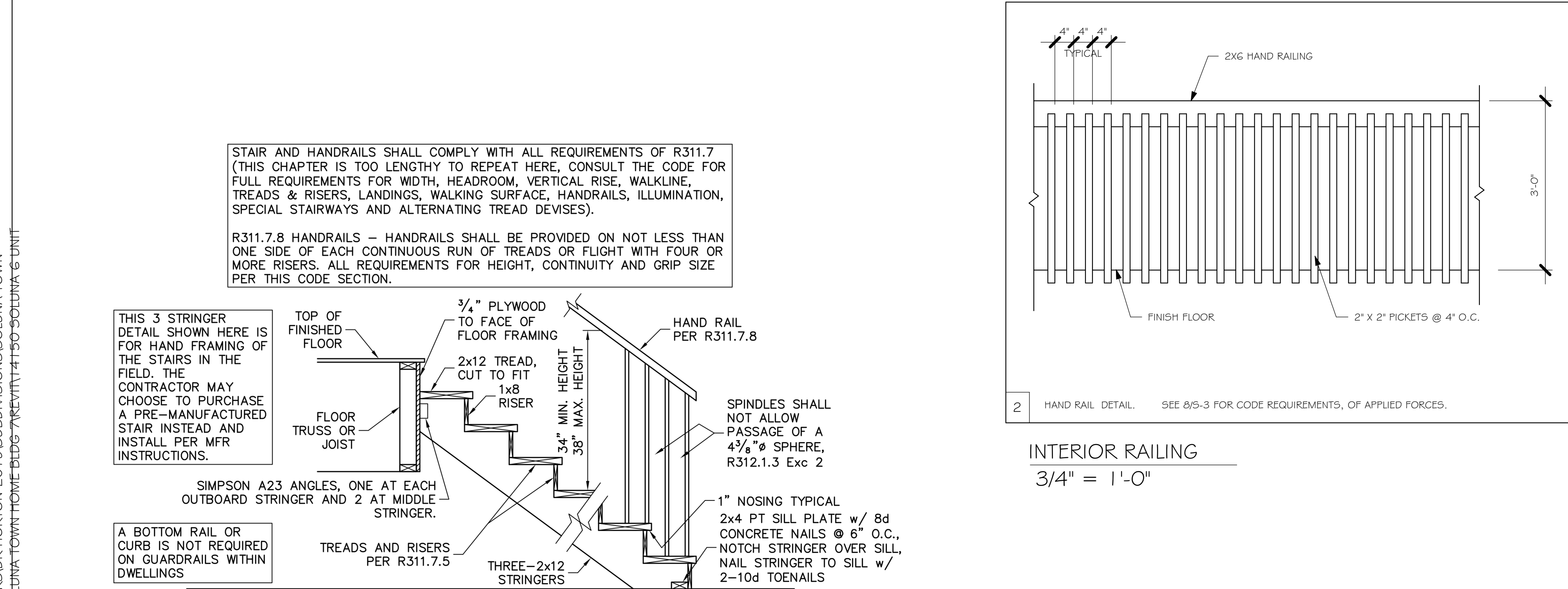
5. **Foamed Plastic\*** - (Optional-Not Shown) - 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).

**ATLAS ROOFING CORP** - "EnergyShield Pro Wall Insulation" and EnergyShield Pro 2 Wall Insulation."

**HUNTER PANELS** - Type Xci-Class A, Xci 286

**THE DOW CHEMICAL CO** - Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel and Thermax Heavy Duty Plus (HDP)

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

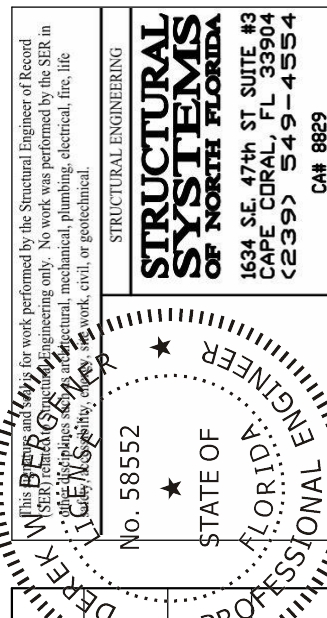
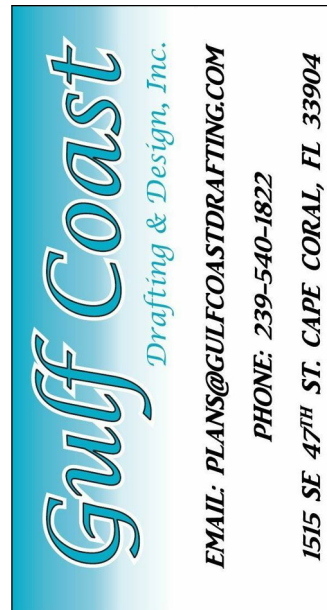


**4 STAIR FRAMING DETAIL PER R311.7**  
SCALE: 3/4" = 1'-0"

INTERIOR RAILING  
3/4" = 1'-0"

DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION

This is a multi-page document.  
I performed structural  
engineering only on those  
pages which contain my seal,  
Derek Bergener, and company  
name Structural Systems.



LOT: 33,34,35,36,37,38	BLDG: 7
SUBDIVISION: SOLUNA	
LOOP	
D.R.H. #: 547630033,034,035,036,037,038	

SOLUNA
TOWNHOMES
GCD# 14150

DATE:	03/03/22
DRAWN BY:	CWL
CHECKED BY:	JWC
REVISED:	
PLAN:	NOTES
SCALE:	As indicated



### GENERAL NOTES

- 2 DOOR AND WINDOW ANCHORAGE

## DOOR AND WINDOW ANCHORAGE

**WOOD FRAMED OPENING**  
ALL DOORS AND WINDOWS SHALL BE INSTALLED ACCORDING TO THE PUBLISHED MANUFACTURERS LITERATURE OF THE ASSEMBLY BEING INSTALLED TO THE ROUGH SUBSTRATE OPENING. SHIMS SHALL BE MADE OF MATERIALS CAPABLE OF RESISTING THE APPLIED LOADS AND SHALL BE LOCATED NEAR EACH FRAME FASTENER TO MINIMIZE DISTORTION OF THE FRAME AS THE FASTENERS ARE TIGHTENED.

## ROOF SHEATING

## WOOD FRAMING

1. ALL WOOD FARMING SHALL BE FABRICATED AND INSTALLED PER NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION
2. UNLESS NOTED OTHERWISE THE FOLLOWING MINIMUM GRADES SHALL BE USED:
  - A. INTERIOR BEARING WALLS SYP #2
  - B. RAFTERS, JOISTS, HEADERS AND BEAMS, EXTERIOR BEARING WALLS SYP #2
3. TREATED WOOD REQUIREMENTS: ALL WOOD EXPOSED TO WEATHER SHALL BE PROTECTED, PRESSURE TREATED, OR NATURALLY RESISTANT TO DECAY. ALL WOOD TOUCHING MASONRY OR CONCRETE SHALL BE ISOLATED, PRESSURE TREATED.
4. CONTRACTOR SHALL PROVIDE ALL FASTENING DEVICES AS SHOWN ON THE DRAWINGS AND AS NECESSARY AND SUITED FOR EACH APPLICATION. FASTENING SUBJECT TO MOISTURE SHALL BE HOT DIP GALVANIZED TO ASTM A-153-80, OR STAINLESS STEEL.
5. ALL METAL CONNECTIONS AND FABRICATIONS SHALL COMPLY WITH AISC SPECIFICATIONS.
6. PREFABRICATED STRUCTURAL TRUSSES SHALL COMPLY WITH NFPA NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, TP1 DESIGN SPECIFICATIONS FOR METAL PLATE WOOD TRUSSES AND ATTIC 100.
7. ALL TRUSSES SHALL BE DESIGNED AND CERTIFIED BY THE TRUSS MANUFACTURER'S STATE OF FLORIDA REGISTERED ENGINEER.
8. CONTRACTOR SHALL CORRELATE WITH TRUSS MANUFACTURER TO ENSURE THAT ADEQUATE BEARING IS PROVIDED AT END REACTIONS OF ALL GIRDER TRUSSES.
9. TRUSS MANUFACTURE SHALL SUBMIT SHOP DRAWINGS TO THE CONTRACTOR AND DESIGNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF DIMENSIONS, MATERIALS AND CONDITIONS.
10. AT VOLUME CEILING CONDITIONS, ALIGN TRUSSES TO PROVIDE A SMOOTH AND UNBROKEN INTERIOR WALL SURFACE FROM FLOOR TO CEILING.
11. BRACE TRUSSES DURING ERECTION AND AFTER PERMANENT INSTALLATION TO COMPLY WITH TPI BWY-7G.
12. MICRO-LAMS (OR EQUAL PARALAMS, LVL'S, ETC.) SHALL BE USED WHERE SPECIFIED ON ENGINEERED PLANS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ANY EDGES OR ENDS EXPOSED TO THE WEATHER SHALL BE PROTECTED BY THE INSTALLATION OF 26 GA. MIN. GALVANIZED STEEL FLASHING.
13. SPACE FRAMING OF ARCHES UNDER THE BEAM SHALL BE FILL IN FRAME UNLESS NOTED OR CONSTRUCTED OTHERWISE.

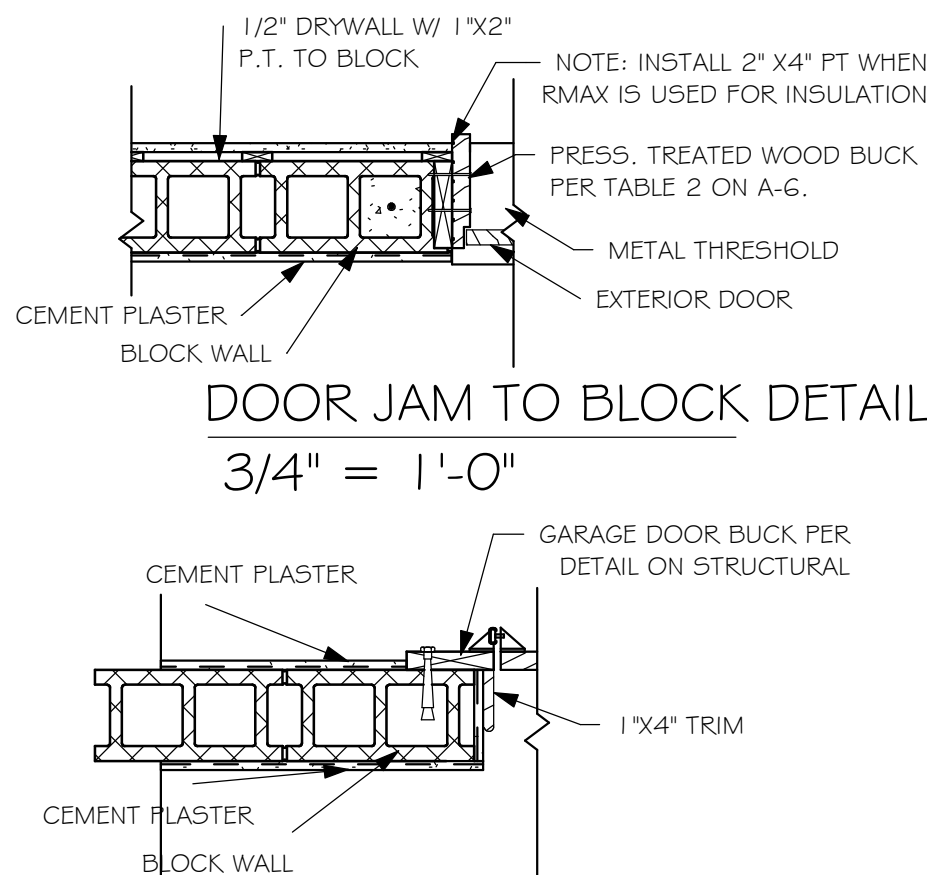
## EXTERIOR WALL SHEATHING

SHALL BE 7/16" OR 1/2" OSB WALL SHEATHING  
FASTEN WITH 8d COMMON NAILS @ 6" O.C.  
EDGE AND FIELD. IF PANELS ARE INSTALLED HORIZONTALLY, BLOCKING  
SHALL BE INSTALLED BEHIND PANEL JOINTS. APPLY STUCCO FINISH  
PER SPEC ON A4.2

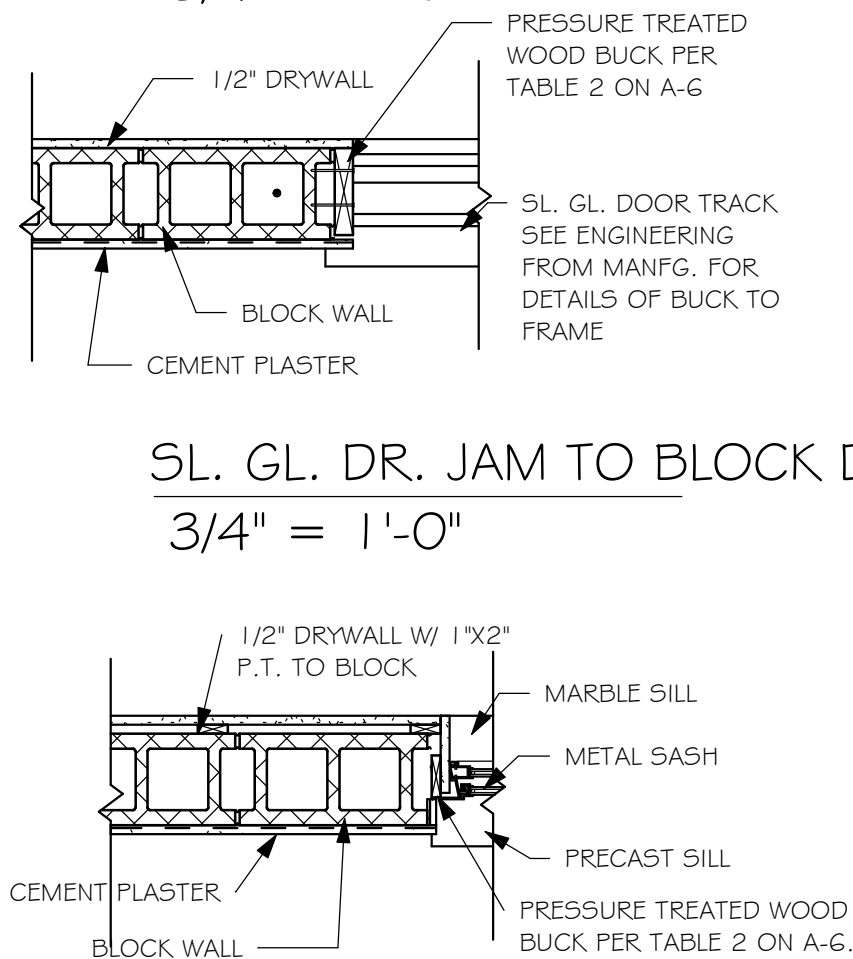
## CLAY AND CONCRETE TILE ROOF SPEC'S

INSTALL PEEL AND STICK UNDERLAYMENT APPROVED FOR SINGLE LAYER APPLICATION UNDER TILE ROOF.  
THE INSTALLATION OF CLAY AND CONCRETE TILE SHALL COMPLY WITH THE PROVISIONS OF R905.3 F.B.C.  
MARKING: EACH ROOF TILE SHALL HAVE A PERMANENT MANUFACTURER'S IDENTIFICATION MARK.  
APPLICATION SPECIFICATIONS: THE TILE MANUFACTURER'S WRITTEN APPLICATION SPECIFICATIONS SHALL BE AVAILABLE AND SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

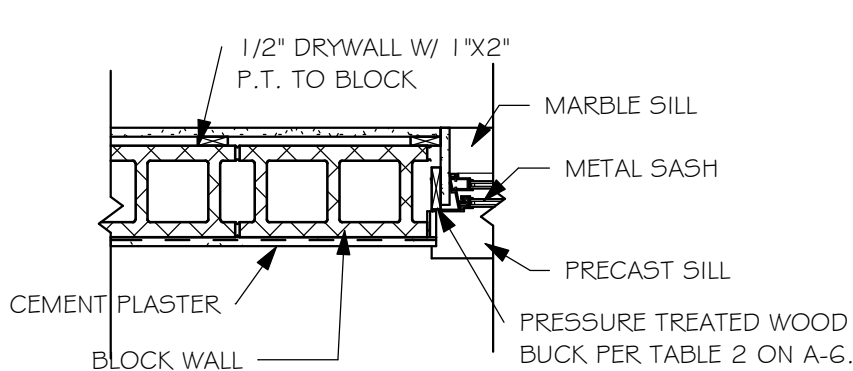
1. TILE PLACEMENT AND SPACING,
2. ATTACHMENT SYSTEM NECESSARY TO COMPLY WITH CURRENT WIND CODE,
- A. AMOUNT AND PLACEMENT OF MORTAR
- B. AMOUNT AND PLACEMENT OF ADHESIVE
- C. TYPE, NUMBER, SIZE AND LENGTH OF FASTENERS AND CLIPS,
3. UNDERLAYMENT
4. SLOPE REQUIREMENT



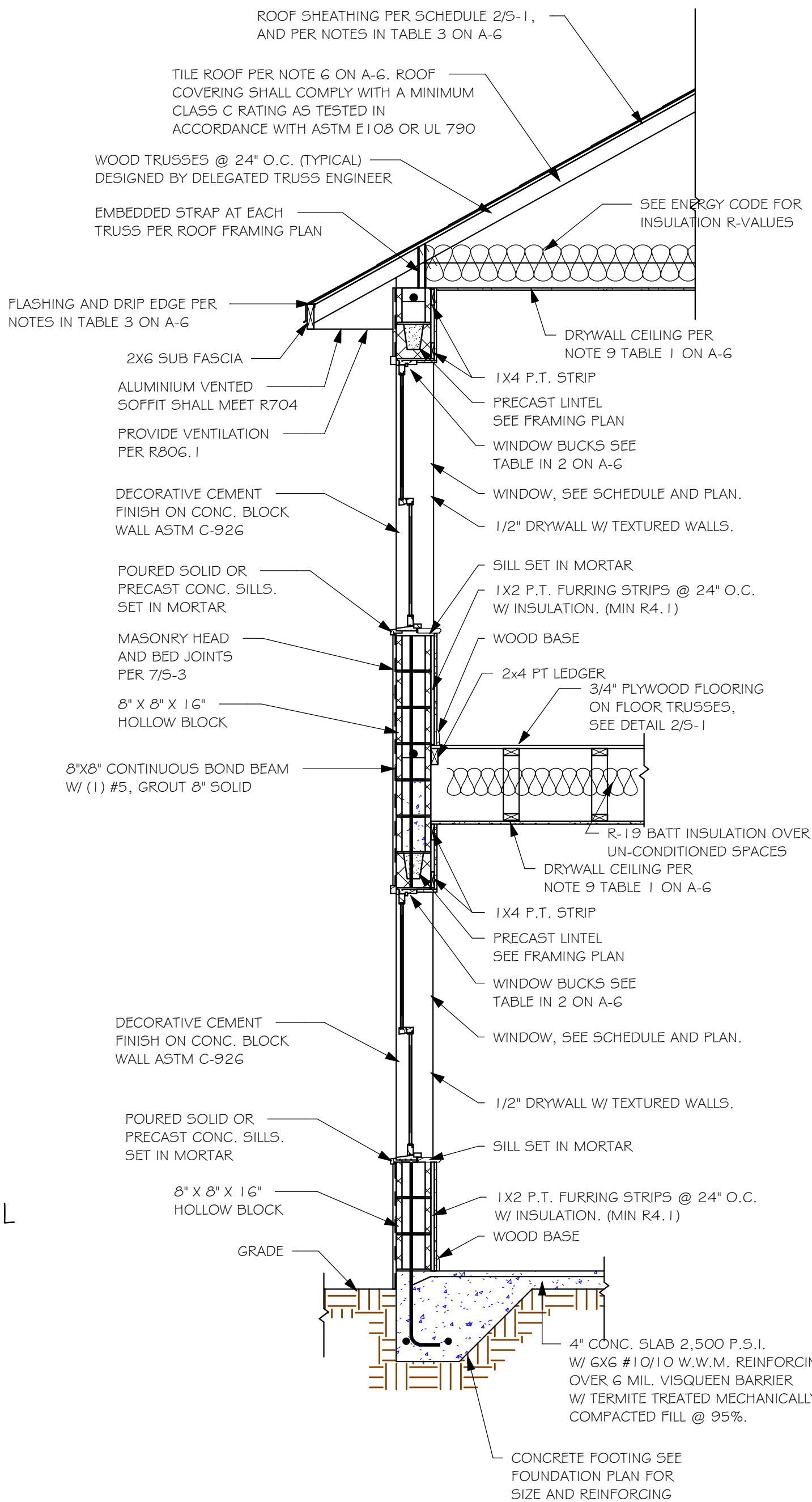
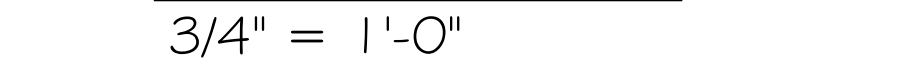
### GARAGE DOOR JAM DETAIL



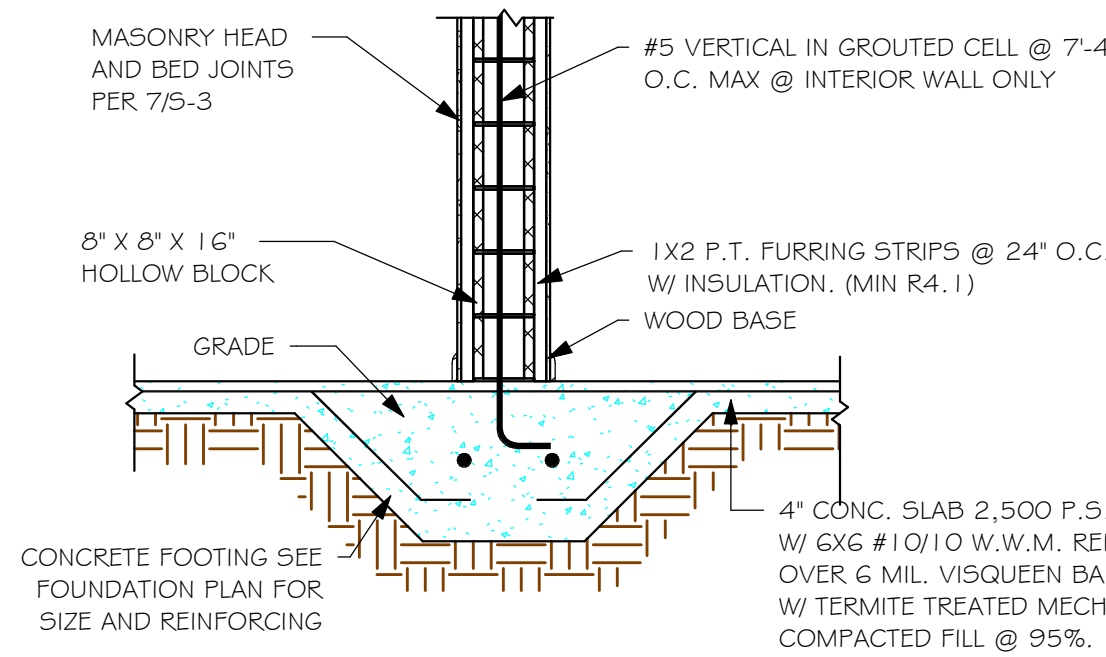
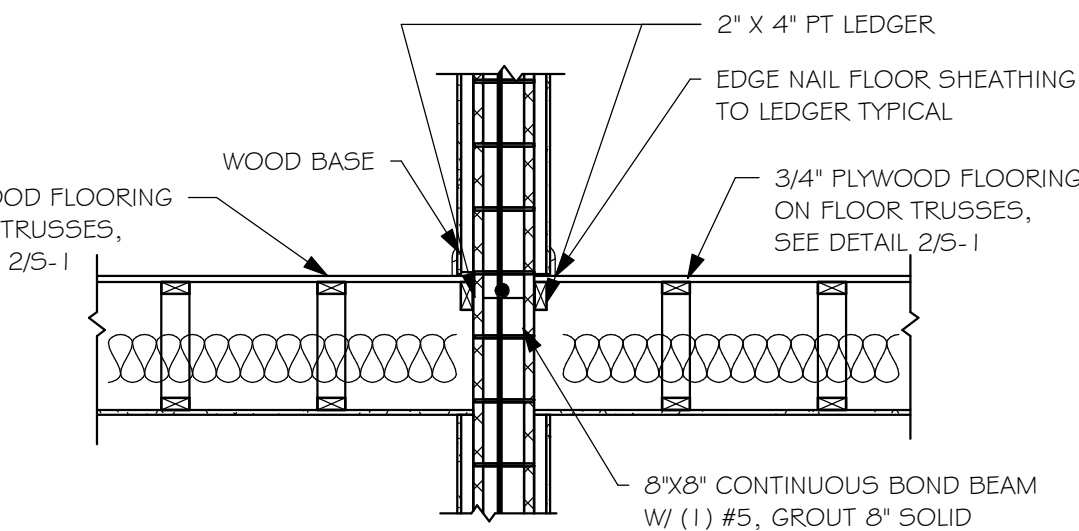
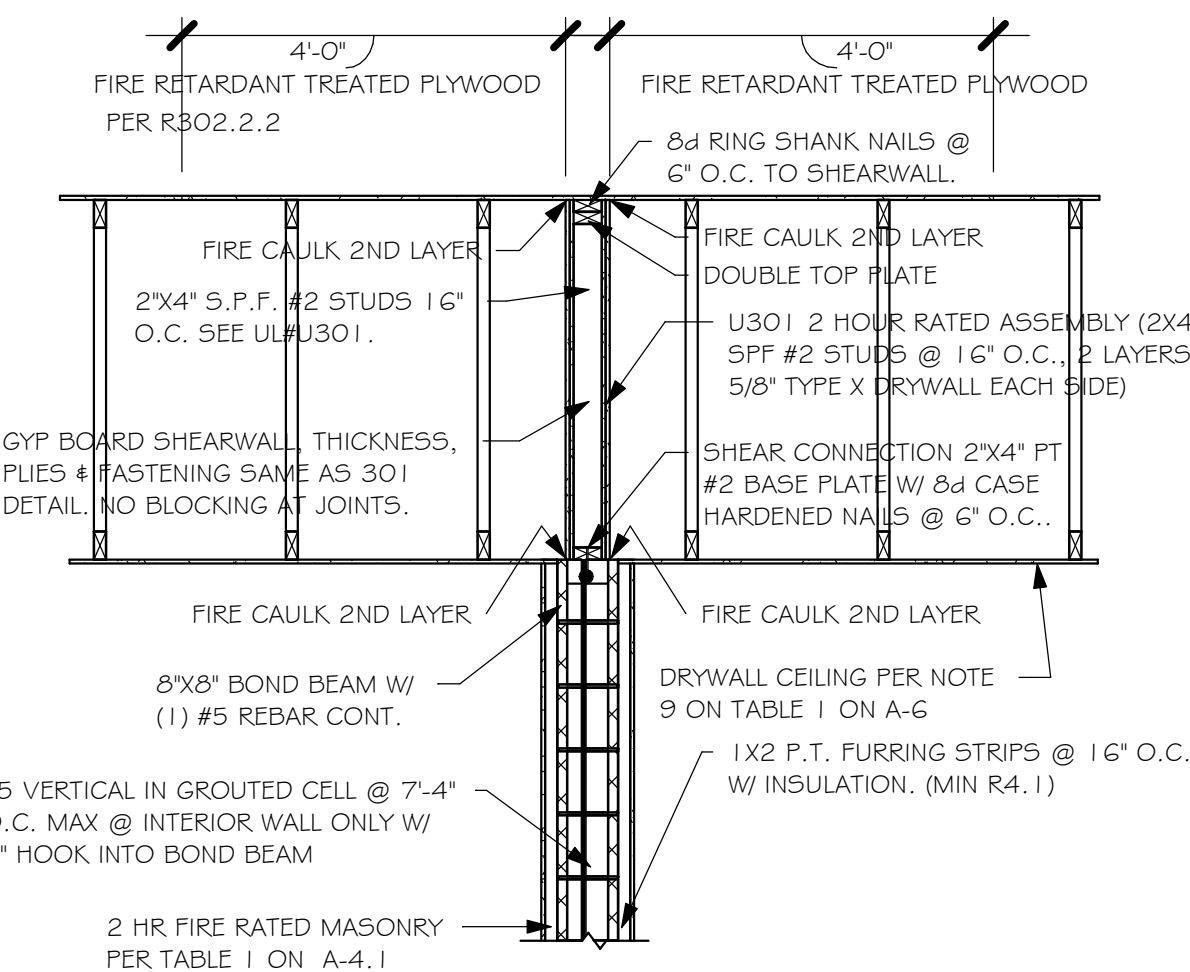
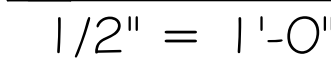
## SL. GL. DR. JAM TO BLOCK DETAIL



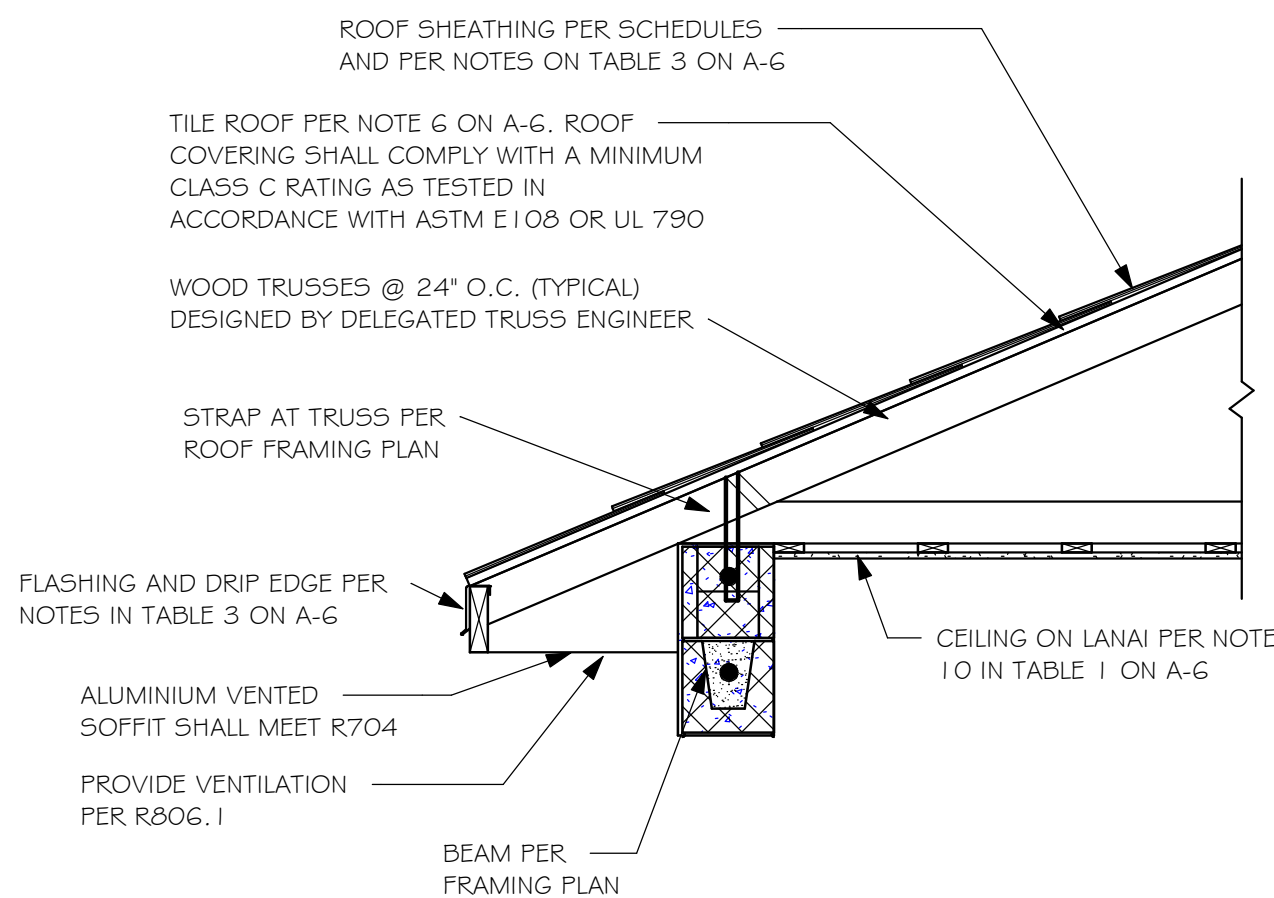
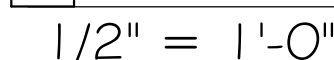
## WINDOW JAM TO BLOCK DETAIL



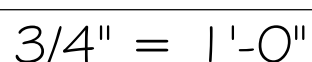
1 WALL SECTION 2 STORY



2 2 HR FIRE WALL SECTION



### 3 LANAI/ ENTRY ROOF ASSEMBLY



DESIGN IN ACCORDANCE WITH THE RESIDENTIAL  
FLORIDA BUILDING CODE 2020 - 7TH EDITION

DATE:		03/03/22	
DRAWN BY:		CWL	
CHECKED BY:		JWC	
REVISED:			
PLAN:		SECTIONS	
SCALE:		As indicated	
A-6			



TABLE R803.2.3.1 – NAIL SPACING BASED ON SPECIFIC GRAVITY OF RAFTER/TRUSS: ALL TRUSS TOP CHORDS AND FIELD ROOF FRAMING SHALL BE SOUTHERN PINE, SPECIFIC GRAVITY=0.55 (EXCEEDS SG=0.42 AND 0.49 OF TABLE R803.2.3.1).

ENSURE THAT ALL NAILS PENETRATE THE TOP CHORD OF THE TRUSS WITHOUT SPLITTING.

TYPICAL HOUSE PLAN

EDGE NAIL TO RIDGE/VALLEY/HIP

STAGGER JOINTS AT SHEATHING PANELS

EDGE NAIL TO FACIA BOARD

NAIL SPACING (TABLE R803.2.3.1) WIND SPEED / EXPOSURE

NAIL TYPE (SECTION R803.2.3.1) 19/32 SHEATHING

2 1/2" x 0.131" RING SHANK OR 3" x 0.120" RING SHANK (PER ASTM F1667 RSRs-03 & 04)

1 NAILING OF ROOF SHEATHING

DOWEL TO MATCH WALL REINFORCING, LAP 25"

FINISHED GRADE, SEE SITE PLAN

MONOLITHIC FOOTING, SEE PLAN

12" MIN

W

EDGE

3" CLEAR COVER TO REINFORCING

OPTIONAL CURB

VARIES

W

STEPDOWN

INTERIOR

MONOLITHIC FOOTINGS

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

3" COVER

MAINTAIN RUN TO RISE OF 2:1 OR MORE

MAINTAIN FOOTING WIDTH & DEPTH AT ALL VERT. AND HORIZ. SEGMENTS

FOOTING REINF., SEE PLAN. LAP 40 BAR DIAMETERS

STEP FOOTING

SCALE: NTS

FOOTING REINF., SEE PLAN

LAP CORNER BARS 40 BAR DIAMETERS

CONCRETE FOOTING, SEE PLAN

PLAN VIEW

FOOTING CORNER BARS

SCALE: NTS

8" CMU WALLS

2x4 or 2x6 P.T. BUCK @ FLANGED WINDOWS (SEE NOTE)

1/4"x3 3/4" TAPCON @ 24" OC, 3 SCREWS MIN. (SEE NOTE)

WINDOW/DOOR ROUGH OPENING

8" CMU, SEE PLAN FOR REINFORCING

DOOR

2x8 OR 2x6 P.T. SYP#2

2x2x1/8" WASHER

1/2" Ø EXPANSION BOLT, 4" MIN. EMBEDMENT, SPACE 24" OC AND 12" FROM TOP & BOT.

BUCK FASTENING

GARAGE DOOR

NOTE: THIS BUCK FASTENING DETAIL IS INTENDED FOR FLANGED WINDOW/DOOR PRODUCTS THAT FASTEN THRU THE FLANGE WITH WOOD SCREWS TO THE BUCK. FOR WINDOW/DOOR PRODUCTS THAT DO NOT HAVE A FLANGE AND FASTEN ENTIRELY THROUGH THRU THE FRAME, USE MASONRY SCREWS PER MFR. THAT ARE LONG ENOUGH TO PENETRATE 2-1/4" INTO THE MASONRY. IN THIS CASE, THE BUCK MATERIAL IS SIMPLY A SPACER AND MAY BE 1x4 OR 1x6 OR OMITTED ENTIRELY AND THE SPACER MAY BE TACKED IN PLACE WITH MASONRY NAILS OR PINS.

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SHEATHING SCHEDULE

EXTERIOR STUD WALL

7/16" ZIP SYSTEM WALL SHEATHING BY HUBER ENGINEERED WOODS LLC, NAILED W/ 8d COMMON WIRE @ 6" O.C. EDGE AND 6" O.C. FIELD. JOINTS. PROVIDE 2x4 BLOCKING AT ALL JOINTS. INSTALL SHEATHING AND SEAM TAPE IN STRICT ACCORDANCE WITH MFR. WRITTEN INSTRUCTIONS.

ROOF – PER FBCR TABLE 803.2.2

19/32 CLASS A.P.A. RATED SHEATHING, EXPOSURE 1, SPAN RATING 40/20. FASTEN WITH RING SHANK NAILS PER DETAIL 1/S-3

(WHEN ZIP BRAND ROOF SHEATHING IS USED, H-CLIPS ARE NOT REQUIRED)

INSTALL FIRE RETARDANT TREATED PLYWOOD WITHIN 4'-0" OF EACH SIDE OF 2 HOUR FIREWALL PER FBC R302.2.2

FLOOR

APA RATED STURDI-FLOOR, EXPOSURE 1, TONGUE & GROOVE EDGES, SPAN RATING 48/24 OR BETTER, GLUE AND NAIL W/ 10d COMMON @ 6" O.C. EDGE & FIELD

EXTERIOR CEILING

1) 1x4 STRIPPING @ 16" OC w/ 2-8d NAILS TO EACH TRUSS, 5/8" EXTERIOR GYPBOARD CEILING, FASTEN W/8d NAILS OR 1 5/8" DRYWALL SCREWS @ 6" OC EDGE & FIELD.

2) 3/8" BC PLYWOOD NAILED W/ 6d COMMON @ 6" OC EDGE & FIELD.

SOFFIT

ALUMINUM PERFORATED SOFFIT INSTALLED PER MANUFACTURER INSTRUCTIONS TO MEET WIND PRESSURES PER R704.

NOTE: EXTERIOR CEILINGS SPECIFIED ABOVE MEET THE DESIGN WIND PRESSURES PER R703.1.2

3/4" DEEP SAWCUT W/ ELASTOMERIC SEALANT

SLAB ON GRADE, SEE PLAN

NOTES:

1) PROVIDE SAWCUTS TO CREATE APPROXIMATE 20' X 20' MAXIMUM SQUARES.

2) SAWCUT CONCRETE SLAB WITHIN 4 TO 12 HOURS OF CONCRETE PLACEMENT.

SLAB SAWCUT DETAIL

SCALE: NTS

#5 CORNER BAR, 25"x25"

MASONRY BOND BEAM, TYPICAL

INTERSECTION

#5 CORNER BAR, 25"x25"

MASONRY BOND BEAM, TYPICAL

CORNER

CORNER BAR DETAIL IN BOND BEAMS

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

1 1/4" @ 2x6

1 1/2" @ 2x8

10d NAILS

DOUBLE ROW OF NAILS INTO 3rd PLY.

ADD 3rd 2x6 OR 2x8

2 OR 3 PLY 2x6 OR 2x8

POSTS

1 1/2"

2 ROWS OF NAILS INTO 3rd PLY

10d NAILS

3rd 2x4

NAIL FROM OTHER SIDE OF 2nd PLY.

2 OR 3 PLY 2x4

3 ROWS 16d @ 12" OC AND 2 1/2" FROM ENDS

2" BEAMS & LEDGERS

2 OR 3 PLY LVL

IF 1/2" FLITCH IS USED BETWEEN PLYS, USE 12d OR 16d NAILS INSTEAD OF 10d. (FLITCH IS NOT REQUIRED STRUCTURALLY)

3 ROWS 10d @ 12" OC AND 2 1/2" FROM ENDS

2 OR 3 PLY LUMBER

NAILING OF MULTI-PLY POST AND BEAMS & LEDGERS

SCALE: NTS

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WINDOW/DOOR/SOFFIT DESIGN WIND PRESSURES

WIND PRESSURES PER ASCE7-16, 160 MPH, EXPOSURE C, AND CONVERTED TO ALLOWABLE STRESS DESIGN PRESSURES USING 0.6W LOAD FACTOR. (Vasd=124 MPH, RISK CAT II, ENCLOSED, Kd=0.85, It=25=1.35)

TYPE INTERIOR ZONE 4 END ZONE 5

SOFFIT

TYPICAL WINDOWS & DOORS

8" OR 9" GARAGE DOORS

16" OR 18" GARAGE DOORS

+37.4 -40.5 +37.4 -50.0

+37.4 -40.5 +32.8 -37.1

+31.5 -35.1

(SEE PLAN FOR OTHER SPECIFIC PRESSURES)

1) TABLE MAY BE USED FOR ANY SIZE WINDOW OR DOOR IN EACH TYPE.

2) USE "INTERIOR ZONE 4" PRESSURES UNLESS WINDOW OR DOOR IS LOCATED WITHIN THE "END ZONE 5" (SEE DIAGRAM BELOW), THEN USE THE HIGHER PRESSURES UNDER THE "END ZONE 5" COLUMN.

3) ALL GLASS / GLAZING SHALL BE IMPACT RATED OR USE IMPACT RATED SHUTTERS.

4) SUBMIT PRODUCT APPROVALS TO THE BUILDING DEPARTMENT AS REQUIRED BY THE LOCAL JURISDICTION.

5) MANUFACTURED SOFFIT PRODUCTS SHALL BE INSTALLED PER MFR ENGINEERING SPEC SHEETS.

\* ON IRREGULAR SHAPED BUILDINGS, THERE IS NO GUIDANCE IN THE CODE FOR HOW FAR A CORNER MUST PROTRUDE FROM THE MAIN BUILDING TO BE CONSIDERED "ZONE 5". WE HAVE CHOSEN >15'. THIS IS SUBJECT TO JUDGEMENT CALL BY THE AUTHORITY HAVING JURISDICTION.

IN ZONE 5, MANUFACTURED SOFFIT PRODUCTS MAY REQUIRE ADDITIONAL BATTENS OR FASTENING PER MFR ENGINEERING SPEC SHEETS TO MEET THE PRESSURE REQUIREMENTS.

END ZONE 5 PRESSURES OCCUR AT "PRIMARY" OUTSIDE CORNERS OF BUILDING (BOLD LINES)

INTERIOR ZONE 4 PRESSURES

END ZONE 5 WIDTH = 4'-0" MEASURED FROM FACE OF WALL (FIG R301.2(7))

TYPICAL HOUSE PLAN

SECTION R302 FIRE-RESISTANT CONSTRUCTION

R302.2 Townhouses.

[Note: For brevity and clarity, only the portion of code being utilized is cited]

Each townhouse shall be considered a separate building and shall be separated by separate fire-resistance rated exterior wall assemblies meeting the requirements of zero clearance from property lines of Section R302.1 for exterior walls.

Exception: A common 2-hour fire-resistance-rated wall assembly tested in accordance with UL 263, or in accordance with the Florida Building Code, Building Section 722 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall unless such materials and methods of penetration comply with Section R302.4. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapter 34. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.

R302.2.2 Parapets for townhouses.

Exception: A parapet is not required where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls.

R302.2.4 Structural independence.

Each individual townhouse shall be structurally independent.

Exceptions:

1. Foundations supporting exterior walls or common walls.

2. Structural roof and wall sheathing from each unit fastened to the common wall framing.

3. Nonstructural wall and roof coverings.

4. Flashing at termination of roof covering over common wall.

FBC, BUILDING, SECTION 722 CALCULATED FIRE RESISTANCE

722.3.2 Concrete masonry walls.

The fire-resistance rating of walls and partitions constructed of concrete masonry units shall be determined from Table 722.3.2. The rating shall be based on the equivalent thickness of the masonry and type of aggregate used. [Note – it is the responsibility of the block manufacturer to document the fire resistance rating of their product. The contractor shall purchase only block with a published 2 hour fire rating for this townhome.]

TABLE 722.3.2 MINIMUM EQUIVALENT THICKNESS (inches) OF BEARING OR NONBEARING CONCRETE MASONRY WALLS a,b,c,d

TYPE OF AGGREGATE	FIRE RESISTANCE RATING (hours)	
	2 hr	[Other ratings omitted]
Pumice or expanded slag	3.2"	
Expanded shale, clay or slate	3.6"	
Limestone, cinders or unexpanded slag	4.0"	
Calcareous or siliceous gravel	4.2"	

Footnotes:

a. Values between those shown in the table can be determined by direct interpolation.

b. Where combustible members are framed into the wall, the thickness of solid material between the end of each member and the opposite face of the wall, or between members set in from opposite sides, shall be not less than 93 percent of the thickness shown in the table.

c. Requirements of ASTM C55, ASTM C73, ASTM C90 or ASTM C744 shall apply.

d. Minimum required equivalent thickness corresponding to the hourly fire-resistance rating for units with a combination of aggregate shall be determined by linear interpolation based on the percent by volume of each aggregate used in manufacture.

DESIGN CRITERIA:

STRUCTURAL ENGINEERING PER: FLORIDA BUILDING CODE 7th EDITION (2020) RESIDENTIAL

Occupancy: FBC 310.5 Residential Group R-3

Construction Type: V-B (fire resistance rating 0 hours, not sprinkled)

Fire Resistant Construction for Townhouses per R302.2

Codes to be used by other design professionals and licensed contractors: 2020 Florida Building Code, 7th Edition: Residential; Accessibility; Energy Conservation; Plumbing; Mechanical; and Fuel Gas. Electrical is contained by reference within FBC Residential Chapter 34: NFPA 70-17 National Electrical Code.

1. FLOOR TRUSS & ROOF TRUSS UNIFORM LOADS:

FLOORS: LIVE LOAD 40 PSF

DEAD LOAD 15 PSF

ROOF: TOP CHORD LIVE LOAD 20 PSF

TOP CHORD DEAD LOAD (TILE OR SHINGLE) 20 PSF

BOTTOM CHORD LIVE LOAD NON-CONCURRENT 10 PSF

BOTTOM CHORD DEAD LOAD 10 PSF

TOTAL LOAD 50 PSF

DEFLECTION CRITERIA:

FLOOR L/480 LIVE, L/360 TOTAL

ROOF L/240 LIVE, L/180 TOTAL

2. WIND LOADS:

WIND DESIGN PER ASCE7-10

BASIC WIND SPEED (ASCE7-10) 160 MPH

NOMINAL WIND SPEED (Vasd TABLE R301.2.1.3) 124 MPH

RISK CATEGORY II

EXPOSURE C

HEIGHT & EXPOSURE COEFFICIENT λ TABLE R301.2(3) = 1.35

MEAN ROOF HEIGHT = 25 FT

ROOF PITCH 3/12, 4/12 & 5/12

ENCLOSURE CLASS ENCLOSED

INTERNAL PRES. COEFF. +/- 0.18

WINDOW/DOOR DESIGN WIND PRESSURE PER TABLE R301.2(2), R301.2(3) AND R301.2(4), SEE DETAIL ON S-3.

SOFFITS – PER R704, ALL SOFFITS & THEIR ATTACHMENTS SHALL BE CAPABLE OF RESISTING THE DESIGN PRESSURES SPECIFIED IN TABLE R301.2(2) FOR WALLS USING 10 SQ. FT.

3. REINFORCED CONCRETE:

DESIGN AS PER ACI 318-14

REQUIRED COMPRESSIVE STRENGTH AT 28 DAYS:

SLAB ON GRADE f'c = 2500 PSI

3 1/2" MINIMUM THICKNESS REINFORCED WITH 6x6 w1.4xw1.4 WWF OR FIBERMESH.

CONVENTIONAL SHALLOW FOOTINGS f'c = 2500 PSI

BEAMS AND COLUMNS f'c = 3000 PSI

ALL OTHER CONCRETE (U.N.O.) f'c = 3000 PSI

UNLESS OTHERWISE SHOWN ON DRAWINGS, MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE AS FOLLOWS:

FOOTINGS 3"

SLAB ON GRADE CENTERED

BEAMS 1 1/2"

COLUMNS 1 1/2"

ALL REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAMS AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS. ALL REINFORCING STEEL SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES DURING PLACING OF CONCRETE.

REINFORCING STEEL – ASTM A615 GRADE 40 FOR #3

GRADE 60 FOR #4 TO #11

WELDED WIRE FABRIC – ASTM A185

SPICES IN REINFORCING, SHALL BE 40 BAR DIAMETERS. NON-CONTACT LAP SPICES MAY BE USED PROVIDED REINFORCING IS NOT SPACED MORE THAN 5" APART FOR #5 BARS.

FORMWORK AND SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS REACHED AT LEAST 2/3 OF THE REQUIRED 28 DAY STRENGTH.

4. REINFORCED MASONRY:

DESIGN PER TMS 402/602-16

REQUIRED COMPRESSIVE STRENGTHS:

MASONRY WALLS f'm = 1500 PSI

REINFORCING STEEL – ASTM A615 GRADE 60.

SPICES IN REINFORCING, SHALL BE 48 BAR DIAMETERS.

ALL CONCRETE MASONRY UNITS SHALL BE COMPOSED OF ASTM C90, GRADE N-1 HOLLOW CONCRETE MASONRY UNITS WITH TYPE 'S' MORTAR. GROUT ALL CELLS CONTAINING VERTICAL REINFORCEMENT WITH 3000 PSI PEA ROCK CONCRETE GROUT. ALL CELLS BELOW FINISHED GRADE SHALL BE GROUTED SOLID. ALL EXTERIOR WALLS SHALL BE REINFORCED FULL HEIGHT AT DOT LOCATIONS ON PLAN.

5. DELEGATED-ENGINEERED WOOD ROOF & FLOOR TRUSSES:

ALL WOOD ROOF AND FLOOR TRUSSES SHALL BE DESIGNED BY A DELEGATED TRUSS ENGINEER PER RULE 61G15-31.003 OF THE FLORIDA ADMINISTRATIVE CODE. ALL TRUSSES SHALL HAVE TEMPORARY BRACING PER "COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES, HIB-91." FOR OTHER BRACING REQUIREMENTS, NOTIFY ENGINEER. PROVIDE PERMANENT BRACING PER TRUSS MFR. SHOP DRAWINGS. IF PERMANENT BRACING IS NOT SPECIFIED, CONTACT ENGINEER.

6. FOUNDATION:

CONVENTIONAL SHALLOW CONCRETE FOOTINGS

SOIL BEARING CAPACITY 2000 PSF

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL CONDITIONS FOR THE INTENDED STRUCTURE AND ASSUMED SOIL BEARING CAPACITY. IT IS RECOMMENDED THAT A GEOTECHNICAL FIRM BE HIRED TO PERFORM A SITE EVALUATION.

7. DIMENSIONS: VERIFY ALL DIMENSIONS WITH HOUSE PLANS. SEE HOUSE PLANS, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR EMBEDS, OPENINGS, SLEEVES, ETC. WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

8. MEANS AND METHODS: THE STRUCTURAL ENGINEER SHALL NOT HAVE CONTROL OR BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, OR SEQUENCES TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO SUPPORT STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, OR ANY OTHER PERSONS PERFORMING THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

9. SHOP DRAWINGS: SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER FOR REVIEW FOR ALL STRUCTURAL ELEMENTS UTILIZING PREFABRICATED COMPONENTS. ONE SET OF SIGNED & SEALED TRUSS ENGINEERING SHALL BE DELIVERED TO THE ENGINEER OF RECORD FOR THE STRUCTURE PER FLORIDA ADMINISTRATIVE CODE 61G15-30.005 AND 61G15-31.003.

10

REVISIONS	BY

STRUCTURAL ENGINEERING:

STRUCTURAL SYSTEMS OF NORTH FLORIDA

1634 S.E. 47th STREET, SUITE #3

CAPE CORAL, FL 33904

(239) 549-4554

CA# 8629

DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE 7th EDITION (2020) RESIDENTIAL

BUILDER:

DR. HOHON • PH

America's Builder

STRUCTURAL DETAILS

SOLUNA TOWNHOMES

6 UNIT BUILDING

BLDG: 7, LOTS: 33-38

3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP

NAPLES, FLORIDA 34119

DESIGN/DRAWN

DWB/DWB

CHECKED

DWB

DATE

03/10/22

SCALE

VARIES

JOB

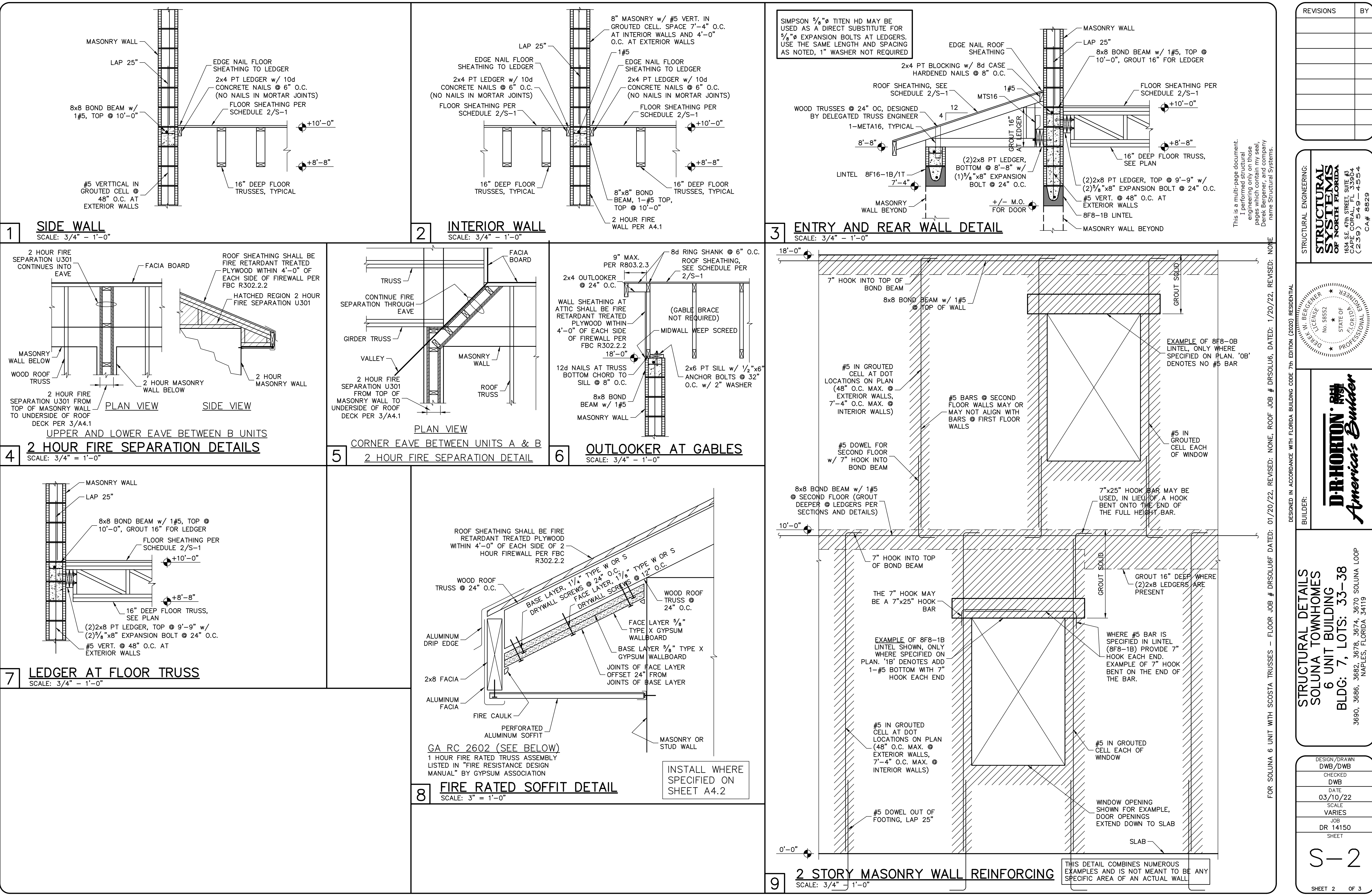
DR 14150

SHEET

S-1

SHEET 1 OF 3





REVISIONS	BY

STRUCTURAL ENGINEERING:  
**STRUCTURAL SYSTEMS OF NORTH FLORIDA**  
1634 S.E. 47th STREET, SUITE #3  
CAPE CORAL, FL 33904  
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DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE 7th EDITION (2020) RESIDENTIAL  
BUILDER:  
Derek W. BERGER  
No. 58552  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

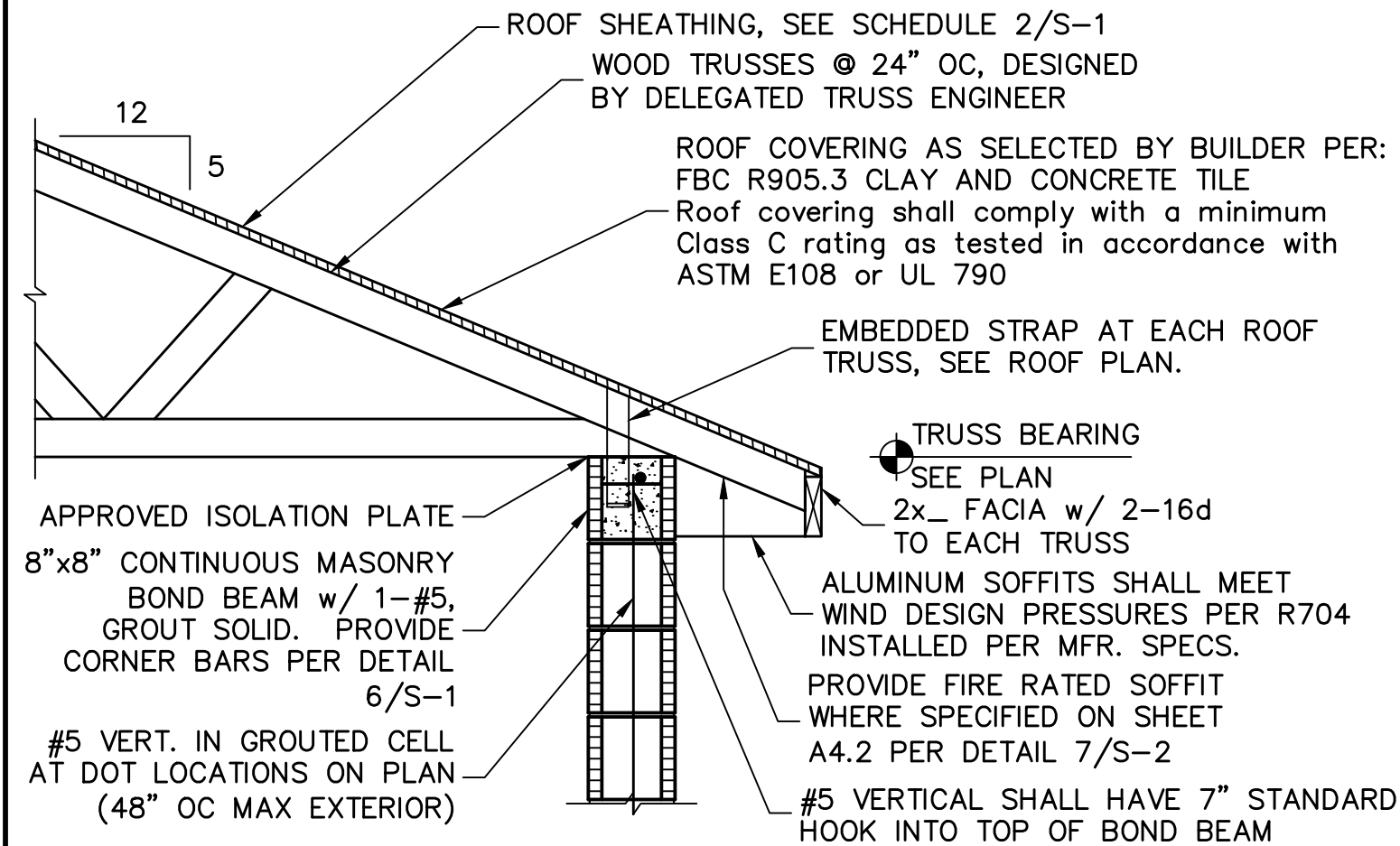
**D.R. HOHON**  
*America's Builder*

STRUCTURAL DETAILS  
SOLUNA TOWNHOMES  
6 UNIT BUILDING  
BLDG: 7, LOTS: 33-38  
3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP  
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DATE  
03/10/22  
SCALE  
VARIES  
JOB  
DR 14150  
SHEET  
**S-2**  
SHEET 2 OF 3

FOR SOLUNA 6 UNIT WITH SCOSTA TRUSSES - FLOOR JOB # DRSLU6F DATED: 01/20/22, REVISED: NONE, ROOF JOB # DRSLU6, DATED: 1/20/22, REVISED: NONE





TRUSS STRAP TO BOND BEAM

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

RETROFIT STRAPS TO CONCRETE/MASONRY

TRUSS UPLIFT (LBS) @ 24" OC	CONNECTOR	
TO 840	1-MTSM16 or 20	7-10dx1 1/2", 4-1/4"x2 1/4" TITEN
TO 1045	1-HTSM16 or 20	8-10dx1 1/2", 4-1/4"x2 1/4" TITEN
TO 2090	2-HTSM16 or 20	8-10dx1 1/2", 4-1/4"x2 1/4" TITEN
TO 4300	2-LGT2	16-16d, 7-1/4"x2 1/4" TITEN
TO 3480	HTT16	18-16d, 9/8" ALLTHREAD, DRILL & EPOXY 10" EMBED w/ SIMPSON SET.
TO 10530	HGT-2/3	TWO 3/4" ALLTHREAD, DRILL & EPOXY 12" EMBED WITH SIMPSON SET.

NOTES:  
1) WHERE EMBEDDED STRAP IS MISSING OR MIS-LOCATED, PROVIDE A STRAP FROM THE ABOVE LIST AT EACH ROOF TRUSS BEARING POINT, BASED ON THE TRUSS UPLIFT VALUES IN THE SIGNED AND SEALED TRUSS DESIGN PACKAGE.  
2) CONNECTORS ARE SIMPSON STRONG TIE. ALL CONNECTORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SIMPSON PRINTED INSTRUCTIONS.

RETROFIT UPLIFT CONNECTOR SCHEDULE

FBC R703.7 EXTERIOR PLASTER

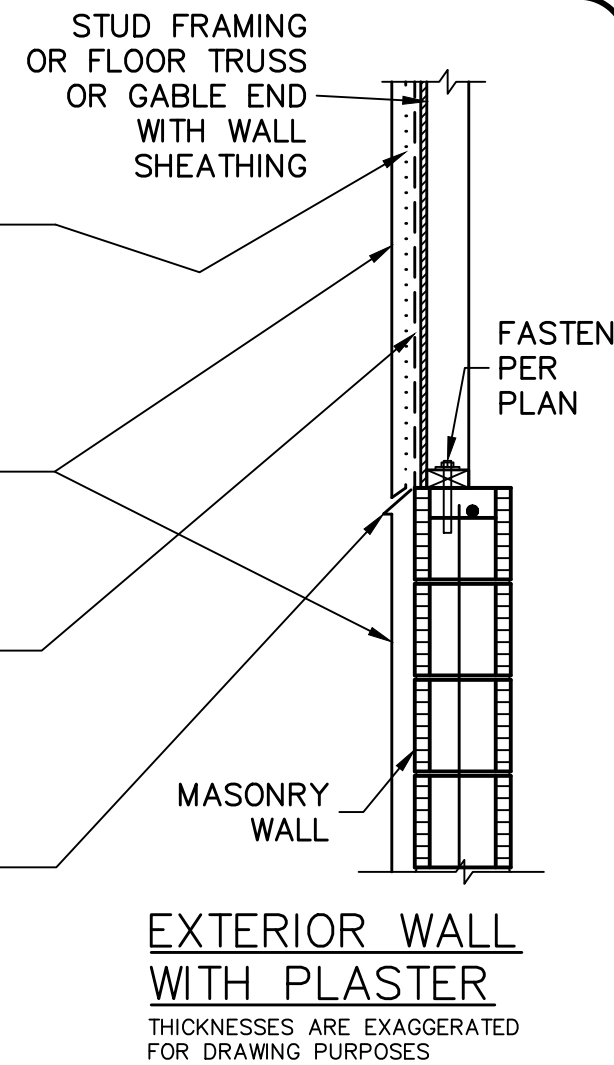
ASTM C926 AND ASTM C1063  
THE CODE SECTIONS REFERENCED BELOW ARE FOR SUMMARY PURPOSES. SEE THE FLORIDA BUILDING CODE AND THE ASTM STANDARDS FOR FULL DESCRIPTIONS AND REQUIREMENTS.

**R703.7.1 Lath:** Where required by the wall framing type, install metal lath per ASTM C1063 or non-metallic lath per ASTM C1787. Use self-furring lath as required by the ASTM spec. Use paper-backed lath as required per Water Resistive Barrier specs.

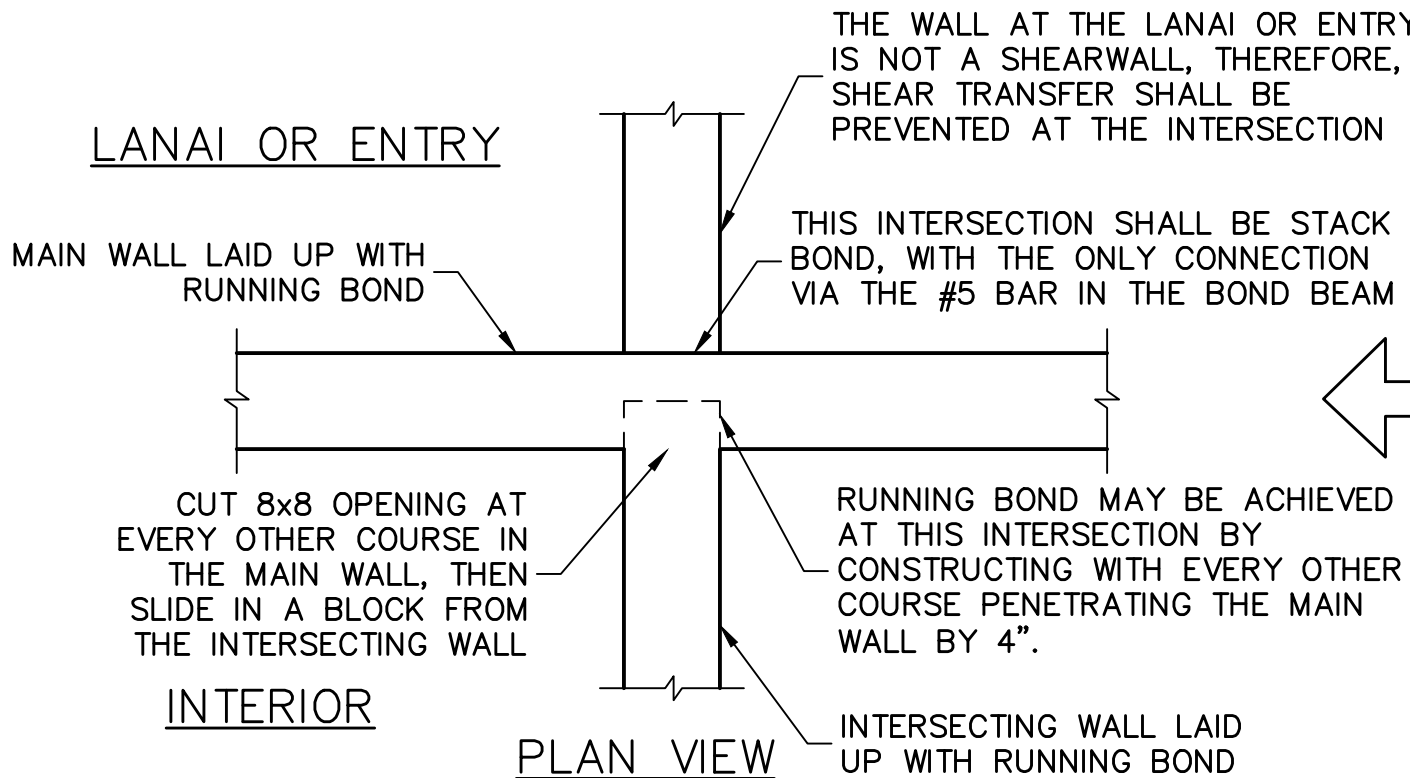
**R703.7.2 Plaster:** Install portland cement based plaster and number of coats per ASTM C926 and thickness per Table R702.1(1).

**R703.7.3 Water Resistive Barriers:** Install water resistive barriers per R703.2 and water resistive vapor-permeable barrier over stud walls. (Note: ZIP wall sheathing with seam tape qualifies as the first layer)

**R703.7.2.1 Weep Screen:** Weep screen shall be installed at the bottom edge of all exterior wood framing (including wall studs, gable end trusses and floor trusses) receiving lath and plaster.



REVISIONS	BY



(SEE SHEETS A-2 AND A4.1 FOR LOCATIONS)

4-WAY INTERSECTION AT MASONRY WALL

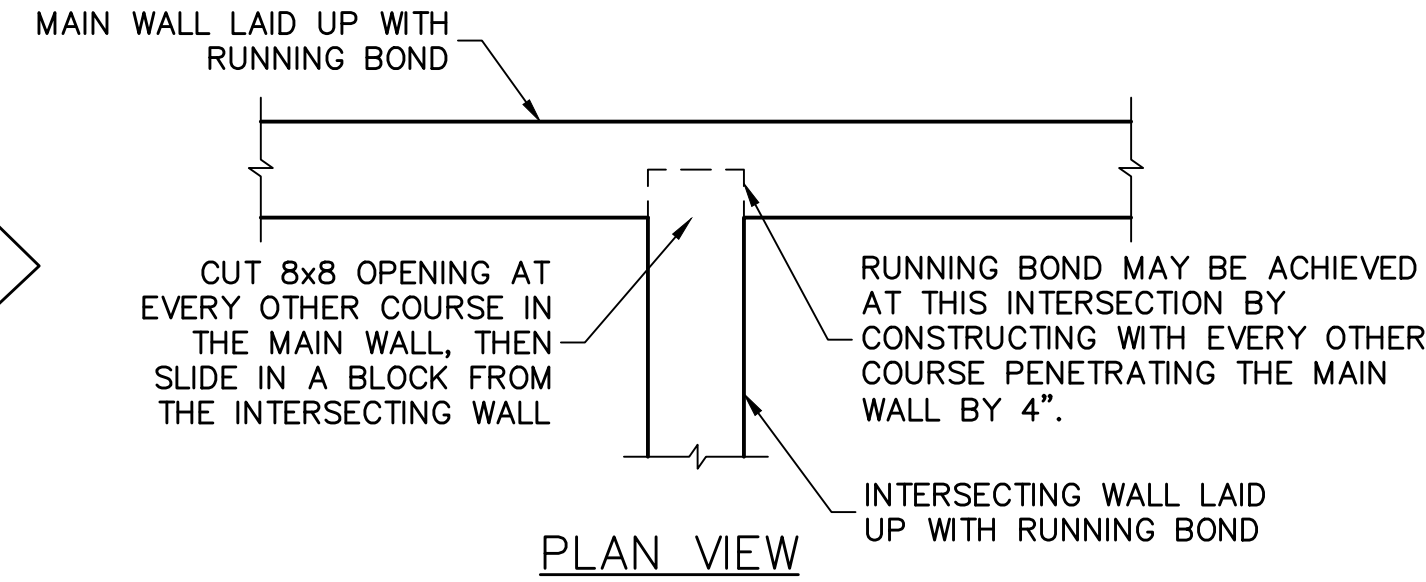
SCALE: 3/4" = 1'-0"

MASONRY WALLS - RUNNING BOND AND INTERSECTIONS

TMS 402 / ACI 530 defines Running Bond as, "the placement of masonry units such that head joints in successive courses are horizontally offset at least one-quarter the unit length."

An excerpt from the National Concrete Masonry Association TEK 05-09A has further clarification that 1/4 unit offset is sufficient unit interlock at intersections:

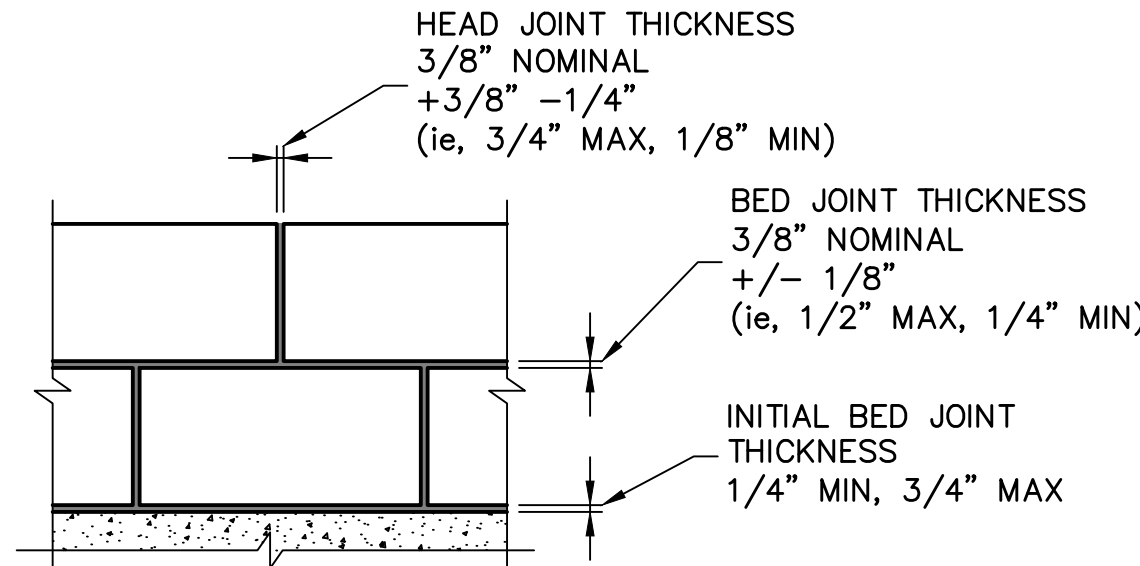
TEK 05-09A CODE PROVISIONS FOR INTERSECTING WALLS  
Building Code Requirements for Masonry Structures stipulates three options to transfer stresses from one wall to another at wall intersections, each requiring the masonry to be laid in running bond. These three options are via: running bond; steel connectors; and bond beams. Corner construction lends itself to provide shear transfer by relying on running bond. Running bond (defined as the placement of masonry units such that head joints in successive courses are horizontally offset at least one-quarter the unit length) ensures there is sufficient unit interlock at the corner to transfer shear. When any of these conditions are not met, the transfer of shear forces between walls is required to be prevented.



(SEE SHEETS A-2 AND A4.1 FOR LOCATIONS)

3-WAY 'T' INTERSECTION AT MASONRY

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



**HEAD JOINTS AND BED JOINTS IN MASONRY WALLS**  
Referring to NCMA TEK 03-08A, the specified mortar joint size and tolerance is shown in the detail above. As stated in the TEK, this is to ensure full wall strength of f'm = 1500 psi. But there is no guidance for how to apply a degradation factor when the tolerances are exceeded. If the tolerances are exceeded, the cells shall be grouted solid, thus the role of the mortar joint becomes insignificant.

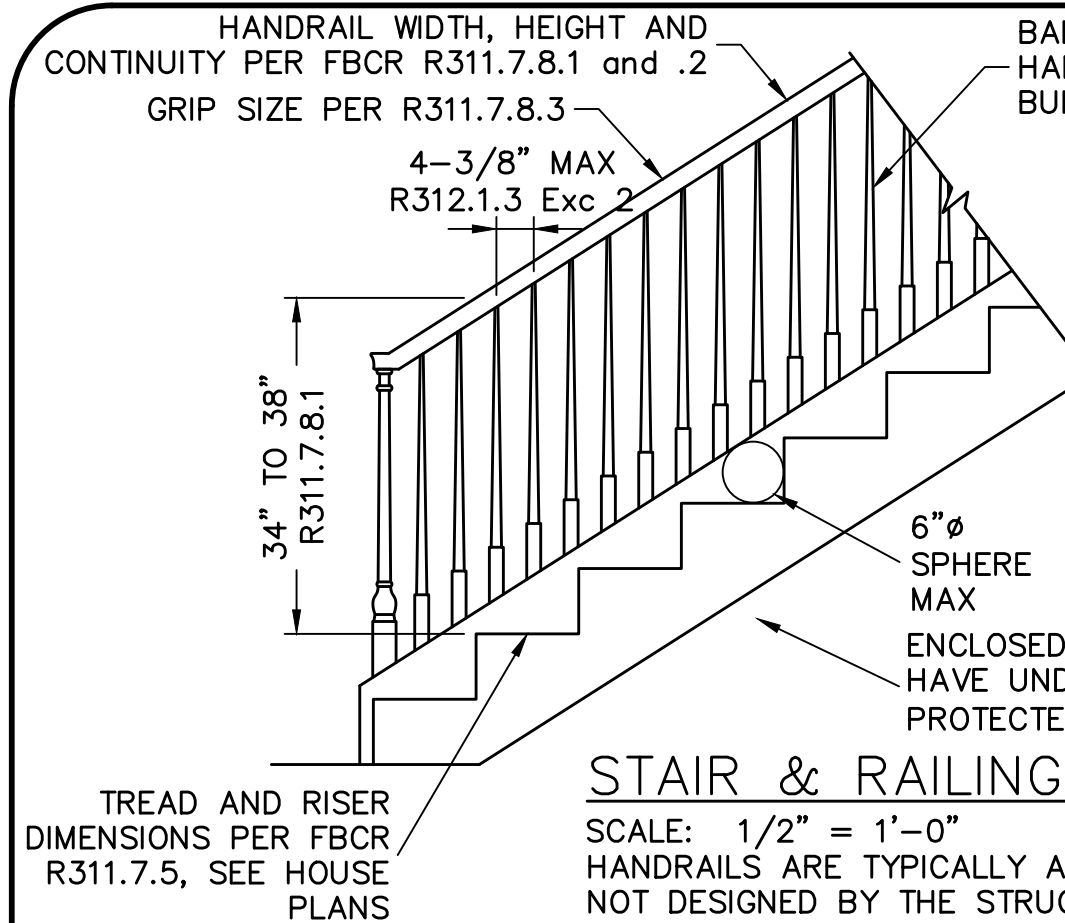
MASONRY WALL HEAD & BED JOINTS

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

GUARDRAILS PER FBCR 2020

GUARDRAILS ARE TYPICALLY A MANUFACTURED PRODUCT AND ARE NOT DESIGNED BY THE STRUCTURAL ENGINEER OF RECORD. THE GUARDRAIL MFR. SHALL BE RESPONSIBLE TO PROVIDE A DESIGN, INCLUDING FASTENINGS TO THE STRUCTURE, TO SATISFY CODE REQUIREMENTS.

**R312.1.1 Guards required** - Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side. Insect screening shall not be considered as a guard.  
**R312.1.2 Height** - Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.  
**Exceptions:**  
1. Guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.  
2. Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.  
**R312.1.3 Opening limitations** - Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches in diameter.  
**Exceptions:**  
1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches in diameter.  
2. Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4-3/8 inches in diameter.  
**FBC 1607.8.1.1** - Guardrail assemblies shall be able to resist a single concentrated load of 200 pounds applied in any direction at any point along the top.  
**FBC 1607.8.1.2** - Intermediate rails, balusters and panel fillers shall be designed to withstand a horizontal applied normal load of 50 pounds on an area equal to 1 square foot including openings and space between rails.



**STAIR & RAILING DETAIL PER FBCR 2020**  
SCALE: 1/2" = 1'-0"  
HANDRAILS ARE TYPICALLY A MANUFACTURED PRODUCT AND ARE NOT DESIGNED BY THE STRUCTURAL ENGINEER OF RECORD. THE HANDRAIL MFR. SHALL BE RESPONSIBLE TO PROVIDE A HANDRAIL DESIGN, INCLUDING FASTENINGS TO THE STRUCTURE, TO SATISFY CODE REQUIREMENTS.

This is a multi-page document.  
I performed structural analysis and design on these pages which contain my seal.  
Derek Bergener, and company name Structural Systems.

FOR SOLUNA 6 UNIT WITH SCOSTA TRUSSES - FLOOR JOB # DR50LU6F DATED: 01/20/22, REVISED: NONE, ROOF JOB # DR50LU6, DATED: 1/20/22, REVISED: NONE

DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE 7th EDITION (2020) RESIDENTIAL

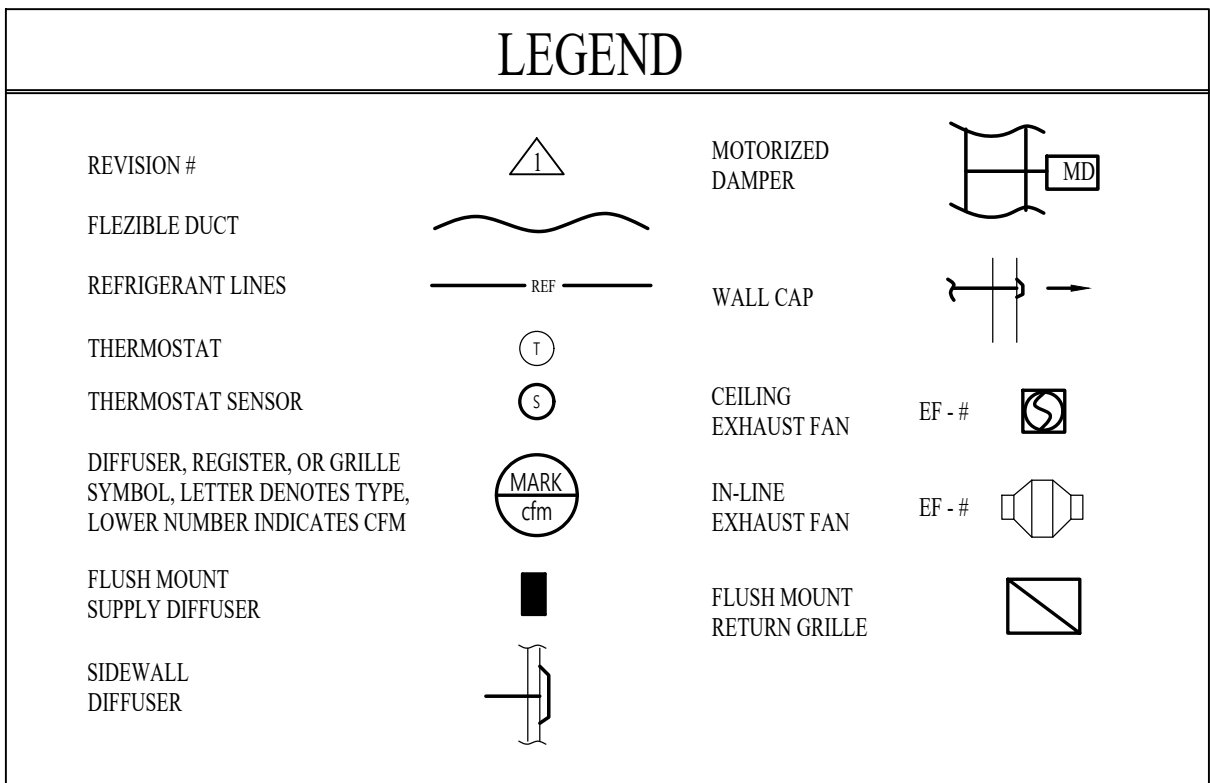
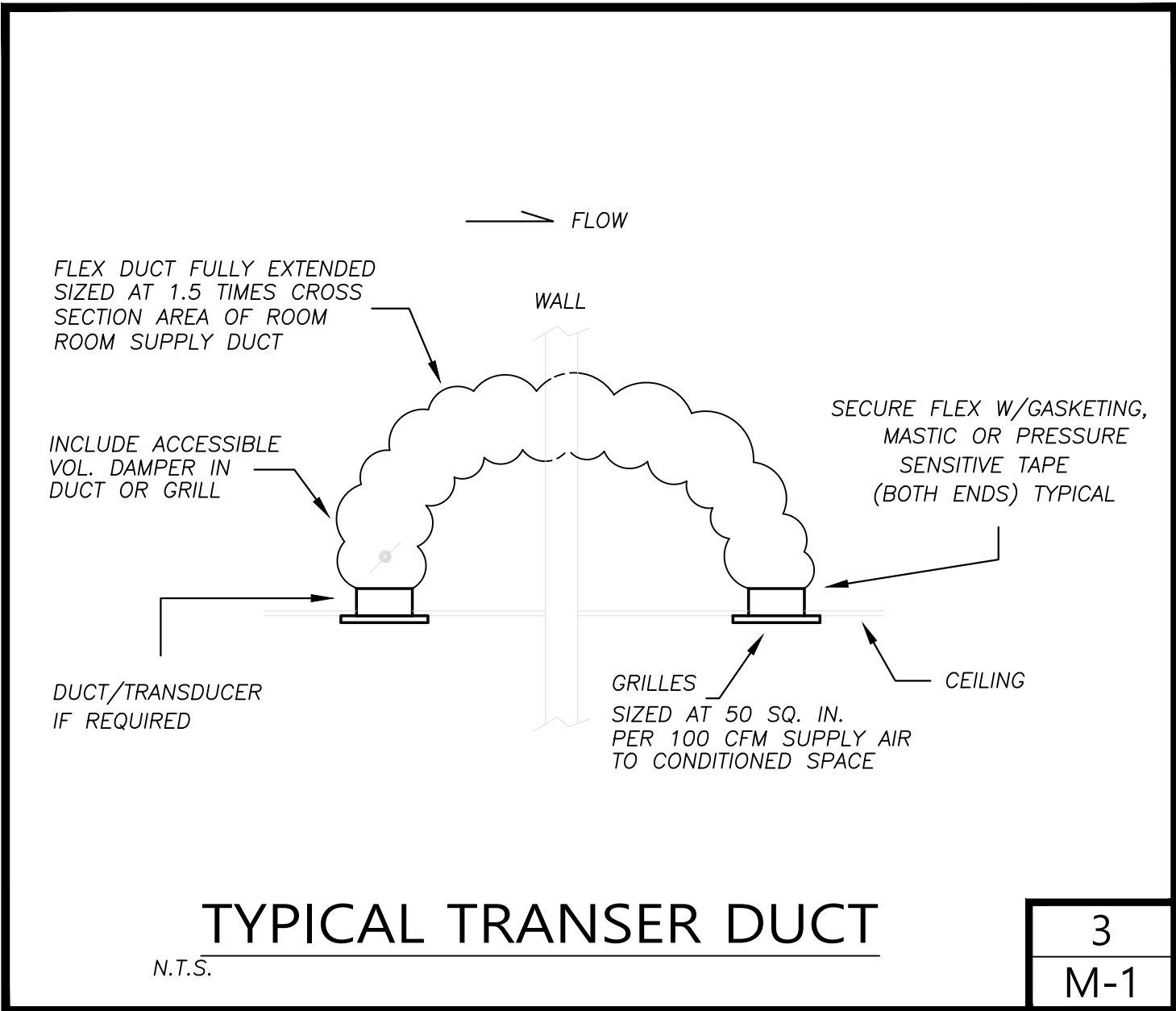
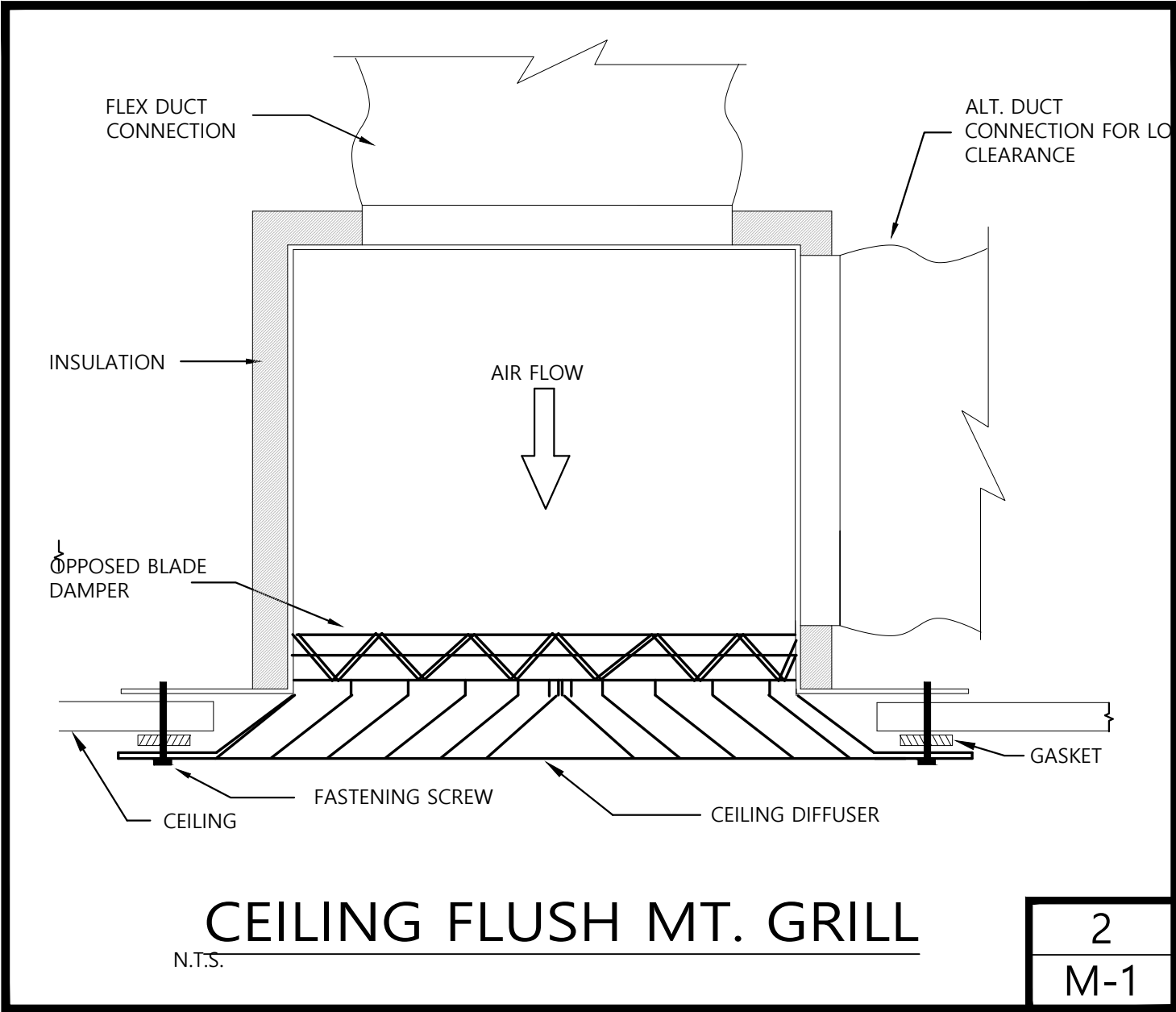
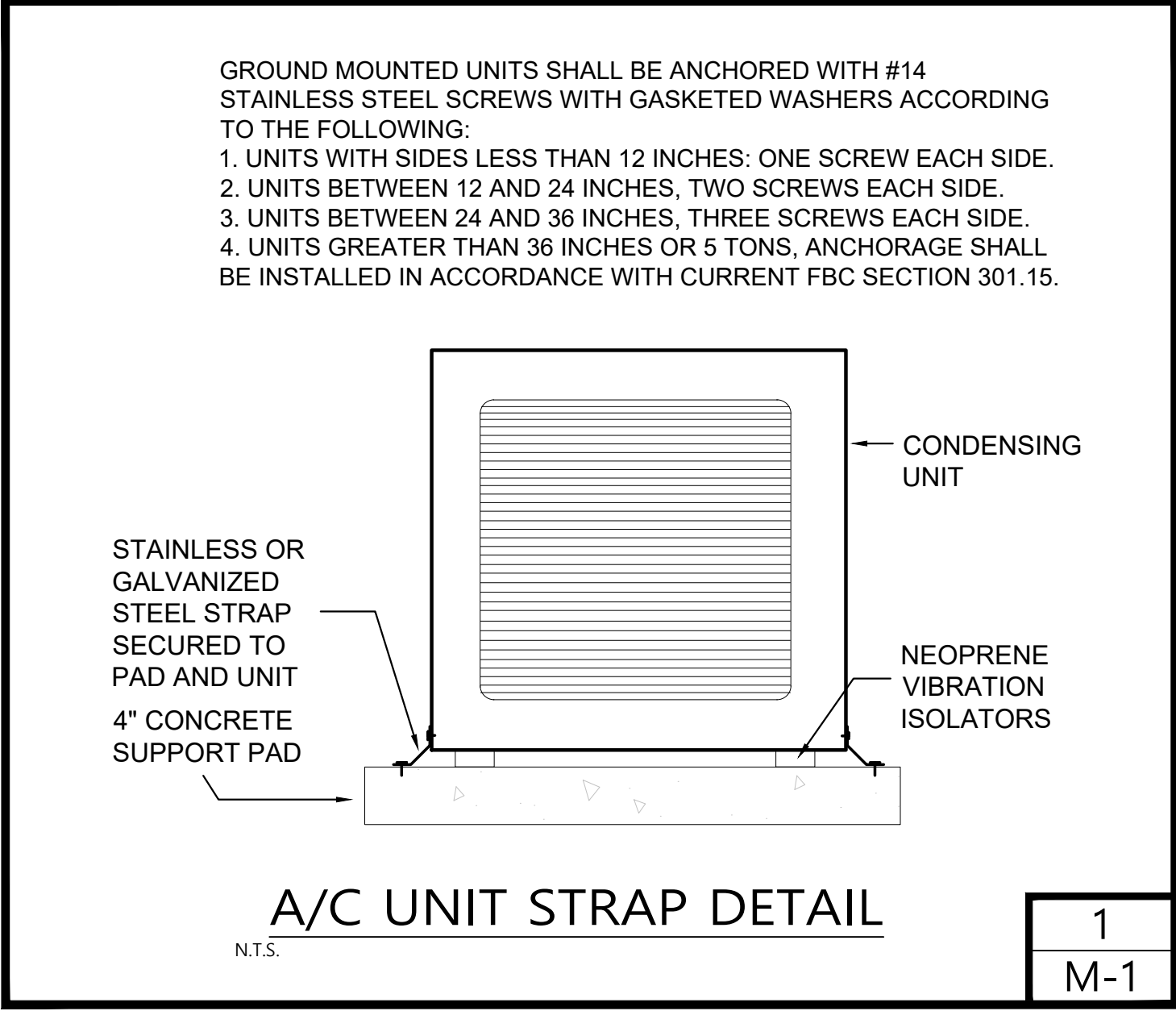


**STRUCTURAL DETAILS**  
**SOLUNA TOWNHOMES**  
**6 UNIT BUILDING**  
**BLDG: 7, LOTS: 33-38**  
3690, 3686, 3682, 3678, 3674, 3670 SOLUNA LOOP  
NAPLES, FLORIDA 34119

DESIGN/DRAWN	DWB/DWB
CHECKED	DWB
DATE	03/10/22
SCALE	VARIES
JOB	DR 14150
SHEET	

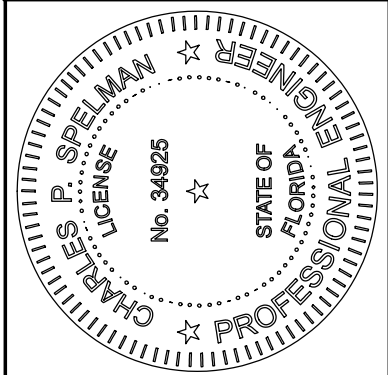
S-3





ABBREVIATIONS	
INSUL	INSULATION
KW	KILOWATT
MFG.	MANUFACTURER
TMBH	TOTAL BTUH X 1000
MECH	MECHANICAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OA	OUTSIDE AIR
RA	RETURN AIR
REFG.	REFRIGERANT
REQD	REQUIRED
SA	SUPPLY AIR
SBCCI	SOUTHERN BUILDING CODE CONGRESS INTERNATIONAL
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
TSTAT	THERMOSTAT
UL	UNDERWRITERS LABRATORIES
VOL	VOLUME
W/	WITH
W/O	WITHOUT
Ø	ROUND
A/C	AIR CONDITIONING
AF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ASHRAE	AMERICAN SOCIETY OF HEATING, FEFRIGERATING, AND AIR CONDITIONING ENGINEERS
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CU	CONDENSING UNIT
DPR	DAMPER
DWG	DRAWING
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
FD	FIRE DAMPER
HVAC	HEATING VENTILATING AND AIR CONDITIONING

- HVAC NOTES:**
- THESE MECHANICAL DRAWINGS CONFORM TO ALL REQUIREMENTS OUTLINED IN THE 7TH EDITION 2020 FLORIDA BUILDING CODE.
- A. THE HVAC CONTRACTOR SHALL INCLUDE THE FURNISHING OF ALL LABOR AND MATERIALS TO COMPLETE THE AIR CONDITIONING, HEATING, AND VENTILATING WORK AS SHOWN ON THE DRAWINGS TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:**
1. ALL PERMIT FEES
  2. ALL AIR CONDITIONING EQUIPMENT
  3. EXHAUST FANS AND SYSTEMS
  4. MOTORS AND STARTERS FOR EQUIPMENT FURNISHED UNDER THIS WORK
  5. SUPPLY AND RETURN DUCTWORK
  6. OUTSIDE AIR AND EXHAUST AIR DUCTWORK
  7. SUPPLY AND RETURN AIR GRILLES, REGISTERS, WEATHERPROOF LOUVERS AND DAMPERS.
  8. FILTERS AND STARTERS, ETC.
  9. CONDENSATE DRAIN PIPING.
  10. CONTROLS INCLUDING THERMOSTATS AND LOW VOLTAGE WIRING.
  11. EQUIPMENT SUPPORTS, HANGERS, ETC.
  12. TEST AND BALANCE OF ALL SYSTEMS.
- B. CONDENSATE PIPING:**
1. ALL AIR HANDLERS SHALL HAVE PRIMARY DRAIN LINE EXTENDED TO THE EXTERIOR OF THE BUILDING TO AN APPROVED FRENCH DRAIN OR APPROVED GREEN AREA. AUXILIARY DRAIN PANS EQUIPPED WITH A FLOAT SWITCH IN LIEU OF AUXILIARY DRAIN LINE. INSULATE CONDENSATE PIPE WITH 1/2" ARMAFLEX.
  2. CONDENSATE AND EMERGENCY CONDENSATE DRAINS SHALL BE SCHEDULE 40 PVC ASTM 2665
  3. SLOPE HORIZONTAL CONDENSATE DRAINS A MINIMUM OF 1/8" PER FOOT.
- C. SUPPLY AND RETURN DUCTWORK:**
1. PROVIDE AND INSTALL ALL HEATING AND AIR CONDITIONING DISTRIBUTION DUCTWORK FABRICATED OF UL CLASS DUCT LISTING FOR UL TEST 181 AND MEETING NFPA 90A STANDARD, MADE OF RIGID DUCTBOARD WITH GLASS SCRM REINFORCED VAPOR BARRIER FACING, WITH THERMAL CONDUCTIVITY OF 0.163 (R-6.0) AND 1 1/2" MINIMUM THICKNESS. DUCT SHALL BE EQUAL TO CertainTeed "ToughGuard" FIBERGLASS RECTANGULAR DUCT SYSTEM TYPE 800-FRK.
  2. ALL SUPPLY AND RETURN FLEXIBLE DUCT SHALL BE 1 1/2" R-6.0 VINYL VAPOR BARRIER.
  3. FRESH AIR INTAKE AND EXHAUST DUCT SHALL BE GALVANIZED SHEET METAL, PROVIDE 1-1/2" DUCT WRAP INSULATION ON ALL OUTDOOR AIR DUCT AND NO INSULATION EXCEPT AS NOTED IN THE EXHAUST FAN SCHEDULE FOR EXHAUST DUCT.
  4. ALL SUPPLY COLLARS OFF MAIN TRUNK LINES SHALL HAVE MANUAL VOLUME DAMPERS.
  5. ALL DUCT SHALL BE CONSTRUCTED AS PER THE LATEST ADDITION OF SMACNA FIBERGLASS DUCT MANUAL.
  6. ALL OUTSIDE AIR CONNECTIONS TO EACH SYSTEM SHALL BE PROVIDED WITH A VOLUME DAMPER.
  7. OUTSIDE AIR SHALL COMPLY WITH ASHRAE 62.
- D. EXHAUST SYSTEMS:**
1. EXHAUST OUTLETS FOR DUCTS CONVEYING NOXIOUS GASES, FLAMMABLE VAPORS, CORROSIVE VAPORS, AND DUCTS SERVING COMMERCIAL FOOD COOKING AND PROCESSING EQUIPMENT, SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE LOCATED 10' FROM ANY ADJACENT BUILDING, PARKING AREA, ADJACENT PROPERTY LINE, WINDOW, DOOR OR AIR INTAKE OPENING AND SHALL BE LOCATED AT LEAST 10' ABOVE THE ADJOINING GRADE.
- E. REFRIGERANT LINES:**
1. SIZE ALL REFRIGERANT LINES TO MEET THE MANUFACTURERS' RECOMMENDATIONS.
  2. INSULATE ALL SUCTION LINES WITH 1/2" ARMAFLEX INSULATION, INSTALLED TO MEET THE MANUFACTURERS' INSTRUCTIONS.
  3. ANY REFRIGERANT LINES RUNNING UNDERGROUND SHALL BE WITHIN A PVC PIPE CHASE.
- F. CEILING AND WALL DIFFUSERS:**
1. ALL CEILING AND WALL SUPPLY AND RETURN AIR DIFFUSERS SHALL BE OF ALUMINUM CONSTRUCTION, EXCEPT WHEN PENETRATING A RATED WALL OR CEILING ASSEMBLY WHEN STEEL DIFUSERS RATED FOR THE PARTICULAR APPLICATION ARE REQUIRED.
  2. ALL AIR DISTRIBUTION SHALL BE EQUAL TO THAT INDICATED ON THE DRAWINGS..
- G. THERMOSTATS:**
1. EACH AIR CONDITIONING SYSTEM SHALL HAVE A 24 VOLT THERMOSTAT MOUNTED AT 5'-0" ABOVE FINISHED FLOOR. THERMOSTATS SHALL BE ONE STAGE COOL, ONE STAGE HEAT, WITH "AUTO-ON" FAN SWITCH AND "HEAT-OFF COOL" SYSTEM SWITCH. PROVIDE TWO STAGE COOL AND TWO STAGE HEAT THERMOSTATS FOR TWO STAGE UNITS, WHERE REQUIRED. PROVIDE LISTED THERMOSTATS THAT ARE SHOWN ON THE EQUIPMENT SCHEDULE.
  2. HVAC CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROL WIRING AND CONDUIT AS REQUIRED.
- H. TESTING AND BALANCING:**
1. HVAC SUBCONTRACTOR SHALL PROVIDE AN INDEPENDENT (NOT EMPLOYED BY THE SUBCONTRACTOR) TEST AND BALANCE FIRM WHICH SPECIALIZES IN THE BALANCING AND TESTING OF HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS. THEY SHALL BALANCE AND ADJUST AIR MOVING EQUIPMENT AND AIR DISTRIBUTION AND EXHAUST SYSTEMS TO THE FLOW RATES INDICATED ON THE HVAC SCHEDULES AND PLANS. REPORTS SHALL BE ON STANDARD SMACNA OR ASSOCIATED AIR BALANCE COUNCIL FORMS AND SUBMITTED TO THE ARCHITECT/ENGINEER PRIOR TO APPLICATION FOR FINAL PAYMENT.
  2. TESTING AND BALANCE PERSONNEL SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AND SHALL BE NEEB CERTIFIED AND SHALL PROVIDE PROOF OF HAVING SUCCESSFULLY COMPLETE AT LEAST FIVE (5) PROJECT OF SIMILAR SIZE AND SCOPE.
  3. AIR BALANCE TESTING SHALL NOT BEGIN UNTIL SYSTEMS HAVE BEEN COMPLETED AND ARE IN FULL WORKING ORDER. THE HVAC CONTRACTOR SHALL MAKE ALL PRELIMINARY TESTS AND ADJUSTMENTS, SHALL PLACE ALL SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND CONTINUE THE OPERATION DURING EACH WORKING DAY OF THE TESTING AND BALANCING. IF IT IS DETERMINED THAT ADDITIONAL BALANCING DAMPERS ARE REQUIRED IT WILL BE THE RESPONSABILITY OF THE INSTALLING CONTRACTOR TO PROVIDE AND INSTALL THE NEEDED DAMPERS TO PROVIDE THE DESIGN BALANCE CONDITIONS.
  4. INCLUDE AN EXTENDED WARRANTY OF TWELVE (12) MONTHS AFTER COMPLETION OF THE TEST AND BALANCE WORK, DURING WHICH TIME, REQUESTS MAY BE MADE TO RECHECK, OR FOR RESETTNG OF ANY OUTLETS, SUPPLY FAN, OR EXHAUST AS LISTED IN THE TEST REPORT. PROVIDE ANY TECHNICIANS TO ASSIST IN MAKING ANY TEST REQUIRED. IF SYSTEM IS NOT WORKING PROPERLY, IT SHALL BE REBALANCED ANY TIME DURING THE FIRST YEAR OF OPERATION. AFTER THE SPACE IS OCCUPIED, ADDITIONAL BALANCING WILL BE REQUIRED TO ACCOMMODATE THE ACTUAL OCCUPANCY REQUIREMENTS. ALSO, PROVIDE FOR BALANCING DURING WINTER OR SUMMER OPERATION. ALL OF THE ABOVE SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. REPLACEMENT OF ADJUSTABLE PULLEYS, ADDITIONAL BALANCING DAMPERS, PRESSURE PORTS, AND FITTINGS, ETC., REQUIRED TO EFFECT PROPER AIR BALANCE SHALL BE FURNISHED AND INSTALLED BY THE HVAC SUBCONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
  5. THE FINAL TEST AND BALANCE REPORT FURNISHED TO THE GENERAL CONTRACTOR SHALL INCLUDE A LIST OF ITEMS THAT REQUIRE REPAIR OR ADJUSTMENT.
  6. ALL AIR FILTERS AND STRAINERS SHALL BE CLEANED OR REPLACED BY THE HVAC SUBCONTRACTOR BEFORE PROCEEDING WITH THE TEST AND BALANCE.
  7. ALL PROGRAMMABLE THERMOSTATS SHALL BE SET SO THAT THE BLOWER OPERATES CONTINUOUSLY DURING ALL OCCUPIED TIMES TO INSURE THE PROPER AMOUNT OF VENTILATION AIR IS PROVIDED. THE BLOWER SHALL BE SET IN THE AUTO POSITION FOR ALL UNOCCUPIED PERIODS.
- NOTICE TO CONTRACTOR:** REVISIONS TO THESE DRAWINGS AND CERTIFICATION THERETO WHICH MAY BE REQUIRED BECAUSE OF CONTRACTOR OPTED REVISIONS, SHALL BE COMPENSATED TO THE ENGINEER BY THE REQUESTING CONTRACTOR. PAYMENT SHALL BE REQUIRED AT THE TIME OF CERTIFICATION DELIVERY.



**Spelman Engineering, Inc.**  
1526 CORP. CORDOBA COURT, SUITE 200, FORT MYERS FL 33919  
PHONE (239) 770-2630  
FLOIDA CA #68655  
CHARLES P. SPELMAN P.E. FLORIDA LICENSE NO. 34625  
PUBLICATION OF THESE PLANS AND SPECIFICATIONS IS AUTHORIZED BY THE ENGINEER. NO PUBLICATION IN WHOLE OR IN PART IS PROHIBITED WITHOUT WRITTEN PERMISSION OF THE ENGINEER. TITLE TO THE DESIGN REMAINS WITH THE ENGINEER.

**BUILDING 7\_LOTS: 33-38**  
**ADDRESSSES: 3690/3686/3682/3678/3674/3670**  
**SOLUNA LOOP, NAPLES, FLORIDA 34120**  
**SUBDIVISION: SOLUNA**  
**FCD JOB # 14150**

**SOLUNA**  
**6 UNIT TOWNHOUSE**  
**A-B-B-B-B-A**

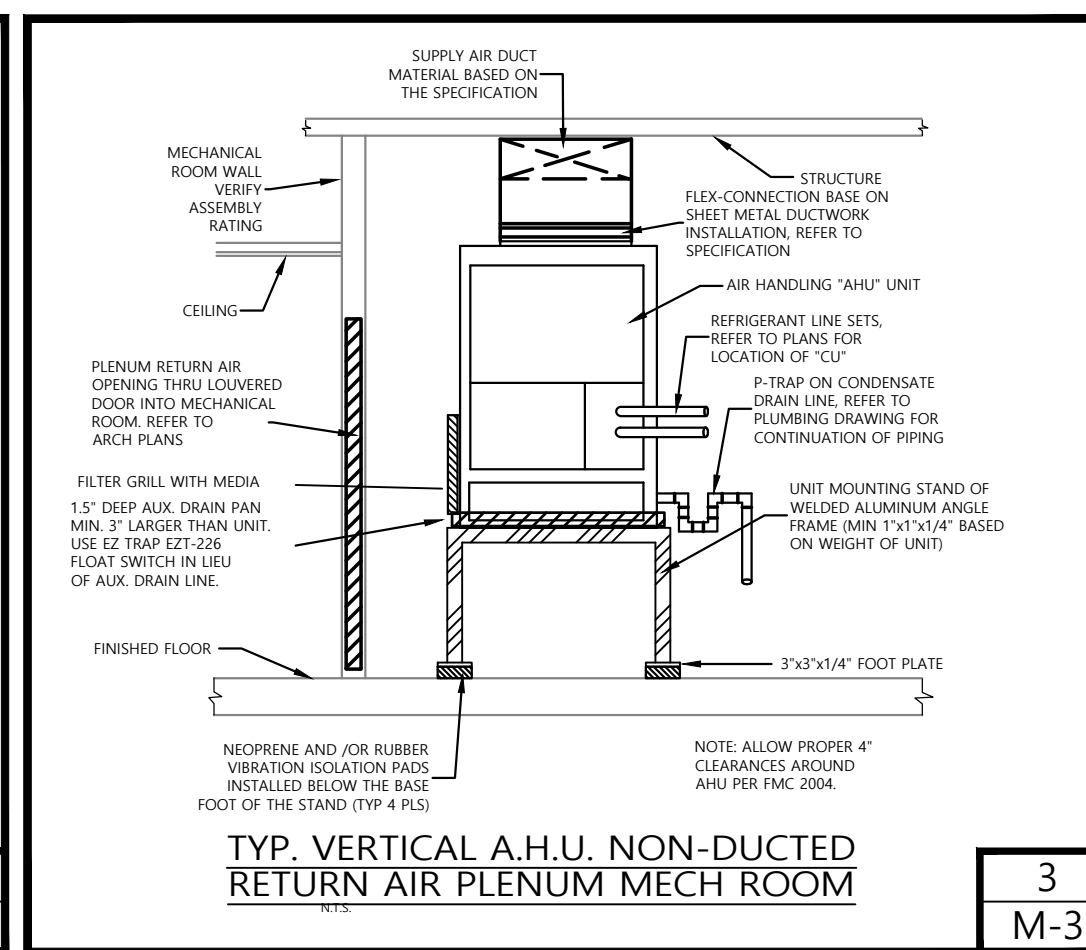
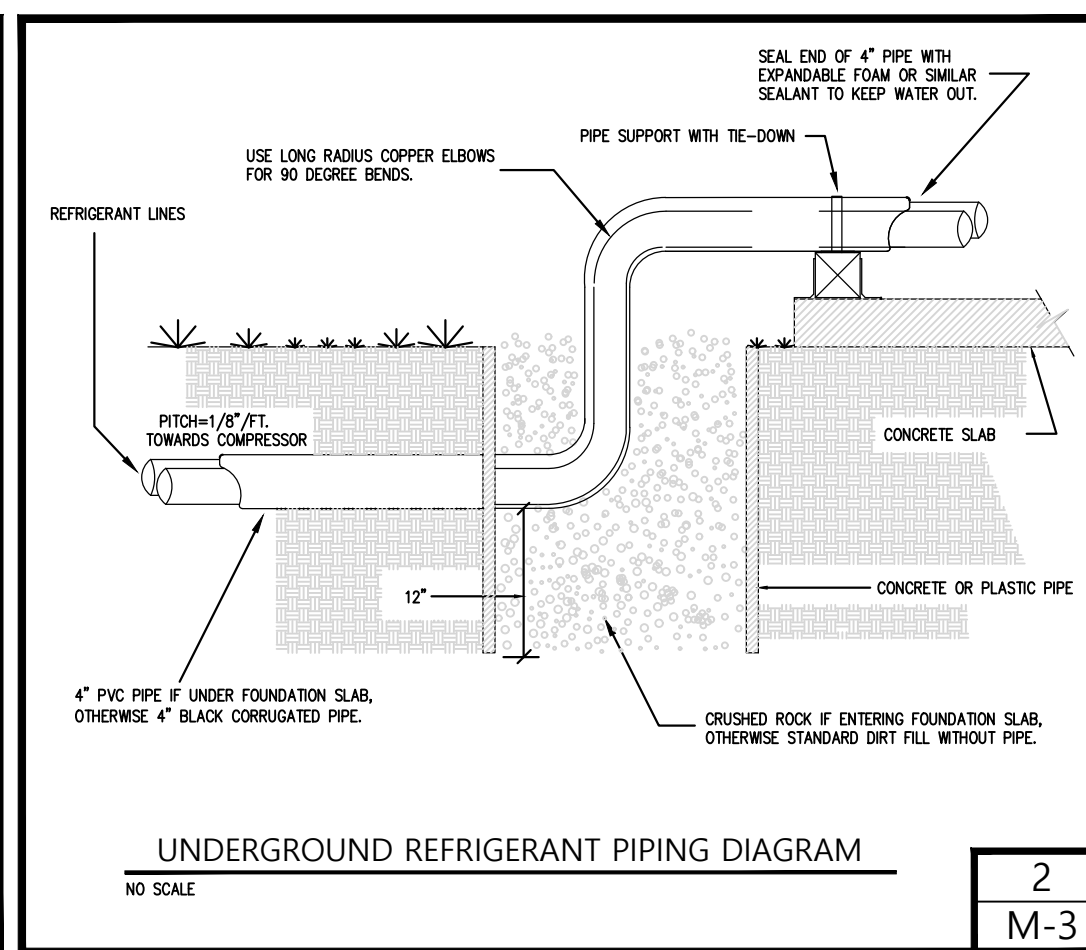
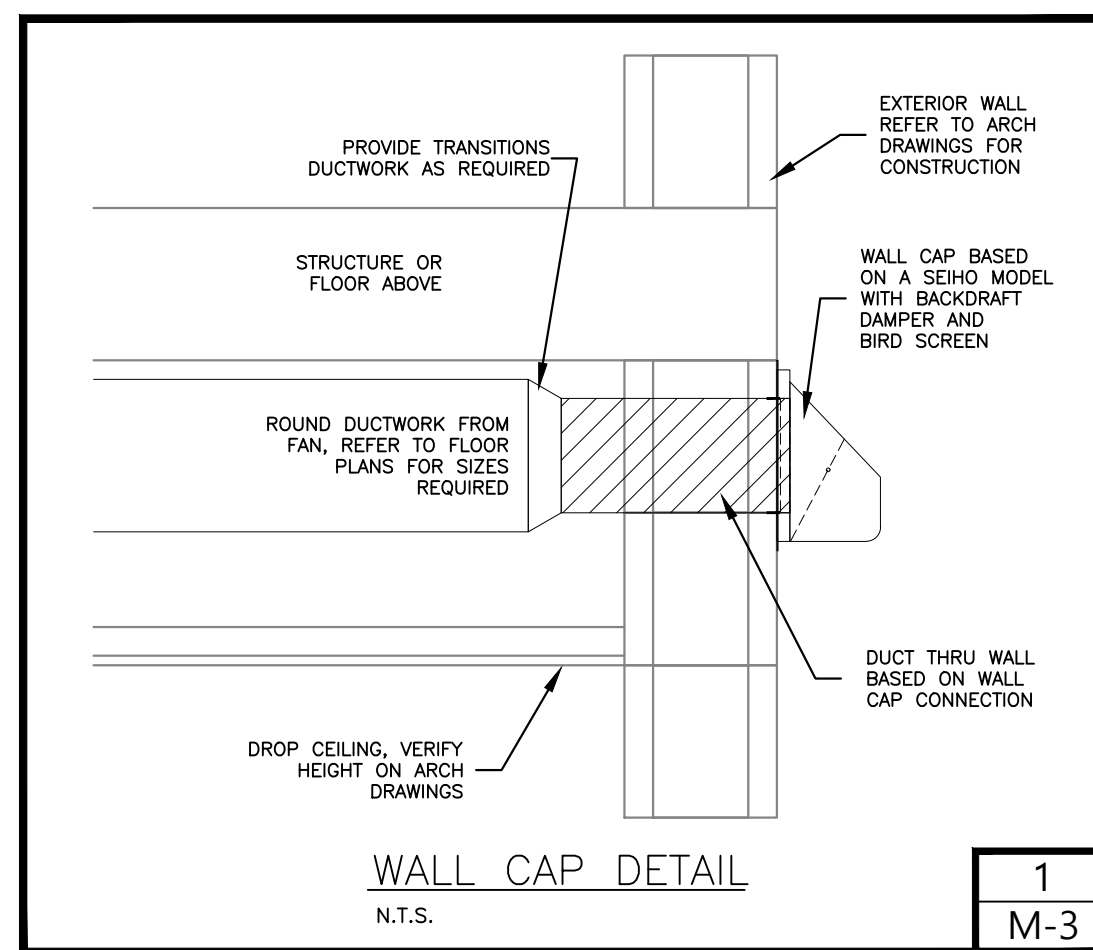
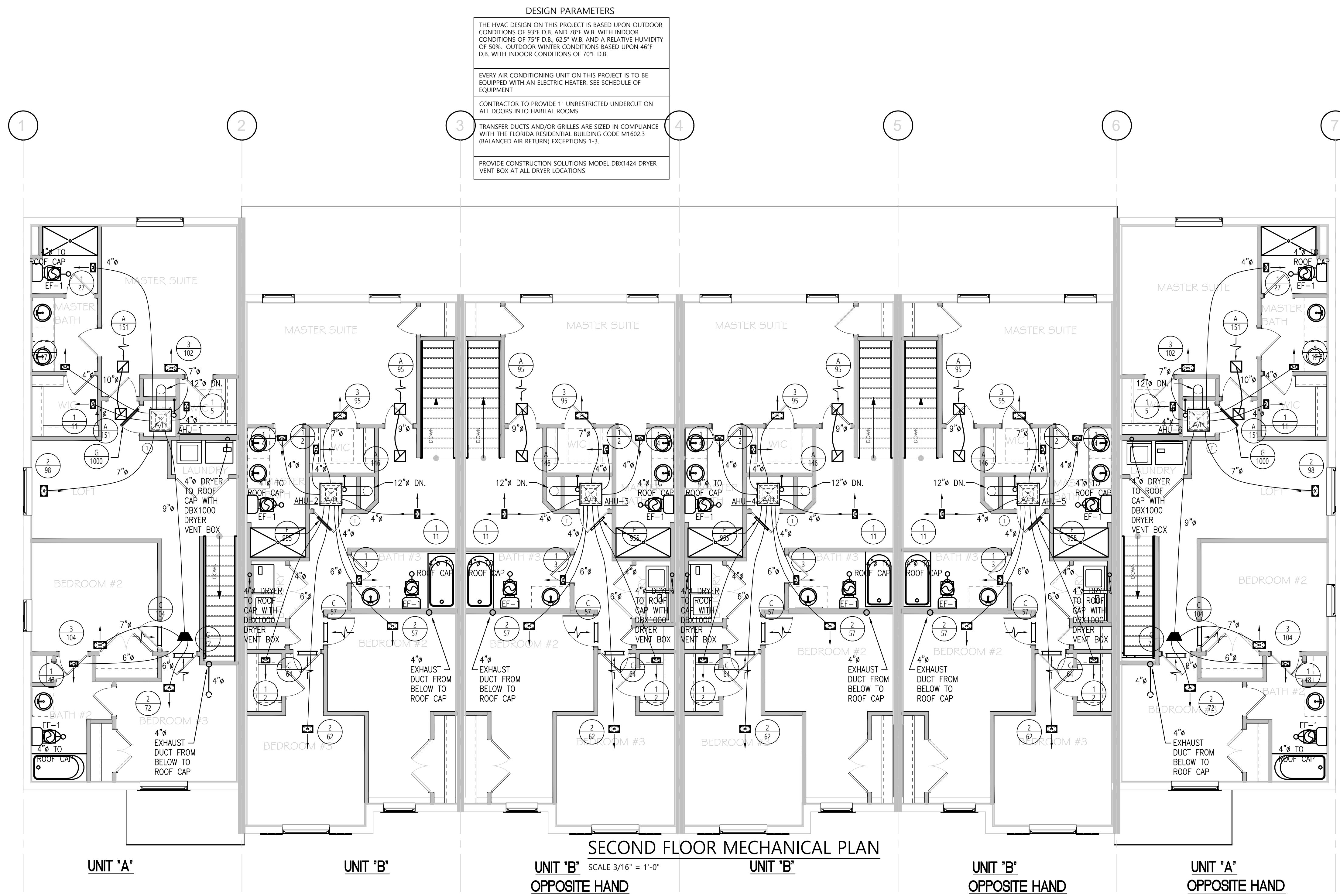
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DRAWN BY: MBC  
CHECKED BY: CS  
REVISED:  
PLAN: NOTES/DETAILS  
SCALE: 3/16" = 1'-0"  
SHEET#

M-1











ELECTRICAL LEGEND	
	ELECTRICAL METER
	ELECTRICAL PANEL
	120 V JUNCTION BOX
	SINGLE RECEPTACLE OUTLET
	220 V RECEPTACLE OUTLET
	4-PLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	1/2 SWITCHED DUPLEX OUTLET
	DUPLEX RECEPTACLE AT ELEV. A.F.F.
	DUPLEX RECEPTACLE - ABOVE COUNTER
	SINGLE POLE SWITCH
	3 WAY SWITCH
	DIMMER SWITCH
	MOTION SENSOR SWITCH
	AC/DC SMOKE DETECTOR TO BE INTERCONNECTED ANY RESIDENT HAVING A FOSSIL-BURNING HEATER OR APPLIANCE, A FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE ALARM INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES, PER RULE 9B-3.04.72 SD (SMOKE DETECTOR) SCD (CARBON MONOXIDE/SMOKE)
	TELEPHONE OUTLET
	TELEVISION RECEPTION OUTLET
	SURFACE MOUNTED CEILING LIGHT
	FLUSH MOUNTED LIGHT
	WALL MTD. BRACKET LIGHT
	DUPLEX FLOOD LIGHT
	EXHAUST FAN
	TRACK MTD. LIGHTS
	A/C DISCONNECT
	PUSH BUTTON (PB) / DOOR BELL (DB)
	INTERCOM
	KEYPAD
	4' FLUORESCENT LIGHT
	2' UNDER COUNTER LIGHT
NOTE: NOT ALL SYMBOLS ARE USED FOR THIS PROJECT.	
ELECTRICAL NOTES: ARC-FAULT CIRCUIT-INTERRUPTERS AND TAMPER RESISTANT RECEPTACLES SHALL BE INSTALLED IN DWELLING UNITS PER N.E.C. 210.11.2 AND 406.1.1 ALL ELECTRIC, ELECTRICAL EQUIPMENT AND APPLIANCES TO BE SET AT OR ABOVE BASE FLOOD ELEVATIONS PLUS 1'-0" FREEBOARD. ALL OUTLETS IN WET AREAS AND ALL EXTERIOR OUTLETS TO BE GFI'S. INSTALL PHONE AND T.V PER CONTRACT.	

LIGHTING SCHEDULE UNIT A

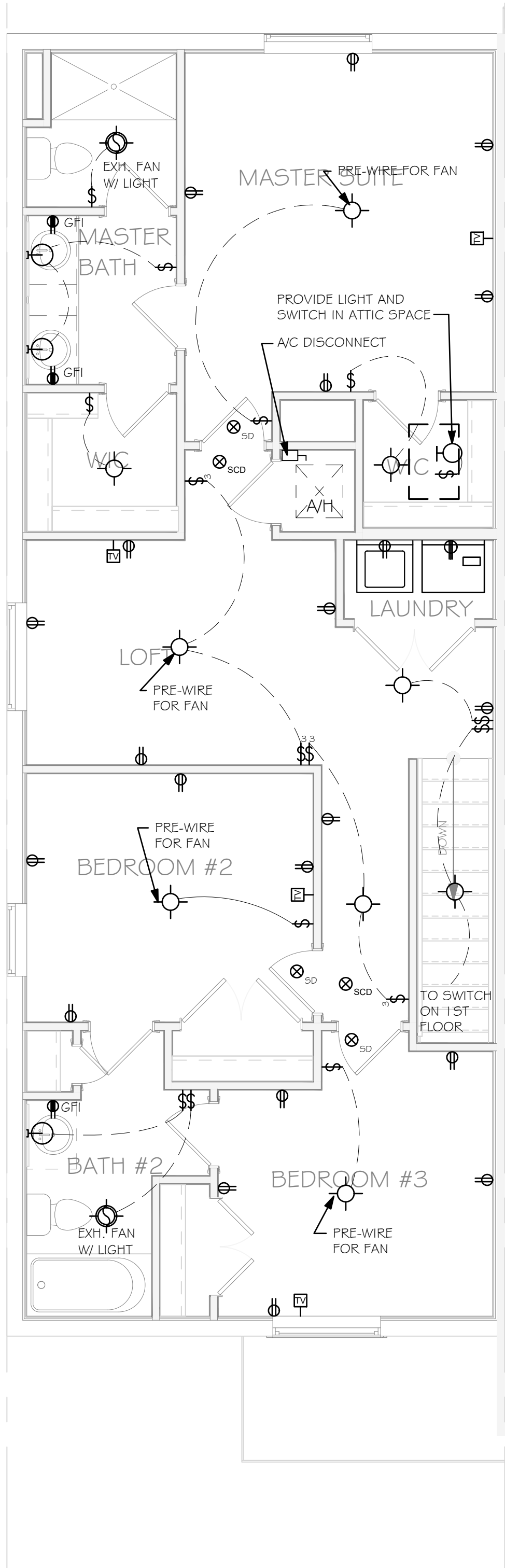
200 AMP SERVICE		
TAG	QUANTITY	PRODUCT
A	(5)	(FLUSH MOUNTED LT)
B	(X)	(VAPORS)
C	(X)	(PENDANT LIGHT
D	(172)	(10" MUSHROOMS)
E	(4)	(24" 3 LT)
F	(X)	(36" 4 LT)
G	(X)	(NOT USED)
H	(1)	(COACH LIGHTS)
I	(X)	(COACH LIGHTS)
J	(X)	(J BOX)
K	(X)	(4' FLUORESCENT)
L	(X)	(2' FLUORESCENT)
M	(X)	(5LT CHANDELIER)
N	(X)	(3 LT)
O	(X)	(PENDANT/ NOOK)
P	(X)	(X)
Q	(X)	(X)

AHU. (HT. & FAN)	30	1	2	50
(2) #6 THW.	30	3	4	50
COND. UNIT	30	5	6	30
(2) #10	30	7	8	20
WATER HEATER 4.5 K.W.	30	9	10	20
MAX (2) #10 TH.	30	11	12	20
MICROWAVE	20	13	14	20
LIGHTING	15	15	16	20
LIGHTING	15	17	18	15
LIGHTING	15	19	20	20
RECEPT. CKT.	15	21	22	20
RECEPT. CKT.	15	23	24	20

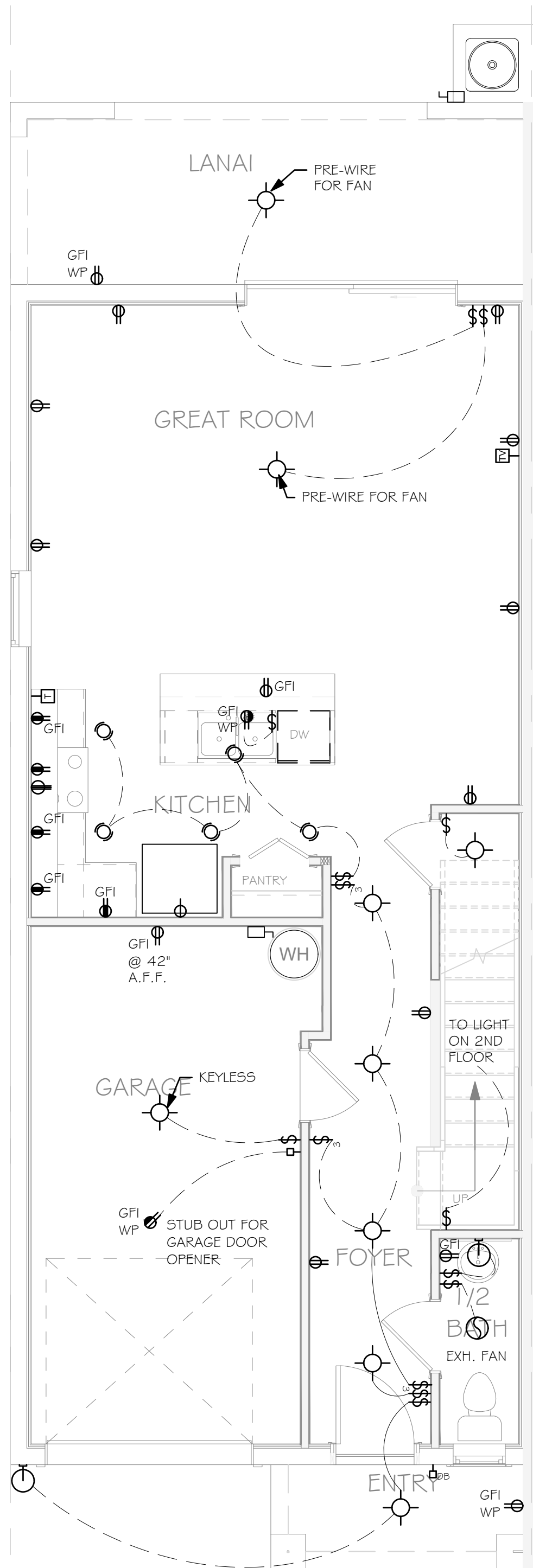
PANEL SCHEDULE "UNIT #1"

125 AMP. MCB ONLY 120/240 VOLT S/N  
24 CIRCUIT FLUSH MTD. LOAD CENTER (INDOOR)  
22,000 A.I.C. RATED

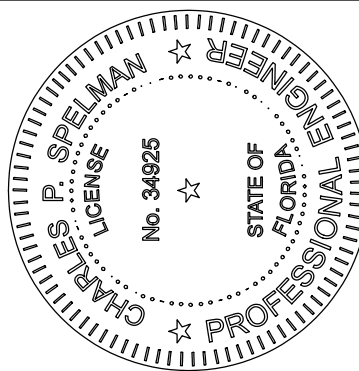
RANGE (2) #6 THW. (1) #8N.
(2) #8 + EG
CLOTHES DRYER
(3) #10 TW.
SMALL APPLIANCE CKT.
SMALL APPLIANCE CKT.
DISPOSAL
DISHWASHER
RECEPT. CKT.
REFRIGERATOR
BATHROOMS G.F.I. RECEPT.
BATHROOMS



2ND FLOOR ELECTRICAL PLAN - UNIT A  
1/4" = 1'-0"



1ST FLOOR ELECTRICAL PLAN - UNIT A  
1/4" = 1'-0"



**Spelman Engineering, Inc.**  
6296 CORPORATE COURT BG A SUITE 201 FORT MYERS FL 33919  
MAILING: PO BOX 3519 NORTH FORT MYERS FL 33918  
spelman@spelmanengineering.com  
FLORIDA CA #29555  
CHARLES P SPELMAN PE FLORIDA LICENSE NO. 34625  
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BUILDING 7\_LOTS: 33-38  
ADDRESSES:  
SUBDIVISION: SOLUNA  
FCD JOB #14150

**SOLUNA**  
**6 UNIT TOWNHOUSE**  
**A-B-B-B-B-A**

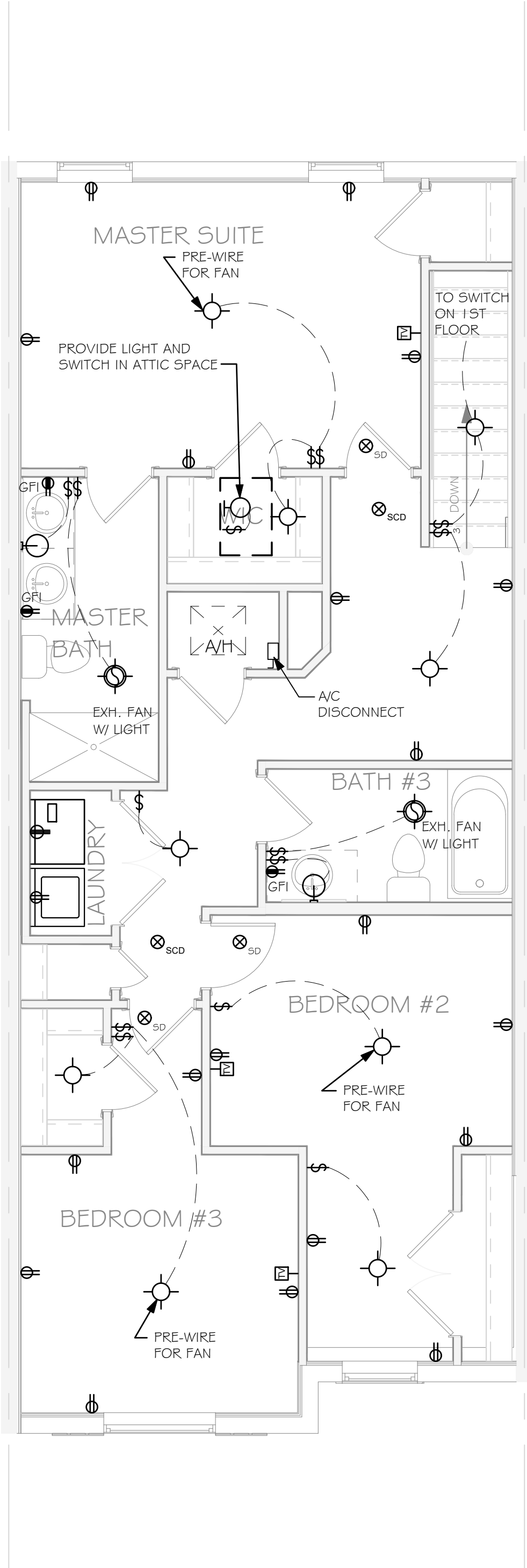
DATE:	2-11-2022
DRAWN BY:	MBC
CHECKED BY:	CS
REVISED:	
PLAN:	ELECTRICAL PLAN UNIT A
SCALE:	AS INDICATED
SHEET#	E1.1



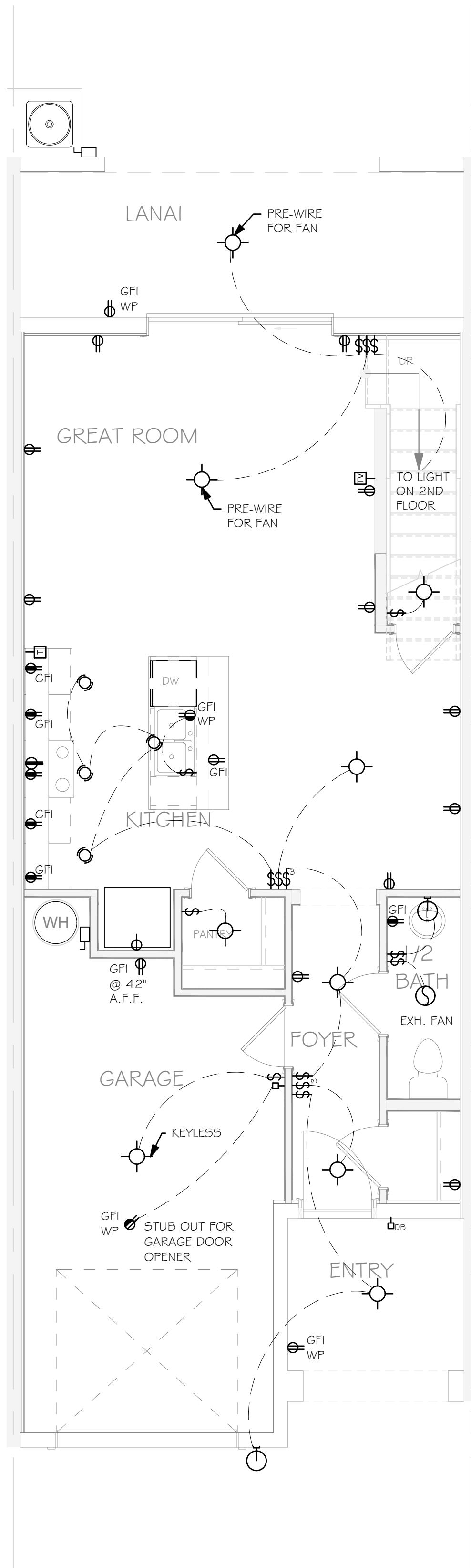
ELECTRICAL LEGEND	
	ELECTRICAL METER
	ELECTRICAL PANEL
	120 V JUNCTION BOX
	SINGLE RECEPTACLE OUTLET
	220 V RECEPTACLE OUTLET
	4-PLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	1/2 SWITCHED DUPLEX OUTLET
	DUPLEX RECEPTACLE - ABOVE COUNTER
	SINGLE POLE SWITCH
	3 WAY SWITCH
	DIMMER SWITCH
	MOTION SENSOR SWITCH
	AC/DC SMOKE DETECTOR TO BE INTERCONNECTED ANY RESIDENT HAVING A FOSSIL-BURNING HEATER OR APPLIANCE, A FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE ALARM INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES. PER RULE 9B-3.04.72-3D (SMOKE DETECTOR) SCD (CARBON MONOXIDE/SMOKE)
	TELEPHONE OUTLET
	TELEVISION RECEPTION OUTLET
	SURFACE MOUNTED CEILING LIGHT
	FLUSH MOUNTED LIGHT
	WALL MTD. BRACKET LIGHT
	DUPLEX FLOOD LIGHT
	EXHAUST FAN
	TRACK MTD. LIGHTS
	A/C DISCONNECT
	PUSH BUTTON (PB) / DOOR BELL (DB)
	INTERCOM
	KEYPAD
	4' FLUORESCENT LIGHT
	2' UNDER COUNTER LIGHT
NOTE: NOT ALL SYMBOLS ARE USED FOR THIS PROJECT.	
ELECTRICAL NOTES: ARC-FAULT CIRCUIT-INTERRUPTERS AND TAMPER RESISTANT RECEPTACLES SHALL BE INSTALLED IN DWELLING UNITS PER N.E.C. 210.12 AND 406.11 ALL ELECTRIC, ELECTRICAL EQUIPMENT AND APPLIANCES TO BE SET AT OR ABOVE BASE FLOOD ELEVATIONS PLUS 1'-0" FREEBOARD. ALL OUTLETS IN WET AREAS AND ALL EXTERIOR OUTLETS TO BE GFI'S. INSTALL PHONE AND T.V. PER CONTRACT.	

LIGHTING SCHEDULE UNIT B		
200 AMP SERVICE		
TAG	QUANTITY	PRODUCT
A	(5)	(FLUSH MOUNTED LT)
B	(X)	(VAPORS)
C	(X)	(PENDANT LIGHT
D	(17)	(10" MUSHROOMS)
E	(4)	(24" 3 LT)
F	(X)	(36" 4 LT)
G	(X)	(NOT USED)
H	(1)	(COACH LIGHTS)
I	(X)	(COACH LIGHTS)
J	(X)	(J BOX)
K	(X)	(4' FLUORESCENT)
L	(X)	(2' FLUORESCENT)
M	(X)	(5LT CHANDELIER)
N	(X)	(3 LT)
O	(X)	(PENDANT/ NOOK)
P	(X)	(X)
Q	(X)	(X)

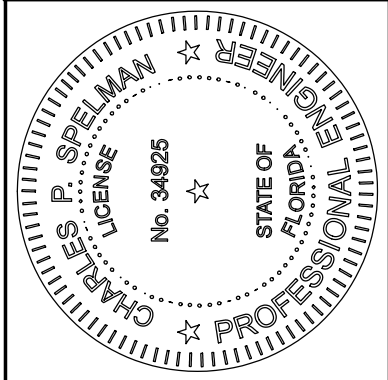
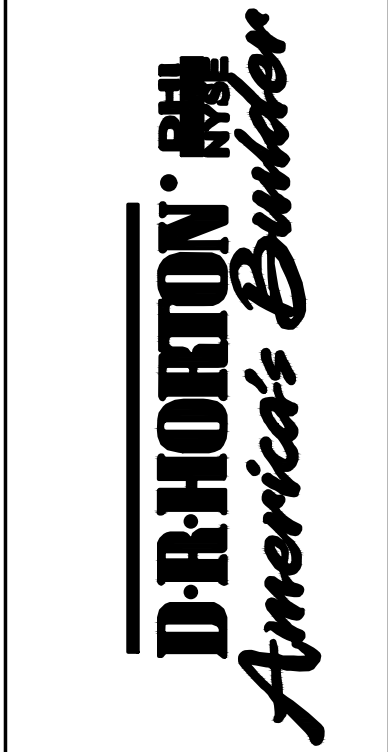
AHU. (HT. & FAN)	30	1	2	30	RANGE (2) #6 THW. (1) #8N.
(2) #6 THW.	30	3	4	30	(2) #8 + EG
COND. UNIT	30	5	6	30	CLOTHES DRYER
(2) #10	30	7	8	30	(3) #10 TW.
WATER HEATER 4.5 K.W.	30	9	10	20	SMALL APPLIANCE CKT.
MAX (2) #10 TH.	30	11	12	20	DISPOSAL
MICROWAVE	20	13	14	20	DISHWASHER
LIGHTING	15	15	16	20	RECEPT. CKT.
LIGHTING	15	17	18	15	REFRIGERATOR
RECEPT. CKT.	15	19	20	20	BATHROOMS G.F.I. RECEPT.
RECEPT. CKT.	15	21	22	20	BATHROOMS
	15	23	24	20	
PANEL SCHEDULE UNIT #2					
125 AMP. MCB ONLY 120/240 VOLT S/N					
24 CIRCUIT FLUSH MTD. LOAD CENTER (INDOOR)					
22,000 A.I.C. RATED					



2ND FLOOR ELECTRICAL PLAN - UNIT B  
1/4" = 1'-0"



1ST FLOOR ELECTRICAL PLAN - UNIT B  
1/4" = 1'-0"



**Spelman Engineering, Inc.**  
10000 W. BAYVIEW BLVD. SUITE 200 FORT MYERS FL 33919  
TEL: (813) 938-1111 FAX: (813) 938-1112  
PHONE (239) 770-2830 cspelman@spelmanengineering.com  
FLORIDA CA #26955 CHARLES P. SPELMAN P.E. FLORIDA LICENSE NO. 34925  
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BUILDING 7_LOTS: 33-38
ADDRESSES:
SUBDIVISION: SOLUNA
FCD JOB #14150

SOLUNA  
6 UNIT TOWNHOUSE  
A-B-B-B-B-A

DATE:	2-11-2022
DRAWN BY:	MBC
CHECKED BY:	CS
REVISED:	
PLAN:	ELECTRICAL PLAN UNIT B
SCALE:	AS INDICATED
SHEET#	E1.2



LOAD CALCULATIONS	:	"A" -	1,680	120/240-1 Ø-3W- 125A MCB				
LIGHTING	:	3	VA	x	1,680	SQFT	=	5,040 VA
APPLIANCES	:	1,500		x	2	EA	=	3,000
REFRIGERATOR	:	1,000		x	1		=	1,000
DISHWASHER	:	1,500		x	1		=	1,500
DISPOSAL	:	1,000		x	1		=	1,000
RANGE (TABLE220.19)	:	8,000		x	1		=	8,000
MICROWAVE	:	1,500		x	1		=	1,500
WATER HEATER	:	4,500		x	1		=	4,500
CLOTHES WASHER	:	1,500		x	1		=	1,500
CLOTHES DRYER	:	5,000		x	1		=	5,000
TOTAL	:						=	32,040 VA
DEMAND CALCULATION								
1ST 10,000	:	0,000	VA	x	1.00	VA	=	10,000
BALANCE	:	22,040		x	0.40		=	8,816
HEAT ( - X - KW )	:	0,000		x	0.65		=	6,500
FANS ( - X - KW )	:	1,000		x	1.00		=	1,000
TOTAL	:						=	26,316 VA
AMPACITY DEMAND	:		@		240-1	V	=	109.6 AMPS
AMPACITY DESIGN	:		@		240-1	V	=	125.0 AMPS

SPECIFICATIONS

DIVISION 16000 - ELECTRICAL

16000 - GENERAL:

1. ALL ELECTRICAL WORK FOR THE ENTIRE PROJECT SHALL BE PERFORMED IN A NEAT AND CRAFTSMANLIKE MANNER BY PERSONS SKILLED IN THE TRADE, AND SHALL BE DONE UNDER THE SUPERVISION OF A MASTER ELECTRICIAN LICENSED TO DO WORK IN THE AREA WHERE THE PROJECT IS TO BE CONSTRUCTED.

16100 - SCOPE:

1. THE PROJECT INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE A COMPLETE ELECTRICAL INSTALLATION INCLUDING, BUT NOT LIMITED TO, POWER SERVICES (TEMPORARY, NORMAL, AND STAND-BY OR EMERGENCY), AUTOMATIC TRANSFER SWITCHES, SERVICE ENTRANCE(S), DISCONNECTS, DISTRIBUTION PANELS, CONDUIT, WIRING, JUNCTION AND OUTLET BOXES, WIRING DEVICES AND COVER PLATES, LIGHTING FIXTURES, CONNECTION CHORDS, SPECIAL CONNECTIONS AND OUTLETS, ALL AS ILLUSTRATED ON THE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES, UTILITY COMPANIES, AND GOVERNING AUTHORITIES.

2. THE ELECTRICAL CONTRACTOR TO FURNISH A MINIMUM 100 AMP SINGLE PHASE TEMPORARY SERVICE. POWER COMPANY FEES AND MONTHLY ELECTRIC BILL TO BE PAID BY THIS CONTRACTOR.

16110 - CODES:

1. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ANSI, NFPA70, STATE OF FLORIDA LAWS, AND ALL LOCAL RULES AND REGULATIONS, INCLUDING THE NATIONAL ELECTRIC CODE 2017 AND THE 2020 FLORIDA ENERGY CODE

16120 - PERMITS:

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAYING ALL FEES ASSOCIATED THEREWITH. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INSPECTIONS, INCLUDING ALL FEES ASSOCIATED WITH REINSPECTIONS.

16130 - DRAWINGS:

1. THE DRAWINGS ARE DIAGRAMMATIC, AND DO NOT SHOW ALL CHANGES IN HEIGHT, STRUCTURAL MEMBERS, DUCTWORK, PIPING, BRACKETS AND ANY OTHER NUMBER OF ITEMS WHICH MIGHT CAUSE A CONFLICT. THIS CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OTHER TRADES AS TO THE LOCATION OF HIS DEVICES, AND NECESSARY AREAS FOR PANELS AND CONDUIT/WIRING RUNS. VERIFY AND COORDINATE ALL ELECTRICAL WORK WITH ALL TRADES TO PROVIDE A TIMELY INSTALLATION. ADDITIONAL CHARGES DUE TO LACK OF COORDINATION WILL NOT BE APPROVED.

16200 - MATERIAL:

1. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS, AND SHALL BE LISTED BY AND BEAR THE U.L. LABEL WHERE SUBJECT TO APPROVAL. MATERIALS SHALL BE OF THE SAME MANUFACTURER OR BRAND FOR EACH TYPE OF MATERIAL, UNLESS DESIGNATED OTHERWISE.

16210 - FIXTURES:

1. ALL FIXTURES SHALL BE AS LISTED IN THE LIGHTING FIXTURE SCHEDULES/ RECOMMENDATIONS.

2. LIGHTING FIXTURES ARE TO BE FURNISHED, INSTALLED, AND LAMPED UNDER THIS CONTRACT.

16220 - PANELS:

1. ALL PANELS TO BE FURNISHED AS PER PANEL SCHEDULE. SQUARE D, CUTLER HAMMER AND ITE ARE ACCEPTABLE MANUFACTURERS.

2. ALL OVERCURRENT DEVICES SHALL BE SERIES-RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT; VERIFY WITH LOCAL UTILITY COMPANY. SEE PANEL SCHEDULE.

16230 - DEVICES:

1. EXTERIOR DISCONNECT SWITCHES SHALL BE NEMA 3R ENCLOSURES AND ELECTRICALLY PROTECTED AS PER MANUFACTURER'S SPECIFICATIONS. (SEE MECHANICAL).

2. INTERIOR DISCONNECT SWITCHES SHALL BE NEMA 1 ENCLOSURES AND ELECTRICALLY PROTECTED AS PER MANUFACTURER'S SPECIFICATIIONS. (SEE MECHANICAL).

3. SWITCHES SHALL BE 20 AMP, SPECIFICATION GRADE TOGGLE SWITCHES, SIDE WIRED WITH GROUNDING TERMINAL; COLOR SHALL BE WHITE (UNLESS NOTED OTHERWISE) WITH MATCHING COVERPLATE; MOUNTING HEIGHT SHALL BE +48" AFF TO BOTTOM.

4. RECEPTACLES SHALL BE 20 AMP (MINIMUM), SPECIFICATION GRADE, SIDE WIRED WITH GROUNDING TERMINAL; COLOR SHALL BE WHITE (UNLESS NOTED OTHERWISE) WITH MATCHING COVERPLATE; MOUNTING HEIGHT NOTED IN SYMBOL LEGEND OR ON DRAWING.

5. ALL RECEPTACLES INSTALLED IN KITCHENS, OR WITHIN 6 FEET (6') OF A WATER SUPPLY (i.e.: SINK), SHALL BE GROUND FAULT CIRCUIT INTERRUPTER (G.F.C.I.) DEVICES WITH DOWNSTREAM DEVICES IDENTIFIED.

6. ALL 120-VOLT, SINGLE PHASE, 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN BATHROOMS SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.

16240 - BRANCH CIRCUIT WIRING:

1. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE SPECIFIED ON PLANS.

2. MINIMUM BRANCH CIRCUIT WIRING SHALL BE #12 AWG THWN COPPER.

EXCEPTION NO. 1: BRANCH CIRCUIT WIRING FOR DEDICATED LOADS, SUCH AS A PERMANENTLY INSTALLED APPLIANCE OR OTHER EQUIPMENT, SHALL BE SIZED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS FOR THAT APPLIANCE OR EQUIPMENT, OR BY THE N.E.C. PRESENTLY IN EFFECT, WHICHEVER IS GREATER. REFER TO PANEL SCHEDULES.

LOAD CALCULATIONS	:	"B" -	1,582	120/240-1 Ø-3W- 125A MCB				
LIGHTING	:	3	VA	x	1,582	SQFT	=	4,746 VA
APPLIANCES	:	1,500		x	2	EA	=	3,000
REFRIGERATOR	:	1,000		x	1		=	1,000
DISHWASHER	:	1,500		x	1		=	1,500
DISPOSAL	:	1,000		x	1		=	1,000
RANGE (TABLE220.19)	:	8,000		x	1		=	8,000
MICROWAVE	:	1,500		x	1		=	1,500
WATER HEATER	:	4,500		x	1		=	4,500
CLOTHES WASHER	:	1,500		x	1		=	1,500
CLOTHES DRYER	:	5,000		x	1		=	5,000
TOTAL	:						=	31,746 VA
DEMAND CALCULATION								
1ST 10,000	:	0,000	VA	x	1.00	VA	=	10,000
BALANCE	:	21,746		x	0.40		=	8,698
HEAT ( - X - KW )	:	0,000		x	0.65		=	6,500
FANS ( - X - KW )	:	1,000		x	1.00		=	1,000
TOTAL	:						=	26,198 VA
AMPACITY DEMAND	:		@		240-1	V	=	109.2 AMPS
AMPACITY DESIGN	:		@		240-1	V	=	125.0 AMPS

GENERAL NOTES: ELECTRICAL

THE ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL ELECTRICAL SERVICE ROUGH-IN AND INSTALLATION DETAILS, FEES, WITH THE LOCAL POWER COMPANY/UTILITY FIELD ENGINEER PRIOR TO AND INCLUDE IN BID!

THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE IN ORDER TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, FAILURE TO DO SO WILL NOT WARRANT ANY ADDITIONAL CHARGES TO THE OWNER.

THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID, ANY CUTTING OR PATCHING OF CONCRETE/ASPHALT PAVEMENTS, ETC. TO RUN ELECTRICAL.

ALL EQUIPMENT, FIXTURES, ETC. SHALL BE STARTED, TESTED, ADJUSTED AND PLACED IN SATISFACTORY OPERATING CONDITION. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY (C.O.), AND SHALL REPAIR ANY SUCH DEFECTS WITHOUT COST TO THE OWNER. ALL EQUIPMENT SHALL BE COVERED FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY. THIS CONTRACTOR SHALL FURNISH THE OWNER WITH ALL MANUFACTURER'S GUARANTEE AND WARRANTIES.

"WAFER" OR "PIGGYBACK" BREAKERS SHALL NOT BE PERMITTED.

THE ELECTRICAL CONTRACTOR IS TO INSTALL METERING SERVICE EQUIPMENT EITHER PROVIDED BY THE GOVERNING UTILITY COMPANY OR OF A TYPE APPROVED BY THE UTILITY COMPANY AND U.L. LISTED. IMMEDIATELY AFTER SUB-CONTRACT AWARD, CONTACT WITH THE UTILITY COMPANY SHALL BE MADE FOR COORDINATION OF SERVICE AND METERING DETAILS.

HVAC AIR HANDLER AND CONDENSING UNIT CIRCUIT BREAKERS MUST BE U.L. LISTED AS "ACR" RATED IN ORDER TO USE NON-AUTO DISCONNECTS AT HVAC EQUIPMENT. IF NOT LISTED, THEN A FUSED DISCONNECT IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S NAMEPLATE REQUIREMENTS MUST BE INSTALLED AT THE EQUIPMENT.

THE ELECTRICAL, GENERAL, HVAC, AND PLUMBING CONTRACTOR(S) SHALL STRICTLY ADHERE TO THE FOLLOWING ITEMS WHEN DEALING WITH ELECTRICAL EQUIPMENT CLEARANCES:

A.) NO PIPING OR DUCTWORK OF ANY KIND SHALL BE INSTALLED ABOVE ANY SWITCHBOARD OR PANELBOARD. THIS AREA TO REMAIN CLEAN FROM THE EQUIPMENT TO 25' ABOVE OR TO THE BOTTOM OF THE STRUCTURAL SLAB.

B.) A CLEARANCE OF 36" MINIMUM SHALL BE MAINTAINED IN FRONT OF ELECTRICAL EQUIPMENT FOR THE ENTIRE WIDTH OF THE EQUIPMENT, PLUS A MINIMUM OF 30" TOTAL LEFT/RIGHT CLEARANCE.

ALL "WEATHERPROOF" ("WP") DEVICES ARE TO BE INSTALLED WITH A WEATHER-SHIELDING COVER

ALL ELECTRICAL CONDUITS NOT CONTAINING SPECIFIED CONDUCTORS SHALL HAVE A PULL WIRE INSTALLED.

DO NOT SCALE THE ELECTRICAL DRAWINGS; REFER TO THE ARCHITECTURAL PLANS FOR EQUIPMENT LOCATIONS, CABINTRY, CEILING GRIDS, DOOR SWINGS, ETC.

THE INTENT OF THESE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL ELECTRICAL INSTALLATION.

IT IS NOT THE INTENT OF THESE PLANS TO SHOW ALL DETAILS OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS SUCH AS HARDWARE, J-BOXES, CONDUIT FITTINGS, ETC., AS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM INSTALLATION.

TECHNICIANS SKILLED IN THEIR TRADE SHALL PERFORM ALL ELECTRICAL INSTALLATIONS IN A PROFESSIONAL MANNER.

WIRE TO, AND MAKE CONNECTIONS AS NECESSARY, TO ALL PIECES OF EQUIPMENT (FURNISHED BY OTHERS), FOR COMPLETE AND SATISFACTORY OPERATION BY THE OWNER.

PROVIDE CIRCUIT BREAKERS, AS NECESSARY, TO ACCOMMODATE ALL NEW CIRCUITS INSTALLED.

ALL SERVICE AND FEEDER CONDUITS SHALL HAVE EXPANSION FITTINGS WHEN PENETRATING SLABS, ETC. TO ALLOW FOR STRUCTURAL SETTLEMENT.

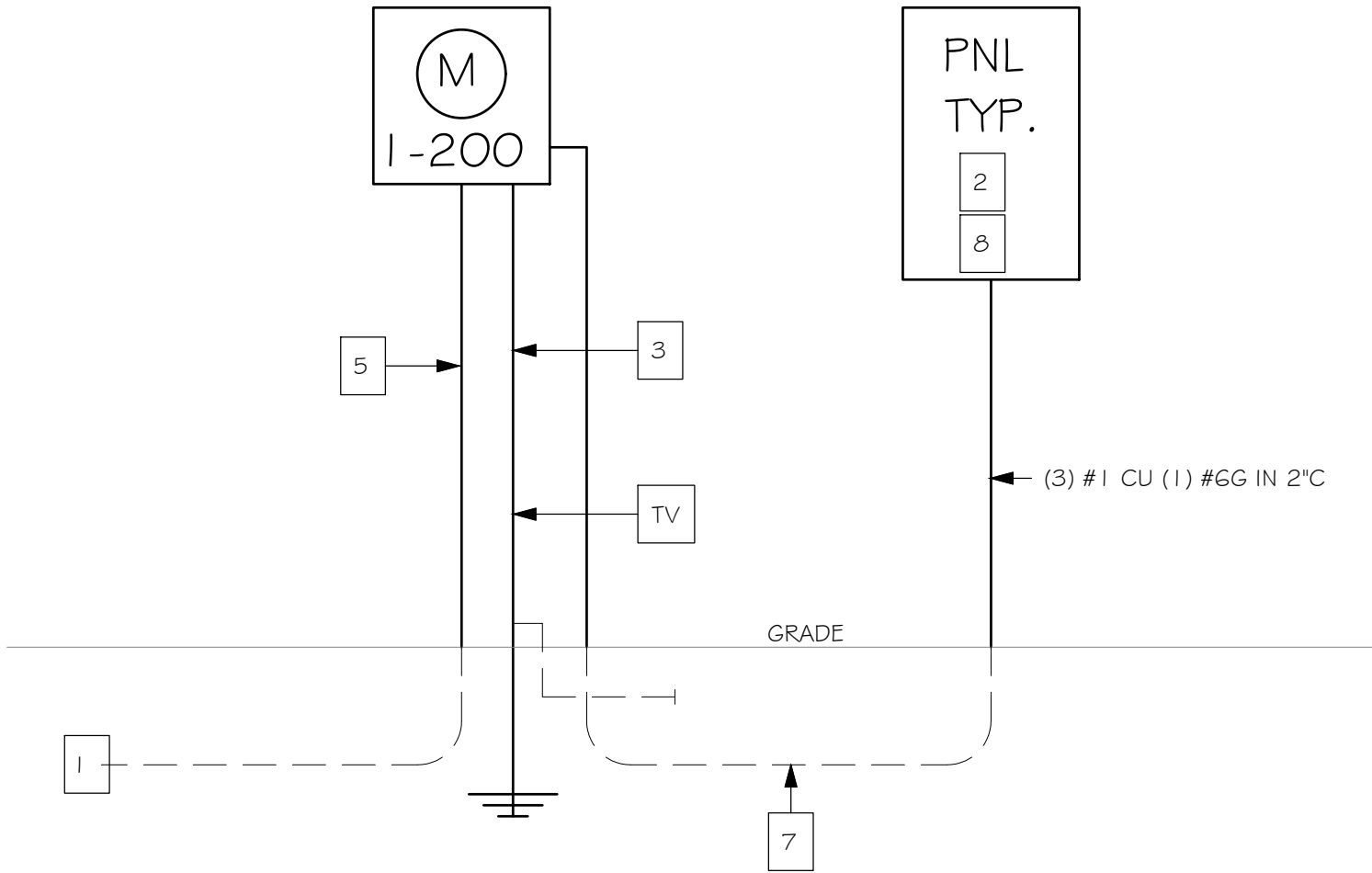
PROVIDE "PVC" CONDUITS STUBBED OUT, BELOW GRADE FOR ADDITIONAL SERVICES, IN ORDER TO PROVIDE CONCEALED TELEPHONE AND/OR DATA SERVICE ENTRANCE.

PROVIDE TIME CLOCKS WITH BATTERY BACK-UP TO CONTROL ALL SIGNAGE AND EXTERIOR LIGHTING CIRCUITS; SEE POWER RISER DIAGRAM FOR ADDITIONAL DETAILS.

ALL CONDUCTORS SHALL BE TYPE THHN/THWN, COPPER (CU) UNLESS OTHERWISE CALLED FOR ON THESE DOCUMENTS. SEE PANEL SCHEDULE.

ALL LIGHTING FIXTURES (INCLUDING THOSE PROVIDED BY OTHERS) ARE TO BE INSTALLED UNDER THIS CONTRACT. SEE SCHEDULE FOR FIXTURE RECOMMENDATIONS, LAMPS, ETC.

NOTICE TO CONTRACTOR: REVISIONS TO THESE DRAWINGS AND CERTIFICATION THEREOF WHICH MAY BE REQUIRED BECAUSE OF CONTRACTOR OPTED REVISIONS SHALL BE COMPENSATED TO THE ENGINEER(S) BY THE REQUESTING CONTRACTOR. PAYMENT SHALL BE REQUIRED AT THE TIME OF CERTIFICATION DELIVERY.



NOTES - POWER RISER DIAGRAM  
1. INCOMING POWER COMPANY "UG" SERVICE LATERAL, EXTEND CONDUIT TO SERVICE POINT OF ORIGIN: SEE SITE PLAN AND GENERAL NOTES.

2. MAIN DEVICE: (1) 125 AMP-240 V-2 P METERING DEVICE WITH MAIN CIRCUIT BREAKERS WITH NEMA-3R ENCLOSURES UNITS 1-G). 2A. WIREWAY: SIZE PER N.E.C.

3. SERVICE GROUNDING CONDUCTOR: PROVIDE MINIMUM (1) #6 TO GROUNDING ELECTRODE. SEE SPECIFICATIONS 16340-2. 3A. ALL COMMUNICATION, RADIO, TELEPHONE ANTENNA AND TELEVISION SYSTEMS SHALL BE BONDED TO BUILDING SERVICE GROUND WITH #6 AWG MINIMUM.

4. GROUNDING ELECTRODE: PROVIDE (2) 5/8"-X 8' DRIVEN RODS. PROVIDE A SERVICE GROUND ACCORDING TO N.E.C. ARTICLE 250. THE MINIMUM INSTALLATION TO INCLUDE: BUILDING FOOTER/FOUNDATION REINFORCING STEEL TURNED UP OR OTHERWISE EXPOSED AT THE SERVICE LOCATION WITH APPROVED CONNECTOR TO BOND A GROUNDING CONDUCTOR SIZED PER TABLE 250 TO THE STEEL AND A DRIVEN ROD GROUND (MINIMUM 5/8" BY 8' DEEP) WITH #6 COPPER GROUNDING CONDUCTOR. IF AVAILABLE ON THE PREMISES, ALSO BOND METAL COLD WATER PIPING, METAL BUILDING FRAME AND GROUND RING WITH JUMPERS SIZED FROM 250-94.

5. ELECTRIC SERVICE ENTRANCE: SEE LOAD CALCULATIONS. (3) #1 CU IN 2" CONDUIT

6. NOT USED.

7. PANEL FEEDER: SEE LOAD CALCULATIONS AND PANEL SCHEDULES. (1) 125 AMP-240 V-2P

8. ELECTRIC PANEL: MCB SEE PANEL SCHEDULE FOR SIZE, CIRCUIT IDENTIFICATION, LOADING, ETC.

9. NOT USED

10. NOT USED

11. NOT USED

12. SEPARATE 1" CONDUITS STUBBED DOWN TO PROVIDE SECURED TELEPHONE AND TELEVISION SERVICE ENTRANCE.

13. OPTION: OVERHEAD SERVICE LATERAL. VERIFY AND COORDINATE W/ ARCHITECT/OWNER.

14. AVAILABLE FAULT CURRENT: ALL SERVICE EQUIPMENT SHALL BE RATED FOR 22,000 AIC MINIMUM. SEE SPECIFICATION #16220-2. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE WITH POWER COMPANY REPRESENTATIVE.

TYPICAL NOTES

1. SWITCHED RECEPTACLES: SWITCH TOP HALF OF RECEPTACLE; BOTTOM SHALL REMAIN HOT!

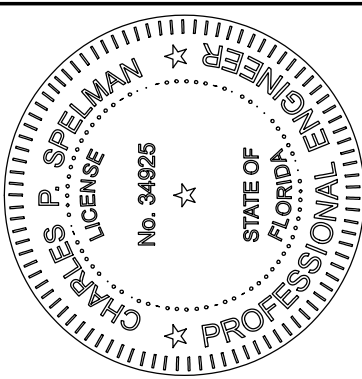
2. EQUIPMENT FURNISHED AND PHYSICALLY INSTALLED BY 'OTHERS'. ALL ELECTRICAL CONNECTIONS EXTERNAL TO THE EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR. WIRE, CONDUIT, LUGS, RECEPTACLES, PIGTAILS, DISCONNECTS, ETC. AS MAY BE REQUIRED SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR.

NOTE: INCLUDE WORSE CONDITION IN PRICING. VERIFY ROUGH-IN LOCATIONS, TYPE OF CONNECTION AND AMPACITY REQUIRED FROM APPLICABLE EQUIPMENT DRAWINGS PRIOR TO INSTALLING ANY CONDUIT, CONDUCTORS OR BOXES.

3. PROVIDE INCANDESCENT WALL DIMMER WITH TUNGSTEN SURGE AND RFI PROTECTION. SLIDE ACTION WITH "OFF" POSITION AT BOTTOM.

4. PROVIDE LIGHT FIXTURE AND RECEPTACLE AT LOCATIONS INDICATED FOR HVAC MAINTENANCE LIGHTING. USE COMBINATION SWITCH AND RECEPTACLE FOR LIGHT CONTROL. FIELD DETERMINES EXACT LOCATION AND HEIGHT.

**D.R. HOHON**  
*America's Builder*



**Spelman Engineering, Inc.**  
1500 CORP. CIRCLE, SUITE 201, FORT MYERS FL 33919  
PHONE (239) 770-2830  
FLOIDA CA #26955  
CHARLES P. SPELMAN P.E. FLORIDA LICENSE NO. 34625  
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BUILDING 7\_LOTS: 33-38

ADDRESSES:

SUBDIVISION: SOLUNA

FCD JOB #14150

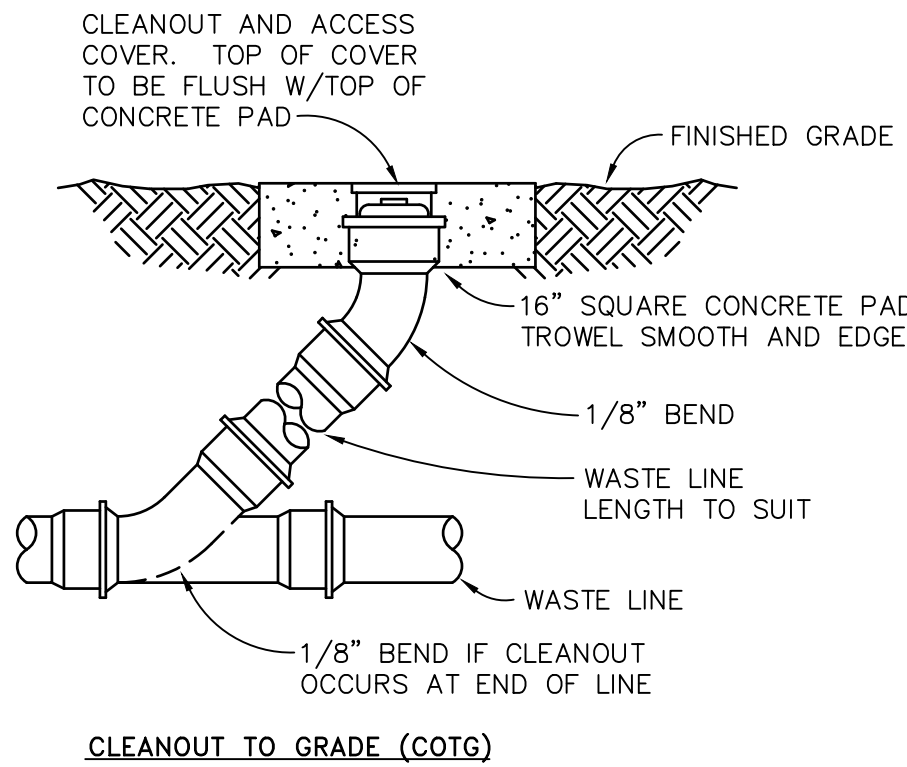
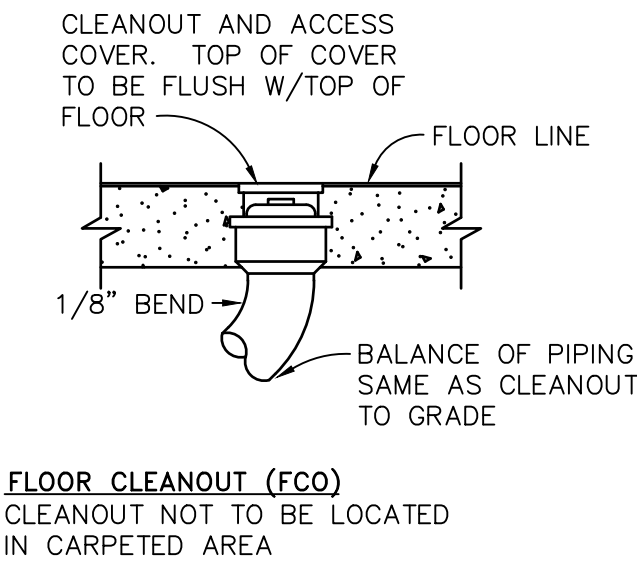
**SOLUNA**  
**6 UNIT TOWNHOUSE**  
**A-B-B-B-A**

DATE:	2-11-2022
DRAWN BY:	MBC
CHECKED BY:	CS
REVISED:	
PLAN:	ELECTRICAL RISER SPECIFICATIONS
SCALE:	NTS
SHEET#	E1.3



FIXTURE CONNECTION SCHEDULE							
FIXTURE	MOUNTING	BRANCH SIZE				REMARKS	
		DRAINAGE		WATER			
		WASTE	VENT	COLD	HOT		
WATER CLOSET (WC)	FLOOR	3"	WET	1/2"	-----	WHITE, VITREOUS CHINA, FLOOR MOUNTED, FLUSH TANK, 1.6 GPF WATER SAVER	
SHOWER (SH)	FLOOR	2"	WET	1/2"	1/2"	FLOOR MOUNT, SINGLE HANDLE FAUCET, GRID DRAIN, 2.5 GPM WATER SAVER	
BATHTUB (BT)	FLOOR	2"	WET	1/2"	1/2"	FLOOR MOUNT, ENAMELED CAST IRON, OVERFLOW, SINGLE HANDLE, SHOWER DIVERter, LEVER OPERATED DRAIN, 2.5 GPM WATER SAVER	
LAVATORY (LAV)	COUNTER	1 1/2"	1 1/2"	1/2"	1/2"	COUNTER MOUNT, WHITE VITREOUS CHINA, FRONT OVERFLOW, SELF RIMMING, SINGLE HANDLE FAUCET, POP UP DRAIN, A.A.V. 1ST FLOOR	
KITCHEN SINK (KS)	COUNTER	1 1/2"	A.A.V.	1/2"	1/2"	DOUBLE BOWL, STAINLESS STEEL, SELF RIMMING, WATER SAVER, SINGLE HANDLE SWIVEL SPOUT FAUCET W/PULL-UP SPRAY, CRUMB CATCHER DRAIN BASKET, SHOCK ABSORBER AT D/W	

PLUMBING FIXTURE UNITS CALCULATION TABLE							
LOCATION DESCRIPTION	QUANTITY	DESCRIPTION / SANITARY DFUS	TOTAL DFUS	RECOMMENDED LINE SIZE SANITARY	DESCRIPTION / SUPPLY SFUS	TOTAL SFUS	RECOMMENDED LINE SIZE DOMESTIC WATER
UNIT "A"	2	BATHROOM GROUP 5 DFUS / BATHROOM GROUP	10	ACTUAL SIZE 3"	BATHROOM GROUP 3.6 SFUS / BATHROOM GROUP	7.2	1/2"
	1	WATER CLOSET	3	ACTUAL SIZE 3"	WATER CLOSET	2.2	1/2"
	1	LAV	1	ACTUAL SIZE 2"	LAV	0.7	1/2"
	1	WASHING MACHINE	2	ACTUAL SIZE 2"	WASHING MACHINE	1.4	1/2"
	1	KITCHEN SINK W/GRINDER AND DISHWASHER	2	ACTUAL SIZE 2"	KITCHEN SINK	1.4	1/2"
					DISHWASHER	1.4	1/2"
UNIT "A" TOTAL FIXTURE UNITS			18	ACTUAL SIZE 3"		14.3	3/4", 18 GPM @ 50 PSI MIN
UNIT "B"	2	BATHROOM GROUP 5 DFUS / BATHROOM GROUP	10	ACTUAL SIZE 3"	BATHROOM GROUP 3.6 SFUS / BATHROOM GROUP	7.2	1/2"
	1	WATER CLOSET	3	ACTUAL SIZE 3"	WATER CLOSET	2.2	1/2"
	1	LAV	1	ACTUAL SIZE 2"	LAV	0.7	1/2"
	1	WASHING MACHINE	2	ACTUAL SIZE 2"	WASHING MACHINE	1.4	1/2"
	1	KITCHEN SINK W/GRINDER AND DISHWASHER	2	ACTUAL SIZE 2"	KITCHEN SINK	1.4	1/2"
					DISHWASHER	1.4	1/2"
UNIT "B" TOTAL FIXTURE UNITS			18	ACTUAL SIZE 3"		14.3	3/4", 18 GPM @ 50 PSI MIN
NOTES							
1. PLEASE REFER TO PLUMBING SPECIFICATIONS FOR PIPE MATERIAL REQUIREMENTS.							
2. PROVIDE SHUT OFF VALVES IN WATER DISTRIBUTION PIPES AS SHOWN ON PLUMBING FLOOR PLANS, DETAILS, AND SPECIFICATIONS.							
3. DRAINAGE FIXTURE UNITS BASED ON FLUSH TANK WATER CLOSETS.							
4. THIS TABLE BASED FPC 2014 TABLES 709.1 BUILDING DRAINS/SEWERS AND E103.3 WATER SUPPLY.							



### CLEANOUT DETAILS

SCALE: NTS

### PLUMBING NOTES AND SPECIFICATIONS

1. THE PLUMBING PLAN SHALL COMPLY WITH THE 7th EDITION 2020 FLORIDA BUILDING CODE AND PLUMBING CODE, AND ALL LOCAL CODES AS MAY BE APPLICABLE. SIX SHOP DRAWINGS SUBMITTALS OF ALL MAJOR EQUIPMENT SHALL BE REQUIRED FOR APPROVAL PRIOR TO ORDERING AND PROCUREMENT OF SAME.
2. PLANS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, DIRECTION AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. THE FACT THAT ONLY CERTAIN FEATURES OF THE INSTALLATION ARE INDICATED DOES NOT MEAN THAT OTHER SIMILAR OR DIFFERENT FEATURES WILL NOT BE REQUIRED.
3. THIS CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS TO INSURE THAT EACH TRADE SHALL HAVE SUFFICIENT SPACE TO INSTALL THEIR EQUIPMENT (DUCTWORK, PIPING, ELECTRICAL WORK, ETC.).
4. IN GENERAL, ALL PIPING SHALL BE RUN CONCEALED IN CEILING AND PIPE SPACES PROVIDED UNLESS NOTED OTHERWISE.
5. VERIFY ALL DIMENSIONS FORM ARCHITECTURAL PLANS FOR FIELD DIMENSIONS.
6. PROVIDE STOP OR ANGLE VALVES ON EACH WATER CONNECTION TO EACH PLUMBING FIXTURE.
7. BURIED PIPING NEAR FOUNDATION SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD PLUMBING CODE INSTRUCTIONS ON PROTECTION OF PIPES.
8. PLUMBING SYSTEM INSTALLER SHALL PROVIDE ALL STRUCTURAL MEMBERS, SUPPORT BRACKETS, FLASHING, HARDWARE, ETC., REQUIRED TO INSTALL A COMPLETE SYSTEM.
9. AN AIR CHAMBER/SHOCK ABSORBER WATER HAMMER ARRESTOR SHALL BE INSTALLED WHERE QUICK-CLOSING VALVES ARE USED TO PREVENT WATER HAMMER, SUCH AS ON WASHING MACHINES, ICE MAKERS, DISHWASHERS, AND DRINKING FOUNTAINS. THE ARRESTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, BE ACCESSIBLE, AND SHALL CONFORM TO ASSE 1010.
10. UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE NEW, COMPLETE, INCLUDE MANUFACTURER'S WARRANTY AND SHALL BE U.L. APPROVED IF APPLICABLE. ALL WORK SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.
11. ALL RISES AND DROPS IN PIPING NOT NECESSARILY SHOWN.
12. CONTRACTOR SHALL VERIFY ELEVATIONS OF UTILITY CONNECTIONS ON SITE PRIOR TO COMMENCING WORK.
13. COLD PIPING SHALL BE TYPE "L" COPPER OR CPVC ABOVE GRADE AND SCHEDULE 40 SOLID PVC BELOW GRADE IN ACCORDANCE WITH FPC TABLES 605.3 AND 605.4.
14. BELOW GRADE DRAINAGE PIPING SHALL BE MINIMUM SCHEDULE 40 SOLID PVC TYPE DWV UNDER VEHICLE TRAFFIC ALL WASTE, VENT, SEWER AND STORM LINES SHALL BE OF CAST IRON SOIL PIPE AND FITTINGS AND SHALL CONFORM TO THE REQUIREMENTS OF CISPI STANDARD 301 OR ASTM A 888 FOR ALL PIPE AND FITTINGS. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE OR RECEIVE PRIOR APPROVAL OF THE ENGINEER.

ABOVE GRADE DWV PIPING SHALL BE AT A MINIMUM SCHEDULE 40 SOLID PVC TYPE DWV OR COEXTRUDED PIPING WITH CELLULAR CORE. ALL UNDER GROUND OR ABOVE GROUND DRAINAGE PIPING SHALL BE IN ACCORDANCE TO FPC TABLES 702.1 AND 702.2.
15. FIXTURES SHALL BE AS SCHEDULED OR AS SELECTED BY ARCHITECT. SEE LIST OF ACCEPTABLE MANUFACTURERS.

A. LAVS, SERVICE SINKS, WATER CLOSETS, URINALS, BATH TUBS: AMERICAN STANDARD, CRANE CO., ELJER PLUMBING WARE DIV., KOHLER CO.

B. STAINLESS STEEL SINKS: AMERICAN STANDARD, ELKAY MFG. CO., DAYTON

C. FAUCETS: AMERICAN STARDARD, CHICAGO FAUCET CO., DELTA FAUCET CO., ELJER PLUMBING WARE DIV., KOHLER CO., T&S BRASS, SPEAKER MAN.

D. FLUSH VALVES: COYONE & DELNAY CO., SLOAN VALVE CO.

E. WATER CLOSET SEATS: BEMIS MFG. CO., KOHLER CO., BENEKE CORP., FORBES-WRIGHT INDUSTRIES, INC., CHURCH PRODUCTS, OLSONITE CORP., OLSONITE SEATS.

F. FIXTURE SUPPORTS: JOSAM MFG. CO., KOHLER CO., TYLER PIPE, ZURN INDUSTRIES INC., HYDROMECHANICS DIV.

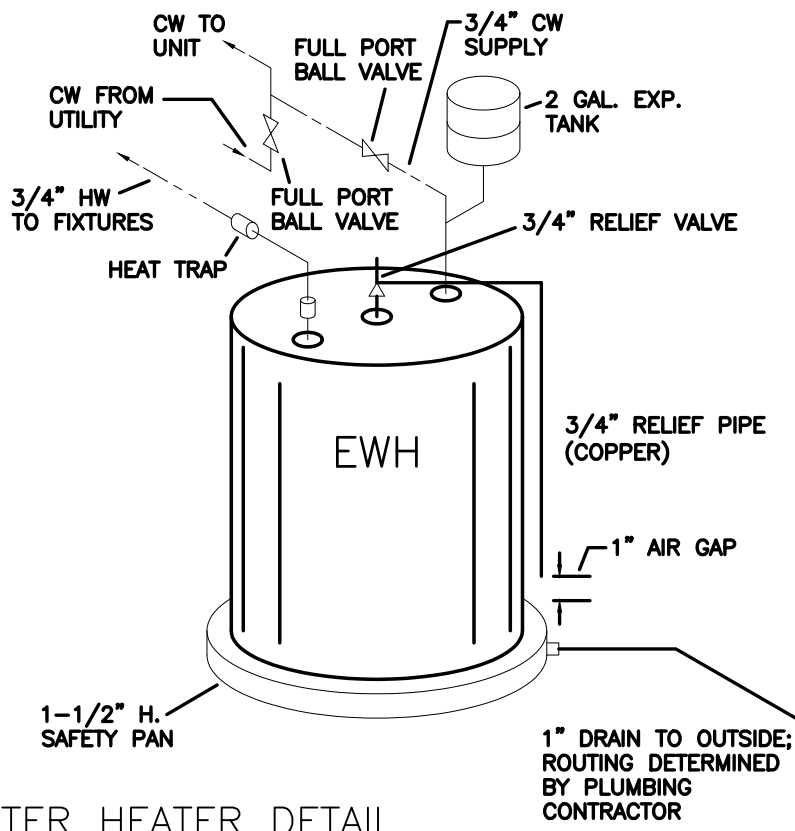
G. ROOF DRAINS: ZURN OR SIOUX CHIEF.
16. THIS CONTRACTOR IS RESPONSIBLE FOR ALL HVAC CONDENSATE DRAINS INCLUDING PIPING, INSULATION THEREOF, AND DRYWELLS/RECEPTORS.
17. PLUMBING CONTRACTOR RESPONSIBILITY TO BE TO 5' BEYOND BUILDING LINE FINAL CONNECTION TO SITE UTILITIES TO BE PLUMBER'S RESPONSIBILITY.
18. PROVIDE CLEAN-OUTS AT EACH STACK RISER, AT EACH 90 DEGREE CHANGE IN HORIZONTAL DIRECTION, AND AT EACH EXIT FROM BUILDING.
19. PROVIDE MAIN SHUTOFF VALVE, RUBBER FACED CHECK VALVE, VACUUM BREAKER AND HOSE BIB ON COLD WATER MAIN ENTERING THE BUILDING. PROVIDE SHUTOFF VALVE ON THE WATER SUPPLY PIPE TO EVERY WATER HEATER.
20. SILLCOCKS, HOSE BIBS, AND OTHER OPENINGS WITH A HOSE CONNECTION SHALL BE PROTECTED BY AN ATMOSPHERIC-TYPE VACUUM BREAKER OR PERMANANTLY ATTACHED HOSE CONNECTION VACUUM BREAKER.
21. CONNECT WATER MAIN TO VALVE OR STUB PROVIDED BY SITE UTILITY CONTRACTOR. PROVIDE FOR CHLORINATION OF FINAL WATER CONNECTION.
22. PROVIDE AT LEAST ONE 3" MAIN VENT-THRU-ROOF IN BUILDING.
23. PROVIDE AT ALL REFRIGERATOR LOCATIONS, A MINIMUM 3/8" C.W. LINE TO 1/4" PETCOCK 6" ABOVE FLOOR. FURNISH 48" OF 1/4" SOFT COPPER TUBING FOR CONNECTION TO REFRIGERATOR.
24. INSULATE ALL DOMESTIC HOT WATER LINES WITH ARMAFLEX RUBBER INSULATION EXCEPT FOR CPVC PIPING.
25. WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND OTHER COSTS AS ARE NECESSARY FOR THE INSTALLATION OF A COMPLETE AND SATISFACTORY OPERATIONAL PLUMBING SYSTEM.
26. ALL EQUIPMENT FIXTURES, ETC. SHALL BE TESTED, ADJUSTED AND OPERATED AS INDICATED ON THE PLANS AND PLACED IN SATISFACTORY OPERATIONAL CONDITION BY THE PLUMBING CONTRACTOR. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP. MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. THIS IS IN ADDITION TO ANY WARRANTY OR GUARANTEE FROM THE EQUIPMENT MANUFACTURER. FURNISH THE OWNER WITH THE MANUFACTURER'S WRITTEN CERTIFICATES.
27. NOTICE TO CONTRACTOR: REVISIONS TO THESE DRAWINGS AND CERTIFICATION THERETO WHICH MAY BE REQUIRED BECAUSE OF CONTRACTOR OPTED REVISIONS, SHALL BE COMPENSATED TO THE ENGINEER BY THE REQUESTING CONTRACTOR. PAYMENT SHALL BE REQUIRED AT THE TIME OF CERTIFICATION DELIVERY.

### SYMBOLS

	SANITARY DRAIN		BALL VALVE
	STORM WATER		CHECK VALVE OR BACKWATER VALVE
	VENT (V)		SHOCK ABSORBER (SA)
	COLD WATER (CW)		PIPE TURNING UP
	HOT WATER (HW)		PIPE TURNING DOWN
	HOT WATER CIRCULATING (HWC)		CONNECTION TO EXISTING

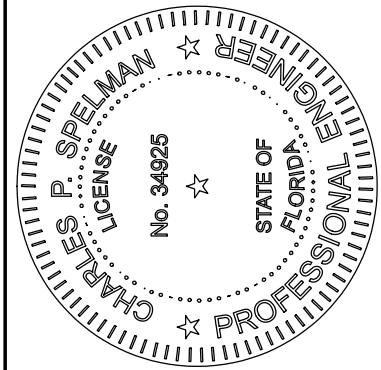
### ABBREVIATIONS

CL	CENTER LINE	EA	EACH	LAV	LAVATORY
AAV	AIR ADMITTANCE VALVE	ELEC	ELECTRICAL	MBTU	THOUSAND BTU
ABV	ABOVE	FS	FLOOR SINK	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	FCO	FLOOR CLEAN-OUT	MS	MOP SINK
ARCH	ARCHITECTURAL	FF	FINISHED FLOOR	PLBG	PLUMBING
CLG	CEILING	FD	FLOOR DRAIN	RM	ROOM
CO	CLEANOUT	GCO	GRADE CLEAN-OUT	SA	SHOCK ABSORBER
CONC	CONCRETE	GPF	GALLONS PER FLUSH	SAN	SANITARY
CONT	CONTINUATION	HWC	HOT WATER CIRCULATOR	TYP	TYPICAL
CW	COLD WATER	HS	HAND SINK	UR.	URINAL
DFU	DRAINAGE FIXTURE UNITS	HB	HOSE BIBB	V	VENT
DN	DOWN	HW	HOT WATER	VTR	VENT-THRU-ROOF
DW	DOMESTIC WATER	INV ELEV.	INVERT ELEVATION	W/	WITH
EX	EXISTING	KW	KILOWATT	WC	WATER CLOSET



WATER HEATER DETAIL  
N.T.S.

WATER HEATER SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER	MODEL	CAPACITY (GALLONS)	ELEMENTS	CW	HW	ENERGY FACTOR	NOTES
EWH-1	ELECTRIC WATER HEATER	RHEEM	BY OWNER	50	TWO 4500 WATTS	3/4"	3/4"	0.95	--
NOTES:									
ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE RUUD, AND AMERICAN STANDARD									



**Spelman Engineering, Inc.**  
10000 BAYVIEW BLVD. SUITE 200  
FLORIDA 33156  
PHONE (305) 444-1111 FAX (305) 444-1112  
EMAIL: cspelman@spelmanengineering.com  
CHARLES P. SPELMAN P.E. FLORIDA LICENSE NO. 34625

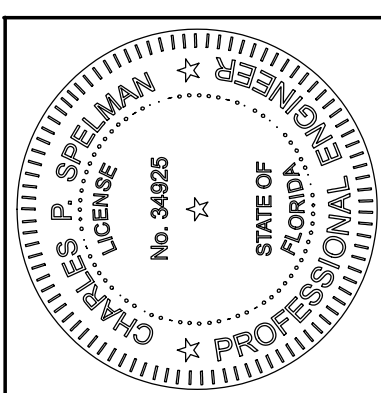
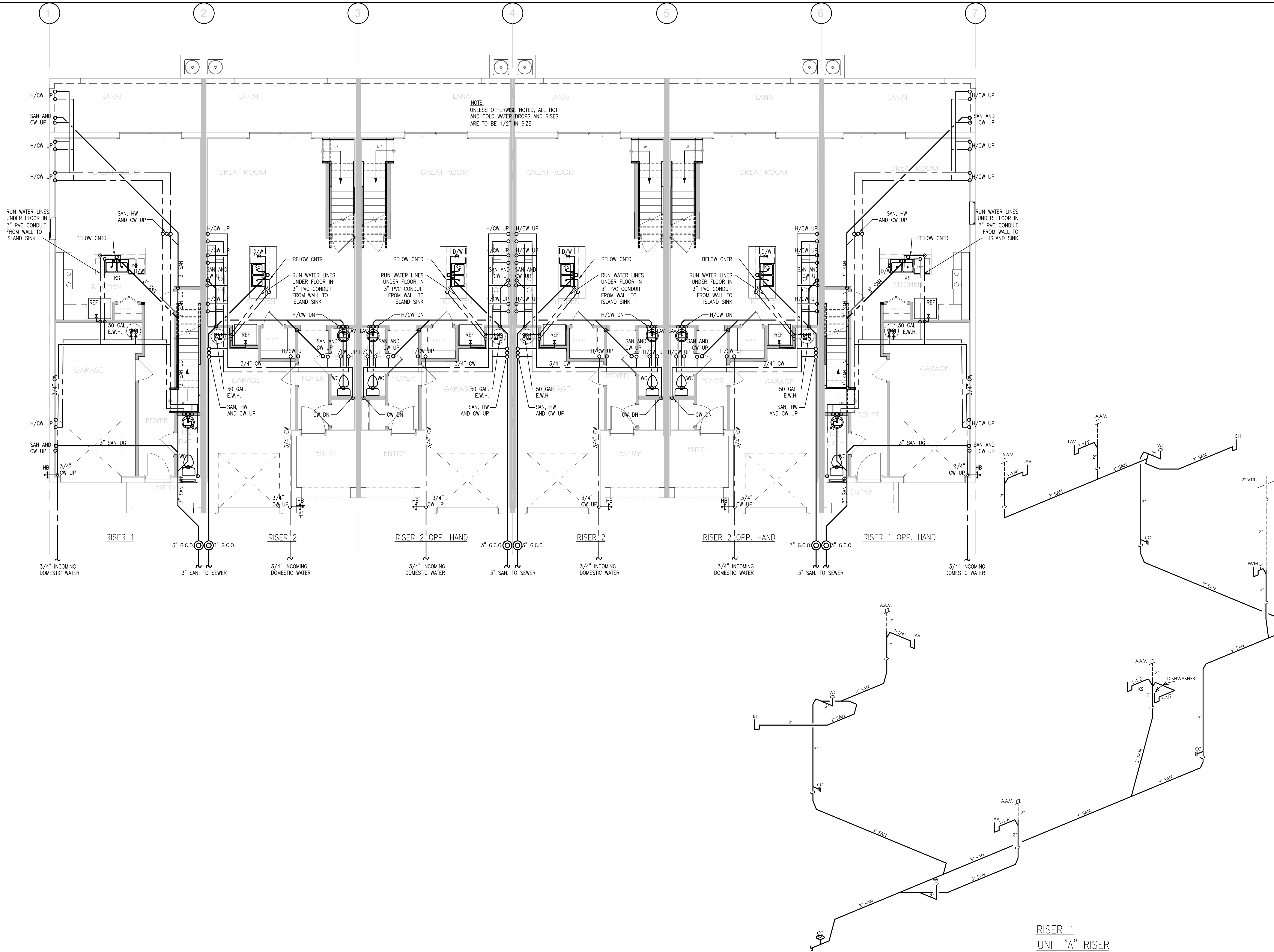
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BUILDING 7_LOTS: 33-38	ADDRESSES:	SUBDIVISION: SOLUNA	FCD JOB #14150
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**SOLUNA**  
6 UNIT TOWNHOUSE  
A-B-B-B-B-A

DATE:	2-11-2022
DRAWN BY:	MBC
CHECKED BY:	CS
REVISED:	
PLAN:	NOTES/DETAILS
SCALE:	NONE
SHEET#	P-1





**Spelman Engineering, Inc.**  
10000 W. BOCA RATON BLVD., SUITE 100, BOCA RATON, FL 33433  
PHONE (239) 770-2830 FAX (239) 770-2831  
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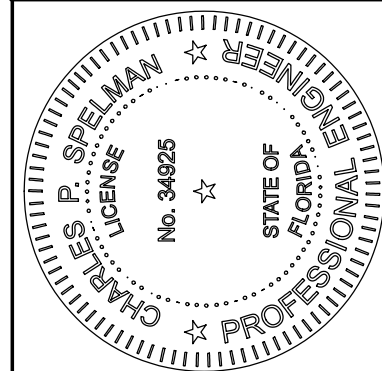
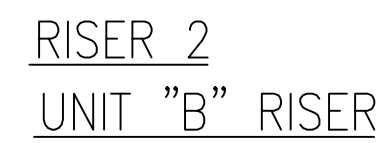
**BUILDING 7, LOTS: 33-38**  
**ADDRESSES:**  
**SUBDIVISION: SOLUNA**  
**FCD JOB #14150**

**SOLUNA**  
**6 UNIT TOWNHOUSE**  
**A-B-B-B-B-A**

DATE: 2-11-2022  
DRAWN BY: MBC  
CHECKED BY: CS  
REVISED:  
PLAN: 1st FLOOR PLUMBING  
SCALE: 3/16" = 1'-0"  
SHEET#

**P-2**





**Spelman Engineering, Inc.**  
5905 FORBES CIRCLE, SUITE 201, FORT MYERS, FL 33819  
MAILING PO BOX 3519, NORTH FORT MYERS, FL 33816  
PHONE (239) 770-2835    csplmain@spelmanengineering.com  
FLORIDA CA #26855    FLORIDA LICENSE NO. 34825  
CHARLES P. SPELMAN, P.E.    FLORIDA LICENSE NO. 34825

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BUILDING 7 LOTS: 33-38  
ADDRESSES:  
SUBDIVISION: SOLUNA  
FCD JOB #14150

SOLUNA  
6 UNIT TOWNHOUSE  
A-B-B-B-B-A

DATE:	2-11-2022
DRAWN BY:	MBC
CHECKED BY:	CS
REVISED:	
PLAN:	2nd FLOOR PLUMBING
SCALE:	3/16" = 1'-0"
SHEET#	