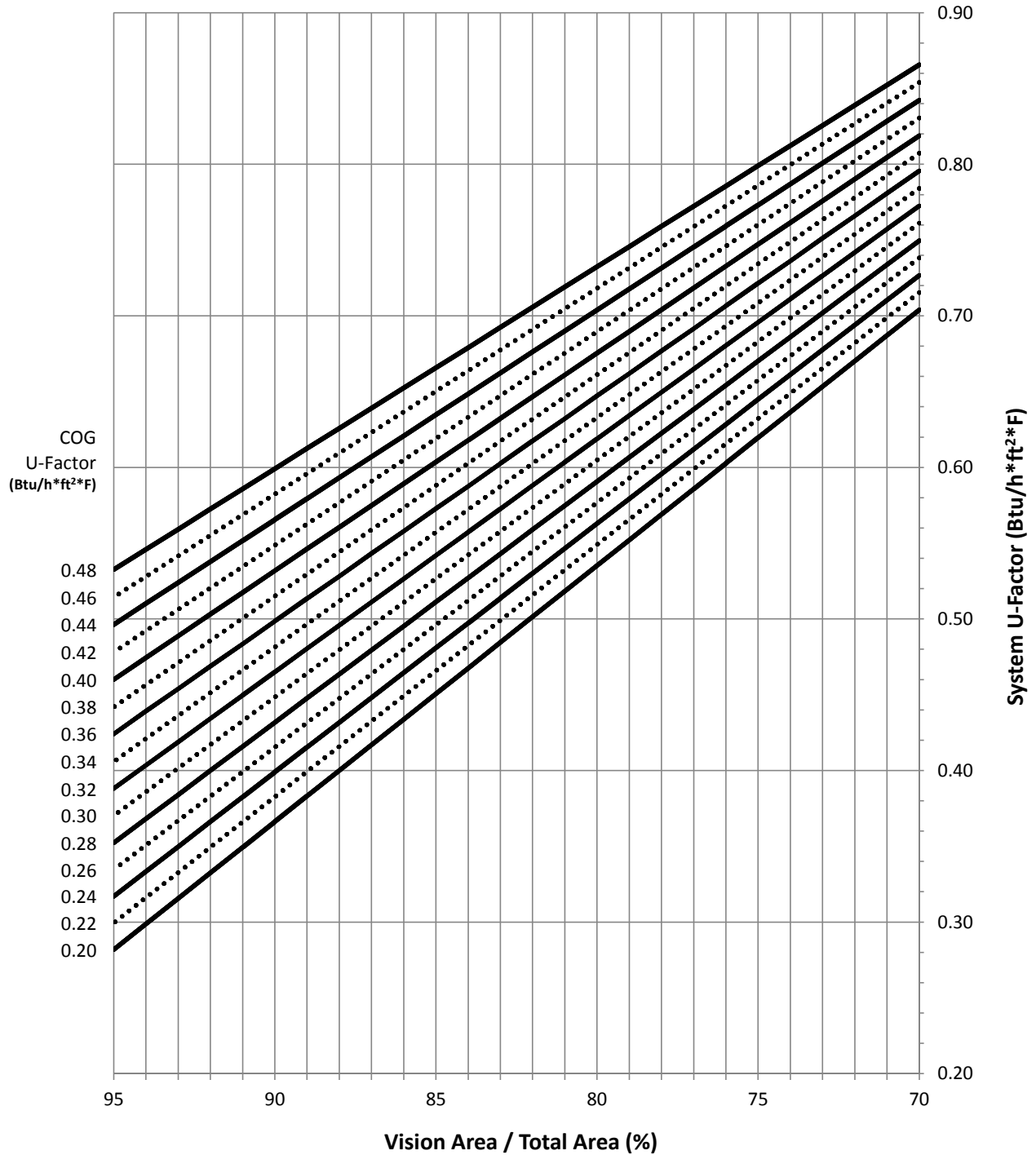
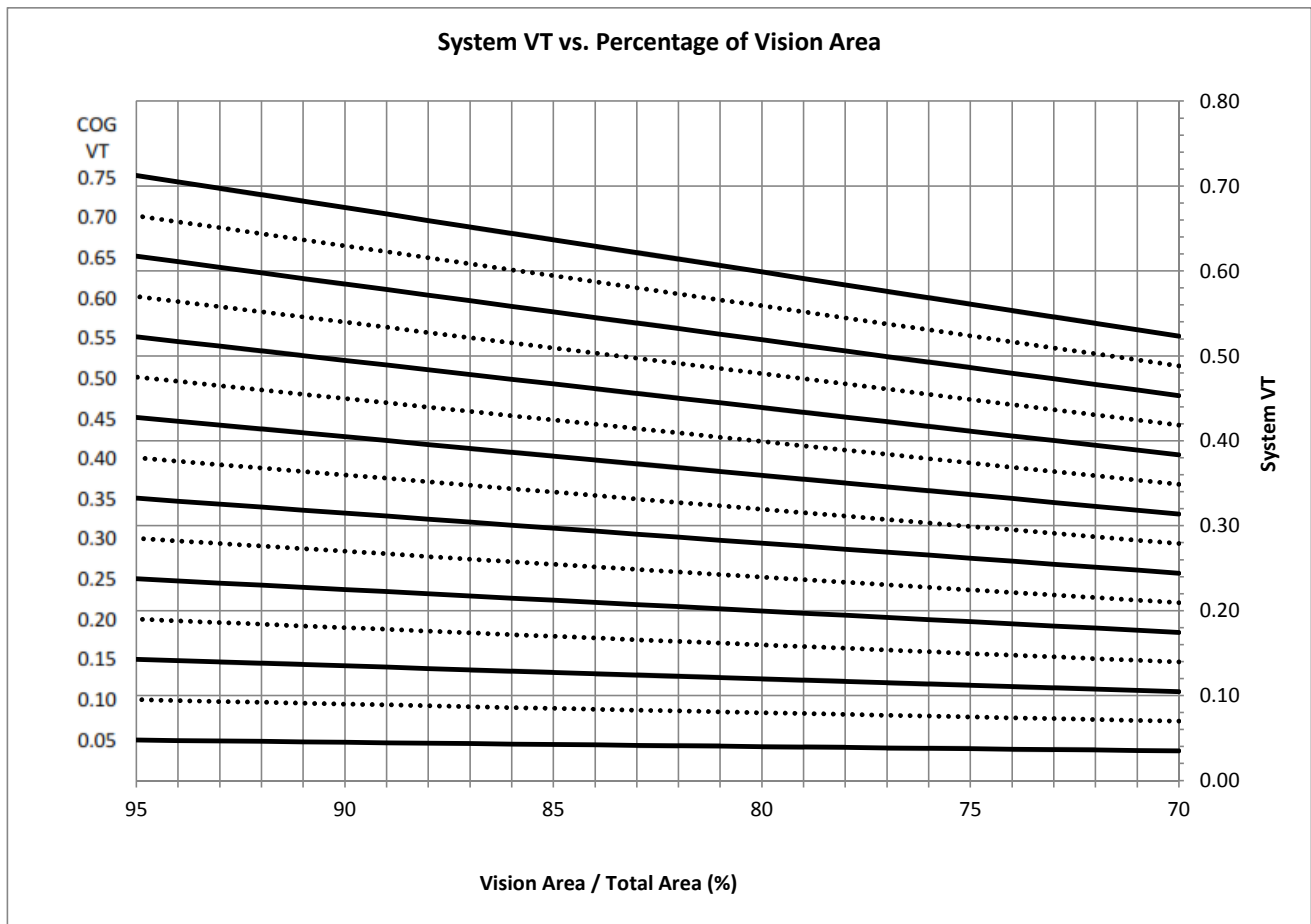
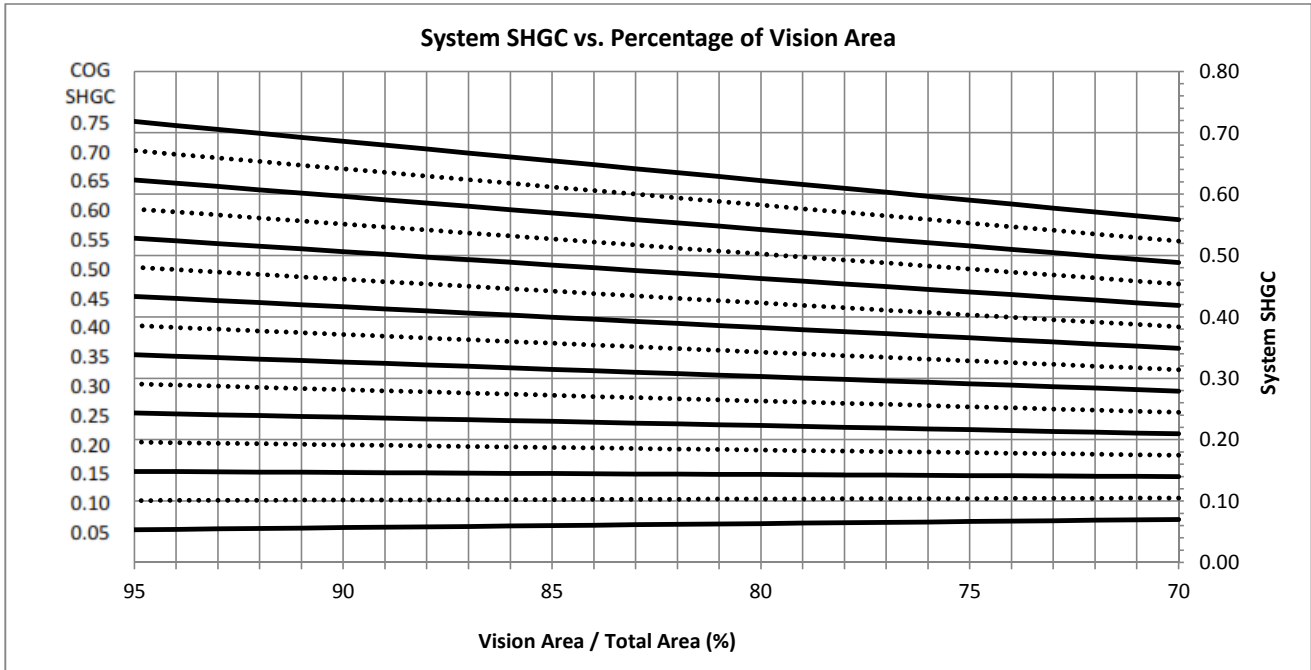


- 1.0 Product Manufacturer:** Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, AL 35406
- 2.0 Product Model:** FL300 Storefront
- 3.0 Operator Type:** Glazed Wall Window Wall O-O
- 4.0 Simulations Performed:** Thermal simulations were performed in accordance with AAMA 507-07, *Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings*, using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, and current versions of NFRC 100-2010 and NFRC 200-2010.
- 5.0 Framing Type:** Painted non-broken aluminum (AL) all members.
- 6.0 Sash Type:** N/A
- 7.0 Grilles:** N/A
- 8.0 Weatherstripping:** N/A
- 9.0 Hardware:** N/A
- 10.0 Edge-of-Glass Construction:** Glazed in pockets with interior and exterior EPDM gaskets.
- 11.0 I.G. Spacer Type:** Generic aluminum box spacer, with 0.01" PIB primary seals between spacer and glass, and .181" depth silicone secondary sealant, was utilized for all simulations.
- 12.0 Grouping:** Grouping per NFRC 100 Section 4.2.4 was performed on the following items:
- Frame: the Standard Vertical, Steel Reinforced Vertical, and Heavy Vertical were grouped. The Steel Reinforced Vertical with the highest whole-product heat loss was used as the group leader for all simulations.
- 13.0 Simulation Software:** Simulations were performed using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, in accordance with current versions of NFRC 100-2010, NFRC 200-2010, and NFRC 500-2010.
- 14.0 Drawings:** This report is incomplete if not accompanied by component and assembly drawings of the indicated product, provided by Coral, totaling 5 pages, bearing the initialed stamp of Turner Engineering & Consulting, Inc.
- 15.0 Simulation Results:** Please see the following charts and tables.

System U-Factor vs. Percentage of Vision Area





Size-Specific U-Factor (Btu/h-ft²-F) Matrix: NFRC Standard Size (78.740" x 78.740")

Glazing Option	Center-of-Glass U-Factor	Overall U-Factor
1	0.48	0.62
2	0.46	0.61
3	0.44	0.59
4	0.42	0.58
5	0.40	0.56
6	0.38	0.55
7	0.36	0.53
8	0.34	0.51
9	0.32	0.50
10	0.30	0.48
11	0.28	0.47
12	0.26	0.45
13	0.24	0.43
14	0.22	0.42
15	0.20	0.40

Size-Specific SHGC Matrix:
NFRC Standard Size (78.740" x 78.740")

Center-of-Glass SHGC	Overall SHGC
0.75	0.67
0.70	0.63
0.65	0.59
0.60	0.54
0.55	0.50
0.50	0.45
0.45	0.41
0.40	0.37
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.15
0.10	0.10
0.05	0.06

Size-Specific VT Matrix:
NFRC Standard Size (78.740" x 78.740")

Center-of-Glass VT	Overall VT
0.75	0.66
0.70	0.62
0.65	0.57
0.60	0.53
0.55	0.48
0.50	0.44
0.45	0.40
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.1% Vision Area)	95% Vision Area
1	0.48	44.0	L Head	2.2627	1.3561	0.5100	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9702	0.5152	0.4854	0.4678	0.4663
			L Sill	2.3877	1.5434	0.5106	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3561	0.5100	0.87	0.62	0.53
			R Jamb	1.2627	1.9702	0.5136			
			R Sill	2.3877	1.5434	0.5106			
			Int. Vert.	2.5254	1.9702	0.5144			
2	0.46	45.0	L Head	2.2627	1.3561	0.4965	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9706	0.5020	0.4650	0.4488	0.4466
			L Sill	2.3877	1.5437	0.4973	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3561	0.4965	0.85	0.61	0.51
			R Jamb	1.2627	1.9707	0.5003			
			R Sill	2.3877	1.5437	0.4973			
			Int. Vert.	2.5254	1.9707	0.5012			
3	0.44	46.1	L Head	2.2627	1.3562	0.4825	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9713	0.4882	0.4445	0.4298	0.4271
			L Sill	2.3877	1.5441	0.4835	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3562	0.4825	0.84	0.59	0.50
			R Jamb	1.2627	1.9713	0.4864			
			R Sill	2.3877	1.5441	0.4835			
			Int. Vert.	2.5254	1.9713	0.4873			
4	0.42	47.1	L Head	2.2627	1.3562	0.4686	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9719	0.4744	0.4242	0.4106	0.4074
			L Sill	2.3877	1.5445	0.4697	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3562	0.4686	0.83	0.58	0.48
			R Jamb	1.2627	1.9720	0.4726			
			R Sill	2.3877	1.5445	0.4697			
			Int. Vert.	2.5254	1.9720	0.4735			
5	0.40	48.1	L Head	2.2627	1.3563	0.4548	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9730	0.4601	0.4038	0.3915	0.3880
			L Sill	2.3877	1.5449	0.4560	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3563	0.4548	0.82	0.56	0.46
			R Jamb	1.2627	1.9731	0.4589			
			R Sill	2.3877	1.5449	0.4560			
			Int. Vert.	2.5254	1.9731	0.4595			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.1% Vision Area)	95% Vision Area
							29.420" x 29.420"	78.740" x 78.740"	191.350" x 191.350"
6	0.38	49.2	L Head	2.2627	1.3564	0.4410	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9737	0.4465	0.3835	0.3722	0.3684
			L Sill	2.3877	1.5453	0.4424	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3564	0.4410	0.81	0.55	0.44
			R Jamb	1.2627	1.9739	0.4453			
			R Sill	2.3877	1.5453	0.4424			
			Int. Vert.	2.5254	1.9738	0.4459			
7	0.36	50.2	L Head	2.2627	1.3565	0.4273	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9744	0.4330	0.3630	0.3532	0.3493
			L Sill	2.3877	1.5457	0.4288	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3565	0.4273	0.80	0.53	0.42
			R Jamb	1.2627	1.9746	0.4317			
			R Sill	2.3877	1.5457	0.4288			
			Int. Vert.	2.5254	1.9745	0.4323			
8	0.34	51.3	L Head	2.2627	1.3567	0.4137	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9752	0.4195	0.3428	0.3337	0.3295
			L Sill	2.3877	1.5462	0.4153	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3567	0.4137	0.78	0.51	0.41
			R Jamb	1.2627	1.9754	0.4182			
			R Sill	2.3877	1.5462	0.4153			
			Int. Vert.	2.5254	1.9753	0.4188			
9	0.32	52.3	L Head	2.2627	1.3568	0.4001	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9759	0.4060	0.3224	0.3145	0.3103
			L Sill	2.3877	1.5466	0.4019	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3568	0.4001	0.77	0.50	0.39
			R Jamb	1.2627	1.9761	0.4047			
			R Sill	2.3877	1.5466	0.4019			
			Int. Vert.	2.5254	1.9760	0.4054			
10	0.30	53.4	L Head	2.2627	1.3570	0.3866	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2627	1.9767	0.3926	0.3021	0.2952	0.2910
			L Sill	2.3877	1.5471	0.3885	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2627	1.3570	0.3866	0.76	0.48	0.37
			R Jamb	1.2627	1.9770	0.3913			
			R Sill	2.3877	1.5471	0.3885			
			Int. Vert.	2.5254	1.9768	0.3920			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

Glazing Option	NFRC COG U-Factor (Btu/h-ft ² -F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft ² -F)	Edge U-Factor (Btu/h-ft ² -F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.1% Vision Area)	95% Vision Area
11	0.28	54.4	L Head	2.2627	1.3571	0.3732	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2627	1.9775	0.3793	0.2819	0.2758	0.2716
			L Sill	2.3877	1.5476	0.3752	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2627	1.3571	0.3732	0.75	0.47	0.35
			R Jamb	1.2627	1.9778	0.3779			
			R Sill	2.3877	1.5476	0.3752			
			Int. Vert.	2.5254	1.9777	0.3786			
12	0.26	55.5	L Head	2.2627	1.3573	0.3598	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2627	1.9784	0.3660	0.2616	0.2565	0.2525
			L Sill	2.3877	1.5480	0.3619	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2627	1.3573	0.3598	0.74	0.45	0.33
			R Jamb	1.2627	1.9786	0.3646			
			R Sill	2.3877	1.5480	0.3619			
			Int. Vert.	2.5254	1.9785	0.3653			
13	0.24	56.5	L Head	2.2627	1.3575	0.3464	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2627	1.9792	0.3528	0.2413	0.2370	0.2335
			L Sill	2.3877	1.5485	0.3487	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2627	1.3575	0.3464	0.73	0.43	0.32
			R Jamb	1.2627	1.9795	0.3513			
			R Sill	2.3877	1.5485	0.3487			
			Int. Vert.	2.5254	1.9793	0.3521			
14	0.22	57.6	L Head	2.2627	1.3578	0.3331	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2627	1.9801	0.3395	0.2211	0.2175	0.2146
			L Sill	2.3877	1.5491	0.3355	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2627	1.3578	0.3331	0.72	0.42	0.30
			R Jamb	1.2627	1.9804	0.3381			
			R Sill	2.3877	1.5491	0.3355			
			Int. Vert.	2.5254	1.9802	0.3388			
15	0.20	58.7	L Head	2.2627	1.3581	0.3197	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2627	1.9812	0.3262	0.2009	0.1979	0.1955
			L Sill	2.3877	1.5497	0.3221	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2627	1.3581	0.3197	0.70	0.40	0.28
			R Jamb	1.2627	1.9814	0.3247			
			R Sill	2.3877	1.5497	0.3221			
			Int. Vert.	2.5254	1.9813	0.3255			

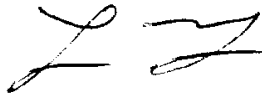
* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

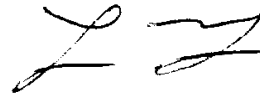
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17.0 Simulator: Lucas A. Turner, P.E.

18.0 Simulator in Responsible Charge: Lucas A. Turner, P.E., attests to the technical accuracy and content of this report.



Simulator Signature



Simulator in Responsible Charge Signature

Drawing Appendix

**Following drawings and data provided
by Client, totaling 5 pages**

FL300 AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

INDEX TO DRAWINGS	
1	INDEX TO DRAWINGS AND NOTES
2	STANDARD ELEVATION
3	STANDARD FRAMING DETAILS
4	BILL OF MATERIALS
5	DIE DRAWINGS

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CONSULTING, INC.

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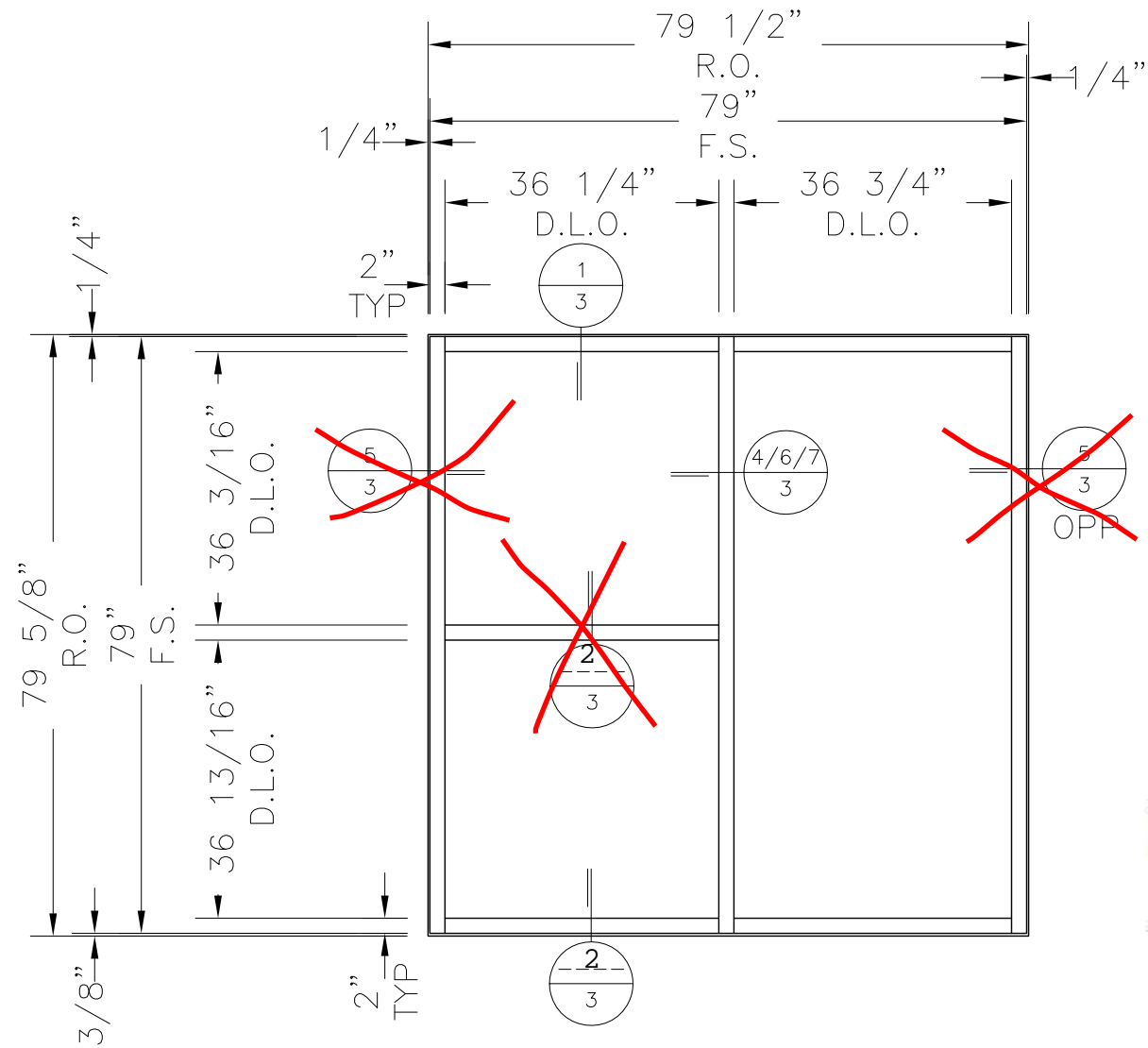
REV	BY	DATE	DESCRIPTION

Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35408
PHONE: 800-772-7737 FAX: 800-255-7320

FL300 AAMA 507 THERMAL
SIMULATION NFRC CMAST
SUBMITTAL DRAWINGS
INDEX TO DRAWINGS AND NOTES

DATE	2/25/2013		
DRAWN	CHECKED	APPROVED	
<i>MJ</i>	<i>WS</i>	<i>WS</i>	
PROJECT NO.	AAMA FL300		
DRAWING NO.	FL300-507		
SHEET	1 OF 5		

TYPICAL ELEVATIONS FOR FL300 AAMA 507 THERMAL SIMULATION NFRC CMAST



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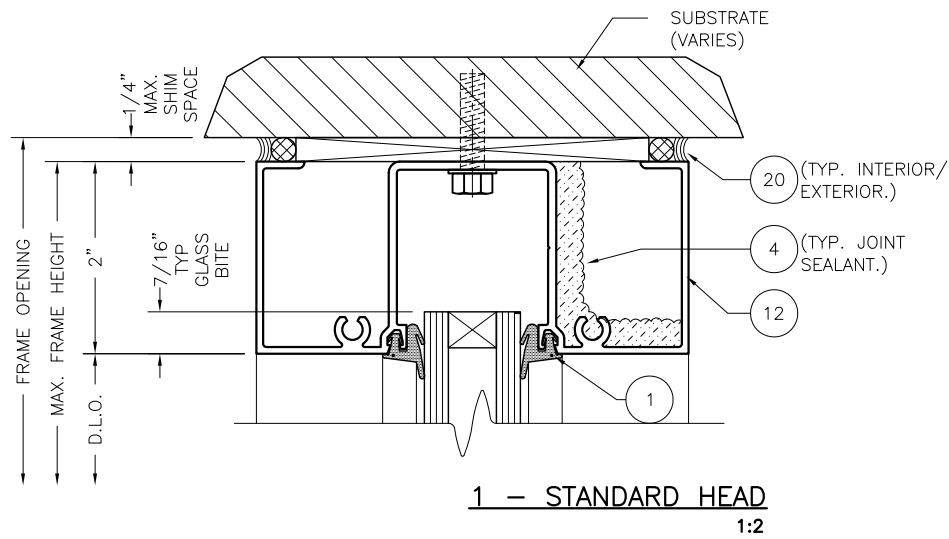
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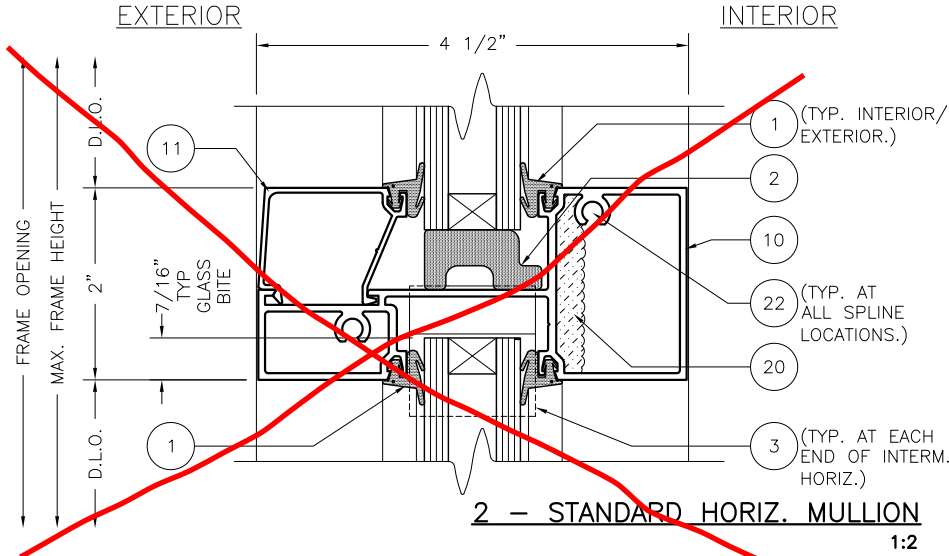
Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-443-6261

FL300 AAMA 507 THERMAL
SIMULATION NFRC CMAST
SUBMITTAL DRAWINGS
FRAMING ELEVATION

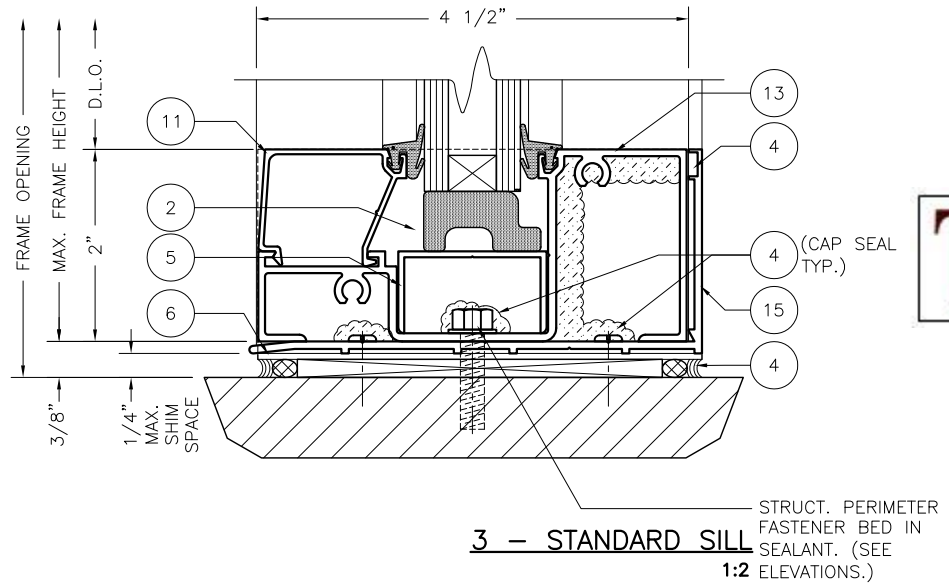
DATE	2/25/2013		
DRAWN	CHECKED	APPROVED	
<i>MJ</i>	<i>WS</i>	<i>WS</i>	
PROJECT NO.	AAMA FL300		
DRAWING NO.	FL300-507		
SHEET	2 OF 5		



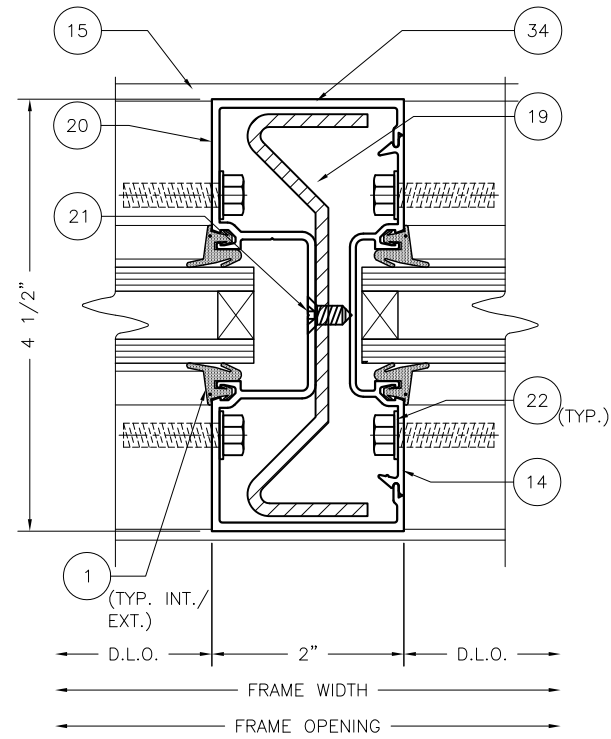
1 - STANDARD HEAD
1:2



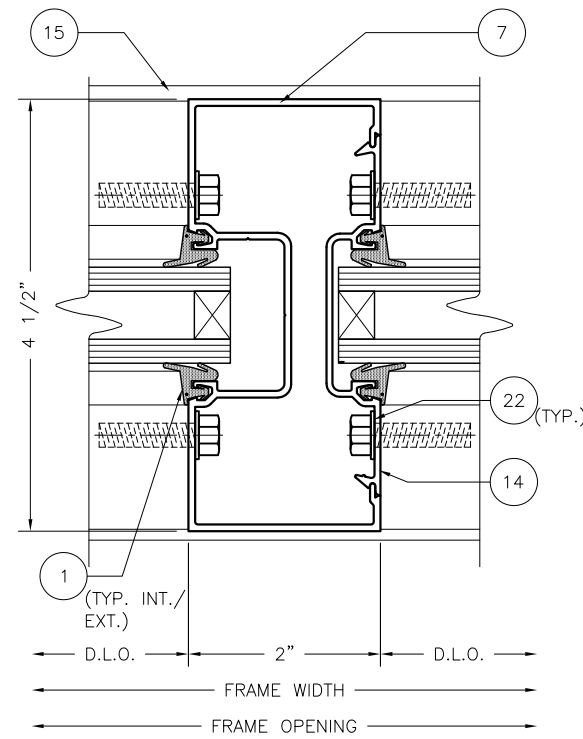
2 - STANDARD HORIZ. MULLION
1:2



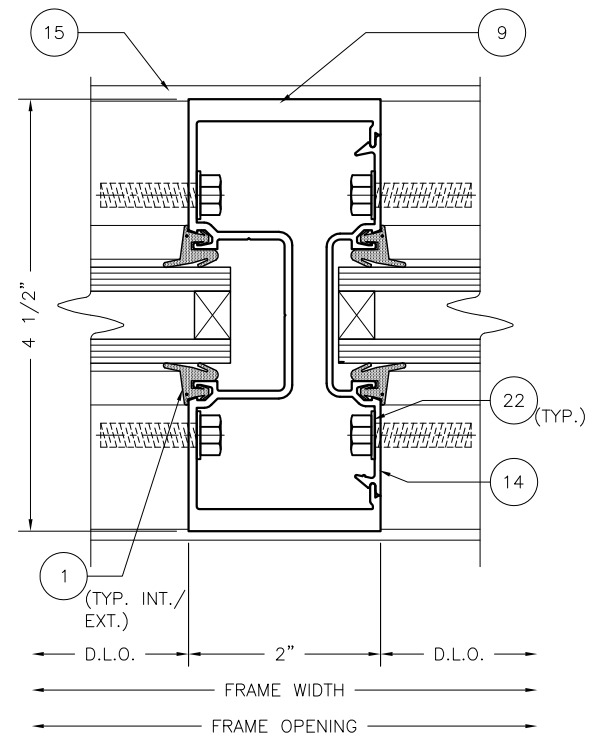
3 - STANDARD SILL
1:2
STRUCT. PERIMETER FASTENER BED IN SEALANT. (SEE ELEVATIONS.)



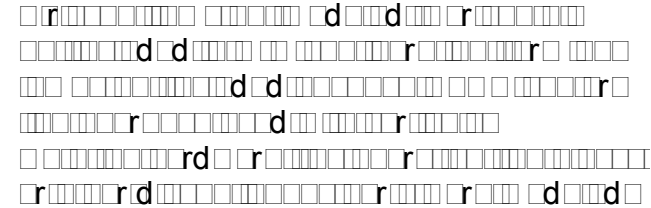
4 - STANDARD VERT. MULLION WITH STEEL
1:2



6 - LIGHT VERT. MULLION
1:2



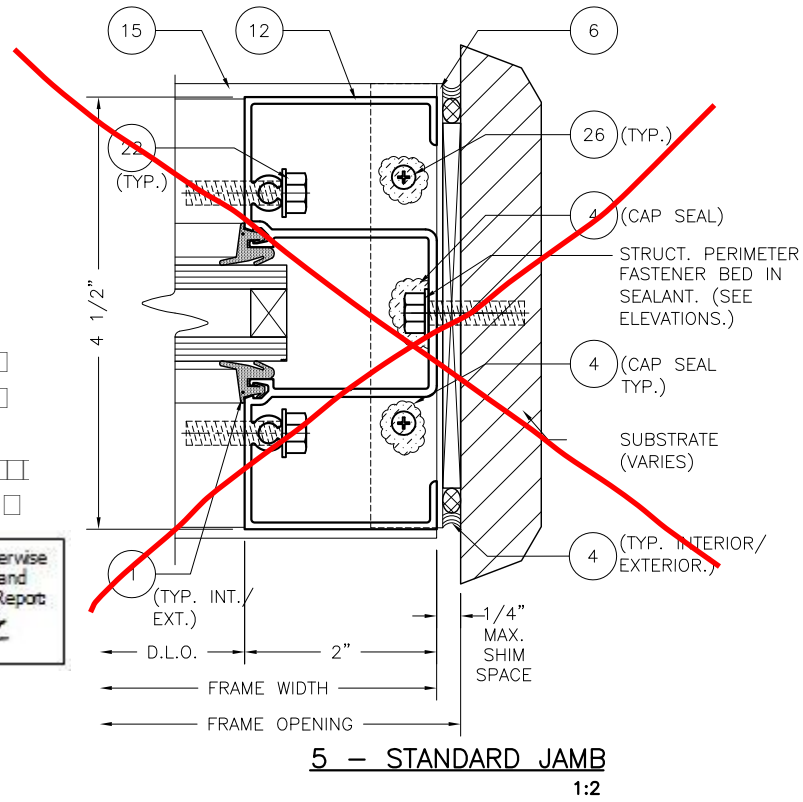
7 - HEAVY VERT. MULLION
1:2



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Initials: *ZZ*



5 - STANDARD JAMB
1:2

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3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-443-6261

FL300 AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS STANDARD FRAMING DETAILS

DATE	2/21/2013		
DRAWN	CHECKED	APPROVED	
<i>MJ</i>	---	---	
PROJECT NO.	AAMA FL300		
DRAWING NO.	FL300-507		
SHEET	3 OF 5		

REV	BY	DATE	DESCRIPTION

BILL OF MATERIALS

ITEM NO.	P/N	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1	NG1	GLAZING GASKET	.197 SPACE	EPDM	VARIES	USED ON EXT. AND INT.
2	SB3	SETTING BLOCK	1.50 X 4.00 X .625	EPDM	VARIES	
3	WD300-1	WATER DEFLECTOR	VARIABLE SPACE	RIGID PVC	CORAL	LOCATE ONE AT EACH END OF INTERMEDIATE
4	795	JOINT/PERIMETER SEALANT	VARIABLE SPACE	SILICONE	DOW	
5	CS101-1	SETTING CHAIR	.853 X 1.544 X .062	6063-T6 ALUMINUM	CORAL	FABRICATED LENGTH = 4.625"
6	ED319-1	END DAM	.75 X 2.188 X .062	6063-T6 ALUMINUM	CORAL	
7	FL304	LIGHT VERTICAL MULLION/JAMB	2.00 X 4.5 X .070	6063-T6 ALUMINUM	CORAL	
9	FL316	HEAVY VERTICAL MULLION	2.00 X 4.5 X .190	6063-T6 ALUMINUM	CORAL	
10	FL306	HORIZONTAL MULLION	2 X 4.460 X .070	6063-T6 ALUMINUM	CORAL	
11	FL303	GLASS STOP	1.207 X 1.543 X .050	6063-T6 ALUMINUM	CORAL	
12	FL301	HEAD/WALL JAMB	2.00 X 4.5 X .070	6063-T6 ALUMINUM	CORAL	
13	FL302	SILL/HEAD	2.00 X 4.460 X .070	6063-T6 ALUMINUM	CORAL	
14	FL305	OPEN BACK POCKET FILLER	.852 X 3.75 X .062	6063-T6 ALUMINUM	CORAL	
15	FL319	SUBSILL FLASHING	2.125 X 4.714 X .078	6063-T6 ALUMINUM	CORAL	
20	FL314	HEAD VERTICAL MULLION	2.00 X 4.5 X .078	6063-T6 ALUMINUM	CORAL	
21	AS24	FASTENER	#10-24 X 3/8" FHPUC	STEEL		ATTACH 12" O.C.
22	AS16	TYPICAL SPLINE SCREW	#14 X 1" HH TYPE B	STEEL	VARIES	TYPICAL SPLINE SCREW
26	AS21	ATTACH FL302 SILL TO FL319 SUBSILL	#6 X 3/8" X PPH	STEEL		ATTACH ED319-1 TO FL 319
30	SM5601	JOINT SEALANT TAPE	0.50 X 0.125 X VARIES	BOTYL	SCHNEE MOREHEAD	USED AT ALL HORIZONTAL INTERMEDIATE SECTIONS
31						
32						
33						



FL300 AAMA 507 THERMAL
 SIMULATION NFRC CMAST
 SUBMITTAL DRAWINGS
 BILL OF MATERIALS

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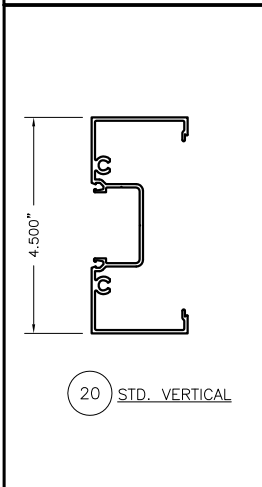
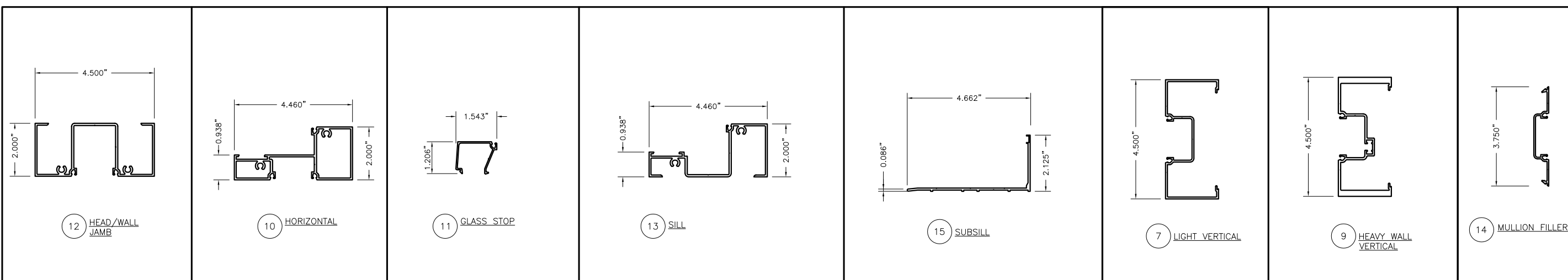
The information on this page, unless otherwise noted, is representative of the materials and profiles used in modeling performed for Report
CAP-030613-01 Initials: *ZI*

DATE			2/26/2013
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PROJECT NO. AAMA FL300			
DRAWING NO. FL300-507			
SHEET 4 OF 5			

DESCRIPTION

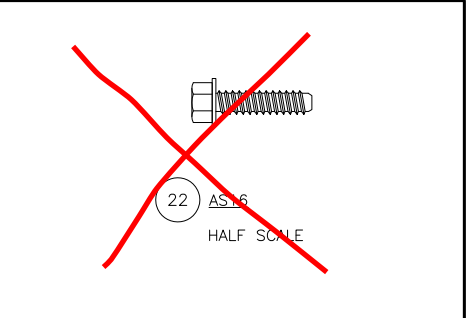
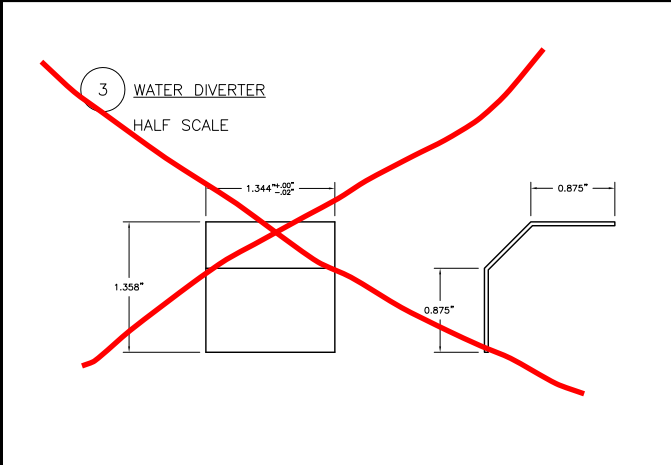
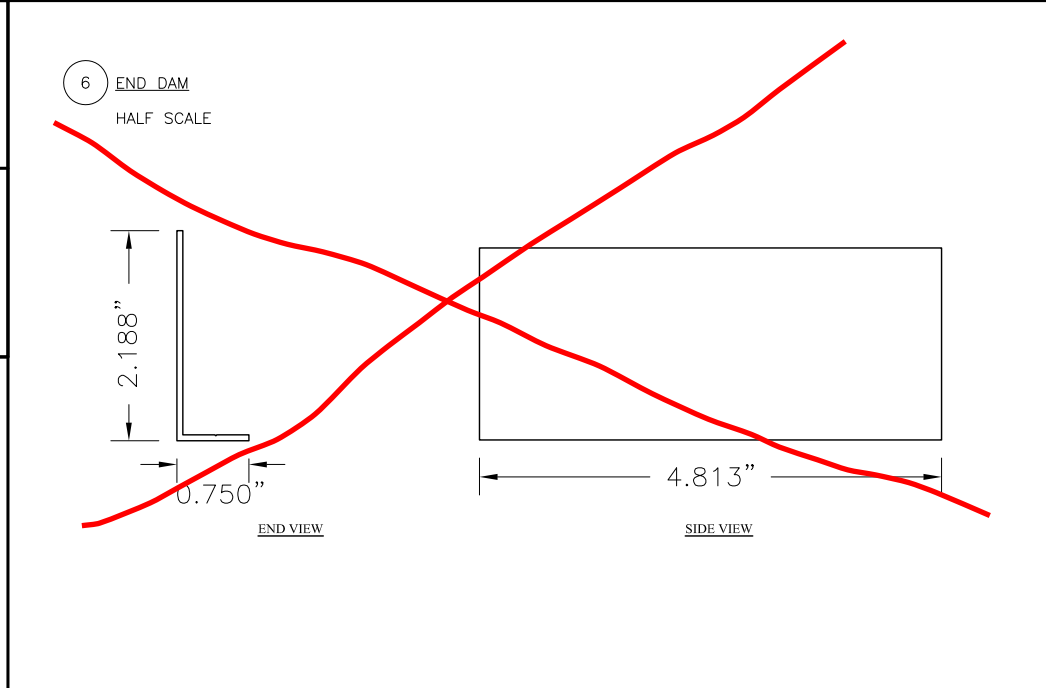
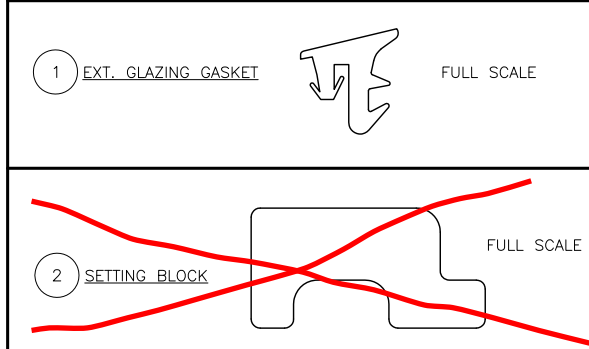
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Architectural Products
 3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
 PHONE: 800-772-7737 FAX: 800-443-6261

FL300T AAMA 507 THERMAL SIMULATION NFRC CMASST SUBMITTAL DRAWINGS
DIE DRAWING

DATE	2/25/2013		
DRAWN	CHECKED	APPROVED	
MJ	WS	WS	
PROJECT NO.	AAMA FL300		
DRAWING NO.	FL300-507		
SHEET	5 OF 5		