



TESTING • INSPECTION • ENGINEERING

305 N. OAKLAND AVE. • P.O. BOX 490 • NAPPANEE, IN 46550 • P: 574.773.7975 • F: 574.773.2732 • ICC-NTA.ORG

February 23, 2021

Deer Valley Homebuilders
205 Carriage St.
Guin, AL 35563

RE: MFT10186-SVM-9407

NTA JOB NUMBER: DVH020921-51

Dear Mr. Jerome Triplett,

The referenced manufactured building has been reviewed and approved. ICC-NTA LLC certifies this plan is in compliance with 2020 Florida Codes – 7th Edition as referenced in the approved drawings. This approval covers the factory build structure only. Any alterations to the factory-built structure, on site, voids the approval. This plan is subject to the following limitations:

1. This plan is **NOT** approved for High Velocity Hurricane Zone (i.e. Broward and Dade Counties).
2. Signed and sealed plans are on file with ICC NTA, LLC
3. The Chapter 633 Plan Review and Inspection shall be conducted by the local fire safety inspector.
4. Items installed on site are subject to review and approval by the local authority having jurisdiction. Please reference the list of site installed items on the approved plans.
5. This review included products for compliance with 553.8425 or FAC Chapter 61G20-3.

If you have any additional questions or comments regarding this matter, please contact me at your convenience at (574) 773-7975.

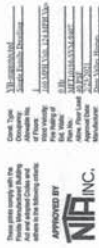
Respectfully,

Michael Faller

Michael Faller SMP-056
Account Manager
ICC NTA LLC



A MEMBER OF THE ICC FAMILY OF SOLUTIONS



SITE INSTALLED ITEMS:

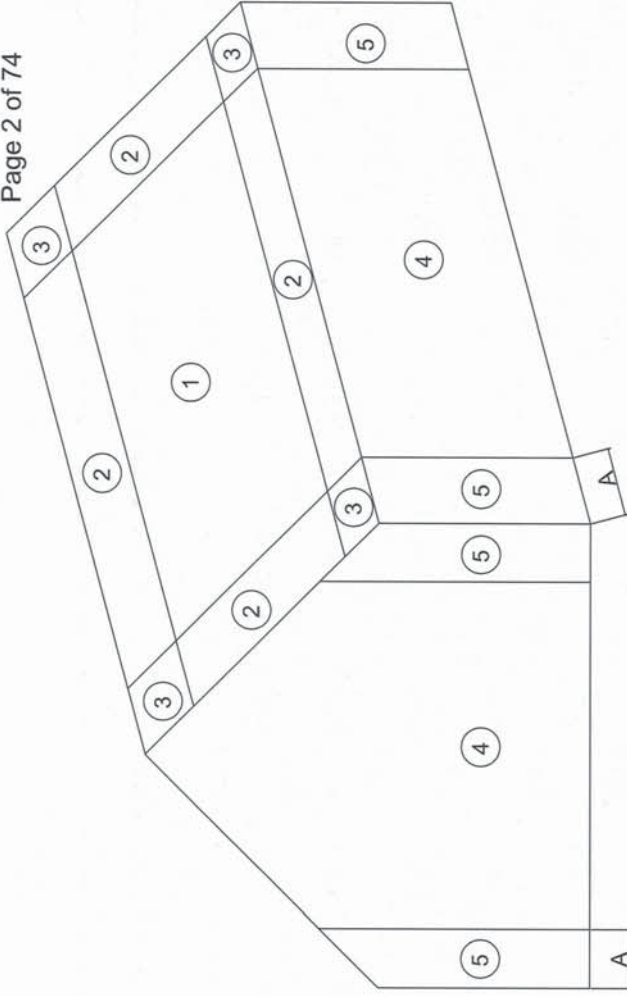
NOTE THAT THIS LIST DOES NOT NECESSARILY LIMIT THE ITEMS OF WORK AND MATERIALS THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SITE RELATED ITEMS ARE SUBJECT TO LOCAL JURISDICTION APPROVAL.

1. THE COMPLETE FOUNDATION SUPPORT AND TIE DOWN SYSTEM.
2. RAMPS, STAIRS AND GENERAL ACCESS TO THE BUILDING.
3. PORTABLE FIRE EXTINGUISHER(S).
4. BUILDING DRAINS, CLEANOUTS, AND HOOK-UP TO PLUMBING SYSTEM.
5. ELECTRICAL SERVICE HOOK-UP (INCLUDING FEEDERS) TO THE BUILDING.
6. THE MAIN ELECTRICAL PANEL AND SUB-FEEDERS.
7. CONNECTION OF ELECTRICAL CIRCUITS CROSSING OVER MODULE MATING LINE(S) - (MULTI-UNITS ONLY).
8. STRUCTURAL AND AESTHETIC INTERCONNECTIONS BETWEEN MODULES (MULTI-UNITS ONLY).
9. EXTERIOR GLAZING PROTECTION.
10. GUTTERS & DOWN SPOUTS WHEN REQUIRED.
11. HVAC EQUIPMENT AND CONNECTIONS.
12. WASHER AND DRYER.
13. FIREPLACE FLUE.
14. MATELINE DOORS.
15. BUILDING SHALL BE OVER 3' AWAY FROM ALL PROPERTY LINES.
16. ALL PLUMBING BELOW FLOOR SYSTEM
17. SINGLE RIDGE CAP AND SET-UP OF FOLD DOWN TRUSS IF APPLICABLE
18. DRYER VENT TO BE RAN TO EXTERIOR
19. RETURN AIR SIZE MUST BE CHECKED FOR PROPER SIZE WITH HEAT PUMP INSTALLATION

NOTES:

1. THESE PLANS COMPLY WITH RULE 61G20-3.006 FOR PRODUCT APPROVAL
2. THE RAISED SEAL SET OR ELECTRONIC SEALED SET) OF PLANS ARE ON FILE IN THE 3 RD PARTY AGENCY'S OFFICE AS DIRECTED BY THE DBPR
3. THIS BUILDING IS SUBJECT TO REVIEW AND APPROVAL OF THE FIRE INSPECTOR ON SITE WITH COMPLIANCE WITH CH.633 FIRE SAFETY CODE.
4. THIS STRUCTURE HAS BEEN DESIGNED FOR ERECTION OR INSTALLATION ON SITE BUILT PERMANENT FOUNDATION AND IS NOT DESIGNED TO BE MOVED ONCE SO ERECTED OR INSTALLED.
5. BUILDING ADDRESS AS REQUIRED BY FRC R319.1 TO BE INSTALLED ON SITE BY OTHERS
6. BUILDING HAS NOT BEEN DESIGNED OR APPROVED FOR PLACEMENT IN HIGH VELOCITY HURRICANE ZONES (HVHZ).

COMPONENTS & CLADDING DESIGN LOAD SCHEDULE (7<D>30.26DEGREES)			
EXPOSURE FACTOR:		C	
VULT PRESSURES		(-)	
ZONE	(+)	(-)	
1	21.72	-65.70	
2	21.72	-95.88	
3	21.72	-113.94	
4	32.58	-35.28	
5	32.58	-43.38	
2		-110.95	
3		-147.12	



REVISIONS

DESIGNED BY	J. TRIPLETT	DATE	NTS
DATE	02/09/21		
COVER SHEET			
NO.	SVM-9407		
PROJECT	MFT10186-SVM-9407		

RANCH STRUCTURAL SYSTEM
Deer Valley Homebuilders



DEER VALLEY HOMEBUILDERS, INC.
P.O. Box 3107 205 Cottage St.
Curtis, Alabama 35553

DATE
02/09/21
NO.
SVM-9407
PROJECT
MFT10186-SVM-9407
A.01.1

1. OVERALL DIMENSIONS OF HOME WILL VARY ACCORDING TO REQUIREMENTS OF IRONCHEMICAL CODE AND INSTALLED PER SECTION 10.13.3 AND 20.3.3. 2013 IRC
2. EXTERIOR DOORS MAY BE RELOCATED IN SAME ROOM TO DIFFERENT AREA
3. WINDOWS MAY BE RELOCATED OR A WINDOW MAY BE ADDED PER ICC
4. CLOTHES DRYER EXHAUST ON SITE BY WINDOW
5. ATTIC ACCESS OPENING SHALL BEAR A MINIMUM DIMENSION OF 22" X 30" WITH A VERTICAL HEIGHT OF 30" (R807.1). THE ACCESS HOLE MUST BE LOCATED IN THE CENTER OF THE ROOF
6. MINIMUM ROOM SIZE IS 70 SQ. FT. WITH A 7'-0" MIN. DIMENSION
7. MINIMUM ROOM AREA OF AT LEAST 120 SQ. FT.
8. ALL PARTS OF THE HOUSE SHALL BE LOCATED IN THE SECONDARY BEDROOM CLOSET
9. DATA PLATE, AND THIRD PARTY LABELS SHALL BE LOCATED ON THE WALL BELOW THE KITCHEN SINK
10. PARTY LABELS TO BE LOCATED IN SECONDARY BEDROOM CLOSET

11. OPTIONAL PREFRAMES MAY BE ADDED, PROVIDING THEY MEET ALL REQUIREMENTS OF IRONCHEMICAL CODE AND INSTALLED PER SECTION 10.13.3 AND 20.3.3. 2013 IRC
12. EXTERIOR DOORS MAY BE RELOCATED IN SAME ROOM TO DIFFERENT AREA
13. WINDOWS MAY BE RELOCATED OR A WINDOW MAY BE ADDED PER ICC
14. CLOTHES DRYER EXHAUST ON SITE BY WINDOW
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20. PARTY LABELS TO BE LOCATED IN SECONDARY BEDROOM CLOSET

21. MAXIMUM SMOKE DEVELOPMENT OF 450
22. MAXIMUM SMOKE DEVELOPMENT OF 450
23. MAXIMUM SMOKE DEVELOPMENT OF 450
24. MAXIMUM SMOKE DEVELOPMENT OF 450
25. MAXIMUM SMOKE DEVELOPMENT OF 450
26. MAXIMUM SMOKE DEVELOPMENT OF 450
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31. MAXIMUM SMOKE DEVELOPMENT OF 450
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37. MAXIMUM SMOKE DEVELOPMENT OF 450
38. MAXIMUM SMOKE DEVELOPMENT OF 450
39. MAXIMUM SMOKE DEVELOPMENT OF 450
40. MAXIMUM SMOKE DEVELOPMENT OF 450

KITCHEN	MBA	BATH 2	BATH 3
100	50	50	50

CROFT WINDOWS(SERIES 30) LIGHT & VENT CHART

DESCRIPTION	VENT	R.O.	SF (MAX)	U-FACTOR	SHGC
30 X 40	5.64	2.69	8.33	66 SF	.38 .21
36 X 40	6.80	3.24	10	81 SF	.35 .20
48 X 40	7.96	3.94	13.3	98 SF	.38 .21
24 X 72	8.09	3.95	12	96.5 SF	.35 .20
36 X 72	13.49	7.14	18	164 SF	.35 .20
48 X 72	16.18	7.9	24	197 SF	.35 .20
36X72(BRONZE ALUM.)	1.28	N/A	3	N/A	.42 .21
36X48(BRONZE ALUM.)	1.00	N/A	2.5	N/A	.42 .21
30X40(BRONZE ALUM.)	2.250	N/A	5	N/A	.38 .21
30 X 30 (Glass Block)	N/A	6.35	N/A	N/A	N/A
40 X 40 (Glass Block)	N/A	11.25	N/A	N/A	N/A
40 X 40 (Glass Block)	N/A	10.31	N/A	N/A	N/A
34 X 42 (Glass Block)	N/A	10.31	N/A	N/A	N/A
12 X 36 (TRANSOM)	1.28	N/A	3	N/A	.31 .27
12 X 30 (TRANSOM)	1.00	N/A	2.5	N/A	.31 .27
12 X 60 (TRANSOM)	2.25	N/A	5	N/A	.34 .27

DUNBARTON DOORS LIGHT & VENT CHART

3040	5.43	2.72	8.33	705F	.38	.21
3640	6.78	3.39	10	875F	.36	.27
3660	10.68	5.48	15	1435F	.36	.27
3612 (TRANSOM)	1.31	N/A	3	N/A	.31	.27

DUNBARTON DOORS LIGHT & VENT CHART						
ALL EXTERIOR DOOR W/ GLASS REQUIRED SAFETY GLAZE (IG EMITY GLAZE)						
DESCRIPTION	LIGHT	VENT	R.O.	SF (MAX)	U-FACTOR	SHGC
* 3680 (STORM W/ OPEN SLIDER)	11.9	5.7	21.10	142 SF	EXP-B	47.2
3680 (6 PANEL)	N/A	N/A	N/A		EXP-C	61.0
3680 (6 LITE & ROUNDTOP)	5.50	N/A	21.10		EXP-D	.16
3680 (15 LITE)	9.78	N/A	21.10		EXP-E	.00
3680 (3/4 OVAL)	3.78	N/A	21.10		EXP-F	.31
3680 (FULL OVAL)	7.78	N/A	21.10		EXP-G	.24
3680 (STORM)	17.18	N/A	21.10		EXP-H	.30
13 X 80 (FULL or 1/2 SIDELITE)	4.002/00	N/A	7.50		EXP-I	N/A
TOP PANEL	5.92	N/A	5.92		EXP-J	
BOTTOM PANEL	5.92	5.7	5.92		EXP-K	
75 X 80 (ATRIUM DOOR) W/SCREEN	19.6	20.0	43.11	245 SF	EXP-L	.31
72 X 76 (GG) W/SCREEN	32.00	16.30	38.00	400 SF	EXP-M	.27

ELECTRIC CIRCUIT SCHEDULE

NO.	PURPOSE	VOLTS	AMPS	WIRE TYPE	WIRE SIZE	TERMINAL
1	SMALL APPLIANCES	20 (1)	120	12	20	LAUNDRY (WASHER)
2	BATHS	20 (1)	120	12	21	SMOKE DETECTORS
3	SMALL APPLIANCES	20 (1)	120	12	22	SMOKE DETECTORS
4	SMALL APPLIANCES	20 (1)	120	12	23	SMOKE DETECTORS
5	OPT. DISHWASHER	20 (1)	120	12	24	EXTRA FURNACE
6	GENERAL PURPOSE	20 (1)	120	12	25	GENERAL PURPOSE
7	WATER HEATER	20 (1)	120	12	26	GENERAL PURPOSE
8	WATER HEATER	20 (1)	120	12	27	GENERAL PURPOSE
9	MICROWAVE	20 (1)	120	12	28	GENERAL PURPOSE
10	GENERAL PURPOSE	20 (1)	120	12	29	GENERAL PURPOSE
11	FURNACE	20 (1)	120	12	30	GENERAL PURPOSE
12	GENERAL PURPOSE	20 (1)	120	12	31	EXTRA
13	OPT. UTILITY	20 (1)	120	12	32	EXTRA
14	RANGE COOKTOP	40 (2)	240	8	34	EXTRA
15	WALL OVEN	20 (1)	120	12	35	EXTRA
16	GENERAL PURPOSE	20 (1)	120	12	36	EXTRA
17	GENERAL PURPOSE	20 (1)	120	12	37	EXTRA
18	EXTRA	20 (1)	120	12	38	SMALL APPLIANCES
19	EXTRA	20 (1)	120	12	39	SMALL APPLIANCES
20	EXTRA	20 (1)	120	12	40	SMALL APPLIANCES

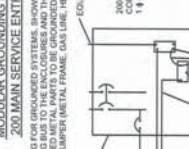
LEGEND

NO.	DESCRIPTION	WIRE TYPE	WIRE SIZE	TERMINAL
1	SMALL APPLIANCES	20 (1)	120	12
2	BATHS	20 (1)	120	12
3	SMALL APPLIANCES	20 (1)	120	12
4	SMALL APPLIANCES	20 (1)	120	12
5	OPT. DISHWASHER	20 (1)	120	12
6	GENERAL PURPOSE	20 (1)	120	12
7	WATER HEATER	20 (1)	120	12
8	WATER HEATER	20 (1)	120	12
9	MICROWAVE	20 (1)	120	12
10	GENERAL PURPOSE	20 (1)	120	12
11	FURNACE	20 (1)	120	12
12	GENERAL PURPOSE	20 (1)	120	12
13	OPT. UTILITY	20 (1)	120	12
14	RANGE COOKTOP	40 (2)	240	8
15	WALL OVEN	20 (1)	120	12
16	GENERAL PURPOSE	20 (1)	120	12
17	GENERAL PURPOSE	20 (1)	120	12
18	EXTRA	20 (1)	120	12
19	EXTRA	20 (1)	120	12
20	EXTRA	20 (1)	120	12

MANUFACTURERS SPECIFICATIONS

- 1) SERVICE PANEL 200 AMP
- 2) NET CONDUCTOR-WHITE
- 3) NET CONDUCTOR-RED AND BLACK 200 MCM-TW-CU
- 4) MAIN CONDUCTOR-RED AND BLACK 200 MCM-TW-CU
- 5) GROUND CONDUCTOR-GREEN NO. 4 THW-COP
- 6) 2" CONDUIT ENT PVC OR EQUAL
- 7) BOX-SCREW COVER
- 8) SOLDERLESS CONNECTORS
- 9) #4 GROUNDING ELECTRODE CONDUCTOR

MODULAR GROUNDING DETAIL



FEEDER ASSEMBLY DETAILS

200 AMP UNDERGROUND

FEEDER ASSEMBLY DETAILS

200 AMP UNDERGROUND

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FEEDER ASSEMBLY DETAILS

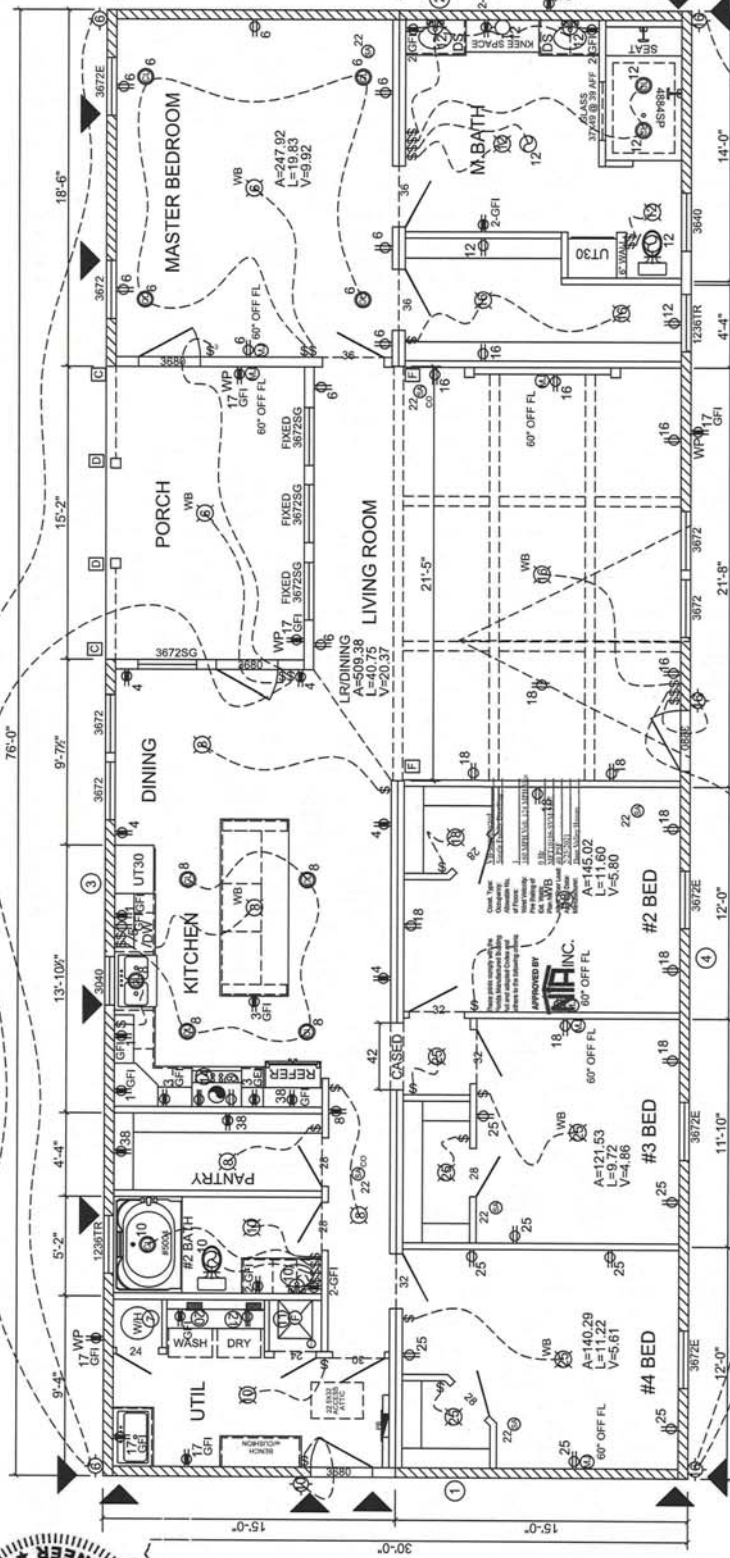
200 AMP UNDERGROUND

FEEDER ASSEMBLY DETAILS

200 AMP UNDERGROUND

FEEDER ASSEMBLY DETAILS

200 AMP UNDERGROUND



Each bracing wall in this page is marked with a horizontal load (PLF) and a racking (uplift) load. Bracing walls must be attached to the foundation for the specified horizontal PLF load & racking loads as specified at noted locations (refer to bracing calcs for more information). Racking tie downs must be designed to extend from foundation to bracing wall studs. The down connections from foundation wall to rim joist are not permissible unless proper fastening of bracing wall studs to rim joist is provided.

NOTICE: Foundation for this home and connection of the home to the foundation must be designed to site conditions for all applicable loads by site engineer/architect.

[F] 1.5"X24" LVL EACH HALF W/ (6) LSTA18 STRAPS FASTENED W/ (7) 10D NAILS EACH END OF STRAP ATTACHED TO (6) #3 2X4 SPF STUDS

[D] ATTACH POST TO HEADER AND POST TO FLOOR W/ (8) SIMPSON SDWC15600 SCREWS EACH

[C] ATTACH TRUSS TO (2) 2X8 #2 SYP PORCH HEADER W/ (2) H2.5A PER TRUSS (2) #8X3.5" SCREWS PER TRUSS.

NO.	LENGTH	PLF	UP/LIFT	SIDE 1				SIDE 2				ROOF DIAPHRAGM NOTES:			
				MATERIAL	FASTENER	SPACING	# OF CS#4 STRAPS	MATERIAL	FASTENER	SPACING	JOIST	SMALL BE THE FASTENED OR FASTENED ONLY			
1	25.67	146	1.3K	7/16" OSB	7/16" X 1 3/4" 15 GA STAPLES	4" OC	1 PER	1/2" GYP	#BX1 5B" SCREWS (GLUED & SCREWED)	8" OC EDGE 17" OC FIELD	2	FASTENED TO ROOF FRAMING WITH			
2	30	142	1.3K	7/16" OSB	7/16" X 1 3/4" 15 GA STAPLES	4" OC	1 PER	1/2" GYP	#BX1 5B" SCREWS (GLUED & SCREWED)	8" OC EDGE 17" OC FIELD	2	MAIN UNIT			
3	18.41	202	1.3K	7/16" OSB	7/16" X 1 3/4" 15 GA STAPLES	4" OC	1 PER	1/2" GYP	#BX1 5B" SCREWS (GLUED & SCREWED)	8" OC EDGE 17" OC FIELD	2	UNLOCKED			
4	51.25	115	0.7K	7/16" OSB	7/16" X 1 3/4" 15 GA STAPLES	4" OC	1 PER	1/2" GYP	#BX1 5B" SCREWS (GLUED & SCREWED)	8" OC EDGE 17" OC FIELD	2				

REVISIONS

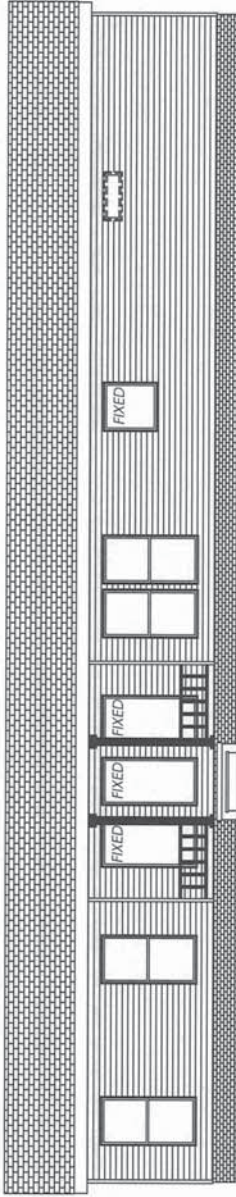
RANCH STRUCTURAL SYSTEM
Deer Valley Homebuilders

DEER VALLEY HOME BUILDERS, INC.
204-468-3400
P.O. Box 3107 205 Centridge Bl.
Guntersville, Alabama 35903

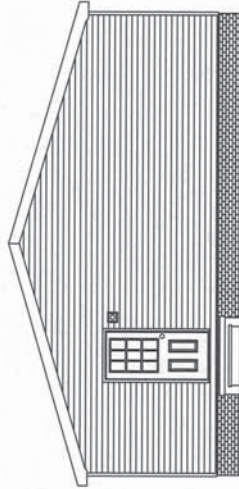
DESIGNED BY	J. TRIPLETT	DATE	02/02/21
CHECKED BY		DATE	
PROJECT NO.			
REVISIONS			
PROJECT NAME	TYPICAL FLOOR PLAN		
PROJECT NO.	SVM-9407		
PROJECT ADDRESS	MFT10186-SVM-9407		

A.03

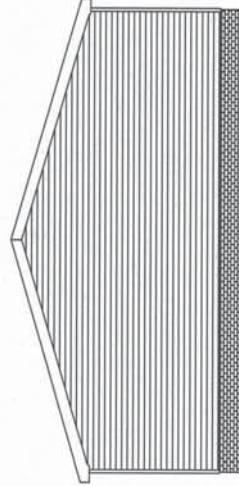
ELEVATIONS SHOWN ON THIS PAGE REPRESENT BASIC COMPONENTS AND ARE NOT INTENDED TO BE ALL INCLUSIVE, NOR DO THESE ELEVATIONS DETAIL EVERY CODE REQUIRED ASPECT OF THIS BUILDING. SITE BUILT STOOPS, STEPS, DECKS, PORCHES, HANDRAILS AND/OR SIMILAR ITEMS MUST BE PROVIDED BY OTHERS ON SITE FOR COMPLIANCE WITH APPLICABLE CODES. COMPLIANCE WITH ALL APPLICABLE CODES PER LOCAL AUTHORITY HAVING JURISDICTION, WHETHER DETAILED IN THIS SET OR NOT, MUST BE MET.



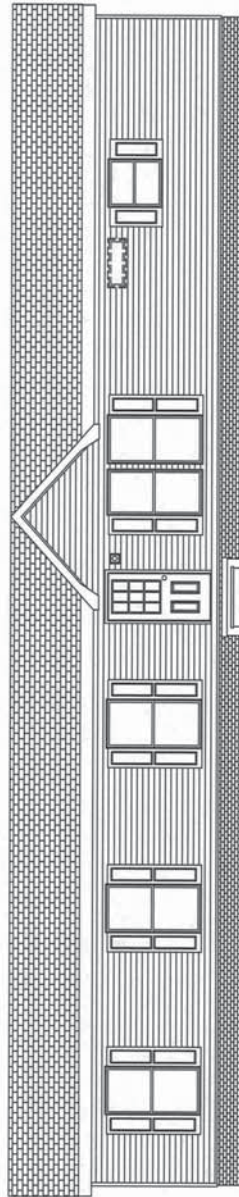
REAR ELEVATION



LEFT ELEVATION



RIGHT ELEVATION



FRONT ELEVATION



2/22/2021

NOTES

1. ALL ITEMS ARE COMPLETED IN THE MANUFACTURING FACILITY UNLESS NOTED OTHERWISE.
2. SIDING FOR ENDS IS SHIPPED LOOSE FOR ON SITE INSTALLATION BY OTHERS.
3. HANDRAILS, STOOPS, STAIRS, GUTTERS, DOWNSPOUTS, AND PATIO DOORS ARE TO BE PROVIDED BY OTHERS. BY OTHERS IN ACCORDANCE WITH STATE AND LOCAL CODES.
4. ALL ELEVATIONS ARE SHOWN WITH 2.16 TO 7/12 ROOF PITCH.
5. WINDOWS ARE SIZED PER WINDOW SCHEDULE AND VARY FROM FLOORPLAN TO FLOORPLAN.
6. ALL FLOORING AND WASTE VENTS SHALL BE COMPLETED ON SITE BY OTHERS.
7. ALL PERSON AND WASTE VENTS SHALL TERMINATE A MINIMUM OF 12" ABOVE THE ROOF LINE.
8. PATIO DOORS ARE AVAILABLE PER FLOOR PLAN.
9. SIDING SHOWN IS 4". OTHER SIZES ARE AVAILABLE.

10. SHUTTERS ARE STANDARD ON THE FRONT AND RIGHT SIDE OF THE HOME, AND MAY BE OPTIONED FOR THE REAR AND LEFT SIDE.
11. TERMINUS ROOFING OF METAL CHIMNEYS SHALL BE A MIN. 3'-0" ABOVE THE HIGHEST POINT WHERE THEY PASS THRU THE ROOF AND A MINIMUM OF 2'-0" HIGHER THAN ANY PORTION OF A BUILDING WITHIN 10'-0". THE CHIMNEY IS TO BE SITE INSTALLED.
12. ATTIC ROOF SPACE VENTILATION SHALL BE 1/300 OF ROOF AREA WITH UPPER HALF PROVIDING MIN. 50%-MAX 80% OF THE VENTILATION.
13. ROOF COVERING (SHINGLES) SHALL MEET THE REQUIREMENTS OF ASTM D 3161.

14. Crawlspace Access min. 18" x 24" location may vary.
 15. Minimum crawlspace ventilation required must be 1/150 of crawlspace and within 3' of each corner and must meet all local code requirements. Access min. 18" x 24".
 - * ITEMS INSTALLED ON SITE BY OTHERS
- For future garage siding to be removed and the garage shall be completely separated from the adjacent interior spaces and attic by means of 5/8" gypsum board or equiv. applied to the garage by owner.
- * A 1/2" x 3/4" x 1/2" plywood sheetrock shall be used between garage and residence. The attic for these doors shall be raised not more than 4" above the garage door.

RANCH STRUCTURAL SYSTEM
Deer Valley Homebuilders



DEER VALLEY HOMEBUILDERS, INC.
275-668-8400
P.O. Box 1000
Glen, Alabama 35863

REVISIONS		
DATE	02/09/21	NTS
BY	J. TRIPLETT	
FOR	EXTERIOR ELEVATIONS	
PROJECT	SVM-9407	
DATE	MFT10186-SVM-9407	A.05

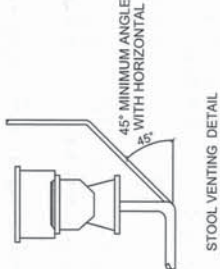
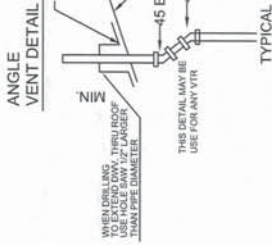
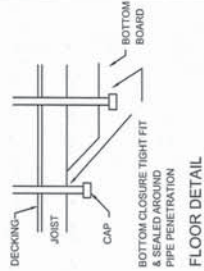
2018 IRC	TRAP ARM LENGTH PER 1/4" SLOPE
1-1/4"	5'-0"
1-1/2"	6'-0"
2"	8'-0"
3"	12'-0"
4"	16'-0"

NOTES:

- (A) = INLET WITH CAP & CHAIN.
 (B) = 3/4 RELIEF DRAIN THRU FLOOR.
 ALL WATER LINES 1/2" UNLESS OTHERWISE SHOWN.

PIPING SUPPORT	
HOT & COLD FLEXIBLE	MAX. SPACING
3/4" & 1"	2'-5"

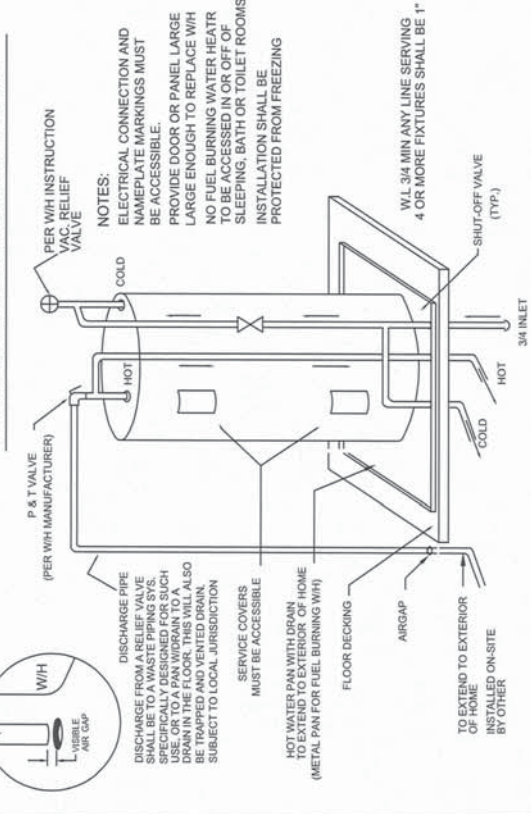
* WATER DISTRIBUTION PIPE PEX WATER LINES AND FITTINGS (OPT. COPPER WATER LINES TYPE M)



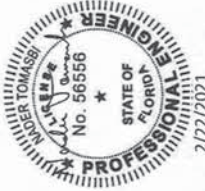
< SPECIFY IF NOTE APPLIES TO MANUFACTURER

- 1) MAXIMUM FLOW RATE TO BE 2.2 GPM FOR FAUCETS @60 PSI AND 2.5 GPM FOR SHOWERS @ 80 PSI.
- 2) DRAINAGE AND VENT LINES PVC SHALL MEET ASTM D2665-88a REQUIREMENTS.
- 3) WATER DISTRIBUTION SYSTEM PIPING MAY BE POLYBUTYLENE, CPVC, COPPER, GALV. STEEL OR PEX.
- 4) DRAIN SLOPE TO BE 1/4" MIN/FT ON HOSE BIRDS, AND FROST FREE SLOPES.
- 5) DRAINAGE SHALL BE 1/2" MIN/FT ON HOSE BIRDS, AND FROST FREE SLOPES.
- 6) DRAINAGE SHALL BE 1/2" MIN/FT ON HOSE BIRDS, AND FROST FREE SLOPES.
- 7) AN ADEQUATELY RATED PRESSURE AND TEMPERATURE RELIEF VALVE SHALL BE PROVIDED FOR WATER HEATER.
- 8) ALL VENT STACKS LESS THAN 1" I.D. WHICH PASS THROUGH ROOF SHALL INCREASE TO 1" I.D. AT A POINT 12" MIN. BELOW ROOF LINE AND EXTEND TO A POINT 12" MIN. ABOVE ROOF LINE. 3" I.D. CONTINUOUS STACKS SHALL TERMINATE 12" MIN. ABOVE ROOF LINE IN FROST PRONE AREAS.
- 9) TUBS MAY NOT BE WET VENTED DOWNSTREAM OF WATER CLOSET.
- 10) HEIGHT OF WATERPROOFING IN TUB AND SHOWER SPACE 6-0 MIN. ABOVE FLOOR.
- 11) PLASTIC PIPE SHALL BE SUPPORTED EVERY 4-0 HORIZONTALLY AND VERTICALLY
- 12) BATH TUBS AND SHOWERS ARE LISTED BY AN APPROVED AGENCY
- 13) MODELS WITH BASEMENTS MAY LOCATE WASHER IN BASEMENT TO BE CONNECTED ON SITE BY OTHERS.
- 14) HORIZONTAL TO VERTICAL CONNECTION TO BE WITH SANITARY TEES
- 15) HORIZONTAL TO HORIZONTAL AND VERTICAL TO HORIZONTAL CONNECTIONS TO BE MADE WITH LONG JOINTS AND WIRE FITTINGS.
- 16) PRESSURE RELIEF VALVE SHALL PIPE TO A VISIBLE AIR GAP AT FLOOR IN THE SAME SPACE AS WATER HEATER. WHEN WATER HEATER IS ON FIRST OR SECOND FLOOR A PAN SHALL BE PROVIDED & ITS DRAIN SHALL PIPE BELOW FIRST FLOOR.
- 17) DRAIN SHALL PIPE & DISCHARGE INDIRECTLY TO A HAZARD FREE POINT.
- 18) MAX. DISTANCE OF FUTURE TRAP TO VENT 1 1/2 IS 3-4, 2" IS 5-0, 3" IS 6-0
- 19) AIR ADMITTANCE VALVES ARE PERMITTED WHEN INSTALLED ACCORDING TO THEIR LISTING.
- 20) LA, KY, IL, DOES NOT ALLOW AIR ADMITTANCE
- 21) ALL HORIZONTAL VENT BRANCH PIPING SHALL BE LOCATED A MINIMUM OF SIX (6) INCHES ABOVE THE FLOOR LEVEL OF THE HIGHEST FIXTURE SERVED IN THAT BRANCH.
- 22) FIXTURES HAVING CONCEALED CONNECTIONS SHALL BE ARRANGED TO MAKE THE CONNECTIONS ACCESSIBLE FOR INSPECTION AND REPAIR.
- 23) ALL PLUMBING SHALL BE TESTED IN PLANT AND NO PLUMBING SHALL BE COVERED OR CONCEALED BEFORE BEING TESTED.
- 24) WATER CLOSET SHALL BE 1.5 GALLONS PER FLUSH (MAXIMUM)
- 25) PLASTIC PIPING SHALL BE PROTECTED WITH A STEEL PLATE (1/8 GA. MIN.) WHEN PIPE PASSES THROUGH WOOD MEMBERS LESS THAN 1-1/4 INCH FROM THE EDGE OF MEMBERS.
- 26) ANTI-SCALD DEVICES REQUIRED ON ALL TURBOWASHER DIVERS.
- 27) DELTA 18000 (TYP. ASME A112.18.1M, ASSE 1016)
- 28) PENETRATES AND BE SUITABLE TO PIPE THROUGH WITH MATERIALS EQUIVALENT TO CONSTRUCTION WHICH IT PENETRATES AND BE SUITABLE TO PIPE THROUGH WITH MATERIALS EQUIVALENT TO CONSTRUCTION WHICH IT PENETRATES.
- 29) CONCEALED PIPING IN UNHEATED AREAS INCLUDING OUTSIDE WALLS SHALL BE PROTECTED AGAINST FREEZING IN PLANT.
- 30) IN-PLANT FUTURE DRAINS AND ALL OPEN PIPE SHALL BE PROTECTED (CAPPED) AND LABELED FOR TRANSPORT
- 31) HOLES NOTCHES SHALL NOT EXCEED 1/8 OF JOIST DEPTH AND SHALL NOT OCCUR IN MIDDLE 1/3 OF SPAN
- 32) HOLES SHALL NOT EXCEED 1/3 DEPTH OF JOIST AND MUST OCCUR 2" FROM EITHER EDGE
- 33) SHUT OFF VALVES ON ALL FIXTURES (OPTIONAL)
- 34) ALL PLUMBING IS TYPICALLY INSTALLED FOR EACH MODULE AT THE TIME OF MANUFACTURE. CERTAIN CIRCUMSTANCES MAY NECESSITATE SOME FIXTURE DRAINS TO BE STUBBED THROUGH FLOOR IN WHICH CASE HOOD-UP AND MATERIALS ARE PROVIDED ON SITE BY OTHERS. FLOOR SYSTEMS WHICH DO NOT ALLOW FOR PLANT INSTALLED PLUMBING, ARE MANUFACTURED WITH ALL PLUMBING RISERS STUBBED THROUGH FLOOR IN WHICH CASE ALL MATERIALS FOR COMPLETION AND INSTALLATION ARE PROVIDED ON SITE.
- 35) WATER HEATER THROUGH PLUMBING IS AVAILABLE ON ALL FLOOR SYSTEMS.
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- 100) WATER HEATER THROUGH PLUMBING IS AVAILABLE ON ALL FLOOR SYSTEMS.

TYPICAL WATER HEATER DETAIL



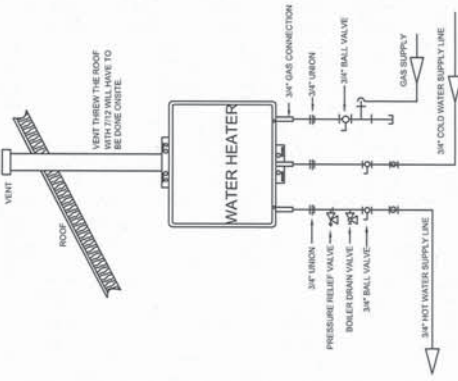
SHOWN FOR MAIN OR FIRST OR SECOND FLOOR APPLICATION
 WATER LINE BASED ON PRESSURE RANGE 50 TO 60PSI



RANCH STRUCTURAL SYSTEM
 Deer Valley Homebuilders

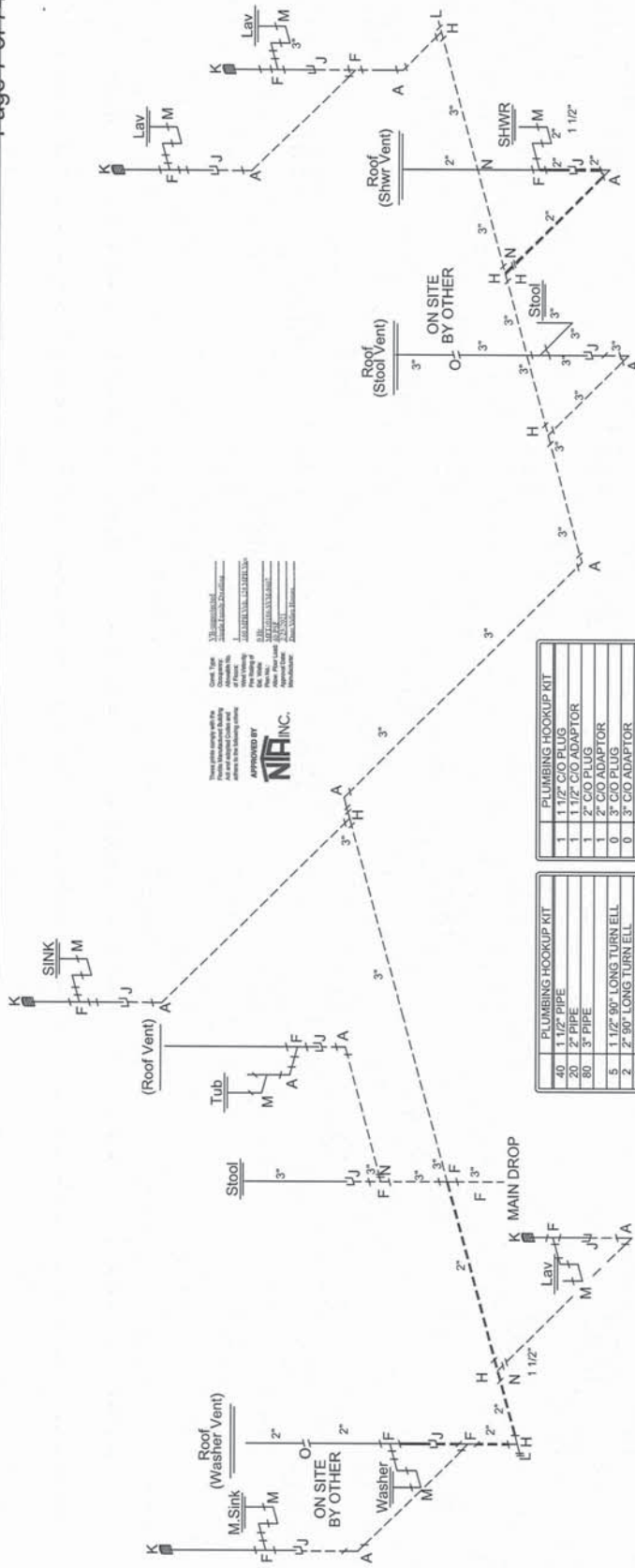


These plans comply with the applicable codes and standards and are subject to change without notice. The user assumes all responsibility for the accuracy of the information provided. APPROVED BY: NIA INC. OPT. GAS TANKLESS WATER HEATER



REVISIONS

TYPICAL PLUMBING LAYOUT	
NTS	A.6
MFT10186-SVM-9407	



PLUMBING HOOKUP KIT	
1	1 1/2" C/O PLUG
1	1 1/2" C/O ADAPTER
2	2" C/O PLUG
1	2" C/O ADAPTER OR
0	3" C/O PLUG
0	3" C/O ADAPTER
1	2 x 1 1/2 REDUCER
0	3 x 1 1/2 REDUCER
0	1 1/2" COUPLING
2	2" COUPLING
2	3" COUPLING
0	1 1/2" ROOF VENT
2	2" ROOF VENT
0	3" ROOF VENT
0	BROD TAB

PLUMBING HOOKUP KIT	
40	1/2" PIPE
50	2" LONG TURN ELL
60	3" PIPE
5	1 1/2" 90° LONG TURN ELL
2	2" 90° LONG TURN ELL
3	3" 90° LONG TURN ELL
1	1 1/2" SANITARY TEE
1	2" SANITARY TEE
1	3" SANITARY TEE
1	2 x 1 x 1/2 SANITARY TEE
1	3 x 3 x 2 SANITARY TEE
0	1 1/2" LONG TURN TY
1	2" LONG TURN TY
1	3" LONG TURN TY
2	3 x 3 x 2 LONG TURN TY
1	3" LONG TURN TY

NOTES:

- 1) FITTING SIZES CORRESPOND TO ADJACENT PIPE SIZES.
- 2) DARK (THICK) LINES REPRESENT 2" PIPE, ALL OTHER TO 1 1/2" PIPE UNLESS OTHERWISE NOTED.
- 3) P-TRAP DIRECTION IS ALWAYS TO THE RIGHT.
- 4) DOTTED LINES REPRESENT SITE INSTALLED PUMPING
- 5) KENTUCKY METAL WATER LINE FITTINGS REQ. @ CONCEALED FAUCETS
- 6) ILLINOIS WATER LINES TO BE WRAPPED WIR-3 INSULATION

NOTES:
1) DOTTED LINES REPRESENT SITE INSTALLED PLUMBING.
2) ALL FITTINGS AND PIPE NECESSARY FOR PROPER CONNECTION OF THE DWV SYSTEM ARE INCLUDED IN THIS KIT. ANY VARIATION FROM THIS DESIGN RESULTING IN A SHORTAGE OF MATERIAL SHALL BE THE INSTALLER'S RESPONSIBILITY.

DWV FITTING LEGEND

90° LONG TURN ELL	A	B	45° ST. ELL
DOUBLE ELL	C	D	90° CLOSET ST. ELL
90° LONG TURN ST. ELL	E	F	90° SANITARY TEE
DOUBLE SANITARY TEE	G	H	LONG TURN TY
45° Y	I	J	CAP & CHAIN
MECHANICAL VENT	K	L	CLEAN OUT PLUG
P-TRAP	M	N	REDUCER BUSHING
COUPLING	O	P	

REVISIONS

[illegible]

RANCH STRUCTURAL SYSTEM
Deer Valley Homebuilders

DEER VALLEY HOMEBUILDERS, INC.
205-468-8400
P.O. Box 310 / 205 Cabbage St.
Guthrie, Alabama 35563

MFT10186-SVM-9407	A.6.1
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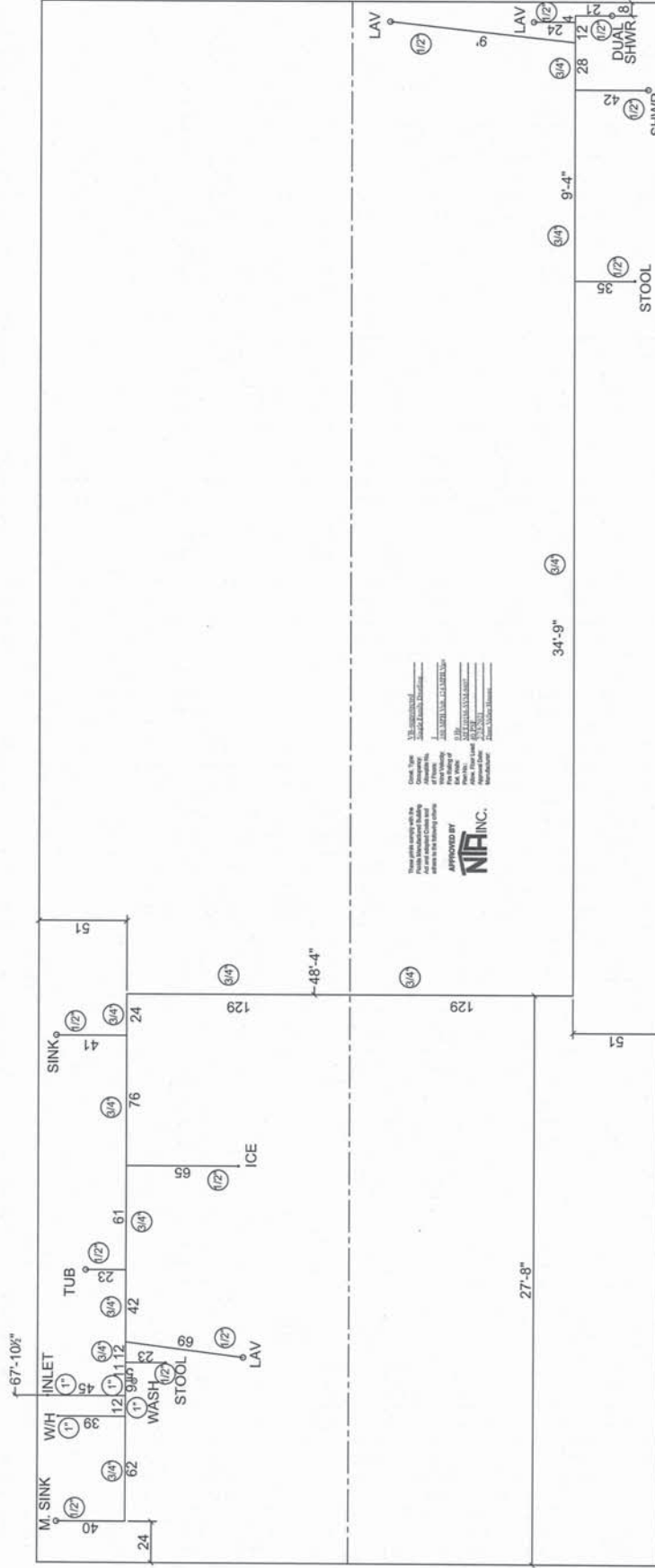
19	J. TRIPIETT	DATE	NTS
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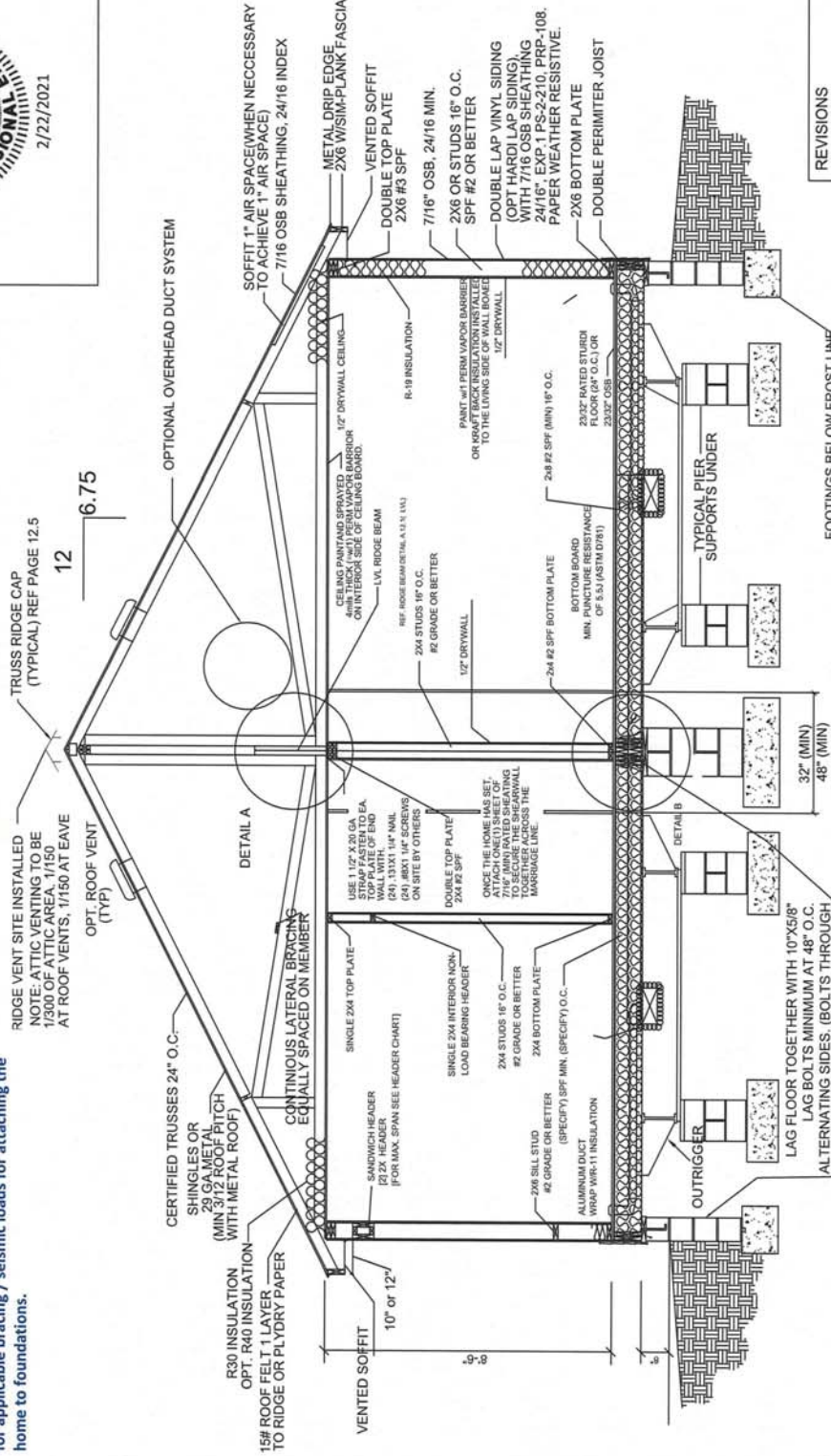
02/09/21

DRAIN LINE PLUMBING LAYOUT

SVM-9407

MFT10186-SVM-9407





USE: ONE(1) 3/8" X 3-1/2" LAG SCREW AT 24" O/C
(180 WIDE 26" O/C - MAX E) (156 WIDE 28" O/C-MAX)
TO CONNECT THE RIDGE BEAMS FOR EACH HALF
OF THE HOME TOGETHER ALONG THE
MARRIAGE LINE OF THE ROOF SYSTEM.

USE: ONE(1) 3/8" X 7'-0" LAG SCREW AT 18" O/C
(180 WIDE 20" O/C - MAX) (156 WIDE 22" O/C - MAX)
TO CONNECT THE PERIMETER JOIST FOR EACH
HALF OF THE HOME TOGETHER ALONG THE
MARRIAGE LINE OF THE FLOOR SYSTEM

FOUNDATION FOR THIS HOME MUST BE DESIGNED BY OTHERS TO THE SITE CONDITIONS PER APPLICABLE CODES. THIS INCLUDES ATTACHING HOME TO THE FOUNDATION, ALONG WITH THE RESISTANCE TO LATERAL, LONGITUDINAL, SHEAR, UPLIFT AND DOWNWARD WIND FORCES IN BOTH DIRECTIONS AND THE SEISMIC DESIGN. REFER TO BRACING PAGE FOR APPLICABLE DESIGN LOADS.

SVM-9407	A.9.1
MFT10186-SVM-9407	

These great people with the
Protein Incorporated Building
And are original Caden and
others in the following relation:

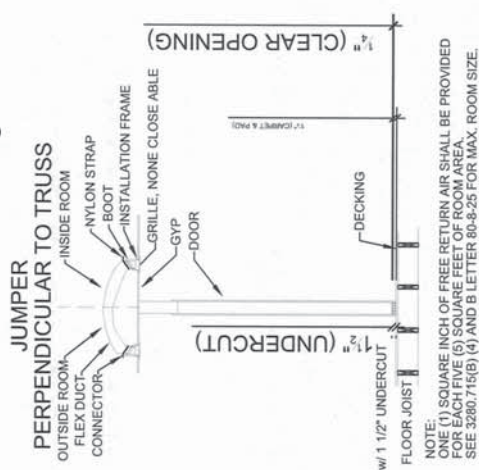
APPROVED BY

NIA INC.

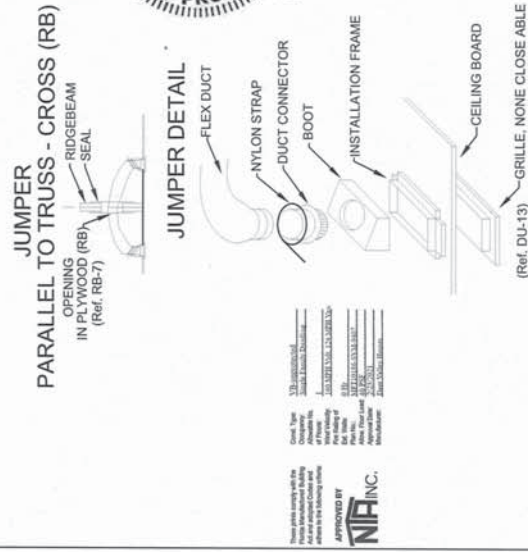
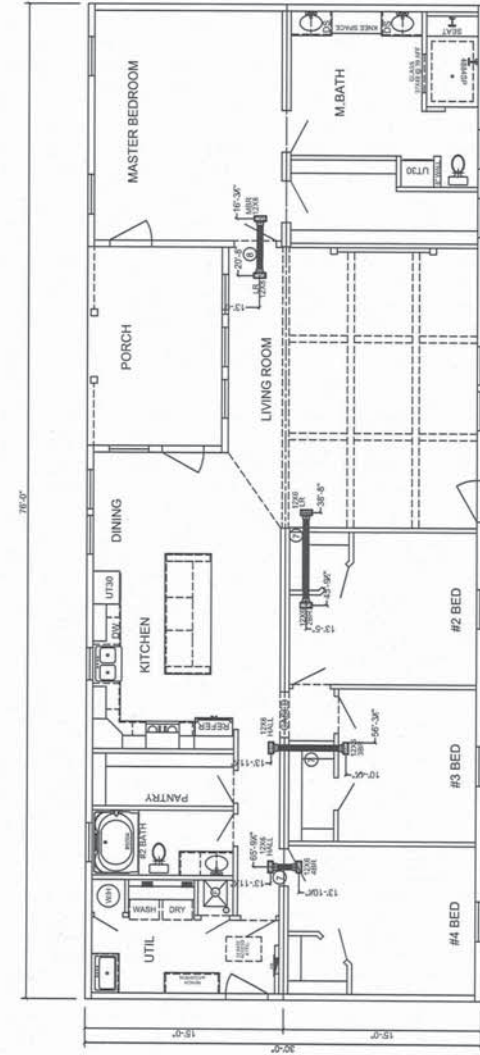
Cons. Type _____
Occupancy _____
Admission No. _____
of Floor _____
valued Vehicle _____
Per Rating of _____
Est. Value _____
Plan No. _____
Allow Floor Load _____
Approx. Date _____
Manufacturer _____

ALL INFORMATION
Furnished Hereby, Declared
to be True and Correct
and Not to be
Used for
Any Other
Purpose
Date: 10/1/2011 By: _____

NIA INC.



FREE RETURN AIR									
DOOR SIZE		2 1/2" UNDER CUT		DUCT SIZE	FLEX DUCT		GRILLE		GRILLE SIZE
		1 1/4" (CLEAR OPENING)			MAX. SQ. IN. RETURN	MAX. SF ROOM SF	MAX. SQ. IN. RETURN	MAX. SF ROOM SF	
		1 1/4" (CLEAR OPENING)	MAX. SQ. IN. RETURN	MAX. SF ROOM SF	MAX. SQ. IN. RETURN	MAX. SF ROOM SF	DOOR / WALL / CEILING MAX. SQ. IN. RETURN	MAX. SF ROOM SF	
24" (23 1/4")	29.06	145 SF	24 X 4	6"	19.6	98.1 SF	24 X 4	63.36	316.8 SF
28" (27 1/4")	34.06	170 SF	6"	38.46	192.3 SF	24 X 4	63.36	316.8 SF	316.8 SF
30" (29 1/4")	36.56	183 SF	6"	50.24	251.2 SF	10" X 6	40.32	201.6 SF	201.6 SF
32" (31 1/4")	39.06	195 SF	10"	60.24	300.5 SF	12 X 6	47.52	237.6 SF	237.6 SF
36" (35 1/4")	44.06	220 SF	12"	113.04	565.2 SF	12 X 6	47.52	237.6 SF	237.6 SF
48" (47 1/4")	59.06	295 SF	14"	153.86	769.3 SF	14 X 20	164.16	820.8 SF	820.8 SF
					CFM				
					5" = 70 CFM	10" = 420 CFM			
					6" = 110 CFM	12" = 720 CFM			
					7" = 170 CFM	14" = 1000 CFM			
					8" = 240 CFM	16" = 1280 CFM			
					REGISTER SIZE				
					5" = 844				
					6" = 1066				
					7" = 1266				
					8" = 12x-8				



REVISIONS

LEGEND:

	MODER
	SHAW MIXER BOX (16 X 20 X 17)
	SPULCE COLLAR SAME SIZE AS FLEX DUCT
	MIXER BOX (10 X 10 X 8 X 11) OR OTHERWISE NOTED
	FLEX DUCT (SIZE NOTED)
	UPFLOW AIR REGISTER GRILLE (SIZE NOTED)

RANCH STRUCTURAL SYSTEM
DESIGNED BY J. TRIPLETT

02/09/21

HVAC FREE RETURN AIR

SVM-9407

MFT10186-SVM-9407

A132

One story loading

Roof GSL	20 PSF	Non-Storage
Truss Reaction	Side	Mate
Gravity	703 lbs	668 lbs
Uplift	-719 lbs	-1087 lbs
20' ht adjutment	-647.1 lbs	-978.3
Dead	234 lbs	286 lbs
Snow	312 lbs	297 lbs
Live	0 lbs	382 lbs
Wind	-647 lbs	-978 lbs
Roof Dead Load =	15 psf	
Roof Live Load =	30 PSF	
Floor Dead Load =	10 psf	
Floor Live Load =	40 psf	
Width of Box =	15.000 ft	
Overhang Length =	12 in	
Wall Dead Load =	40 plf	
BC Live Load =	20 psf	

Deer Valley HB SVM-9407 FL

NT

ASCE 7-16

Adjustment for 16" o/c trusses N

Truss sp = 16" o/c

V ult = 160 mph

Nominal wind (Vasd) = 124 mph

Exposure = C

Mean Roof Height = 20 ft

Roof Slope = 2.13 /

Wall height = 9 f

Wind Load (int) = -65.70 psf

Wind Load (ext) = -65.70 psf

Wind Load (OH) = -113.94 psf



Load Supporting Roof Only

	Sidewall	Matewall	Sidewall	Matewall	C _d
Dead Load	176 plf	215 plf			
Live Load	234 plf	223 plf			
BC Live Load	0 plf	286 plf			
Wind Load	-485 plf	-734 plf			
Ext Wind Load	-485 plf	-734 plf			
Dead + Roof Live	410 plf	437 plf	357 plf	380 plf	1.15
Dead + BCLL	176 plf	501 plf	153 plf	436 plf	1.15
Wind	-485 plf	-734 plf	-303 plf	-459 plf	1.6

Duration Factored Loads

Load Supporting Floor Only

	Sidewall	Matewall	Sidewall	Matewall	
Dead Load	75 plf	75 plf			
Live Load	300 plf	300 plf			
Dead + Live	375 plf	375 plf	375 plf	375 plf	1

Load Supporting Roof and One Floor

	Sidewall	Matewall	Sidewall	Matewall	
Dead Load	291 plf	330 plf			
Dead + Roof Live	525 plf	552 plf	457 plf	480 plf	1.15
Dead + Floor Live	591 plf	630 plf	591 plf	630 plf	1
Dead + .75(RL+FL)	692 plf	936 plf	601 plf	814 plf	1.15
.6Dead + Wind	-311 plf	-536 plf	-194 plf	-335 plf	1.6
Ext .6Dead + Wind	-311 plf	-536 plf	-194 plf	-335 plf	1.6

These prints comply with the
Florida Manufactured Building
Act and attached Codes and
address to the following effects:

APPROVED BY
NIA INC.

Cond. Type: Single Family Dwelling
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH (V_{ult} 174 MPH V_{asd})
Fret Rating of S.C. Walls: 0 H
Plan No.: MF121166-SVM-0407
Allow. Floor Load: 20 PSF
Approved Date: 2/22/2021
Manufacturer: Deer Valley Homes



COMPANY

PROJECT

Jan. 18, 2021 17:38

Floor calc 15ft max perimeter blocking.wwb

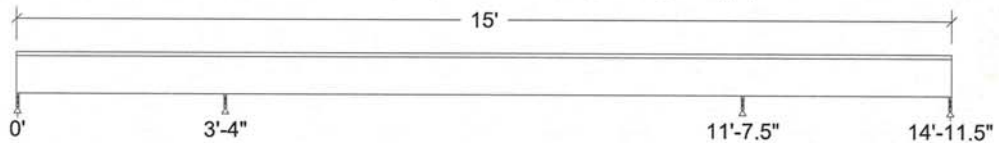
Design Check Calculation Sheet

WoodWorks Sizer 11.1

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Floor DL	Dead	Full Area	No		12.00 (16.0")	psf
Floor LL	Dead	Full Area	No		40.00 (16.0")	psf
Self-weight	Dead	Full UDL	No		2.8	plf

Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :



Unfactored:							
Dead	18		524		524		18
Factored:							
Total	18		524		524		18
Bearing:							
Capacity							
Joist	424		742		742		424
Support	586		586		586		586
Des ratio							
Joist	0.04		0.71		0.71		0.04
Support	0.03		0.89		0.89		0.03
Load comb	#1		#1		#1		#1
Length	0.50*		0.50*		0.50*		0.50*
Min req'd	0.50*		0.45**		0.45**		0.50*
Cb	1.00		1.75		1.75		1.00
Cb min	1.00		1.75		1.75		1.00
Cb support	1.25		1.25		1.25		1.25
Fcp sup	625		625		625		625



*Minimum bearing length setting used: 1/2" for end supports and 1/2" for interior supports

**Minimum bearing length governed by the required width of the supporting member.

Lumber-soft, S. Pine, No.2, 2x8 (1-1/2"x7-1/4")

Supports: All - Timber-soft Beam, D.Fir-L No 2

Floor joist spaced at 16.0" c/c; Total length: 15'; Clear span: 3'-3.5", 8'-3.0", 3'-3.5"; volume = 1.1 cu.ft.

Lateral support: top= full, bottom= at all supports; Repetitive factor: applied where permitted (refer to online help);

Analysis vs. Allowable Stress and Deflection using NDS 2015 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	$f_v = 35$	$F_v' = 157$	psi	$f_v/F_v' = 0.22$
Bending(+)	$f_b = 249$	$F_b' = 1242$	psi	$f_b/F_b' = 0.20$
Bending(-)	$f_b = 317$	$F_b' = 985$	psi	$f_b/F_b' = 0.32$
Live Defl'n	negligible			
Total Defl'n	$0.05 = < L/999$	$0.41 = L/240$	in	0.12

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VB-unprotected
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH Vsb, 174 MPH Vsb
Fire Rating of Ext. Walls: 0 Hr
Plan No.: MFT1016-SVM-0007
Allow. Floor Load: 30 PSF
Approved Date: 2-15-2021
Manufacturer: Don Valley Homes

Additional Data:

FACTORS:	F/E (psi)	CD	CM	Ct	CL	CF	Cfu	Cr	Cfrt	Ci	Cn	LC#
Fv'	175	0.90	1.00	1.00	-	-	-	-	1.00	1.00	1.00	1
Fb'+	975	0.90	1.00	1.00	1.000	1.231	1.00	1.15	1.00	1.00	-	1
Fb'-	975	0.90	1.00	1.00	0.793	1.231	1.00	1.15	1.00	1.00	-	1
Fcp'	565	-	1.00	1.00	-	-	-	-	1.00	1.00	-	-
E'	1.6 million	-	1.00	1.00	-	-	-	-	1.00	1.00	-	1
Emin'	0.58 million	-	1.00	1.00	-	-	-	-	1.00	1.00	-	1

CRITICAL LOAD COMBINATIONS:

Shear : LC #1 = D only, V max = 299, V design = 254 lbs

Bending(+): LC #1 = D only, M = 273 lbs-ft

Bending(-): LC #1 = D only, M = 347 lbs-ft

Deflection: LC #1 = D only (total)

D=dead L=live S=snow W=wind I=impact Lr=roof live Lc=concentrated E=earthquake

All LC's are listed in the Analysis output

Load combinations: ASCE 7-10 / IBC 2015

CALCULATIONS:

Deflection: EI = 76.2e06 lb-in²

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

Total Deflection = 1.50 (Dead Load Deflection) + Live Load Deflection.

Lateral stability(-): Lu = 8'-3.50" Le = 15'-3.94" RB = 24.3; Lu based on full span

Design Notes:

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2015), the National Design Specification (NDS 2015), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Continuous or Cantilevered Beams: NDS Clause 4.2.5.5 requires that normal grading provisions be extended to the middle 2/3 of 2 span beams and to the full length of cantilevers and other spans.
4. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

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NIA INC.

Const. Type: VH-unprotected
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH Vel. 174 MPH Vel.
File Rating of Bld. Walls: 0 Hr
Plan No.: NFT 1116-SSM-9807
Allow. Floor Load: 60 PSF
Approval Date: 2/22/2021
Manufacturer: Deer Valley Homes



Dimensional Lumber Header SpansLoad Supporting Roof and One Floor
Matewall**Final Table**

Roof Dead Load =	15 psf	Wind Speed =	124 mph	NT
Roof Live Load =	30 psf	Exposure =	C	Deer Valley HB SVM-9407 FL
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft	
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf	
Width of Box =	15 ft	Wind Load (ext) =	-65.70 psf	
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf	
Wall Dead Load =	40 plf			

$$M = (49/512) w L^2$$

$$Def. = 0.0092 WL^4$$

for shear and moment

T Load =	936 plf	Δ TL	240	C _d =	1.15
L Load =	607 plf	Δ LL	360		

Max Spans

Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	920	201	19679	1862	44	48	93	94	3 ft - 8 in
2	920	201	29519	2792	62	72	106	107	5 ft - 2 in
3	1058	201	45263	3723	77	95	117	118	6 ft - 5 in
4									
5									
6									
7									
8									
9									
10									

for defl

T Load =	936 plf	Δ TL	240	C _d =	1.15
L Load =	607 plf	Δ LL	360		

Max Spans

Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	920	201	19679	1862	51	48	93	94	3 ft - 11 in
2	920	201	29519	2792	62	72	106	107	5 ft - 2 in
3	920	201	39359	3723	72	95	117	118	6 ft - 0 in
4									
5									
6									
7									
8									
9									
10									

for wind

W Load =	536 plf	Δ TL	180	C _d =	1.6	Wind Load Used = Interior
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Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1280	280	27380	2590	70	116	110	110	5 ft - 10 in
2	1280	280	41070	3885	85	174	126	126	7 ft - 1 in
3	1280	280	54760	5180	99	232	138	138	8 ft - 3 in
4									
5									
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	I _x in ⁴	S _x in ³	C _r	C _t x C _{II}	Max Span
1	1	SYP	1.5	9.25	800	175	1400000	98.93	21.39	1	1	3 ft - 8 in
2	1.5	SYP	1.5	9.25	800	175	1400000	148.40	32.09	1	1	5 ft - 2 in
3	2	SYP	1.5	9.25	800	175	1400000	197.86	42.78	1	1	6 ft - 0 in
4												
5												
6												
7												
8												
9												
10												



Laminated Veneer Lumber SpansLoad Supporting Roof and One Floor
Materwall**Final Table**

Roof Dead Load = 15 psf
 Roof GSL = 30 psf
 Floor Dead Load = 10 psf
 Floor Live Load = 40 psf
 Width of Box = 15,000 ft
 Overhang Length = 12 in
 Wall Dead Load = 40 plf
 Wind Load: Interior Zone

Wind Speed = 124 mph
 Exposure = C
 Mean Roof Height = 20 ft
 Wind Load (int) = -65.70 psf
 Wind Load (ext) = -65.70 psf
 Wind Load (OH) = -113.94 psf

NT
 Deer Valley HB SVM-9407 FL



for shear and moment

T Load = 936 psf
 L Load = 607 psf
 ΔTL 240
 ΔLL 360
 $C_d = 1.15$

Member	F_u' psi	F_v' psi	M in*lb	V lb	Moment in	Shear in	ΔTL in	ΔLL in	Max Span
1	3098	305	66263	2819	82	72	93	94	6 ft - 0 in
2	3098	305	132525	5638	116	144	118	119	9 ft - 8 in
3	3098	305	198788	8457	142	217	135	136	11 ft - 2 in
4									
5									
6									
7									
8									
9									
10									

for deflection

T Load = 936 psf
 L Load = 607 psf
 ΔTL 240
 ΔLL 360
 $C_d = 1.15$

Member	F_u' psi	F_v' psi	M in*lb	V lb	Moment in	Shear in	ΔTL in	ΔLL in	Max Span
1	3098	305	66263	2819	82	72	93	94	6 ft - 0 in
2	3098	305	132525	5638	116	144	118	119	9 ft - 8 in
3	3098	305	198788	8457	142	217	135	136	11 ft - 2 in
4									
5									
6									
7									
8									
9									
10									

for wind

W Load = 536 psf
 ΔTL 180
 $C_d = 1.6$

Member	F_u' psi	F_v' psi	M in*lb	V lb	Moment in	Shear in	ΔTL in	ΔLL in	Max Span
1	4310	424	92191	3922	128	176	124	124	10 ft - 3 in
2	4310	424	184383	7844	181	351	156	156	12 ft - 11 in
3	4310	424	276574	11766	222	527	178	178	14 ft - 10 in
4									
5									
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Manufacturer	Width in	Depth in	F_b psi	F_v psi	E psi	Coef	I_x in ⁴	S_x in ³	C_l
1	1	Microlam	1.5	9.25	2600	265	2000000	0.136	98.93	21.39	1
2	2	Microlam	1.5	9.25	2600	265	2000000	0.136	197.86	42.78	1
3	3	Microlam	1.5	9.25	2600	265	2000000	0.136	296.79	64.17	1.15
4											
5											
6											
7											
8											
9											
10											

Max Span
6 ft - 0 in
9 ft - 8 in
11 ft - 2 in

Dimensional Lumber Header Spans

Load Supporting Floor Only
Matewall

Final Table

Roof Dead Load =	15 psf	Wind Speed =	124 mph	NT
Roof Live Load =	30 psf	Exposure =	C	Deer Valley HB SVM-9407 FL
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft	
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf	
Width of Box =	15 ft	Wind Load (ext) =	-65.70 psf	
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf	
Wall Dead Load =	40 plf			

$$M = (49/512) W L^2$$

$$Def. = 0.0092 W L^4$$

for shear and moment

T Load =	375 plf	Δ TL	240	C _d =	1
L Load =	300 plf	Δ LL	360		

Max Spans

Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	800	175	12834	1214	66	78	115	108	5 ft - 6 in
2	800	175	25669	2428	92	155	144	136	7 ft - 8 in
3	920	175	39359	3238	114	207	159	150	9 ft - 6 in
4									
5									
6									
7									
8									
9									
10									

for defl

T Load =	375 plf	Δ TL	240	C _d =	1
L Load =	300 plf	Δ LL	360		

Max Spans

Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	800	175	12834	1214	66	78	115	108	5 ft - 6 in
2	800	175	25669	2428	92	155	144	136	7 ft - 8 in
3	800	175	34225	3238	106	207	159	150	8 ft - 10 in
4									
5									
6									
7									
8									
9									
10									

for wind

W Load =	1 plf	Δ TL	180	C _d =	1.6	Wind Load Used = Interior
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Member	F _b ' psi	F _v ' psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1280	280	20535	1943	1404	46620	810	810	67 ft - 6 in
2	1280	280	41070	3885	1985	93240	1021	1021	85 ft - 0 in
3	1280	280	54760	5180	2292	124320	1124	1124	93 ft - 7 in
4									
5									
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	I _x in ⁴	S _x in ³	C _r	C _t x C _{fu}	Max Span
1	0.75	SYP	1.5	9.25	800	175	1400000	74.20	16.04	1	1	5 ft - 6 in
2	1.5	SYP	1.5	9.25	800	175	1400000	148.40	32.09	1	1	7 ft - 8 in
3	2	SYP	1.5	9.25	800	175	1400000	197.86	42.78	1	1	8 ft - 10 in
4												
5												
6												
7												
8												
9												
10												



Load Supporting Roof Only
Sidewall

Roof Dead Load =	15 psf	Wind Speed =	124 mph	Deer Valley Hb SVM-9407 FL
Roof Live Load =	30 psf	Exposure =	C	
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft	
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf	
Width of Box =	15 ft	Wind Load (ext) =	-65.70 psf	
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf	
Wall Dead Load =	40 plf			

T Load =	410 plf	Δ TL	180	$C_e =$	1.15
L Load =	234 plf	Δ LL	240		

$$M = (49/512)wL^2$$

$$\text{Def.} = 0.0092 WL^4$$
[illegible]

T Load =	410 plf	Δ TL	180	$C_d =$	1.15
L Load =	234 plf	Δ LL	240		

[illegible]

W Load = 485 plf ΔTL 180 $C_d = 1.6$ Wind Load Used = Interior

[illegible][illegible][illegible]

Laminated Veneer Lumber SpansLoad Supporting Floor Only
Matewall**Final Table**

Roof Dead Load =	15 psf	Wind Speed =	124 mph
Roof GSL =	30 psf	Exposure =	C
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf
Width of Box =	15,000 ft	Wind Load (ext) =	-65.70 psf
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf
Wall Dead Load =	40 plf		
Wind Load:	Interior Zone		

NT
Deer Valley HB SVM-9407 FL

for shear and moment

T Load =	375 psf	Δ TL	240	C _d =	1.00
L Load =	300 psf	Δ LL	360		

Member	F _v psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	2694	265	57620	2451	121	157	127	119	9 ft - 11 in
2	2694	265	115239	4903	171	314	159	150	12 ft - 6 in
3	2694	265	172859	7354	210	471	182	172	14 ft - 3 in
4									
5									
6									
7									
8									
9									
10									

for deflection

T Load =	375 psf	Δ TL	240	C _d =	1
L Load =	300 psf	Δ LL	360		

Member	F _v psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	2694	265	57620	2451	121	157	127	119	9 ft - 11 in
2	2694	265	115239	4903	171	314	159	150	12 ft - 6 in
3	2694	265	172859	7354	210	471	182	172	14 ft - 3 in
4									
5									
6									
7									
8									
9									
10									

for wind

W Load =	1 psf	Δ TL	180	C _d =	1.6
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Member	F _v psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	4310	424	92191	3922	2974	94128	1004	1004	83 ft - 8 in
2	4310	424	184383	7844	4207	188256	1265	1265	105 ft - 5 in
3	4310	424	276574	11766	5152	282384	1449	1449	120 ft - 8 in
4									
5									
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t
1	1	Microllam	1.5	9.25	2600	265	2000000	0.136	98.93	21.39	1
2	2	Microllam	1.5	9.25	2600	265	2000000	0.136	197.86	42.78	1
3	3	Microllam	1.5	9.25	2600	265	2000000	0.136	296.79	64.17	1.15
4											
5											
6											
7											
8											
9											
10											

Max Span
9 ft - 11 in
12 ft - 6 in
14 ft - 3 in

Dimensional Lumber Header SpansLoad Supporting Roof Only
Sidewall**Final Table**

Roof Dead Load =	15 psf	Wind Speed =	124 mph	NT
Roof Live Load =	30 psf	Exposure =	C	Deer Valley HB SVM-9407 FL
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft	Truss load: 703 #
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf	Truss spacing: 16 " o/c
Width of Box =	15 ft	Wind Load (ext) =	-65.70 psf	Lumber species: SPF
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf	
Wall Dead Load =	40 plf			

for shear and moment

T Load =	410 plf	Δ TL	180	C _e =	1.25
L Load =	234 plf	Δ LL	240		

Max Spans

Member	F _b ' psi	F _v ' psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1641	169	5127	844	34	49	41	45	2 ft - 10 in
2	1641	169	10049	1181	48	69	57	63	4 ft - 0 in
3	1422	169	21506	1856	70	109	90	98	5 ft - 10 in
4	1313	169	34494	2447	89	143	119	130	7 ft - 5 in
5	1203	169	51471	3122	109	183	151	166	9 ft - 1 in
6									
7									
8									
9									
10									

for defl

T Load =	410 plf	Δ TL	180	C _e =	1.25
L Load =	234 plf	Δ LL	240		

Max Spans

Member	F _b ' psi	F _v ' psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1641	169	5127	844	34	49	41	45	2 ft - 10 in
2	1641	169	10049	1181	48	69	57	63	4 ft - 0 in
3	1422	169	21506	1856	70	109	90	98	5 ft - 10 in
4	1313	169	34494	2447	89	143	119	130	7 ft - 5 in
5	1203	169	51471	3122	109	183	151	166	9 ft - 1 in
6									
7									
8									
9									
10									

for wind

W Load =	485 plf	Δ TL	180	C _e =	1.6	Wind Load Used = Exterior
----------	---------	------	-----	------------------	-----	---------------------------

Member	F _b ' psi	F _v ' psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	2100	216	6563	1080	36	53	39	39	3 ft - 0 in
2	2100	216	12863	1512	50	75	54	54	4 ft - 2 in
3	1820	216	27528	2376	73	117	85	85	6 ft - 1 in
4	1680	216	44153	3132	93	155	112	112	7 ft - 9 in
5	1540	216	65883	3996	114	198	143	143	9 ft - 6 in
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	I _x in ⁴	S _x in ³	C _t	C _t x C _{fu}	Max Span
1	2	2	1.5	2.5	875	135	1400000	3.91	3.13	1	1.5	2 ft - 10 in
2	2	2	1.5	3.5	875	135	1400000	10.72	6.13	1	1.5	4 ft - 0 in
3	2	2	1.5	5.5	875	135	1400000	41.59	15.13	1	1.3	5 ft - 10 in
4	2	2	1.5	7.25	875	135	1400000	95.27	26.28	1	1.2	7 ft - 5 in
5	2	2	1.5	9.25	875	135	1400000	197.86	42.78	1	1.1	9 ft - 1 in
6												
7												
8												
9												
10												



Dimensional Lumber Header SpansLoad Supporting Roof Only
Sidewall**Final Table**

Roof Dead Load =	15 psf	Wind Speed =	124 mph	NT
Roof Live Load =	30 psf	Exposure =	C	Deer Valley HB SVM-9407 FL
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft	Truss load: 703 #
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf	Truss spacing: 16" o/c
Width of Box =	15 ft	Wind Load (ext) =	-65.70 psf	Lumber species: SYP
Overhang Length =	12 in	Wind Load (OH) =	-113.94 psf	
Wall Dead Load =	40 plf			

for shear and moment

T Load =	410 plf	Δ TL	240	C _e =	1.25
L Load =	234 plf	Δ LL	360		

Max Spans

Member	F _b psi	F _v psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1375	219	4297	1094	31	64	37	39	2 ft - 7 in
2	1375	219	8422	1531	44	90	52	55	3 ft - 8 in
3	1250	219	18906	2406	66	141	82	86	5 ft - 6 in
4	1156	219	30388	3172	84	186	108	113	7 ft - 0 in
5	1000	219	42781	4047	100	237	137	145	8 ft - 4 in
6									
7									
8									
9									
10									

for defl

T Load =	410 plf	Δ TL	180	C _e =	1.25
L Load =	234 plf	Δ LL	240		

Max Spans

Member	F _b psi	F _v psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1375	219	4297	1094	31	64	41	45	2 ft - 7 in
2	1375	219	8422	1531	44	90	57	63	3 ft - 8 in
3	1250	219	18906	2406	66	141	90	98	5 ft - 6 in
4	1156	219	30388	3172	84	186	119	130	7 ft - 0 in
5	1000	219	42781	4047	100	237	151	166	8 ft - 4 in
6									
7									
8									
9									
10									

for wind

W Load =	485 plf	Δ TL	180	C _e =	1.5	Wind Load Used = Exterior
----------	---------	------	-----	------------------	-----	---------------------------

Member	F _b psi	F _v psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	1760	280	5500	1400	32	69	39	39	2 ft - 8 in
2	1760	280	10780	1960	46	97	54	54	3 ft - 10 in
3	1600	280	24200	3080	69	152	85	85	5 ft - 9 in
4	1480	280	38896	4060	87	201	112	112	7 ft - 3 in
5	1280	280	54760	5180	104	256	143	143	8 ft - 8 in
6									
7									
8									
9									
10									

Final Span Table

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	I _x in ⁴	S _x in ³	C _r	C _t x C _u	Max Span
1	2	2	1.5	2.5	1100	175	1400000	3.91	3.13	1	1	2 ft - 7 in
2	2	2	1.5	3.5	1100	175	1400000	10.72	6.13	1	1	3 ft - 8 in
3	2	2	1.5	5.5	1000	175	1400000	41.59	15.13	1	1	5 ft - 6 in
4	2	2	1.5	7.25	925	175	1400000	95.27	26.28	1	1	7 ft - 0 in
5	2	2	1.5	9.25	800	175	1400000	197.86	42.78	1	1	8 ft - 4 in
6												
7												
8												
9												
10												



These plans were prepared by the
NIA, Inc. and are not to be used
for any other project without the
written consent of NIA, Inc.

APPROVED BY
NIA, INC.

Drawn: [Signature]
Checked: [Signature]
Reviewed: [Signature]
Date: [Date]
Scale: [Scale]
Project: [Project]
Sheet: [Sheet]
Total: [Total]

Dimensional Lumber CL Header Spans

Deer Valley HB SVM-9407 FL

Truss type: **Non-storage**

16 "o/c

Truss spacing: **SYP**
Lumber species: **SYP**

Fc1= 656 PSI

Ft= 675 PSI

Truss load per half: 703 #

Truss load per half: -647.1 #

 $C_d = 1.15$ $C_H = 1$

U
U
U

T Load = 527.25 plf

L Load = 395.438 plf



Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	Flat or Edge	I _x in ⁴	S _x in ³	C _r	C _r x C _{iw}	Max Span
1	2	#2	1.5	3.5	1100	175	1400000	E	10.72	6.13	1	1	3 ft - 0 in
2	2	#2	1.5	5.5	1000	175	1400000	E	41.59	15.13	1	1	3 ft - 10 in
3	2	#2	1.5	7.25	925	175	1400000	E	95.27	26.28	1	1	4 ft - 5 in
4	2	#2	1.5	9.25	800	175	1400000	E	197.86	42.78	1	1	4 ft - 7 in
5	2	#2	1.5	11.25	750	175	1400000	E	355.96	63.28	1	1	4 ft - 9 in

Member	F' _v psi	F' _v psi	M in·lb	V lb	Ft	Comb F, reduc	max spans			Δ LL in	Max Span	
							Moment in	Shear in	Δ TL in			
1		1265	201	7748	1409	12,514	0.98146	37	64	53	53	3 ft - 0 in
2		1150	201	17394	2214	7.9636	0.834828	56	101	83	83	3 ft - 10 in
3		1064	201	27957	2918	6.0414	0.749395	71	133	109	109	4 ft - 5 in
4		920	201	39359	3723	4.7351	0.663279	84	169	139	139	4 ft - 7 in
5		863	201	54580	4528	3.8933	0.584711	99	206	169	169	4 ft - 9 in

Check spans based on uplift

T Load = -485.33 plf

Load = -485.33 plf

 $C_A = 1.6$
$$C \equiv \frac{1}{2} \left(\frac{1}{\alpha} + \frac{1}{\beta} \right)$$

Lumber species: SYP

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	Flat or Edge	I _x in ⁴	S _x in ³	C _t	C _f x C _{flu}	Max Span
1	2	2	1.5	3.5	1500	175	1400000	E	10.72	6.13	1	1	4 ft - 2 in
2	2	2	1.5	5.5	1000	175	1400000	E	41.59	15.13	1	1	4 ft - 7 in
3	2	2	1.5	7.25	925	175	1400000	E	95.27	26.28	1	1	5 ft - 2 in
4	2	2	1.5	9.25	800	175	1400000	E	197.86	42.78	1	1	5 ft - 5 in
5	2	2	1.5	11.25	750	175	1400000	E	355.96	63.28	1	1	5 ft - 8 in

F _b '		F _v '	M	V	Ft		Comb F.	reduc	Moment	Shear	Δ TL	Δ LL	Max Span
psi	psi	psi	in ³ /lb	lb					in	in	in	in	
2400	175	14700	1225	12.51	0.98146	51	56	53	53				4 ft - 2 in
1600	175	24200	1925	7.96	0.834828	66	88	83	83				4 ft - 7 in
1480	175	38896	2338	6.04	0.749395	84	116	109	109				5 ft - 2 in
1280	175	54760	3238	4.74	0.663279	99	147	139	139				5 ft - 5 in
1200	175	75938	3938	3.89	0.584711	117	179	169	169				5 ft - 8 in

These prints comply with the Florida Manufacturers Building And material Codes and adhere to the following criteria

APPROVED BY

NIA INC.

Const. Type _____
Occupancy _____
Alternate No. _____
at Floor _____
Wind Velocity _____
Fea Rating of _____
Bld. Walls _____
Plan No. _____
Allow. Floor Load _____
Approval Date _____

VP-registered _____
Sealed Expiry Drawing _____

1. _____
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99. _____
100. _____

2/22/2021

Truss type: **Non-storage** Deer Valley HB SVM-9407 FL

Total truss snow loading reaction: **703 #** Truss load per half: 703 #

Truss load per half: 647.1 #

 $C_A = 1.15$

T Load =	527.25 plf	Δ TL	180
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Load	Load = 395.438 Nlf	ALL
100		
240		

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Deer Valley HB SVM-9407 FL
16 "o/c



Member	No.	Sp / Grade	Width in	Depth in	F _b	F _v psi	E psi	Flat or Edge	I _x in ⁴	S _x in ³	C _r	C _r x C _{lu}	Max Span
1	3	#2	1.5	3.5	1100	175	1400000	E	16.08	9.19	1.15	1	4 ft - 1 in >=
2	3	#2	1.5	5.5	1000	175	1400000	E	62.39	22.69	1.15	1	6 ft - 1 in >=
3	3	#2	1.5	7.25	925	175	1400000	E	142.90	39.42	1.15	1	7 ft - 9 in >=
4	3	#2	1.5	9.25	800	175	1400000	E	236.79	64.17	1.15	1	9 ft - 3 in >=
5	3	#2	1.5	11.25	750	175	1400000	E	533.94	94.92	1.15	1	10 ft - 10 in >=

Member	F _v			M	V	max spans			Max Span			
	F _v psi	F _v psi	F _v psi			Moment in	Shear in	Δ TL in		Δ LL in		
1		1455	201	13366	2113			49	96	60	60	4 ft - 1 in
2		1323	201	30004	3321			73	151	95	95	6 ft - 1 in
3		1223	201	48225	4377			93	199	125	125	7 ft - 9 in
4		1058	201	67894	5585			111	254	159	159	9 ft - 3 in
5		992	201	94151	6792			130	309	194	194	10 ft - 10 in

Check spans based on uplift

T Load = 485.325 plf

Load = 400.025 psi	100
Load = 485.225 psi	240
Load = 485.225 psi	240

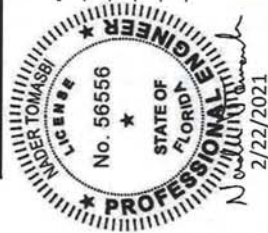
 $C_d = 1.6$

○ ○ ○ ○ ○

Lumber species: SYP

Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	Flat or Edge	I _x in ⁴	S _x in ³	C _r	C _r x C _u	Max Span
1	3	2	1.5	3.5	1500	175	1400000	E	16.08	9.19	1.15	1	5 ft - 0 in
2	3	2	1.5	5.5	1000	175	1400000	E	62.39	22.69	1.15	1	7 ft - 3 in
3	3	2	1.5	7.25	925	175	1400000	E	142.90	39.42	1.15	1	9 ft - 2 in
4	3	2	1.5	9.25	800	175	1400000	E	296.79	64.17	1.15	1	10 ft - 11 in
5	3	2	1.5	11.25	750	175	1400000	E	533.94	94.92	1.15	1	12 ft - 10 in

max spans									
F _v psi	F _v psi	M in ² lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span	
2760	175	25358	1838		67	84	60	60	5 ft - 0 in
1840	175	41745	2888		87	131	95	95	7 ft - 3 in
1702	175	67096	3806		110	173	125	125	9 ft - 2 in
1472	175	94461	4856		131	221	159	159	10 ft - 11 in
1380	175	130992	5906		154	269	194	194	12 ft - 10 in



Laminated Veneer Lumber CL Spans

These prices comply with the Florida Manufactured Building Code and are subject to change without notice in the following states:

APPROVED BY
NIA INC.

Contract Type: Single Family Dwelling
Occupancy: Single Family Dwelling
Project No.: 123456789
Wind Velocity: 120 MPH
Ex. Value: \$100,000
Plan No.: 123456789
Address: 12345 Main St
City: Anytown, USA
State: FL
Zip: 32109

Truss spacing: 16 in o/c

T Load = 527.3 plf
L Load = 395.4 plf

Fc1 = 656 PSI
Ft = 675 PSI

Max v FOR 1 JACK STUD : 3394.8 Lb.

End zone of Roof = 0.0 Psf
Interior zone of Roof = 0.0 Psf

Coef. per ESR 1387



Cd = 1.15

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t	Max Span
1	2	Microllam	1.5	3.5	2750	240	2000000	0.136	10.72	6.13	1.182	4 ft - 11 in
2	2	Microllam	1.5	5.5	2750	240	2000000	0.136	41.59	15.13	1.112	7 ft - 9 in
3	2	Microllam	1.5	7.25	2750	240	2000000	0.136	95.27	26.28	1.071	10 ft - 2 in
4	2	Microllam	1.5	9.25	2750	240	2000000	0.136	197.86	42.78	1.036	12 ft - 10 in

Member	F _b psi	F _v psi	M in*lb	V lb
1	3739	276	22904	1932
2	3516	276	53187	3036
3	3387	276	89010	3395
4	3276	276	140171	3395

Total truss uplift reaction: 647.1 #

T Load = 485.3 plf
L Load = 485.3 plf

Coef. per ESR 1387

Cd = 1.6

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t	Max Span
1	2	Microllam	1.5	3.5	2750	240	2000000	0.136	10.72	6.13	1.182	4 ft - 7 in
2	2	Microllam	1.5	5.5	2750	240	2000000	0.136	41.59	15.13	1.112	7 ft - 2 in
3	2	Microllam	1.5	7.25	2750	240	2000000	0.136	95.27	26.28	1.071	9 ft - 6 in
4	2	Microllam	1.5	9.25	2750	240	2000000	0.136	197.86	42.78	1.036	12 ft - 2 in

Member	F _b psi	F _v psi	M in*lb	V lb
1	5203	384	31866	2688
2	4893	384	73999	3395
3	4712	384	123840	3395
4	4559	384	195020	3395



These prints comply with the
Florida Manufactured Building
Code and all applicable codes
and standards to the following extent:

APPROVED BY
NIA INC.

Contract Type:
Occupancy:
Building Use:
Truss Type: **Non-storage**
Truss Uplift Load per half: 703 #

Laminated Veneer Lumber CL Spans

Load: **703 #** 16 in o/c

T Load = 527.3 plf
L Load = 395.4 plf
F_{c1} = 656 PSI
F_t = 675 PSI
Max v FOR 1 JACK STUD : 5092.2 Lb.

End zone of Roof = 0.0 Psf
Interior zone of Roof = 0.0 Psf
Coef. per ESR 1387



C_d = 1.15

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t	Max Span
1	3	Microllam	1.5	3.5	2750	240	2000000	0.136	16.08	9.19	1.182	5 ft - 7 in
2	3	Microllam	1.5	5.5	2750	240	2000000	0.136	62.39	22.69	1.112	8 ft - 10 in
3	3	Microllam	1.5	7.25	2750	240	2000000	0.136	142.90	39.42	1.071	11 ft - 8 in
4	3	Microllam	1.5	9.25	2750	240	2000000	0.136	296.79	64.17	1.036	14 ft - 11 in

Member	F _b ' psi	F _v ' psi	M in*lb	V lb
1	3739	276	34356	2898
2	3516	276	79780	4554
3	3387	276	133515	5092
4	3276	276	210256	5092

Total truss uplift reaction: **647.1 #**

T Load = 485.3 plf
L Load = 485.3 plf

C_d = 1.6

2/22/2021

Coef. per ESR 1387

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t	Max Span
1	3	Microllam	1.5	3.5	2750	240	2000000	0.136	16.08	9.19	1.182	5 ft - 3 in
2	3	Microllam	1.5	5.5	2750	240	2000000	0.136	62.39	22.69	1.112	8 ft - 3 in
3	3	Microllam	1.5	7.25	2750	240	2000000	0.136	142.90	39.42	1.071	10 ft - 11 in
4	3	Microllam	1.5	9.25	2750	240	2000000	0.136	296.79	64.17	1.036	13 ft - 11 in

Member	F _b ' psi	F _v ' psi	M in*lb	V lb
1	5203	384	47800	4032
2	4893	384	110999	5092
3	4712	384	185760	5092
4	4559	384	292530	5092



These plans comply with the provisions of the Florida Building Code, Chapter 6, Part 2, and all applicable codes and standards to the following extent:

APPROVED BY
NIA INC.
 Date: 01/22/2021
 Name: [Signature]
 Title: [Title]

Checked by: [Signature]
 Date: 01/22/2021
 Title: [Title]

Drawn by: [Signature]
 Date: 01/22/2021
 Title: [Title]

Project: [Project Name]
 Address: [Address]
 City: [City]
 State: [State]
 Zip: [Zip]

Dimensional Lumber CL Header Spans

Deer Valley HB SVM-9407 FL

Truss type: **Non-storage**

Truss spacing: 16 "o/c

Lumber species: **SPF**

Truss load per half: 703 #

Truss load per half: 647.1 #

$C_d = 1.15$

$C_H = 1$

T Load = 527.25 plf

L Load = 395.438 plf

Member	No.	Sp / Grade	Width in	Depth in	F_b psi	F_v psi	E psi	Flat or Edge	I_x in ⁴	S_x in ³	C_r	C_r x C_{fu}
1	1	#2	5.5	1.5	875	135	1400000	F	1.55	2.06	1	1.495
2	2	#2	5.5	1.5	875	135	1400000	F	3.09	4.13	1	1.495
3	3	#2	5.5	1.5	875	135	1400000	F	4.64	6.19	1.15	1.495
4												
5												

Max Span
2 ft - 1 in
2 ft - 10 in
3 ft - 3 in

Max Spans

Member	F_b' psi	F_v' psi	M in ² /lb	V lb	Moment in	Shear in	Δ TL	Δ LL
1	1730	155	3568	854	25	39	28	28
2	1730	155	7136	1708	36	78	35	35
3	1989	155	12310	2562	47	117	40	40
4								
5								

Max Span
2 ft - 1 in
2 ft - 10 in
3 ft - 3 in

Check spans based on uplift

T Load = 485.325 plf

L Load = 485.325 plf

$C_d = 1.6$

$C_H = 1$

Lumber species: **SPF**

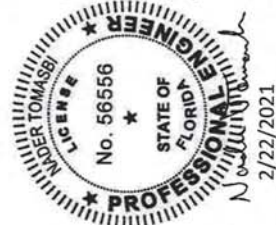
Member	No.	Sp / Grade	Width in	Depth in	F_b psi	F_v psi	E psi	Flat or Edge	I_x in ⁴	S_x in ³	C_r	C_r x C_{fu}
1	1	2	5.5	1.5	875	135	1400000	F	1.55	2.06	1	1.495
2	2	2	5.5	1.5	875	135	1400000	F	3.09	4.13	1	1.495
3	3	2	5.5	1.5	875	135	1400000	F	4.64	6.19	1.15	1.495
4												
5												

Max Span
2 ft - 1 in
2 ft - 8 in
3 ft - 1 in

Max Spans

Member	F_b' psi	F_v' psi	M in ² /lb	V lb	Moment in	Shear in	Δ TL	Δ LL
1	1730	135	3568	743	26	37	28	26
2	1730	135	7136	1485	37	73	36	32
3	1989	135	12310	2228	49	110	41	37
4								
5								

Max Span
2 ft - 1 in
2 ft - 8 in
3 ft - 1 in



Laminated Veneer Lumber CL Spans

Deer Valley HB SVM-9407 FL

Non-storage

Truss type: **Non-storage**
Truss uplift load per half: 703 #

Load: 703 #
16 x (1.29 / 1.4) x 21.2 / 26.5

T Load = 527.3 plf
L Load = 395.4 plf

End zone of Roof = 0.0 Psf
Interior zone of Roof = 0.0 Psf

Coef. per ESR 1387

Max v FOR 1 JACK STUD : 1697.4 Lb.



$C_d = 1.15$

Member	No.	Manufacturer	Width in	Depth in	F_b psi	F_v psi	E psi	Coef	I_x in ⁴	S_x in ³	C_t	Max Span
1	1	Microllam	5.5	1.5	2400	240	2000000	0.136	1.55	2.06	1.327	2 ft - 7 in
2	2	Microllam	5.5	1.5	2400	240	2000000	0.136	3.09	4.13	1.327	3 ft - 3 in
3	3	Microllam	5.5	1.5	2400	240	2000000	0.136	4.64	6.19	1.327	3 ft - 8 in
4												

Member	F_b' psi	F_v' psi	M in*lb	V lb
1	3662	276	7553	1518
2	3662	276	15106	1697
3	3662	276	22659	1697
4				1697

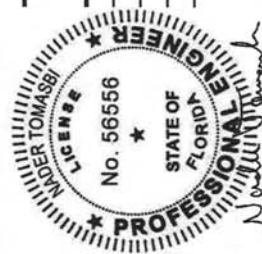
Total truss uplift reaction: 647.1 #

T Load = 485.3 plf
L Load = 485.3 plf

Coef. per ESR 1387

Member	No.	Manufacturer	Width in	Depth in	F_b psi	F_v psi	E psi	Coef	I_x in ⁴	S_x in ³	C_t	Max Span
1	1	Microllam	5.5	1.5	2400	240	2000000	0.136	1.55	2.06	1.327	2 ft - 5 in
2	2	Microllam	5.5	1.5	2400	240	2000000	0.136	3.09	4.13	1.327	3 ft - 0 in
3	3	Microllam	5.5	1.5	2400	240	2000000	0.136	4.64	6.19	1.327	3 ft - 5 in
4												

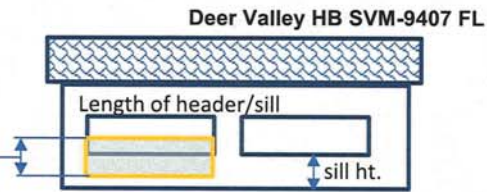
Member	F_b' psi	F_v' psi	M in*lb	V lb
1	5095	384	10509	1697
2	5095	384	21017	1697
3	5095	384	31526	1697
4				



Sill/Header Calculations - Sidewall

$V_{ult} = 160 \text{ MPH}$
 Sill height = 2.833333 ft
 Trib Width = 52.58333 in

 Trib Width = 4.381944 ft
 W Load = 43.38 psf
 Member: #2 SPF
 2x 6
 b = 1.5 in
 d = 5.5 in
 No. of Sills 1
 Length of header/sill = 70 in
 Ceiling ht = 108 in
 C_F bending = 1.5



$F_b = 875 \text{ psi}$
 $E = 1400000 \text{ psi}$
 $F_v = 135 \text{ psi}$
 $def = L / 180$

 $C_d = 1.6$

Bending

$W = 190.0888 \text{ plf}$
 $M = 9702.447 \text{ Lb*in}$
 $V = 855.3994 \text{ Lb}$

$A = 8.25 \text{ in}^2$
 $S_x = 7.5625 \text{ in}^3$
 $I_e = 20.79688 \text{ in}^4$

$F_{b'} = 2100 \text{ psi}$
 $M' = 15881.25 \text{ Lb*in}$
 0.610937 OK for moment

$F_{v'} = 216 \text{ psi}$
 $V' = 1188$
 0.720033 OK for shear
 $I_{req} = 1.819209 \text{ in}^4$
 0.087475 OK for Deflection

These prints comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY
NIA INC.

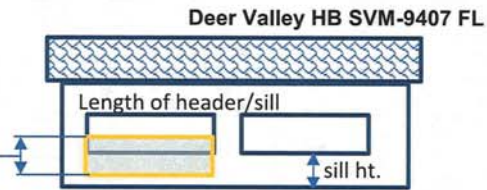
Const. Type: V-Bamprotection
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH V-B, 154 MPH V-B
 Fire Rating of Ext. Wall: 0 Hr
 Plan No.: ME110116-SVM-9407
 Allow. Floor Load: 40 PSF
 Approval Date: 2/22/2021
 Manufacturer: Deer Valley Homes



Sill/Header Calculations - Sidewall

$V_{ult} = 160 \text{ MPH}$
 $\text{Sill height} = 2.833333 \text{ ft}$
 $\text{Trib Width} = 52.58333 \text{ in}$

 $\text{Trib Width} = 4.381944 \text{ ft}$
 $\text{W Load} = 43.38 \text{ psf}$
 $\text{Member: \#2 SPF}$
 2×6
 $b = 1.5 \text{ in}$
 $d = 5.5 \text{ in}$
 $\text{No. of Sills} = 2$
 $\text{Length of header/sill} = 100 \text{ in}$
 $\text{Ceiling ht} = 108 \text{ in}$
 $C_F \text{ bending} = 1.5$



$F_b = 875 \text{ psi}$
 $E = 1400000 \text{ psi}$
 $F_v = 135 \text{ psi}$
 $\text{def} = L / 180$

 $C_d = 1.6$

Bending

$W = 190.0888 \text{ plf}$
 $M = 19800.91 \text{ Lb*in}$
 $V = 855.3994 \text{ Lb}$

$A = 16.5 \text{ in}^2$
 $S_x = 15.125 \text{ in}^3$
 $I_e = 41.59375 \text{ in}^4$

$F_b = 2100 \text{ psi}$
 $M' = 31762.5 \text{ Lb*in}$
 $0.623405 \text{ OK for moment}$

$F_v = 216 \text{ psi}$
 $V' = 2376$
 $0.360017 \text{ OK for shear}$
 $I_{req} = 5.303816 \text{ in}^4$
 $0.127515 \text{ OK for Deflection}$

These prints comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY

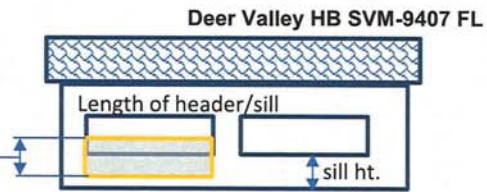
Const. Type: V-Bamprotected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH V-B, 154 MPH V-B
 Fire Rating of Ext. Walls: 0 Hr
 Plan No.: SFT10156-SVM-9407
 Allow. Floor Load: 60 PSF
 Approval Date: 2/22/2021
 Manufacturer: Deer Valley Homes



Sill/Header Calculations - Sidewall

$V_{ult} = 160 \text{ MPH}$
 Sill height = 2.833333 ft
 Trib Width = 52.58333 in

 Trib Width = 4.381944 ft
 W Load = 43.38 psf
 Member: **#2 SPF**
 2x 6
 b = 1.5 in
 d = 5.5 in
 No. of Sills **3**
 Length of header/sill = **141 in**
 Ceiling ht = 108 in
 C_F bending = 1.5



$F_b = 875 \text{ psi}$
 $E = 1400000 \text{ psi}$
 $F_v = 135 \text{ psi}$
 $def = L / 180$

 $C_d = 1.6$

Bending

$W = 190.0888 \text{ plf}$
 $M = 39366.19 \text{ Lb*in}$
 $V = 855.3994 \text{ Lb}$

$A = 24.75 \text{ in}^2$
 $S_x = 22.6875 \text{ in}^3$
 $I_e = 62.39063 \text{ in}^4$

$F_b' = 2100 \text{ psi}$
 $M' = 47643.75 \text{ Lb*in}$
 0.826261 **OK for moment**

$F_v' = 216 \text{ psi}$
 $V' = 3564$
 0.240011 **OK for shear**
 $I_{req} = 14.86777 \text{ in}^4$
 0.238301 **OK for Deflection**

These prints comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: V-Bamprotected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH (Vap. 154 MPH Vap)
 Free Rating of Ext. Walls: 0 Hr
 Plan No.: ME110156-SVM-0407
 Allow. Floor Load: 40 PSF
 Approval Date: 2/2/2021
 Manufacturer: Deer Valley Homes



Strap ConnectionLoad Supporting Roof Only
Sidewall

Roof Dead Load =	15 psf	V ult=	160 mph
Roof Live Load =	30 psf	Exposure =	C
Floor Dead Load =	10 psf	Mean Roof Height =	20 ft
Floor Live Load =	40 psf	Wind Load (int) =	-65.70 psf
Width of Box =	15.000 ft	Wind Load (ext) =	-113.94 psf
Overhang Length =	12 in	Wind Load (OH) =	-110.94 psf
Wall Dead Load =	40 plf		
Stud sp =	16 in o/c		
Simpson Lsta18 =	1110 lbs		

**Connection of truss to wall**

Uplift Load int (plf)	Uplift Load ext (plf)	Strap Capacity (lbs)
485	485	1110

End Stud Uplift Straps

No. of Straps	Max Opening (in)	
	Interior Zone	Exterior Zone
1	3 ft - 2 in	3 ft - 2 in
2	7 ft - 9 in	7 ft - 9 in
3	12 ft - 4 in	12 ft - 4 in
4	16 ft - 11 in	16 ft - 11 in
5	21 ft - 6 in	21 ft - 6 in
6	26 ft - 1 in	26 ft - 1 in
7	30 ft - 8 in	30 ft - 8 in
8	35 ft - 3 in	35 ft - 3 in

Center Stud Uplift Straps

No. of Straps	Max Opening (in)	
	Interior Zone	Exterior Zone
1	4 ft - 6 in	4 ft - 6 in
2	9 ft - 1 in	9 ft - 1 in
3	13 ft - 8 in	13 ft - 8 in
4	18 ft - 3 in	18 ft - 3 in
5	22 ft - 10 in	22 ft - 10 in
6	27 ft - 5 in	27 ft - 5 in
7	32 ft - 0 in	32 ft - 0 in
8	36 ft - 7 in	36 ft - 7 in

Check strap req. with 7/16" OSB sheathing 24/0:

Per APA report E510A & WFCM, the allow. tension capacity of 7/16" OSB - tension only: 1500 plf

Max uplift per corner (stud) = plf x 16"x0.5/12 : 1000 lb

8d nail shear capacity 73# x 1.6 = 116.8 lb

Req. # of nails : 8.5616 use 9 nails /end per stud location

15ga.x 7/16x1.5" staple capacity : 64# x 0.82 x 1.6 = 82.944 lb

Req. # of staples : 12.056 use 12 15ga staples /end per stud location

Uplift Load int (plf)	Uplift Load ext (plf)	Strap Capacity (lbs)
485	485	1110

End Stud Uplift Straps

No. of Straps + 7/16" OSB	Max Opening (in)	
	Interior Zone	Exterior Zone
OSB only	2 ft - 9 in	2 ft - 9 in
1	7 ft - 4 in	7 ft - 4 in
2	11 ft - 11 in	11 ft - 11 in
3	16 ft - 6 in	16 ft - 6 in
4	21 ft - 1 in	21 ft - 1 in
5	25 ft - 7 in	25 ft - 7 in
6	30 ft - 2 in	30 ft - 2 in
7	34 ft - 9 in	34 ft - 9 in
8	39 ft - 4 in	39 ft - 4 in

Center Stud Uplift Straps

No. of Straps + 7/16" OSB	Max Opening (in)	
	Interior Zone	Exterior Zone
OSB only	4 ft - 1 in	4 ft - 1 in
1	8 ft - 8 in	8 ft - 8 in
2	13 ft - 3 in	13 ft - 3 in
3	17 ft - 10 in	17 ft - 10 in
4	22 ft - 5 in	22 ft - 5 in
5	26 ft - 11 in	26 ft - 11 in
6	31 ft - 6 in	31 ft - 6 in
7	36 ft - 1 in	36 ft - 1 in
8	40 ft - 8 in	40 ft - 8 in

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:APPROVED BY
NIA INC.

Contract Type:	VIR-Structural
Company:	Simple Family Foundation
Address:	
City:	
State:	FL
Zip:	32110
Phone:	352-244-5555
Fax:	352-244-5555
Approval Date:	2/22/2021
Manufacturer:	Don Valley Homes

Endwall stud ONLY**2x6 Stud (s)**

NT

Stud(s) @ single openingInput nominal stud (n), single opening stud (s) or multi opening stud (m) : **S****SPF 2****V ult=****160 mph**

Fb x Cd x Cf x Cr : 2100 Psi
 Fv x Cd : 216 Psi
 Ft x Cd x Cf : 1080 Psi
 E : 1400000 Psi

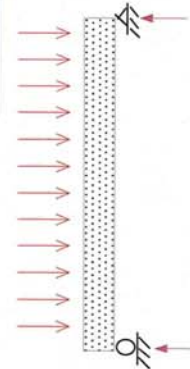
Wind factor (Cd) : 1.6
 Rep. (Cr) : 1
 Size factor (Cf) : 1.5
 Stud ht. : 105.75 "
 b : 1.5 "
 d : 5.5 "

Wind load @ interior of walls :	35.3 PSF
Wind load Corner zones :	43.4 PSF
Opening width (L) :	48.5 "
Opening width (L) corner zone' :	37.0 "

4.041667
 3.083333

No. studs: 1 Width: 180 " Max.
 No. studs at corner zone: 1 Eave: 12 " Max.
 Stud spacing: 16.0 " Exposure: C
 Mean roof height: 20 ' within 3' 2x 6

160 MPH	
Fb ok @ int.	Fb ok @ end
Fv ok @ int.	Fv ok @ end
Def ok int.	Def. ok ends
0.88	0.86

**1) Calculate Section properties:**

$$S = \frac{b d^3}{12} = \frac{6 \times 5.5^3}{12} = 7.5625 \text{ in}^2$$

$$S \text{ within 3ft} = 7.5625 \text{ in}^2$$

$$I = \frac{b d^4}{12} = \frac{6 \times 5.5^4}{12} = 20.79688 \text{ in}^4$$

$$I \text{ within 3ft} = 20.79688 \text{ in}^4$$

2) Calculate distributed loading :

$$W1 = \frac{(2 \times 12)}{12} \times \text{PSF} \times 1$$

W @ Int. :	8.1 PLI
W @ end: :	8.2 PLI

$$W \text{ within 3' of ends} = W1 + (\text{PSF} \times (3' - 0.67')) \times (3' - 0.67') \times 0.5 / L$$

3) Calculate required bending moment :

$$M = \frac{W H}{8}$$

$$f b(\text{required}) = \frac{M}{S}$$

Mi :	11301.88	Lb-in
Me :	11475.31	Lb-in
Fb (int.) :	1494.464	Psi O.K
Fb (ends) :	1517.396	Psi O.K

1st stud 16" from endwall is evaluated,
 since 1st stud is reinforced by endwall.

4) Calculate required Shear Stress :

$$V = \frac{W H}{2} \quad Fv = \frac{3 v}{2 b d}$$

Vi :	427.4944	LB.
Ve :	434.0542	LB.
Fv (Int.) :	77.72625	Psi O.K
Fv (ends) :	78.91894	Psi O.K

5) Check Deflection :

$$\text{Def} = \frac{5 W H^4}{384 E I}$$

Must be less than L/180.

	Actual	Allowable	
Def. (int.)	0.452183	0.5875	Def ok int.
Def. (end)	0.459122	0.5875	Def. ok ends

6) Check combined tension & bending :

	160 MPH	end zone
	47.214	47.214
	1522.65 #	1251.17 #
	184.56	151.66
ft / F't + fb / Fb =	0.88	0.86
(f b - f t) / Fb' =	0.62	0.65

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: V/B-protected
 Occupancy: Single Family Dwelling
 Alternate No. of Floors: 1
 Wind Velocity: 160 MPH Vult. 174 MPH Vult.
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT10166-SVM-9407
 Allow. Floor Load: 40 PSF
 Approved Date: 2/22/2021
 Manufacturer: Deer Valley Homes



Endwall stud ONLY**2x6 Stud (s)**

NT

Stud(s) @ single openingInput normal stud (n), single opening stud (s) or multi opening stud (m) : **S**

SPF 2

Fb x Cd x Cf x Cr : 2415 Psi
 Fv x Cd : 216 Psi
 Ft x Cd x Cf : 1080 Psi
 E : 1400000 Psi

Wind factor (Cd) : 1.6
 Rep. (Cr) : 1.15
 Size factor (Cf) : 1.5
 Stud ht. : 105.75 "
 b : 3 "
 d : 5.5 "

Wind load @ interior of walls :	35.3 PSF
Wind load Corner zones :	43.4 PSF
Opening width (L) :	107.0 "
Opening width (L) corner zone' :	88.0 "
No. studs:	2
No. studs at corner zone:	2
Stud spacing :	16.0 "
Mean roof height:	20 ' within 3' 2x 6

V ult= 160 mph

8.916667

7.333333

180 " Max.

12 " Max.

C

1) Calculate Section properties:

$$S = \frac{b d^3}{12} = \frac{6 \times 5.5^3}{12} = 15.125 \text{ in}^2$$

S within 3ft = 15.125 in²

$$I = \frac{b d^4}{12} = \frac{6 \times 5.5^4}{12} = 41.59375 \text{ in}^2$$

I within 3ft = 41.59375 in²

2) Calculate distributed loading :

Loading area = 1

$$W1 = \frac{(2 \times 12)}{12} \times \text{PSF} \times 1$$

W @ Int. :	15.4 PLI
W @ end: :	16.1 PLI

$$W \text{ within 3' of ends} = W1 + (\text{PSF}(\text{within 3'}) - \text{PSF}) \times (3' - 0.67') \times (L - (3' - 0.67') \times 0.5) / L$$

3) Calculate required bending moment :

$$M = \frac{W H}{8}$$

$$f_b(\text{required}) = \frac{M}{S}$$

Mi :	21576.32	Lb-in
Me :	22529.5	Lb-in
Fb (int.) :	1426.534	Psi O.K
Fb (ends) :	1489.554	Psi O.K

1st stud 16" from endwall is evaluated,
 since 1st stud is reinforced by endwall.

4) Calculate required Shear Stress :

$$V = \frac{W H}{2} \quad F_v = \frac{3 v}{2 b d}$$

Vi :	816.1256	LB.
Ve :	852.1798	LB.
Fv (Int.) :	74.19324	Psi O.K
Fv (ends) :	38.73544	Psi O.K

5) Check Deflection :

$$\text{Def} = \frac{5 W H^4}{384 E I} \quad \text{Must be less than } L/180.$$

	Actual	Allowable	
Def. (int.)	0.431629	0.5875	Def ok int.
Def. (end)	0.450697	0.5875	Def. ok ends

6) Check combined tension & bending :

	160 MPH	end zone
	47.214	47.214
	3009.89 #	2561.36 #
	182.42	155.23
ft / F't + fb / Fb =	0.76	0.76
(fb - ft) / Fb' =	0.52	0.55

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VB-protected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH Vult, 124 MPH Vult
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT10156-SVM-9407
 Allow. Floor Load: 40 PSF
 Approved Date: 2/22/2021
 Manufacturer: Deer Valley Homes



Endwall stud ONLY**2x6 Stud (s)**

NT

Stud(s) @ single openingInput nominal stud (n), single opening stud (s) or multi opening stud (m) : **S****SPF 2**

V ult=

160 mph

Fb x Cd x Cf x Cr : 2093 Psi
 Fv x Cd : 216 Psi
 Ft x Cd x Cf : 936 Psi
 E : 1400000 Psi

Wind factor (Cd) : 1.6
 Rep. (Cr) : 1.15
 Size factor (Cf) : 1.3
 Stud ht. : 105.75 "
 b : 4.5 "
 d : 5.5 "

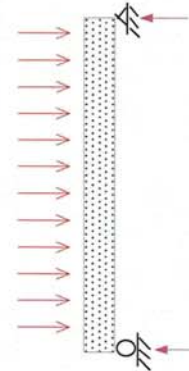
Wind load @ interior of walls :	35.3 PSF
Wind load Corner zones :	43.4 PSF
Opening width (L) :	167.0 "
Opening width (L) corner zone' :	133.0 "

13.91667

11.08333

No. studs: 3 Width : 180 " Max.
 No. studs at corner zone: 3 Eave : 12 " Max.
 Stud spacing : 16.0 " Exposure: **C**
 Mean roof height: 20 ' within 3' 2x 6

160 MPH	
Fb ok @ int.	Fb ok @ end
Fv ok @ int.	Fv ok @ end
Def ok int.	Def. ok ends
0.87	0.84

**1) Calculate Section properties:**

$$S = \frac{b d^3}{6} = \frac{4.5 \times 5.5^3}{6} = 22.6875 \text{ in}^3$$

$$S \text{ within 3ft} = 22.6875 \text{ in}^3$$

$$I = \frac{b d^4}{12} = \frac{4.5 \times 5.5^4}{12} = 62.39063 \text{ in}^4$$

$$I \text{ within 3ft} = 62.39063 \text{ in}^4$$

2) Calculate distributed loading :

$$W1 = \frac{(2 \times 12)}{12} \times \text{PSF} \times 1$$

W @ Int. :	23.0 PLI
W @ end:	23.1 PLI

$$W \text{ within 3' of ends} = W1 + (\text{PSF} \times (3' - 0.67') \times (3' - 0.67') \times 0.5) / L$$

3) Calculate required bending moment :

$$M = \frac{W H}{8}$$

$$f b(\text{required}) = \frac{M}{S}$$

Mi :	32107.62	Lb-in
Me :	32320.36	Lb-in
Fb (int.)	1415.212	Psi O.K
Fb (ends)	1424.589	Psi O.K

1st stud 16" from endwall is evaluated,
 since 1st stud is reinforced by endwall.

4) Calculate required Shear Stress :

$$V = \frac{W H}{2} \quad Fv = \frac{3 v}{2 b d}$$

Vi	1214.473	LB.
Ve	1222.52	LB.
Fv (int.)	73.6044	Psi O.K
Fv (ends)	24.69737	Psi O.K

5) Check Deflection :

$$\text{Def} = \frac{5 W H^4}{384 E I}$$

Must be less than L/180.

	Actual	Allowable	
Def. (int.)	0.428204	0.5875	Def ok int.
Def. (end)	0.431041	0.5875	Def. ok ends

6) Check combined tension & bending :

	160 MPH	end zone
	47.214	47.214
	4603.37 #	3800.73 #
	185.99	153.56
ft / F't + fb / Fb =	0.87	0.84
(f b - f t) / Fb' =	0.59	0.61

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: V-B-protected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH Valt, 124 MPH Valt
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT-0156-SVM-9407
 Allow. Floor Load: 40 PSF
 Approval Date: 2/22/2021
 Manufacturer: Deer Valley Homes



Column Calculation - Sidewall

Deer Valley HB SVM-9407 FL Int Zone
Load Supporting Roof Only

DL = 10 psf
LL = 20 psf
Mod W = 15 ft

T Load = 410 plf
W Load = 43.38 psf

Member: 2x6 SPF #3
b = 3 in
d = 5.5 in

C_F comp = 1.1
C_F bending = 1.3

Deflection Limit = L/ 180
Height of Col = 108 in
Typ Stud Spacing = 16 in o/c
No of 2x in Header = 3

F_b = 500 psi
E = 1200000 psi
F_v = 135 psi
F_c = 500 psi

C_d comp = 1.15
C_d bending = 1.6

**Bending of Jamb**

Jamb/Jacks	A Jamb (in ²)	S _x Jamb (in ³)	I _x Jamb (in ⁴)	F _b ' (psi)	F _v ' (psi)	M (in*lb)	V (lb)
1 Jamb / Y Jack	16.50	15.13	41.59	1040	216	15730	2376
2 Jamb / Y Jack	33.00	30.25	83.19	1040	216	31460	4752
3 Jamb / Y Jack	49.50	45.38	124.78	1196	216	54269	7128
4 Jamb / Y Jack	66.00	60.50	166.38	1196	216	72358	9504
Minimum Trib Width (in)							
Jamb/Jacks	M	V	I _x	Minimum Header Length (in)			
1 Jamb / Y Jack	115	292	112	107	284	104	
2 Jamb / Y Jack	229	584	224	221	576	216	
3 Jamb / Y Jack	395	876	337	387	868	329	
4 Jamb / Y Jack	527	1168	449	519	1160	441	

Compression of Jacks

Jamb/Jacks	A Jack (in ²)	I _{ex} (in)	I _{ey} (in)	I _e /d	F _{ce} (psi)	F _c * (psi)	C _L	F _c ' (psi)	Max HL (in)
X Jamb / 1 Jack	16.5	108	1	19.64	934	632.5	0.806	510	492
X Jamb / 2 Jack	33	108	1	19.64	934	632.5	0.806	510	985
F _C (header) A of header on jamb Max HL									
Jamb/Jacks	(psi)	(in ²)							
X Jamb / 1 Jack	425	7.5	187						
X Jamb / 2 Jack	425	15	373						

Jamb/Jacks	Max header Length	
1 Jamb / 1 Jack	104 in	8 ft - 8 in
2 Jamb / 1 Jack	187 in	15 ft - 6 in
3 Jamb / 1 Jack	187 in	15 ft - 6 in
4 Jamb / 1 Jack	187 in	15 ft - 6 in
1 Jamb / 2 Jack	104 in	8 ft - 8 in
2 Jamb / 2 Jack	216 in	18 ft - 0 in
3 Jamb / 2 Jack	329 in	27 ft - 4 in
4 Jamb / 2 Jack	373 in	31 ft - 1 in

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
address to the following extent:

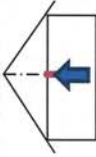
APPROVED BY
NIA INC.

Drawn: Tyler
Occupancy: Single Family Dwelling
Address: 100 MPH Vpn, 124 MPH Vpn
Wind Velocity: 0 Hz
Plan No.: MPT-10136-SVM-2407
Allow Floor Load: 60 PSF
Approved Date: 2/22/2021
Manufacturer: Deer Valley Homes

Dimensional Lumber CL Header Spans

Total truss snow loading reaction: **668 #** Truss load per half: 668 #
 Total truss uplift reaction: **1087 #** Truss load per half: 961 #
 T Load = 501 plf ΔTL 180 $C_d = 1.15$
 L Load = 375.75 plf ΔLL 240 $C_H = 1$

Truss type: **Non-storage** Deer Valley HB SVM-9407 FL
 Truss spacing: 16 "o/c
 Lumber species: **SPF**



Member	No.	Sp / Grade	Width in	Depth in	F_b psi	F_v psi	E psi	Flat or Edge	I_x in ⁴	S_x in ³	C_r	C_t x C_{fu}
1	1	#2	1.5	3.5	875	135	1400000	E	5.36	3.06	1	1.5
2	1	#2	1.5	5.5	875	135	1400000	E	20.80	7.56	1	1.3
3	1	#2	1.5	7.25	875	135	1400000	E	47.63	13.14	1	1.2
4	1	#2	1.5	9.25	875	135	1400000	E	98.93	21.39	1	1.1
5	1	#2	1.5	11.25	875	135	1400000	E	177.98	31.64	1	1

Max Span
2 ft - 2 in
3 ft - 4 in
4 ft - 5 in
5 ft - 7 in
6 ft - 6 in

Member	F_b' psi	F_v' psi	M in ² /lb	V lb	Moment in	Shear in	ΔTL	ΔLL
1	1509	155	4622	543	29	26	42	42
2	1308	155	9893	854	43	41	67	67
3	1208	155	15867	1126	55	54	88	88
4	1107	155	23677	1436	67	69	112	112
5	1006	155	31838	1747	78	84	137	137

Max Span
2 ft - 2 in
3 ft - 4 in
4 ft - 5 in
5 ft - 7 in
6 ft - 6 in

Check spans based on uplift

T Load = 720.75 plf ΔTL 180
 L Load = 720.75 plf ΔLL 240

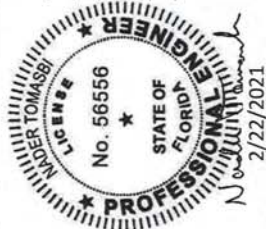
$C_d = 1.6$ Lumber species: **SPF**
 $C_H = 1$

Member	No.	Sp / Grade	Width in	Depth in	F_b psi	F_v psi	E psi	Flat or Edge	I_x in ⁴	S_x in ³	C_r	C_t x C_{fu}
1	1	2	1.5	3.5	875	135	1400000	E	5.36	3.06	1	1.5
2	1	2	1.5	5.5	875	135	1400000	E	20.80	7.56	1	1.3
3	1	2	1.5	7.25	875	135	1400000	E	47.63	13.14	1	1.2
4	1	2	1.5	9.25	875	135	1400000	E	98.93	21.39	1	1.1
5	1	2	1.5	11.25	875	135	1400000	E	177.98	31.64	1	1

Max Span
1 ft - 10 in
2 ft - 11 in
3 ft - 10 in
4 ft - 11 in
6 ft - 0 in

Member	F_b' psi	F_v' psi	M in ² /lb	V lb
1	2100	135	6431	473
2	1820	135	13764	743
3	1680	135	22076	979
4	1540	135	32942	1249
5	1400	135	44297	1519

Max Span
1 ft - 10 in
2 ft - 11 in
3 ft - 10 in
4 ft - 11 in
6 ft - 0 in



Laminated Veneer Lumber CL Spans

Truss type: **Non-storage** Deer Valley HB SVM-9407 FL

Net uplift load per half: 894.3 #

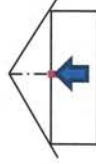
Total truss **UPLIFT** load : **978.3 #** -0.6 x DL

Truss spacing : 16 " o/c

T Load = 670.7 plf

L Load = 670.7 plf

Coef. per ESR 1387



Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _r	Max Span
1	1	Microllam	1.5	3.5	2400	250	2000000	0.136	5.36	3.06	1.182	3 ft - 3 in
2	1	Microllam	1.5	5.5	2400	250	2000000	0.136	20.80	7.56	1.112	5 ft - 1 in
3	1	Microllam	1.5	7.25	2400	250	2000000	0.136	47.63	13.14	1.071	6 ft - 9 in
4	1	Microllam	1.5	9.25	2400	250	2000000	0.136	98.93	21.39	1.036	8 ft - 8 in

Max Spans

Member	F _b psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	4541	400	13905	1400	44	50	43	39	3 ft - 3 in
2	4270	400	32291	2200	67	79	68	62	5 ft - 1 in
3	4112	400	54039	2900	87	104	90	82	6 ft - 9 in
4	3978	400	85100	3700	110	132	115	104	8 ft - 8 in



2/22/2021

Total truss **SNOW** load at CL: **668 #**

T Load = 501.0 plf

L Load = 375.8 plf

Truss snow load per half: 668 #

C_d = 1.15

Coef. per ESR 1387

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _r	Max Span
1	1	Microllam	1.5	3.5	2400	250	2000000	0.136	5.36	3.06	1.182	3 ft - 11 in
2	1	Microllam	1.5	5.5	2400	250	2000000	0.136	20.80	7.56	1.112	6 ft - 3 in
3	1	Microllam	1.5	7.25	2400	250	2000000	0.136	47.63	13.14	1.071	8 ft - 3 in
4	1	Microllam	1.5	9.25	2400	250	2000000	0.136	98.93	21.39	1.036	10 ft - 5 in

Max Spans

Member	F _b psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	3264	288	9994	1006	50	64	53	48	3 ft - 11 in
2	3069	288	23209	1581	77	101	83	75	6 ft - 3 in
3	2956	288	38841	2084	99	133	109	99	8 ft - 3 in
4	2859	288	61165	2659	125	170	139	126	10 ft - 5 in

Cons. Type: VLS-100000000
Occupancy: Single Family Dwelling
Wind Velocity: 120 MPH
Exposure: B
Plate No.: 120 MPH
Approval No.: 120 MPH
Approval Date: 2/22/21
Approval By: [Signature]

APPROVED BY
NIA INC.

Laminated Veneer Lumber CL Spans

Truss type: **Non-storage** Deer Valley HB SVM-9407 FL
Net uplift load per half: 447 #

Total truss **UPLIFT** load : 531 # -0.6 x DL
16 " o/c

T Load = 335.3 plf
L Load = 335.3 plf

Truss spacing :
Δ TL 180
Δ LL 240

Coef. per ESR 1387



$C_d = 1.6$

Member	No.	Manufacturer	Width in	Depth in	F_b psi	F_v psi	E psi	Coef	I_x in ⁴	S_x in ³	C_1	Max Span
1	1	Microllam	1.5	16	2400	250	2000000	0.136	512.00	64.00	0.962	18 ft - 11 in
2	1	Microllam	1.5	18	2400	250	2000000	0.136	729.00	81.00	0.946	21 ft - 3 in
3	1	Microllam	1.5	20	2400	250	2000000	0.136	1000.00	100.00	0.933	23 ft - 8 in
4	1	Microllam	1.5	24	2400	250	2000000	0.136	1728.00	144.00	0.910	28 ft - 4 in



Member	F_b' psi	F_v' psi	M in*lb	V lb
1	3693	400	236330	6400
2	3634	400	294353	7200
3	3582	400	358228	8000
4	3495	400	503215	9600

Total truss **SNOW** load at CL: 586 #
T Load = 439.5 plf
L Load = 329.6 plf

Truss snow load per half: 586 #
 $C_d = 1.15$

Coef. per ESR 1387

Member	No.	Manufacturer	Width in	Depth in	F_b psi	F_v psi	E psi	Coef	I_x in ⁴	S_x in ³	C_1	Max Span
1	1	Microllam	1.5	16	2400	250	2000000	0.136	512.00	64.00	0.962	18 ft - 6 in
2	1	Microllam	1.5	18	2400	250	2000000	0.136	729.00	81.00	0.946	20 ft - 8 in
3	1	Microllam	1.5	20	2400	250	2000000	0.136	1000.00	100.00	0.933	22 ft - 9 in
4	1	Microllam	1.5	24	2400	250	2000000	0.136	1728.00	144.00	0.910	27 ft - 0 in

Member	F_b' psi	F_v' psi	M in*lb	V lb
1	2654	288	169862	4600
2	2612	288	211566	5175
3	2575	288	257477	5750
4	2512	288	361686	6900

These prints comply with the Florida Manufactured Building Code and all applicable provisions of the Florida Building Code, which are incorporated by reference into the following contract documents:
APPROVED BY
NIA INC.
Contract Type: Manufactured Building
Contract No.: SVM-9407-FL
Contract Date: 03/16/2022
Contract Location: Deer Valley, FL
Contract Description: Non-storage Truss
Contract Value: \$1,150,000.00
Contract Status: In Progress
Contract Owner: Deer Valley, FL
Contract Designer: NIA INC.
Contract Engineer: NIA INC.
Contract Architect: NIA INC.
Contract Manufacturer: NIA INC.

Column Calculation - Matewall

Deer Valley HB SVM-9407 FL
Load Supporting Roof Only

DL =	10 psf	Height of Col =	108 in
LL =	20 psf	Typ Stud Spacing =	16 in o/c
Mod W =	15 ft	No of 2x in Header =	1
T Load =	501 plf		
Member: 2x3 SPF #3		F _b =	500 psi
b =	1.5 in	E =	1200000 psi
d =	2.5 in	F _v =	135 psi
		F _c =	650 psi
C _F comp =	1.1	C _d comp =	1

**Compression of Columns**

Number of Columns	A Col (in ²)	I _{ex} (in)	I _{ey} (in)	I _e /d	F _{ce} (psi)	F _c * (psi)	C _L	F _c ' (psi)	Max HL (in)
1 2x3 SPF #3	3.75	108	1	43.20	193	715	0.253	181	32
2 2x3 SPF #3	7.50	108	1	43.20	193	715	0.253	181	65
3 2x3 SPF #3	11.25	108	1	43.20	193	715	0.253	181	97
4 2x3 SPF #3	15.00	108	1	43.20	193	715	0.253	181	130
5 2x3 SPF #3	18.75	108	1	43.20	193	715	0.253	181	162
6 2x3 SPF #3	22.50	108	1	43.20	193	715	0.253	181	195
7 2x3 SPF #3	26.25	108	1	43.20	193	715	0.253	181	227
8 2x3 SPF #3	30.00	108	1	43.20	193	715	0.253	181	260

Bearing of Header

Number of Columns	F _{C⊥} (header) (psi)	A of header on jamb (in ²)	Max HL (in)	Max HL-CL (in)
1 2x3 SPF #3	425	2.25	46	32
2 2x3 SPF #3	425	4.5	92	62
3 2x3 SPF #3	425	6.75	137	96
4 2x3 SPF #3	425	9	183	130
5 2x3 SPF #3	425	11.25	229	162
6 2x3 SPF #3	425	13.5	275	195
7 2x3 SPF #3	425	15.75	321	227
8 2x3 SPF #3	425	18	366	260

Number of Columns	Column span adjusted		Center Column span	
1 2x3 SPF #3	16 in	1 ft - 4 in	24 in	2 ft - 0 in
2 2x3 SPF #3	60 in	4 ft - 11 in	62 in	5 ft - 1 in
3 2x3 SPF #3	106 in	8 ft - 10 in	96 in	7 ft - 11 in
4 2x3 SPF #3	142 in	11 ft - 9 in	130 in	10 ft - 9 in
5 2x3 SPF #3	177 in	14 ft - 9 in	162 in	13 ft - 6 in
6 2x3 SPF #3	213 in	17 ft - 8 in	195 in	16 ft - 2 in
7 2x3 SPF #3	248 in	20 ft - 8 in	227 in	18 ft - 11 in
8 2x3 SPF #3	284 in	23 ft - 7 in	260 in	21 ft - 7 in

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Cond. Type: Uninsulated
Occupancy: Single Family Dwelling
Altitude: 0
of Floor: 1
Wind Velocity: 140 MPH V₅₀, 124 MPH V₃₀
F_{net} Rating of 0.10
Sic. Value: 0.10
Plan No.: SVF11116-SVM-0001
Alt. Floor Level: 0.0
Approval Date: 2/22/2021
Manufacturer: Deer Valley Homes

Column Calculation - Matewall

Deer Valley HB SVM-9407 FL
Load Supporting Roof Only

DL = 10 psf
LL = 20 psf
Mod W = 15 ft

T Load = 501 plf

Height of Col = 108 in
Typ Stud Spacing = 16 in o/c
No of 2x in Header = 1

Member: 2x4 SPF #3

b =	1.5 in
d =	3.5 in

$$\begin{aligned} F_b &= 500 \text{ psi} \\ E &= 1200000 \text{ psi} \\ F_v &= 135 \text{ psi} \\ F_c &= 650 \text{ psi} \end{aligned}$$

$$C_F \text{ comp} = 1.1$$
 $C_d \text{ comp} = 1$

Compression of Columns

	A Col	I_{ex}	I_{ey}	I_e/d	F_{ce}	F_c^*	C_L	F_c'	Max HL
Number of Columns	(in ²)	(in)	(in)		(psi)	(psi)		(psi)	(in)
1 2x4 SPF #3	5.25	108	1	30.86	378	715	0.454	324	82
2 2x4 SPF #3	10.50	108	1	30.86	378	715	0.454	324	163
3 2x4 SPF #3	15.75	108	1	30.86	378	715	0.454	324	245
4 2x4 SPF #3	21.00	108	1	30.86	378	715	0.454	324	326
5 2x4 SPF #3	26.25	108	1	30.86	378	715	0.454	324	408
6 2x4 SPF #3	31.50	108	1	30.86	378	715	0.454	324	489
7 2x4 SPF #3	36.75	108	1	30.86	378	715	0.454	324	571
8 2x4 SPF #3	42.00	108	1	30.86	378	715	0.454	324	652

Bearing of Header

Number of Columns	F_{CL} (header) (psi)	A of header on jamb (in ²)	Max HL (in)	Max HL-CL (in)
1 2x4 SPF #3	425	2.25	46	73
2 2x4 SPF #3	425	4.5	92	147
3 2x4 SPF #3	425	6.75	137	220
4 2x4 SPF #3	425	9	183	294
5 2x4 SPF #3	425	11.25	229	367
6 2x4 SPF #3	425	13.5	275	440
7 2x4 SPF #3	425	15.75	321	514
8 2x4 SPF #3	425	18	366	587

Number of Columns	Column span + # of stud		Center Column span	
1 2x4 SPF #3	24 in	1 ft - 11 in	34 in	2 ft - 9 in
2 2x4 SPF #3	92 in	7 ft - 7 in	108 in	8 ft - 11 in
3 2x4 SPF #3	137 in	11 ft - 5 in	153 in	12 ft - 9 in
4 2x4 SPF #3	183 in	15 ft - 3 in	199 in	16 ft - 7 in
5 2x4 SPF #3	229 in	19 ft - 1 in	245 in	20 ft - 5 in
6 2x4 SPF #3	275 in	22 ft - 10 in	291 in	24 ft - 2 in
7 2x4 SPF #3	321 in	26 ft - 8 in	337 in	28 ft - 0 in
8 2x4 SPF #3	366 in	30 ft - 6 in	382 in	31 ft - 10 in

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VB-unrecolected
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH 5/10 174 MPH 10/30
Fire Rating of Ext. Walls: 0 Hr
Plan No.: ME110136-SYM 9-07
Allow. Floor Load: 40 PSF
Approval Date: 5/23/2011
Manufacturer: Duan McElroy-Hansen

Strap Connection

Load Supporting Roof Only

Matewall

Roof Dead Load =	15 psf
Roof Live Load =	30 psf
Floor Dead Load =	10 psf
Floor Live Load =	40 psf
Width of Box =	15.000 ft
Overhang Length =	12 in
Wall Dead Load =	40 plf
Stud sp =	16 in o/c
Simpson MSTA30 =	1820 lbs

V ult=

160 mph

Exposure =	C
Mean Roof Height =	20 ft
Wind Load (int) =	-65.70 psf
Wind Load (ext) =	-65.78 psf
Wind Load (OH) =	-110.94 psf

**Connection of truss to wall**

Uplift Load int (plf)	Uplift Load ext (plf)	Strap Capacity (lbs)
650	650	1820

End Stud Uplift Straps

No. of Straps	Max Opening (in)	
	Interior Zone	Exterior Zone
1	4 ft - 11 in	4 ft - 11 in
2	10 ft - 6 in	10 ft - 6 in
3	16 ft - 1 in	16 ft - 1 in
4	21 ft - 8 in	21 ft - 8 in
5	27 ft - 4 in	27 ft - 4 in
6	32 ft - 11 in	32 ft - 11 in
7	38 ft - 6 in	38 ft - 6 in
8	44 ft - 1 in	44 ft - 1 in

Center Stud Uplift Straps

No. of Straps	Max Opening (in)	
	Interior Zone	Exterior Zone
1	5 ft - 7 in	5 ft - 7 in
2	11 ft - 2 in	11 ft - 2 in
3	16 ft - 9 in	16 ft - 9 in
4	22 ft - 4 in	22 ft - 4 in
5	28 ft - 0 in	28 ft - 0 in
6	33 ft - 7 in	33 ft - 7 in
7	39 ft - 2 in	39 ft - 2 in
8	44 ft - 9 in	44 ft - 9 in

Check strap req. with 7/16" OSB sheathing 24/0:

Per APA report E510A & WFCM, the allow. tension capacity of 7/16" OSB - tension only: 1500 plf

Max uplift per corner (stud) = plf x 16"x0.5/12 : 1000 lb

8d nail shear capacity 73# x 1.6 = 116.8 lb

Req. # of nails : 8.5616 use 9 nails /end per stud location

15ga.x 7/16x1.5" staple capacity : 64# x 0.82 x 1.6 = 82.944 lb

Req. # of staples : 12.056 use 12 15ga staples /end per stud location

Uplift Load int (plf)	Uplift Load ext (plf)	Strap Capacity (lbs)
650	650	1820

End Stud Uplift Straps

No. of Straps + 7/16" OSB	Max Opening (in)	
	Interior Zone	Exterior Zone
OSB only	1 ft - 8 in	1 ft - 8 in
1	7 ft - 4 in	7 ft - 4 in
2	12 ft - 11 in	12 ft - 11 in
3	18 ft - 6 in	18 ft - 6 in
4	24 ft - 1 in	24 ft - 1 in
5	29 ft - 9 in	29 ft - 9 in
6	35 ft - 4 in	35 ft - 4 in
7	40 ft - 11 in	40 ft - 11 in
8	46 ft - 6 in	46 ft - 6 in

Center Stud Uplift Straps

No. of Straps + 7/16" OSB	Max Opening (in)	
	Interior Zone	Exterior Zone
OSB only	3 ft - 0 in	3 ft - 0 in
1	8 ft - 8 in	8 ft - 8 in
2	14 ft - 3 in	14 ft - 3 in
3	19 ft - 10 in	19 ft - 10 in
4	25 ft - 5 in	25 ft - 5 in
5	31 ft - 1 in	31 ft - 1 in
6	36 ft - 8 in	36 ft - 8 in
7	42 ft - 3 in	42 ft - 3 in
8	47 ft - 10 in	47 ft - 10 in

These plans comply with the
Florida Manufactured Building
Act and adopted Codes and
ordinances in the following states:

APPROVED BY
NIA INC.

Comd. Type: VSB (unapproved)
Single Family Residential
Allowable Use:
of Floor:
Wind Velocity:
Free Rating of
Sd. Value:
Plan No.: MFT (10/16/2016)
Allow. Floor Load:
Approval Date:
Manufacturer: Door Value Systems

Wall Uplift Fastening Calculation

Deer Valley HB SVM-9407 FL

Uplift Connection Loads From Wind

NT

$V_{ult} = 160$ mph
 Exposure = C
 Mean Roof Height = 20 ft
 Wind Load (int) = -65.70 psf
 Wind Load (ext) = -65.70 psf
 Wind Load (OH) = -113.94 psf

Sidewall Fastening

Uplift Load Supporting Roof Only = 324 plf Ext = 324 plf

Truss to Double Top Plate

Uplift Load = -719 lbs
 Uplift Capacity of H2.5A = 535 lbs
 Uplift capacity of 2-#8x3.5" screws = 236.16 lbs
 Number of Clips = 1 clip

Uplift Load at End Zone = -719 lbs
 Uplift Capacity of MTS18 = 1030 lbs
 Uplift Capacity of H2.5A = 535 lbs
 Uplift capacity of 2-#8x3.5" screws = 236.16 lbs

Number of Clips = 1 clip (MTS18)
 Number of Clips = 1 clip (H2.5A)

Wall Horizontal Fastening Calculation

Lateral wind load = 32.58 psf int zone
 43.38 psf end zone
 Wall height = 9.00 Ft
 W int zone = 146.61 PLF
 W end zone = 195.21 PLF
 0.131" Nails lateral: 101.088 Lb.
 #8x3" screws lateral: 83.2
 Truss 16"o/c int (130mph) 195.48 Lb.
 Truss 16"o/c end (130mph) 260.28 Lb.
 Req # nails int: 1.933761
 Req # screws int: 2.349519
 Req # nails ext: 2.574786
 Req # screws ext: 3.128365



These prints comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: Single Family Dwelling
 Occupancy: Single Family Dwelling
 Address: 1000 N. 10th St, Deer Valley, FL 32008
 Wind Velocity: 130 mph
 Floor Rating: 10
 Int. Wall: 10
 Floor No.: 1ST FLOOR
 Allow. Floor Load: 20 psf
 Approved Date: 2/22/2021
 Manufacturer: Deer Valley Homes

Wall Uplift Fastening Calculation

Deer Valley HB SVM-9407 FL

Uplift Connection Loads From Wind

$V_{ult} = 160$ mph
 $C = C$
 $\text{Mean Roof Height} = 20$ ft
 $\text{Wind Load (int)} = -65.70$ psf
 $\text{Wind Load (ext)} = -65.70$ psf
 $\text{Wind Load (OH)} = -113.94$ psf

NT

Matewall Fastening

Uplift Load Supporting Roof Only = 489 plf Ext = 734 plf

Gravity Load Supporting Roof Only = 334 plf

Truss to LVL Matewall Beam

Uplift Load = 1087 lbs
 Gravity Load = 668 lbs
 0.131 nails 124.8 lbs

Number of nails = 9

Uplift Load End Zone = 1087 lbs

Number of nails at end zone = 9

Alt fastening of LVL to Truss Kingpost

Uplift Load = 1087 lbs
 Gravity Load = 668 lbs
 Capacity of 16d common nail = 126.4 lbs
 Gravity Capacity of #8 x 4" screw = 90.85 lbs
 Capacity of 15 Gage staples = 59.616 lbs
 Number of #8x4" screws or 16d nails = 9
 Number of 15 ga. Staples = 12



These prices comply with the Florida Manufactured Building Act and related Codes and orders to the following extent:

APPROVED BY
NIA INC.

Const. Type: VB-Intersected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH (150 - 174 MPH)
 Fire Rating of Det. Walls: 0 Hr
 Floor No.: 1ST FLOOR (1ST FL)
 Allow. Floor Load: 60 PSF
 Approval Date: 2/22/2021
 Manufacturer: Deer Valley Homes

Wall connections

Deer Valley HB SVM-9407 FL

7/16" osb 4.448 lb/in x stud spacing 16"oc x 1.6 = 113.8688 #

7/16" osb 4.448 lb/in x stud spacing 24"oc x 1.6 = 170.8032 #

 $V_{ult} = 160 \text{ mph}$

Exposure = C

Mean Roof Height = 20 ft

Lateral wind load = 32.58 psf int zone

43.38 psf end zone

Wall height = 9 ft

Top/Bottom Plate to Stud

Number of top plates = 2 plates

Lateral Load = 144.9225 plf

193.5225 plf end zone

Stud spacing = 16 in o/c

Lateral Load at stud = 79.3612 lbs

Lateral Load at stud = 144.1612 lbs end zone

Capacity of 0.131x3" pd nails = 67.392 lbs end grain/wind

Required number of nails = 2 nails**3 nails** end zone

Number of top plates = 2 plates

Lateral Load = 144.9225 plf

193.5225 plf end zone

Stud spacing = 24 in o/c

Lateral Load at stud = 119.0418 lbs

Lateral Load at stud = 216.2418 lbs end zone

Capacity of 0.131x3" pd nails = 67.392 lbs end grain/wind

Required number of nails = 2 nails**3 nails** end zone

Staples versus nails: 1.238095

Increase the number of 15ga. staples by 1.25 when substituting for 0.131" nails

Double Top Plate fastening/Bottom Plate to Floor Joist Fastening

Lateral Load = 144.9225 plf

Lateral Load = 193.5225 plf end zone

Capacity of 0.131 nails = 101.088 lb

Capacity of 15 ga staples = 80 lb

Required number of nails = 8 in o/c**6 in o/c end zone****Required number of staples = 7 in o/c****5 in o/c end zone**

These prints comply with the
Florida Manufactured Building
Act and stamped Codes and
address to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VB-unprotected
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH Wind 174 MPH Vel.
Fire Rating of Site Wall: 0 Hr.
Plan No.: MBT10188-SVM-9407
Allow. Floor Load: 30 PSF
Approved Date: 2-22-2021
Manufacturer: Deer Valley Homes

Sill Plate to Stud

Lateral Wind Load = 66 psf
Wall Height = 9 ft
Sill Height = 2.833333 ft

Max Lateral Load to Sill = 144.9225 plf
Capacity of 0.131x3" pd nails = 67.392 lbs
Length of Sill (double member) = 5.833333 ft
Load at Sill = 194.953 lbs

Number of required Nails = 2.892821
Number of Sills = 1
Nail per member = 3

Header to Stud - wind uplift

Lateral Wind Load = 144.9225 plf
Wall height = 9
Sill Height = 2.833333 ft
Uplift Load = 655.155 plf
Capacity of 0.131x3" pd nails = 101.088 lbs

Nails	Sidewall Opening (uplift)	
6	22	1.851556
8	30	2.468741
10	37	3.085926
12	44	3.703111
14	52	4.320297
16	59	4.937482

Header to Stud - Snow

Maximum header span = 2.083333 ft
W = 527.25 PLF

Capacity of 0.131x3" pd nails = 72.657 lbs

Deer Valley HB SVM-9407 FL

end grain/wi



P = 549.2188 Lb.

Fastener req. = 7.559062

Nails	Sill Opening (horizontal wind load)	
3	50	4.185189
5	84	6.975314
7	117	9.76544
9	151	12.55557
11	184	15.34569
13	218	18.13582

Sheathing to wall for wind suction, sheathing to roof for wind suction:

Wall -ive pressure : -43.38 psf
Nail spacing: 12 in o/c
Loading area: 1.333333 ft^2
Allowable load per nail 39# x 1.6 x 2" penetration : 124.8 lb.
Nail capacity / Loading area: 93.6 psf **OK**

Roof uplift : -113.94 psf
Nail spacing: 6 in o/c
Loading area: 1.333333 ft^2
Allowable load per nail 39# x 1.6 x 2" penetration : 143.52 lb.
Nail capacity / Loading area: 107.64 psf **NG**

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VR-unsupported
Occupancy: Single Family Residence
Allowable No. of Floors: 1
Wind Velocity: 140 MPH SSB, 124 MPH VSB
Fire Rating of Ext. Wall: 0 Hr
Plan No.: SVF-10166-SVM-9407
Allow. Floor Load: 60 PSF
Approval Date: 2/22/2021
Manufacturer: Deer Valley Homes

Truss ref.: 102462 HDM18814

Spacing: 16 " o.c.

GSL: 20 PSF

Shear capacity of #8x3.5" screws 78# x Cr x 0.67=

65 #

Shear capacity of #10x3.5" screws 99# x Cr x 0.67=

82.5 #

Shear capacity of 0.131x3.5" nails 82# x Cr x 0.6 (end grain)=

60.72 #

Shear capacity of 0.131x3.5" nails 82# x Cr x 1.6 (wind)=

139.2 #

Shear capacity of 0.148x3.5" nails 82# x Cr x 1.6 (wind)=

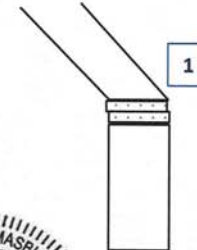
150.4 #

Shear capacity of 0.162x3.5" nails 82# x Cr x 1.6 (wind)=

171.2 #

Shear capacity of 15 Ga. staple 64# x Cr x 0.6 (end grain)=

44.16 #



Loads at location #: 1

Area: 17.475 ft^2

572 # Comp.

852 # Tension

250 # Shear



a) Check compression:

OK by inspection.

b) Check tension:

Check capacity Simpson C22 = 845 Lb.
6 - 10d nails per end

c) Check shear rail to king post:

0.131x3"	101.088 #	Req. # 2.47
0.148x3"	121.824 #	2.05
0.162x3"	138.672 #	1.80

Check rail to rail cord connection:

	250 # Shear
Req. # nails:	1.795977 0.131x3"
	1.662234 0.148x3"
	1.46028 0.162x3"

Loads at location #: 2

Area: 17.475 ft^2

120 # Comp.

164 # Tension

250 # Shear

a) Check compression:

OK by inspection.

b) Check tension:

0.131x3" nails: 39# /in	Tension capacity	48.24 #
	0.131x3"	Req. # 3.40

c) Check shear rail to king post:

0.131x3"	101.088 #	Req. # 2.47
0.148x3"	121.824 #	2.05
0.162x3"	138.672 #	1.80

Check rail to rail cord connection:

	250 # Shear
Req. # nails:	1.802815 0.131x3"

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

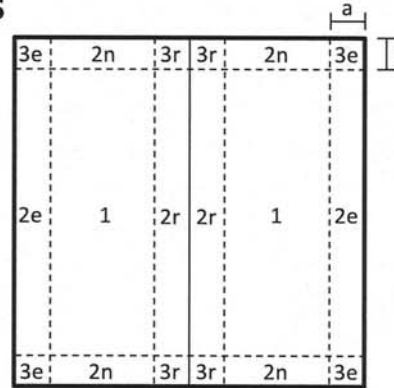
Comd. Type: VB-unprotected
Occupancy: Single Family Dwelling
Alternate No. of Floor: 1
Wind Velocity: 150 MPH V₅₀, 120 MPH V₃₀
Free Field of Soil: 0 ft
Plan No.: MDP-0110-SVM-0407
Allow. Floor Load: 20 psf
Approval Date: 02/02/2021
Manufacturer: Deer Valley Homes

Components and Cladding Loads

ASCE 7-16, Part 1: Enclosed low rise buildings

Load Criteria

Ultimate Wind Speed, V	160 mph
Exposure	C
Mean Roof Height, h	20 ft
Effective Wind Area	10 ft ²
Roof Pitch	2.13 / 12
Roof Angle	10 °



Velocity Pressure

α	9.5	3-s Gust Speed Power Law Exponent, Table 26.11-1
h_g	900 ft	Nom Ht of Atm Boundary Layer, Table 26.11-2
$K_h = 2.01(h/h_g)^{2/\alpha}$		
K_h	0.901885	Vel Pressure Exposure Coeff, Section 26.10.1
K_{ht}	1	Topographic Factor, Section 26.8.2
K_d	0.85	Wind Directionality Factor, Section 26.6
K_e	1	Ground Elevation Factor, Section 26.9
$q_h = 0.00256K_hK_{ht}K_dK_eV^2$		
q_h	50.24 psf	Velocity Pressure, Section 26.10.2

GC_{pi}

Positive	0.18
Negative	-0.18

Internal Pressure Coefficient, Table 26.13-1



GC_p

External Pressure Coefficient, Fig. 30.3-1 to 30.3-2D

	Zone 1	Zone 2e	Zone 2n	Zone 2r	Zone 3e	Zone 3r	Zone 4	Zone 5
Positive	0.54	0.54	0.54	0.54	0.54	0.54	0.9	0.9
Negative	-2	-2	-3	-3	-3	-3.6	-0.99	-1.26
Overhang	-2.5	-2.5	-3.5	-3.5	-4.1	-4.7	x	x

Components & Cladding Loads (psf)

$$p = q_h[(GC_p) - (GC_{pi})]$$

Ult.	Zone 1	Zone 2e	Zone 2n	Zone 2r	Zone 3e	Zone 3r	Zone 4	Zone 5
Positive	36.2	36.2	36.2	36.2	36.2	36.2	54.3	54.3
Negative	-109.5	-109.5	-159.8	-159.8	-159.8	-189.9	-58.8	-72.3
Overhang	-134.6	-134.6	-184.9	-184.9	-215	-245.2	x	x

Ult.x0.6 W	Zone 1	Zone 2e	Zone 2n	Zone 2r	Zone 3e	Zone 3r	Zone 4	Zone 5
Positive	21.72	21.72	21.72	21.72	21.72	21.72	32.58	32.58
Negative	-65.7	-65.7	-95.88	-95.88	-95.88	-113.94	-35.28	-43.38
Overhang	-80.76	-80.76	-110.94	-110.94	-129	-147.12	x	x

These plans comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: V/B-enclosed
Occupancy: Single Family Dwelling
Alternate No. of Floors: 1
Wind Velocity: 160 MPH Vel. 174 MPH Vel.
Fwd Rating of Ekt. Walls: 0 Hz
Plan No.: MFT10166-SV34-0007
Allow. Floor Load: 40 PSF
Approved Date: 2/22/2021
Manufacturer: Palm Valley Homes

SEQN: 9375 MONO Ply: 1 Job Number: 102462
 FROM: Qty: 1 Deer Valley
 Truss Label: HMD18814 Ref. #10008928

DrwNo: 225.20.1005.38533
 DLD / BAF 08/11/2020

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY
NIA INC.

1"8"3 = 4X5

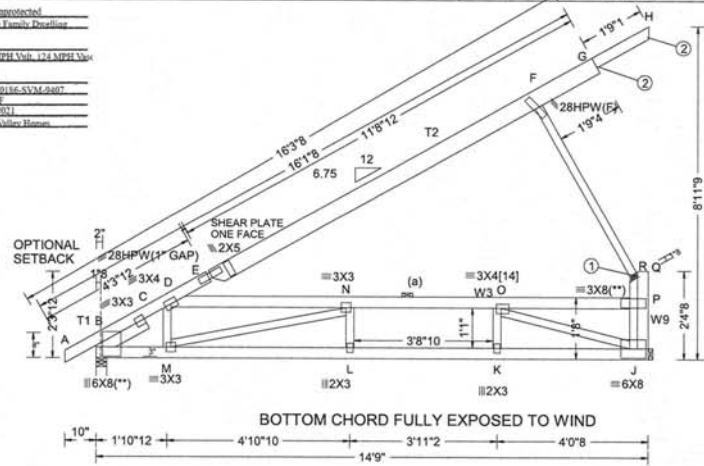
OPTIONAL
 CAP DETAIL



ALTERNATE LOAD @ 16.0" O.C.

TC LL 23.1 PSF
 TC DL 15.0 PSF
 BC DL 15.0 PSF
 BC LL 0.0 PSF
 TOT.LD. 53.1 PSF

Vasd=108 mph @ 24" O.C.
 Vasd=132 mph @ 16" O.C.



BOTTOM CHORD FULLY EXPOSED TO WIND

Loading Criteria (psf)		Wind Criteria		Snow Criteria (Pg. Pf in PSF)		Defl/CSI Criteria		Maximum Reactions (lbs)	
TCLL	20.00	Wind Std:	ASCE 7-16	Pg: NA	Ct: NA	PP Deflection in loc L/defl L/#		Gravity	Non-Gravity
TCDL	10.00	Speed:	140 mph@24"/171@16"	Pf: NA	Ce: NA	VERT(LL): -0.227 L 779 240		Loc R+ / R-	/ Rh / Rw / RL
BCLL	0.00	Enclosure:	Part. Enc.	Lu: NA	Cs: NA	VERT(CL): -0.258 L 684 240		B 703 -/- /- /598 /719 -/-	
BCDL	10.00	Risk Category:	II	Snow Duration:	NA	HORZ(LL): -0.053 D - -		J 624 -/- /83 /784 /1087 /763	
Des Ld:	40.00	EXP: D	Kzt: NA	Building Code:		HORZ(TL): 0.057 D - -		Wind reactions based on MWFRS	
NCBCLL	10.00	Mean Height:	30.00 ft	FBC 7th Ed. 2020 Res.		Creep Factor: 2.0		B Brg Width = 3.5	Min Req = 1.5
Soffit:	2.00	TCDL:	5.0 psf@24"/7.5@16"	TPI Std: 2014		Max TC CSI: 0.960		J Brg Width = 1.5	Min Req = -
Load Duration:	1.15	BCDL:	5.0 psf@24"/7.5@16"	Rep Fac: Yes		Max BC CSI: 0.430		Bearing B is a rigid surface.	
Spacing:	24.0"	MWFRS Parallel Dist:	0 to h/2	FT/RT: 0(0)/0(0)		Max Web CSI: 0.878		Maximum Top Chord Forces Per Ply (lbs)	
		C&C Dist a:	3.00 ft	Plate Type(s):				Chords	Tens.Comp. Chords Tens. Comp.
		Loc. from endwall:	Any	WAVE				A - B 21 -3 E - F 185 -452	
		GCpi:	0.55					B - C 1309 -1145 F - G 159 -172	
		Wind Duration:	1.60					C - D 1309 -1103 G - H 164 -120	
								D - E 129 -484 H - I 153 -119	

Lumber
 Value Set: 13B (Effective 6/1/2013)
 Top chord: 2x4 SP #2; T1 2x4 SP #1;
 T2 2x6 SP #2;
 Bot chord: 2x4 SP #1;
 Webs: 2x3 SPF Stud; W3 2x4 SP #1; W9 2x4 SP #2;
 Lt Slider: 2x4 SP #1; block length = 1,500'

Lumber value set "13B" uses design values approved 1/30/2013 by ALSC

Bracing
 (a) Continuous lateral restraint equally spaced on member.

Plate Shift Table

JT	Plate	Lateral	Chord	JT	Plate	Lateral	Chord
No	Size	Shift	Bite	No	Size	Shift	Bite
[14]	3X4	1.50	L 1.25				

Loading
 Bottom chord checked for 10.00 psf non-concurrent live load.

(F) No gap at hinged connection, provide a minimum of 2" wood to wood contact when hinged section is raised.

(L) THE PROJECT ENGINEER OR BUILDING DESIGNER SHALL PROVIDE LATERAL STABILITY AT TOP OF VERTICAL WEB.

Lanal/Porch Loading : 40.5 PLF wind pressure applied to the bottom chord of the truss from 0.00 ft to 14.75 ft.

Wind
 Wind loads based on MWFRS with additional C&C member design.
 Wind loading based on both gable and hip roof types.

Circled numbers indicate type of field connection required. All forces are per ply. See schedule for connection loads and requirements. Tight fit is required between all members at the joint. All field connections shall be designed by the Registered Design Professional and conform to the home manufacturer's installation details. Warning: Failure to provide proper field connection may result in inadequate structural performance.

Field connection schedule:
 Maximum load(lbs) [notes]:
 Type Axial Shear
 1 852T / 572C --- -T=tension load.
 2 164T / 120C 250 -C=compression load.
 --- design connection for combined axial + shear axial + shear load shown.

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
B - M	999 -1152	L - K	791 -531
M - L	784 -518	K - J	773 -527

Maximum Web Forces Per Ply (lbs)

Webs	Tens.Comp.	Webs	Tens. Comp.
D - M	409 -367	O - J	1458 -936
D - N	1448 -912	O - P	463 -788
M - N	760 -1185	F - R	805 -475
N - L	209 -183	J - P	657 -396
N - O	677 -682	P - R	631 -374
K - O	242 -340	Q - R	0 0



NOTE: THE REGISTERED DESIGN PROFESSIONAL SHALL DESIGN THE SUPPORTS (WALL AND/OR BEAMS, CONNECTIONS, AND BUILDING SYSTEM TO ACCOMMODATE HORIZONTAL REACTIONS ("Rh & RL") WHERE SHOWN.

Refer to DRWG HINGPL161014, HINGPL781014, SHEARPLT1014 for hinge and shear plate details.

****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
****IMPORTANT**** FURNISH THIS DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS

Trusses require extreme care in fabricating, handling, shipping, installing and bracing. Refer to and follow the latest edition of BCSI (Building Component Safety Information, by TPI and SBCE) for safety practices prior to performing these functions. Installers shall provide temporary bracing per BCSI. Unless noted otherwise, top chord shall have properly attached structural sheathing and bottom chord shall have a properly attached rigid ceiling. Locations shown for permanent lateral restraint of webs shall have bracing installed per BCSI sections B3, B7, or B10, as applicable. Apply plates to each face of truss and position as shown above and on the Joint Details, unless noted otherwise. Refer to drawings 160A-2 for standard plate positions. Refer to job's General Notes page for additional information.

Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses. A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec. 2.

For more information see these web sites: Alpine: www.alpineitw.com; TPI: www.tpinet.org; SBCE: www.sbceindustry.com; ICC: www.iccsafe.org

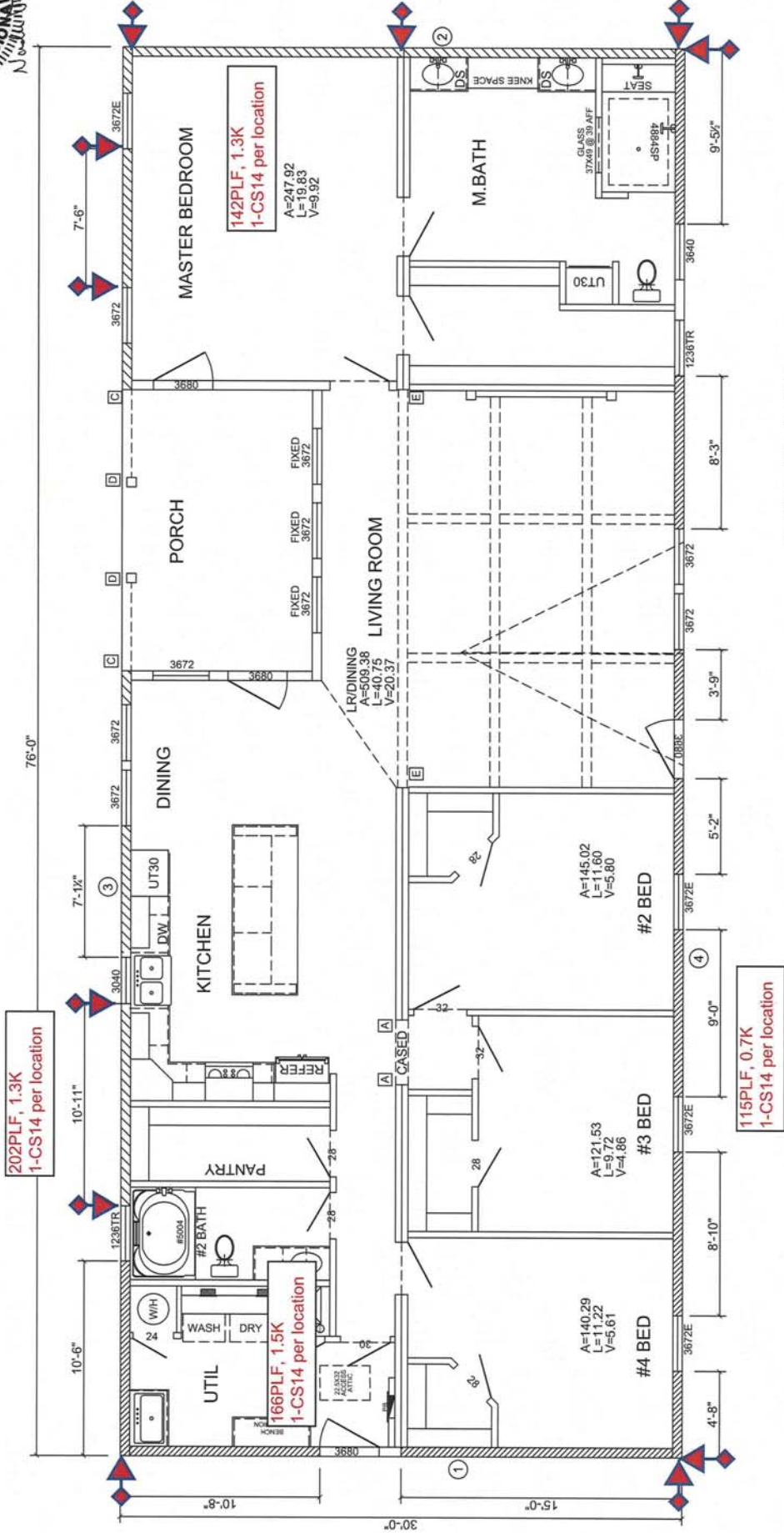
Fabrication by: UFP
 Haleyville LLC, #317
 AL

ALPINE
 AN ITW COMPANY
 13723 Riverport Drive
 Suite 200
 Maryland Heights, MO 63043

Pag



7/16" rated sheathing fastened to roof framing with 0.131 pd nails 4" o.c.
Sheathing must be blocked on all edges a minimum of 8" from each end wall.



These plans comply with the Florida Building Code, Building Official's Office, and are subject to the approval of the Building Official. APPROVED BY NIF INC. 3/3/2021

* = FINISHED WALL TO FINISHED WALL DIMENSION

SVM-9407 (7602)
BRACING PLAN

FL 160MPH

2/4/2021

JT

Sun Valley Homebuilders
A DIVISION OF SUN VALLEY HOMES, INC.

MOD

1.01

Const. Type: VH-unprotected
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 160 MPH Vsb. 174 MPH Vsb.
Fire Rating of Ext. Walls: 0 Hr
Plan No.: MET10186-SVM-0407
Allow. Floor Load: 40 PSF
Approval Date: 5/24/2021
Manufacturer: Three Valley Homes

One Story Shear Wall Wind/Seismic Analysis - No Interior Shearwalls

Deer Valley SVM-9407 (7602)

Wind Loads**ASCE7-16**

MWF

Nominal wind speed = 123 mph
 Ultimate Wind Speed = FALSE mph
 Exposure = C
 Mean Roof Height = 20 ft
 Wind load Areas (psf)

	A	B	C	D
	34.8	0.0	23.1	0.0

A = End zone of Wall
 B = End zone of Roof
 C = Interior zone of Wall
 D = Interior zone of Roof

**Building Values**

Roof pitch =	2.13 /12	Sidewall Length =	76 ft
Roof angle =	10.1 °	Endwall Length =	30 ft
Wall Height =	9 ft	a =	3.00 ft
Heel Height of Truss =	8 in	2a =	6.00 ft
		Porch Length (Left) =	0 ft
		Porch Length (Right) =	0 ft
Height of Roof =	3.33 ft		

Left Endwall Shear Values

Area of End Zone of Sidewall =	27.0 ft ² /side	Total Shear =	940 lbs
Area of End Zone of Roof =	20.0 ft ² /side	Total Shear =	0 lbs
Area of Interior Zone of Sidewall =	144.0 ft ² /side	Total Shear =	3333 lbs
Area of Interior Zone of Roof =	106.5 ft ² /side	Total Shear =	0 lbs

Total Shear Force to Endwalls = 4273 lbs**Right Endwall Shear Values**

Area of End Zone of Sidewall =	27.0 ft ² /side	Total Shear =	940 lbs
Area of End Zone of Roof =	20.0 ft ² /side	Total Shear =	0 lbs
Area of Interior Zone of Sidewall =	144.0 ft ² /side	Total Shear =	3333 lbs
Area of Interior Zone of Roof =	106.5 ft ² /side	Total Shear =	0 lbs

Total Shear Force to Endwalls = 4273 lbs**Sidewall Shear Values**

Area of End Zone of Wall =	27 ft ² /side	Total Shear =	940 lbs
Area of End Zone of Roof =	3 ft ² /side	Total Shear =	111 lbs
Area of Interior Zone of Wall =	41 ft ² /side	Total Shear =	937 lbs
Area of Interior Zone of Roof =	22 ft ² /side	Total Shear =	504 lbs

Total Shear Force to Sidewalls = 2493 lbs

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY

Const. Type: VB-protected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH Valt. 124 MPH Valt.
 Fire Rating of Slat Walls: 0 Hr.
 Plan No.: MFT-0186-SVM-9407
 Allow. Floor Load: 40 PSF
 Approved Date: 2/22/2021
 Manufacturer: Deer Valley Homes

Seismic Loads

Seismic category = C
 $S_{DS} = 0.5$

Wall DL = 10 psf
 Roof DL = 20 psf

Total W for seismic shear walls = 55140 lbs
 $R = 6.5$
 $C_s = 0.09615$

$F_x = 5301.92$ lbs

$F_x = 0$

shear on endwalls = 2651 lbs/wall
 shear on sidewalls = 2651 lbs/wall

Compare Wind vs Seismic for shear walls

	Seismic	Wind	Wind with 1.4 reduction
Endwall	2651	4273	3052
Sidewall	2651	2493	1781

Controlling factors for shear wall panels

Endwall -----> Wind
 Sidewall -----> Seismic

Controlling factors for Uplift/Shear Forces

Endwall -----> Wind
 Sidewall -----> Seismic

Determination of shear wall panel loads

Left Endwall - Bracing #1

Perforated or Segmented: S

Wall length when perforated = 30 ft
 Wall Height = 9 ft

Length of Full Height Sheathing (3.5:1) = 25.67 ft
 Length of Full Height Sheathing (2:1) = 25.67 ft

C_o (3.5:1) = 1
 C_o (2:1) = 1

Total Force (wind) = 4273 lbs
 Total Force (seismic) * 1.4 = 3711 lbs
 Load Taken to Shear Wall Segments = 166 plf
 Uplift Force at End of Wall = 1498 lbs



These prints comply with the Florida Manufactured Building Act and adopted Codes and adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VTB-protected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH V-M, 124 MPH V-W
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT1016-SVM-0007
 Allow. Floor Load: 40 PSF
 Approval Date: 2/22/2021
 Manufacturer: Dura-Moldex Homes

Right Endwall (hitch end) - Bracing #2

Perforated or Segmented: **S**
 Wall length when perforated = 30 ft
 Wall Height = 9 ft

Length of Full Height Sheathing (3.5:1) = 30 ft
 Length of Full Height Sheathing (2:1) = 30 ft

C_o (3.5:1) = 1
 C_o (2:1) = 1

Total Force (wind) = 4273 lbs
 Total Force (seismic) *1.4 = 3711 lbs
 Load Taken to Shear Wall Segments = 142 plf
 Uplift Force at End of Wall = 1282 lbs

<==

These prints comply with the
 Florida Manufactured Building
 Act and adopted Codes and
 adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VH-unprotected
 Occupancy: Single Family Dwelling
 Alternate No. of Floors: 1
 Wind Velocity: 160 MPH Wind: 124 MPH Vel.
 Free Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT-00186-SVM-0007
 Allow. Floor Load: 40 PSF
 Approval Date: 2/22/2021
 Manufacturer: Dear Valley Homes

Top Sidewall - Bracing #3

Perforated or Segmented: **S**
 Wall length when perforated = 76 ft
 Wall Height = 9 ft

Length of Full Height Sheathing (3.5:1) = 18.4167 ft
 Length of Full Height Sheathing (2:1) = 18.4167 ft

C_o (3.5:1) = 1
 C_o (2:1) = 1

Total Force (wind) = 2493 lbs (includes tag load when applicable)
 Total Force (seismic) *1.4 = 3711 lbs (includes tag load when applicable)
 Load Taken to Shear Wall Segments = 202 plf
 Uplift Force at End of Wall = 1295 lbs

<==



Bottom Sidewall - Bracing #4

Perforated or Segmented: **P**
 Wall length when perforated = 76 ft
 Wall Height = 9 ft
 Height of Tallest Opening = 7 ft

Height Ratio = 0.77778
 Length of Full Height Sheathing (3.5:1) = 51.25 ft
 Length of Full Height Sheathing (2:1) = 51.25 ft
 Percent Full Height Sheathing (3.5:1) = 67%
 Percent Full Height Sheathing (2:1) = 67%

C_o (3.5:1) = 0.63
 C_o (2:1) = 0.63

Total Force (wind) = 3957 lbs (includes tag load when applicable)
 Total Force (seismic) *1.4 = 5891 lbs (includes tag load when applicable)
 Load Taken to Shear Wall Segments = 115 plf
 Uplift Force at End of Wall = 739 lbs

<==

Wind Load Determination Worksheet

MWF Low-rise building Method 2

ASCE7-16

Nominal Wind Speed = 123 mph
 Ultimate Wind Speed = FALSE mph
 Exposure = C
 Mean Roof Height = 20 ft
 Roof Slope = 2.13 /12
 10.07 °
 $\alpha = 9.5$
 $z_g = 900$ ft
 $q_h = 29.63$ psf
 $K_d = 0.85$
 $K_{zt} = 1$
 $K_z = 0.90$
 $I = 1$

$GC_{pi} = 0.18$
 -0.18

Building Class = Enclosed Building

* GC_{pi} cancels-out on total building calcs

Load A - End Zone of Wall

$1E = 0.67$
 $4E = -0.50$
A = 34.83 psf

$GC_{pf} = 1.18$

Load C - Interior Zone of Wall

$1 = 0.44$
 $4 = -0.34$
C = 23.15 psf

$GC_{pf} = 0.78$

Load B - End Zone of Roof

$2E = -1.07$
 $3E = -0.58$
 Horz 2E load = -5.54
 Horz 3E load = -3.03

2E load = -31.70
 3E load = -17.31

B = 0.00 psf



Load D - End Zone of Roof

$2 = -0.69$
 $3 = -0.40678$
 Horz 2E load = -3.57
 Horz 3E load = -2.11

2E load = -20.44
 3E load = -12.05

D = 0.00 psf

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VB-Impermeable
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH Valt, 124 MPH Valt
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT10166-SVM-0407
 Allow. Floor Load: 40 PSF
 Approved Date: 2/22/2021
 Manufacturer: Deer Valley Homes

One Story Shear Wall Design

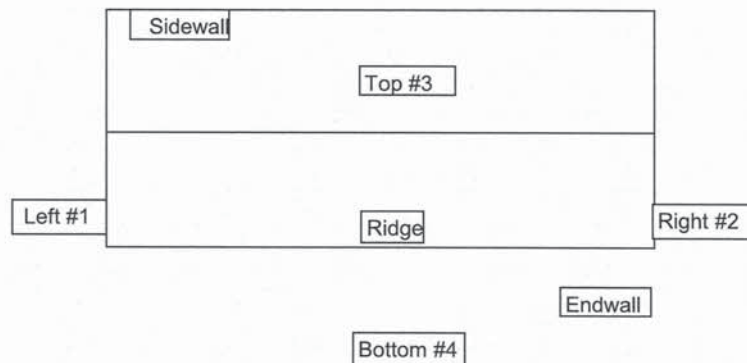
Deer Valley SVM-9407 (7602)
Summary of Forces

Shear Walls

Brace wall	PLF-Load	CONSTRUCTION
Left endwall - Segmented	166	7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
Right endwall - Segmented	142	7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
Top sidewall - Segmented	202	7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
Bottom sidewall - Perforated	115	7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing

Overturning Forces

Simpson CS14 strap capacity :	2.49 Kips	Total Shear Force to Endwalls =	4.3 Kips
		Total Shear Force to Sidewalls =	2.5 Kips
Racking Load Left endwall -	1.5 Kips		req.# CS14 1.0
Racking load right endwall -	1.3 Kips		req.# CS14 1.0
Racking Load top sidewall -	1.3 Kips (Includes tag load when applicable)		req.# CS14 1.0
Racking Load bottom sidewall -	0.7 Kips (Includes tag load when applicable)		req.# CS14 1.0



Roof Diaphragm

7/16 in sheathing with 15 gauge staple at unblocked 6 in o/c edge spacing

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Const. Type: VR-manufactured
Occupancy: Single Family Dwelling
Allowable No. of Floors: 1
Wind Velocity: 100 MPH V₅₀ 124 MPH V₃₀
Fire Rating of Ext. Walls: 0 Hr
Plan No.: MFT10166-SVM-9407
Allow. Floor Load: 30 PSF
Approval Date: 2/22/2021
Manufacturer: Deer Valley Homes



Shear Wall Design

Deer Valley SVM-9407 (7602)



Left Shearwall

Shearwall Required Design = 166 plf
 Thickness of Sheathing = 7/16 "
 Fastener = 15 gauge staple
 Edge Spacing of Fastener = 4 in o/c
 Species of Framing = SPF
 Sheathing on Both sides? One Side
 Use 7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
 Sheathing Capacity = 298.48 plf
 Shear Wall **OK**

Right Shearwall

Shearwall Required Design = 142 plf
 Thickness of Sheathing = 7/16 "
 Fastener = 15 gauge staple
 Edge Spacing of Fastener = 4 in o/c
 Species of Framing = SPF
 Sheathing on Both sides? One Side
 Use 7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
 Sheathing Capacity = 298.48 plf
 Shear Wall **OK**

Top Shearwall

Shearwall Required Design = 202 plf
 Thickness of Sheathing = 7/16 "
 Fastener = 15 gauge staple
 Edge Spacing of Fastener = 4 in o/c
 Species of Framing = SPF
 Sheathing on Both sides? One Side
 Use 7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
 Sheathing Capacity = 298.48 plf
 Shear Wall **OK**

Bottom Shearwall

Shearwall Required Design = 115 plf
 Thickness of Sheathing = 7/16 "
 Fastener = 15 gauge staple
 Edge Spacing of Fastener = 4 in o/c
 Species of Framing = SPF
 Sheathing on Both sides? One Side
 Use 7/16 in sheathing One Side with 15 gauge staple at 4 in o/c edge spacing
 Sheathing Capacity = 298.48 plf
 Shear Wall **OK**

These prints comply with the
 Florida Manufacture Building
 Act and adopted Codes and
 adhere to the following criteria:



Const. Type: V/B-protected
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH Valt. 124 MPH Valt.
 Fire Rating of Ext. Walls: 0 Hr.
 Plan No.: MFT-0166-SVM-9407
 Allow. Floor Load: 40 PSF
 Approval Date: 2/22/2021
 Manufacturer: Deer Valley Homes

Roof Diaphragm Design

Deer Valley SVM-9407 (7602)

Roof Diaphragm Diaphragm width : 30 ft 30 ft
 Top of BC of truss sheathed?¹ No
 Diaphragm Required Design² = 142 plf 142 plf
 Thickness of Sheathing = 7/16 "
 Fastener = 15 gauge staple
 Edge Spacing of Fastener^{3,4,5} = unblocked 6 in o/c
 Species of Framing⁶ = SPF
 Use 7/16 in sheathing with 15 gauge staple at unblocked 6 in o/c edge spacing
 Sheathing Capacity⁷ = 177.94 plf
 Shear Wall **OK**
 Blocking only required at 0 ft from each endwall

1. Design assumes 19/32" min sheathing of at least 1/2 of BC of trusses with .131 pd nails at 6" o/c
2. Load increased by 1.4 if seismic loads control to compensate for 1.4 increase in diaphragm panel
3. Nail spacing at other panel edges to be as follows
 - 6" o/c if edge spacing is 6" o/c
 - 6" o/c if edge spacing is 4" o/c
 - 3" o/c if edge spacing is 2" o/c
4. Framing at adjoining panel edges shall be 3" nominal or wider & nails be staggered where nails are spaced 2" o/c
5. Roof sheathing is blocked unless stated unblocked
6. Diaphragm panels are reduced by 0.82 for SPF lumber
7. Per tables in ESR-1539

These prints comply with the
Florida Manufactured Building
Act and adopted Codes and
adhere to the following criteria:

APPROVED BY
NIA INC.

Consult: VR-Engineering
 Occupancy: Single Family Dwelling
 Allowable No. of Floors: 1
 Wind Velocity: 160 MPH SSB, 174 MPH SSB
 Fire Rating of 1st. Wall: 0 Hr
 Plan No.: ME1-0186-SVM-0407
 Allow. Floor Load: 20 psf
 Approval Date: 2/23/2021
 Manufacturer: Deer Valley Homes



Laminated Veneer Lumber Spans

Uplift Truss load : **1200 # lbs**

Truss spacing : **16 "**

T Load = 810.0 plf Δ TL 180

L Load = 810.0 plf Δ LL 240

Check porch column to header & Floor at max span:

DL = 10 Psf x width x span x 0.67 =

Uplift @ Column = T Load x Span =

1) Truss to beam connection :

Simpson LSTA18, capacity: **SPF**

Simpson SDWC15600 (0.125"x6") Screws: **SPF**

2) LVL beam to Column

1 Simpson CS14 strap, capacity

Req. # 4.5688 use

Corners/Ends

1 Simpson CS18 strap, capacity

Total: 2490 Lb.

3) Column to floor

1 Simpson CS18 strap, capacity

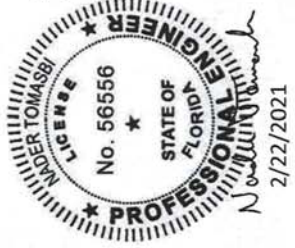
Total: 2490 Lb.

Alt Simpson APL's rated for net column uplift loads

Member	No.	Manufacturer	Width in	Depth in	F _b psi	F _v psi	E psi	Coef	I _x in ⁴	S _x in ³	C _t
1	2	Microllam	1.5	7.25	2400	240	1800000	0.136	95.27	26.28	1.071
2											
3											

Member	F _b psi	F _v psi	M in*lb	V lb
1	4112	384	108079	5568
2				
3				

Member	Moment in	Shear in	Δ TL in	Δ LL in	Max Span
1	113	165	103	93	7 ft - 9 in
2					
3					



Deer Valley



20' mean roof ht adjustment **1080 #**



C_d = 1.6

Porch span

6 ft

Single span porch

Net uplift per column = **2160 Lb.**

Capacity 180 Lb. / in Penetration: 3 in

Alt. use Simpson H2.5T = 545 lbs

Number of Clips = **2 clip**

5 SDWC15600 screws

5 SDWC15600 screws

5 SDWC15600 screws

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Truss load: **677 #**  Truss # **0** _____
Truss spacing: **16** in o/c

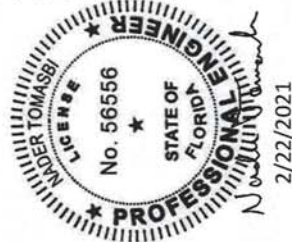
T Load =	507.8	plf
L Load =	380.8	plf

 $C_d = 1.15$

Coef. per ESR 1387

[illegible]

Max Span	
8 ft - 7 in	

[illegible]

These plans comply with the Florida Building Code, Residential Part and adopted Codes and orders to the following extent:

APPROVED BY **NIA INC.**

Contract Type: Standard
 Contract No.: 2020-001
 Address: 1000 N. US Highway 1, Suite 100, Deer Valley, FL 33442
 Date: 01/15/2021
 Approved By: [Signature]
 Approved Date: 01/15/2021
 Manufacturer: Deer Valley Homes

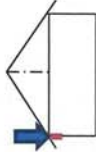
CHECK HEADER AT THE FRONT OF THE PORCH

Deer Valley

T Load = 810 plf Δ TL 180 C₀ = 1.6
 L Load = 810 plf Δ LL 240 C₁ = 1.95

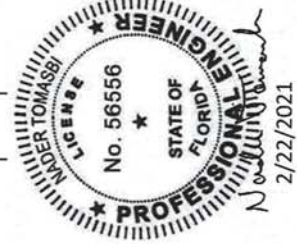
NT

Lumber species: **SPF**



Member	No.	Sp / Grade	Width in	Depth in	F _b psi	F _v psi	E psi	Flat or Edge	I _x in ⁴	S _x in ³	C _t	C _t x C _{fu}	Max Span
1	3	#2	1.5	5.5	875	135	1400000	E	62.39	22.69	1.15	1.3	6 ft - 2 in
2	2	#2	1.5	7.25	875	135	1400000	E	95.27	26.28	1	1.2	6 ft - 0 in
3	2	#2	1.5	5.5	875	135	1400000	E	41.59	15.13	1	1.3	4 ft - 9 in
4													
5													
6													
7													
8													
9													
10													

Member	Max Spans						Max Span					
	F _b psi	F _v psi	M in*lb	V lb	Moment in	Shear in	Δ TL in	Δ LL in	Max Span	Max Span	Max Span	Max Span
1	2093	421	47485	6950	75	206	82	75	6 ft - 2 in	6 ft - 2 in	6 ft - 2 in	6 ft - 2 in
2	1680	421	44153	6107	72	181	94	86	6 ft - 0 in	6 ft - 0 in	6 ft - 0 in	6 ft - 0 in
3	1820	421	27528	4633	57	137	72	65	4 ft - 9 in	4 ft - 9 in	4 ft - 9 in	4 ft - 9 in
4												
5												
6												
7												
8												
9												
10												



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T Load =	507.75 plf		ΔTL	180	$C_d =$	1.15
L Load =	380.813 plf		ΔLL	240	$C_H =$	1.95

Lumber species: SPF



CONTROLS

[illegible][illegible]