

150/160 Single Hung Window

Features:

- Beautiful, true brick mould exterior frame perimeter
- Bottom sash tilts in for easy cleaning
- DP Rating R50 (window size tested 36 x 74)
- Integrated J-channel (Series 160 available without J-channel)
- Pre-punched nail fin makes installation simple
- Insulated glass panels with optimum thermal air space featuring warm-edge spacer system
- Block & tackle balance system
- Half screen comes standard
- Charcoal fiberglass mesh screen
- Jamb depth: 3.277"
- Limited lifetime warranty

Custom Options:

- Low-E Glass
- Low-E Glass + Argon Gas
- Ultra Low-E Glass + Argon Gas
- 5/8" or 3/4" flat, 5/8" or 1" contoured, 1 1/8" simulated divided lite (SDL), 5/8" contoured valance grids available
- Factory mulling of twins, triples and architectural shapes
- Paintable or stainable wood jamb extensions (4 9/16" and 6 9/16")
- Charcoal aluminum mesh screen
- Window Opening Control Device (for fall prevention)
- Eight painted exterior colors (white interior only)
- Custom sizes available

Product Performance:

AAMA 101 Results:

Window Size	AAMA Rating (psf)	Air (cfm/ft ²)	Water (psf)
36" x 74" (SH/DW)	HR-50	0.27	7.50
48" x 96" (SH/DW)	HR-25	0.26	7.50
108" x 74" (TRHP)	HR-50	0.15	7.52
108" x 74" (TR)	HR-30	0.15	7.52
72" x 72" (PW/HR/FR/OC/SS)	FR-50	0.01	7.52

Product Dimensions:

Vinyl Wall Thickness:	0.065"
Typ. Glass Thickness:	0.750"
Jamb Depth:	3.277"
Mullion Adder:	0.500"
Nail Fin Setback:	1.5"

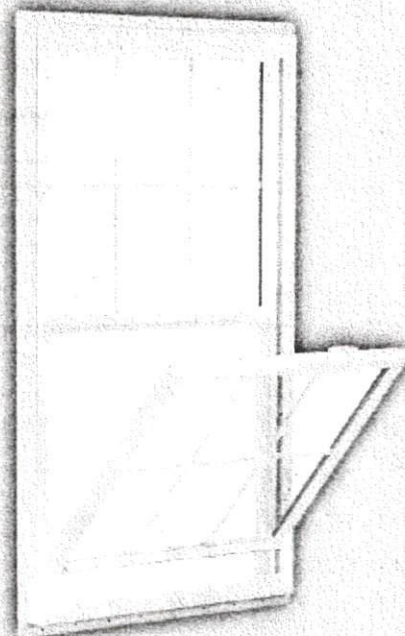
Rough Opening:

Window Width + 1/2"
Window Height + 1/2"

Size Restrictions:

	Min:	Max:
Width	16 7/8"	51 3/4"
Height	23 1/2"	89 3/4"

(Max. United Inches 132")



150/160 Single Hung Window

Egress Formulas:

Egress Width $\geq 20"$ and Egress Height $\geq 24"$ and Egress Area $\geq 5.7 \text{ ft}^2$ required to meet egress.

Egress Width Formula = Window Width - 4.8125"

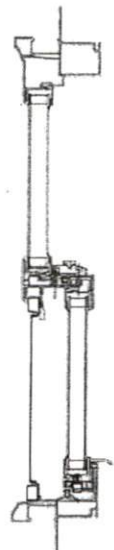
Egress Height Formula = (Window Height/2) - 3.5625"

Egress Area Formula = (Egress Width x Egress Height)/144

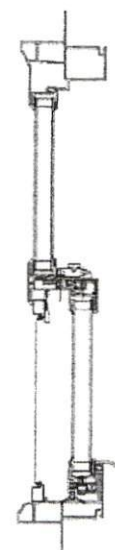
Screen Formulas:

Window Width - 3.8125"

(Window Height/2) - 1.25"

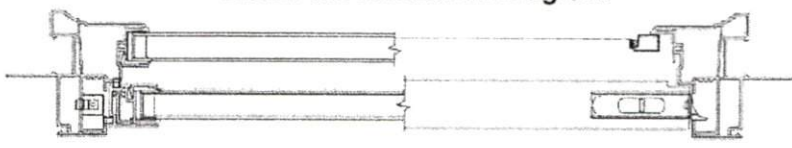


Series 150 Vertical Diagram

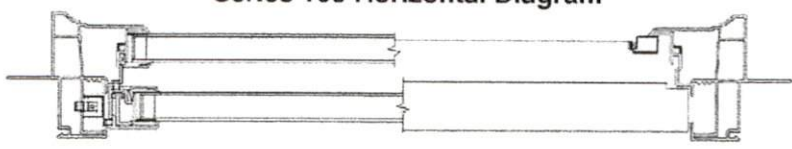


Series 160 Vertical Diagram

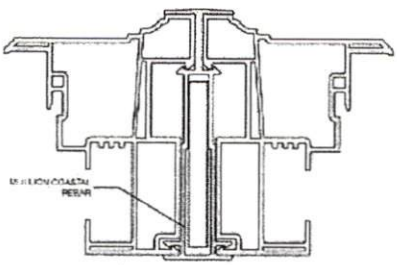
Series 150 Horizontal Diagram



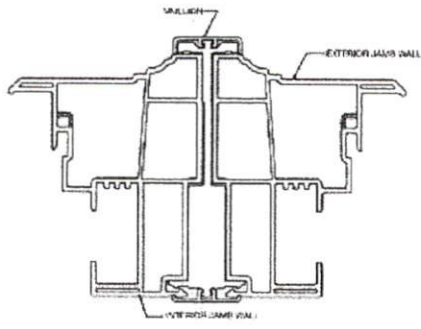
Series 160 Horizontal Diagram



Series 150 Mullion Assembly:



Series 160 Mullion Assembly:



SERIES 150/160 SINGLE HUNG

Features:

- Cam Locks are standard. Double Locks are featured on all windows measuring more than 27 1/4" in width.
- Block & tackle balances provide quiet, easy operation.
- Integrated tilt latches permit easy tilt in and cleaning.
- Sloped sill for easy water run-off.
- Pre-punched nailing fin allows for faster installation.
- Sashes are available in equal lite, Cottage and Oriel styles.
- Integrated J-channel assists in the installation of vinyl siding.
- White is standard.
- Series 160 available without J-channel.
- DP Ratings:
 DP 50 (window size tested 36" x 74")
 DP 35 (window size tested 36" x 96")
 DP 25 (window size tested 48" x 96")

Custom Options:

- Low-E Glass and Argon Gas
- Ultra Low-E Argon.
- 3/4" or 5/8" flat grid and 5/8" or 1" contoured grid.
- Factory mulling of twins, triples and architectural shapes.
- Almond and clay are available.
- Wood jamb extensions (pre-primed or stainable 4 9/16" and 6 9/16").
- Window Opening Control Device (WOCD) for fall prevention (field applied).
- Continuous Head and Sill.

Materials:

- Frame and sash are maintenance free, color stabilized solid vinyl (PVC).
- Lift rail, lock rail, and the meeting rail contain aluminum rebar for added strength. Windows more than 60" in height also have rebar in the stiles.
- The screen is comprised of rolled form aluminum frame and fiberglass mesh.
- Glazing method: Glazing tape.

Structural Performance

SERIES/MODEL	TEST SIZE	AIR (cfm/ft ²)	WATER (psf)	UNIFORM LOAD	DESIGN PRESSURE
150/160 SH/DW	36 X 74	0.27	7.50	75.00	H-R50 36X74
150/160 SH/DW	48 X 78	0.27	7.50	37.50	H-R25 48X78
150/160 SHTW	72 X 72	0.15	6.75	60.00	H-R40 72X72
150/160 TRHP	108 X 74	0.15	7.50	75.00	H-R50 108X74
150/160 TR	108 X 74	0.15	6.00	45.00	H-R30 108X74
150/160 PW/HR/FR/OC/SS	72 X 72	0.01	7.50	75.00	F-R50 72x72

Thermal Performance

GLASS/GRID	U-Value	SHGC
SS Clear Glass No Grid	0.49	0.62
DS Clear Glass No Grid	0.49	0.61
SS Low-E Glass No Grid	0.35	0.29
DS Low-E Glass No Grid	0.35	0.29
SS Low-E/Argon Glass No Grid	0.32	0.29
DS Low-E/Argon Glass No Grid	0.32	0.29
SS Ultra Low-E/Argon No Grid	0.30	0.22
DS Ultra Low-E/Argon No Grid	0.30	0.22
SS Clear Glass with Grid	0.49	0.56
DS Clear Glass with Grid	0.49	0.55
SS Low-E Glass with Grid	0.35	0.27
DS Low-E Glass with Grid	0.35	0.26

GLASS/GRID	U-Value	SHGC
SS Low-E/Argon Glass with Grid	0.32	0.26
DS Low-E/Argon Glass with Grid	0.32	0.26
SS Ultra Low-E/Argon with Grid	0.30	0.20
DS Ultra Low-E/Argon with Grid	0.30	0.20
SS Clear Glass with SDL	0.49	0.50
DS Clear Glass with SDL	0.51	0.49
SS Low-E Glass with SDL	0.36	0.27
DS Low-E Glass with SDL	0.39	0.27
SS Low-E/Argon Glass with SDL	0.32	0.26
DS Low-E/Argon Glass with SDL	0.34	0.24
SS Ultra Low-E/Argon Glass with SDL	0.30	0.20
DS Ultra Low-E/Argon Glass with SDL	0.32	0.20

SERIES 150/160 SINGLE HUNG

SERIES	150/160 SH
VINYL WALL THICKNESS	0.065" (1.65MM)
GLASS THICKNESS	0.750" (19.05MM)
JAMB THICKNESS	3.277" (83.24MM)
FRAME WIDTH	2.412" (61.26MM)
NAILING FIN LENGTH	1.365" (34.67MM)
NAIL FIN SETBACK	1.537" (39.04MM)
"J" CHANNEL DEPTH	.625" (15.88MM)
EGRESS WIDTH	(WW) - 4 13/16"
EGRESS HEIGHT (WITH SASH)	(WH/2) - 3 15/16"
EGRESS HEIGHT (WITHOUT SASH)	(WH/2) - 3 1/8"
TOP SASH DAYLIGHT OPENING WIDTH	(WW) - 5 1/8"
BOTTOM SASH DAYLIGHT OPENING WIDTH	(WW) - 5 1/2"
DAYLIGHT OPENING HEIGHT	(WH/2) - 3 7/16"
SCREEN WIDTH	(WW) - 4 3/8"
SCREEN HEIGHT	(WH/2) - 1 1/4"
OPTIONS GLASS:	
CLEAR (STANDARD)	•
LOW-E ARGON	•
ULTRA LOW-E WITH ARGON	•
OBSOLETE	•
TEMPERED	•
DOUBLE STRENGTH	•
OPTIONS GAS:	
ARGON	•
AVAILABLE SPECIAL SHAPES:	
FULL ROUNDS	QUARTER ROUNDS
HALF ROUNDS	ELLIPTICALS
OCTAGONS	PENTAGONS
TRAPEZOIDS	TRIANGLES
HALF EYEBROWS	EYEBROWS
COLONIAL ARCHES	COLONIAL FLANKERS
OVALS	COLONIAL ARCH FLANKERS
OPERABLE EYEBROWS	OPERABLE HALF EYEBROWS
COLOR:	
WHITE	•
ALMOND	•
CLAY	•

(WW) = WINDOW WIDTH
(WH) = WINDOW HEIGHT

SERIES 150/160 SINGLE HUNG





































































































































Series 150/160 Single Hung Size Chart

SERIES 150/160 SINGLE HUNG

*Meets egress of: Clear operable area of ≥ 5.7 sq. ft.

Clear operable width of $\geq 20"$

Clear operable height of $\geq 24"$

ROUGH OPENING	20"	24"	26"	30"	32"	36"	36"	40"	44"	48"
EXACT SIZE	19.5"	23.5"	27.5"	29.5"	31.5"	35.5"	37.5"	39.5"	43.5"	47.5"
EGRESS WIDTH	14.6875"	18.6875"	22.6875"	24.6875"	26.6875"	30.6875"	32.6875"	34.6875"	38.6875"	42.6875"
36"	 1830	 2030	 2430	 2630	 2830	 3030	 3230	 3430	 3830	
38"	 1832	 2032	 2432	 2632	 2832	 3032	 3232	 3432	 3832	
44"	 1838	 2038	 2438	 2638	 2838	 3038	 3238	 3438	 3838	
48"	 18310	 20310	 24310	 26310	 28310	 30310	 32310	 34310	 38310	
48"	 1840	 2040	 2440	 2640	 2840	 3040	 3240	 3440	 3840	
50"	 1842	 2042	 2442	 2642	 2842	 3042	 3242	 3442	 3842	
52"	 1844	 2044	 2444	 2644	 2844	 3044	 3244	 3444	 3844	
54"	 1846	 2046	 2446	 2646	 2846	 3046	 3246	 3446	 3846	
60"	 1850	 2050	 2450	 2650	 2850	 3050	 3250*	 3450*	 3850*	 4050*
62"	 1852	 2052	 2452	 2652	 2852	 3052*	 3252*	 3452*	 3852*	 4052*
66"	 1856	 2056	 2456	 2656	 2856	 3056*	 3256*	 3456*	 3856*	 4056*
72"	 1860	 2060	 2460	 2660	 2860*	 3060*	 3260*	 3460*	 3860*	 4060*
74"	 1862	 2062	 2462	 2662	 2862*	 3062*	 3262*	 3462*	 3862*	 4062*
84"	 1870	 2070	 2470*	 2670*	 2870*	 3070*	 3270*	 3470*	 3870	 4070

SERIES 150/160 SINGLE HUNG

Series 150/160 Single Hung Egress Chart

SERIES 150/160 SINGLE HUNG
DAYLIGHT OPENING AND EGRESS SQUARE FOOTAGE

NOM. SIZE	WINDOW TOTAL DAYLIGHT OPENING SQUARE FEET	EGRESS TOTAL SQUARE FEET (WITH SASH)	NOM. SIZE	WINDOW TOTAL DAYLIGHT OPENING SQUARE FEET	EGRESS TOTAL SQUARE FEET (WITH SASH)
1830	2.82	1.4	3030	6.00	2.9
1832	3.02	1.5	3032	6.42	3.2
1838	3.61	1.8	3038	7.68	3.8
18310	3.81	1.9	30310	8.10	4.0
1840	4.00	2.0	3040	8.52	4.2
1842	4.20	2.1	3042	8.94	4.4
1844	4.40	2.2	3044	9.35	4.7
1846	4.59	2.3	3046	9.77	4.9
1850	5.18	2.6	3050	11.03	5.5
1852	5.38	2.7	3052	11.45	5.7
1856	5.78	2.9	3056	12.29	6.1
1860	6.37	3.2	3060	13.55	6.8
1862	6.56	3.4	3062	13.97	7.0
1870	7.55	3.9	3070	16.06	8.0
2030	3.62	1.8	3230	6.40	2.9
2032	3.87	1.9	3232	6.85	3.2
2038	4.63	2.3	3238	8.19	3.8
20310	4.88	2.4	32310	8.63	4.0
2040	5.13	2.6	3240	9.08	4.2
2042	5.38	2.7	3242	9.53	4.4
2044	5.64	2.8	3244	9.97	5.0
2046	5.89	3.0	3246	10.42	5.2
2050	6.65	3.4	3250	11.76	5.9
2052	6.90	3.5	3252	12.21	6.0
2056	7.40	3.7	3256	13.10	6.5
2060	8.16	4.1	3260	14.45	7.2
2062	8.41	4.3	3262	14.89	7.5
2070	9.68	4.9	3270	17.13	8.6
2430	4.41	2.2	3430	6.80	3.3
2432	4.72	2.3	3432	7.27	3.6
2438	5.64	2.8	3438	8.70	4.3
24310	5.95	3.0	34310	9.17	4.5
2440	6.26	3.1	3440	9.64	4.8
2442	6.57	3.3	3442	10.12	5.0
2444	6.88	3.4	3444	10.59	5.3
2446	7.18	3.6	3446	11.07	5.5
2450	8.11	4.0	3450	12.49	6.2
2452	8.42	4.2	3452	12.97	6.5
2456	9.03	4.5	3456	13.92	6.9
2460	9.96	5.0	3460	15.34	7.7
2462	10.27	5.2	3462	15.82	7.9
2470	11.81	6.0	3470	18.19	9.1
2630	4.81	2.4	3830	7.59	3.7
2632	5.14	2.5	3832	8.12	4.0
2638	6.15	3.1	3838	9.71	4.8
26310	6.49	3.2	38310	10.24	5.0
2640	6.82	3.4	3840	10.77	5.3
2642	7.16	3.6	3842	11.30	5.6
2644	7.50	3.7	3844	11.83	5.9
2646	7.83	3.9	3846	12.36	6.1
2650	8.84	4.4	3850	13.96	6.9
2652	9.18	4.6	3852	14.49	7.2
2656	9.85	4.9	3856	15.55	7.7
2660	10.85	5.5	3860	17.14	8.6
2662	11.19	5.6	3862	17.67	8.8
2670	12.87	6.5	3870	20.32	10.2
2830	5.21	2.6	4050	15.42	7.7
2832	5.57	2.8	4052	16.00	8.0
2838	6.66	3.3	4056	17.19	8.5
28310	7.02	3.5	4060	18.93	9.4
2840	7.39	3.7	4062	19.52	9.7
2842	7.75	3.9	4070	22.45	11.2
2844	8.12	4.0			
2846	8.48	4.2			
2850	9.57	4.8			
2852	9.93	5.0			
2856	10.66	5.3			
2860	11.75	5.9			
2862	12.12	6.1			
2870	13.93	7.0			

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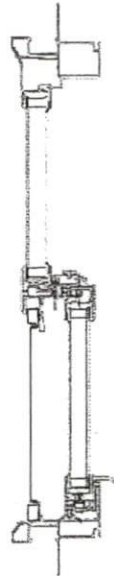
Screen Formulas:

Window Width - 3.8125"

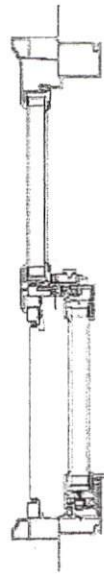
(Window Height/2) - 1.25"

22

1' 11" / 14 = 8"



Series 150 Vertical Diagram

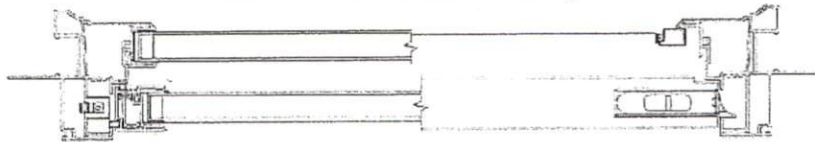


Series 160 Vertical Diagram

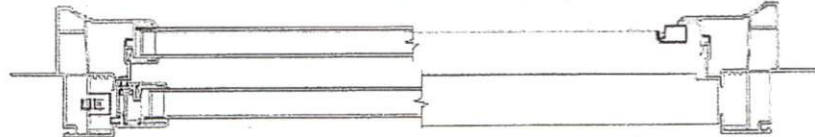
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24
418

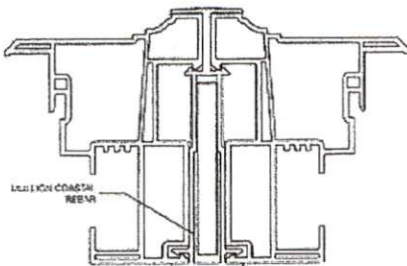
Series 150 Horizontal Diagram



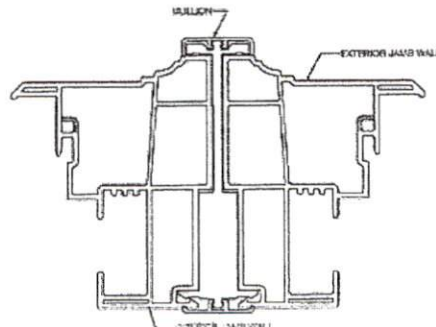
Series 160 Horizontal Diagram



Series 150 Mullion Assembly:



Series 160 Mullion Assembly:



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- Bottom sash tilts in for easy cleaning
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- Pre-punched nail fin makes installation simple
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- Block & tackle balance system
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- Charcoal fiberglass mesh screen
- Jamb depth: 3.277"
- Limited lifetime warranty

Custom Options:

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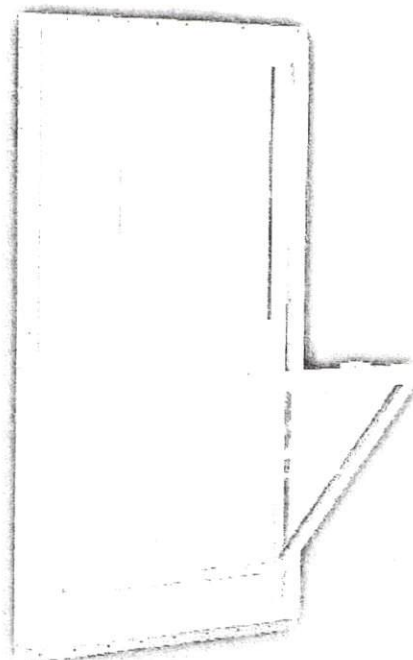
Rough Opening:

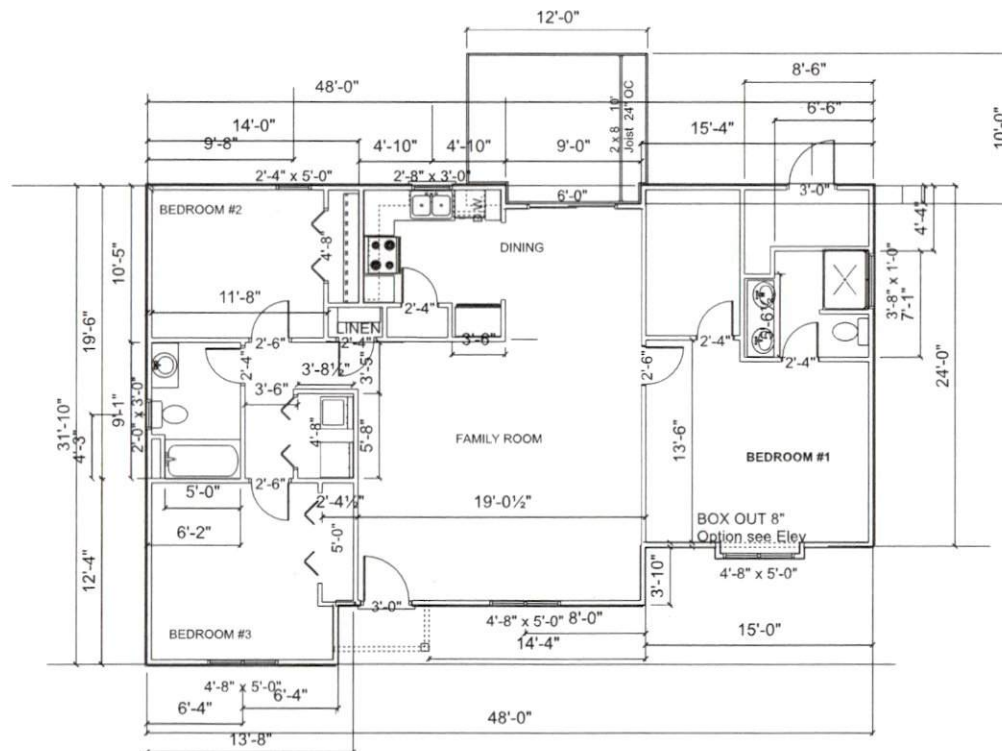
Window Width + 1/2"
Window Height + 1/2"

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(Max. United Inches 132")

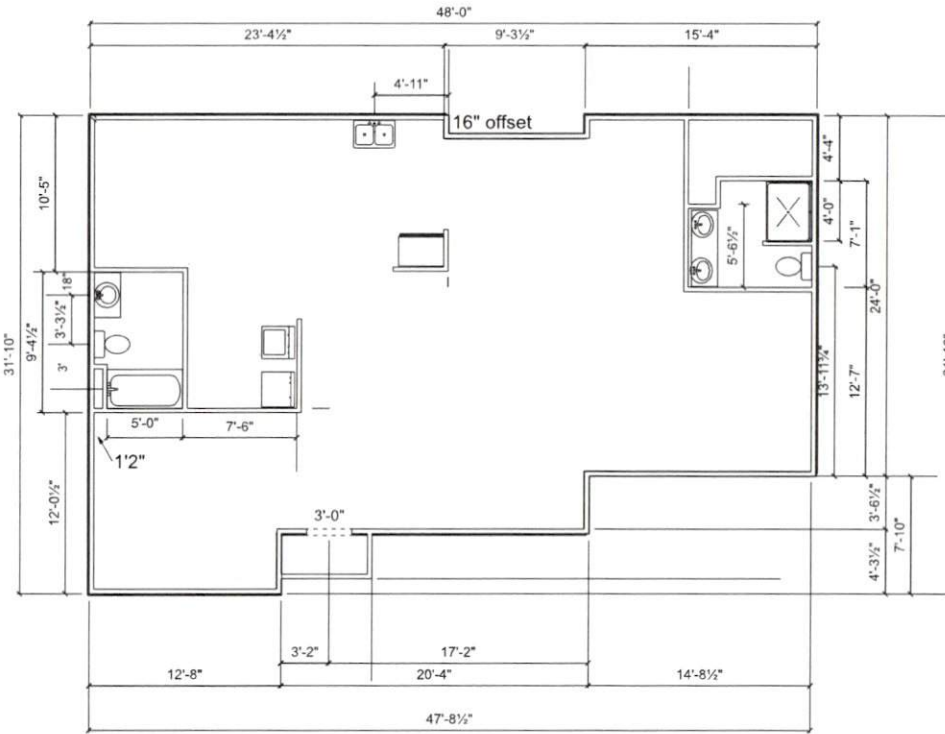




Insulation
 Slab: R-10 foam in stem wall
 Walls: R-15 batts
 Ceiling: R-38

 Windows- Ellison 150 series Single Hung
 DP50 wind rating, Low e-
 U-Value 0.32
 SHGC 0.26

GROCE 2008 FLOOR PLAN *Treyburn 1297 Heated*
1/8"=1'



GROCE 2008

Treyburn 1297 Heated

Slab & Plumbing PLAN

1/8" = 1'

