



TEST REPORT

Report No.: F0617.01-901-44

Rendered to:

COEUR D'ALENE WINDOW
Spokane, Washington

PRODUCT TYPE: PVC Sliding Glass Door (XO)
SERIES/MODEL: 3821

SPECIFICATIONS:

AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

and

AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

and

CSA A440S1-09, Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

Title	Summary of Results
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	Class LC PG30 2202 x 2202 (87 x 87) SD
Design Pressure	±1440 Pa (30.08 psf)
Air Infiltration	0.48 L/s/m ² (0.09 cfm/ft ²)
Air Exfiltration	0.40 L/s/m ² (0.08 cfm/ft ²)
Canadian Air Infiltration/Exfiltration Level	A3
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)

Test Completion Date: 11/16/15

Reference must be made to Report No. F0617.01-901-44, dated 12/08/15 for complete test specimen description and detailed test results.

1.0 Report Issued To: Coeur d'Alene Window
3808 N. Sullivan Road
Spokane, WA 99216

2.0 Test Laboratory: Architectural Testing, Inc.
an Intertek Company (Intertek-ATI)
22155 68th Ave. South
Kent, WA 98032
253-395-5656

3.0 Project Summary:

3.1 Product Type: PVC Sliding Glass Door (XO)

3.2 Series/Model: 3821

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements for a **Class LC PG30 2202 x 2202 (87 x 87) SD** rating.

3.4 Test Date: 11/16/15

3.5 Test Record Retention End Date: All test records for this report will be retained until 11/16/19.

3.6 Test Location: Intertek-ATI test facility in Kent, Washington.

3.7 Test Specimen Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek-ATI for a minimum of four years from the test completion date.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in the appropriate Appendix. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Guillermo Silva	Intertek-ATI

4.0 Test Specification(s):

AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

CSA A440S1-09, Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 4.8 m ² (52.2 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2202	86-5/8	2202	86-5/8
Operable panel	1121	44-1/8	2134	84
Screen	1038	40-7/8	2150	84-5/8

5.2 Frame Construction:

Frame Member	Material	Description
Main frame	PVC	White
Panel track	PVC with stainless steel cap	White, snap-in
Screen track	PVC	White
Fixed interlock	PVC	White

	Joinery Type	Detail
All corners	Mitered	Thermally welded
Panel track	Drop-in	Cut short off each end to allow for drainage
Screen track	Drop-in	Full width
Fixed interlock	Mechanical	Each end was coped, butt joined and secured with three #8 by 2-1/2" screws.

5.0 Test Specimen Description: (Continued)

5.3 Panel Construction:

Member	Material	Description
Panel	PVC	White
Site line adaptor	PVC	White

	Joinery Type	Detail
All corners	Mitered	Thermally welded
Site line adaptor	Mitered	Snapped into top and bottom rail

5.4 Weatherstripping:

Description	Quantity	Location
6.9 mm (0.270") high pile with single center fin	1 row	Operable panel, full perimeter
6.1 mm (0.240") high pile with single center fin	1 row	Fixed interlock

5.5 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type (Nominal)	Spacer Type	Interior Lite (Nominal)	Exterior Lite (Nominal)	Glazing Method
19 mm (3/4") IG	Steel	4 mm (5/32") tempered	4 mm (5/32") tempered	Exterior glazed with 3/8" foam tape and PVC glazing beads

Location	Qty.	Daylight Opening		Glass Bite
		millimeters	inches	
Panel and fixed lite	2	1007 x 2020	39-5/8 x 79-1/2	12.5 mm (1/2")

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Method	Size	Qty.	Location
Weep	26.3 mm x 5.5 mm (1" x 1/4")	2	Sill, exterior face, approx. 75 mm (3") from the corner, through one wall (draining hollows)
Weep	25.6 mm x 52 mm (1" by 1/4")	2	Sill, internal walls, at the corner, through two walls (draining between hollows)
Weep	19.3 mm x 4.6 mm (3/4" x 3/16")	2	Sill, interior panel pocket, approx. 25 mm (1") from the corner, through one wall (draining pocket into hollow)
Weep	4.8 mm (3/16")	2	Sill track insert cut short off each end
Weep	19.3 mm x 4.6 mm (3/4" x 3/16")	2	Sill track, approx. 60 mm (2-1/4") from the corner, through one wall (draining pocket into hollow)
Weep	12.5 mm x 3.8 mm (1/2" x 3/16")	2	Operable panel, bottom rail, approx. 25 mm (1") from the corner, through one wall (draining glazing pocket into hollows)
Weep	12.5 mm x 3.8 mm (1/2" x 3/16")	2	Site line adaptor, bottom rail, approx. 75 mm (3") from the corner, through two walls (draining hollows)

5.7 Hardware:

Description	Qty.	Location
Multi-point lock (2) assembly	1	Operable panel, lock stile, lock points located approx. 965 mm (38") and 1015 mm (40") from the bottom
Metal keeper	1	Jamb, aligned with lock points and secured with four #10 x 1-3/8" screws
Anti-lift block	2	Head, above the operable panel in the closed position
Dual wheel adjustable roller in a metal housing	2	Operable panel, bottom rail

5.0 Test Specimen Description: (Continued)

5.8 Reinforcement:

Drawing Number	Location	Material
N5788	Operable panel, lock stile	Steel
N51011-2	Operable panel, meeting stile	Steel
N51042	fixed interlock	Steel

5.9 Screen Construction:

Frame Material	Corner Construction	Mesh Type	Mesh Attachment Method
Aluminum	Corner key	Mesh	Spline

6.0 Installation:

The specimen was installed into a Doug-Fir wood buck. The rough opening allowed for shim space. The exterior perimeter of the window was sealed with sealant.

Location	Anchor Description	Anchor Location
Full perimeter	#8 by 1" screws	Less than 100 mm (4") from the corner and then approx. 100 mm (4") apart through pre-punched nail fin

7.0 Test Results: The temperature during testing was 23°C (74°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 62.2 N (14.0 lbf) Maintain motion: 48.9 N (11.0 lbf) Latches: 17.8 N (4.0 lbf)	135 N (30.35 lbf) max. 90 N (20.23 lbf) max. 100 N (22.48 lbf) max.	
Canadian Operating Force, per ASTM E 2068	Initiate motion: 62.2 N (14.0 lbf) Maintain motion: 48.9 N (11.0 lbf)	135 N (30.35 lbf) max. 90 N (20.23 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.48 L/s/m ² (0.09 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.40 L/s/m ² (0.08 cfm/ft ²)	0.5 L/s/m ² (0.1 cfm/ft ²) max.	1
Canadian Air Infiltration/Exfiltration Level	A3	0.5 L/s/m ² (0.1 cfm/ft ²) max.	
Water Penetration	N/A	N/A	2
Uniform Load Deflection	N/A	N/A	2
Uniform Load Structural	N/A	N/A	2
Forced Entry Resistance, per ASTM F 842, Grade: 25	Pass	No entry	
Forced Entry Resistance, per CAWM-300	Pass	No entry	
Thermoplastic Corner Weld	Pass	Meets as stated	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf)	Pass	Meets as stated	
Remaining direction, 230 N (50 lbf)	Pass	Meets as stated	

7.0 Test Results: (Continued)

Title of Test	Results	Allowed	Note
Optional Performance			
Water Penetration, per ASTM E 547 at 360 Pa (7.52 psf)	Pass	No leakage	3
Uniform Load Deflection, per ASTM E 330 taken at meeting stile/interlock +1440 Pa (30.08 psf) -1440 Pa (30.08 psf)	30.3 mm (1.19") 36.0 mm (1.42")	Report Only Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 taken at meeting stile/interlock +2160 Pa (45.11 psf) -2160 Pa (45.11 psf)	5.3 mm (0.21") 5.0 mm (0.20")	8.6 mm (0.34") max. 8.6 mm (0.34") max.	5, 6

Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.

Note 3: With and without insect screen.

Note 4: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

Note 5: Loads were held for 10 seconds.

Note 6: Tape and film were not used to seal against air leakage during structural testing.

Intertek-ATI will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For INTERTEK-ATI:

Guillermo E. Silva
Technician

Jeffrey L. Dideon
Director - Regional Operations

GES:pac

Attachments (pages): This report is complete only when all attachments listed are included.

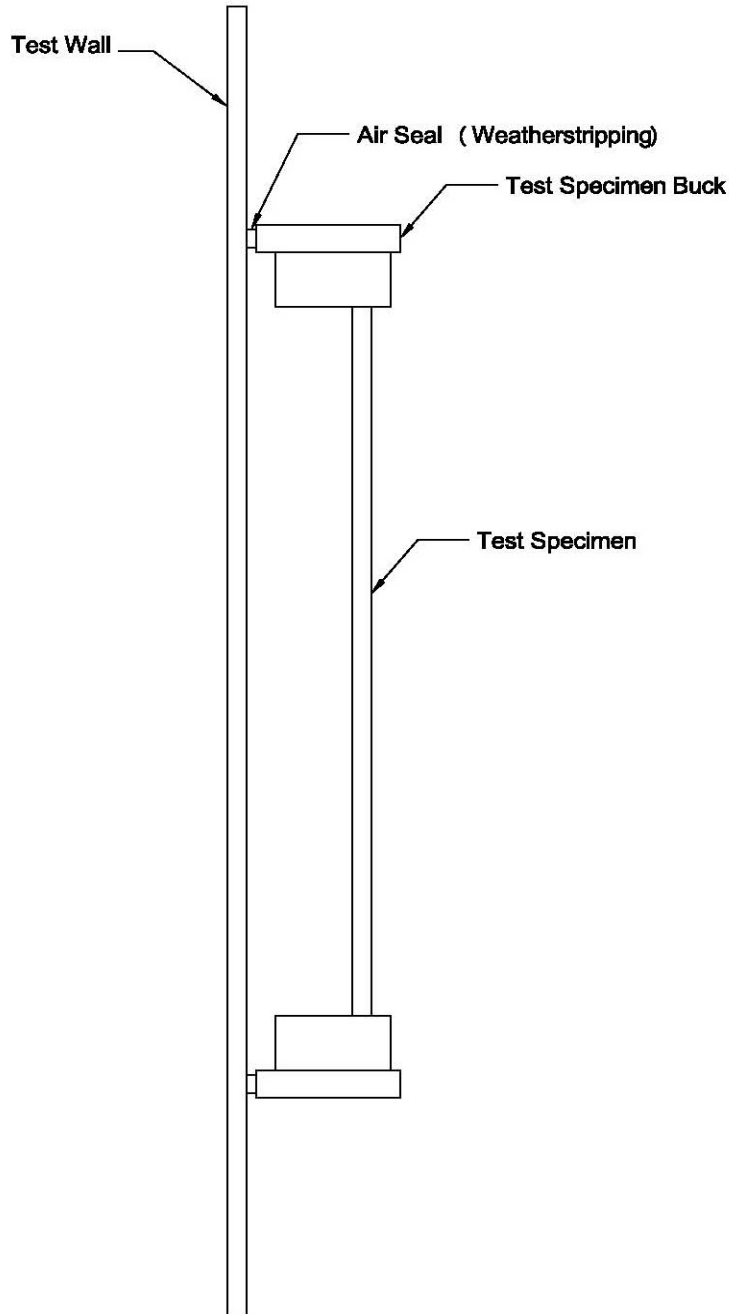
- Appendix-A: Alteration Addendum (1)
- Appendix-B: Location of Air Seal (1)
- Appendix-C: Drawings (13)

Appendix A
Alteration Addendum

Note: No alterations were required.

Appendix B

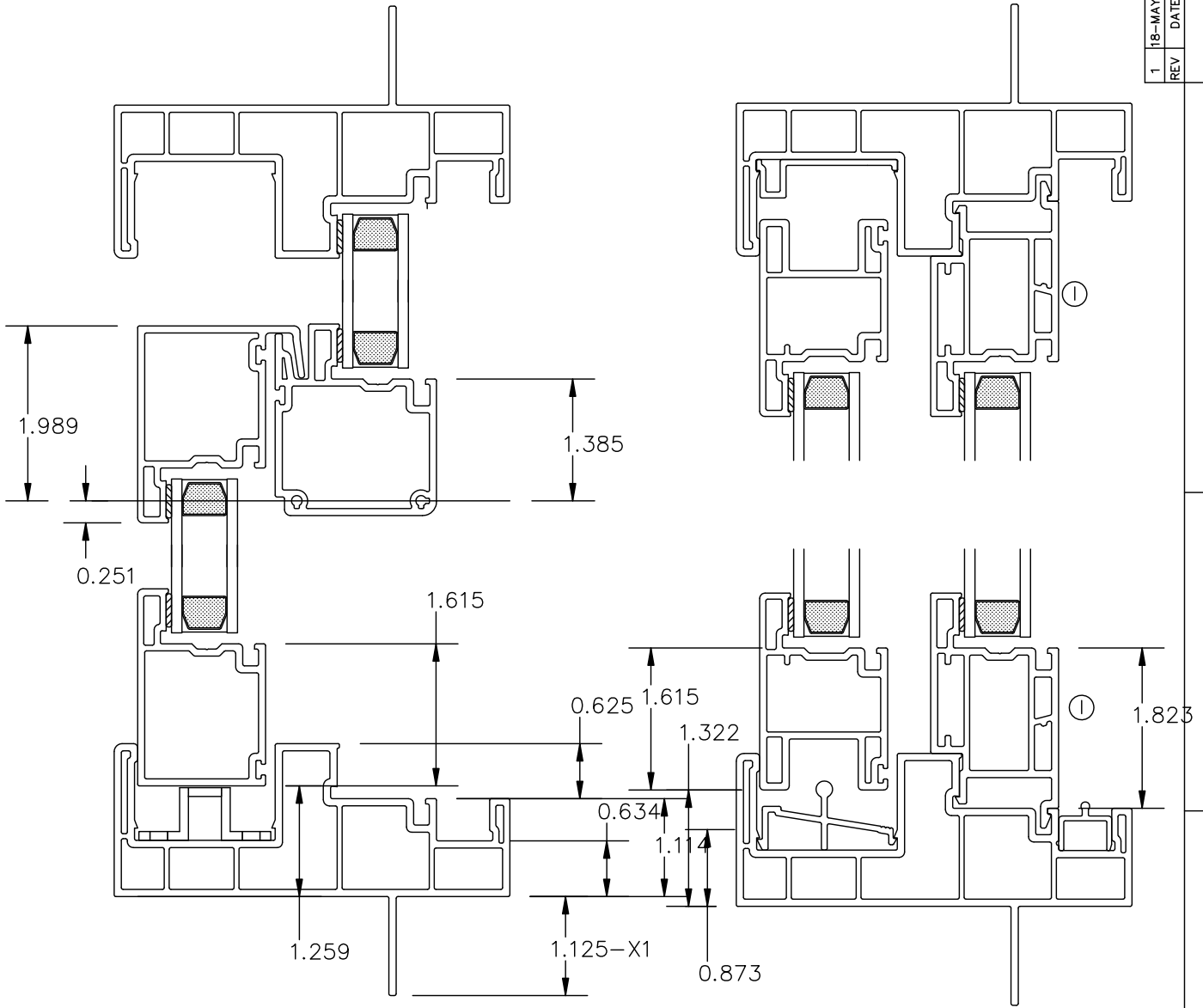
Location of Air Seal: The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.



Appendix C

Drawings

SCALE: 1/2: 1



REV	DATE	REMARKS
1	18-MAY-99	TIT EXTENDED

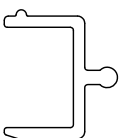
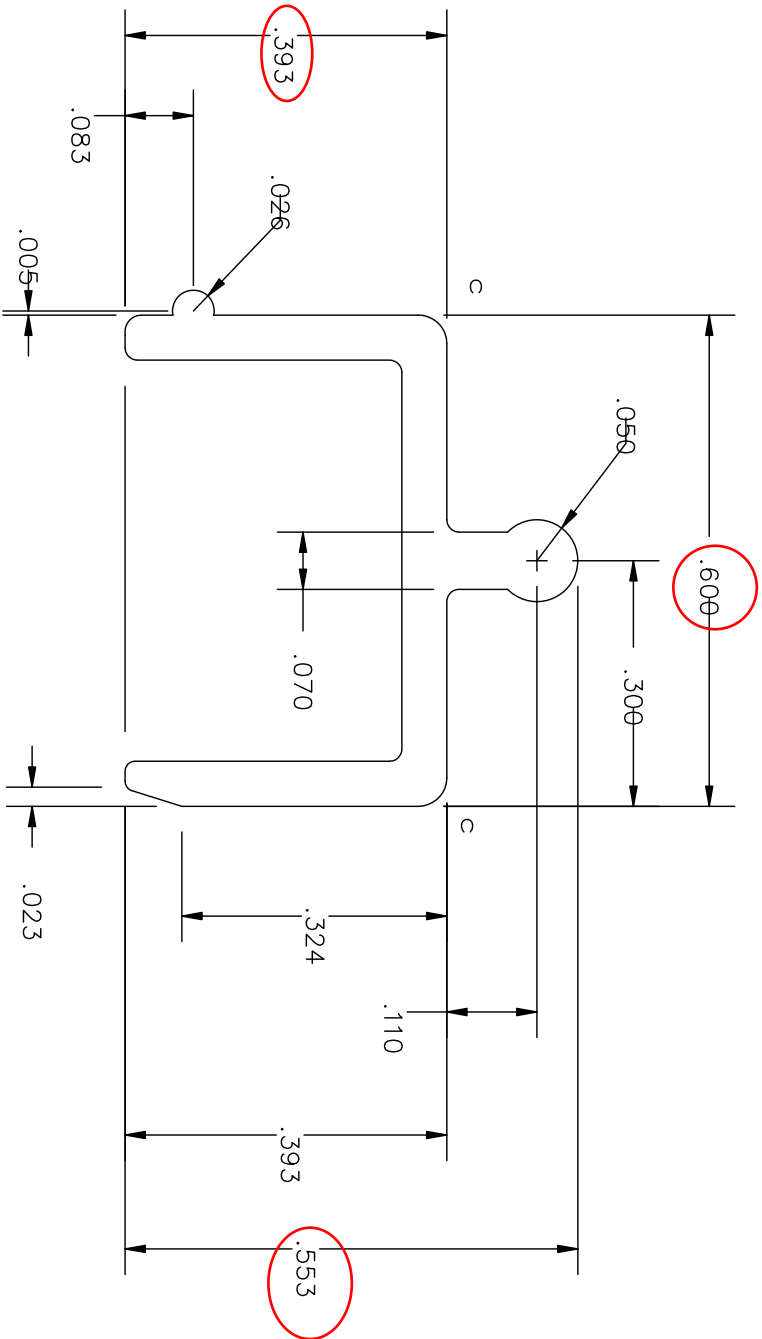
EPI DATE: 11-FEB-98 NO: 308-BRK1 A

TITLE: SPD PLAN VIEW

	Report #:	F0617-901-44
	Date:	12/02/15
	Verified by:	<i>[Signature]</i>

SCALE: 4:1

d = SHARP
c = 0.035R



ACTUAL SIZE

	Report #:	F0617-901-44
	Date:	12/02/15
	Verified by:	<i>[Signature]</i>

FAB REF	FT TO	308-D1	308-D16
XXX-XXX	308-D17		

CYCLOID DESIGNS

DWG: 181-D8R

DATE: 17-JUN-94

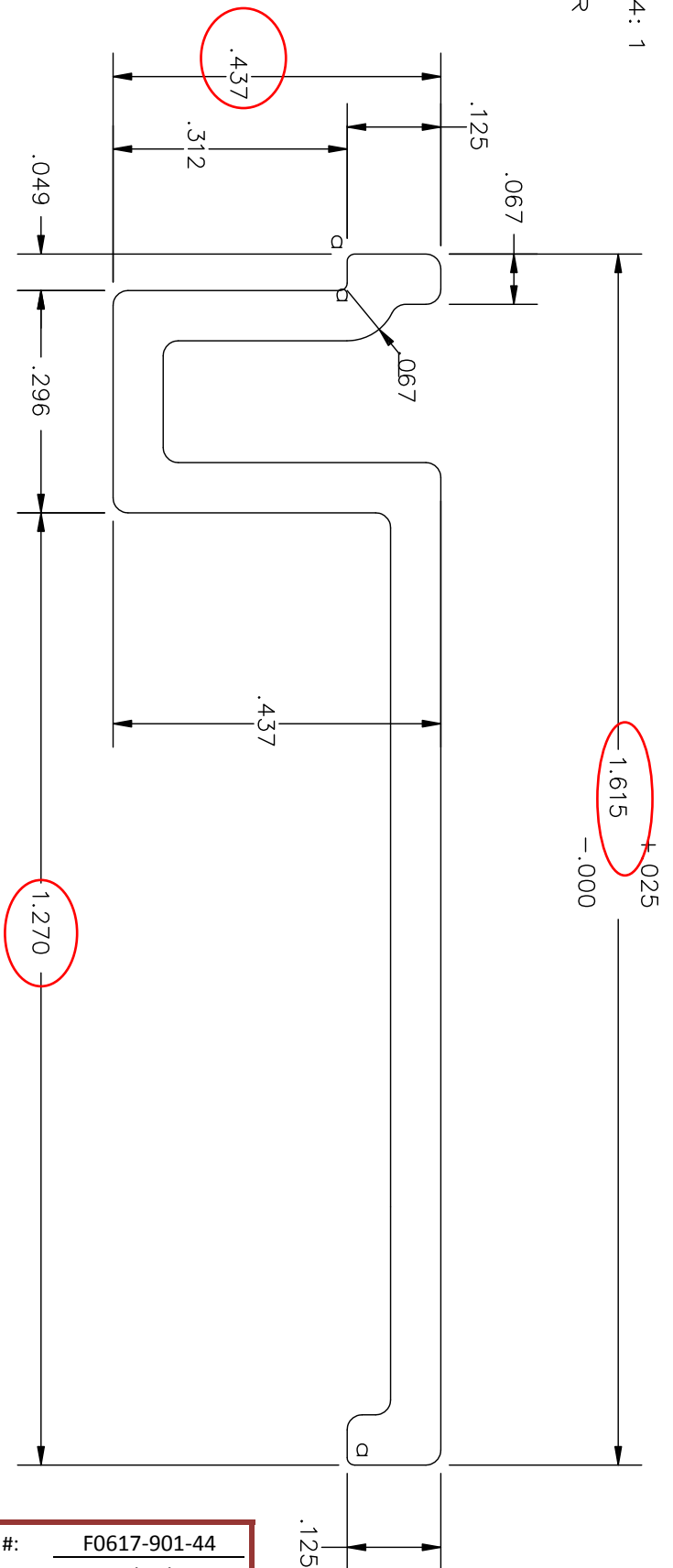
SLIDING PATIO DOOR

EXTERNAL WALL: 0.055
INTERNAL WALL: x.xxx
CORNER TYP: 0.020R
WEIGHT: 0.052 LB/FT

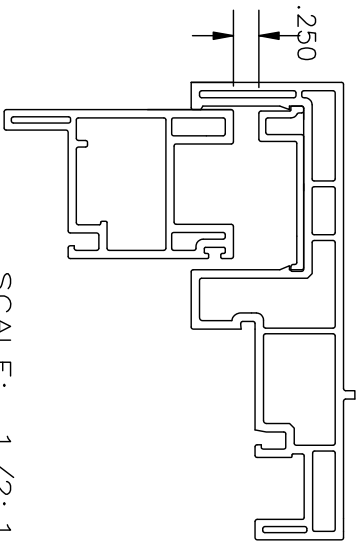
TITLE: PATIO DOOR SCREEN TRACK

RS1060

SCALE: 4:1
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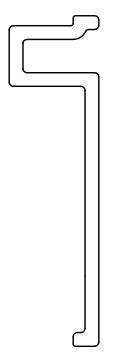


KE1631



SCALE: 1/2:1

APPROVED
 28-OCT-95
 CYCLOID DESIGNS



ACTUAL SIZE

	Report #:	F0617-901-44
	Date:	12/02/15
	Verified by:	<i>[Signature]</i>

CYCLOID DESIGNS
 DWG: 181-D15
 DATE: 27-OCT-95
 TITLE: PATIO DOOR ANTI-LIFT
 RS1076

FAB REF	FIT TO	308-D1	308-D16
XXX-XXX	308-D17		

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EXTERNAL WALL: 0.067
 INTERNAL WALL: X.XXX
 CORNER TYP. 0.020R
 WEIGHT: 0.101 LB/FT

308-D1	RS1 295		308-D1 0	RS1 296		308-D1 1	RS1 297	
308-D1 2	RS1 298		308-D1 3	RS1 299		308-D1 4	RS1 300	
1 81 -D8	RS1 060		305-D35	RS1 281	FROM 305 SYSTEM			
① 308-D1 9	RS1 301		308-D1 8	RS1 302		② 308-D1 5	RS1 303	
308-D2	RS1 304		308-D1 6	RS1 305	<p style="text-align: center;">APPROVED 18-OCT-04 CYCLOID DESIGNS</p>			
		NO: 308-D0		DATE: 16-FEB-98		SLI DI NG PATI O DOOR		
TI TLE: GENERAL PARTS LAYOUT								

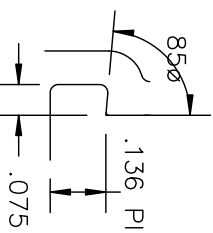
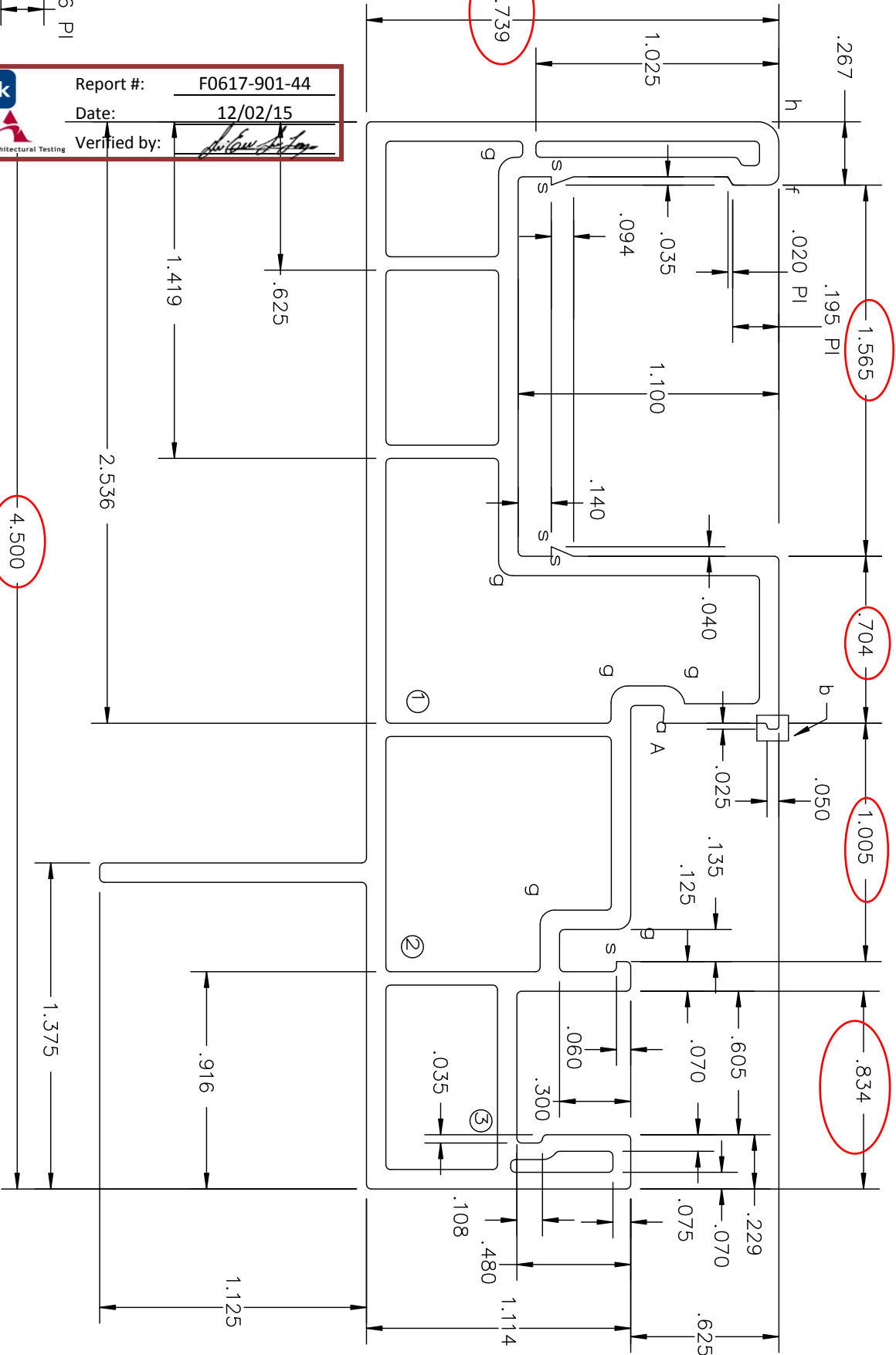
308-D1 7	RS1 306		308-D20	RS1 307		1 81 -D1 5	RS1 076	
④ 308-D25	RS1 786							
		NO: 308-D0		DATE: 16-FEB-98		SLI DI NG PATI O DOOR		
TI TLE: GENERAL PARTS LAYOUT								

Report #: F0617-901-44
Date: 12/02/15
Verified by:

Architectural Testing

SCALE : 1 . 5 : 1

- a=0. 006R
- b=0. 012R
- c=0. 015R
- d=0. 020R
- e=0. 030R
- f=0. 045R
- g=0. 060R
- h=0. 090R
- s=sharp



DETAIL A
SCALE: 2:1

	Report #:	F0617-901-44
	Date:	12/02/15
	Verified by:	<i>[Signature]</i>

APPROVED
16-FEB-98

CYCLOID DESIGNS
DWG: 308-D1
DATE: 11-FEB-98
TITLE: FRAME WITH FIN
RS1295

FAB REF	308-F2A	308-F5A	FIT TO	308-D13	305-D35	308-D18	181-D8	308-D19
308-F2	308-F3		308-D13		308-D15	308-D20	181-D15	291-D7

REV	DATE	REMARKS
3	01-18-98	RETAINER DETAIL ADDED: WT WAS .954
2	01-18-98	WALL MOVED: DIM WAS 0.954
1	01-18-98	WALL MOVED: DIM WAS 2.716

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ROYAL SERRA INC
SPARKS, NEVADA
ALL RIGHTS RESERVED
EXTERNAL WALL: 0.082
INTERNAL WALL: 0.056
CORNER TYP: 0.020R
WEIGHT: 0.953 LB/FT

SCALE : 2 : 1

Intertek

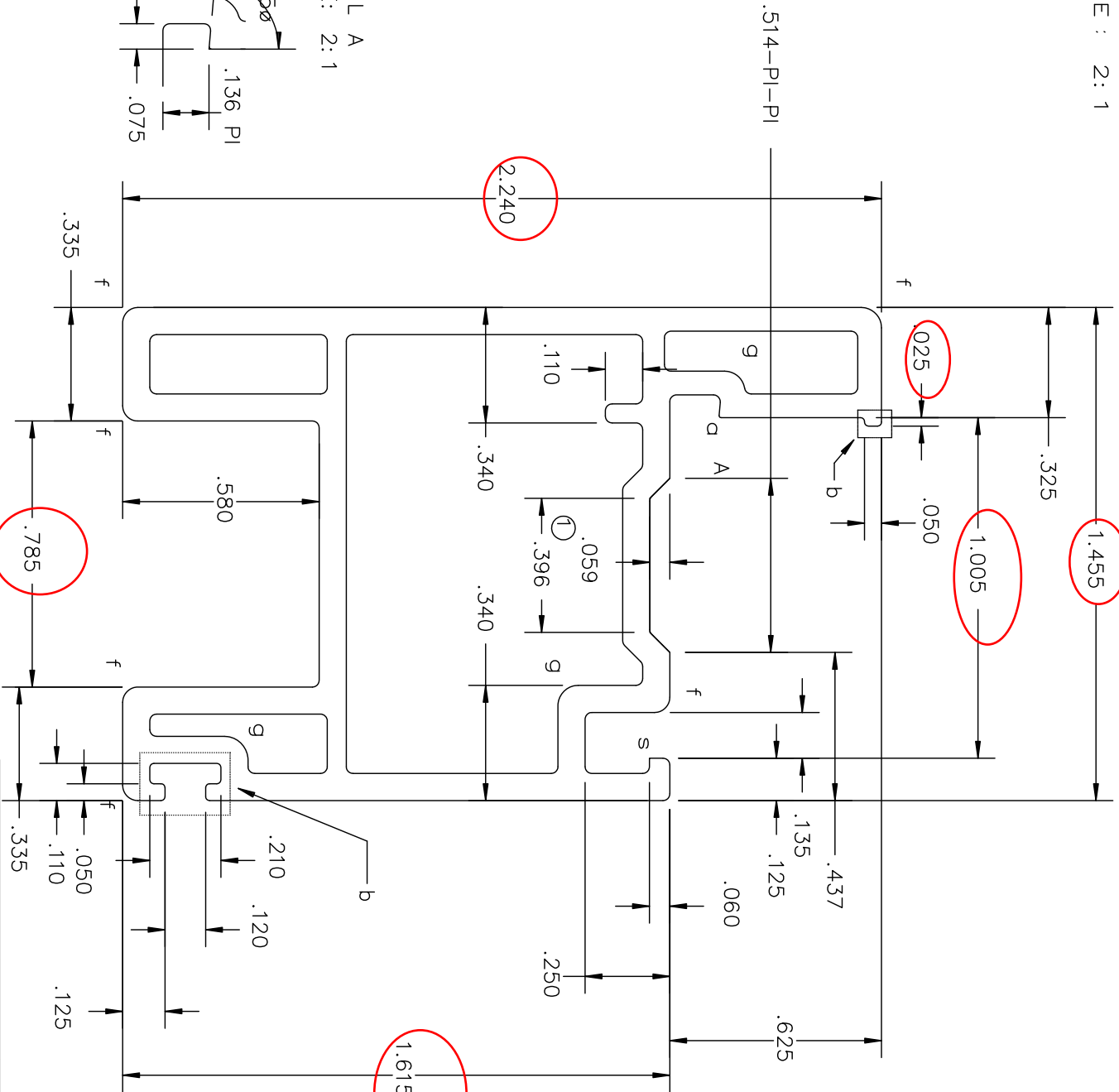
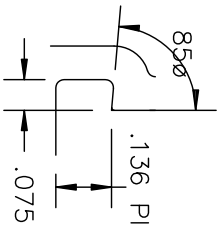


Report #: F0617-901-44

Date: 12/02/15

Verified by: *[Signature]*

DETAIL A
SCALE: 2:1



1.455

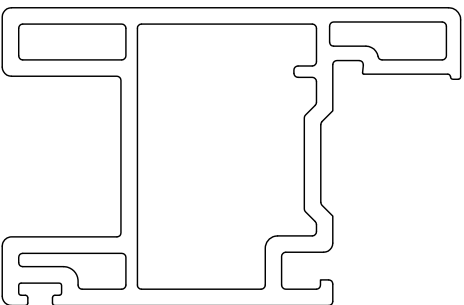
1.005

2.240

1.615

.785

ACTUAL SIZE



a=0.006R

b=0.012R

c=0.015R

d=0.020R

e=0.030R

f=0.045R

g=0.060R

s=sharp

APPROVED

16-FEB-98

CYCLOID DESIGN

APPROVED AS CORRECTED

28-APR-98

CYCLOID DESIGN

CYCLOID
DESIGNS



DWG: 308-D10

DATE: 13-FEB-98

TITLE: SASH BOTTOM

RS1296

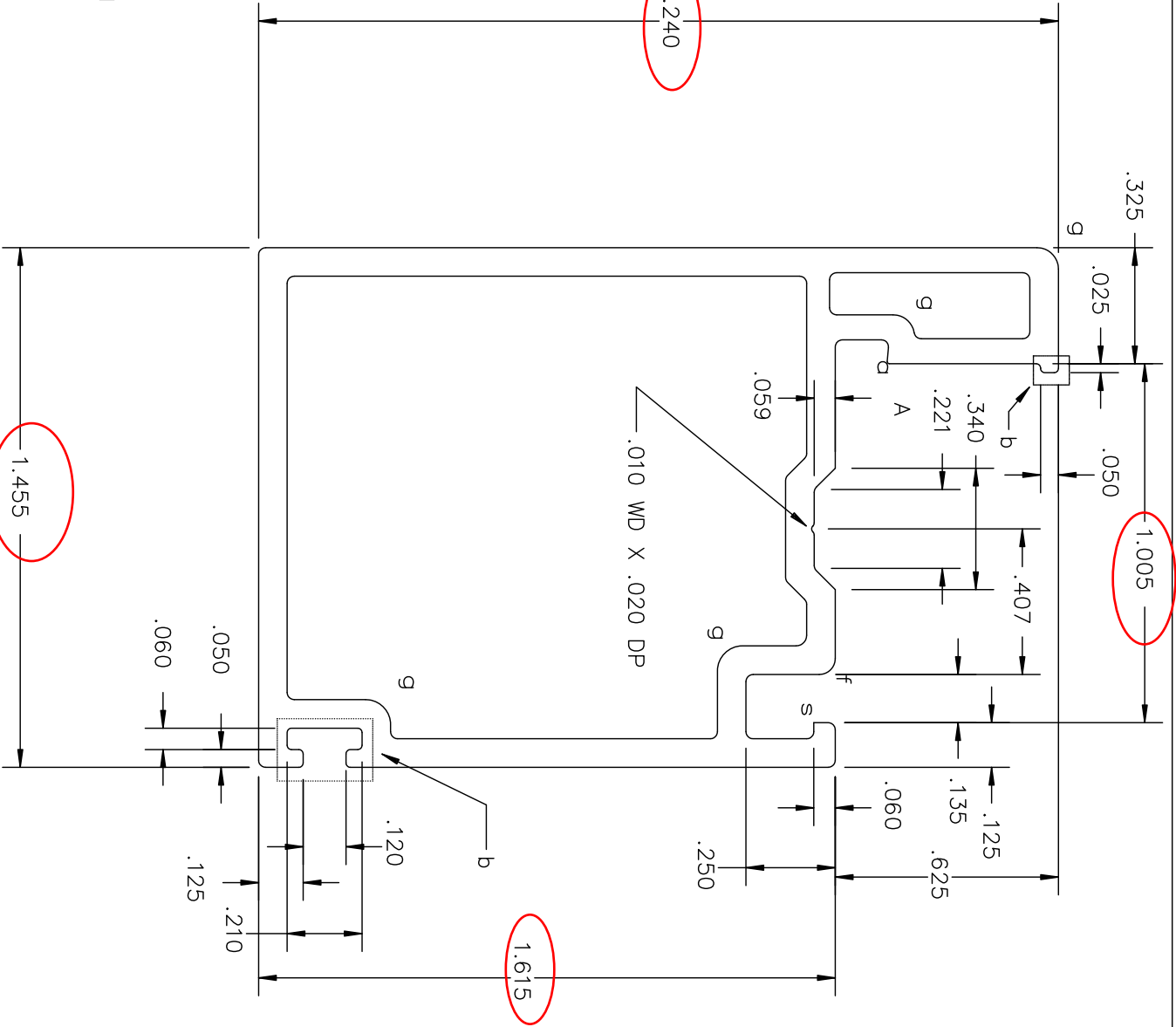
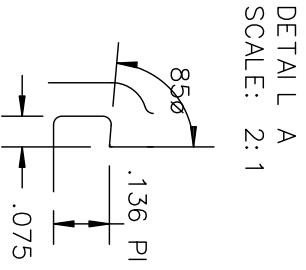
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SPARKS, NEVADA
ALL RIGHTS RESERVED

EXTERNAL WALL: 0.080
INTERNAL WALL: 0.064
CORNER TYP: 0.020R
WEIGHT: 0.453 LB/FT

REV	DATE	DI	MENSI ON	ADDED	REMARKS
1	04-28-98				
FAB REF					
308-F4					
REV	DATE	DI	MENSI ON	ADDED	REMARKS
1	04-28-98				
FAB REF					
308-F4					
REV	DATE	DI	MENSI ON	ADDED	REMARKS
1	04-28-98				
FAB REF					
308-F4					

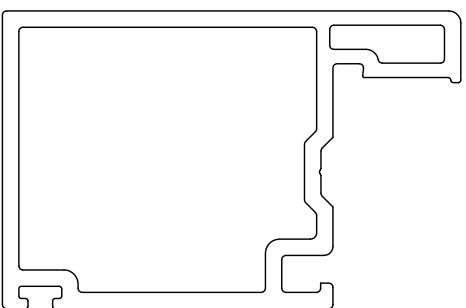
SCALE : 2 : 1


 Report #: F0617-901-44
 Date: 12/02/15
 Verified by: *[Signature]*



- a=0.006R
- b=0.012R
- c=0.015R
- d=0.020R
- e=0.030R
- f=0.045R
- g=0.060R
- s=sharp

APPROVED
 16-FEB-98
 CYCLOID DESIGNS



ACTUAL SIZE

REV	DATE	DI M CHANGE:	WAS .124
1	01-18-98		

FAB REF	308-F5D	308-F6	308-D18	308-D13
308-F5				

CYCLOID DESIGNS
 DWG: 308-D11
 DATE: 11-FEB-98
 TITLE: SASH
 RS1297

© 1998 COPYRI GHT
 ROYAL SIERRA I NC
 SPARKS, NEVADA
 ALL RI GHTS RESERVED

EXTERNAL WALL: 0.080
 INTERNAL WALL: 0.064
 CORNER TYP: 0.020R
 WEI GHT: 0.381 LB/FT

SCALE : 2 : 1

.325

.025

.050

.1005

.407

.125

.060

.625

.250

.135

.060

.125

.071

.060

.210

.270

.592

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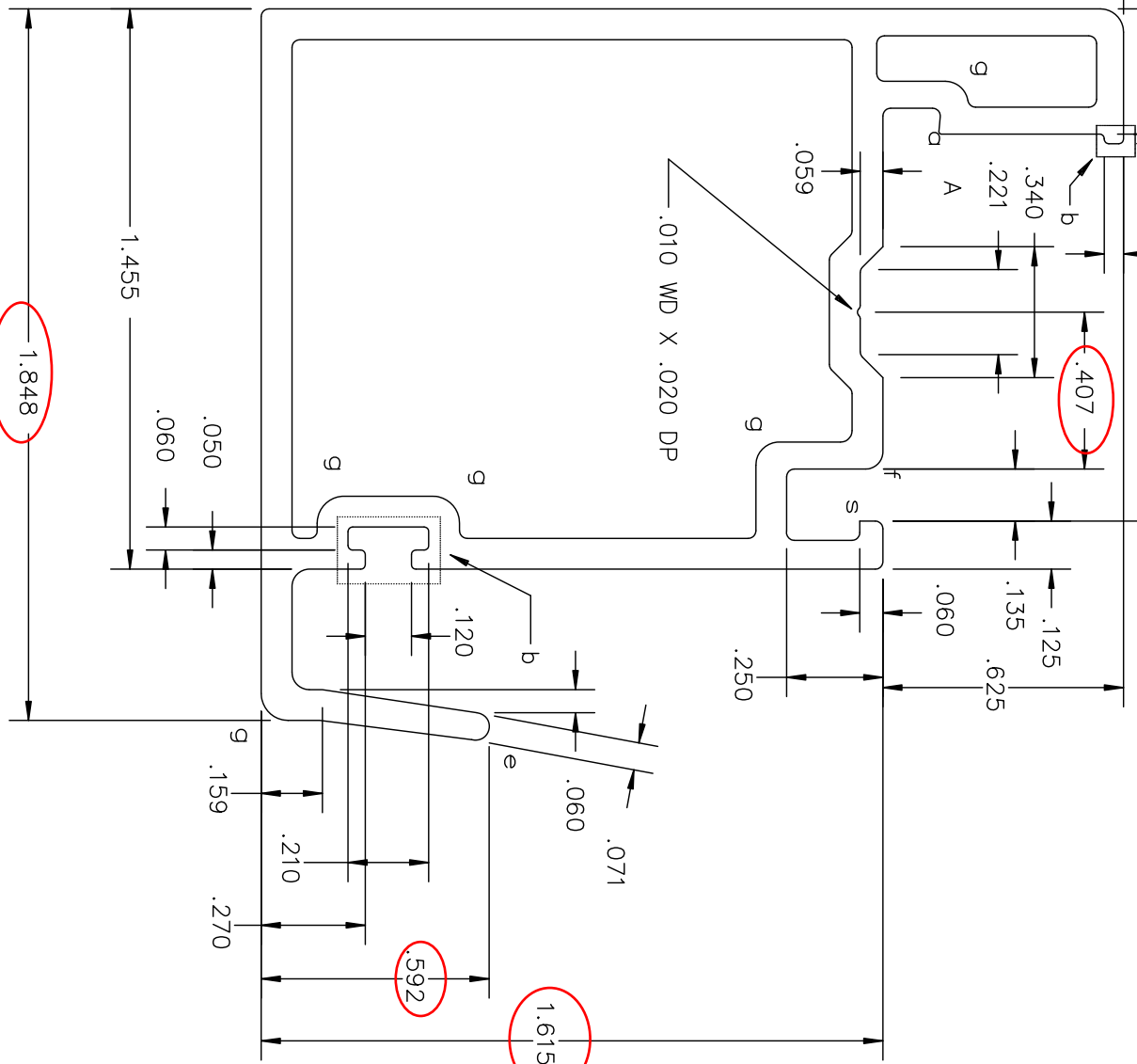
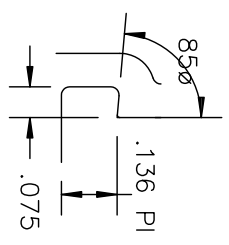
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g

2.240

Intertek Report #: F0617-901-44
 Architectural Testing Date: 12/02/15
 Verified by: *[Signature]*

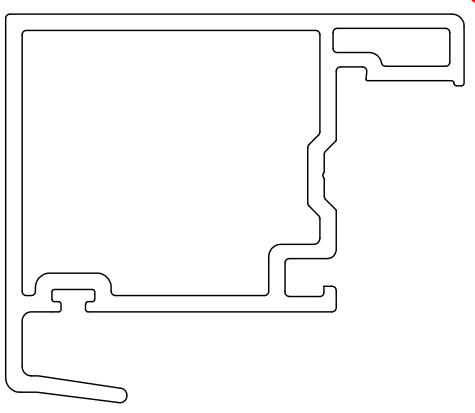
DETAIL A
SCALE: 2:1



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- c=0.015R
- d=0.020R
- e=0.036R
- f=0.045R
- g=0.060R
- s=sharp

APPROVED
 16-FEB-98
 CYCLOID DESIGNS

ACTUAL SIZE



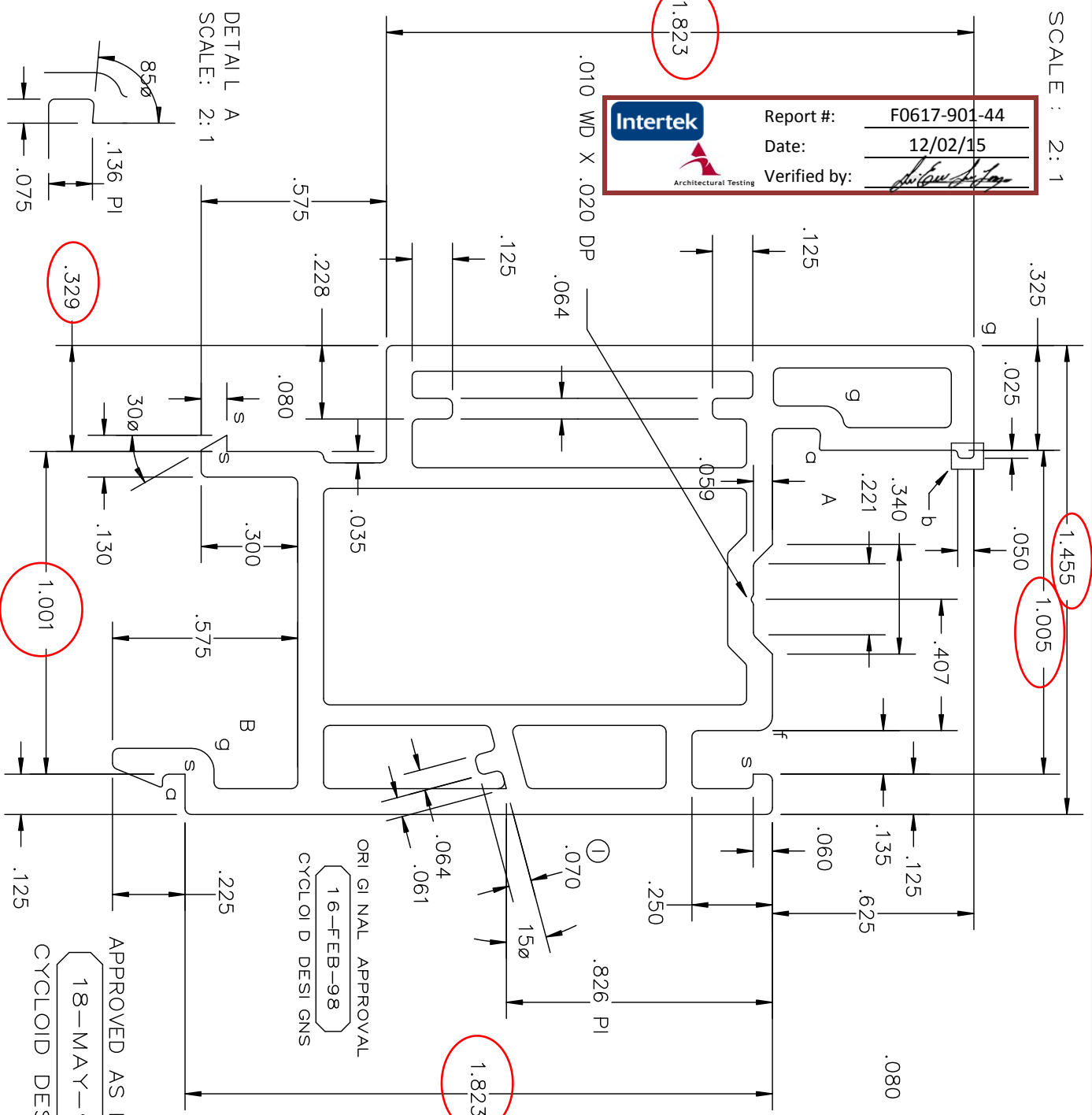
CYCLOID DESIGNS
 DWG: 308-D12
 DATE: 11-FEB-98
 TITLE: INTERLOCK
 RS1298

FAB REF			
308-F6			
© 1998 COPYRIGHT ROYAL SIERRA INC SPARKS, NEVADA ALL RIGHTS RESERVED			
EXTERNAL WALL: 0.080	INTERNAL WALL: 0.064	CORNER TYP: 0.020R	WEIGHT: 0.426 LB/FT
FIT TO	305-D35	308-D13	308-D18
308-D15	291-D7		

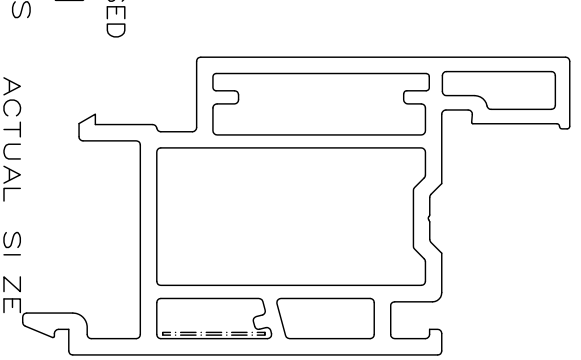
SCALE : 2 : 1



Report #: F0617-901-44
 Date: 12/02/15
 Verified by: *[Signature]*



DETAIL B
 SCALE: 4:1
 a=0.006R
 b=0.012R
 c=0.015R
 d=0.020R
 e=0.036R
 f=0.045R
 g=0.060R
 s=shar



APPROVED AS REVISED
 18-MAY-99
 CYCLOID DESIGNS

ORIGINAL APPROVAL
 16-FEB-98
 CYCLOID DESIGNS

REV	DATE	REMARKS
1	18-MAY-99	TIT EXTENDED, WASH. 035: WT WAS .517

FAB REF	308-F4A	FIT TO	308-D1	308-D16	308-D17	305-D35	308-D18
308-F1B		291-D7	308-D10	308-D11	308-D12	308-D13	308-D14

CYCLOID DESIGNS



DWG: 308-D13

DATE: 11-FEB-98

TITLE: VENTILATOR

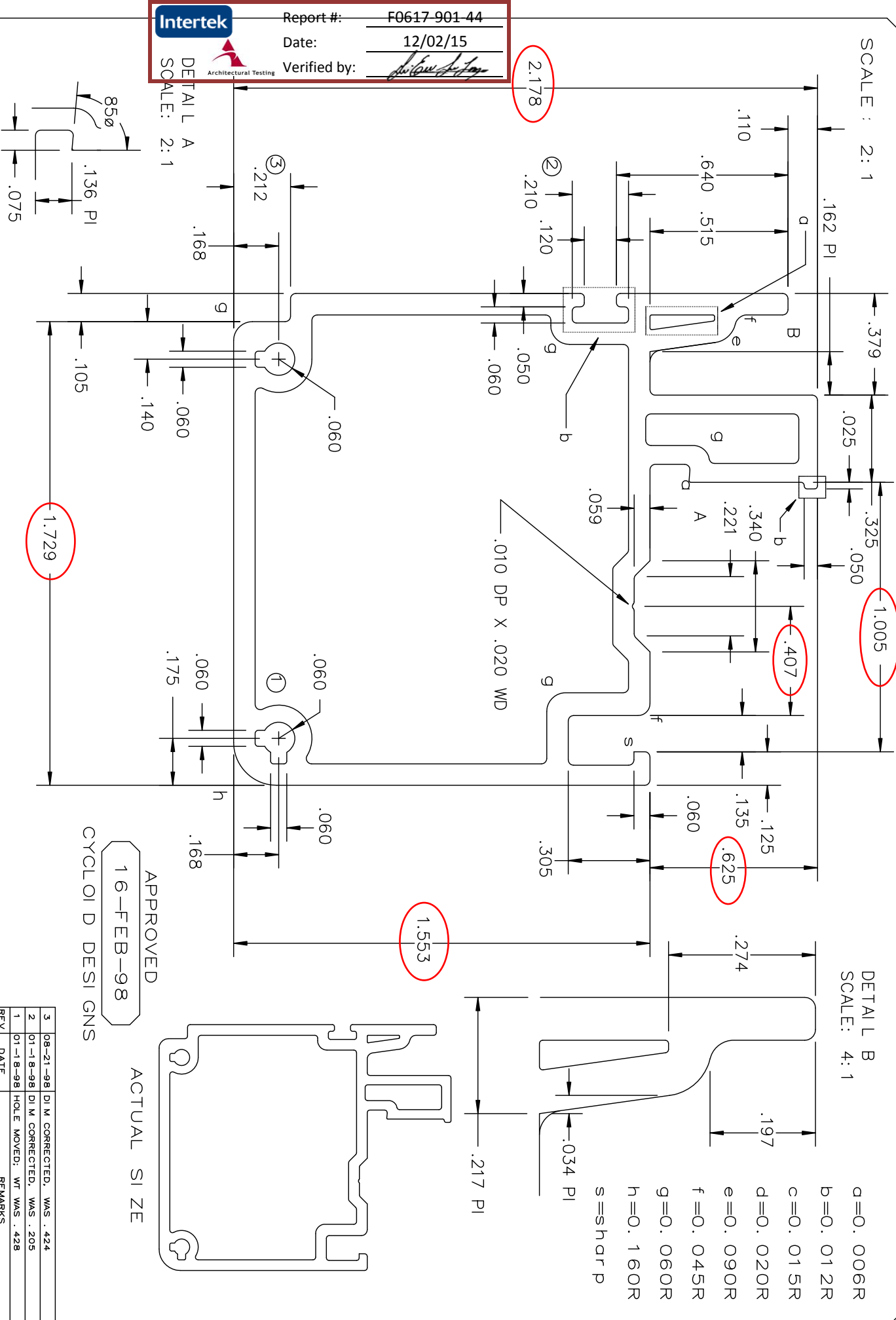
RS1299

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EXTERNAL WALL: 0.080
 INTERNAL WALL: 0.064
 CORNER TYP: 0.020R
 WEIGHT: 0.518 LB/FT

SCALE : 2 : 1

DETAIL B
SCALE: 4 : 1



Intertek
Report #: F0617-901-44
Date: 12/02/15
Verified by: *Juan Lopez*
Architectural Testing

DETAIL A
SCALE: 2 : 1

APPROVED
16-FEB-98
CYCLOID DESIGNS

ACTUAL SIZE

REV	DATE	REMARKS
3	08-21-98	DIM CORRECTED. WAS .424
2	01-18-98	DIM CORRECTED. WAS .205
1	01-18-98	HOLE MOVED. WT WAS .428

FIT TO	308-D15	308-D18	308-D13
308-F1	291-D7		

CYCLOID DESIGNS	DWG: 308-D14	DATE: 11-FEB-98	RS1300
TITLE: MULLION			
© 1998 COPYRIGHT ROYAL SERRA INC SPARKS, NEVADA ALL RIGHTS RESERVED EXTERNAL WALL: 0.080 INTERNAL WALL: 0.064 CORNER TYP: 0.020R WEIGHT: 0.483 LB/FT			


 Report #: F0617-901-44
 Date: 12/02/15
 Verified by: *[Signature]*

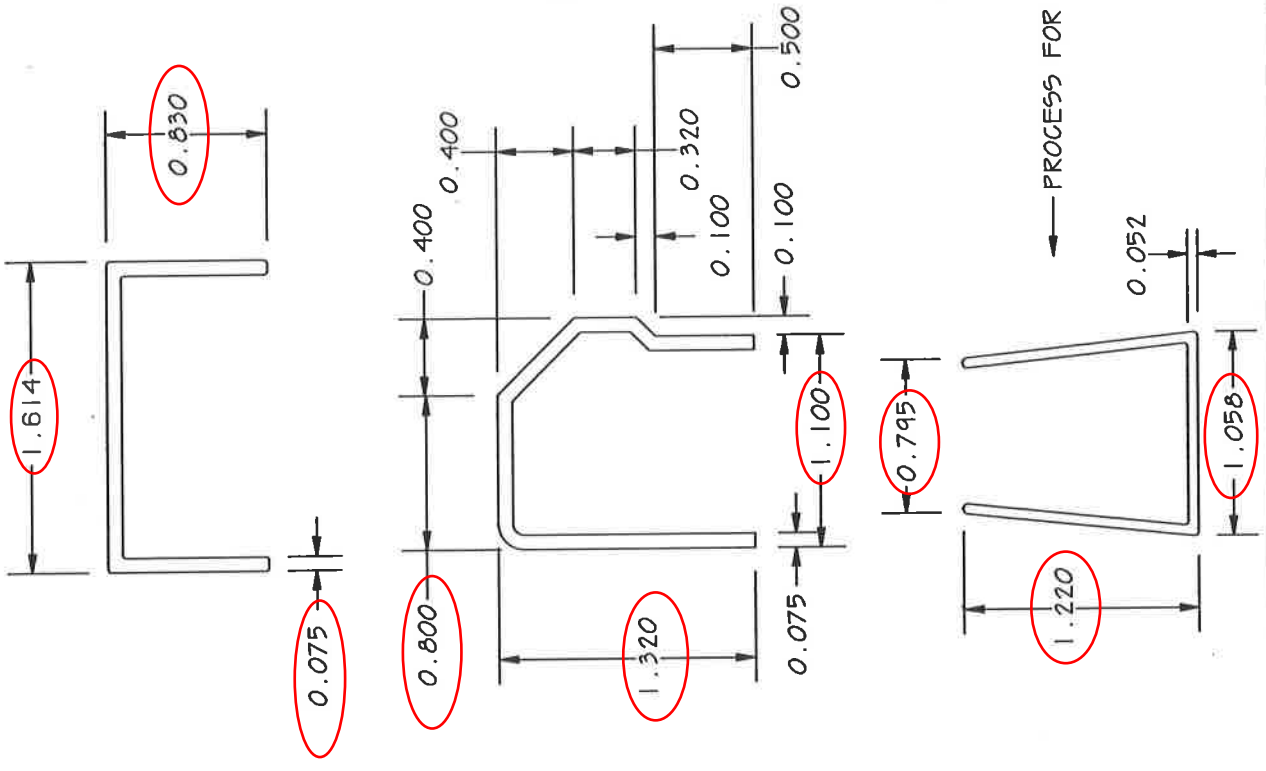
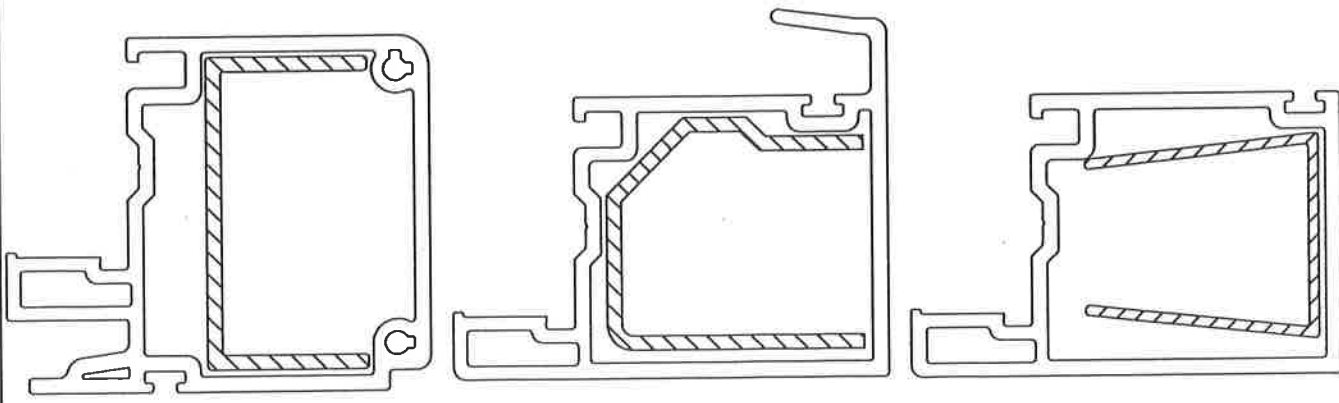
1 y-y - 0.093 in 4
N51042


1 y-y - 0.058 in 4
N51011-2

1 y-y - 0.029 in 4
N5788 PUNCHED

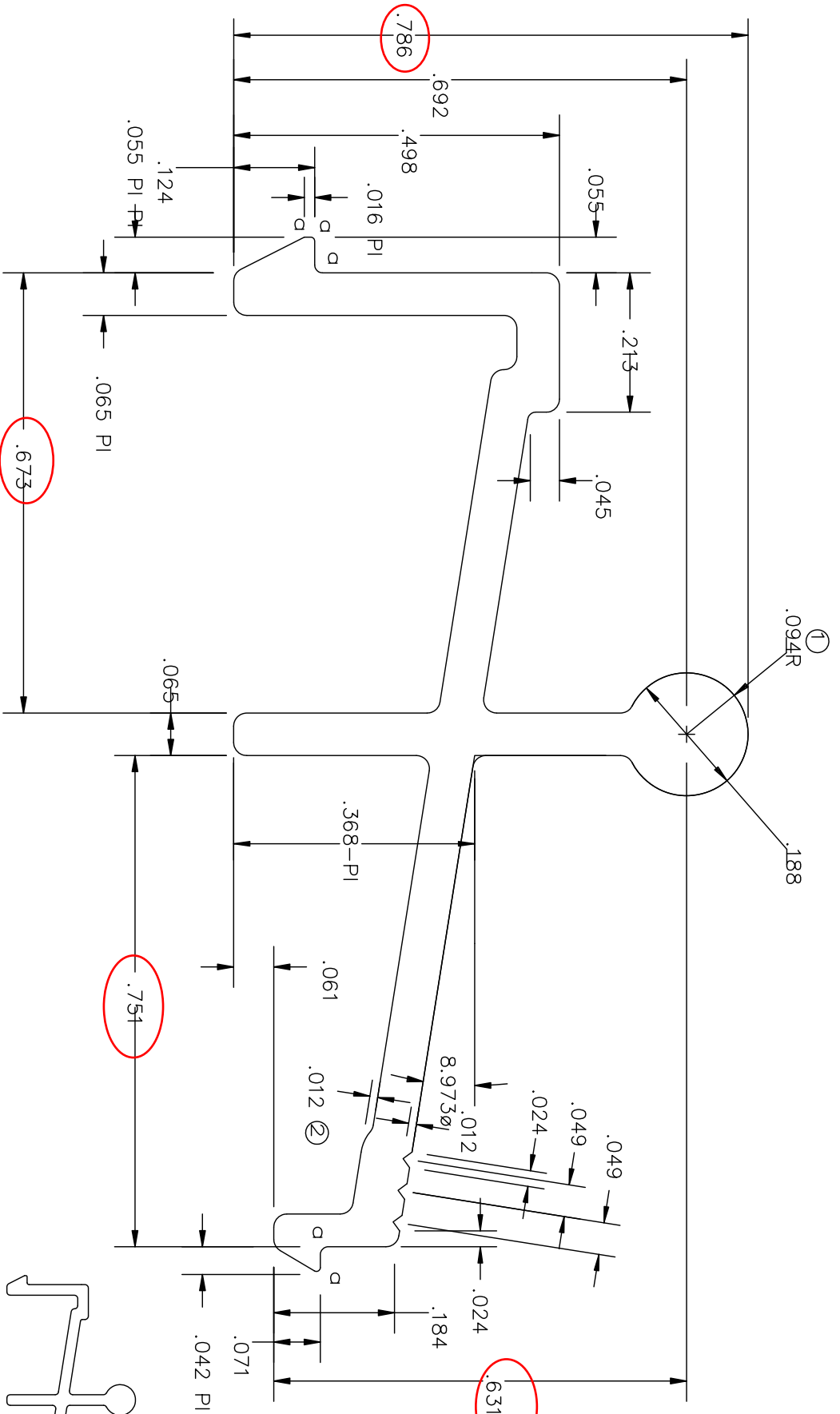
NOTE: STEEL FOR
AAMA STRUCTURAL TEST
AND NFRC SIMULATIONS

PROCESS FOR MOTRISE AND HANDLE HOLES



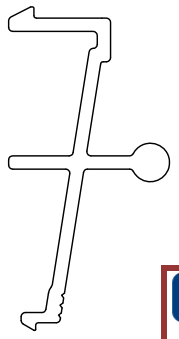
 CYCLOID DESIGNS	DWG: 308-R1	DATE: 14-APR-98	© 1998 COPYRIGHT ROYAL SIERRA EXTRUSIONS INC RENO, NEVADA ALL RIGHTS RESERVED	EXTERNAL WALL: X.XXX INTERNAL WALL: X.XXX CORNER TYP: 0.XXXX WEIGHT: X.XXX LB/FT
TITLE: PROPOSED STEEL REINFORCING				

SCALE: 4:1



a=0.006R
 b=0.012R
 c=0.015R
 d=0.020R
 e=0.030R
 f=0.045R
 g=0.060R
 s=sharp

Intertek Report #: F0617-901-44
 Date: 12/02/15
 Verified by: *[Signature]*
 Architectural Testing



ACTUAL SIZE

APPROVED
 23-APR-98

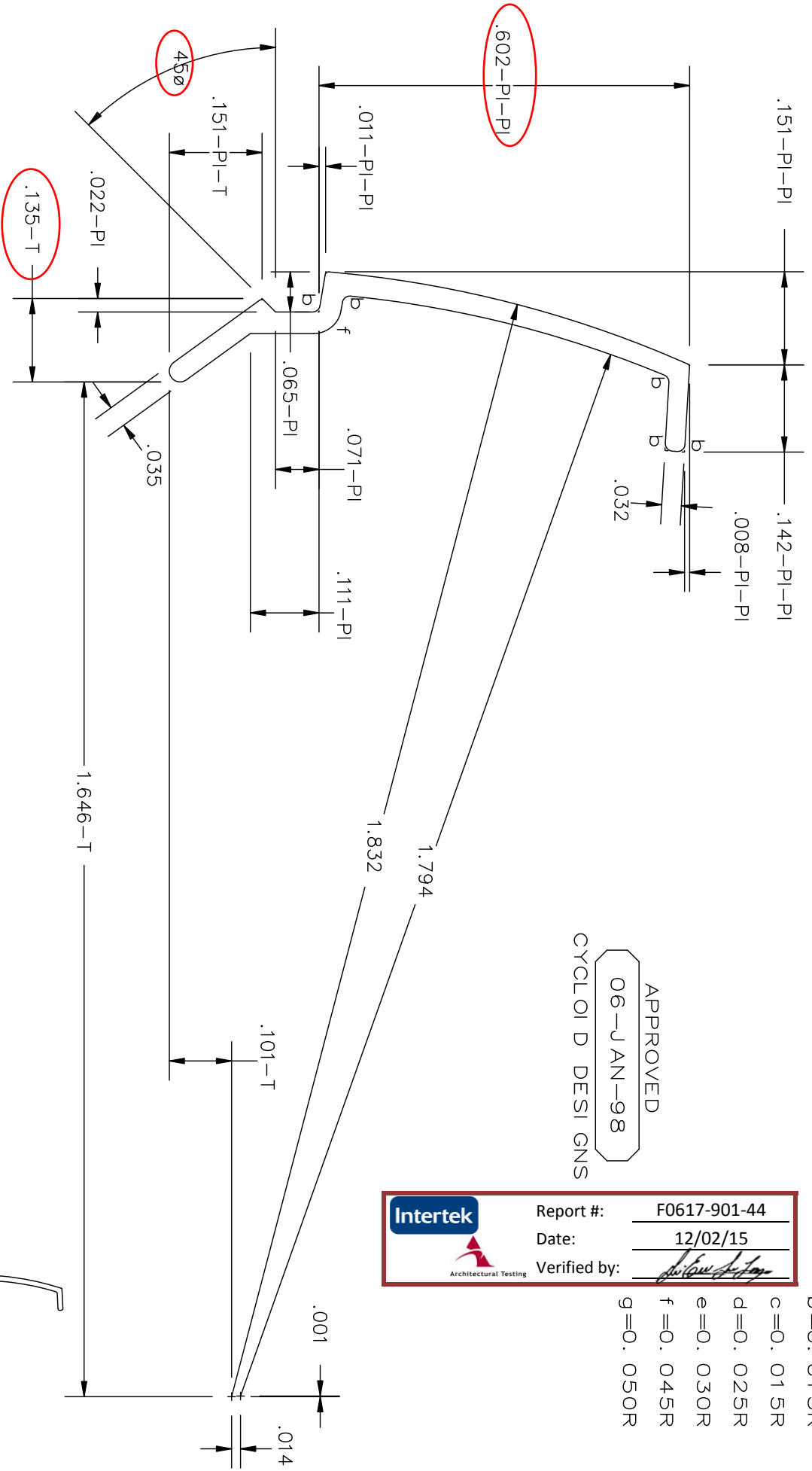
CYCLOID DESIGNS

REV	DATE	REMARKS
2	08-25-98	CORRECTED NOMINAL WALL: ADDED DIM
1	04-23-98	DIA CHANGED: WAS .210, WT WAS .132

CYCLOID DESIGNS
 DWG: 308-D19
 DATE: 11-FEB-98
 TITLE: TRACK
 RS1301

FAB REF: XXX-XXX
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 EXTERNAL WALL: 20.065
 INTERNAL WALL: 0.000
 CORNER TYP: 0.020R
 WEIGHT: 0.128 LB/FT

SCALE: 4:1



- a=0.006R
- b=0.013R
- c=0.015R
- d=0.025R
- e=0.030R
- f=0.045R
- g=0.050R

	Report #:	F0617-901-44
	Date:	12/02/15
	Verified by:	<i>[Signature]</i>

CYCLOID DESIGNS
 DWG: 305-D35
 DATE: 02-JAN-97
 TITLE: GLAZING BEAD: 3/4" GLASS
 RS1281

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EXTERNAL WALL: 0.035
 INTERNAL WALL: X.XXX
 CORNER TYP: 0.006R
 WEIGHT: 0.023 LB/FT

ACTUAL SIZE