



February 20, 2024

Mr. Shane Phelps
State of North Carolina
Department of Insurance
Manufactured Building Division
1202 Mail Service Center
Raleigh, NC 27699-1202

RE: CMH Manufacturing, Inc. #958
Model: 3542-NC

Mr. Phelps:

Enclosed, you will find one (1) copy of the above-mentioned project for your files.

Should you have any questions or comments, please contact me at your earliest convenience.

Sincerely,

David Richter

David Richter
Account Manager

MODEL PLAN INDEX

Model #	3542	State
Manufacturer	CMH Manufacturing, Inc.	NC
Brand Name	CLAYTON	
Unit Size	26'-8"x56'-0"	
Description	3 BEDROOM / 2 BATH	

Category	Document Description	Page or Sheet #
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Technical Sheet	Light & Vent	TS-1
Technical Sheet	Energy Compliance	PRESCRIPTIVE
Technical Sheet	HVAC System Calc	ATTACHED
Technical Sheet	Electrical Load Calc	TS-5
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Model Plan	OFF/ON Frame Foundation	21-30PSF/21-PS
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Model Plan	Dryer Installation Details	4-1
Model Plan	Electrical Legend	TS-6
Technical Sheet	PLUMBING PLAN	PLN-1.8
Technical Sheet	TRUSSES	ATTACHED
SEE APPROVED MODULAR MANUAL FOR ;		
1. SECTIONS		2. TYPICAL DETAILS
3. REQUIRED CONSTRUCTION METHODS		4. MATERIALS

CMH


Manufacturing, Inc.
engineering department - modular

REVISIONS		
DATE :	REVISION BY :	DAC
February 20, 2024	REVISION DATE :	

TECHNICAL SHEET FOR LIGHT / VENT DATA

MODEL NUMBER	3542
SIZE OF UNIT	26'-8"x56'-0"
WINDOW SQ. FTG. STD.	
WINDOW SQ. FTG. W/ OPT.	
FIGURED FOR :	CLAYTON WINDOWS
PERCENTAGE OF LIGHT REQ'D.	8%
PERCENTAGE OF VENT REQ'D.	4%

		Square Footage		Required		Percentage of		Artificial	
		Installed				Installed			
Room	Area	Light	Vent	Light	Vent	Light	Vent	Light	Vent
PRIMARY BEDROOM	183.4	24.4	12.4	14.7	7.3	13.3%	6.8%		
LIVING ROOM	234.5	24.4	12.4	18.8	9.4	10.4%	5.3%		
BEDROOM 2	119.4	12.2	6.2	9.6	4.8	10.2%	5.2%		
BEDROOM 3	117.2	12.2	6.2	9.4	4.7	10.4%	5.3%		
KITCHEN	184.1	6.6	3.3	14.7	7.4	3.6%	1.8%	YES	YES
DINING ROOM	129.1	24.4	12.4	10.3	5.2	18.9%	9.6%		

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Load Short Form
Entire House
Clayton Homes

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David Richter

Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ3

Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	25	92		Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	45	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	18	35		

HEATING EQUIPMENT

Make	Smart Comfort
Trade	
Model	
AHRI ref	
Efficiency	100 EFF
Heating input	10.0 kW
Heating output	34121 Btuh
Temperature rise	29 °F
Actual air flow	1100 cfm
Air flow factor	0.062 cfm/Btuh
Static pressure	0.30 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Smart Comfort
Trade	15 SEER2 AC
Cond	R4A5S36*K*WAA*
Coil	FEVA0036**+NAVA43601CK
AHRI ref	0
Efficiency	12.5 EER2,15.2 SEER2
Sensible cooling	23100 Btuh
Latent cooling	9900 Btuh
Total cooling	33000 Btuh
Actual air flow	1100 cfm
Air flow factor	0.058 cfm/Btuh
Static pressure	0.30 in H2O
Load sensible heat ratio	0.81

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
P.Bath	107	2014	1593	126	93
P.Clo	91	728	1296	45	75
Kit / DinRm	353	3256	4005	203	233
Bath2	55	544	841	34	49
Util	122	2199	2169	137	126
PBR	198	2742	2516	171	146
LivRm	253	2592	3012	162	175
BR2	147	1347	1682	84	98
BR3	149	2194	1796	137	104
Hall	18	0	0	0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Entire House	1493	17617	18910	1100	1100
Other equip loads		4333	1637		
Equip. @ 0.97 RSM			19930		
Latent cooling			4912		
TOTALS	1493	21949	24842	1100	1100

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Project Information

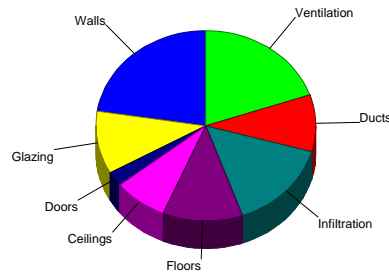
For: Perimeter Duct-CZ3

Design Conditions

Location:		Indoor:		Heating	Cooling
Charlotte/Douglas, NC, US		Indoor temperature (°F)		70	75
Elevation: 768 ft		Design TD (°F)		45	17
Latitude: 35°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		17.9	34.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	25	92	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	74	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

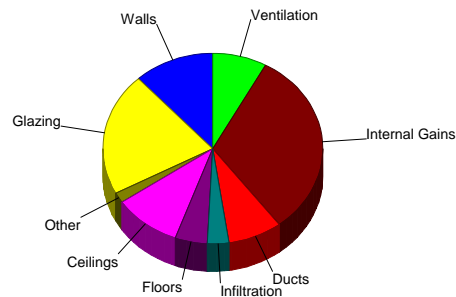
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.9	4939	22.5
Glazing	13.5	2345	10.7
Doors	14.4	547	2.5
Ceilings	1.2	1747	8.0
Floors	1.7	2580	11.8
Infiltration	2.2	3343	15.2
Ducts		2115	9.6
Piping		0	0
Humidification		0	0
Ventilation		4333	19.7
Adjustments		0	0
Total		21949	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.9	2437	11.9
Glazing	24.7	4295	20.9
Doors	9.3	355	1.7
Ceilings	1.4	2046	10.0
Floors	0.7	975	4.7
Infiltration	0.4	652	3.2
Ducts		1630	7.9
Ventilation		1637	8.0
Internal gains		6520	31.7
Blower		0	0
Adjustments		0	0
Total		20546	100.0



Latent Cooling Load = 4912 Btuh
Overall U-value = 0.064 Btuh/ft²·°F, Window / Floor Area = 11.6 %

Data entries checked.

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Project Information

For: Perimeter Duct-CZ3

Design Conditions

Location:		Indoor:		Heating	Cooling
Charlotte/Douglas, NC, US		Indoor temperature (°F)		70	75
Elevation: 768 ft		Design TD (°F)		45	17
Latitude: 35°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		17.9	34.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	25	92	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	74	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12D-0sw: Frm wall, vnl ext, 3/8" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	240	0.086	15.0	3.87	929	1.91	458
	e	420	0.086	15.0	3.87	1627	1.91	802
	s	222	0.086	15.0	3.87	860	1.91	424
	w	394	0.086	15.0	3.87	1524	1.91	752
	all	1276	0.086	15.0	3.87	4939	1.91	2437
Partitions								
(none)								
Windows								
Clayton-Argon: Clayton-Argon; 50% blinds 45°, medium; 50% outdoor insectscreen; 6.67 ft head ht	e	84	0.300	0	13.5	1130	24.5	2055
	w	90	0.300	0	13.5	1215	24.5	2209
	all	174	0.300	0	13.5	2345	24.5	4264
Doors								
CMH - Standard Door: CMH - Standard Door - Solid no storm	s	18	0.320	0	14.4	257	9.34	167
	w	20	0.320	0	14.4	289	9.34	188
	all	38	0.320	0	14.4	547	9.34	355
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1493	0.026	38.0	1.17	1747	1.37	2046
Floors								
19A-19cscp: Flr floor, frm flr, 10" thkns, carpet flr fnsh, r-19 cav ins, tight crwl ovr		1493	0.049	19.0	1.73	2580	0.65	975

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Project Summary
Entire House
Clayton Homes

Job: 3542
 Date: 2/12/24
 By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ3

Notes: R-38-15-19

Design Information

Weather: Charlotte/Douglas, NC, US

Winter Design Conditions

Outside db 25 °F
 Inside db 70 °F
 Design TD 45 °F

Summer Design Conditions

Outside db 92 °F
 Inside db 75 °F
 Design TD 17 °F
 Daily range M
 Relative humidity 50 %
 Moisture difference 35 gr/lb

Heating Summary

Structure 15502 Btuh
 Ducts 2115 Btuh
 Central vent (90 cfm) 4333 Btuh
 Outside air
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 21949 Btuh

Sensible Cooling Equipment Load Sizing

Structure 17279 Btuh
 Ducts 1630 Btuh
 Central vent (90 cfm) 1637 Btuh
 Outside air
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 19930 Btuh

Infiltration

Method Simplified
 Construction quality Semi-tight
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 1626 Btuh
 Ducts 1213 Btuh
 Central vent (90 cfm) 2074 Btuh
 Outside air
 Equipment latent load 4912 Btuh

	Heating	Cooling
Area (ft ²)	1493	1493
Volume (ft ³)	13440	13440
Air changes/hour	0.31	0.16
Equiv. AVF (cfm)	69	36

Equipment Total Load (Sen+Lat) 24842 Btuh
 Req. total capacity at 0.70 SHR 2.4 ton

Heating Equipment Summary

Make Smart Comfort
 Trade
 Model
 AHRI ref
 Efficiency 100 EFF
 Heating input 10.0 kW
 Heating output 34121 Btuh
 Temperature rise 29 °F
 Actual air flow 1100 cfm
 Air flow factor 0.062 cfm/Btuh
 Static pressure 0.30 in H2O
 Space thermostat

Cooling Equipment Summary

Make Smart Comfort
 Trade 15 SEER2 AC
 Cond R4A5S36**K**WAA*
 Coil FEVA0036**+NAVA43601CK
 AHRI ref 0
 Efficiency 12.5 EER2, 15.2 SEER2
 Sensible cooling 23100 Btuh
 Latent cooling 9900 Btuh
 Total cooling 33000 Btuh
 Actual air flow 1100 cfm
 Air flow factor 0.058 cfm/Btuh
 Static pressure 0.30 in H2O
 Load sensible heat ratio 0.81

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Right-Suite© Universal 2023 23.0.04 RSU28658

...ft HVAC\--WS--SN\--WS--Models\3542-28w-P-Duct.rup Calc = MJ8 Front Doorfaces: N

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Manual S Compliance Report
Entire House
Clayton Homes

Job: 3542
 Date: 2/12/24
 By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ3

Cooling Equipment

Design Conditions

Outdoor design DB: 92.0°F	Sensible gain: 20546 Btuh	Entering coil DB: 77.2°F
Outdoor design WB: 74.0°F	Latent gain: 4912 Btuh	Entering coil WB: 63.9°F
Indoor design DB: 75.0°F	Total gain: 25459 Btuh	
Indoor RH: 50%	Estimated airflow: 1100 cfm	

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split AC		
Manufacturer: Smart Comfort	Model: R4A5S36*K*WAA*+FEVA0036**+NAVA43601CK	
Actual airflow: 1100 cfm		
Sensible capacity: 23100 Btuh	112% of load	
Latent capacity: 9900 Btuh	202% of load	
Total capacity: 33000 Btuh	130% of load SHR: 70%	

Heating Equipment

Design Conditions

Outdoor design DB: 25.0°F	Heat loss: 21949 Btuh	Entering coil DB: 65.8°F
Indoor design DB: 70.0°F		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Elec strip		
Manufacturer: Smart Comfort	Model:	
Actual airflow: 1100 cfm		
Output capacity: 10.0 kW	155% of load	Temp. rise: 54 °F

Meets all requirements of ACCA Manual S.

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Duct System Summary

Entire House

Clayton Homes

Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ3

	Heating	Cooling
External static pressure	0.30 in H2O	0.30 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.30 in H2O	0.30 in H2O
Supply / return available pressure	0.220 / 0.080 in H2O	0.220 / 0.080 in H2O
Lowest friction rate	0.078 in/100ft	0.078 in/100ft
Actual air flow	1100 cfm	1100 cfm
Total effective length (TEL)	384 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BR2	c 1682	84	98	0.078	6.0	0x 0	VIFx	46.4	235.0	st4
BR3	h 1097	68	52	0.080	6.0	0x 0	VIFx	58.8	215.0	st4
BR3-A	h 1097	68	52	0.079	6.0	0x 0	VIFx	54.0	225.0	st4
Bath2	c 841	34	49	0.107	5.0	0x 0	VIFx	9.9	195.0	st3
Kit / DinRm	c 1335	68	78	0.107	6.0	0x 0	VIFx	35.3	170.0	st3
Kit / DinRm-A	c 1335	68	78	0.106	6.0	0x 0	VIFx	27.0	180.0	st3
Kit / DinRm-B	c 1335	68	78	0.108	6.0	0x 0	VIFx	18.0	185.0	st3
LivRm	c 1506	81	88	0.081	6.0	0x 0	VIFx	38.0	235.0	st5
LivRm-A	c 1506	81	88	0.079	6.0	0x 0	VIFx	34.0	245.0	st4
P.Bath	h 2014	126	93	0.111	6.0	0x 0	VIFx	47.6	150.0	st3
P.Clo	c 1296	45	75	0.108	6.0	0x 0	VIFx	42.8	160.0	st3
PBR	h 1371	86	73	0.082	6.0	0x 0	VIFx	52.6	215.0	st5
PBR-A	h 1371	86	73	0.082	6.0	0x 0	VIFx	43.5	225.0	st5
Util	h 2199	137	126	0.137	6.0	0x 0	VIFx	10.7	150.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	302	290	0.078	580	9.3	5 x 15	ShtMetl	st2
st5	Peak AVF	252	234	0.081	519	8.6	5 x 14	ShtMetl	st2
st3	Peak AVF	409	450	0.106	926	9.1	5 x 14	ShtMetl	
st1	Peak AVF	137	126	0.137	283	6.2	5 x 14	ShtMetl	
st2	Peak AVF	554	524	0.078	706	12.0	0 x 0	VinIFx	

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Right-Suite® Universal 2023.23.0.04 RSU28658

...ft HVAC\--WS--SN--WS-Models\3542-28w-P-Duct.rup Calc = MJ8 Front Doorfaces: N

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Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb2	0x 0	541	543	80.9	0.099	508	14.0	0x 0		VIFx	
rb1	0x 0	559	557	102.4	0.078	523	14.0	0x 0		VIFx	

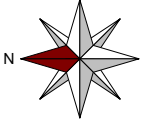
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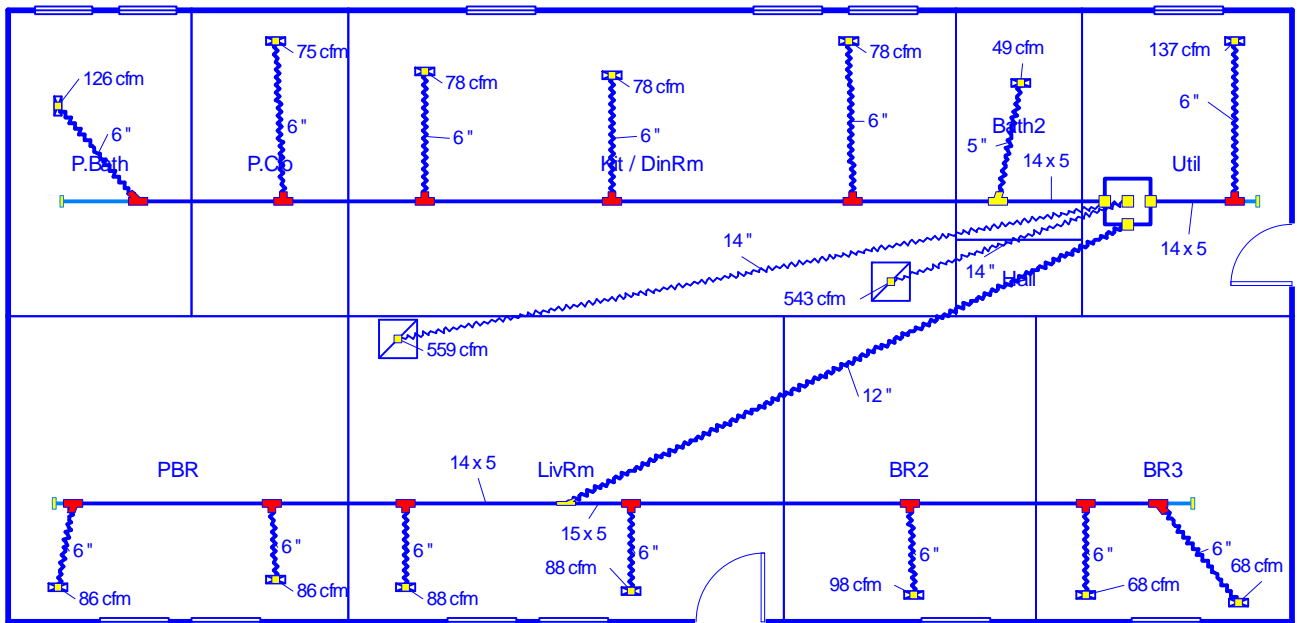
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First Floor



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Job #: 3542
Performed by LSS for:
Perimeter Duct-CZ3

Clayton Homes

5000 Clayton Road
Maryville, TN 37804
Phone: 865-380-3000

Scale: 1 : 101

Page 1
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Load Short Form
Entire House
Clayton Homes

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Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ4

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	24	92	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	46	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	19	41		

HEATING EQUIPMENT

Make	Smart Comfort
Trade	
Model	
AHRI ref	
Efficiency	100 EFF
Heating input	10.0 kW
Heating output	34121 Btuh
Temperature rise	29 °F
Actual air flow	1100 cfm
Air flow factor	0.060 cfm/Btuh
Static pressure	0.30 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Smart Comfort
Trade	15 SEER2 AC
Cond	R4A5S36*K*WAA*
Coil	FEVA0036**+NAVA43601CK
AHRI ref	0
Efficiency	12.5 EER2,15.2 SEER2
Sensible cooling	23100 Btuh
Latent cooling	9900 Btuh
Total cooling	33000 Btuh
Actual air flow	1100 cfm
Air flow factor	0.058 cfm/Btuh
Static pressure	0.30 in H2O
Load sensible heat ratio	0.79

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
P.Bath	107	2084	1602	126	93
P.Clo	91	753	1302	45	75
Kit / DinRm	353	3367	4025	203	233
Bath2	55	563	845	34	49
Util	122	2276	2180	137	126
PBR	198	2837	2533	171	147
LivRm	253	2680	3029	162	175
BR2	147	1393	1692	84	98
BR3	149	2271	1809	137	105
Hall	18	0	0	0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Entire House	1493	18223	19017	1100	1100
Other equip loads		4522	1696		
Equip. @ 0.97 RSM			20174		
Latent cooling			5575		
TOTALS	1493	22745	25750	1100	1100

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Project Information

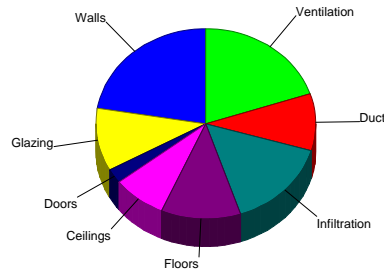
For: Perimeter Duct-CZ4

Design Conditions

Location:		Indoor:		Heating	Cooling
Raleigh/Raleigh-dur, NC, US		Indoor temperature (°F)		70	75
Elevation: 436 ft		Design TD (°F)		46	17
Latitude: 36°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		18.7	40.7
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	24	92	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	75	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

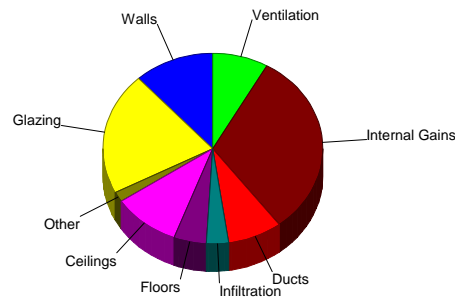
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.0	5093	22.4
Glazing	13.9	2418	10.6
Doors	14.8	564	2.5
Ceilings	1.2	1802	7.9
Floors	1.8	2661	11.7
Infiltration	2.3	3489	15.3
Ducts		2197	9.7
Piping		0	0
Humidification		0	0
Ventilation		4522	19.9
Adjustments		0	0
Total		22745	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.9	2442	11.8
Glazing	24.8	4313	20.8
Doors	9.4	355	1.7
Ceilings	1.4	2048	9.9
Floors	0.7	998	4.8
Infiltration	0.5	675	3.3
Ducts		1665	8.0
Ventilation		1696	8.2
Internal gains		6520	31.5
Blower		0	0
Adjustments		0	0
Total		20713	100.0



Latent Cooling Load = 5575 Btuh
Overall U-value = 0.064 Btuh/ft²·°F, Window / Floor Area = 11.6 %

Data entries checked.

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Project Information

For: Perimeter Duct-CZ4

Design Conditions

Location:				Indoor:	Heating	Cooling
Raleigh/Raleigh-dur, NC, US				Indoor temperature (°F)	70	75
Elevation: 436 ft				Design TD (°F)	46	17
Latitude: 36°N				Relative humidity (%)	30	50
				Moisture difference (gr/lb)	18.7	40.7
Outdoor:	Heating	Cooling		Infiltration:		
Dry bulb (°F)	24	92		Method	Simplified	
Daily range (°F)	-	19 (M)		Construction quality	Semi-tight	
Wet bulb (°F)	-	75		Fireplaces	0	
Wind speed (mph)	15.0	7.5				

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12D-0sw: Frm wall, vnl ext, 3/8" wood shth, r-15 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	240	0.086	15.0	3.99	958	1.91	459
	e	420	0.086	15.0	3.99	1677	1.91	804
	s	222	0.086	15.0	3.99	886	1.91	425
	w	394	0.086	15.0	3.99	1572	1.91	754
	all	1276	0.086	15.0	3.99	5093	1.91	2442
Partitions (none)								
Windows								
Clayton-Argon: Clayton-Argon; 50% blinds 45°, medium; 50% outdoor insectscreen; 6.67 ft head ht	e	84	0.300	0	13.9	1165	24.6	2061
	w	90	0.300	0	13.9	1253	24.6	2216
	all	174	0.300	0	13.9	2418	24.6	4277
Doors								
CMH - Standard Door: CMH - Standard Door - Solid no storm	s	18	0.320	0	14.8	265	9.36	167
	w	20	0.320	0	14.8	298	9.36	188
	all	38	0.320	0	14.8	564	9.36	355
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1493	0.026	38.0	1.21	1802	1.37	2048
Floors								
19A-19cscp: Flr floor, frm flr, 10" thkns, carpet flr fnsh, r-19 cav ins, tight crwl ovr		1493	0.049	19.0	1.78	2661	0.67	998

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 David Richter



Project Summary
Entire House
Clayton Homes

Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ4

Notes: R-38-15-19

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Design Information

Weather: Raleigh/Raleigh-dur, NC, US

Winter Design Conditions

Outside db 24 °F
Inside db 70 °F
Design TD 46 °F

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 41 gr/lb

Heating Summary

Structure 16026 Btuh
Ducts 2197 Btuh
Central vent (90 cfm) 4522 Btuh
 Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 22745 Btuh

Sensible Cooling Equipment Load Sizing

Structure 17352 Btuh
Ducts 1665 Btuh
Central vent (90 cfm) 1696 Btuh
 Outside air
Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 20174 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 1775 Btuh
Ducts 1350 Btuh
Central vent (90 cfm) 2450 Btuh
 Outside air
Equipment latent load 5575 Btuh

	Heating	Cooling
Area (ft ²)	1493	1493
Volume (ft ³)	13440	13440
Air changes/hour	0.31	0.16
Equiv. AVF (cfm)	69	36

Equipment Total Load (Sen+Lat) 25750 Btuh
Req. total capacity at 0.70 SHR 2.4 ton

Heating Equipment Summary

Make Smart Comfort
Trade
Model
AHRI ref

Efficiency 100 EFF
Heating input 10.0 kW
Heating output 34121 Btuh
Temperature rise 29 °F
Actual air flow 1100 cfm
Air flow factor 0.060 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 AC
Cond R4A5S36*K*WAA*
Coil FEVA0036**+NAVA43601CK
AHRI ref 0
Efficiency 12.5 EER2, 15.2 SEER2
Sensible cooling 23100 Btuh
Latent cooling 9900 Btuh
Total cooling 33000 Btuh
Actual air flow 1100 cfm
Air flow factor 0.058 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.79

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





Manual S Compliance Report
Entire House
Clayton Homes

Job: 3542
 Date: 2/12/24
 By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ4

Cooling Equipment

Design Conditions

Outdoor design DB: 92.4°F	Sensible gain: 20713 Btuh	Entering coil DB: 77.2°F
Outdoor design WB: 75.2°F	Latent gain: 5575 Btuh	Entering coil WB: 64.0°F
Indoor design DB: 75.0°F	Total gain: 26288 Btuh	
Indoor RH: 50%	Estimated airflow: 1100 cfm	

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split AC		
Manufacturer: Smart Comfort	Model: R4A5S36*K*WAA*+FEVA0036**+NAVA43601CK	
Actual airflow: 1100 cfm		
Sensible capacity: 23100 Btuh	112% of load	
Latent capacity: 9900 Btuh	178% of load	
Total capacity: 33000 Btuh	126% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB: 23.6°F	Heat loss: 22745 Btuh	Entering coil DB: 65.6°F
Indoor design DB: 70.0°F		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Elec strip		
Manufacturer: Smart Comfort	Model:	
Actual airflow: 1100 cfm		
Output capacity: 10.0 kW	150% of load	Temp. rise: 53 °F

Meets all requirements of ACCA Manual S.

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Duct System Summary

Entire House

Clayton Homes

Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ4

	Heating	Cooling
External static pressure	0.30 in H2O	0.30 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.30 in H2O	0.30 in H2O
Supply / return available pressure	0.220 / 0.080 in H2O	0.220 / 0.080 in H2O
Lowest friction rate	0.078 in/100ft	0.078 in/100ft
Actual air flow	1100 cfm	1100 cfm
Total effective length (TEL)	384 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BR2	c 1692	84	98	0.078	6.0	0x 0	VIFx	46.4	235.0	st4
BR3	h 1135	69	52	0.080	6.0	0x 0	VIFx	58.8	215.0	st4
BR3-A	h 1135	69	52	0.079	6.0	0x 0	VIFx	54.0	225.0	st4
Bath2	c 845	34	49	0.107	5.0	0x 0	VIFx	9.9	195.0	st3
Kit / DinRm	c 1342	68	78	0.107	6.0	0x 0	VIFx	35.3	170.0	st3
Kit / DinRm-A	c 1342	68	78	0.106	6.0	0x 0	VIFx	27.0	180.0	st3
Kit / DinRm-B	c 1342	68	78	0.108	6.0	0x 0	VIFx	18.0	185.0	st3
LivRm	c 1515	81	88	0.081	6.0	0x 0	VIFx	38.0	235.0	st5
LivRm-A	c 1515	81	88	0.079	6.0	0x 0	VIFx	34.0	245.0	st4
P.Bath	h 2084	126	93	0.111	6.0	0x 0	VIFx	47.6	150.0	st3
P.Clo	c 1302	45	75	0.108	6.0	0x 0	VIFx	42.8	160.0	st3
PBR	h 1418	86	73	0.082	6.0	0x 0	VIFx	52.6	215.0	st5
PBR-A	h 1418	86	73	0.082	6.0	0x 0	VIFx	43.5	225.0	st5
Util	h 2276	137	126	0.137	6.0	0x 0	VIFx	10.7	150.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	302	290	0.078	580	9.3	5 x 15	ShtMetl	st2
st5	Peak AVF	252	234	0.081	519	8.6	5 x 14	ShtMetl	st2
st3	Peak AVF	408	450	0.106	925	9.1	5 x 14	ShtMetl	
st1	Peak AVF	137	126	0.137	283	6.2	5 x 14	ShtMetl	
st2	Peak AVF	554	524	0.078	706	12.0	0 x 0	VinIFlx	

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Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb2	0x 0	541	543	80.9	0.099	508	14.0	0x 0		VIFx	
rb1	0x 0	559	557	102.4	0.078	523	14.0	0x 0		VIFx	

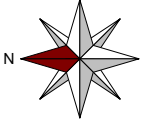
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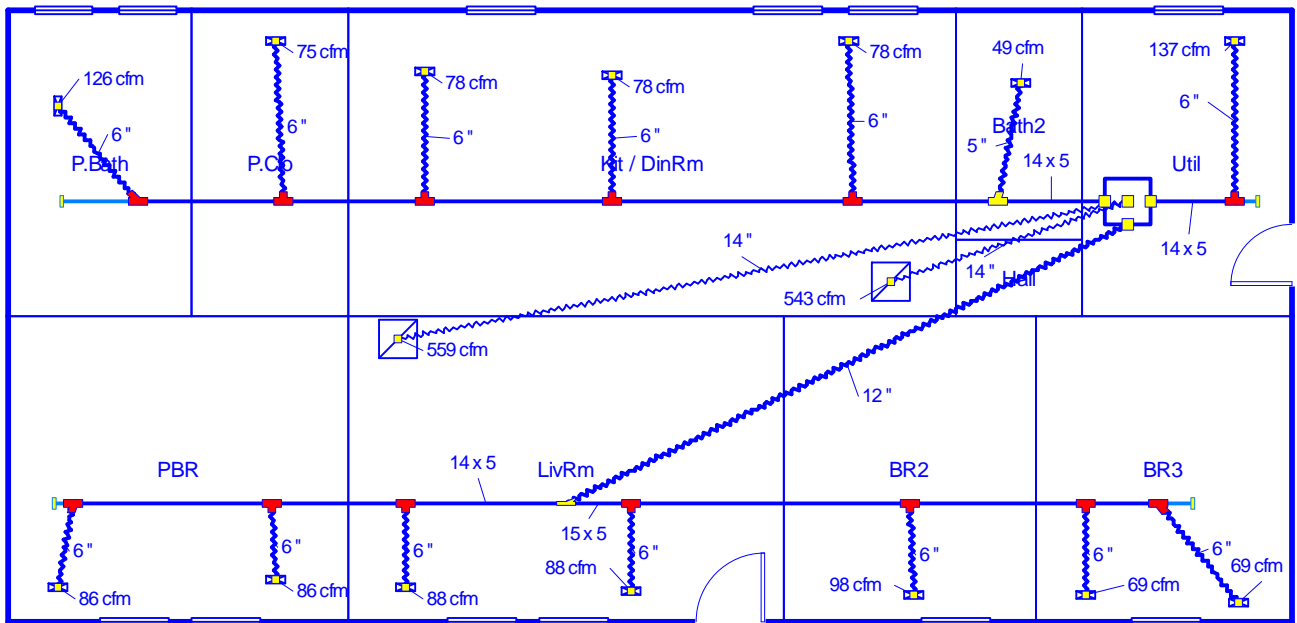
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First Floor



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Job #: 3542
Performed by LSS for:
Perimeter Duct-CZ4

Clayton Homes

5000 Clayton Road
Maryville, TN 37804
Phone: 865-380-3000

Scale: 1 : 101

Page 1
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Load Short Form
Entire House
Clayton Homes

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Job: 3542
Date: 2/12/24
By: LSS

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5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ5

Design Information

	Htg	Clg	Method	Infiltration	
Outside db (°F)	25	92	Method		Simplified
Inside db (°F)	70	75	Construction quality		Semi-tight
Design TD (°F)	45	17	Fireplaces		0
Daily range	-	M			
Inside humidity (%)	30	50			
Moisture difference (gr/lb)	18	35			

HEATING EQUIPMENT

Make	Smart Comfort
Trade	
Model	
AHRI ref	
Efficiency	100 EFF
Heating input	10.0 kW
Heating output	34121 Btuh
Temperature rise	29 °F
Actual air flow	1100 cfm
Air flow factor	0.069 cfm/Btuh
Static pressure	0.30 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Smart Comfort
Trade	15 SEER2 AC
Cond	R4A5S36*K*WAA*
Coil	FEVA0036**+NAVA43601CK
AHRI ref	0
Efficiency	12.5 EER2, 15.2 SEER2
Sensible cooling	23100 Btuh
Latent cooling	9900 Btuh
Total cooling	33000 Btuh
Actual air flow	1100 cfm
Air flow factor	0.061 cfm/Btuh
Static pressure	0.30 in H2O
Load sensible heat ratio	0.80

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
P.Bath	107	1839	1488	127	91
P.Clo	91	635	1248	44	76
Kit / DinRm	353	2937	3837	203	235
Bath2	55	475	804	33	49
Util	122	2011	2056	139	126
PBR	198	2474	2363	171	145
LivRm	253	2389	2903	165	178
BR2	147	1213	1612	84	99
BR3	149	1959	1661	135	102
Hall	18	0	0	0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Entire House	1493	15932	17971	1100	1100
Other equip loads		4333	1637		
Equip. @ 0.97 RSM			19020		
Latent cooling			4912		
TOTALS	1493	20264	23932	1100	1100

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Project Information

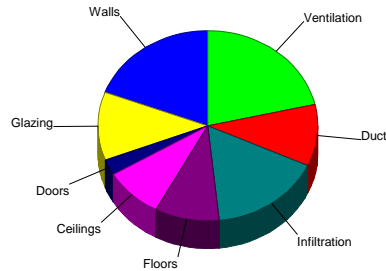
For: Perimeter Duct-CZ5

Design Conditions

Location:		Indoor:		Heating	Cooling
Charlotte/Douglas, NC, US		Indoor temperature (°F)		70	75
Elevation: 768 ft		Design TD (°F)		45	17
Latitude: 35°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		17.9	34.8
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	25	92	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	74	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

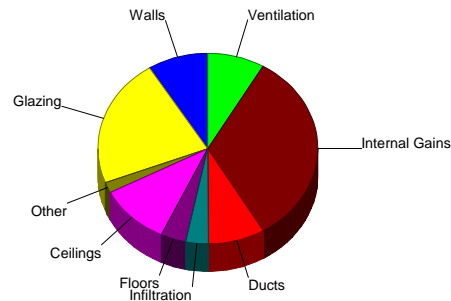
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.1	3906	19.3
Glazing	13.5	2345	11.6
Doors	14.4	547	2.7
Ceilings	1.2	1747	8.6
Floors	1.3	1918	9.5
Infiltration	2.2	3343	16.5
Ducts		2127	10.5
Piping		0	0
Humidification		0	0
Ventilation		4333	21.4
Adjustments		0	0
Total		20264	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.4	1744	8.9
Glazing	24.7	4295	21.9
Doors	9.3	355	1.8
Ceilings	1.4	2046	10.4
Floors	0.5	724	3.7
Infiltration	0.4	652	3.3
Ducts		1635	8.3
Ventilation		1637	8.3
Internal gains		6520	33.3
Blower		0	0
Adjustments		0	0
Total		19608	100.0



Latent Cooling Load = 4912 Btuh
 Overall U-value = 0.054 Btuh/ft²·°F, Window / Floor Area = 11.6 %

Data entries checked.

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Component Constructions
Entire House
Clayton Homes

Job: 3542
 Date: 2/12/24
 By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ5

Design Conditions

Location:			Indoor:	Heating	Cooling
Charlotte/Douglas, NC, US			Indoor temperature (°F)	70	75
Elevation: 768 ft			Design TD (°F)	45	17
Latitude: 35°N			Relative humidity (%)	30	50
			Moisture difference (gr/lb)	17.9	34.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	25	92	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Semi-tight	
Wet bulb (°F)	-	74	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12E-0sw: Frm wall, vnl ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	240	0.068	19.0	3.06	734	1.37	328
	e	420	0.068	19.0	3.06	1286	1.37	574
	s	222	0.068	19.0	3.06	680	1.37	304
	w	394	0.068	19.0	3.06	1205	1.37	538
	all	1276	0.068	19.0	3.06	3906	1.37	1744
Partitions								
(none)								
Windows								
Clayton-Argon: Clayton-Argon; 50% blinds 45°, medium; 50% outdoor insectscreen; 6.67 ft head ht	e	84	0.300	0	13.5	1130	24.5	2055
	w	90	0.300	0	13.5	1215	24.5	2209
	all	174	0.300	0	13.5	2345	24.5	4264
Doors								
CMH - Standard Door: CMH - Standard Door - Solid no storm	s	18	0.320	0	14.4	257	9.34	167
	w	20	0.320	0	14.4	289	9.34	188
	all	38	0.320	0	14.4	547	9.34	355
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1493	0.026	38.0	1.17	1747	1.37	2046
Floors								
19A-30cvcp: Flr floor, frm flr, 10" thkns, carpet flr fnsh, r-30 cav ins, leaky cwl ovr		1493	0.034	30.0	1.28	1918	0.49	724

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Project Summary
Entire House
Clayton Homes



Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

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Project Information

For: Perimeter Duct-CZ5

Notes: R-38-19-30

Design Information

Weather: Charlotte/Douglas, NC, US

Winter Design Conditions

Outside db 25 °F
Inside db 70 °F
Design TD 45 °F

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 35 gr/lb

Heating Summary

Structure 13805 Btuh
Ducts 2127 Btuh
Central vent (90 cfm) 4333 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 20264 Btuh

Sensible Cooling Equipment Load Sizing

Structure 16336 Btuh
Ducts 1635 Btuh
Central vent (90 cfm) 1637 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 19020 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 1626 Btuh
Ducts 1213 Btuh
Central vent (90 cfm) 2074 Btuh
Outside air
Equipment latent load 4912 Btuh

	Heating	Cooling
Area (ft²)	1493	1493
Volume (ft³)	13440	13440
Air changes/hour	0.31	0.16
Equiv. AVF (cfm)	69	36

Equipment Total Load (Sen+Lat) 23932 Btuh
Req. total capacity at 0.70 SHR 2.3 ton

Heating Equipment Summary

Make Smart Comfort
Trade
Model
AHRI ref
Efficiency 100 EFF
Heating input 10.0 kW
Heating output 34121 Btuh
Temperature rise 29 °F
Actual air flow 1100 cfm
Air flow factor 0.069 cfm/Btuh
Static pressure 0.30 in H2O
Space thermostat

Cooling Equipment Summary

Make Smart Comfort
Trade 15 SEER2 AC
Cond R4A5S36*K*WAA*
Coil FEVA0036**+NAVA43601CK
AHRI ref 0
Efficiency 12.5 EER2, 15.2 SEER2
Sensible cooling 23100 Btuh
Latent cooling 9900 Btuh
Total cooling 33000 Btuh
Actual air flow 1100 cfm
Air flow factor 0.061 cfm/Btuh
Static pressure 0.30 in H2O
Load sensible heat ratio 0.80

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Manual S Compliance Report
Entire House
Clayton Homes

Job: 3542
 Date: 2/12/24
 By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ5

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	19608	Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	74.0°F	Latent gain:	4912	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	24520	Btuh		
Indoor RH:	50%	Estimated airflow:	1100	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split AC			
Manufacturer:	Smart Comfort	Model:	R4A5S36*K*WAA*+FEVA0036**+NAVA43601CK	
Actual airflow:	1100	cfm		
Sensible capacity:	23100	Btuh	118%	of load
Latent capacity:	9900	Btuh	202%	of load
Total capacity:	33000	Btuh	135%	of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	25.0°F	Heat loss:	20264	Btuh	Entering coil DB:	65.8°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Elec strip			
Manufacturer:	Smart Comfort	Model:		
Actual airflow:	1100	cfm		
Output capacity:	10.0	kW	168%	of load
				Temp. rise: 54 °F

Meets all requirements of ACCA Manual S.

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Duct System Summary

Entire House

Clayton Homes

Job: 3542
Date: 2/12/24
By: LSS

5000 Clayton Road, Maryville, TN 37804 Phone: 865-380-3000

Project Information

For: Perimeter Duct-CZ5

	Heating	Cooling
External static pressure	0.30 in H2O	0.30 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.30 in H2O	0.30 in H2O
Supply / return available pressure	0.220 / 0.080 in H2O	0.220 / 0.080 in H2O
Lowest friction rate	0.078 in/100ft	0.078 in/100ft
Actual air flow	1100 cfm	1100 cfm
Total effective length (TEL)	384 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BR2	c 1612	84	99	0.078	6.0	0x 0	VIFx	46.4	235.0	st4
BR3	h 979	68	51	0.080	6.0	0x 0	VIFx	58.8	215.0	st4
BR3-A	h 979	68	51	0.079	6.0	0x 0	VIFx	54.0	225.0	st4
Bath2	c 804	33	49	0.107	5.0	0x 0	VIFx	9.9	195.0	st3
Kit / DinRm	c 1279	68	78	0.107	6.0	0x 0	VIFx	35.3	170.0	st3
Kit / DinRm-A	c 1279	68	78	0.106	6.0	0x 0	VIFx	27.0	180.0	st3
Kit / DinRm-B	c 1279	68	78	0.108	6.0	0x 0	VIFx	18.0	185.0	st3
LivRm	c 1452	82	89	0.081	6.0	0x 0	VIFx	38.0	235.0	st5
LivRm-A	c 1452	82	89	0.079	6.0	0x 0	VIFx	34.0	245.0	st4
P.Bath	h 1839	127	91	0.111	6.0	0x 0	VIFx	47.6	150.0	st3
P.Clo	c 1248	44	76	0.108	6.0	0x 0	VIFx	42.8	160.0	st3
PBR	h 1237	85	72	0.082	6.0	0x 0	VIFx	52.6	215.0	st5
PBR-A	h 1237	85	72	0.082	6.0	0x 0	VIFx	43.5	225.0	st5
Util	h 2011	139	126	0.137	6.0	0x 0	VIFx	10.7	150.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	PeakAVF	301	289	0.078	579	9.2	5 x 15	ShtMetl	st2
st5	PeakAVF	253	233	0.081	521	8.6	5 x 14	ShtMetl	st2
st3	PeakAVF	406	451	0.106	929	9.1	5 x 14	ShtMetl	
st1	PeakAVF	139	126	0.137	286	6.2	5 x 14	ShtMetl	
st2	PeakAVF	555	523	0.078	706	12.0	0 x 0	VinIFlx	

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2/20/2024



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...ft HVAC\--WS-SN\--WS-Models\3542-28w-P.Duct.rup Calc = MJ8 Front Doorfaces: N

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Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb2	0x 0	541	543	80.9	0.099	507	14.0	0x 0		VIFx	
rb1	0x 0	559	557	102.4	0.078	523	14.0	0x 0		VIFx	

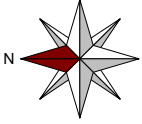
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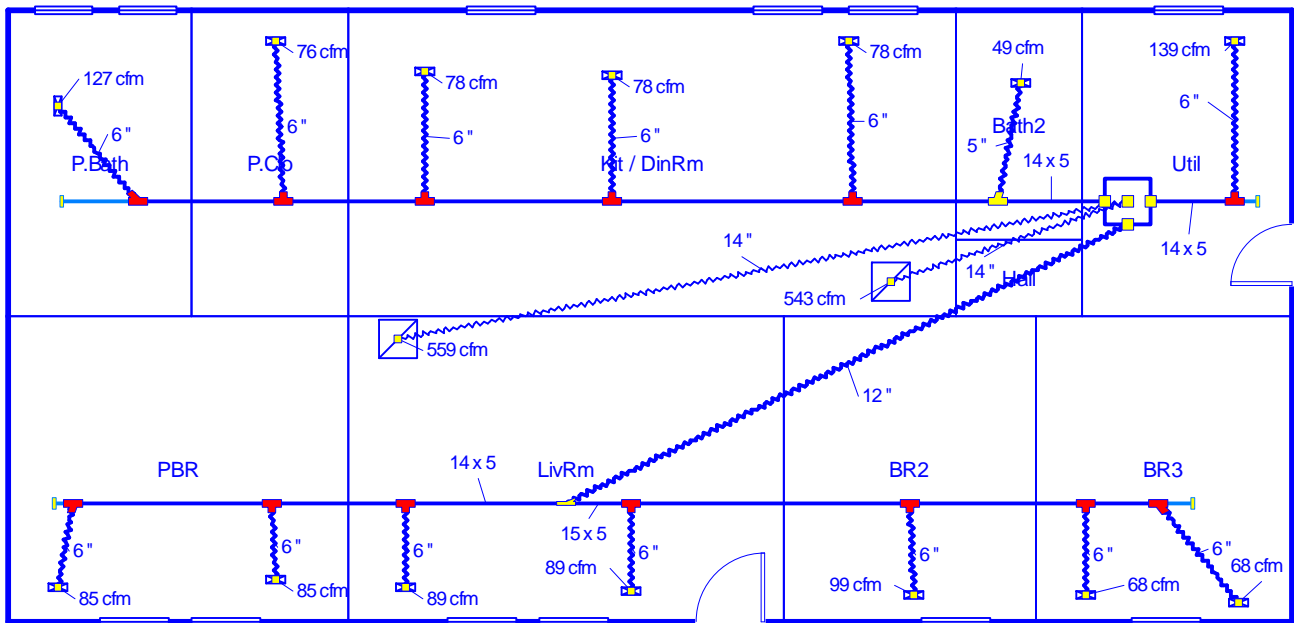
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First Floor



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Job #: 3542
Performed by LSS for:
Perimeter Duct-CZ5

Clayton Homes

5000 Clayton Road
Maryville, TN 37804
Phone: 865-380-3000

Scale: 1 : 101

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ELECTRICAL FEEDER CALCULATION

CMH Manufacturing, Inc. <i>engineering department - modular</i>	PAGE:	1 of 1
	DATE:	12-Feb-24
	BY:	DAC

MODEL NO.	3542	Per NEC 220-30
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1. LIGHTING LOAD:					
1st floor			2nd floor		
length =	56.00	FT.	length =	0.00	FT.
width =	26.67	FT.	width =	0.00	FT.
Total area =	1493	SQ. FT.	Minimum number of 15 Amp circuits =	3	
	X	3	VA		
TOTAL	4479	VA			

2. SMALL APPLIANCE LOAD:			3. LAUNDRY LOAD:		
Number of circuits	3		Number of circuits	1	
	X	1500	VA	X	1500
TOTAL	4500	VA	TOTAL	1500	VA

4. APPLIANCE LOAD:		
Electric Range =		12100 VA
Electric Water Heater =		5000 VA
Electric Clothes Dryer =		5600 VA
Cooktop =		0 VA
Wall Oven =		0 VA
Freezer =		1200 VA
Dishwasher & Disposal =		2376 VA
Gas furnace motor =		0 VA
Micro-wave oven		1200 VA

5. TOTAL OF OTHER LOADS (1, 2 & 3)		
	LEG A	
Lighting load =	4479	
Small appliance load =	4500	
Laundry =	1500	
Appliance load =	27476	
Sub-Total =	37955	
10000 VA @ 100% =	10000	
Remainder @ 40% =	11182	
Total =	21182	VA
	88.26	AMPS

6. HVAC LOAD:			
Lineal feet of baseboard heaters =		0	
Number of baseboard heater circuits =		0	
Total baseboard heater load =		0.0	Amps
Use 65% w/ less than 4 or 40% w/ 4 or more circuits (*)			
Electric furnace @ 65% (*)			
Circuit 1 =	60	Amps	39.00 Amps
Circuit 2 =	0	Amps	0.00 Amps
Air conditioner (*)			Amps
Total HVAC load (*- Use largest of these only) =		39.00	Amps

7. TOTAL OF ALL LOADS =	127.26	Amps
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FURN SIZE
 10KW

TS-5

DOOR AND WINDOW SCHEDULE

NOTE: FLOOR PLAN WINDOW SIZES WITH AN "SG" DESIGNATION REPRESENTS SAFETY GLAZING REQUIRED PER IRC SECTION R308.4

SIZES	ROUGH OPENING	LIGHT (@ 8%)	VENT (@ 4%)
14 X 40 WDW.	14 1/4" X 40 1/4"	2.50	1.30
24 X35 WDW.	24 1/4" X 35 1/4"	4.10	2.10
24 X54 WDW.	24 1/4" X 54 1/4"	6.80	3.50
30 X 60 WDW.	30 1/4" X 60 1/4"	9.90	5.20
36 X 35 WDW.	36 1/4" X 35 1/4"	6.60	3.30
36 X 54 WDW.	36 1/4" X 54 1/4"	10.80	5.60
36 X 60 WDW.	36 1/4" X 60 1/4"	12.20	6.20
36 X 72 WDW.	36 1/4" X 72 1/4"	14.90	7.70
36 X 08 WDW.	36 1/4" X 08 1/4"	0.50	0.00
36 x 12 WDW.	36 1/4" X 12 1/4"	1.10	0.00
64 x 35 WDW.	64 1/4" X 35 1/4"	11.50	2.60
58 x 35 WDW.	58 1/4" X 35 1/4"	10.10	2.20
36 X 48 WDW.	36 1/4" X 38 1/4"	9.25	4.70
30 X 72 WDW.	30 1/4" X 72 1/4"	12.10	6.20
40 x 60 WDW.	40 1/4" X 60 1/4"	13.70	7.00
DOORS			
2-8 X 6-8 DOOR	35 1/2" X 80"	-	-
3-0 X 6-8 DOOR	38" X 80"	-	-
PATIO DOOR	72" X 80"	33.6	16.8
ATRIUM DOOR	75 3/8" X 82 1/2"	21.15	17.3

FASTENING REQUIREMENTS: FOR DOORS AND WINDOWS, USE EITHER # 8 X 1" SCREWS, 7/16" X 1 1/2" X 16 GA. STAPLES, OR .092 X 2 1/4" PD NAILS, AT 12" ON CENTER MAXIMUM.

<u>DESIGN CRITERIA</u>	<u>CLASSIFICATION:</u>
- FLOOR LIVE LOAD = 40 PSF	- USE GROUP = R3
- GROUND SNOW LOAD = 30PSF	
- ATTIC LIVE LOAD = 10 PSF	- CONSTRUCTION TYPE IS V-B (UNPROTECTED)
- SEISMIC DESIGN CATEGORY "C"	- SOIL PROFILE CATEGORY "D"
- WIND EXPOSURE - 'C'	- Mean Roof Height - 22'-0" max.
DESIGN WIND SPEED = 90 MPH 100MPH 120MPH	
ULTIMATE WIND SPEED = 117 MPH 130 MPH 152 MPH	

ATTENTION LOCAL INSPECTION DEPARTMENT
 SET-UP INSTRUCTIONS FOR THIS MODULAR UNIT ARE INCLUDED BY ATTACHMENT TO THESE PLANS. ANY PLAN SET WHICH DOES NOT INCLUDE AN ATTACHMENT ENTITLED "SET UP MANUAL" IS INCOMPLETE

SET- UP INSTRUCTIONS
 SEE SETUP MANUAL SENT WITH HOME.

REQUIREMENTS FOR FIRESTOPPING
 INSTALLATION OF NON- COMBUSTIBLE MATERIALS AROUND ALL OPENINGS THAT ARE VERTICAL PENETRATIONS IN THE FLR. AND CLG.
ATTENTION LOCAL INSPECTION DEPARTMENT
 THE FOLLOWING ITEMS LISTED HAVE NOT BEEN COMPLETED BY CMH MFG, Inc., HAVE NOT BEEN INSPECTED BY NTA, INC AND ARE NOT CERTIFIED BY THE STATE OF NORTH CAROLINA MODULAR LABEL. CODE COMPLIANCES MUST BE DETERMINED BY THE LOCAL JURISDICTION FOR THE FOLLOWING:
 - HVAC SYSTEM (SITE INSTALLATION AND CONNECTIONS)
 -THIS UNIT MUST BE CONNECTED TO A PUBLIC WATER SUPPLY AND SEWER SYSTEM, IF THESE ARE AVAILABLE.

CODE COMPLIANCE

ALL PLANS MEET OR EXCEED THE FOLLOWING:

North Carolina State Building Code Compliance:
 - NC Residential Code - 2018 Edition

 - NC Electrical Code - 2017



RIDGE BEAMS-SIZES AND MAX. SPAN CHART
 RIDGE BM. CHART-SEE MATING WALL PG. RC-60.0 FOR MAX. CALCULATIONS-SEE MATING WALL PGS. CRC SECTION

Soffitt materials for this unit assume that the building face will be 10 feet or greater from the property line when installed on site. Where the building face is less than 10 feet from the property line, underlayment materials and ventilation in accordance with Section R302.1.1,NC Residential Code, must be provided and installed at the site and inspected by the local jurisdiction

THERMAL ZONE REQUIREMENT
 -INSULATION DONE PER THE NORTH CAROLINA 2018 PRESCRITIVE METHOD
 CZ3: R-VALUES ARE CEILING-38, WALL-15, FLOOR-19
 CZ4: R-VALUES ARE CEILING-38, WALL-15, FLOOR-19
 CZ5 : R-VALUES ARE CEILING-38, WALL-19, FLOOR-30
 U = 0.30 / SHGC = 0.28

MAX BTU PER ATTACHED HVAC CALCS

INSULATION PACKAGES
 PER ATTACHED

MODULAR MANUAL REFERENCES

ITEMS BELOW ARE REFERENCED FOR NON PRESCRIPTIVE USE

FLOOR: ON FRAME CONSTRUCTION
DETAILS - SECTIONS ON FLOORS FOR ON FRAME: FL-500
CALCULATIONS - SEE CFL SECTION

FLOOR: OFF FRAME CONSTRUCTION
DETAILS - SECTIONS ON FLOORS FOR OFF FRAME: FL - 100

MARRIAGE WALLS - 2x CONSTRUCTION
DETAILS - MW-20.0, MW-30.0, MW-40.0
CALCULATIONS - SEE CMW SECTION

PLUMBING FIXTURES
 SEE PAGE PLN - 1.8

ELECTRICAL APPLIANCES AND LOADS
ELECTRICAL - SEE PAGES PLN-1.0 for WH & PLN-1.5 for FURN
CALCULATION - SEE TECHNICAL SHEET ATTACHED FOR MODEL SPECIFIC ELECTRICAL PANEL LOAD CALC FOR 200 AMP SERVICE

ANCHORAGE REQUIREMENTS
FOUNDATION SECTIONS FOR PERIMETER ON FRAME:
 PER SETUP MANUAL

ANCHORAGE REQUIREMENTS
FOUNDATION SECTIONS FOR PERIMETER OFF FRAME:
 PER SETUP MANUAL

TRUSSES - DETAILS / CALCULATIONS
 PER TRUSS PRINTS

ALL MODELS ARE AVAILABLE WITH FLOOR PLAN REVERSED FROM LEFT TO RIGHT AND / OR FRONT TO BACK.

MARRIAGE WALL COLUMNS SPAN CHART

DETAIL - SEE MATING WALL COLUMNS (PAGE MW-20.0)
 CALCULATIONS - SEE CMW SECTION

INSTRUCTIONS ON FILLING OUT PLAN SET BEFORE CONSTRUCTION

YOU MUST CHECK THE APPROPREATE BOX OF WHAT THE STRUCTURE IS TO BE BUILT TO BEFORE PRODUCTION BEGINS. THE MARK SET MUST ACCOMPANY THE UNIT THROUGH THE PRODUCTION PROCESS.

EXTERIOR SIDEWALL HEADERS - SIZES AND MAXIMUM SPAN CHART

HEADER CHART - SEE EXTERIOR WALL PAGE EW - 20.0
 CALCULATIONS - CEW SECTION

ATTENTION LOCAL INSPECTION DEPARTMENT:
IF THIS STRUCTURE IS IN A THERMAL ZONE MORE STRINGENT THAN THAT LISTED ON THESE PLANS, IS SET ON PILINGS, OR IS INSTALLED AT A MOUNTAIN REGION OR COASTAL HIGH HAZARD SITE SUCH THAT WIND OR OTHER DESIGN PARAMETERS ARE INCREASED, THE DESIGN MUST BE DETERMINED TO BE ADEQUATE FOR ACTUAL SITE CONDITIONS. ALTERATIONS MAY BE REQUIRED TO BRING THE HOME INTO COMPLIANCE WITH THE MORE STRINGENT CONDITIONS.

"Service entrance conductors routed from their point of entrance into the structure, to their point of attachment to the service enclosure a distance horizontally not more than twice the nominal width of the service enclosure and vertically not more than the greater of 5 feet or twice the nominal height of the service enclosure shall be considered to be in compliance with the requirements of 230-70(a) of the current National Electrical Code. Service entrance conductors may be routed in the most direct route or at right angles. Service entrance conductors in excess of these specified limits will not be allowed unless specifically authorized by special permission from the electrical inspector having jurisdiction to accommodate adverse site conditions which would not reasonably allow installation within this criteria."

This home is NOT designed for placement in Coastal High Hazard Areas or Ocean Hazard Areas.

CMH Manufacturing, Inc.	REVISIONS	BY	DATE	ALL MODULAR MODELS
				COVER SHEET 1-0

TYPICAL FASTENING SCHEDULE:

FLOOR FASTENING

RIM JOIST TO JOIST
FLOOR BLOCKING TO JOIST
MULTIPLE JOIST
DECKING TO FLOOR FRAMING

REFERENCE 'CFL' – FLOOR CONSTRUCTION CALCULATIONS OF THE MANUAL.

PER FL-110 OR FL-510.0 IN APPROVED MANUAL
PER FL-100.0 IN APPROVED MANUAL
.131 x 3" NAILS @ 10" O.C., W/ GLUE 80%
PER FL-10 IN APPROVED MANUAL

EXTERIOR WALL FASTENING

LOWER TOP PLATE &
BOTTOM PLATE TO STUD
DOUBLE TOP PLATES
HEADER TO STUDS
HEADER COMPONENTS
STUDS TO SILLS
EXTERIOR SIDING
BOTTOM PLATE TO FLOOR
SIDEWALL TO ENDWALL
WALL WALL TO WALL TOP PLATES
EXTERIOR WALL SHEATHING

REFERENCE 'CEW' – EXTERIOR WALL CONSTRUCTION CALCULATIONS OF THE MANUAL

PER EW-25 IN APPROVED MANUAL DOUBLE STUDS 7/16" x 2-1/2" x 15 GA. STAPLES @ 6" O.C.
PER EW-1 IN APPROVED MANUAL
PER EW-20 CHARTS IN APPROVED MANUAL
PER EW-20 IN APPROVED MANUAL
PER EW-20 IN APPROVED MANUAL
PER THE MANUFACTURER'S SPECIFICATIONS
PER EW-31 IN APPROVED MANUAL
PER EW-30 FOR NON-SHEARWALL OR PER SW-40 FOR SHEARWALL OR PER EW-0.0 IN APPROVED MANUAL
3" x 6" x .036" (20 GA.) GALVANIZED STEEL PLATE W/ (6) .131 x 3" NAILS AT EACH SIDE AT EACH
FOR APA RATED SHEATHING; 7/16" X 1-3/4" X 15 GA. STAPLES AT 6" O.C. AT ALL EDGES & 12" O.C. FIELD. FOR COMPOSITE WALLS, FASTEN PER EW-40. FOR SHEARWALL FASTEN PER SW-40 OR ATTACHED PAGES (IF ATTACHED). ALL OTHER SHEATHING FASTENED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

MATING WALL FASTENING

LOWER TOP PLATE TO STUD
BOTTOM PLATE TO STUD
MULTIPLE STUDS
STANDARD COLUMN
DOUBLE TOP PLATES
BOTTOM PLATE TO FLOOR
MATING WALL TO ENDWALL
WALL TO WALL TOP PLATES

REFERENCE 'CMW' – MARRIAGE WALL CALCULATIONS OF THE MANUAL

PER MW-40 IN APPROVED MANUAL
PER MW-40 IN APPROVED MANUAL
7/16" x 2-1/2" x 15 GA. STAPLES OR .131 x 3" NAILS @ 16" O.C. TO EACH MEMBER
PER MW-20 IN APPROVED MANUAL
PER MW-40 IN APPROVED MANUAL
PER MW-31 IN APPROVED MANUAL
PER EW-30 IN APPROVED MANUAL
3" x 6" x .036" (20 GA.) GALVANIZED STEEL PLATE W/ (6) .131 x 3" NAILS AT EACH SIDE AT EACH WALL OR OVERLAPPED PLATE PER EW-0.

INTERIOR WALL FASTENING

BOTTOM PLATE TO STUDS
TOP PLATE TO STUD
DOUBLE STUDS
FLAT HEADER TO STUDS
WALL TO FLOOR
WALL TO WALL
TOP PLATE TO ROOF SYSTEM
GYPSUM TO WALL FRAMING

PER PT-40 IN APPROVED MANUAL
PER PT-40 IN APPROVED MANUAL
7/16" x 2-1/2" x 16 GA. STAPLES @ 16" O.C.
PER PT-20 IN APPROVED MANUAL
PER PT-40 IN APPROVED MANUAL
PER PT-30 IN APPROVED MANUAL
PER PT-40 IN APPROVED MANUAL
PER THE RESIDENTIAL BUILDING CODE TABLES

ROOF FASTENING

CEILING BOARD TO TRUSS
BLOCKING TO TRUSS
TRUSS TO SIDEWALL TOP PLATE
TRUSS TO RIDGE BEAM
TRUSS TO EDGE RAIL
EDGE RAIL TO MATING WALL
TRUSS TO ENDWALL TOP PLATE
ROOF DECKING TO TRUSS
SHINGLE TO ROOF DECKING
OUTLOOKER TO TRUSS

REFERENCE 'CRC' – ROOF CONSTRUCTION CALCULATIONS OF THE MANUAL

FOAM-SEAL 2100 SPRAY ADHESIVE PER THE MANUFACTURER'S SPECIFICATIONS
(2) 7/16" x 2-1/2" x 15 GA. STAPLES DIRECT
PER RC-30 IN APPROVED MANUAL
PER RC-65 IN APPROVED MANUAL
PER MW-31 CHARTS IN APPROVED MANUAL
PER MW-31 CHARTS IN APPROVED MANUAL
PER SW-40 IN APPROVED MANUAL FOR SHEARWALLS AND RC-33.0 FOR NON-SHEARWALLS
PER SW20.0 THRU SW-389E.2 (IF NOT ATTACHED) IN APPROVED MANUAL
PER THE MANUFACTURER'S OR ARMA SPECIFICATIONS
PER RC-70 IN APPROVED MANUAL

INSTALLATION FASTENING

REFERENCE INSTALLATION PAGES PROVIDED IN EACH APPROVAL.

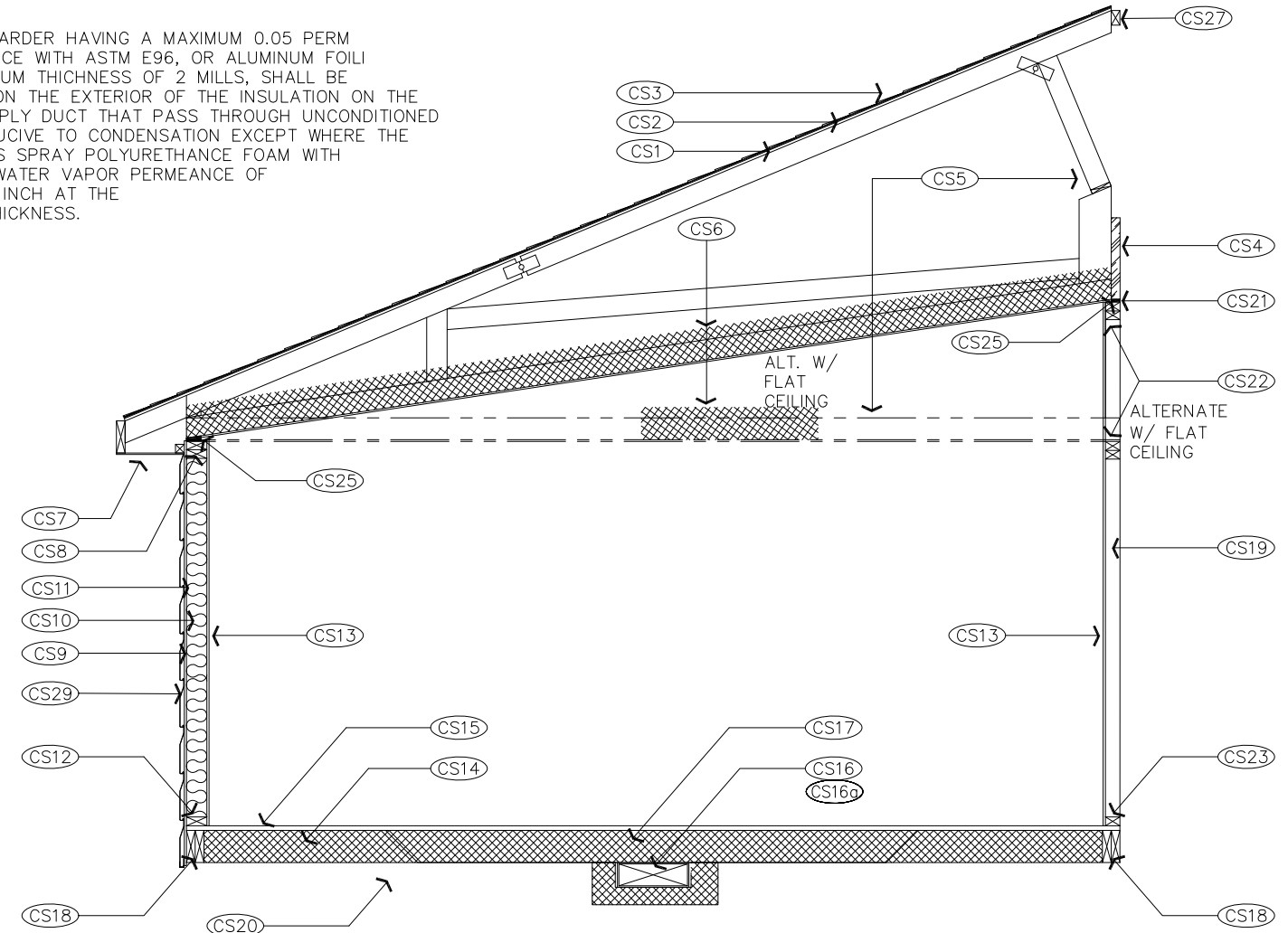
- (CS1) 7/16" APA RATED ROOF DECKING 24/16 SPAN RATING.
- (CS2) 15# MIN. ROOF UNDERLAYMENT; SINGLE LAYER w/ GREATER THAN 4:12 ROOF PITCH; DOUBLE LAYER w/ 4:12 OR LESS
- (CS3) MIN. 20 YEAR SHINGLES.
- (CS4) 1 1/2" WIDE ENGINEERED WOOD BEAM, EACH HALF IN OPEN SPAN AREAS GREATER THAN 48".
- (CS5) ENGINEERED WOOD TRUSSES: COMPONENTS & SPACING PER TRUSS PRINT
* FOR CONNECTION AND SET-UP OF ROOF:
SEE MODULAR SET-UP PAGES ATTACHED TO APPROVAL

- (CS6) CEILING INSULATION, BLOWN OR BATT.
- (CS7) CONTINUOUS VENTED SOFFIT.
- (CS8) DOUBLE 2x4 TOP PLATE (MIN.).
- (CS9) 2x4 STUDS @ 16" O.C. STUD GRADE SPF (MIN.).
- (CS10) WALL INSULATION (BATT)
- (CS11) 3/8" OSB SHEATHING WITH WATER RESISTIVE BARRIER BELOW ALL EXT. FINISH MATERIAL. CORROSION-RESISTANT FLASHING REQUIRED AT ALL LOCATIONS AS SHOWN ON APPROVED MANUAL DETAILS
- (CS12) SINGLE 2x4 BOTTOM PLATE SPF #3 (MIN.).
- (CS13) 3/8" (MIN.) GYPSUM WALL BOARD.
- (CS14) FLOOR INSULATION (BATT.)
- (CS15) MIN. 19/32" RATED DECKING 16" O.C. OR 32/16 SPAN RATING.
- (CS16a)

Duct Insulation:

- 1 - Min R-8
- 2 - A VAPOR RETARDER HAVING A MAXIMUM 0.05 PERM IN ACCORDANCE WITH ASTM E96, OR ALUMINUM FOIL WITH A MINIMUM THICKNESS OF 2 MILLS, SHALL BE INSTALLED ON THE EXTERIOR OF THE INSULATION ON THE COOLING SUPPLY DUCT THAT PASS THROUGH UNCONDITIONED SPACE CONDUCTIVE TO CONDENSATION EXCEPT WHERE THE INSULATION IS SPRAY POLYURETHANE FOAM WITH A MAXIMUM WATER VAPOR PERMEANCE OF 3 PERM PER INCH AT THE INSTALLED THICKNESS.

- (CS16) MAIN HEAT DUCT. (MAY BE SITE INSTALLED BY OTHERS)
- (CS17) OFF FRAME PER FL-110.0
- (CS18) OFF FRAME PER FL-110.0
- (CS19) 2x4 (MIN.) MARRIAGE WALL STUDS @ 16" O.C.
- (CS20) LISTED BOTTOM BOARD, WHERE OCCURS.
- (CS21) 1/2" SHIM FOR COMPRESSION STRIP.
- (CS22) DOUBLE 2x4 (MIN.) TOP PLATE.
- (CS23) 2x4 (MIN.) BOTTOM PLATE.
- (CS24) 1/2" (MIN.) GYPSUM BOARD CEILING.
- (CS25) WEDGE SUPPORT AT CATHEDRAL CEILING, EACH END OF TRUSS.
- (CS27) CONTINUOUS 2x3 SPF #3 MINIMUM FOR TRUSS TOP RAIL FOR RIDGE CONNECTION
- (CS28) 2x FULL DEPTH BLOCKING 24" O.C. (2) JOIST BAY MIN. ENDWALL LOCATION ONLY.
- (CS29) LAP BOARD, WOOD OR VINYL SIDING, HARDI SIDING, OR EXPOSED SHEATHING FOR ON SITE EXTERIOR FINISH INSTALLATION.



CMH MANUFACTURING, INC	TYPICAL CROSS SECTION & FASTENING SCHEDULE		BRAND:	SERIES:	MODEL NO.:
				NC/SC/DE MODULAR	ALL
			PLANT:	DESCRIPTION:	
			#958	OFF FRAME HINGED ROOF	
DRAWN BY:	DATE DRAWN:	DATE PRINTED:	SHEET:		
DRR	10-21-15	4-25-17	1-0.2		

TYPICAL FASTENING SCHEDULE:

FLOOR FASTENING

RIM JOIST TO JOIST
 FLOOR BLOCKING TO JOIST
 MULTIPLE JOIST
 DECKING TO FLOOR FRAMING

REFERENCE 'CFL' - FLOOR CONSTRUCTION CALCULATIONS OF THE MANUAL.

PER FL-110 OR FL-510.0 IN APPROVED MANUAL
 PER FL-100.0 IN APPROVED MANUAL
 .131 x 3" NAILS @ 10" O.C., W/ GLUE 80%
 PER FL-10 IN APPROVED MANUAL

EXTERIOR WALL FASTENING

LOWER TOP PLATE &
 BOTTOM PLATE TO STUD
 DOUBLE TOP PLATES
 HEADER TO STUDS
 HEADER COMPONENTS
 STUDS TO SILLS
 EXTERIOR SIDING
 BOTTOM PLATE TO FLOOR
 SIDEWALL TO ENDWALL
 WALL WALL TO WALL TOP PLATES
 EXTERIOR WALL SHEATHING

REFERENCE 'CEW' - EXTERIOR WALL CONSTRUCTION CALCULATIONS OF THE MANUAL

PER EW-25 IN APPROVED MANUAL DOUBLE STUDS 7/16" x 2-1/2" x 15 GA. STAPLES @ 6" O.C.
 PER EW-1 IN APPROVED MANUAL
 PER EW-20 CHARTS IN APPROVED MANUAL
 PER EW-20 IN APPROVED MANUAL
 PER EW-20 IN APPROVED MANUAL
 PER THE MANUFACTURER'S SPECIFICATIONS
 PER EW-31 IN APPROVED MANUAL
 PER EW-30 FOR NON-SHEARWALL OR PER SW-40 FOR SHEARWALL OR PER EW-0.0 IN APPROVED MANUAL
 3" x 6" x .036" (20 GA.) GALVANIZED STEEL PLATE W/ (6) .131 x 3" NAILS AT EACH SIDE AT EACH
 FOR APA RATED SHEATHING; 7/16" X 1-3/4" X 15 GA. STAPLES AT 6" O.C. AT ALL EDGES & 12" O.C. FIELD. FOR
 COMPOSITE WALLS, FASTEN PER EW-40. FOR SHEARWALL FASTEN PER SW-40 OR ATTACHED PAGES (IF ATTACHED). ALL
 OTHER SHEATHING FASTENED PER
 MANUFACTURER'S INSTALLATION INSTRUCTIONS.

MATING WALL FASTENING

LOWER TOP PLATE TO STUD
 BOTTOM PLATE TO STUD
 MULTIPLE STUDS
 STANDARD COLUMN
 DOUBLE TOP PLATES
 BOTTOM PLATE TO FLOOR
 MATING WALL TO ENDWALL
 WALL TO WALL TOP PLATES

REFERENCE 'CMW' - MARRIAGE WALL CALCULATIONS OF THE MANUAL

PER MW-40 IN APPROVED MANUAL
 PER MW-40 IN APPROVED MANUAL
 7/16" x 2-1/2" x 15 GA. STAPLES OR .131 x 3" NAILS @ 16" O.C. TO EACH MEMBER
 PER MW-20 IN APPROVED MANUAL
 PER MW-40 IN APPROVED MANUAL
 PER MW-31 IN APPROVED MANUAL
 PER EW-30 IN APPROVED MANUAL
 3" x 6" x .036" (20 GA.) GALVANIZED STEEL PLATE W/ (6) .131 x 3" NAILS AT EACH SIDE AT EACH WALL OR OVERLAPPED
 PLATE PER EW-0.

INTERIOR WALL FASTENING

BOTTOM PLATE TO STUDS
 TOP PLATE TO STUD
 DOUBLE STUDS
 FLAT HEADER TO STUDS
 WALL TO FLOOR
 WALL TO WALL
 TOP PLATE TO ROOF SYSTEM
 GYPSUM TO WALL FRAMING

PER PT-40 IN APPROVED MANUAL
 PER PT-40 IN APPROVED MANUAL
 7/16" x 2-1/2" x 16 GA. STAPLES @ 16" O.C.
 PER PT-20 IN APPROVED MANUAL
 PER PT-40 IN APPROVED MANUAL
 PER PT-30 IN APPROVED MANUAL
 PER PT-40 IN APPROVED MANUAL
 PER THE RESIDENTIAL BUILDING CODE TABLES

ROOF FASTENING

CEILING BOARD TO TRUSS
 BLOCKING TO TRUSS
 TRUSS TO SIDEWALL TOP PLATE
 TRUSS TO RIDGE BEAM
 TRUSS TO EDGE RAIL
 EDGE RAIL TO MATING WALL
 TRUSS TO ENDWALL TOP PLATE
 ROOF DECKING TO TRUSS
 SHINGLE TO ROOF DECKING
 OUTLOOKER TO TRUSS

REFERENCE 'CRC' - ROOF CONSTRUCTION CALCULATIONS OF THE MANUAL

FOAM-SEAL 2100 SPRAY ADHESIVE PER THE MANUFACTURER'S SPECIFICATIONS
 (2) 7/16" x 2-1/2" x 15 GA. STAPLES DIRECT
 PER RC-30 IN APPROVED MANUAL
 PER RC-65 IN APPROVED MANUAL
 PER MW-31 CHARTS IN APPROVED MANUAL
 PER MW-31 CHARTS IN APPROVED MANUAL
 PER SW-40 IN APPROVED MANUAL FOR SHEARWALLS AND RC-33.0 FOR NON-SHEARWALLS
 PER SW20.0 THRU SW-389E.2 (IF NOT ATTACHED) IN APPROVED MANUAL
 PER THE MANUFACTURER'S OR ARMA SPECIFICATIONS
 PER RC-70 IN APPROVED MANUAL

INSTALLATION FASTENING

REFERENCE INSTALLATION PAGES PROVIDED IN EACH APPROVAL.

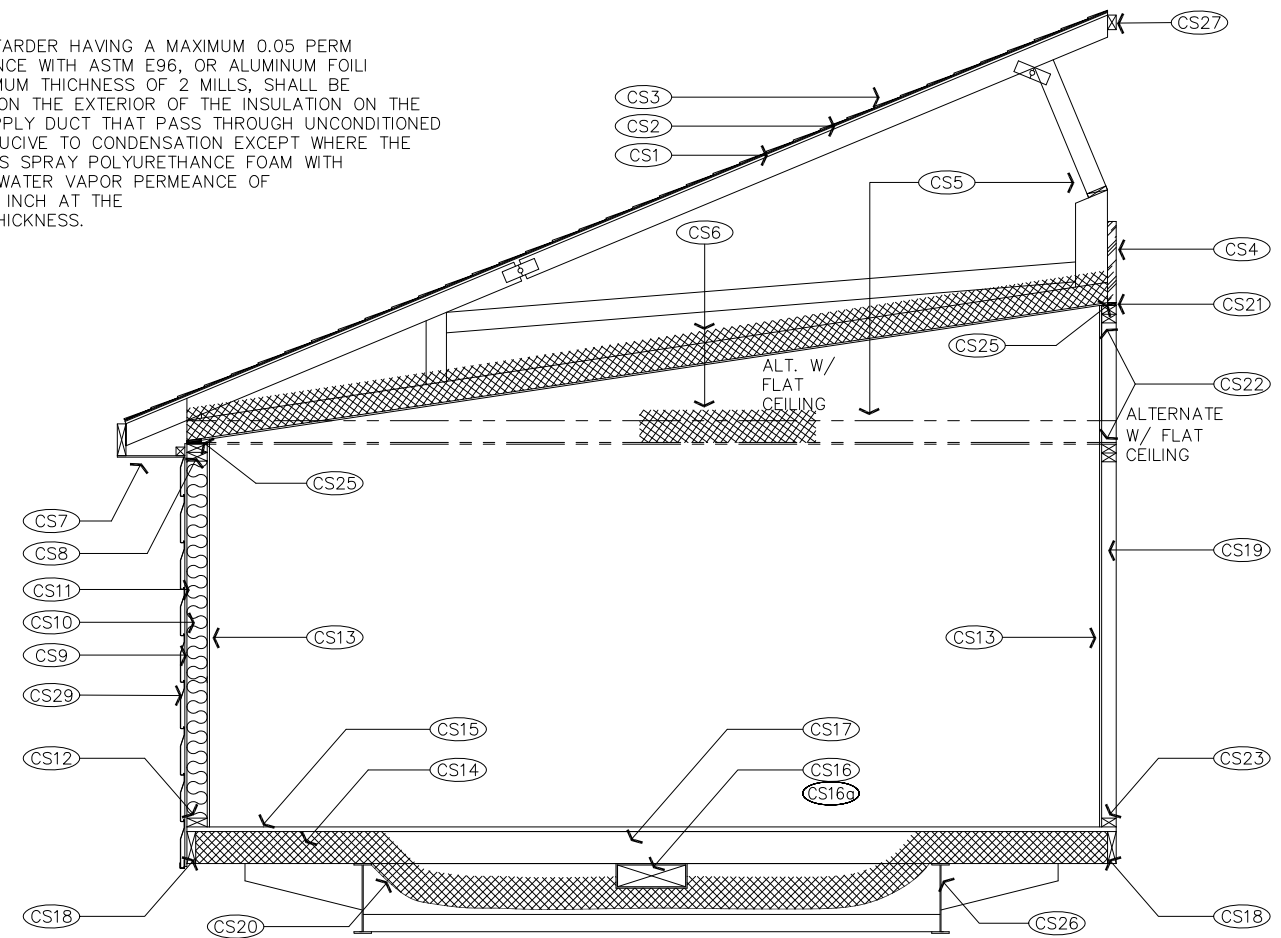
- (CS1) 7/16" APA RATED ROOF DECKING 24/16 SPAN RATING.
- (CS2) 15# MIN. ROOF UNDERLAYMENT; SINGLE LAYER w/ GREATER THAN 4:12 ROOF PITCH; DOUBLE LAYER w/ 4:12 OR LESS
- (CS3) MIN. 20 YEAR SHINGLES.
- (CS4) 1 1/2" WIDE ENGINEERED WOOD BEAM, EACH HALF IN OPEN SPAN AREAS GREATER THAN 48".
- (CS5) ENGINEERED WOOD TRUSSES: COMPONENTS & SPACING PER TRUSS PRINT
 * FOR CONNECTION AND SET-UP OF ROOF:
 SEE MODULAR SET-UP PAGES ATTACHED TO APPROVAL.

- (CS6) CEILING INSULATION, BLOWN OR BATT
- (CS7) CONTINUOUS VENTED SOFFIT.
- (CS8) DOUBLE 2x4 TOP PLATE (MIN.).
- (CS9) 2x4 STUDS @ 16" O.C. STUD GRADE SPF (MIN.).
- (CS10) WALL INSULATION (BATT)
- (CS11) 3/8" OSB SHEATHING WITH WATER RESISTIVE BARRIER BELOW ALL EXT. FINISH MATERIAL. CORROSION-RESISTANT FLASHING REQUIRED AT ALL LOCATIONS AS SHOWN ON APPROVED MANUAL DETAILS
- (CS12) SINGLE 2x4 BOTTOM PLATE SPF #3 (MIN.).
- (CS13) 3/8" (MIN.) GYPSUM WALL BOARD.
- (CS14) FLOOR INSULATION (BATT, OR BLANKET)
- (CS15) MIN. 19/32" RATED DECKING 16" O.C. OR 32/16 SPAN RATING.

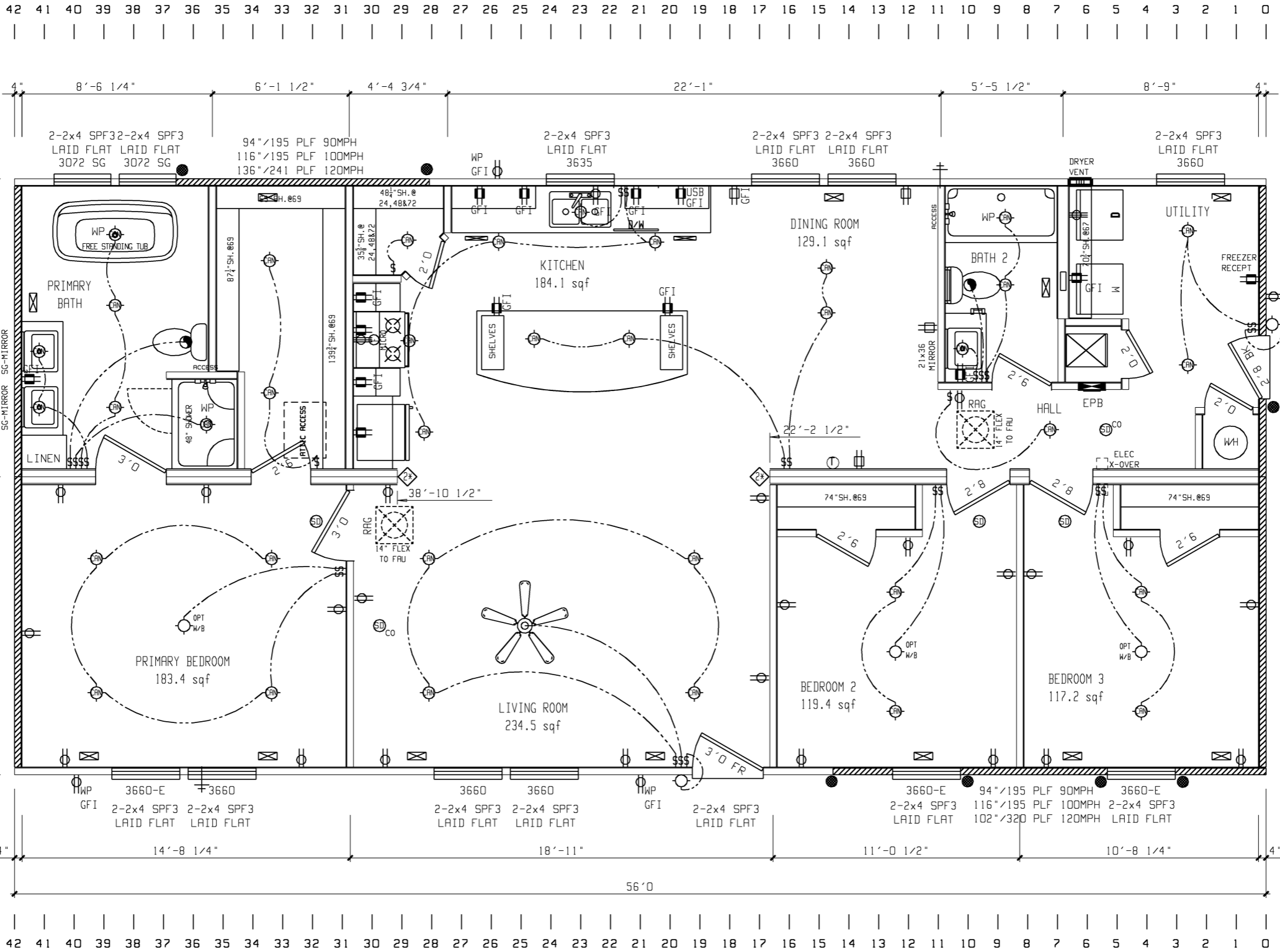
- (CS16a) Duct Insulation:
 1 - Min R-8
 2 - A VAPOR RETARDER HAVING A MAXIMUM 0.05 PERM IN ACCPRDANCE WITH ASTM E96, OR ALUMINUM FOILI WITH A MINIMUM THICKNESS OF 2 MILLS, SHALL BE INSTALLED ON THE EXTERIOR OF THE INSULATION ON THE COOLING SUPPLY DUCT THAT PASS THROUGH UNCONDITIONED SPACE CONDUCIVE TO CONDENSATION EXCEPT WHERE THE INSULATION IS SPRAY POLYURETHANCE FOAM WITH A MAXIMUM WATER VAPOR PERMEANCE OF 3 PERM PER INCH AT THE INSTALLED THICKNESS.

- (CS16) MAIN HEAT DUCT. (MAY BE SITE INSTALLED BY OTHERS)
- (CS17) ON-FRAME PER FL-510 IN APPROVED MANUAL
- (CS18) ON-FRAME PER FL-510 IN APPROVED MANUAL
- (CS19) 2x3 (MIN.) MARRIAGE WALL STUDS @ 16" O.C.
- (CS20) LISTED BOTTOM BOARD, WHERE OCCURS.
- (CS21) 1/2" SHIM FOR COMPRESSION STRIP.
- (CS22) DOUBLE 2x3 (MIN.) TOP PLATE.
- (CS23) 2x3 (MIN.) BOTTOM PLATE.
- (CS24) 1/2" (MIN.) GYPSUM BOARD CEILING.
- (CS25) WEDGE SUPPORT AT CATHEDRAL CEILING, EACH END OF TRUSS.
- (CS26) PER FL-510 IN APPROVED MANUAL
- (CS27) CONTINUOUS 2x3 SPF #3 MINIMUM FOR TRUSS TOP RAIL FOR RIDGE CONNECTION

- (CS29) LAP BOARD, WOOD OR VINYL SIDING, HARDI SIDING, OR EXPOSED SHEATHING FOR ON SITE EXTERIOR FINISH INSTALLATION.



CMH MANUFACTURING, INC	TYPICAL CROSS SECTION & FASTENING SCHEDULE		BRAND:	SERIES:	MODEL NO.:
				NC/SC/DE MODULAR	ALL
			PLANT:	DESCRIPTION:	
			#958	ON FRAME HINGED ROOF	
DRAWN BY:	DATE DRAWN:	DATE PRINTED:	SHEET:		
DRR	10-21-15	1-10-19	1-0.2		



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B-SECTION HITCH END

A-SECTION HITCH END

195PLF EFFECTIVE LENGTHS ~ 90MPH
 BASED ON SW-31.10.1a.C.17.78.1-2
 UNBLOCKED DIAPHRAGM SW-20-237B.1

195PLF EFFECTIVE LENGTHS ~ 100MPH
 BASED ON SW-31.10.1a.E.17.78.1-2
 UNBLOCKED DIAPHRAGM SW-20-389B.1

241/320PLF EFFECTIVE LENGTHS ~ 120MPH
 BASED ON SW-31.10.1a.I.17.78.1-2
 UNBLOCKED DIAPHRAGM SW-20-389B.1

RIDGE BEAM PER: RC-60.3.R.G.M. .20
 COLUMNS PER: MW-20.3.R.G.M.48.20
 SIDEWALL HEADERS PER:
 EW-20.3.R.G.C.22.20 (90MPH)
 EW-20.3.R.G.E.22.20 (100MPH)
 EW-20.3.R.G.I.22.20 (120MPH)

INSULATION DONE PER THE NORTH CAROLINA
 2018 PRESCRIPTIVE METHOD
 CZ3: R=38 CEILING R=15 WALLS R=19 FLOOR
 CZ4: R=38 CEILING R=15 WALLS R=19 FLOOR
 CZ5: R=38 CEILING R=19 WALLS R=30 FLOOR
 U = 0.35 / SHGC = 0.28

RETURN AIR REQUIREMENTS	
① 20"x16" GRILL REQUIRED	● INDICATES FREE END SHEAR WALL WITH BLOCKING
② 4"x10" GRILL w/ 2 1/2" DOOR UNDERCUT	◆ THE * SPECIFIES THAT THERE CAN BE NO HOLES IN STUDS IN COLUMNS
③ DOOR(S) MUST BE UNDERCUT 2 1/2" MIN.	
④ 4"x24" OR 6"x14" GRILL REQUIRED	

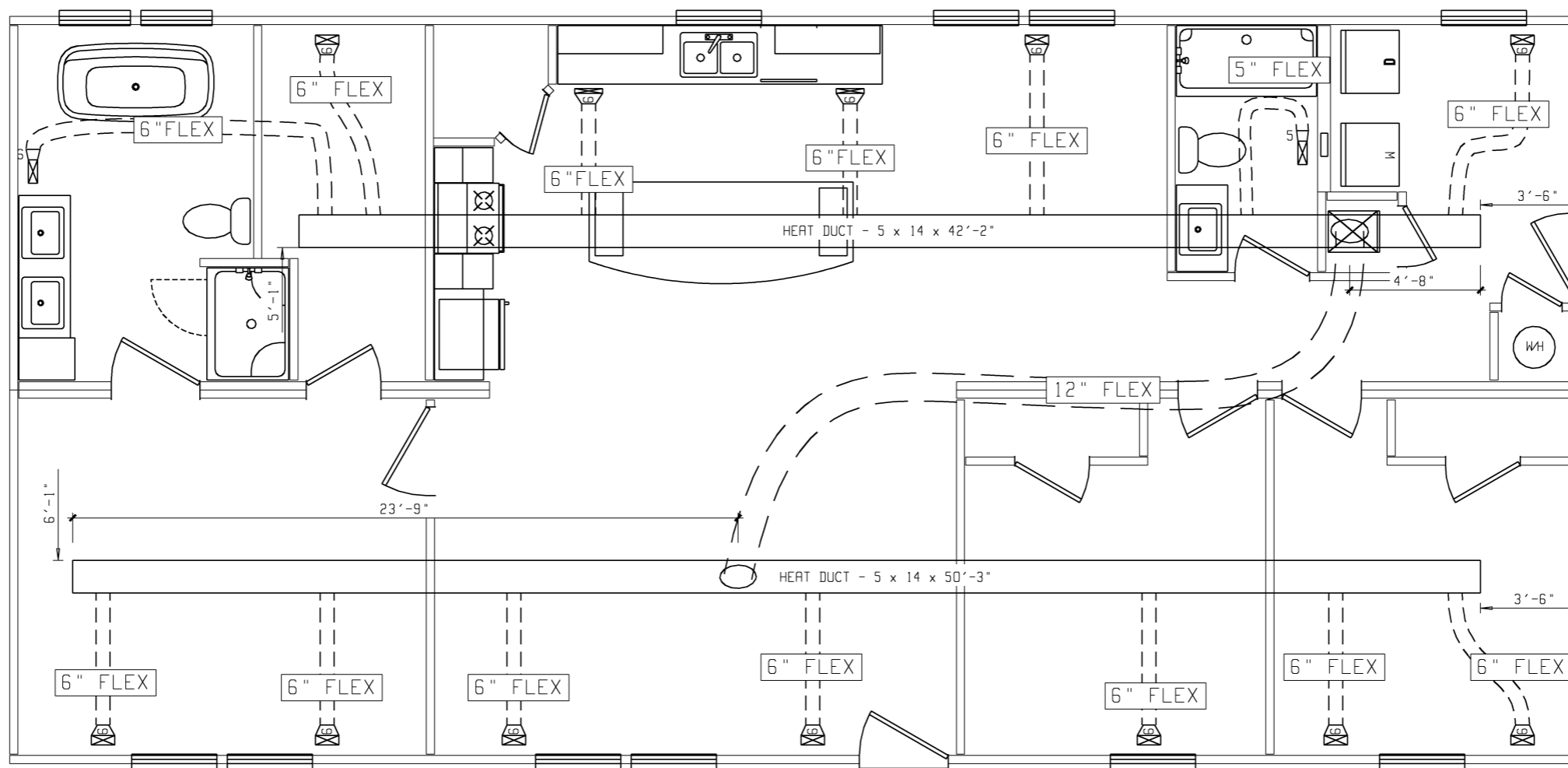
BRAND: CAVALIER
 SERIES: FG28
CLAYTON HOME BUILDING GROUP

REVISIONS	BY	DATE

GENERAL NOTES
 CEILING HEIGHT = 108.0

DRAWING TITLE
MASTER PLAN-NC

MODEL NAME: 3542		SO. FT.: 1493
PLANT: 958	DESCRIPTION: 28X56 3BR-2BA	MODEL NO.: 3542
DRAWN BY: TXH	ORIG. DATE: 10/18/2017	DATE PRINTED: 02/20/2024
		SHEET NO.: 1-1



R-SECTION HITCH END

B-SECTION HITCH END

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BRAND CAVALIER	SERIES FG28	CLAYTON HOME BUILDING GROUP	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS	BY	DATE													<table border="1"> <thead> <tr> <th>GENERAL NOTES</th> </tr> </thead> <tbody> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </tbody> </table>	GENERAL NOTES				DRAWING TITLE PERIMETER LOOP HVAC	MODEL NAME 3542	SO. FT. 1493
REVISIONS	BY	DATE																								
GENERAL NOTES																										
			<table border="1"> <tr> <td>PLANT 958</td> <td>DESCRIPTION 28X56 3BR-2BA</td> <td>MODEL NO. 3542</td> </tr> <tr> <td>DRAWN BY TXH</td> <td>ORIG. DATE 10/18/2017</td> <td>DATE PRINTED 02/12/2024</td> </tr> <tr> <td colspan="2"></td> <td>SHEET NO. 4-4</td> </tr> </table>	PLANT 958	DESCRIPTION 28X56 3BR-2BA	MODEL NO. 3542	DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024			SHEET NO. 4-4														
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			DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024																					
		SHEET NO. 4-4																								

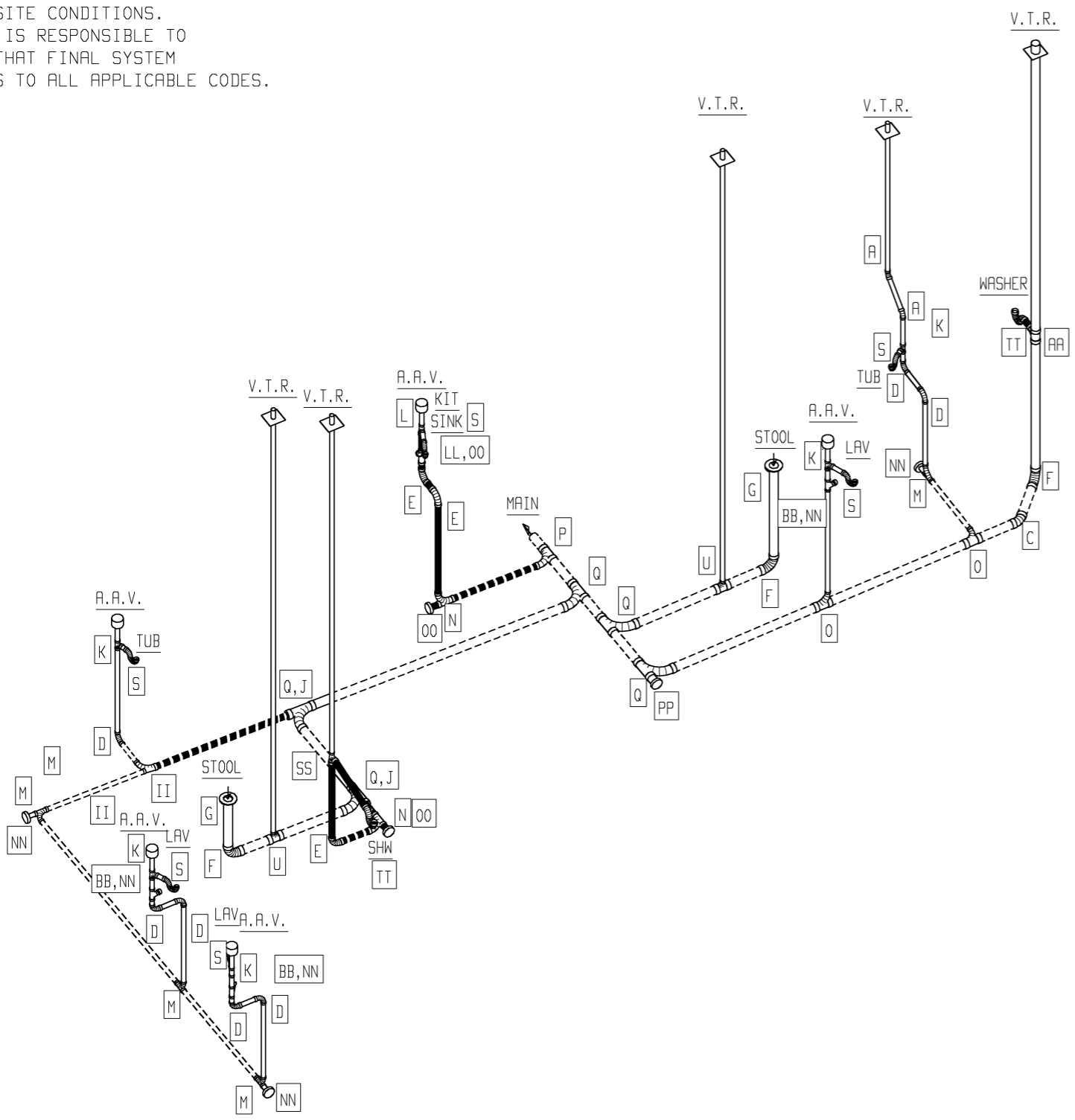
NOTE
 DASHED LINES REPRESENT BELOW
 FLOOR DWV PIPE TO BE FIELD INSTALLED
 BY OTHERS. LAYOUT MAY VARY
 DUE TO SITE CONDITIONS.
 BUILDER IS RESPONSIBLE TO
 ASSURE THAT FINAL SYSTEM
 CONFORMS TO ALL APPLICABLE CODES.

PIPING AND FITTING MATERIAL TYPE TO BE:
 ABS (ACRYLONITRILE-BUTADIENE-STYRENE)
 OR PVC (POLYVINYL CHLORIDE)

PIPE LEGEND

=====	1 1/2"
=====	2"
=====	3"

STANDARD SHIP LOOSE	
C	1
E	1
F	3
FF	1
II	1
M	5
NN	4
O	2
P	1
P, J	1
PP	1
Q	4
U	2
1.5" PIPE	15 FT
2" PIPE	10 FT
3" PIPE	75 FT



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NOTE:
 ACCESS SHALL BE PROVIDED TO ALL AIR ADMITTANCE VALVES. THE VALVE SHALL
 BE LOCATED WITHIN A VENTILATED SPACE THAT ALLOWS AIR TO ENTER THE VALVE

LET	DESCRIPTION	LET	DESCRIPTION	LET	DESCRIPTION	LET	DESCRIPTION
A	1.5" x 45° LT-1/8 BEND	B	2" x 45° LT-1/8 BEND	C	3" x 45° LT-1/8 BEND	D	1.5" x 90° LONG SWEEP-1/4 BEND
E	2" x 90° LSWEPT-1/4 BEND	F	3" x 90° LSWEPT-1/4 BEND	G	4"x3" CLOSET FLANGE	H	2"x1.5" FLUSH BUSHING
I	3"x1.5" FLUSH BUSHING	J	3"x2" FLUSH BUSHING	K	1.5" SANITARY TEE	L	2"x1.5"x1.5" SAN TEE
M	1.5" LTTY	N	2" LTTY	O	3"x3"x1.5" LTTY	P	3"x3"x2" LTTY
Q	3" LTTY	R	3" 3-WAY ELBOW	S	1.5"x1.5" P-TRAP	T	3"x3"x1.5"x1.5" DBL SAN TEE
U	3"x3"x1.5" SAN TEE	V	1.5" x 90° LONG SWEEP STREET	W	3" SANITARY TEE	X	3"x3"x1.5" WYE
Y	2" 3-WAY ELBOW	Z	2"x2"x1.5" LTTY	AA	3"x3"x2" SAN TEE	BB	1.5" x 45° WYE
CC	2" x 90° LSWEPT STREET	DD	1.5" x 45° 1/8 BEND STREET	EE	1.5" COUPLING	FF	3" COUPLING
GG	1.5" P-TRAP @ WASHER	HH	1.5" SAN TEE STREET	II	2"x1.5"x1.5" LTTY	JJ	2"x1.5"x2" LTTY
KK	2" x 1/4 BEND STREET	LL	2" x 45° WYE	MM	3" DBL SAN TEE	NN	1.5" C.O. W/PLUG
OO	2" C.O. W/PLUG	PP	3" C.O. W/PLUG	QQ	2"x2"x1.5" WYE REDUCING	RR	1.5" 1/4 BEND
SS	2"x1.5"x2" SAN TEE	TT	2" P-TRAP	UU	2" x 45° 1/8 BEND STREET	VV	2" COUPLING
WW	3" x 45° 1/8 BEND STREET	XX	2" SANITARY TEE	YY	4" CLOSET FLANGE	ZZ	4" COUPLING
AB	1.5" CONT WASTE	AC	1.5" x 22 1/2° ELBOW STREET	AD	2" x 22 1/2° ELBOW STREET	AE	3"x3"x2"x2" DBL SAN TEE
AF	2"x1.5"x1.5" SAN TEE STREET	AG	2"x1.5"x1.5" 3-WAY ELBOW	AH	3" x 22 1/2° 1/16 BEND ELBOW	AI	1.5" 3-WAY ELBOW
AJ	2" x 22 1/2° 1/16 BEND ELBOW	AK	4"x3" CLOSET BEND STR (CUT DOWN 1.5")	AL	3"x3"x3" WYE	AM	3" 1/4 BEND
AN	2"x3" PIPE INCREASER	AO	3" x 3" x 2" WYE	AP	2" 1/4 BEND	AQ	2"x2"x2"x2" DBL SAN TEE
AR	1.5"x3" PIPE INCREASER	AS	1.5"x1.5"x1.5"x1.5" DBL SAN TEE	AT	3" DOUBLE FIXTURE TEE	AU	2"x2"x1.5"x1.5" DBL SAN TEE
AV	3"x3"x2"x2" SAN TEE (SI) LEFT	AW	3"x3"x3"x1.5" SAN TEE (SI) LEFT	AX	3"x3"x3"x2" SAN TEE (SI) LEFT	AY	3"x3"x2"x2" SAN TEE (SI) RIGHT
AZ	3"x3"x3"x1.5" SAN TEE (SI) RIGHT	BA	3"x3"x3"x2" SAN TEE (SI) RIGHT	BC	3"x3"x3"x2"x2" SAN TEE DBL(SI)	BD	3"x3"x3"x1.5"x1.5" SAN T DBL(SI)
BE	1.5"x2" PIPE INCREASER	BF	3"x3"x1.5" 90° LSWEPT LOW HEEL INLET	BG	3"x3"x2" 90° LSWEPT LOW HEEL INLET	BH	1.5" x 22 1/2° 1/16 BEND ELBOW
BI	4"x3" CLOSET BEND STREET	BJ		BK		BL	

BRAND CAVALIER SERIES FG28
 CLAYTON HOME BUILDING GROUP

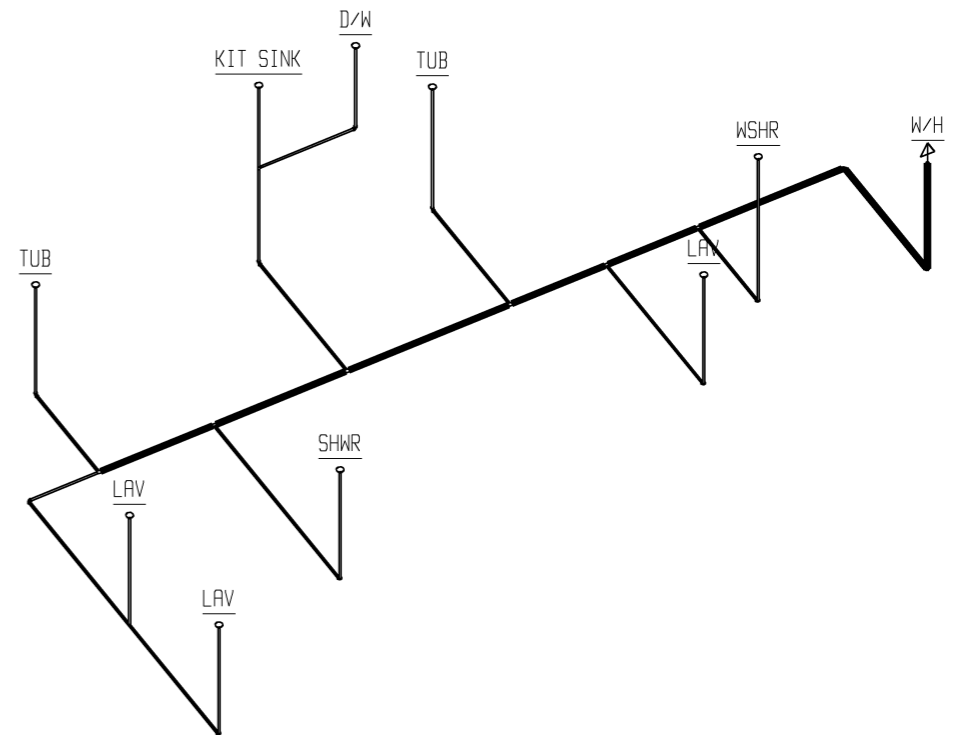
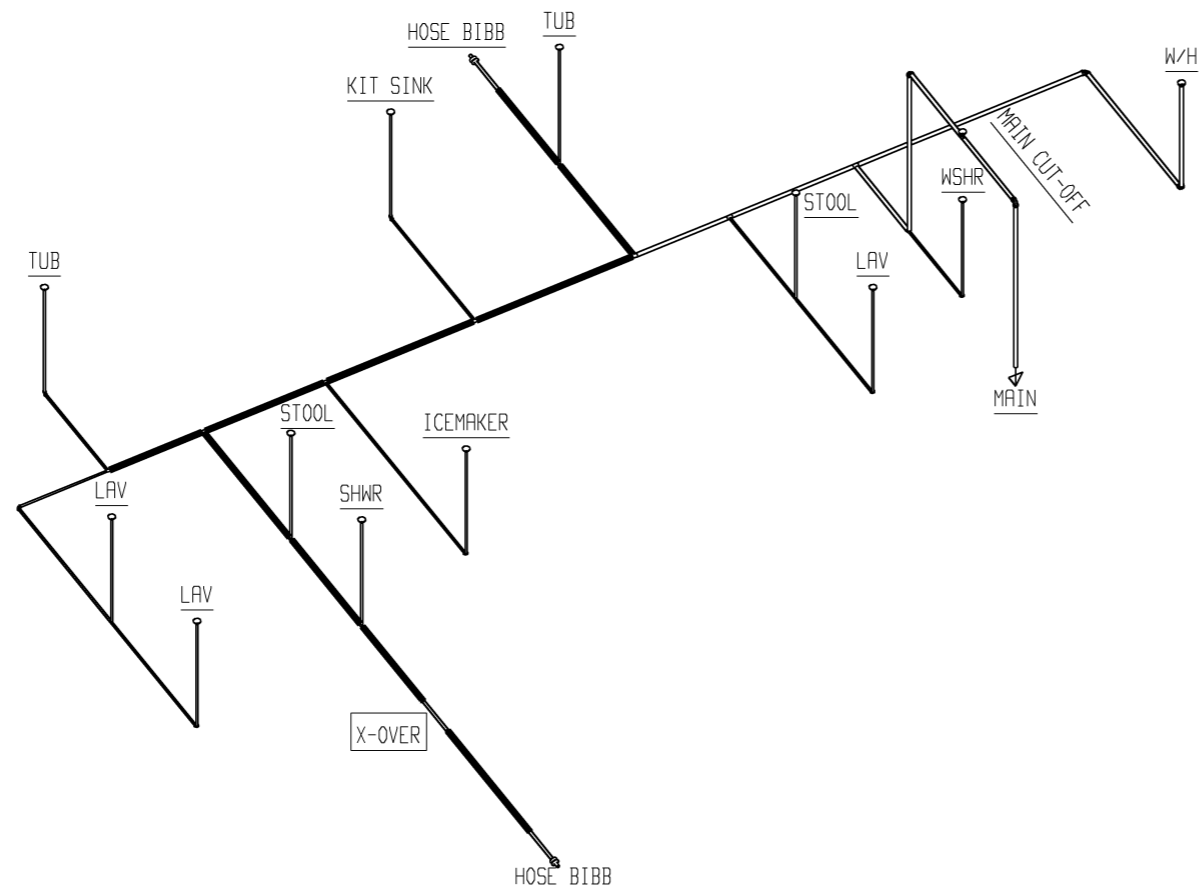
REVISIONS	BY	DATE

GENERAL NOTES

DRAWING TITLE
DWV SCHEMATIC

MODEL NAME	3542	SO. FT.	1493
PLANT	958	DESCRIPTION	28X56 3BR-2BA
MODEL NO.	3542		
DRAWN BY	TXH	ORIG. DATE	10/18/2017
DATE PRINTED	02/12/2024	SHEET NO.	8-1

PIPING AND FITTING MATERIAL TYPE TO BE:
 PEX TYPE BY QUEST, CPVC OR COPPER
 PRESSURE RANGE 50-60 PSI
 60' DEVELOPED LENGTH



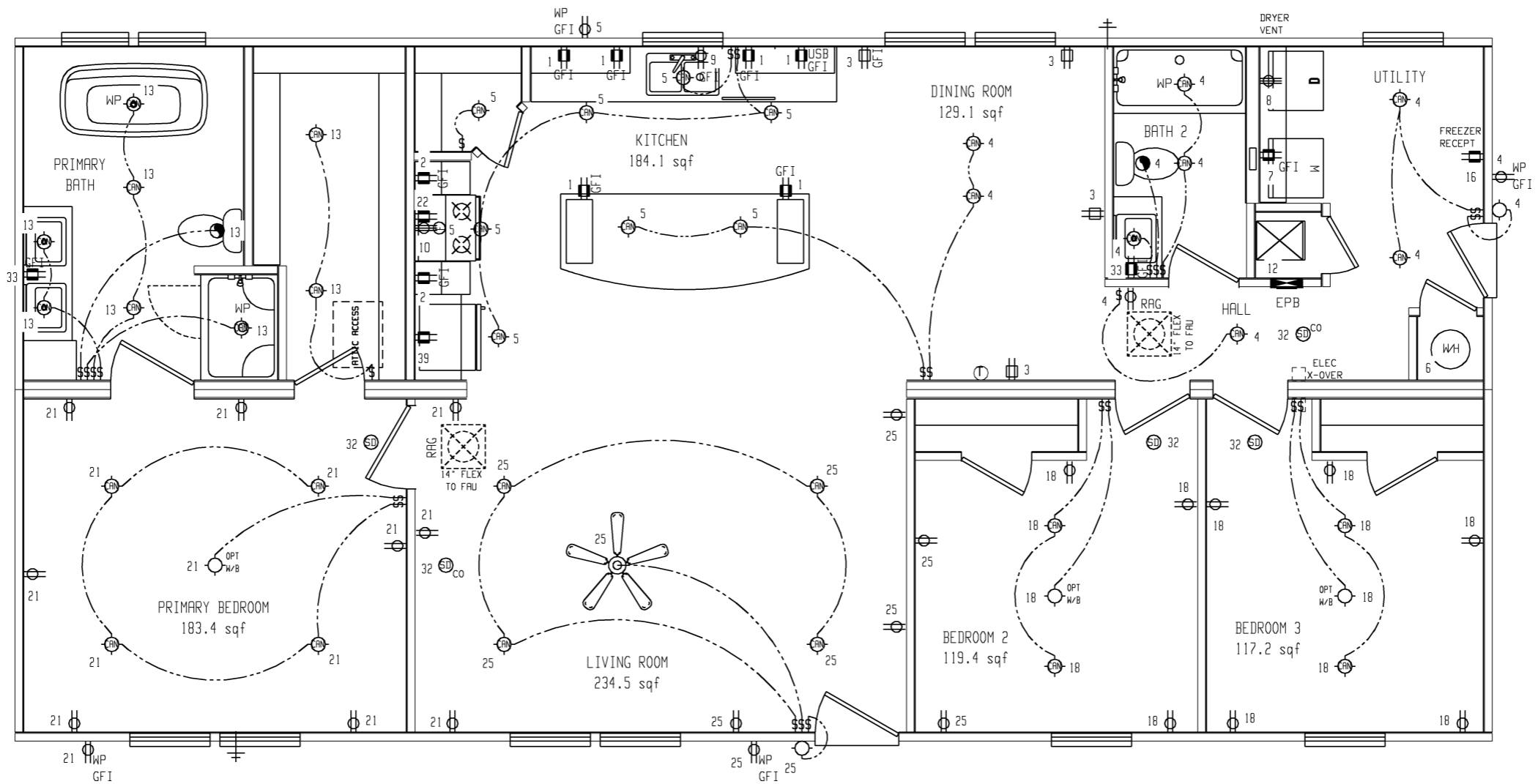
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COLD WATER SUPPLY PLUMBING

HOT WATER SUPPLY PLUMBING

PIPE LEGEND	
	1"
	3/4"
	1/2"

BRAND CAVALIER	SERIES FG28	CLAYTON HOME BUILDING GROUP	REVISIONS	BY	DATE	GENERAL NOTES HOSE BIBBS PER SPECS	DRAWING TITLE SUPPLY PLUMBING	MODEL NAME 3542	SO. FT. 1493		
								PLANT 958	DESCRIPTION 28X56 3BR-2BA	MODEL NO. 3542	
								DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024	SHEET NO. 9-1



B-SECTION HITCH END

A-SECTION HITCH END

NOTE: ALL FAMILY, DINING, LIVING, PARLOR, LAUNDRY AREAS, LIBRARIES, KITCHENS, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR SPACES SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER

ELECTRICAL SCHEDULE																														
CIR. NO.	DESCRIPTION	BRK. AMP.	VOLTS	COPR. WIRE	CIR. NO.	DESCRIPTION	BRK. AMP.	VOLTS	COPR. WIRE	CIR. NO.	DESCRIPTION	BRK. AMP.	VOLTS	COPR. WIRE	CIR. NO.	DESCRIPTION	BRK. AMP.	VOLTS	COPR. WIRE	CIR. NO.	DESCRIPTION	BRK. AMP.	VOLTS	COPR. WIRE						
1	PORTABLE APPLIANCES	20	120	12	5	GEN. LIGHTING/RECEPT.	15	120	14	8	DRYER RECEPT.	30	240	10	12	ELECTRIC FURNACE	CIRCUITS VARY, SEE DAPIA PAGE PLN-3.5 FOR HUD, PLN-1.5 FOR MOD	15	120	14	19	GEN. LIGHTING/RECEPT.	15	120	14					
2	PORTABLE APPLIANCES	20	120	12	6	ELEC. WATER HEATER	CIRCUITS VARY, SEE DAPIA PAGE PLN-3.1 FOR HUD, PLN-1.1 FOR MOD	40	240	8	9	OPT. DISHWASHER	15	120	14	13	GEN. LIGHTING/RECEPT.	15	120	14	16	FREEZER	20	120	12	24	ELECT. BUILT-IN OVEN	20	240	12/3
3	PORTABLE APPLIANCES	20	120	12	7	WASHER RECEPT.	20	120	12	10	ELECT. RANGE/CKTOP	40	240	8	14	OPT. COOLER BOX	15	120	14	17	OPT. WHIRLPOOL	20	120	12	25	GEN. LIGHTING/RECEPT.	15	120	14	
4	GEN. LIGHTING/RECEPT.	15	120	14						11	GAS FURNACE	15	120	14	18	GEN. LIGHTING/RECEPT.	15	120	14	20	GEN. LIGHTING/RECEPT.	15	120	14	26	GEN. LIGHTING/RECEPT.	15	120	14	
															22	OPT. MICROWAVE	20	120	12/2	21	GEN. LIGHTING/RECEPT.	15	120	14	27	GEN. LIGHTING/RECEPT.	15	120	14	
																					28	GEN. LIGHTING/RECEPT.	15	120	14	32	SMOKE ALARMS	15	120	14
																					29	GEN. LIGHTING/RECEPT.	15	120	14	33	BATH GFI (MOD ONLY)	20	120	12
																					30	GEN. LIGHTING/RECEPT.	15	120	14					
																					31	SITE INSTALLED HEAT PUMP	40	240	8/3	39	REFRIGERATOR	20	120	12

BRAND CAVALIER	SERIES FG28	REVISIONS	BY	DATE	GENERAL NOTES LOCK-OUT BREAKER ON CIRCUIT #6	DRAWING TITLE ELECTRICAL PLAN	MODEL NAME 3542	SO. FT. 1493		
CLAYTON HOME BUILDING GROUP							PLANT 958	DESCRIPTION 28X56 3BR-2BA	MODEL NO. 3542	
							DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024	SHEET NO. 11-1

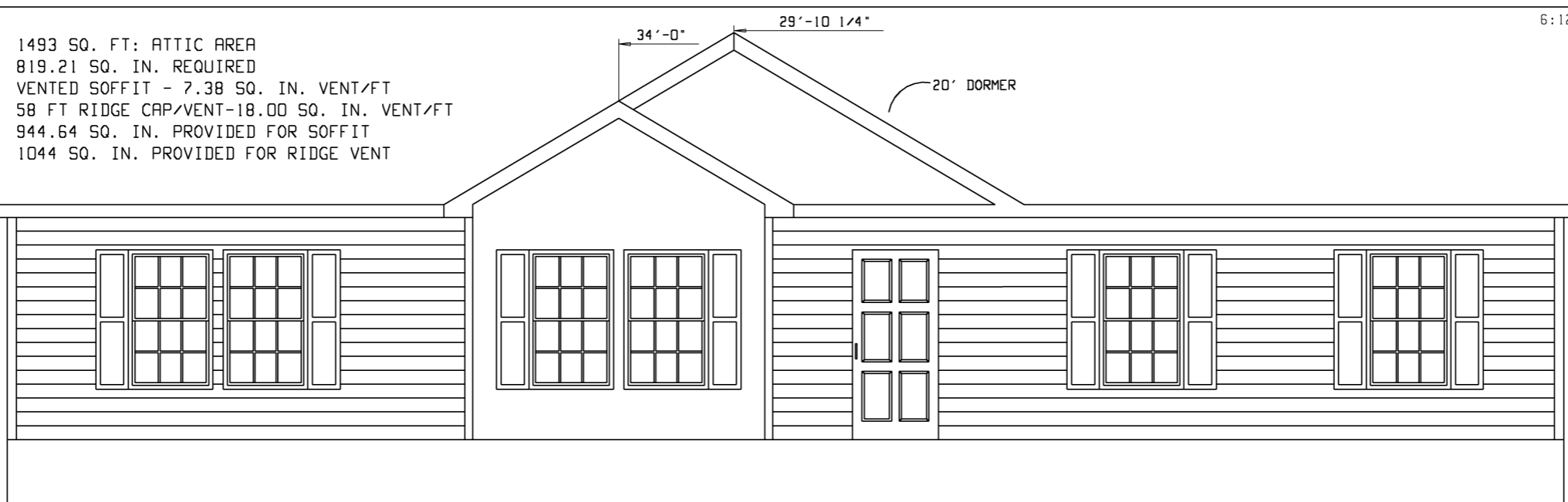
ASPHALT SHINGLES

VINYL SIDING

1493 SQ. FT. ATTIC AREA
 819.21 SQ. IN. REQUIRED
 VENTED SOFFIT - 7.38 SQ. IN. VENT/FT
 58 FT RIDGE CAP/VENT-18.00 SQ. IN. VENT/FT
 944.64 SQ. IN. PROVIDED FOR SOFFIT
 1044 SQ. IN. PROVIDED FOR RIDGE VENT

6:12

34'-0"
 29'-10 1/4"
 20' DORMER



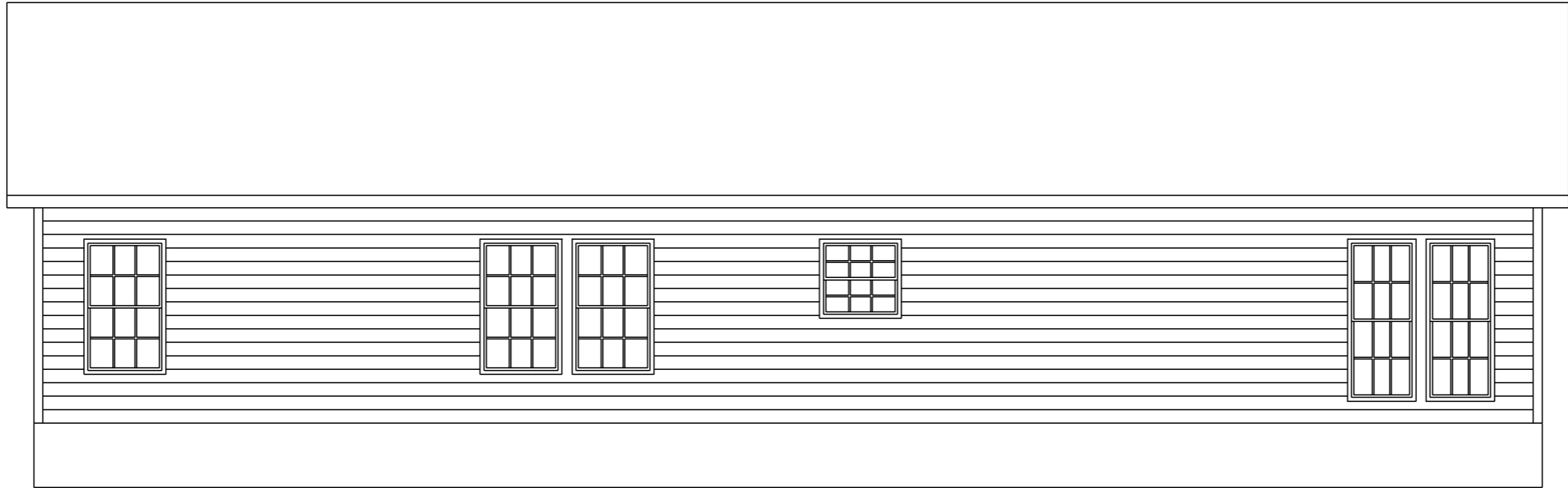
FRONT ELEVATION



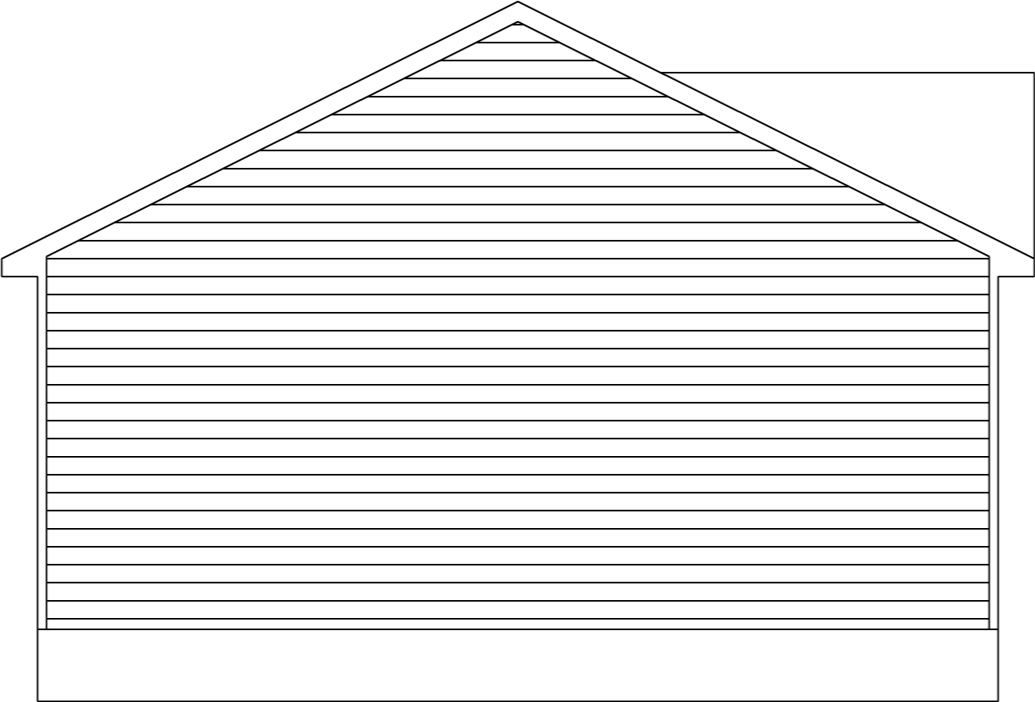
RIGHT SIDE ELEVATION

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BRAND CAVALIER	SERIES FG28	REVISIONS	BY	DATE	GENERAL NOTES	DRAWING TITLE EXTERIOR ELEVATION FRONT & RIGHT SIDE	MODEL NAME 3542	SQ. FT. 1493		
CLAYTON HOME BUILDING GROUP							PLANT 958	DESCRIPTION 28X56 3BR-2BA	MODEL NO. 3542	
							DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024	SHEET NO. 20-1



BACK ELEVATION



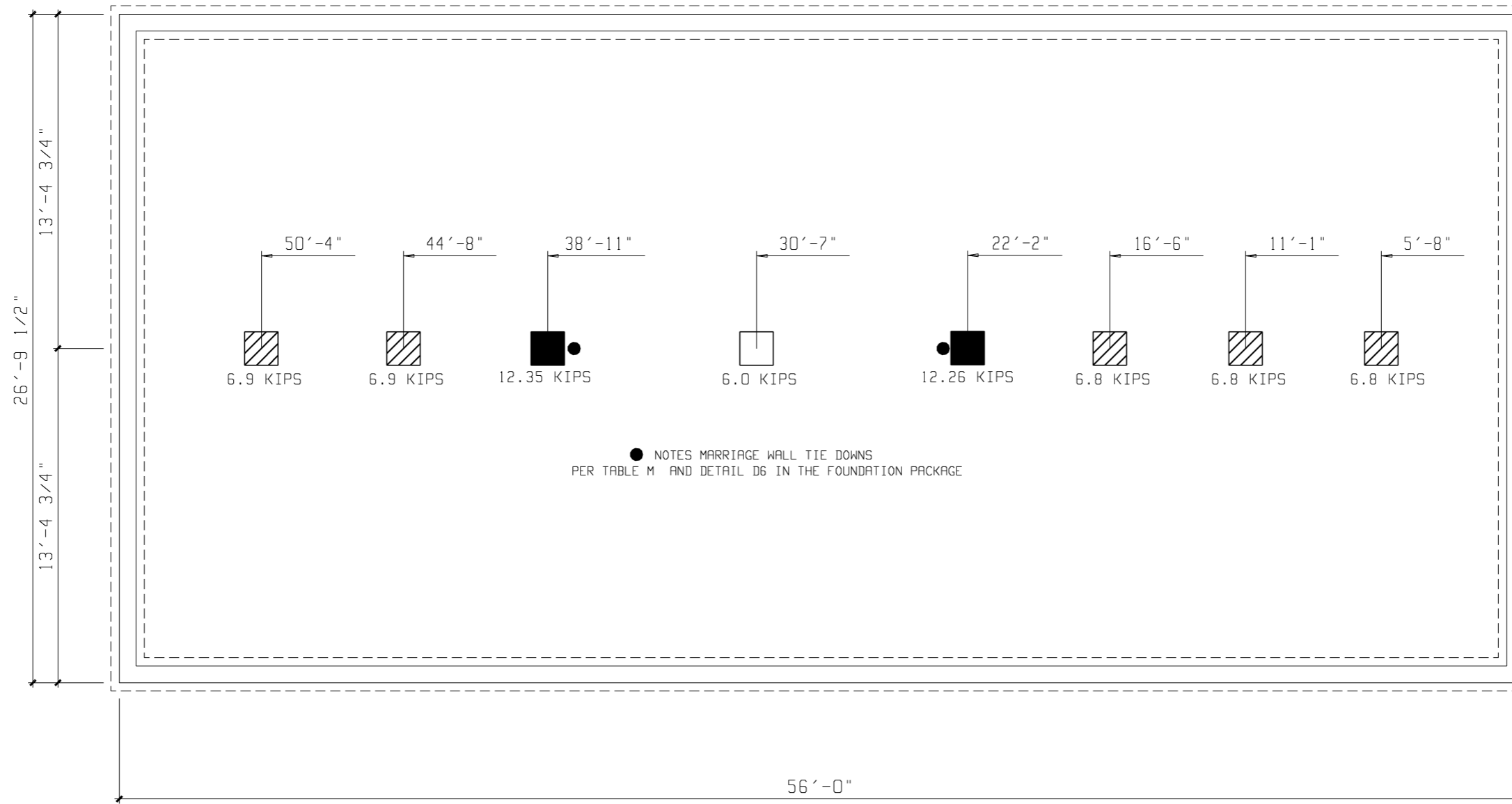
LEFT SIDE ELEVATION

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BRAND CAVALIER	SERIES FG28	REVISIONS	BY	DATE	GENERAL NOTES	DRAWING TITLE EXTERIOR ELEVATION BACK & LEFT SIDE	MODEL NAME 3542	SO. FT. 1493		
CLAYTON HOME BUILDING GROUP							PLANT 958	DESCRIPTION 28X56 3BR-2BA	MODEL NO. 3542	
							DRAWN BY TXH	ORIG. DATE 10/18/2017	DATE PRINTED 02/12/2024	SHEET NO. 20-2








IMPORTANT:
 THIS FOUNDATION DRAWING IS MODEL SPECIFIC AND ILLUSTRATES THE BASIC LAYOUT ONLY.
 FOR FOUNDATION CONSTRUCTION, FASTENING AND SECUREMENT DETAILS YOU MUST REFER
 TO THE MODEL SPECIFIC FOUNDATION MANUAL INCLUDED WITH THIS HOME.

NOTE: THE OVERALL FOUNDATION WIDTH SHOWN
 IS 1 1/2" LARGER THAN THE ACTUAL FLOOR WIDTH
 TO COMPENSATE FOR PRODUCTION AND ASSEMBLY TOLERANCES.



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PIER LEGEND	
	= SUPPORT AT MATING COLUMN
	= SUPPORT UNDER MATING WALL
	= SUPPORT UNDER MATING OPENING
	= SUPPORT AT PORCH/RECESSED ENTRY
	= SUPPORT UNDER MAIN I-BEAM
	= SUPPORT UNDER PERIMETER WALL
	= SUPPORT AT CROSS I-BEAM BASEMENT

CRAWLSPACE VENTILATION VENTILATION IS BASED ON 144 SQ. IN. OF VENT FOR EVERY 150 SQ. FT. OF CRAWLSPACE AREA WITH APPROVED VAPOR RETARDER MATERIAL. ONE SUCH VENT MUST BE WITHIN 3 FT. OF EACH CORNER		1493 SQ. FT. OF CRAWLSPACE AREA 1434 SQ. IN. OF VENT REQUIRED 28 VENTS NEEDED @ 52 SQ. IN. EACH 1456 SQ. IN. VENTILATION INSTALLED MINIMUM	CRAWL SPACE 18" MIN CLEARANCE BELOW BOTTOM OF FLOOR JOIST. GROUND TO BE COVERED WITH APPROVED VAPOR RETARDER MATERIAL.	INSTALL SWITCHED LIGHT AND GFCI RECEPT AT CRAWL SPACE ENTRANCE FOR SERVICE OF MECHANICAL EQUIPMENT PER NEC - 210-70 (C)	NOTE: MASONRY UNITS FOR STAND ALONE PIERS SHALL BE LAID IN TYPE "M" OR "S" MORTAR OR SHALL BE COVERED WITH SURFACE BONDING CEMENT COMPLYING WITH ASTM C 887. SURFACE BONDING CEMENT SHALL BE APPLIED IN STRICT COMPLIANCE WITH THE CEMENT MANUFACTURERS INSTRUCTIONS. BOTTOM COURSE SHALL BE LAID IN TYPES "M" OR "S" MORTAR OR SURFACE BONDING MORTAR (CEMENT).		
BRAND CAVALIER	SERIES FG28	REVISIONS		GENERAL NOTES		DRAWING TITLE	
CLAYTON HOME BUILDING GROUP				SEE INSTALLATION MANUAL FOR FOUNDATION GENERAL NOTES & TIE-DOWN REQUIREMENTS FOUNDATION VENT LOCATIONS ARE SHOWN TYPICAL & ARE SUBJECT TO CHANGE DUE TO PIER LOCATION, CHASSIS MEMBERS & EXTERIOR DECK INSTALLATION () - DIMENSIONS DENOTES 2X6 WALLS OPTION		20130 PSF FOUNDATION	
						MODEL NAME 3542	SQ. FT. 1493
						PLANT 958	DESCRIPTION 28X56 3BR-2BA
						MODEL NO. 3542	
						DRAWN BY TXH	ORIG. DATE 10/18/2017
						DATE PRINTED 02/12/2024	SHEET NO. 21-30PSF

OFF FRAME BASEMENT & CRAWL FOUNDATION DESIGN FOR: 26' - 8 " 2-SECTION MODULAR 1 STORY- W.O ATTIC

Attic without storage where the maximum clear height between joist and rafter is less than 42 inches or req'd insulation depth exceeds the depth of the bottom chord.

PERIMETER ANCHORED SYSTEM- BUILDING IS SECURED TO FOUNDATION WALLS TO SUPPORT WIND AND SEISMIC FORCES.

SIDEWALLS ARE SUPPORTED (PERIMETER BLOCKED)

BUILDING CODE INFORMATION:

IRC (2015)

ASCE 7-10

2018 NORTH CAROLINA RESIDENTIAL CODE

BUILDING SITE INFORMATION:

*MAXIMUM ULTIMATE/DESIGN WIND SPEED & EXPOSURE: 130/ 100 MPH EXPOSURE C-enclosed

MINIMUM SOIL BEARING CAPACITY: 1500 PSF

MAXIMUM GROUND SNOW(S): 20 PSF, 30 PSF

Flat roof snow load (Pg)=20.0 PSF ,23.1 PSF

SEISMIC DESIGN CATEGORY: C

DESIGN SPECTRAL RESPONSE (S_{DS}): 0.49

SEISMIC SOIL SITE CLASS: D

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HOME INFORMATION:

UNIT WIDTH: 26' - 8 "

MAX. UNIT LENGTH: 76 ft.

ROOF PITCH: 6/12 to 6/12

DESIGN LOADS: 40 PSF FL. LL., 7PSF T.C.D.L., 8PSF B.C.

D.L., 13PSF FL. DL. &, 10PSF B.C.L.L

MAX. SIDEWALL HEIGHT: 108 INCHES

TOTAL MATING WALL RIM JOIST BEAMS: (4) 2X10 #2 SPF

RIM JOIST SPLICES: 6" X 8" MiTek MT20 metal plates each side

OFF FRAME FLOOR

PLANT NUMBER: 958

* Ultimate wind speed Vult. Per ASCE 7-10/ allowable stress design wind speed Vasd. All wind speeds are indicated as (Vasd) design speeds unless otherwise indicated.

This design is the property of CMH Manufacturing and cannot be used without authorization. This design is exclusively for use with new homes built by CMH Manufacturing. Use with homes built by other companies is strictly prohibited.

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Preface

This foundation design manual is dedicated to the ever-growing trend to place homes over basements and permanent foundations. CMH Manufacturing, Inc. has attempted to address the more common installation configurations. These may or may not be the only acceptable designs for basements or permanent foundations. If deviations are made from these details, it is the homeowner' s and/or installation contractor' s responsibility to obtain proper documentation and engineer' s details of construction acceptable to the local authority having jurisdictions. CMH Manufacturing, Inc. will not supply any details other than what is contained in the following design manual. If an alternate design is requested it must be provided by an independent engineer subject to local approval. The owner/contractor is responsible for any additional construction details, permits, inspections and fees associated with these items.

Setting a home over a basement or permanent foundation requires special knowledge, experience and equipment to accomplish a safe and proper set. Contractors performing this type of installation must be licensed, bonded and insured to protect all aspects of this type of work.

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Instructions

1. Determine site soil classification, (see table R405.1).
2. The provided foundation and anchorage designs are not applicable for the following conditions. In all these cases a complete geotechnical evaluation must be performed and foundation must be designed by a professional engineer in accordance with section 1805.8 (IBC) for site specific conditions.
 - Site contains OL, OH or Pt class soils.
 - Site contains compressible or shifting soils.
 - Site contains expansive soils per IRC (R403.1.8.1) or per local authority and adopted code.
 - Site contains soils which do not provide the minimum allowable soil bearing strength as specified per the provided designs.
 - Foundation walls support unbalanced loads on opposite sides of building, such as a daylight basement or walk out basement where the building aspect ratio, L/W, exceeds the values specified in Table L.
 - Site with soils subject to liquefaction or soil containing high concentration of sulfate.
3. Determine foundation wall height for each wall of foundation. Reference **Detail – D1 or D2** for wall height.
4. Determine height of backfill for each wall of foundation. Reference **Table L** when backfill heights along the foundation wall are unbalanced. Reference **Detail – D1 or D2** for perimeter foundation wall construction.
5. Determine what type of mateline supports will be used. Reference **Detail - D3, D4, D5 or D7** for mateline columns and **Detail – D14** for cross beams.
6. Determine if type H connector plates will be used around the perimeter of the building. Fastening and anchoring tables have been provided with and without the use of the H connectors.
7. Find the **Floor to Sill Plate & Sill Plate to Foundation** table for site soil classification.
8. Find site wall height and backfill height line and follow this line across. Heights are listed as maximums, therefore any line beneath (greater height) may be utilized for items 10 ,11 & 12 below.
9. If type H connectors will be installed the table labeled **With Type H Plate Connectors** can be utilized. Note (6) will specify spacing for H plates along sidewalls and Note (7) will specify spacing for H plates along each endwall.
10. Select desired rim to sill connection from line in table (E, F or G for sidewalls and E or G for endwalls).
11. Select desired anchor type (4 or 5) for sill to foundation wall connection and determine anchor spacing for sidewall and endwall under corresponding column.
12. Determine if shearwall foundation holddowns are required by checking far right column within selected row. See **Shearwall Foundation Holddown Detail (Detail D18)** for connection requirements

The above process may be repeated as desired for different foundation wall and backfill combinations.



General Notes

1. Foundation plans and details developed by CMH Manufacturing, Inc. are provided to our company owned sales centers and wholesale distribution partners. Alternate foundation systems may be used in lieu of these plans provided they are designed by a local professional Engineer or Architect familiar with the local soil and climate conditions, and are approved by the local authority having jurisdiction.
2. All notes stating "in field" or "by owner" are obligations pertaining to owner/contractor.
3. Owner /Contractor shall provide complete foundation, including footing drains, vapor barrier, sill plate, anchor bolts, stair area, slab and footing reinforcement along with damp proofing, waterproofing, backfill, and all finish work per Chapter 4 of IRC or per adopted local building code.
4. Owner/Contractor shall be responsible for performing all work in accordance with previously approved construction details and obtaining all necessary inspections as required by local or state authorities.
5. Not designed for areas likely to have collapsible, expansive, compressible, shifting, liquifaction, soil containing high concentration of sulfate or other unknown soil characteristics. In these conditions a local engineer must provide foundation design and the building official shall determine whether to require a soil test to determine the soil characteristics. This soil test shall be made by an approved testing agency using an approved method.
6. Pier spacing is dimensioned to centerline unless otherwise noted.
7. The foundation dimensions shown are nominal. An increase in module width should be expected due to module expansion, setting tolerances, etc. The foundation contractor should consult with the manufacturer of the modules prior to construction of the foundation to determine the actual width of the home and placement of anchors.
8. All steel support columns shall have protective coating and a load capacity equal to or greater than specified on foundation plan (k=1000 pounds).
9. All foundation construction materials and installation shall be in accordance with all state and local codes.
10. Backfill shall not be placed against the wall until the wall has sufficient strength and has been anchored to the floor above or has been sufficiently braced to prevent damage by the backfill. Heavy-equipment must be restricted to a minimum distance to the foundation at least equal to the depth of the foundation.
11. Solid cap block or cement fill required at top courses of all masonry piers or pilasters.
12. The foundation design has been designed to be placed in the seismic zone indicated on the cover of this document. Please note that all CMH structures have been designed for seismic (zone/category) A, B, or C only, unless otherwise noted on floor plan and cover page of these instructions.
13. All piers shall be constructed of 8"x8"x16" concrete masonry units conforming to ASTM C90 with a minimum compressive strength of 700 psi. Masonry foundation walls must be laid in type m or s mortar. When required per tables or details, piers of masonry units shall be laid in type m or s mortar. All dry stack masonry should be surfaced bonded with an approved adhesive product.



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14. All reinforcing steel shall be Grade 60 minimum. All splices shall be lapped 24" minimum and splices shall be offset 30" minimum within same footer.
15. All concrete grout shall be 3000 psi at 28 days.
16. Reference the model plan drawing for specific foundation layout.
17. Concrete footings shall have a minimum compressive strength of 3000 psi at 28 days. Concrete foundation walls and other concrete exposed to weather shall have a minimum compressive strength of 3000 psi at 28 days and in moderate and severe weather areas the concrete shall be air entrained no less than 5 percent and not more than 7 percent. See table R301.2(1) and R402.2 of IRC
18. All exterior footings shall be placed at least 12" below the undisturbed ground surface. All exterior footings shall extend below the frost line or otherwise frost protected in accordance with Sections R403.1.4.1 through R403.1.4.2 of IRC or per adopted local building code.
19. Top of foundation walls shall extend a minimum of 6-1/2" above finished adjacent grade. Wood framing members, including wood sheathing, that rest on exterior foundation walls and are less than 8" from exposed earth shall be of naturally durable or preservative-treated wood. Wood floor joist shall not be closer than 18" from exposed ground in under floor space.
20. Contractor shall verify all site conditions and dimensions prior to starting foundation. Notify home manufacturer of any discrepancies immediately.
21. The foundation must be designed and built to local codes and ordinances and must be approved and inspected by local building officials.
22. Access shall be to all under floor spaces. Access shall be a minimum of 18" by 24" . If mechanical equipment is installed in this area, please refer to the Mechanical Code for minimum access opening. Through wall access openings shall not be located under an exterior door.
23. Under floor space shall be ventilated with a net area ratio not less than 1 square foot for each 150 square feet of under floor space area placed in accordance with local codes. Ratio may be reduced to 1/1,500 where ground is covered with a 6-mil polyethylene or approved vapor retarder.
24. Field installed wiring in basement is subject to local inspection. Basement smoke alarms must be installed at foot of stairs and interconnected with home smoke alarms and tested on site. Smoke alarms must be located, installed, and tested in conformance with local building requirements.
25. Large clear spans along masonry wall require a column or pier at each end. See model specific foundation plan for required capacity and additional column requirements.
26. Basement stairs (widths, handrails, clearances, headroom, landings, fire protection, etc.) are the responsibility of the owner/contractor and must be constructed to comply with local building codes.
27. Owner/contractor shall not alter basement stair opening without written approval from CMH Manufacturing, Inc.

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28. Lighting and receptacles in basement are the responsibility of owner/contractor.
29. Termite protection shall be provided per the building code and local requirements and are responsibility of owner/contractor.
30. Ground snow load is indicated on foundation plans. Snow load must be verified per locality. Building has not been designed to be located within a Tsunami design zone.
31. This structure has not been designed to be located within flood hazard locations or in Coastal A Zones. When site is located in a flood hazard area or in Coastal A Zones as determined by the local authority having jurisdiction or flood hazard maps. The unit shall have lowest floor elevated above the design floor elevation. Foundation and anchorage designs shall be provided by a local engineer in conformance with locally adopted building code and ASCE-24-14.
32. All connection hardware, anchor bolts, straps, hold-downs, washers and fasteners shall be minimum of ASTM A653 Type G185 zinc coated galvanized or stainless when in contact with pressure treated sill plates or other pressure treated lumber.
33. Radon control, when required by a local jurisdiction, shall be provided and installed by others in accordance with appendix F of the IRC.
34. Topographic wind effects have not been considered. Home has not been designed to be located in areas designated as having local historical data documenting structural damage to buildings caused by wind speed-up at isolated hills, ridges and escarpments.
35. Surface drainage shall be devirted to a storm sewer or other approved collection point. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6 inches within the first 10 feet.
- 36 A 6-mil-thick polyethylene moisture barrier shall be applied over the porous layer with the basement floor constructed over the polyethylene.
37. Concrete and Masonry Foundation walls that retain earth and enclose interior spaces and floors below grade shall be damp proofed from the top of the footing to the finished grade. Masonry walls shall have not less than 3/8" Portland cement parging applied to the exterior of the wall. The parging shall be damp proofed in accordance with one of the following.
- a. Bituminous coating, b. 3 pound per sq. yard of arcylic modified cement, c. 1/8" coat of surface-bonding cement complying with ASTM C887, d. Material permitted for waterproofing per Section R406.2, e. Other approved methods or materials.
38. Concrete and masonry foundation walls that retain earth and enclose interior spaces and floors below grade in areas of high water table or other severe soil-water conditions shall be waterproofed from the top of the footing to the finished grade in accordance with one of the following:
- a. 2-ply hot-mopped felts, b. 55 pound rolled roofing, c. 6-mil polyvinyl chloride, 6-mil polyethylene, d. 40-mil polymer-modified asphalt., e, 60-mil flexible polymer cement, f. 1/8" cement-based, fiber-reinforced, waterproof coating, g. 60-mil solvent-free liquid-applied synthetic rubber.
39. If building is located within a wind borne debris region glazed openings shall be protected from wind borne debris. Wind Borne debris protection is the responsibility of others.
40. When Geotechnical report is required or available, all recommendations shall be followed and geotechnical engineer shall review all foundation plans to verify applicability with recommendations and engineer shall be present on regular basis during site preparation, fill placement and foundation excavation.
41. Self-closing rated doors shall be installed between garage and house (on-site by other).(R302.5.1)
- 42.Reserved.

43. A 6-mil polyethylene or approved vapor retarder with joints lapped not less than 12 inches shall be placed between the concrete floor slab and the base course or the prepared subgrade.

SOIL CLASSIFICATION

TABLE R405.1 W/ NC admendments						
LATERAL SOIL LOAD	UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL	SOIL DESCRIPTION	DRAINAGE CHARACTERISTICS ^a	FROST HEAVE POTENTIAL	VOL. CHANGE POTENTIAL EXPANSION ^b	ALLOWABLE SOIL PRESSURE
30 psf LATERAL SOIL LOAD	GW	Well-graded gravels, gravel sand mixtures, little or no fines	Good	Low	Low	5000
	GP	Poorly graded gravel or gravels sand mixtures, little or no fines	Good	Low	Low	5000
	SW	Well-graded gravels, gravelly sands, little or no fines	Good	Low	Low	3000
	SP	Poorly graded sand, or gravelly sands, little or no fines	Good	Low	Low	3000
45 psf LATERAL SOIL LOAD	GM	Silty gravels, gravel-sand-silt mixtures	Good	Medium	Low	3000
	SM	Silty sand, sand-silt mixtures	Good	Medium	Low	3000
	GC	Clayey gravels, gravel-sand-clay mixtures	Medium	Medium	Low	3000
60 psf LATERAL SOIL LOAD	SC	Clayey sands, sand-clay mixture	Medium	Medium	Low	3000
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Medium	High	Low	2000*
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Medium	Medium	Medium to Low	2000*
	CH	Inorganic clays of high plasticity, fat clays	Poor	Medium	High	2000*
	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Poor	High	High	2000*
SPECIAL INSPECTION REQUIRED	OL	Organic silts and organic silty clays of low plasticity	Poor	Medium	Medium	SPECIAL INSPECTION REQUIRED
	OL	Organic clays of medium to high plasticity, organic silts	Unsatisfactory	Medium	High	
	Pt	Peat and other highly organic soils	Unsatisfactory	Medium	High	

a. The percolation rate for good drainage is over 4 inches per hour, medium drainage is 2 inches to 4 inches per hour, and poor is less than 2 inches per hour.

b. Soils with low potential expansion typically have a plasticity index (PI) of 0 to 15, soils with a medium potential expansion have a PI of 10 to 35 and soils with a high potential expansion have PI greater than 20.

* Where the building official determines that in place soils with an allowable bearing capacity of less than 2000 psf are likely to be present at the site, the allowable bearing capacity shall be determined by a soils investigation.

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TABLE R404.1.1:IRC (2015) PERIMETER FOUNDATION WALL MINIMUM REQUIREMENTS [Seismic Seismic Zone: Design]

Max. Wall Height	Maximum Unbalanced Fill*	GW, GP, SW, & SP Soil Class (30 PSF)			GM, GC, SM-SC, & ML Soil Class (45 PSF)			SC, MH, ML-CL, & Inorganic CL Soil Class (60 PSF)		
		Plain Masonry 1 Walls	8" Reinforced Masonry Walls ^{5,9}	8" Poured Concrete Walls ^{6,7}	Plain Masonry 1 Walls	8" Reinforced Masonry Walls ^{5,9}	8" Poured Concrete Walls ^{6,7}	Plain Masonry 1 Walls	8" Reinforced Masonry Walls ^{5,9}	8" Poured Concrete Walls ^{6,7}
0 to 5 feet	4	6 in. solid (3) or 8 in.	-	PC	6 in. solid (3) or 8 in.	-	PC	6 in. solid (3) or 8 in.	-	PC
	5	6 in. solid (3) or 8 in.	-	PC	8 in.	-	PC	10 in.	-	PC
6 feet to 7 feet	4	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	8	#4 @ 48 in. o.c.	PC	8	#4 @ 48 in. o.c.	PC
	5	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	10 in.	#4 @ 48 in. o.c.	PC	10 in.	#4 @ 48 in. o.c.	PC
	6	10 in.	#4 @ 48 in. o.c.	PC	12 in.	#5 @ 48 in. o.c.	PC	10 in. solid (3)	#5 @ 48 in. o.c.	#5 @ 48 in. o.c.
	7	12 in.	#5 @ 48 in. o.c.	PC	10 in. solid (3)	#6 @ 48 in. o.c.	#5 @ 46 in. o.c.	12 in. solid (3)	#6 @ 40 in. o.c.	#6 @ 48 in. o.c.
8 feet	4	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	8	#4 @ 48 in. o.c.	PC
	5	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	10 in.	#4 @ 48 in. o.c.	PC	12 in.	#4 @ 48 in. o.c.	PC
	6	10 in.	#4 @ 48 in. o.c.	PC	12 in.	#5 @ 48 in. o.c.	PC	12 in. solid (3)	#5 @ 48 in. o.c.	#6@32in o.c.
	7	12 in.	#5 @ 48 in. o.c.	PC	12 in. solid (3)	#6 @ 48 in. o.c.	#5 @ 41 in. o.c.	Footnote (4)	#6 @ 40 in. o.c.	#6@32 in. o.c.
9 feet	4	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	6 in. solid (3) or 8 in.	#4 @ 48 in. o.c.	PC	8 in.	#4 @ 48 in. o.c.	PC
	5	8 in.	#4 @ 48 in. o.c.	PC	10 in.	#4 @ 48 in. o.c.	PC	12 in.	#5 @ 48 in. o.c.	PC
	6	10 in.	#4 @ 48 in. o.c.	PC	12 in.	#4 @ 48 in. o.c.	PC	12 in. solid (3)	#6 @ 48 in. o.c.	#6@35 in. o.c.
	7	12 in.	#5 @ 48 in. o.c.	PC	12 in. solid (3)	#6 @ 48 in. o.c.	#6@35 in. o.c.	Footnote (4)	#6 @ 40 in. o.c.	#6@32 in. o.c.
	8	12 in. solid (3)	#6 @ 48 in. o.c.	#6@36 in. o.c.	Footnote (4)	#6 @ 40 in. o.c.	#6@32 in. o.c.	Footnote (4)	#6 @ 24 in. o.c.	#6@28 in. o.c.
10 feet	9	Footnote (4)	#6 @ 40 in. o.c.	#6@35 in. o.c.	Footnote (4)	#6 @ 24 in. o.c.	#6@25 in. o.c.	Footnote (4)	#6 @ 16 in. o.c.	#6@24 in. o.c.
	8	NA	#6 @ 48 in. o.c.	#6 @ 35 in. o.c.	NA	#6 @ 32 in. o.c.	#6 @ 29 in. o.c.	NA	#6 @ 24 in. o.c.	#6 @ 21 in. o.c.
	10	NA	#6 @ 32 in. o.c.	#6 @ 27 in. o.c.	NA	#6 @ 16 in. o.c.	#6 @ 17 in. o.c.	NA	#6 @ 16 in. o.c.	#6 @ 13 in. o.c.

*Unbalanced backfill height is the difference in height between the exterior finish grade level and the top of the basement slab or crawl space grade.

Backfill shall be placed only AFTER the home has been anchored to the foundation wall.

(1) - All block must conform to ASTM C90 (700 psi rated) and be laid in a running bond of Type M or S mortar with overlapping pattern .

UngROUTED hollow masonry units are permitted except where otherwise indicated.

(3) - Solid grouted hollow units or solid masonry units.

(4) - Wall construction per reinforced units or design required.

(5) - Vertical reinforcement shall be Grade 60 minimum. The distance from the face of the soil side of the wall to the center of vertical reinforcement shall be at least 5".

(6) - PC = Plain Concrete (Concrete with less reinforcement than minimum for reinforced concrete)

(7) - All reinforcement shall be Grade 60 minimum. The distance from the face of the soil side of the wall to the vertical reinforcement shall be at least 6 1/16", but not more than 6 11/16".

'All information above has been extracted from the 2009 IRC Tables R404.1.1(1), Tables R404.1.1(2) Tables R404.1.2(3)

(8) Reserved

(9) Reserved

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Maximum Aspect Ratio, L/W for Unbalanced Foundations

		SOIL CLASS		
Maximum Wall Height	Maximum Unbalanced Fill	GW, GP, SW, & SP (30 PSF)	GM, GC, SM-SC, & ML (45 PSF)	SC, MH, ML-CL, & Inorganic CL (60 PSF)
7 feet	4	4.0	4.0	4.0
	5	4.0	3.4	2.6
	6	3.0	2.0	1.5
	7	1.9	1.2	0.9
8 feet	4	4.0	4.0	4.0
	5	4.0	3.9	2.9
	6	3.4	2.3	1.7
	7	2.1	1.4	1.1
	8	1.4	1.0	0.7
9 feet	4	4.0	4.0	4.0
	5	4.0	4.0	3.3
	6	3.8	2.6	1.9
	7	2.4	1.6	1.2
	8	1.6	1.1	0.8
	9	1.1	0.8	0.6

Instructions:

Where foundation wall support unbalanced load on opposite sides of building such as daylight basement, the building aspect ratio, L/W, shall not exceed the value specified in Table above. R404.1(3)

- 1 - Determine foundation wall height, unbalanced fill depth, and soil class to determine aspect ratio from table above.
- 2 - Multiple "W" times aspect ratio.
- 3 - Result is equal to the maximum allowable building length on the exposed side.

Example 1 - check sidewall for 26'-8" x 60'-0" home.

Basement Wall Height = 8'-0"

Unbalanced backfill = 7'-0"

Soil Class = SP

Aspect Ratio from Table above = 2.1

$26.67 \times 2.1 = 56'-0"$ max. allowable length - **example fails**

Try again using 6'-0" max. unbalanced fill with an aspect ratio of 3.4.

$26.67 \times 3.4 = 90'-8"$ max. allowable length - **example passes**

Max. allowable backfill is 6'-0"

Example 2 - check endwall for 26'-8" x 60'-0" home.

Basement Wall Height = 8'-0"

Unbalanced backfill = 7'-0"

Soil Class = SP

Aspect Ratio from Table above = 2.1

$60 \times 2.1 = 126'-0"$ max. allowable length - **example passes**

"L" = total overall dimension of the building on the exposed side

"W" = the total overall dimension of the building on the side adjacent to the exposed side

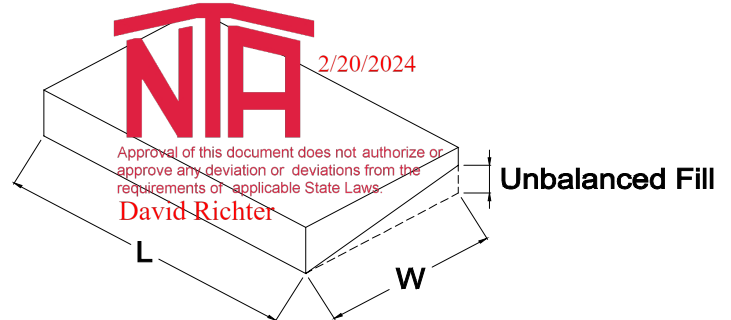
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Required Rim Joist to Sill Plate

Fastening at wall "L".

Use a 20 Gauge metal angle clip at 24" o.c. with (5) 8d nails per leg or an approved connector supplying 230 pounds per linear foot capacity.

*Page extracted from 2006 IRC section R404.1.5 & Table R404.1(3)

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UNBALANCED FOUNDATIONS (TABLE L)

DATE: 3/27/07

FILENAME: 958I-14.R.F.E.22.22.210(L)

PAGE #:

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TABLE M - MINIMUM CONCRETE BLOCK PIER AND FOOTER SIZE

AT MATING WALL COLUMNS (REF. DETAILS D4 OR D5)						# of Uplift Ties
GROUND SNOW	20	30				
MAXIMUM MATING LINE SPAN BETWEEN MATING WALL COLUMN SUPPORTS	4'	(S) 28"x28"X10" OR 32" Dia. X 12"	(S) 28"x28"X10" OR 32" Dia. X 12"			0
	6'	(S) 28"x28"X10" OR 32" Dia. X 12"	(D) 40"x40"X12" OR 46" Dia. X 19"			0
	8'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	10'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	12'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	14'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	16'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	18'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	20'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	22'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	24'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	26'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	28'	(D) 40"x40"X12" OR 46" Dia. X 19"	(D) 40"x40"X12" OR 46" Dia. X 19"			1
	30'	(D) 40"x40"X12" OR 46" Dia. X 19"	(T) 48"x48"X16" OR 56" Dia. X 24"			1
	32'	(D) 40"x40"X12" OR 46" Dia. X 19"	(T) 48"x48"X16" OR 56" Dia. X 24"			1
	34'	(D) 40"x40"X12" OR 46" Dia. X 19"	(T) 48"x48"X16" OR 56" Dia. X 24"			1
36'	(D) 40"x40"X12" OR 46" Dia. X 19"	(T) 48"x48"X16" OR 56" Dia. X 24"			1	
46'	(T) 48"x48"X16" OR 56" Dia. X 24"	(T) 48"x48"X16" OR 56" Dia. X 24"			1	
SUPPORTS UNDER MATING OPENING AS CLEARSPANS IN FEET						
PIER SPACING	8.3'	8.3'				
PIER CONFIG.	(S) 28"x28"X10" OR 27" Dia.	(S) 28"x28"X10" OR 27" Dia.				
SUPPORTS UNDER MATING WALLS- CLEARSPANS IN FEET						
PIER SPACING	7.'	7.'				
PIER CONFIG.	(S) 28"x28"X10" OR 31" Dia.	(D) 40"x40"X12" OR 32" Dia.				

Girder beams construction to be (4) 2X10 #2 SPF joists. Splices 6" X 8" MiTek MT20 metal plates each side

Chart Key:

(Pier Configuration) Min. footer width (inches) x Min. footer length (inches) x Min. footer depth (inches)

(S)= Single stack block configuration.

(D)= Double stack block configuration.

(T)= Triple stack block configuration.

(DR)=Double stack reinforced & fully grouted configuration.

IE. For 20 psf 160" box with 14' opening:Double stack pier on a 40"x 40" sq. footer 12" deep footing.

27' 1 STORY- W.O ATTIC OFF FRAME BASEMENT & CRAWL With Roof Pitch of 6/12 Min. to 6/12 Max.

NOTES: 1 DESIGNED FOR 100 MPH MAX. WIND SPEED.

2 DESIGNED FOR 1500 PSF MIN. ALLOWABLE SOIL BEARING CAPACITY.

3 DESIGN TO * Ultimate wind speed Vult. Per ASCE 7-10/ allowable stress design wind speed Vasd. All wind speeds are indicated as (Vasd) design speed

4 MAX. MATING WALL OPENINGS LISTED IN CHART ASSUME OPENING IN BOTH HALVES. IF ANCHOR IS TIED TO ONLY ONE

COLUMN (ONE HALF) THEN HALF THE OPENING SIZE CAN BE USED WHEN LOOKING UP VALUE IN TABLE ABOVE. PIER SUPPORTS REQUIRED AT EACH SIDE OF DOOR OPENINGS AND ALL EXTERIOR WALL OPENINGS GREATER THAN 4'.

5 WHEN PIER CONFIGURATION IS NOT GIVEN IN CHART THE ACTUAL LOADS EXCEED ALL PREDESIGNED PIERS AND A LOCAL ENGINEER MUST DESIGN THE SUPPORTS FOR THE GIVEN LOADS (- UPLIFT/ + GRAVITY LOADS).

6 ALL PIERS SHALL BE EMBEDDED IN TYPE M OR S MORTAR.

7.Round footers or Round Piles with diameter as required above may be used as alternate to square footing or square footing and block piers.

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FILENAME:958I-14.R.F.E.22.22.210(L)

TABLE N - STRUCTURAL STEEL POST AND FOOTER SIZE AT MATING WALL COLUMNS (REF. DETAIL D7)

GROUND SNOW	20	30				Uplift force
MAXIMUM MATING LINE SPAN BETWEEN MATING WALL COLUMN SUPPORTS	4'	(9k) 30"x30"X11"	(9k) 30"x30"X11"	APPROVED BY  2/20/2024		0 #
	6'	(9k) 30"x30"X11"	(9k) 30"x30"X11"			0 #
	8'	(9k) 30"x30"X11"	(9k) 30"x30"X11"			14.5082 #
	10'	(9k) 30"x30"X11"	(14k) 38"x38"X13"	Approval of this document does not authorize or approve any deviation or deviations from the requirements of applicable State Laws. David Richter		127.335 #
	12'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			240.162 #
	14'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			352.989 #
	16'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			465.816 #
	18'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			578.643 #
	20'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			691.47 #
	22'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			804.297 #
	24'	(14k) 38"x38"X13"	(14k) 38"x38"X13"			917.124 #
	26'	(14k) 38"x38"X13"	(20k) 44"x44"X14"			1029.95 #
	28'	(14k) 38"x38"X13"	(20k) 44"x44"X14"			1142.78 #
	30'	(14k) 38"x38"X13"	(20k) 44"x44"X14"			1255.61 #
	32'	(14k) 38"x38"X13"	(20k) 44"x44"X14"			1368.43 #
	34'	(20k) 44"x44"X14"	(20k) 44"x44"X14"			1481.26 #
36'	(20k) 44"x44"X14"	(20k) 44"x44"X14"			1594.09 #	
46'	(20k) 44"x44"X14"	(30k) 54"x54"X17"			2158.22 #	

SUPPORTS UNDER MATING OPENING AS CLEARSPANS IN FEET

POST SPACING	8.3'	8.3' 0/C			
FOOTER SIZE	(9k) 30"x30"X11"	(9k) 30"x30"X11"			

Girder beams construction to be (4) 2X10 #2 SPF joists. Splices 6" X 8" MiTek MT20 metal plates each side

SUPPORTS UNDER MATING WALLS- CLEARSPANS IN FEET

POST SPACING	7.'	7.'			
FOOTER SIZE	(9k) 30"x30"X11"	(9k) 30"x30"X11"			

Chart Key:

(Post Load)= Minimum allowable compression rating which post must be rated in kips (1000 lbs.).

(Post Capacity and Footer Size) Min. footer width (inches) x Min. footer length (inches) x Min. footer depth (inches)

Note: Steel piers must have a minimum steel base plate size of 4 inches x 5.5 inches which bears directly on footer sized per chart.

Minimum steel column top plate size of 4"x5.5"for 9000#; 6"x6"for 14000#; 6"x8"for 20000# & 6"x12"for 30000#

Minimum footer Reinforcement (Number of #4 bars each way):

<u>Footer size</u>	<u># of No. 4 bars</u>	<u>Footer size</u>	<u># of No. 4 bars</u>
30"x30"	3	44"x44"	6
38"x38"	5	54"x54"	9

27' 1 STORY- W.O ATTIC OFF FRAME BASEMENT & CRAWL With Roof Pitch of 6/12 Min. to 6/12 Max.

NOTES: 1 DESIGNED FOR 100 MPH MAX. WIND SPEED.

2 DESIGNED FOR 1500 PSF MIN. ALLOWABLE SOIL BEARING CAPACITY.

3 DESIGN TO * Ultimate wind speed Vult. Per ASCE 7-10/ allowable stress design wind speed Vasd. All wind speeds are indicated as (V

4 MAX. MATING WALL OPENINGS LISTED IN CHART ASSUME OPENING IN BOTH HALVES. IF ANCHOR IS TIED TO ONLY ONE

COLUMN (ONE HALF) THEN HALF THE OPENING SIZE CAN BE USED WHEN LOOKING UP VALUE IN TABLE ABOVE. PIERS

SUPPORTS REQUIRED AT EACH SIDE OF DOOR OPENINGS AND ALL EXTERIOR WALL OPENINGS GREATER THAN 4'.

5 WHEN PIER CONFIGURATION IS NOT GIVEN IN CHART THE ACTUAL LOADS EXCEED

ALL PREDESIGNED FOOTERS AND A LOCAL ENGINEER MUST DESIGN THE SUPPORTS

FOR THE GIVEN LOADS (- UPLIFT/ + GRAVITY LOADS).

FILENAME:9581-14.R.F.E.22.22.210(L)

Support and anchorage for 16" Max. Recess

NON CORNER- SPANS ARE NOT LOCATED WITH 6' OF END OF HOME

PIER CONFIGURATION AND MINIMUM FOOTER SIZE UNDER SIDEWALL PORCH/ RECESS SUPPORT ^{1,4}												
GROUND SNOW			20 #		30 #							
Max. span ³	UPLIFT LOAD ¹⁰	# Brk ²	w/ground anchors	w/concrete anchors	w/ground anchors	w/concrete anchors	w/ground	w/concrete	w/ground	w/concrete	w/ground	w/concrete
4	-174.99018 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
6	-262.48527 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
8	-349.98036 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
10	-437.47545 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
12	-524.97054 #	-1	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"						

CORNER- SPANS ARE LOCATED WITH 6' OF END OF HOME

PIER CONFIGURATION AND MINIMUM FOOTER SIZE UNDER SIDEWALL PORCH/ RECESS SUPPORT ^{1,4}												
GROUND SNOW			20 #		30 #							
Max. span ³	UPLIFT LOAD ¹⁰	# Brk ²	w/ground anchors	w/concrete anchors	w/ground anchors	w/concrete anchors	w/ground	w/concrete	w/ground	w/concrete	w/ground	w/concrete
4	-144.21849 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
6	-216.32774 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
8	-288.43699 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
10	-360.54623 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
12	-432.65548 #	-1	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"						



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Support and anchorage for 48" Max. Porch Depth

NON CORNER- SPANS ARE NOT LOCATED WITH 6' OF END OF HOME

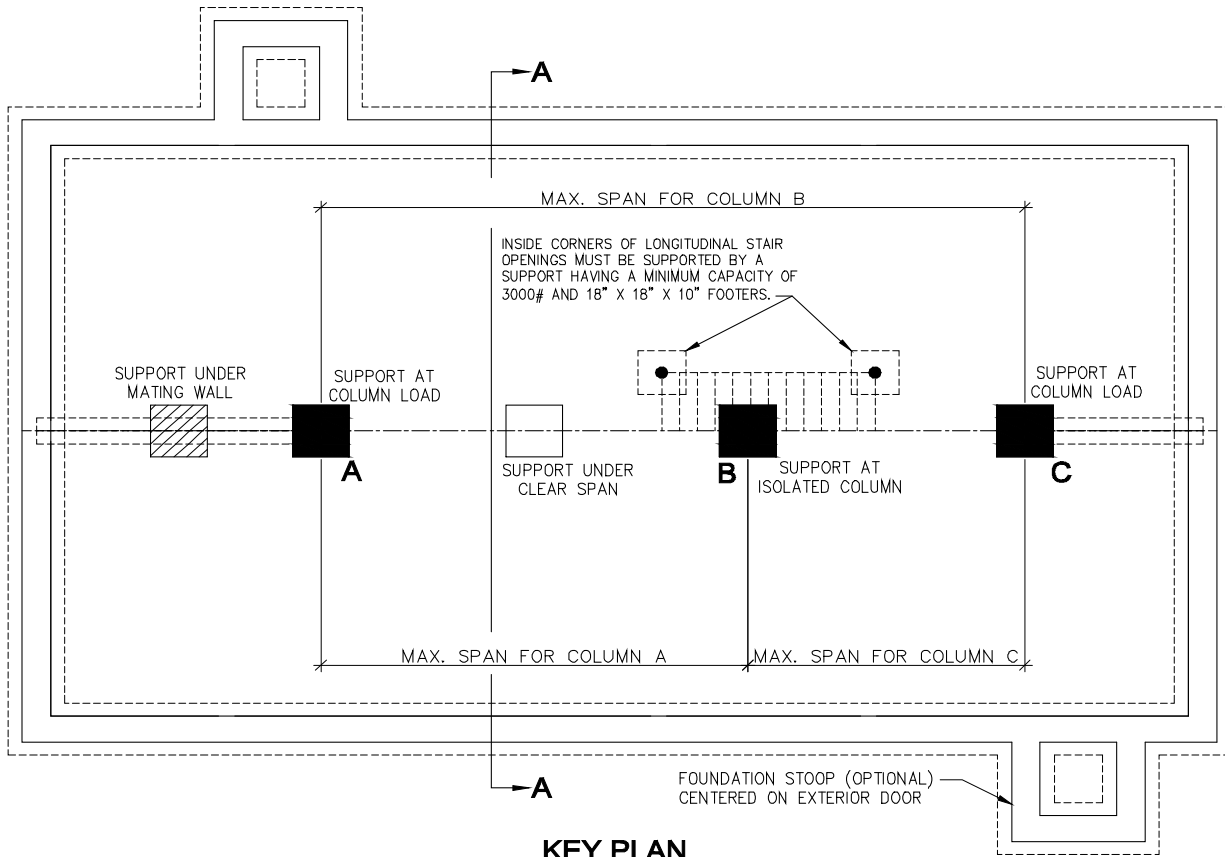
PIER CONFIGURATION AND MINIMUM FOOTER SIZE UNDER SIDEWALL PORCH/ RECESS SUPPORT ^{1,4}												
GROUND SNOW			20 #		30 #							
Max. span ³	UPLIFT LOAD ¹⁰	# Brk ²	w/ground anchors	w/concrete anchors	w/ground anchors	w/concrete anchors	w/ground	w/concrete	w/ground	w/concrete	w/ground	w/concrete
4	-75.418373 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
6	-113.12756 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
8	-150.83675 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
10	-188.54593 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
12	-226.25512 #	-1	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"						

CORNER- SPANS ARE LOCATED WITHIN 6' OF END OF HOME

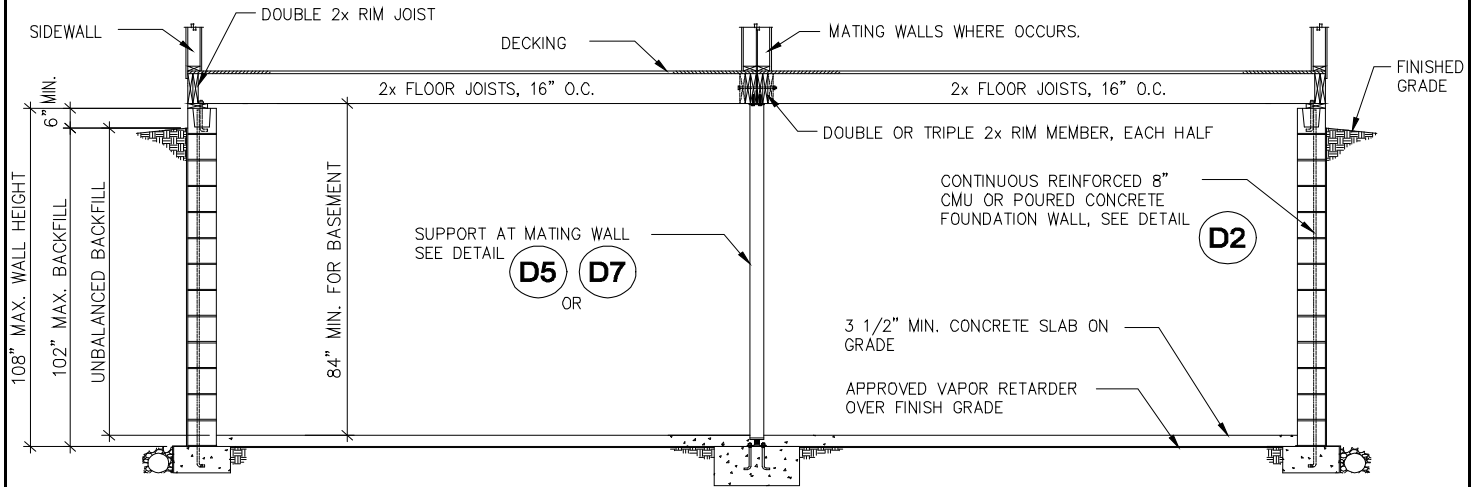
PIER CONFIGURATION AND MINIMUM FOOTER SIZE UNDER SIDEWALL PORCH/ RECESS SUPPORT ^{1,4}												
GROUND SNOW			20 #		30 #							
Max. span ³	UPLIFT LOAD ¹⁰	# Brk ²	w/ground anchors	w/concrete anchors	w/ground anchors	w/concrete anchors	w/ground	w/concrete	w/ground	w/concrete	w/ground	w/concrete
4	-40.864452 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
6	-61.296677 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
8	-81.728903 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
10	-102.16113 #	-1	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"	(S) 28"x28"X10"						
12	-122.59335 #	-1	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"	(D) 40"x40"X12"						

- NOTES:
- Piers supports are required under all porch/ recess post and at intersection of sidewall (see key plan).
 - # Brk- Number of uplift brackets required under the support column. Brackets per Detail D6. Brackets may be installed individually or in pairs and must be tied to a ground anchor or concrete anchor with a minimum design capacity of 3150#. An alternate uplift connector may be used which has the required uplift load indicated above. NG- Indicates that uplift exceeds standard angle and tie down capacity and alternate design is require.
 - Max. Span- Maximum distance between adjacent porch post or supports as measure parallel to box length.
 - Piers- Indicates the minimum CMU block configuration (S)ingle, (D)ouble, (T)riple or (DR)ouble (R)enforced and minimum footer size. See Detail D3 of D4 for pier configuration.
 - w/ ground anchors- Minimum footer size for gravity load support at post. Uplift is taken to ground anchor anchors placed in soil.
 - w/ concrete anchors- Minimum footer size based on gravity and uplift. Concrete anchors embedded into foot carry uplift load.
 - off frame basement & crawl foundation design for: 26' - 8" 2-section modular
 - designed for 100 mph max. wind speed.
 - Desgin for 1500 psf min. allowable soil bearing capacity.
 - Designed to the * Ultimate wind speed Vult. Per ASCE 7-10/ allowable stress design wind speed Vasd. All wind speeds are ind

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PORCH & RECESS (TABLE P)	
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KEY PLAN
OFF-FRAME BASEMENT - 2 SECTION
 NOT TO SCALE



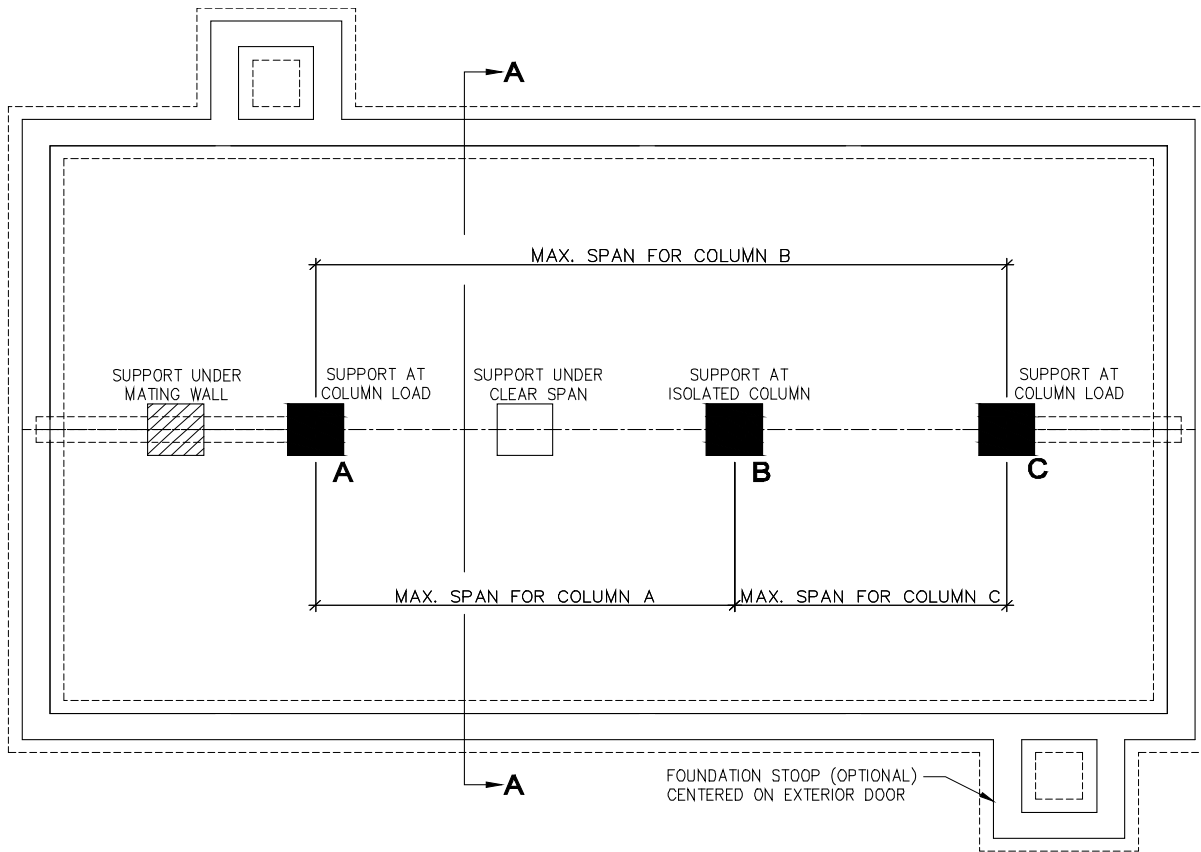
CROSS SECTION A-A

- NOTES:**
- MARRIAGE LINE POSTS SHALL SUPPORT THE MARRIAGE WALL, COLUMNS AND STAIR LOADS WHERE OCCURS. REFER TO SPECIFIC FOUNDATION LAYOUT FOR LOCATION INFORMATION.
 - SEE GENERAL NOTES SECTION FOR VENTILATION, DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.

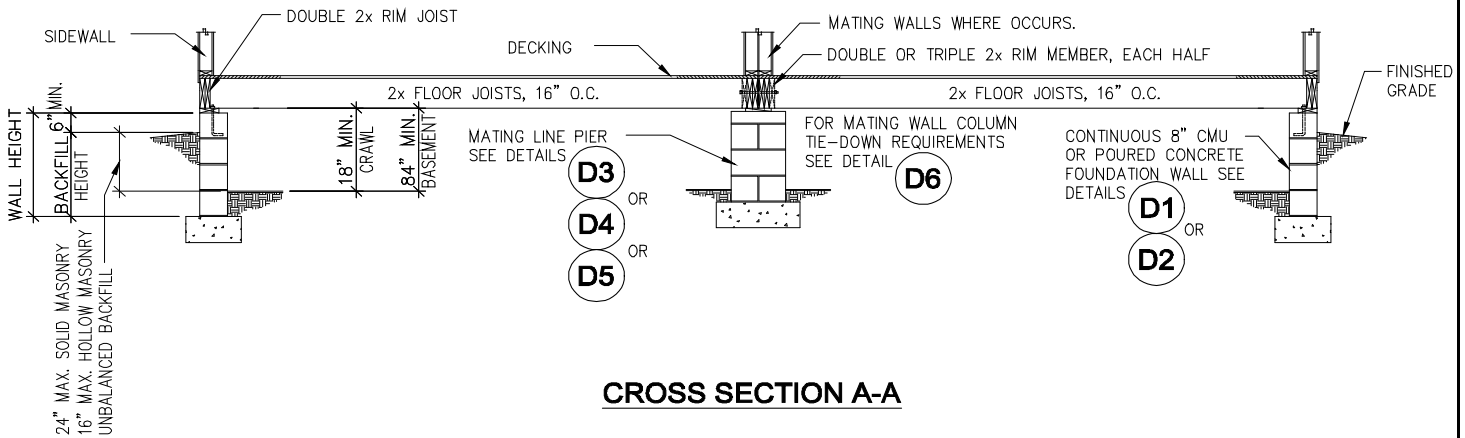
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KEY PLAN 7 - OFF-FRAME / BASEMENT / 2 SECTION	
DATE: 05/25/07	958I-14.R.F.E.22.22.210()
PAGE #:	



KEY PLAN
OFF-FRAME CRAWL SPACE - 2 SECTION
 NOT TO SCALE



CROSS SECTION A-A

NOTES:

1. MARRIAGE LINE POSTS SHALL SUPPORT THE MARRIAGE WALL, COLUMNS AND STAIR LOADS WHERE OCCURS. REFER TO SPECIFIC FOUNDATION LAYOUT FOR LOCATION INFORMATION.
2. SEE GENERAL NOTES SECTION FOR VENTILATION, DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.

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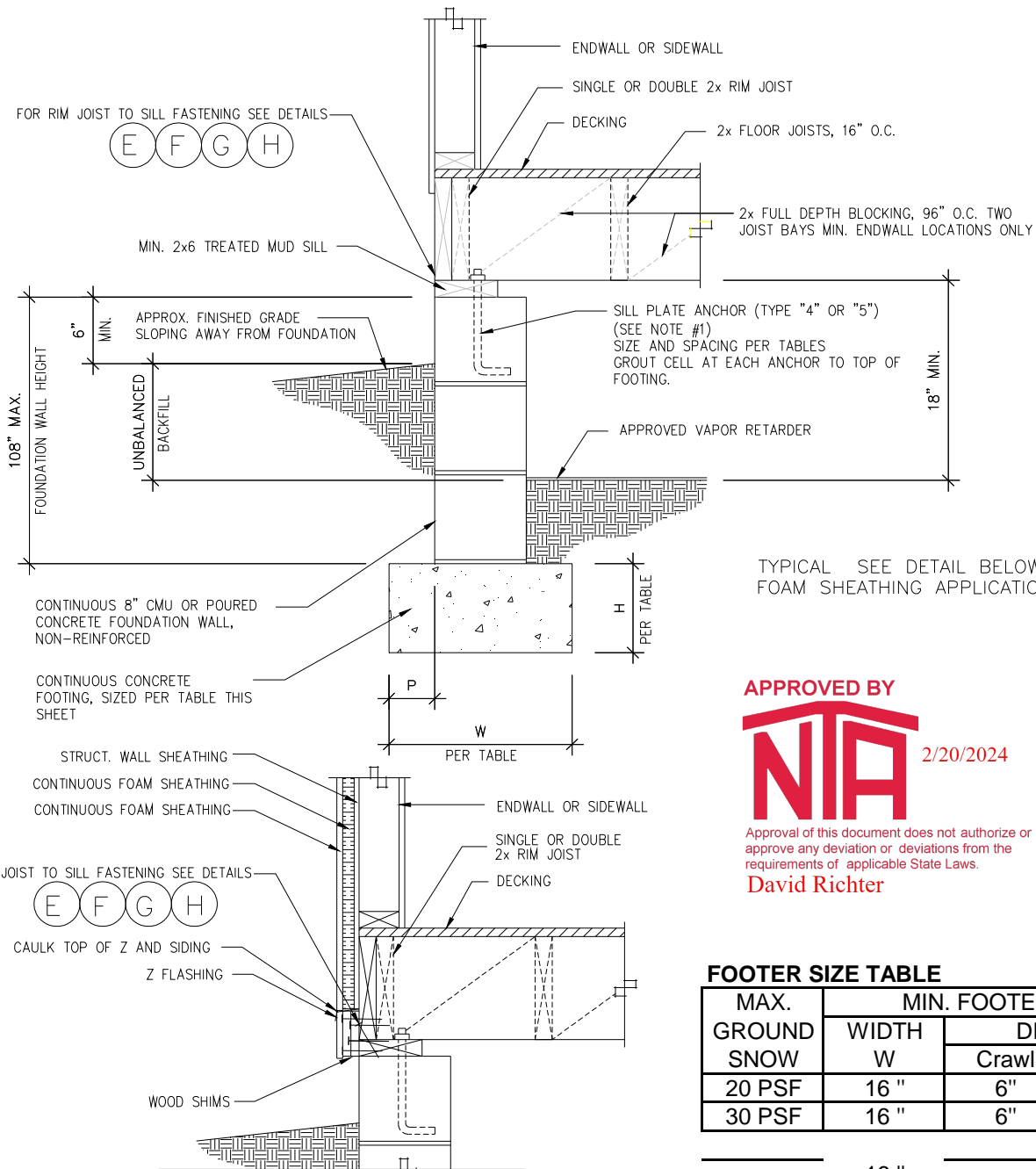
KEY PLAN 8 - OFF-FRAME / CRAWL SPACE / 2 SECTION

DATE: 05/25/07

958I-14.R.F.E.22.22.210(L)

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TYPICAL SEE DETAIL BELOW FOR FOAM SHEATHING APPLICATION.



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FOOTER SIZE TABLE

MAX. GROUND SNOW	MIN. FOOTER SIZE		
	WIDTH W	DEPTH H	
		Crawl	Basement
20 PSF	16 "	6"	6"
30 PSF	16 "	6"	6"
	16 "		

NON-REINFORCED PERIMETER FOUNDATION WALL
BASEMENT OR CRAWLSPACE
MAX. 100 MPH WIND SPEED & SEISMIC ZONE C
27' WIDE 1 STORY- W.O ATTIC

- NOTES:
- MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: 1/2" DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH 2"x2"x1/8" WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO SINGLE SILL PLATE.
 TYPE 5: SIMPSON MAB OR MAS MUD SILL ANCHOR INSTALLED PER INSTALLATION INSTRUCTIONS.
 - RIM TO MUD SILL FASTENING AND SILL TO FOUNDATION ANCHOR SPACING SHALL BE THE MINIMUM OF:
 - SPACING GIVEN IN APPLICABLE TABLES FOR UNIT CONFIGURATION AND WIND SPEED.
 - SPACING GIVEN IN BACKFILL/ SIDEWALL TABLES FOR GIVEN UNIT CONFIGURATION, MAXIMUM BASEMENT WALL HEIGHT, BACKFILL DEPTH, AND LOCAL SOIL CLASSIFICATION.
 - DISTANCE FROM EDGE OF FOOTER TO FACE OF FOUNDATION WALL (P) SHALL NOT BE LESS THAN 2" AND SHALL NOT EXCEED THE FOOTER THICKNESS (H).
 - 1500 PSF MIN. ALLOWABLE SOIL BEARING CAPACITY.

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NON-REINFORCED PERIMETER FOUNDATION WALL - DETAIL - D1

DATE: 07/17/07 958I-14.R.F.E.22.22.210(L)

1/2" BOLTS, NUTS, AND WASHERS OR 3/8" LAG SCREWS REQUIRED THRU RIM JOIST GIRDER. SIZE AND SPACING PER HOME SETUP MANUAL.

MATING WALLS WHERE OCCURS.

SINGLE, DOUBLE OR TRIPLE 2x RIM MEMBER, EACH HALF

DECKING

2x FLOOR JOISTS, 16" O.C.

FILL ANY GAPS AT BOLT LOCATIONS WITH SOLID WOOD SHIMS FOR WOOD TO WOOD CONTACT.

SHIM AS NEEDED PER NOTE 4

OPTIONAL FILLER PER NOTE 3

CAP BLOCK PER NOTE 3

MATING LINE PIERS LAID IN MORTAR PER NOTE 2. SINGLE, DOUBLE OR TRIPLE STACKED, SIZE AND SPACING REQUIREMENTS PER TABLE "M".

NOTE: FOR COLUMN TIE-DOWN REQUIREMENTS SEE DETAIL **D6**

DOUBLE STACKED

APPROVED VAPOR RETARDER OVER FINISH GRADE

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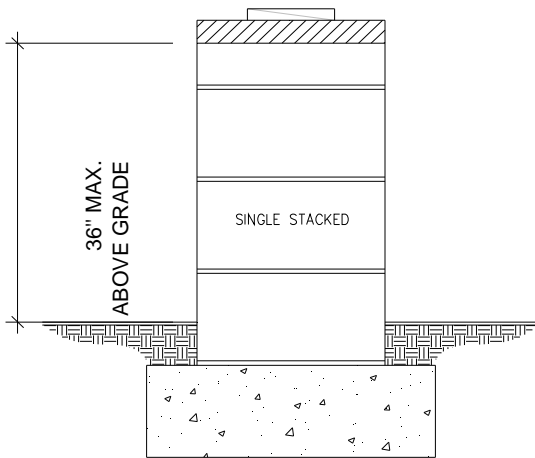
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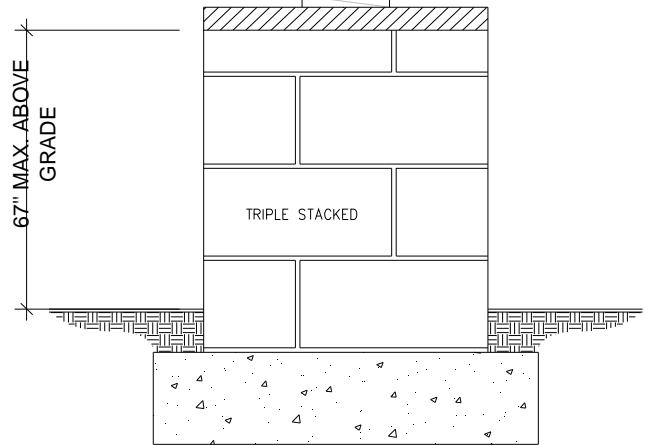
67" MAX. ABOVE GRADE

CONCRETE FOOTING BELOW FROST LINE AND MIN. 12" BELOW FINISH GRADE. SIZE PER TABLE "M"



36" MAX. ABOVE GRADE

SINGLE STACKED



67" MAX. ABOVE GRADE

TRIPLE STACKED

**NON-REINFORCED MATING WALL OR COLUMN SUPPORT PIER
CRAWL SPACE ONLY**

NOTES:

1. FOOTINGS MUST BE LEVEL IN ALL DIRECTIONS. PIERS ARE TO BE PLACED CENTERED ON THE FOOTING SO THAT THE FOOTING PROJECTION FROM THE PIER IS EQUAL FROM SIDE-TO-SIDE AND FRONT-TO-BACK. PIERS MUST BE LEVEL VERTICALLY ON ALL SIDES AND SQUARE WITH THE FOOTING.
2. CONCRETE BLOCKS FOR PIERS ARE 8" x 16" x 8" NOMINAL SIZE, HOLLOW CELL LOAD BEARING CMU'S MANUFACTURED IN CONFORMANCE WITH ASTM C90, GRADE "N". OPEN CELLS ARE ALIGNED VERTICALLY. THE PIERS SHALL BE LAID IN RUNNING BOND WITH TYPE M OR S MORTAR OR APPROVED ALTERNATE (SEE GENERAL NOTE 12). SINGLE STACKED BLOCKS TO BE LAID WITH LONG SIDE PERPENDICULAR TO MATE LINE RIM JOISTS. DOUBLE STACKED BLOCK IS LAID WITH EACH LAYER AT A RIGHT ANGLE TO THE PREVIOUS LAYER. THE TOP COURSE OR THE CAP BLOCKS SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
3. CAP BLOCKS SHALL BE 4" SOLID CONCRETE OR MASONRY BLOCK. 2x NOMINAL HARDWOOD OR 1/2" STEEL MAY BE USED AS A CAP BLOCK IF THE TOP COURSE OF THE PIER IS SOLID MASONRY OR CONCRETE OR IF THE TOP COURSE OF A HOLLOW PIER IS FILLED WITH CONCRETE OR GROUT. OPTIONAL FILLER MATERIAL MAY BE 2x NOMINAL HARDWOOD OR 2" OR 4" NOMINAL SOLID CONCRETE BLOCK. ALL CAPS AND FILLER SHALL BE OF THE SAME NOMINAL DIMENSIONS AS THE PIERS THEY REST UPON. INDIVIDUAL LENGTHS OF CAP BLOCKS AND FILLER SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
4. SHIMS SHALL BE OF HARDWOOD, AT LEAST 3 1/2" WIDE AND 6" LONG AND ARE NOT TO EXCEED ONE INCH IN THICKNESS. SHIMS SHALL BE PERPENDICULAR TO MATE LINE, FITTED AND DRIVEN TIGHT BETWEEN CAP BLOCKS OR FILLER AND MATE LINE RIM JOISTS.
5. MARRIAGE LINE PIERS SHALL SUPPORT THE MARRIAGE WALL AND COLUMNS WHERE OCCURS PER MODEL SPECIFIC FOUNDATION PLAN. MAXIMUM PIER SPACING PER TABLE "M".
6. SEE GENERAL NOTES FOR DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.

Schult

**NON-REINFORCED MATING
WALL COLUMN SUPPORT PIER
- CRAWLSPACE ONLY - DETAIL
- D3**

DATE: 06/13/07

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1/2" BOLTS, NUTS, AND WASHERS OR 3/8" LAG SCREWS REQUIRED THRU RIM JOIST GIRDER. SIZE AND SPACING PER HOME SETUP MANUAL.

MATING WALLS WHERE OCCURS.

SINGLE, DOUBLE OR TRIPLE 2x RIM MEMBER, EACH HALF.

DECKING

2x FLOOR JOISTS, 16" O.C.

FILL ANY GAPS AT BOLT LOCATIONS WITH SOLID WOOD SHIMS FOR WOOD TO WOOD CONTACT.

SHIM AS NEEDED PER NOTE 4

OPTIONAL FILLER PER NOTE 3

CAP BLOCK PER NOTE 3

NOTE: FOR COLUMN TIE-DOWN REQUIREMENTS SEE DETAIL

D6

MATING LINE DOUBLE STACKED PIER PER NOTE 2. REINFORCE PIER WITH (4) #4 VERTICAL REBAR. GROUT CELLS SOLID TO FOOTING. SIZE AND SPACING PER TABLE "M".

MASONRY JOINT TYPE M OR S MORTAR

108" MAX. ABOVE GRADE

FINISH GRADE AT CRAWL SPACE APPLICATION

3 1/2" MIN. CONCRETE SLAB ON GRADE FOR BASEMENT APPLICATION

APPROVED VAPOR RETARDER OVER FINISH GRADE

APPROVED VAPOR RETARDER

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CONCRETE FOOTING BELOW FROST LINE. REINFORCED WITH (3) #4 REBAR EACH WAY. SIZE PER TABLE "M".

MIN. DIAMETER OF BEND SHALL BE 3" AS MEASURED FROM INSIDE OF REINFORCING BARS WITH A 6" LONG MIN. LEG.

6" MIN.

**REINFORCED MATING WALL OR COLUMN SUPPORT PIER
BASEMENT OR CRAWL SPACE
(PIER SPACING AND FOOTER SIZE PER TABLE M)**

NOTES:

1. FOOTINGS MUST BE LEVEL IN ALL DIRECTIONS. PIERS ARE TO BE PLACED CENTERED ON THE FOOTING SO THAT THE FOOTING PROJECTION FROM THE PIER IS EQUAL FROM SIDE-TO-SIDE AND FRONT-TO-BACK. PIERS MUST BE LEVEL VERTICALLY ON ALL SIDES AND SQUARE WITH THE FOOTING.
2. CONCRETE BLOCKS FOR PIERS ARE 8" x 16" x 8" NOMINAL SIZE, HOLLOW CELL LOAD BEARING CMU's MANUFACTURED IN CONFORMANCE WITH ASTM C90, GRADE "N". OPEN CELLS ARE ALIGNED VERTICALLY. THE PIERS SHALL BE LAID IN RUNNING BOND WITH TYPE M OR S MORTAR. SINGLE STACKED BLOCKS TO BE LAID WITH LONG SIDE PERPENDICULAR TO MATE LINE RIM JOISTS. DOUBLE STACKED BLOCK IS LAID WITH EACH LAYER AT A RIGHT ANGLE TO THE PREVIOUS LAYER. THE TOP COURSE OR THE CAP BLOCKS SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
3. CAP BLOCKS SHALL BE 4" SOLID CONCRETE OR MASONRY BLOCK. 2x NOMINAL HARDWOOD OR 1/2" STEEL MAY BE USED AS A CAP BLOCK IF THE TOP COURSE OF THE PIER IS SOLID MASONRY OR CONCRETE OR IF THE TOP COURSE OF A HOLLOW PIER IS FILLED WITH CONCRETE OR GROUT. OPTIONAL FILLER MATERIAL MAY BE 2x NOMINAL HARDWOOD OR 2" OR 4" NOMINAL SOLID CONCRETE BLOCK. ALL CAPS AND FILLER SHALL BE OF THE SAME NOMINAL DIMENSIONS AS THE PIERS THEY REST UPON. INDIVIDUAL LENGTHS OF CAP BLOCKS AND FILLER SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
4. SHIMS SHALL BE OF HARDWOOD, AT LEAST 3 1/2" WIDE AND 6" LONG AND ARE NOT TO EXCEED ONE INCH IN THICKNESS. SHIMS SHALL BE PERPENDICULAR TO MATE LINE, FITTED AND DRIVEN TIGHT BETWEEN CAP BLOCKS OR FILLER AND MATE LINE RIM JOISTS.
5. MARRIAGE LINE PIERS SHALL SUPPORT THE MARRIAGE WALL AND COLUMNS WHERE OCCURS PER MODEL SPECIFIC FOUNDATION PLAN. MAXIMUM PIER SPACING PER TABLE "M".
6. SEE GENERAL NOTES FOR DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.

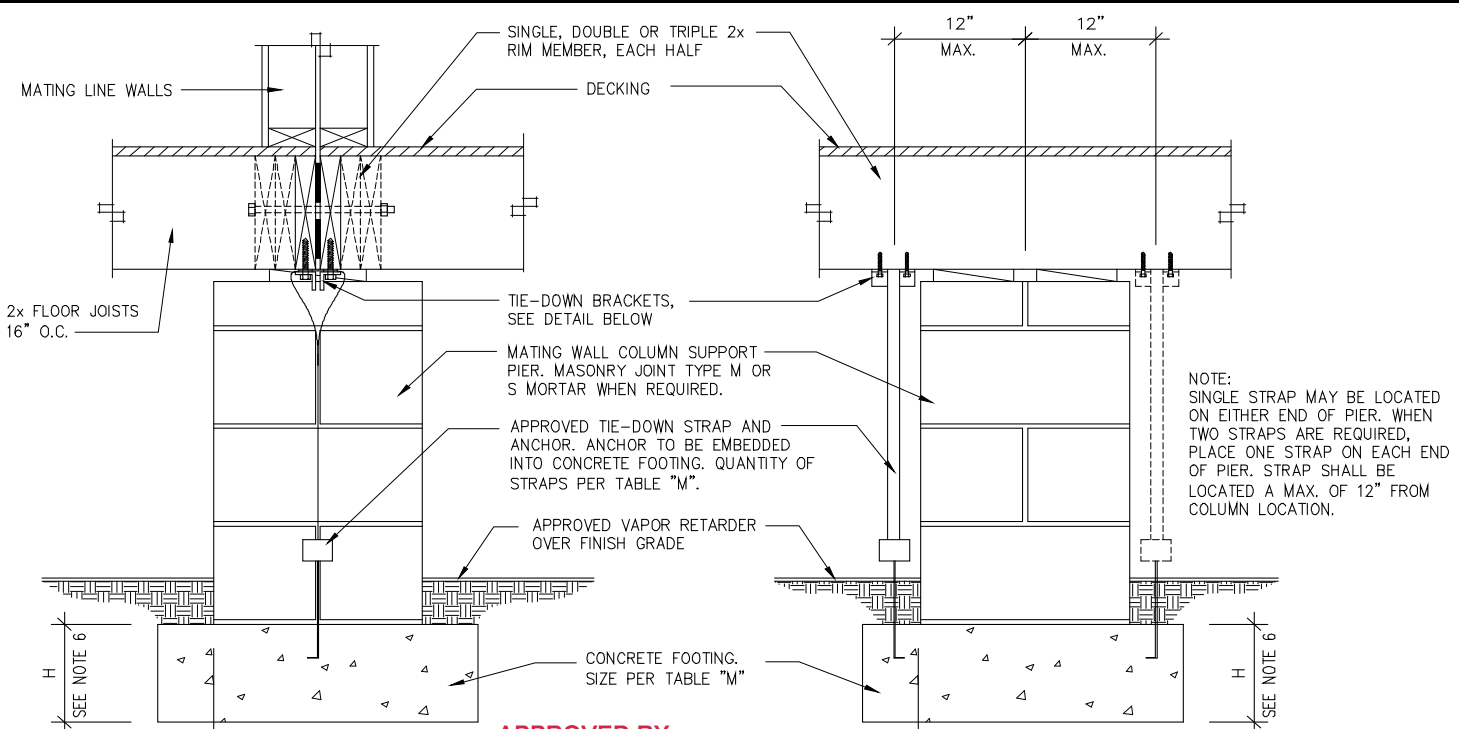
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**REINFORCED MATING WALL OR
COLUMN SUPPORT PIER -
BASEMENT OR CRAWL SPACE
DETAIL - D5**

DATE: 06/04/07

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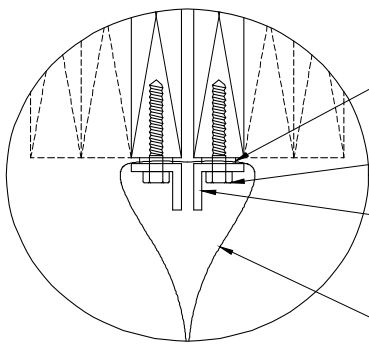
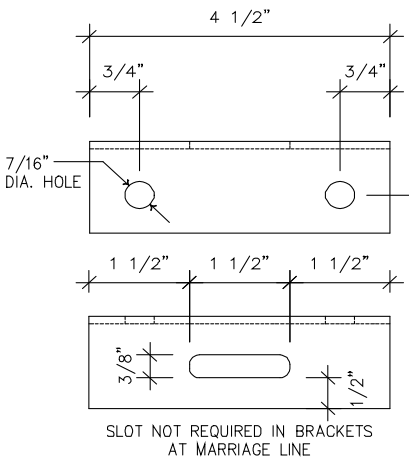
NOTE:
SINGLE STRAP MAY BE LOCATED ON EITHER END OF PIER. WHEN TWO STRAPS ARE REQUIRED, PLACE ONE STRAP ON EACH END OF PIER. STRAP SHALL BE LOCATED A MAX. OF 12" FROM COLUMN LOCATION.

END VIEW

SIDE VIEW

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NIA 2/20/2024

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1/8" THICK x 1" WASHERS FOR SPACER BETWEEN BRACKET AND PERIMETER RIM MEMBER AT MATING LINE
(2) 5/16"x 3" FULL THREAD LAGS AT EACH BRACKET.
(2) 1 1/2" x 1 1/2" x 4 1/2" LONG x 11 GA. MIN. STEEL ANGLE BRACKETS AT EACH STRAP. INSTALLED WITH "L" FACING OUTSIDE EDGE OF FLOOR SYSTEM
APPROVED TIE-DOWN STRAP. CAPACITY OF 3,150 LBS. WORKING LOAD (4,725 LBS. ULTIMATE)

TIE-DOWN BRACKETS

MATING WALL COLUMN TIE DOWN

- NOTES:**
1. ALL MARRIAGE WALL COLUMN LOCATIONS WITH OPENINGS 4 FEET OR GREATER MAY REQUIRE THE INSTALLATION OF COLUMN BRACKETS AND TIE-DOWNS. SEE TABLE "M" FOR REQUIREMENTS.
 2. EACH BRACKET IS RATED FOR AN ALLOWABLE WORKING LOAD OF 1,719 LBS.
 3. THE CAPACITY OF BOTH THE TIE-DOWN STRAP AND ANCHOR MUST BE 3,150 LBS. WORKING LOAD (4,725 LBS. ULTIMATE)
 4. USE A RADIUS CLIP FOR ALL BRACKET APPLICATIONS BY THREADING A PIECE OF STRAP OVER THE BRACKETS BEFORE LOOPING THE TIE-DOWN STRAP AROUND THE BRACKET.
 5. GROUND ANCHORS WHICH ARE LISTED FOR THE REQUIRED CAPACITY ABOVE MAY BE USED IN LIEU OF CONCRETE ANCHOR.
 6. DISTANCE FROM EDGE OF FOOTING TO FACE OF FOUNDATION WALL (P) SHALL NOT BE LESS THAN 2" AND SHALL NOT EXCEED THE FOOTING THICKNESS (H). FOOTING THICKNESS MAY BE 10" IF GROUND ANCHORS WITH AN UPLIFT CAPACITY OF 3,150 LBS. ARE USED IN PLACE OF CONCRETE ANCHORS.
 7. FOOTING SIZES PER TABLE "M" HAVE BEEN DESIGNED ASSUMING CONCRETE ANCHORS WILL BE UTILIZED. IF GROUND ANCHORS ARE UTILIZED TO TRANSMIT UPLIFT INTO GROUND SOIL, THE DEPTH OF THE FOOTING MAY BE REDUCED TO (P). WHERE (P) IS EQUAL TO THE GREATEST DISTANCE FROM EDGE OF FOOTING TO EDGE OF PIER. MINIMUM DEPTH IS 9".

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MATING WALL COLUMN TIE DOWN - DETAIL - D6

DATE: 06/29/07 958I-14.R.F.E.22.22.210()

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1/2" BOLTS, NUTS, AND WASHERS OR 3/8" LAG SCREWS REQUIRED THRU RIM JOIST GIRDER. SIZE AND SPACING PER HOME SETUP MANUAL

MATING WALLS WHERE OCCURS.

SINGLE, DOUBLE OR TRIPLE 2x RIM MEMBER, EACH HALF

DECKING

2x FLOOR JOISTS, 16" O.C.

FILL ANY GAPS AT BOLT LOCATIONS WITH SOLID WOOD SHIMS FOR WOOD TO WOOD CONTACT.

(2) 5/16" x 3" LAG SCREWS WITH WASHERS THROUGH POST PLATE INTO RIM JOIST. PILOT HOLES MUST BE SITE DRILLED.

11 GA., 3" DIA. MIN. ADJUSTABLE STEEL MONO POST WITH MIN. 1/4" PLATES TOP AND BOTTOM. SIZE AND SPACING PER TABLE "N".
NOTE: THE MIN. CAPACITY RATING OF EACH POST MUST BE GREATER THAN OR EQUAL TO THE SPECIFIED LOAD CAPACITY OF TABLE "N".

SECURE STEEL POST BOTTOM PLATE TO FOOTING WITH (4) 1/2" DIA. ANCHOR BOLTS OR WEDGE ANCHORS, NUTS AND WASHERS. (UTILIZE 5/8" DIA. ANCHOR BOLTS FOR SEISMIC DESIGN CATEGORY "E" OR HIGHER). MAKE POST ADJUSTMENTS BEFORE POURING SLAB.

APPROVED VAPOR RETARDER

NOTE:
FOR POST SUPPORTING MATING WALL OPENINGS, POST MUST BE RATED AND SECURED TO GIRDER BEAM AND FOOTING FOR UPLIFT FORCE SPECIFIED IN TABLE "N".

3 1/2" MIN. CONCRETE SLAB ON GRADE. IMPORTANT: ALL STEEL POSTS MUST BE INSTALLED AND FINAL ADJUSTMENTS MADE BEFORE SLAB IS POURED. POURED SLAB LOCKS POST ADJUSTMENTS PERMANENTLY.

REINFORCED CONCRETE FOOTING WITH (3) #4 REBARS EACH WAY. SIZE PER TABLE "N".

ALTERNATE POST INSTALLATION: STEEL POSTS MAY BE INSTALLED WITH SCREW JACK ASSEMBLY AT THE TOP OR BOTTOM. STEEL POSTS INSTALLED WITHOUT THE SCREW JACK ASSEMBLY AT THE BOTTOM AND ENCASED IN CONCRETE ARE SUBJECT TO LOAD REDUCTIONS. VERIFY THE CAPACITY OF THE STEEL POST BASED ON THE INSTALLATION METHOD PRIOR TO INSTALLATION OF THE POST.

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**ADJUSTABLE STEEL COLUMN POST
BASEMENT OR CRAWL SPACE
(MAXIMUM POST SPACING PER TABLE N)**

NOTES:

1. FOOTINGS MUST BE LEVEL IN ALL DIRECTIONS. STEEL POSTS ARE TO BE PLACED CENTERED ON THE FOOTING SO THAT THE FOOTING PROJECTION FROM THE POST IS EQUAL FROM SIDE-TO-SIDE AND FRONT-TO-BACK. COLUMN POSTS MUST BE LEVEL VERTICALLY ON ALL SIDES AND SQUARE WITH THE FOOTING.
2. MARRIAGE LINE STEEL POSTS SHALL SUPPORT THE MARRIAGE WALL AND COLUMNS WHERE OCCURS PER
3. SEE GENERAL NOTES FOR DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.

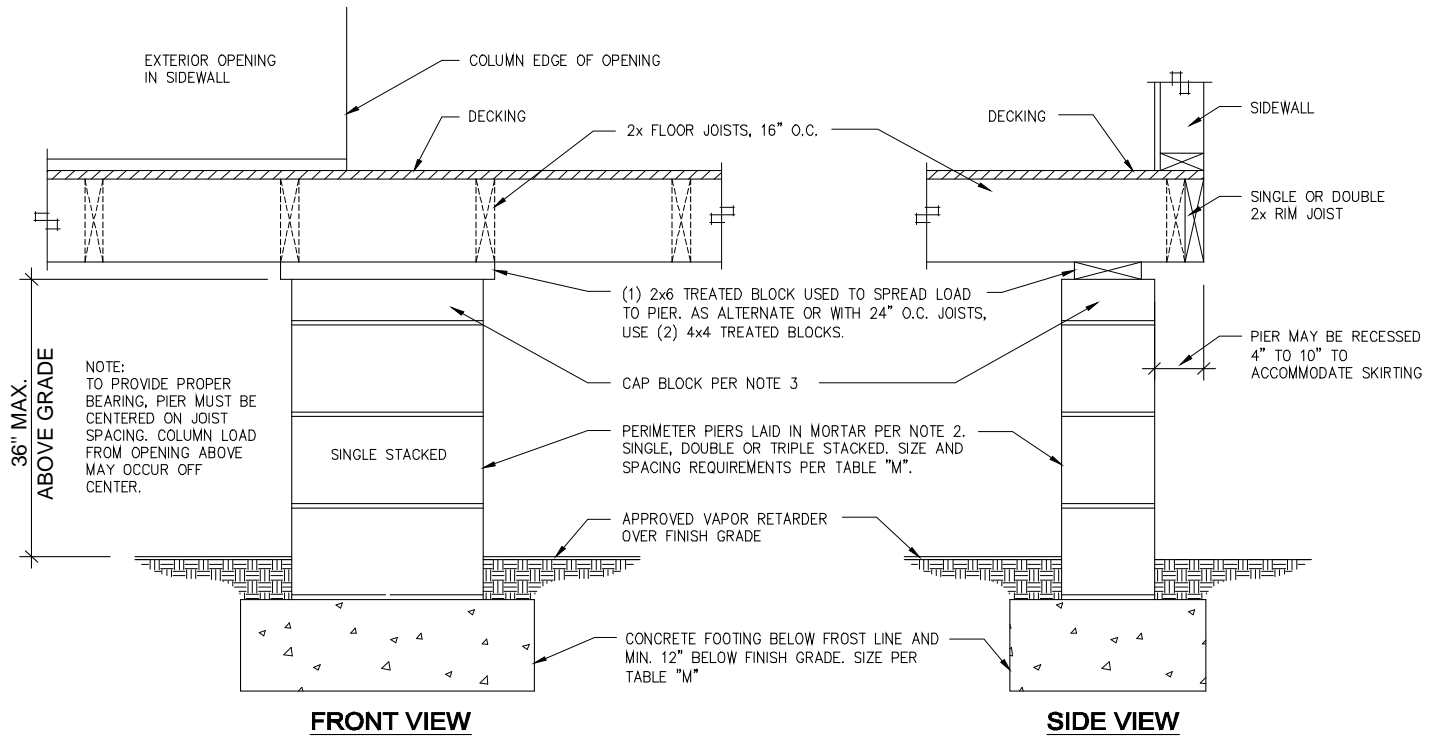
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**ADJUSTABLE STEEL COLUMN
POST - BASEMENT OR CRAWL
SPACE - DETAIL - D7**

DATE: 06/08/07

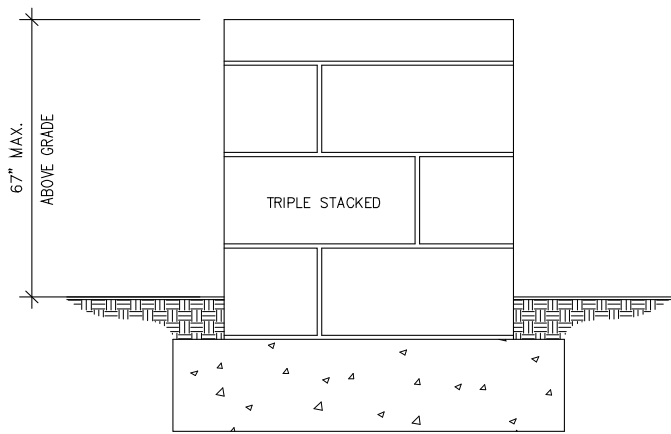
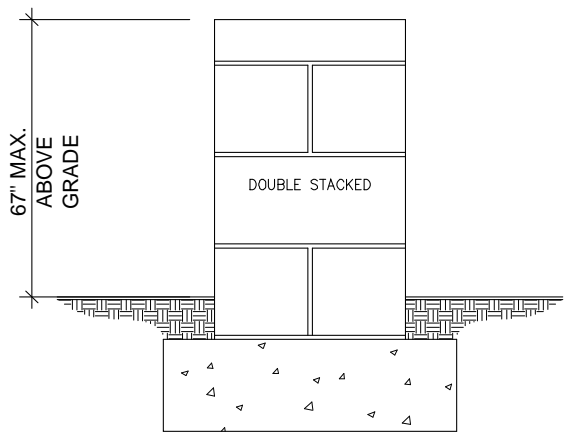
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FRONT VIEW

SIDE VIEW



NON-REINFORCED PERIMETER OR PORCH POST SUPPORT PIER

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- NOTES:**
1. FOOTINGS MUST BE LEVEL IN ALL DIRECTIONS. PIERS ARE TO BE PLACED CENTERED ON THE FOOTING SO THAT THE FOOTING PROJECTION FROM THE PIER IS EQUAL FROM SIDE-TO-SIDE AND FRONT-TO-BACK. PIERS MUST BE LEVEL VERTICALLY ON ALL SIDES AND SQUARE WITH THE FOOTING.
 2. CONCRETE BLOCKS FOR PIERS ARE 8" x 16" x 8" NOMINAL SIZE, HOLLOW CELL LOAD BEARING CMU'S MANUFACTURED IN CONFORMANCE WITH ASTM C90, GRADE "N". OPEN CELLS ARE ALIGNED VERTICALLY. SEE NOTE 7. FOR MORTAR REQUIREMENT. SINGLE STACKED BLOCKS TO BE LAID WITH LONG SIDE PERPENDICULAR TO MATE LINE RIM JOISTS. DOUBLE STACKED BLOCK IS LAID WITH EACH LAYER AT A RIGHT ANGLE TO THE PREVIOUS LAYER. THE TOP COURSE OR THE CAP BLOCKS SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
 3. CAP BLOCKS SHALL BE 4" SOLID CONCRETE OR MASONRY BLOCK. 2x NOMINAL HARDWOOD OR 1/2" STEEL MAY BE USED AS A CAP BLOCK IF THE TOP COURSE OF THE PIER IS SOLID MASONRY OR CONCRETE OR IF THE TOP COURSE OF A HOLLOW PIER IS FILLED WITH CONCRETE OR GROUT. OPTIONAL FILLER MATERIAL MAY BE 2x NOMINAL HARDWOOD OR 2" OR 4" NOMINAL SOLID CONCRETE BLOCK. ALL CAPS AND FILLER SHALL BE OF THE SAME NOMINAL DIMENSIONS AS THE PIERS THEY REST UPON. INDIVIDUAL LENGTHS OF CAP BLOCKS AND FILLER SHALL BE PERPENDICULAR TO THE MATE LINE RIM JOISTS.
 4. SHIMS SHALL BE OF HARDWOOD, AT LEAST 3 1/2" WIDE AND 6" LONG AND ARE NOT TO EXCEED ONE INCH IN THICKNESS. SHIMS SHALL BE PERPENDICULAR TO MATE LINE, FITTED AND DRIVEN TIGHT BETWEEN CAP BLOCKS OR FILLER AND MATE LINE RIM JOISTS.
 5. MARRIAGE LINE PIERS SHALL SUPPORT THE MARRIAGE WALL AND COLUMNS WHERE OCCURS PER MODEL SPECIFIC FOUNDATION PLAN. MAXIMUM PIER SPACING PER TABLE "M".
 6. SEE GENERAL NOTES FOR DRAINAGE AND OTHER FOUNDATION REQUIREMENTS.
 7. THE PIERS SHALL BE LAID IN RUNNING BOND WITH TYPE M OR S MORTAR OR DRY STACKED ABOVE FIRST COARSE WITH SURFACE BONDING AGENT APPLIED THAT MEETS ASTM C887 WHEN ACCEPTABLE TO LOCAL AUTHORITY. BONDING AGENT MUST BE INTENDED FOR USE/APPLICATION AND SHALL BE INSTALLED PER MANUFACTURES SPECIFICATINS.

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**NON-REINFORCED PERIMETER/
 PORCH POST SUPPORT PIER -
 DETAIL - D15**

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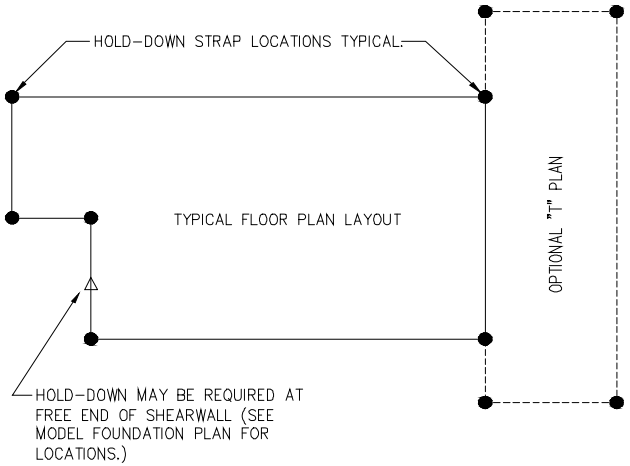
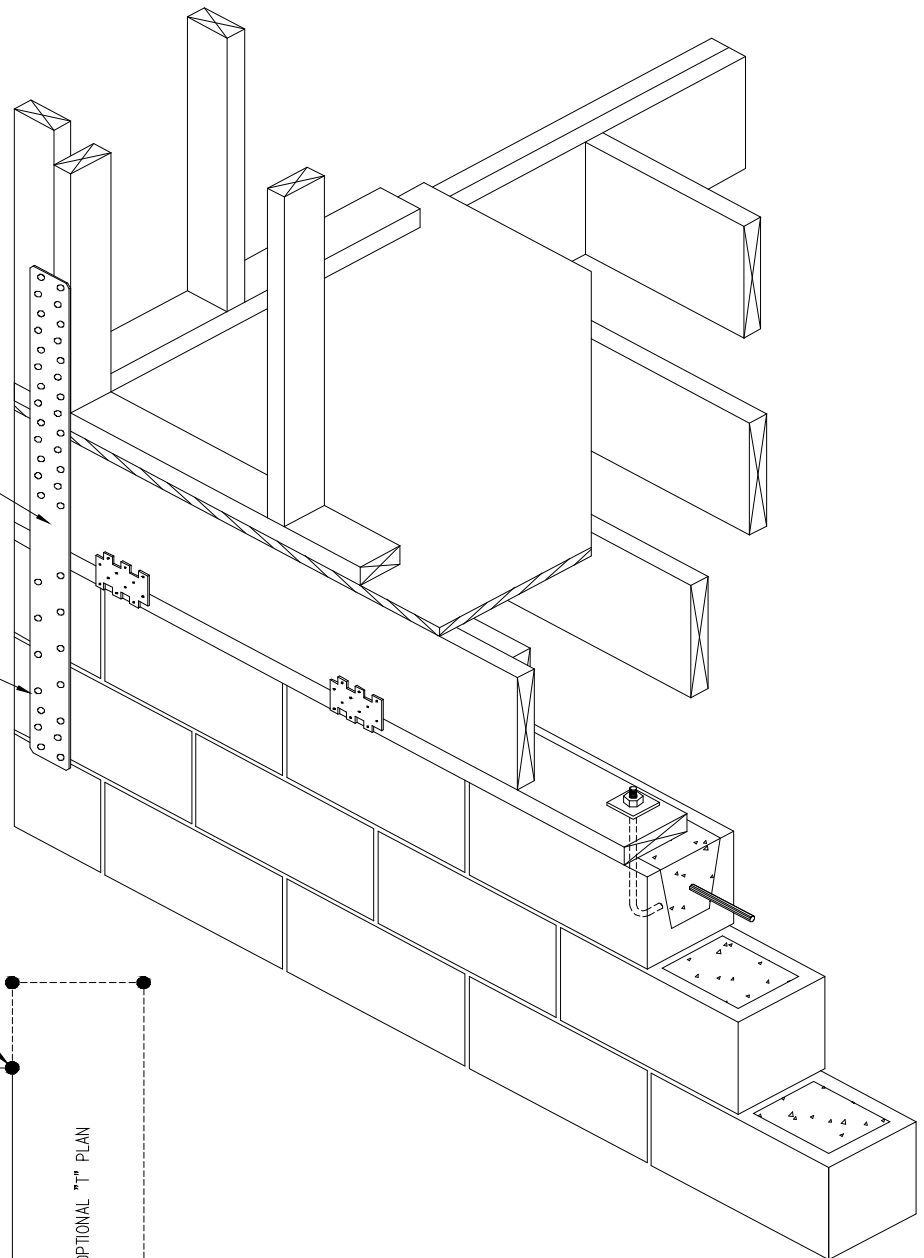
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SIMPSON MSTCM40 STRAP OR STHD14 STRAP IS IN ADDITION TO REQUIRED ANCHOR BOLTS AND RIM TO MUD SILL FASTENING REQUIREMENTS. (SEE HOME FLOOR TO SILL PLATE AND SILL PLATE TO FOUNDATION CHARTS FOR NUMBER OF STRAPS REQUIRED AT EACH HOLD-DOWN LOCATION.)

NOTE: STRAP MUST BE POSITIONED A MINIMUM OF 1 1/2" FROM EDGE OF FOUNDATION WALL.



SHEARWALL FOUNDATION HOLD-DOWN

NOTES:

1. WHERE REQUIRED AT FREE-END HOLD-DOWNS (AS LOCATED ON THE FOUNDATION LAYOUT) OR AT BUILDING CORNERS PER THE FASTENING TABLES INCLUDED WITHIN THIS FOUNDATION DESIGN PACKAGE, THE FOUNDATION HOLD-DOWN STRAPS ARE THE RESPONSIBILITY OF OTHERS AND ARE NOT PROVIDED BY CLAYTON HOME BUILDING GROUP OR SUBSIDIARIES.
2. SIMPSON MSTCM40 SHALL BE FASTENED TO WALL STUD WITH (26) 16d NAILS AND TO FOUNDATION WALL WITH (14) 1/4" x 2 1/4" TITAN SCREWS.
3. SIMPSON MSTCM40 OR STHD14 STRAP MAY BE PLACED ON ENDWALL OR SIDEWALL. MINIMUM EDGE DISTANCE OF TITAN SCREW TO CONCRETE OR MASONRY BLOCK CORNER OF 1 1/2" MUST BE MAINTAINED.
4. SIMPSON MSTCM40 STRAP IS IN ADDITION TO THE REQUIRED ANCHOR BOLTS AND RIM TO MUD SILL FASTENING REQUIREMENTS.
5. SIMPSON STHD14 STRAP (POURED WALLS) MUST BE FASTENED TO WALL STUD WITH (38) .148X 3 1/4" NAILS.)
6. DESIGN STRAP CAPACITY: MSTCM40=4250# AND STHD14= 5025#

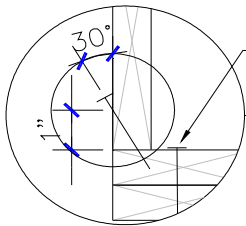
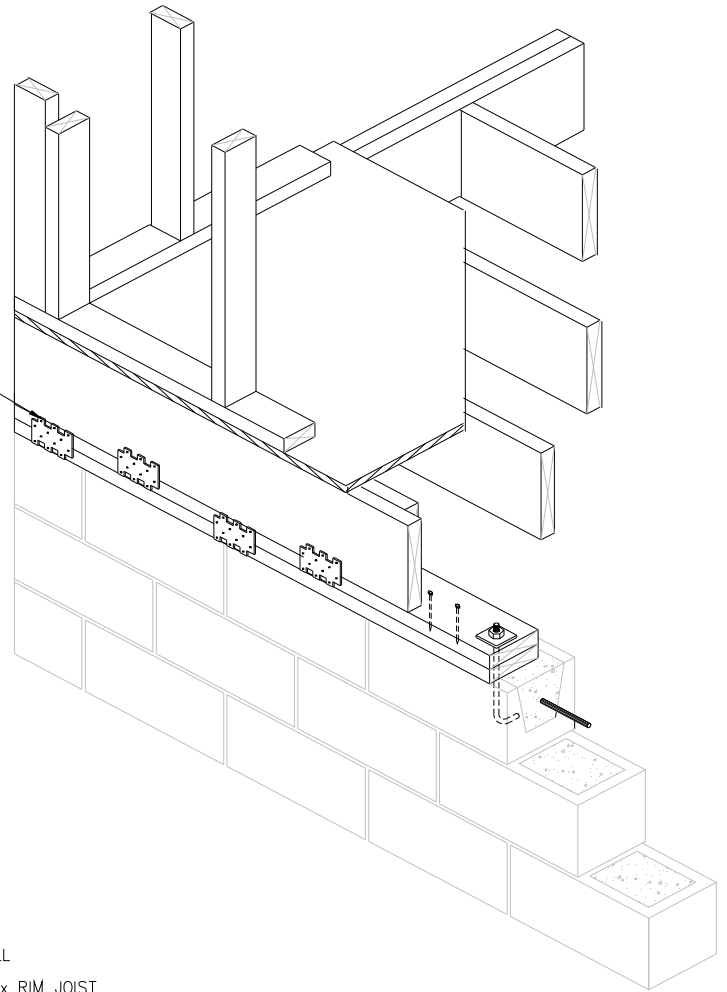
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SHEARWALL FOUNDATION HOLD-DOWN - DETAIL - D18

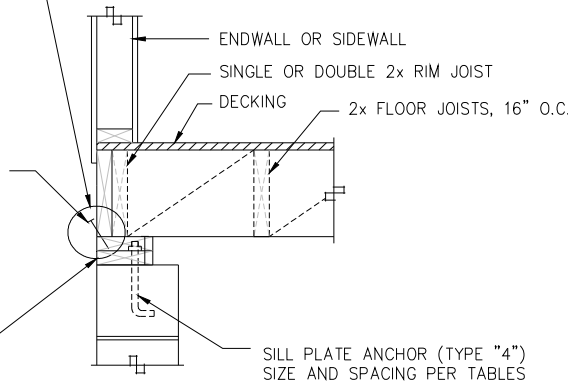
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WHEN FASTENING TABLES WITH H PLATES ARE USED SIMPSON LTP4 SHALL BE INSTALLED PER DETAIL H. TO BOTH BOTTOM MUD SILL TO UPPER MUD SILL & TOP MUD SILL TO RIM JOIST. SPACING PER HOME FLOOR TO SILL PLATE & SILL WITH H PLATE TABLES.



FASTEN UPPER TOP PLATE TO BOTTOM PLATE WITH 8D (.131 x 3") NAILS SPACED PER TYPE E FASTENER TYPE SPACING FOR RIM TO SILL



FASTEN RIM JOIST TO SILL WITH 10D (.148 x 3") CORROSION RESISTANT NAILS. ON CENTER SPACING OF FASTENER TYPE "E" IN TABLES. NOTE: IF SPACING REQUIRES ADDITIONAL TYPE "H" PLATE CONNECTORS, SEE DETAIL ABOVE AND DETAIL (H)

MIN. 2x6 TREATED MUD SILLS TOP PLATE ONLY MAY BE NOTCHED OR COUNTER SUNK TO RECEIVE NUTS/ WASHERS.

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DOUBLE MUD SILL OPTION

NOTES:

1. MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: 1/2" DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH 2"x2"x1/8" WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO BOTTOM MUD SILL PLATE.
2. UPPER MUD SILL MUST BE FASTENED TO LOWER MUD SILL WITH .131"x3" NAILS SPACED PER RIM JOIST TO MUD SILL SPACING TABLE FOR TYPE E FASTENERS.
4. WHEN FASTENING TABLES WITH H PLATES ARE USED, SIMPSON LPT4 PLATES MUST BE INSTALLED FROM LOWER MUD SILL TO UPPER MUD SILL AND FROM UPPER MUD SILL TO RIM JOIST PER FASTENING SPACED PER RIM TO MUD SILL SPACING TABLES.

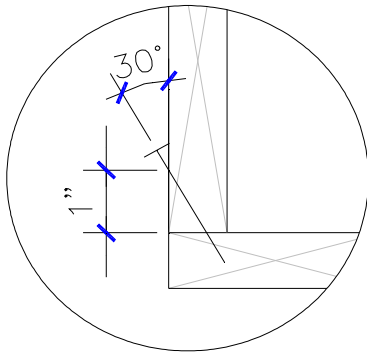
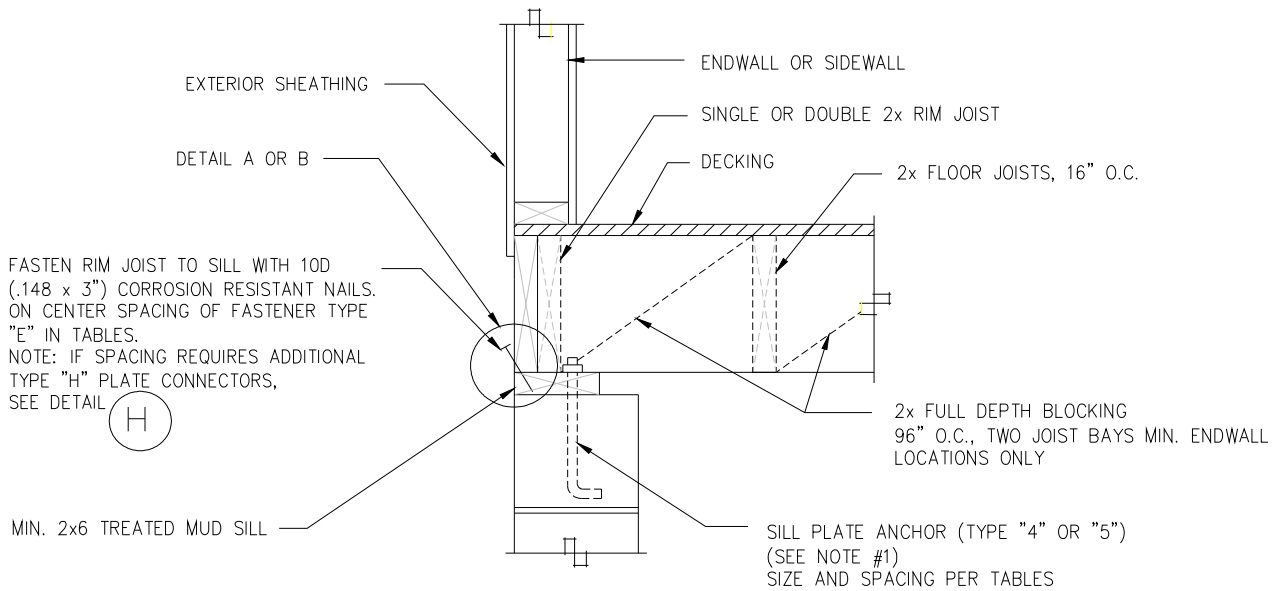
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DOUBLE MUD SILL FOUNDATION WALL DETAIL - D34

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ALTERNATE FASTENER:

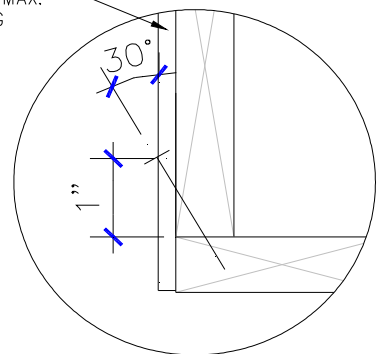
THE FOLLOWING ALTERNATE FASTENERS MAY BE USED WHEN SPACING IN CHART IS MULTIPLIED BY THE FOLLOWING FASTENER MULTIPLIER.

- 8D (.131 x 3") NAIL = .82
- 16D (.162 x 3 1/2") NAIL = 1.2
- #8 x 3" WOOD SCREW = .78

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FASTENED THRU $\frac{7}{16}$ " MAX. EXTERIOR SHEATHING



ALTERNATE FASTENER:

FASTENERS MAY BE INSTALLED THROUGH $\frac{7}{16}$ " MAXIMUM THICK WALL SHEATHING WHEN SPACING IN CHARTS ARE REDUCED BY MULTIPLYING BY THE FOLLOW:

- 10d (.148"x3") NAIL = .68
- 8D (.131 x 3") NAIL = .55
- 16D (.162 x 3 1/2") NAIL = .816
- #8 x 3" WOOD SCREW = .53

DETAIL A- DIRECT RIM TO SILL FASTENING

DETAIL B- THRU SHEATHING RIM TO SILL FASTENING

FLOOR TO SILL PLATE FASTENING -TYPE "E" -ENDWALL OR SIDEWALL

NOTES:

- 1) MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO SINGLE SILL PLATE.
 TYPE 5: SIMPSON MAB OR MASA MUD SILL ANCHOR INSTALLED PER INSTALLATION INSTRUCTIONS
- 2) RIM TO MUD SILL FASTENING AND SILL TO FOUNDATION ANCHOR SPACING SHALL BE THE MINIMUM OF:
 - a) SPACING GIVEN IN APPLICABLE TABLES FOR UNIT CONFIGURATION AND WIND SPEED.
 - b) SPACING GIVEN IN BACKFILL/ SIDEWALL TABLES FOR GIVEN UNIT CONFIGURATION, MAXIMUM BASEMENT WALL HEIGHT, BACKFILL DEPTH, AND LOCAL SOIL CLASSIFICATION.

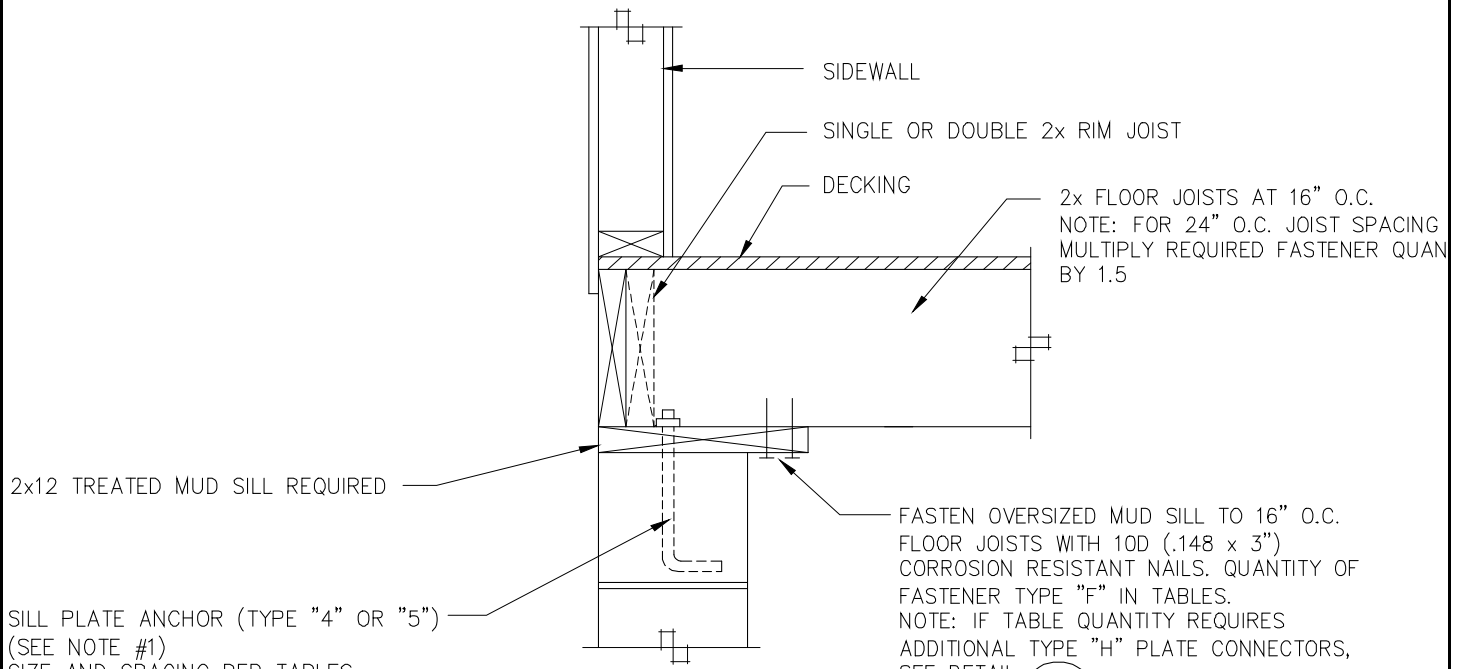
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**FLOOR TO SILL PLATE FASTENING
 - ENDWALL OR SIDEWALL -
DETAIL - E**

DATE: 04/17/07

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2x12 TREATED MUD SILL REQUIRED

SILL PLATE ANCHOR (TYPE "4" OR "5")
(SEE NOTE #1)
SIZE AND SPACING PER TABLES

FASTEN OVERSIZED MUD SILL TO 16" O.C. FLOOR JOISTS WITH 10D (.148 x 3") CORROSION RESISTANT NAILS. QUANTITY OF FASTENER TYPE "F" IN TABLES. NOTE: IF TABLE QUANTITY REQUIRES ADDITIONAL TYPE "H" PLATE CONNECTORS, SEE DETAIL



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ALTERNATE FASTENERS:
 THE FOLLOWING ALTERNATE FASTENERS MAY BE USED WHEN QUANTITY IN TABLE IS MULTIPLIED BY THE FOLLOWING FASTENER MULTIPLIER.

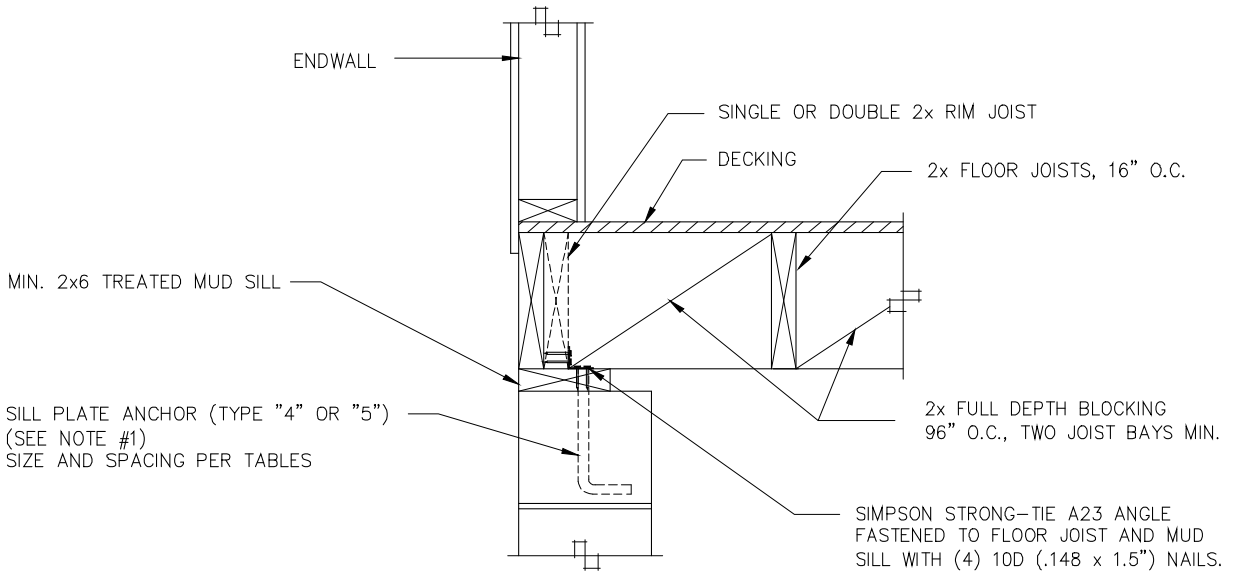
- 8D (.131 x 3") NAIL = 1.21
- 16D (.162 x 3 1/2") NAIL = .83
- #8 x 3" WOOD SCREW = 1.28

NOTE: THIS DETAIL FOR TYPE "F" FASTENING IS APPLICABLE TO SIDEWALL CONNECTIONS ONLY AND CAN NOT BE USED FOR ENDWALLS. SEE FASTENING TYPE "E" OR TYPE "G" FOR ENDWALL APPLICATION.

FLOOR TO SILL PLATE FASTENING - TYPE "F" - SIDEWALL ONLY

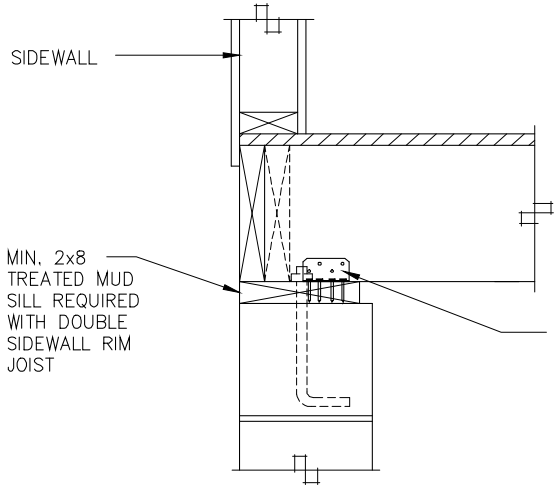
- NOTES:**
- 1) MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO SINGLE SILL PLATE.
 TYPE 5: SIMPSON MAB OR MASA MUD SILL ANCHOR INSTALLED PER INSTALLATION INSTRUCTIONS
 - 2) RIM TO MUD SILL FASTENING AND SILL TO FOUNDATION ANCHOR SPACING SHALL BE THE MINIMUM OF:
 - a) SPACING GIVEN IN APPLICABLE TABLES FOR UNIT CONFIGURATION AND WIND SPEED.
 - b) SPACING GIVEN IN BACKFILL/ SIDEWALL TABLES FOR GIVEN UNIT CONFIGURATION, MAXIMUM BASEMENT WALL HEIGHT, BACKFILL DEPTH, AND LOCAL SOIL CLASSIFICATION.

Schult	
FLOOR TO SILL PLATE FASTENING - SIDEWALL ONLY	
<u>DETAIL - F</u>	
DATE: 04/17/07	9581-14.R.F.E.22.22.210(L)
PAGE #:	



ENDWALL DETAIL

SIMPSON STRONG-TIE A23 ANGLE FASTENED TO FLOOR JOIST AND MUD SILL WITH (4) 10D (.148 x 1.5") NAILS. (CORROSION RESISTANT NAIL REQUIRED INTO P.T. MUD SILL) O.C. SPACING PER FASTENER TYPE "G" IN TABLES. NOTE: IF SPACING REQUIRES ADDITIONAL TYPE "H" PLATE CONNECTORS, SEE DETAIL

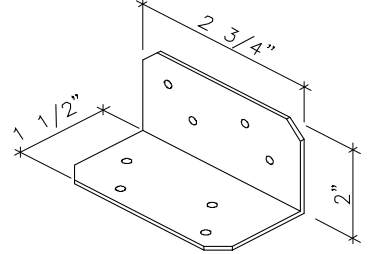


SIDEWALL DETAIL

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 David Richter

SIMPSON STRONG-TIE A23 ANGLE FASTENED TO FLOOR JOIST AND MUD SILL WITH (4) 10D (.148 x 1.5") NAILS. (CORROSION RESISTANT NAIL REQUIRED INTO P.T. MUD SILL) USE (1) OR (2) ANGLES EA. JOIST PER FASTENER TYPE "G" IN TABLES. NOTE: IF SPACING REQUIRES ADDITIONAL TYPE "H" PLATE CONNECTORS, SEE DETAIL

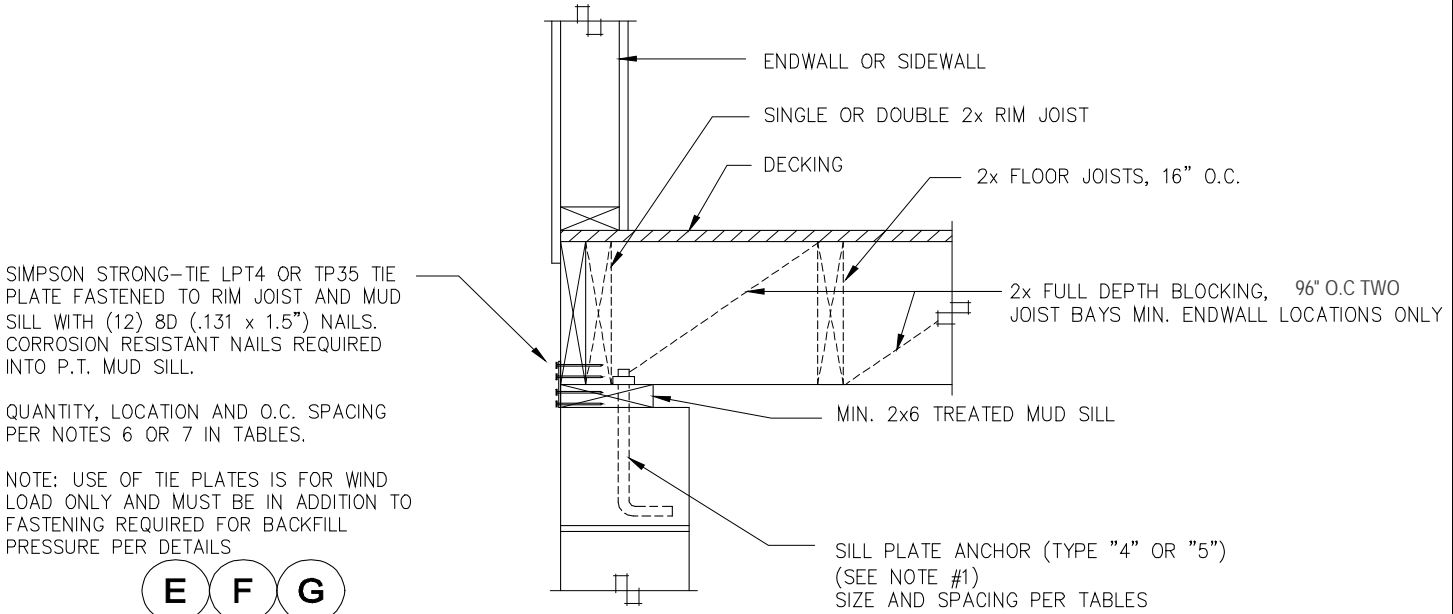


SIMPSON STRONG-TIE 'A23' ANGLE

FLOOR TO SILL PLATE FASTENING - TYPE "G" -ENDWALL OR SIDEWALL

- NOTES:
- 1) MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO SINGLE SILL PLATE.
 TYPE 5: SIMPSON MAB OR MASA MUD SILL ANCHOR INSTALLED PER INSTALLATION INSTRUCTIONS
 - 2) RIM TO MUD SILL FASTENING AND SILL TO FOUNDATION ANCHOR SPACING SHALL BE THE MINIMUM OF:
 - a) SPACING GIVEN IN APPLICABLE TABLES FOR UNIT CONFIGURATION AND WIND SPEED.
 - b) SPACING GIVEN IN BACKFILL/ SIDEWALL TABLES FOR GIVEN UNIT CONFIGURATION, MAXIMUM BASEMENT WALL HEIGHT, BACKFILL DEPTH, AND LOCAL SOIL CLASSIFICATION.

Schult	
FLOOR TO SILL PLATE FASTENING - ENDWALL OR SIDEWALL - <u>DETAIL - G</u>	
DATE: 05/25/07	958I-14.R.F.E.22.22.210()
PAGE #:	

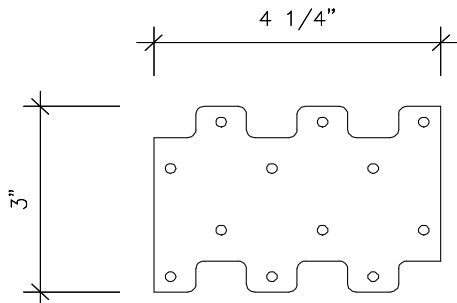


SIMPSON STRONG-TIE LPT4 OR TP35 TIE PLATE FASTENED TO RIM JOIST AND MUD SILL WITH (12) 8D (.131 x 1.5") NAILS. CORROSION RESISTANT NAILS REQUIRED INTO P.T. MUD SILL.

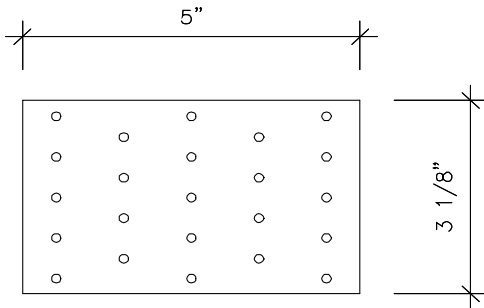
QUANTITY, LOCATION AND O.C. SPACING PER NOTES 6 OR 7 IN TABLES.

NOTE: USE OF TIE PLATES IS FOR WIND LOAD ONLY AND MUST BE IN ADDITION TO FASTENING REQUIRED FOR BACKFILL PRESSURE PER DETAILS

E F G



SIMPSON STRONG-TIE "LPT4" TIE PLATE



SIMPSON STRONG-TIE "TP35" TIE PLATE

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FLOOR TO SILL PLATE FASTENING - TYPE "H" - ENDWALL OR SIDEWALL

NOTES:

- 1) MUD SILL TO FOUNDATION ANCHORS:
 TYPE 4: DIAMETER STEEL ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE FOUNDATION WALL OR CLOSE CELL CMU WITH WASHERS AND NUTS. BOLT HEADS SHALL NOT BE RECESSED INTO SINGLE SILL PLATE.
 TYPE 5: SIMPSON MAB OR MASA MUD SILL ANCHOR INSTALLED PER INSTALLATION INSTRUCTIONS
- 2) RIM TO MUD SILL FASTENING AND SILL TO FOUNDATION ANCHOR SPACING SHALL BE THE MINIMUM OF:
 - a) SPACING GIVEN IN APPLICABLE TABLES FOR UNIT CONFIGURATION AND WIND SPEED.
 - b) SPACING GIVEN IN BACKFILL/ SIDEWALL TABLES FOR GIVEN UNIT CONFIGURATION, MAXIMUM BASEMENT WALL HEIGHT, BACKFILL DEPTH, AND LOCAL SOIL CLASSIFICATION.

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**FLOOR TO SILL PLATE FASTENING
 - ENDWALL OR SIDEWALL -
 DETAIL - H**

DATE: 04/17/07

958I-14.R.F.E.22.22.210(L)

PAGE #:

Home Floor to Sill Plate & Sill Plate to Foundation WITH TYPE H PLATE CONNECTORS (See note 6 & 7)

SOIL CLASSES SC, ML-CL AND INORGANIC CL SOILS [Allowable bearing capacity of 1500 psf or less]

Unit Width: 26.67' to 26.67' Max.

Unit Length: 76' Max.

Roof Pitch: 6/12 to 6/12

Max. Roof Overhang: 12 "

Max. Sidewall Height: 9'

*Wind Speed (3s): 100

Seismic Zone C

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Foundation Wall ¹⁰		MAXIMUM FASTENER SPACING OR FASTENERS PER JOIST SPACING ^{2,3 & 5}										# REQ'D S/W HDS SEE D18 /CORNER
		SIDEWALL FASTENING SPACING ¹					END WALL FASTENING					
Wall Height	Backfill Depth	Rim to Sill ⁶			Sill to Fnd. Wall		Rim to Sill ⁷		Sill to Fnd. Wall			
		Fastener Type			Anchor Spacing		Fastener Type		Anchor Spacing			
		E	F ⁴	G ⁴	4	5	E	G	4	5		
24 "	16 "	16.8" o.c.	1	1	72" o.c.	72" o.c.	40" o.c.	492" o.c.	56" o.c.	30" o.c.	1	
32 "	24 "	15.8" o.c.	1	1	72" o.c.	72" o.c.	16" o.c.	194" o.c.	54" o.c.	29" o.c.	1	
40 "	32 "	8.4" o.c.	2	1	72" o.c.	72" o.c.	8" o.c.	102" o.c.	48" o.c.	28" o.c.	1	
3.833 '	3.33 '	4.9" o.c.	2	1	42" o.c.	47" o.c.	5" o.c.	61" o.c.	38" o.c.	25" o.c.	1	
7'	4'	5.2" o.c.	2	1	45" o.c.	49" o.c.	5" o.c.	64" o.c.	39" o.c.	26" o.c.	1	
7'	5'	NA	4	1	23" o.c.	25" o.c.	NA	33" o.c.	23" o.c.	20" o.c.	0	
7'	6'	NA	6	2	13" o.c.	15" o.c.	NA	19" o.c.	13" o.c.	13" o.c.	0	
8'	4'	5.9" o.c.	2	1	51" o.c.	56" o.c.	6" o.c.	73" o.c.	42" o.c.	27" o.c.	1	
8'	5'	3.0" o.c.	3	1	26" o.c.	29" o.c.	3" o.c.	37" o.c.	26" o.c.	21" o.c.	0	
8'	6'	NA	6	2	15" o.c.	17" o.c.	NA	22" o.c.	15" o.c.	15" o.c.	0	
8'	7'	NA	9	2	10" o.c.	11" o.c.	NA	14" o.c.	10" o.c.	10" o.c.	0	
9'	3'	15.8" o.c.	1	1	72" o.c.	72" o.c.	16" o.c.	194" o.c.	54" o.c.	29" o.c.	1	
9'	4'	6.7" o.c.	2	1	57" o.c.	63" o.c.	7" o.c.	82" o.c.	44" o.c.	27" o.c.	1	
9'	5'	3.4" o.c.	3	1	29" o.c.	32" o.c.	3" o.c.	42" o.c.	29" o.c.	22" o.c.	0	
9'	6'	NA	5	2	17" o.c.	19" o.c.	NA	24" o.c.	17" o.c.	16" o.c.	0	
9'	7'	NA	8	2	11" o.c.	12" o.c.	NA	15" o.c.	11" o.c.	11" o.c.	0	
9'	8'	NA	11	NA	7" o.c.	8" o.c.	NA	10" o.c.	7" o.c.	8" o.c.	0	

NOTES:

- Fastener Types A,B,C & D are not reflected in charts and are available prescriptively per table R404.1(1) in 2006 IRC.
- See details for additional fastener options.
- All fastener spacing must start within 12" maximum of each corner or half specified spacing (lesser of two).
- Type F & G connectors are qty. per 16" oc. Joist spacing.
- Fastener Type Key:
 " Type E"- Fasteners toe-nailed through rim joist into sill plate (Refer to Detail E)
 "Type F"- Fasteners direct nailed from sill plate into each floor joist (Applicable at Sidewalls only) (Refer to Detail F)
 "Type G"- Number of Simpson A23 angles fastened to sill plate and each 16" OC. (2x8 min. sill plate) (Refer to Detail G)
 "Type H"- Simpson LPT4 or TP35 plate fastened to rim joist and mud sill with (12) 8dx1.5" treated nails. (Refer to Detail H)
- Anchor Types:
 "Type 4"- 1/2" x10" Anchor Bolt with 2"x2"x1/8" Washer between plate and nut.
 "Type 5"- Simpson MAB15 (concrete) or MAB23 (concrete block) or MASA
- Fasteners are in addition to (2) Type H tie plates spaced within 6' of corners & 96" oc. elsewhere along sidewalls.(See note 3)
- Fasteners are in addition to Type H tie plates spaced at 33" oc. along endwall.
- Three options (E,F,& G) for rim to sill fastening and two options (4 & 5) for sill plate to foundation anchorage have been provided in chart. Any combination of rim sill connectors and mud sill anchors maybe used.
- All connection hardware, anchor bolts, straps, hold-downs, washers and fasteners shall be galvanized or stainless when in contact with PT sill plates or other PT lumber.
- Maximum foundation wall height and maximum unbalanced backfill.

958I-14.R.F.E.22.22.210(L)

Home Floor to Sill Plate & Sill Plate to Foundation WITHOUT TYPE H PLATE CONNECTORS (See note 6 & 7)

SOIL CLASSES SC, ML-CL AND INORGANIC CL SOILS [Allowable bearing capacity of 1500 psf or less]

Unit Width: 26.67' to 26.67' Max.

Unit Length: 76' Max.

Roof Pitch: 6/12 to 6/12

Max. Roof Overhang: 12 "

Max. Sidewall Height: 9 '

***Wind Speed (3s): 100**

Seismic Zone C

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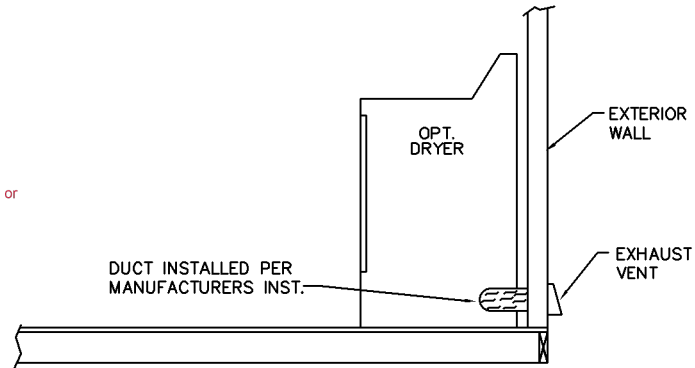
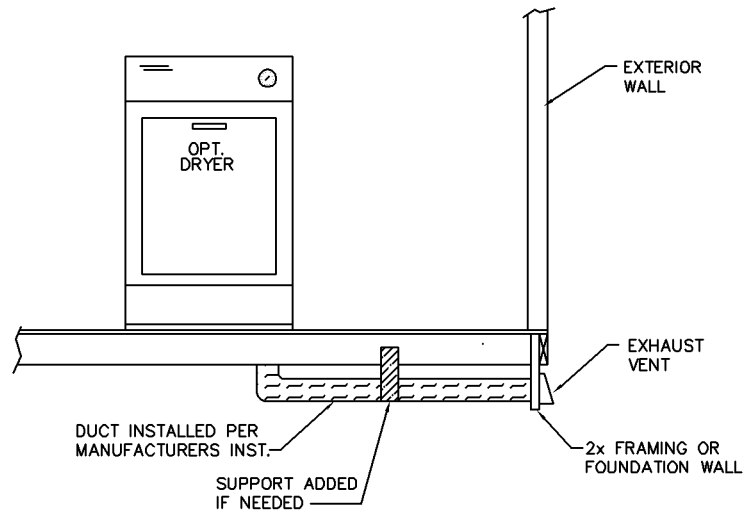
Foundation Wall ¹⁰		MAXIMUM FASTENER SPACING OR FASTENERS PER JOIST SPACING ^{2,3 & 5}										# REQ'D S/W HDS SEE D18 /CORNER
		SIDEWALL FASTENING SPACING ¹					END WALL FASTENING					
Wall Height	Backfill Depth	Rim to Sill ⁶			Sill to Fnd. Wall		Rim to Sill ⁷		Sill to Fnd. Wall			
		Fastener Type			Anchor Spacing		Fastener Type		Anchor Spacing			
		E	F ⁴	G ⁴	4	5	E	G	4	5		
24 "	16 "	10.5" o.c.	1	1	72" o.c.	72" o.c.	8" o.c.	30" o.c.	56" o.c.	30" o.c.	1	
32 "	24 "	10.5" o.c.	1	1	72" o.c.	72" o.c.	7" o.c.	28" o.c.	54" o.c.	29" o.c.	1	
40 "	32 "	8.4" o.c.	2	1	72" o.c.	72" o.c.	7" o.c.	24" o.c.	48" o.c.	28" o.c.	1	
3.833 '	3.33 '	4.9" o.c.	2	1	42" o.c.	47" o.c.	5" o.c.	18" o.c.	38" o.c.	25" o.c.	1	
7 '	4 '	5.2" o.c.	2	1	45" o.c.	49" o.c.	5" o.c.	19" o.c.	39" o.c.	26" o.c.	1	
7 '	5 '	NA	4	1	23" o.c.	25" o.c.	NA	10" o.c.	23" o.c.	20" o.c.	1	
7 '	6 '	NA	6	2	13" o.c.	15" o.c.	NA	6" o.c.	13" o.c.	13" o.c.	1	
8 '	4 '	5.9" o.c.	2	1	51" o.c.	56" o.c.	6" o.c.	20" o.c.	42" o.c.	27" o.c.	1	
8 '	5 '	3.0" o.c.	3	1	26" o.c.	29" o.c.	3" o.c.	12" o.c.	26" o.c.	21" o.c.	1	
8 '	6 '	NA	6	2	15" o.c.	17" o.c.	NA	6" o.c.	15" o.c.	15" o.c.	1	
8 '	7 '	NA	9	2	10" o.c.	11" o.c.	NA	4" o.c.	10" o.c.	10" o.c.	0	
9 '	3 '	10.5" o.c.	1	1	72" o.c.	72" o.c.	7" o.c.	28" o.c.	54" o.c.	29" o.c.	1	
9 '	4 '	6.7" o.c.	2	1	57" o.c.	63" o.c.	6" o.c.	22" o.c.	44" o.c.	27" o.c.	1	
9 '	5 '	3.4" o.c.	3	1	29" o.c.	32" o.c.	4" o.c.	13" o.c.	29" o.c.	22" o.c.	1	
9 '	6 '	NA	5	2	17" o.c.	19" o.c.	NA	7" o.c.	17" o.c.	16" o.c.	1	
9 '	7 '	NA	8	2	11" o.c.	12" o.c.	NA	4" o.c.	11" o.c.	11" o.c.	0	
9 '	8 '	NA	11	NA	7" o.c.	8" o.c.	NA	3" o.c.	7" o.c.	8" o.c.	0	

NOTES:

1. RESERVED
2. See details for additional fastener options.
3. All fastener spacing must start within 12" maximum of each corner or half specified spacing (lesser of two).
4. Type F & G connectors are qty. per 16" oc. Joist spacing.
5. Fastener Type Key:
 " Type E"- Fasteners toe-nailed through rim joist into sill plate (Refer to Detail E)
 "Type F"- Fasteners direct nailed from sill plate into each floor joist (Applicable at Sidewalls only) (Refer to Detail F)
 "Type G"- Number of Simpson A23 angles fastened to sill plate and each 16" OC. (2x8 min. sill plate) (Refer to Detail G)
 "Type H"- Simpson LPT4 or TP35 plate fastened to rim joist and mud sill with (12) 8dx1.5" treated nails. (Refer to Detail H)
- Anchor Types:
 "Type 4"- 1/2" x10" Anchor Bolt with 2"x2"x1/8" Washer between plate and nut.
 "Type 5"- Simpson MAB15 (concrete) or MAB23 (concrete block) or MASA
6. Fasteners reflected in chart do NOT require "H type" connector plates to be installed along sidewall.
7. Fasteners reflected in chart do NOT require "H type" connector plates to be installed along endwall.
8. Three options (E,F,& G) for rim to sill fastening and two options (4 & 5) for sill plate to foundation anchorage have been provided in chart. Any combination of rim sill connectors and mud sill anchors maybe used.
9. All connection hardware, anchor bolts, straps, hold-downs, washers and fasteners shall be galvanized or stainless when in contact with PT sill plates or other PT lumber.
10. Maximum foundation wall height and maximum unbalanced backfill.

958I-14.R.F.E.22.22.210()

GENERAL NOTES:



INSTALLTION INSTRUCTIONS:

EXHAUST DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE CONSTRUCTED OF METAL OR NONCOMBUSTIBLE MATERIAL OF EQUAL STRENGTH AND CORROSION RESISTANCE AND SHALL HAVE A SMOOTH INTERIOR FINISH. NO PART OF THE DRYER DUCT TO BE IN CONTACT WITH THE GROUND. THE DUCT TO RUN TO THE OUTSIDE OF THE UNIT AND SHALL NOT TERMINATE UNDERNEATH THE UNIT. A APPROVED DAMPER TO BE INSTALLED ON THE END OF THE DUCT.

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NIA

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David Richter

APPROVAL SEAL:

GMH Engineering
























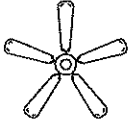


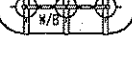




TITLE:

DRYER VENT INSTALLATION

Drawn by: O'Neal


Date: 4/11/07 Draw #:

ELECTRICAL LEGEND (NOT TO SCALE)

	LIGHT		PANEL BOX
	CAN LIGHT		THERMOSTAT
	PULL CHAIN LIGHT		SWITCH
	BATH FAN		3-WAY SWITCH
	FLUORESCENT LIGHT		PHONE JACK
	CABLE JACK		CEILING MOUNT C.O. & SMOKE DETECTOR
	15 AMP RECEPT FLOOR LEVEL		CEILING MOUNT C.O. DETECTOR
	15 AMP RECEPT CABINET LEVEL		WALL MOUNT SMOKE DETECTOR
	15 AMP RECEPT SIDEWAYS		CEILING MOUNT SMOKE DETECTOR
	20 AMP RECEPT FLOOR LEVEL		SWITCH LEG
	20 AMP RECEPT CABINET LEVEL		JUNCTION BOX
	20 AMP RECEPT SIDEWAYS		CEILING FAN
	240 VOLT RECEPT		
	15 AMP WATERPROOF RECEPT GFI		POT & PAN RACK
	20 AMP WATERPROOF RECEPT GFI		HEAT TAPE RECEPT
	FURNACE		WATER HEATER

A DASHED SYMBOL REPRESENTS AN OPTION

GFI-INDICATES A GROUND FAULT PROTECTED RECEPT

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PLUMBING FIXTURE DESCRIPTION CHART

APPLIANCE	MANUFACTURER	MODEL #	ANSI/ASME STANDARD
TOILET	BRISTOL BAY	VCEFB-03B	
SINKS	LYONS EL MUSTICE & SON PREMIUM FLOW CORESTONE & TEKA REVERE	KS01P4-TB #610 UTILITY SINGLE BOWL DOUBLE BOWL BAR SINK	
LAVATORIES	BRISTOL BAY	VCL-10	
TUB SHOWER	BAYMONT BATHWARE	5118 5100 5109	UL
SHOWER	BAYMONT BATHWARE	3309 3308 3304	UL
TUB	BAYMONT BATHWARE	2205 2272	UL

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David Richter

Trenco

818 Soundside Rd
Edenton, NC 27932

Re: WPL-913-014-0815_(14W)
Schult - Richfield (MFG: 00958)

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Wood Perfect, Ltd.

Pages or sheets covered by this seal: I38241174 thru I38241175

My license renewal date for the state of North Carolina is December 31, 2019.

North Carolina COA: C-0844



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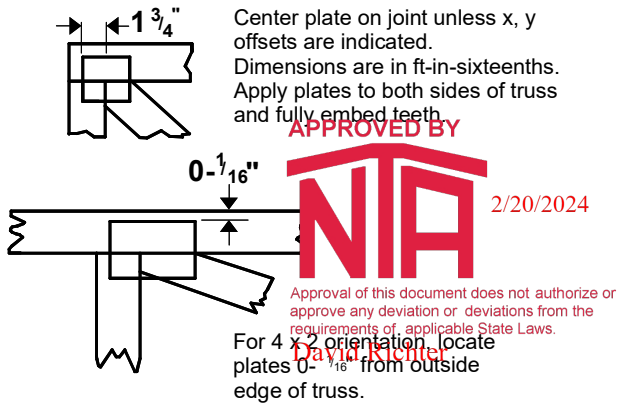
August 21, 2019

Liu, Xuegang

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Symbols

PLATE LOCATION AND ORIENTATION



This symbol indicates the required direction of slots in connector plates.

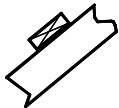
* Plate location details available in MiTek 20/20 software or upon request.

PLATE SIZE

4 x 4

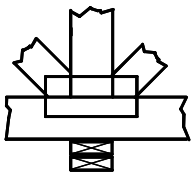
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

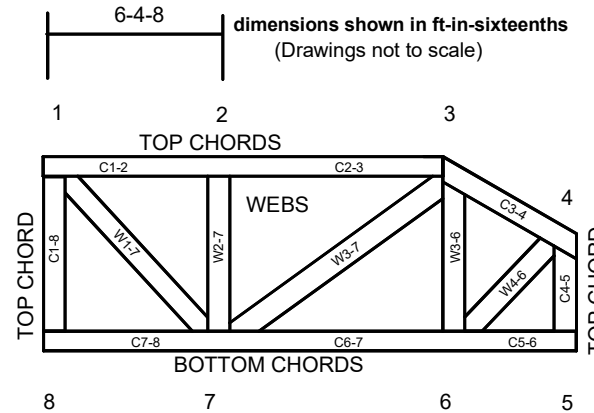


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

- ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
- DSB-89: Design Standard for Bracing.
- BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet: MII-7473 rev. 10/03/2015

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

- Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
- Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.
- Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
- Cut members to bear tightly against each other.
- Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
- Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
- Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
- Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
- Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
- Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
- Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
- Top chords must be sheathed or purlins provided at spacing indicated on design.
- Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
- Connections not shown are the responsibility of others.
- Do not cut or alter truss member or plate without prior approval of an engineer.
- Install and load vertically unless indicated otherwise.
- Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
- Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
- Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

**NORTH CAROLINA
MODULAR PLANS REVIEW CHECKLIST**

PAGE 3 of 3		revised June 2018
Plan Sheet Page # and NOTES		
<u>CEILING / ROOF X-SECTION</u>		
Truss, rafter, and beam spacing	1-0.2	
Lumber species and grade	1-0.2	
Sheathing and decking	1-0.2	
Finishes	1-0.2	
Fastening instructions	1-0.2	
Insulation	1-0.2	
Details including NC sealed truss designs or manual reference	man ref to trusses 1-0.2, other details man ref 1-0.2	
<u>FOUNDATION PLAN</u>		
Footings, pier, and curtain wall locations and specifications	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
X-sections with dimensions	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Anchorage - sill plate to piers and curtain wall	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Anchorage - building to sill plate	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Anchorage - tie downs (lateral and longitudinal)	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Soil bearing capacity	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Minimum concrete compressive strength	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Mortar type	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Ventilation requirements (with and without vapor barrier)	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
Crawl space access requirements	21-30 PSF (OFF FRAME) 21-PS (ON FRAME)	
<u>ENERGY COMPLIANCE</u>		
Demonstrated compliance	PRESCRIPTIVE	
<u>SET-UP INSTRUCTIONS</u>		
Floor and ceiling connections	ref to set-up manual on 1-0.2	
Marriage wall connections	ref to set-up manual on 1-0.2	
Roof set-up and connection	ref to set-up manual on 1-0.2	
Plumbing connections	ref to set-up manual on 1-0.2	
Mechanical connections	ref to set-up manual on 1-0.2	
Electrical connections	ref to set-up manual on 1-0.2	
Fire stopping	1-0.2	
Air infiltration elimination	ref to set-up manual on 1-0.2	
Notice to inspections department attachment if set-up instructions are by attachment	1-0.2	
<u>ITEMS NOT INSPECTED IN PLANT</u>		
List of items not inspected by 3rd. Party	1-0.2	
Notice to inspections department	1-0.2	