FORCEFRONT
HURRICANE IMPACT
E34000 STOREFRONT

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Cover Sheet	1/28
Wet Glazed, Heavy Duty, +70/−68 psf	2/28 – 6/28
Dry Glazed, Heavy Duty, +70/−61 psf	7/28 – 11/28
Wet Glazed, Standard Duty, +/− 50 psf	12/28 – 15/28
Wet Glazed, Standard Duty, +/− 70 psf	16/28 – 20/28
Wet Glazed, Heavy Duty, +/− 70 psf	21/28 – 24/28
Dry Glazed, Heavy Duty, +/− 70 psf	25/28 – 28/28

Joseph A. Reed, PE
TX PE 100777
Architectural Testing, Inc.
TX Firm F−11869
130 Derry Ct.
York PA 17406
717−764−7700

Project No. D4116.03−122−34

STATE OF TEXAS
JOSEPH A. REED
100777
LICENSED
PROFESSIONAL ENGINEER
9/15/15

TUBELITE
FORCEFRONT
HURRICANE IMPACT
E34000 STOREFRONT

TUBELITE®
DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS
3056 WALKER RIDGE DRIVE N.W.
WALKER, MICHIGAN 49544
PH: 800.866.2227
FX: 616.301.0008
WEB SITE: WWW.TUBELITEINC.COM

REVISIONS			
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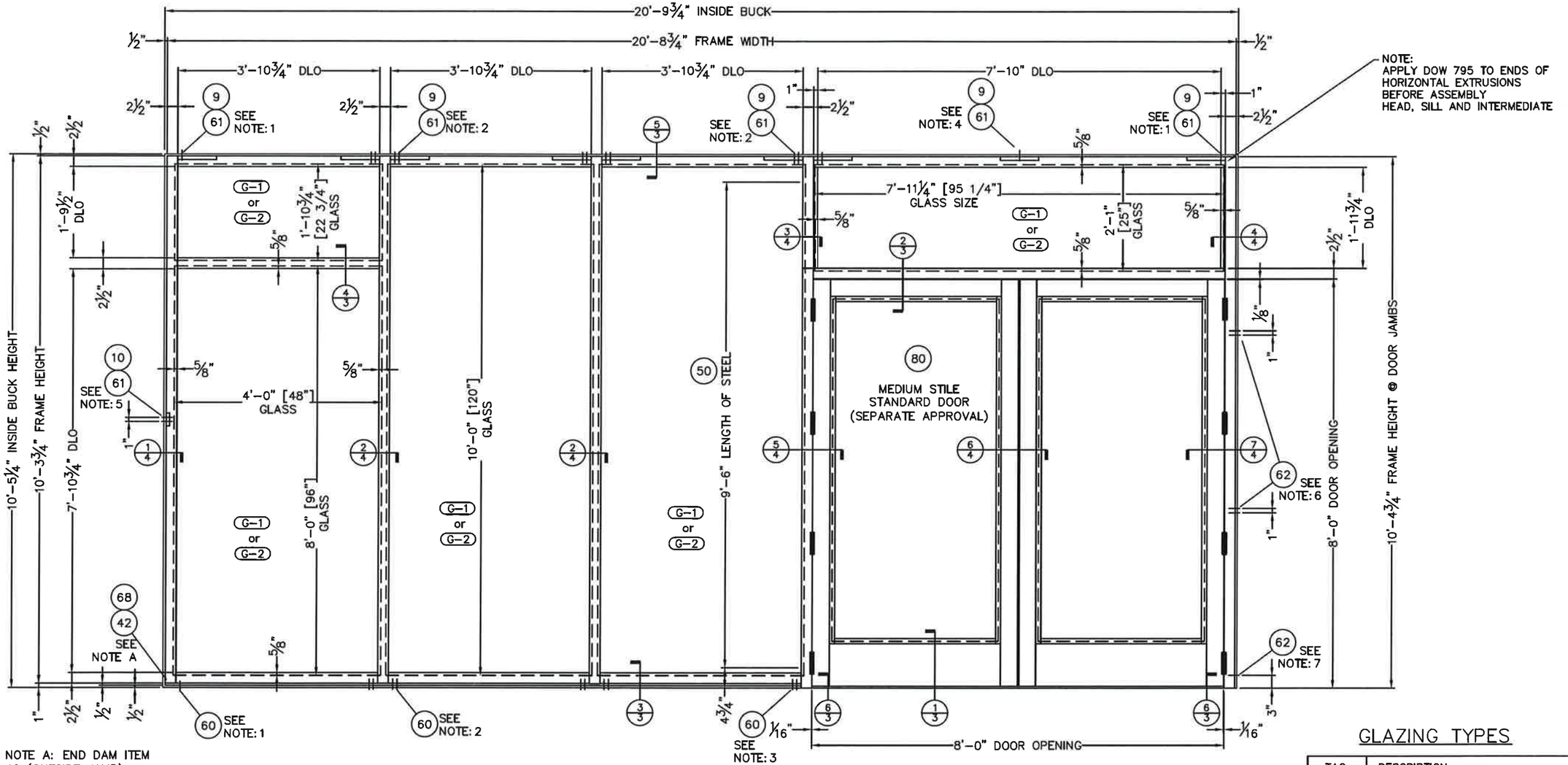
-	-	-	-

DATED	LATEST RELEASE
11−15−13	8−5−14

DRAWINGS BY: HLP
ENGINEERED BY:

Sheet 1/28



NOTE A: END DAM ITEM
42 (OUTSIDE JAMB)
ATTACHED W/(2) ITEM 68

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E34000 STOREFRONT

HURRICANE IMPACT +70/-68 PSF
NON-THERMAL EXTRUSIONS, HEAVY DUTY MULLION
WET GLAZED

NOTE 1: (1) FASTENER REQ'D AS MARKED. 1" FROM SIDE OF JAMB MULLION & 2" CEN TO CEN.

NOTE 2: (4) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN (2) EA SIDE OF TYPICAL MULLIONS.

NOTE 3: (2) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN W/ ITEM 44

NOTE 4: (1) FASTENER REQ'D AS MARKED. CENTER OF DLO. 2" CEN TO CEN.

NOTE 5: LOCATE ITEM 10 @ MIDSPAN (2) FASTENERS REQ'D AS MARKED. 2" CEN TO CEN.

NOTE 6: LOCATE FASTENERS @ 1/3 AND 2/3 POINTS. (2) FASTENERS REQ'D @ EA LOCATION 2" CEN TO CEN.

NOTE 7: LOCATE FASTENER 3" FR END OF MULL. (1) FASTENER REQ'D.

GLAZING TYPES

TAG	DESCRIPTION
G-1	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.077 SOLUTIA VS-02 -1/4" CLEAR, HEAT STRENGTHENED
G-2	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.090" DUPONT SENTRY GLAS PLUS -1/4" CLEAR, HEAT STRENGTHENED

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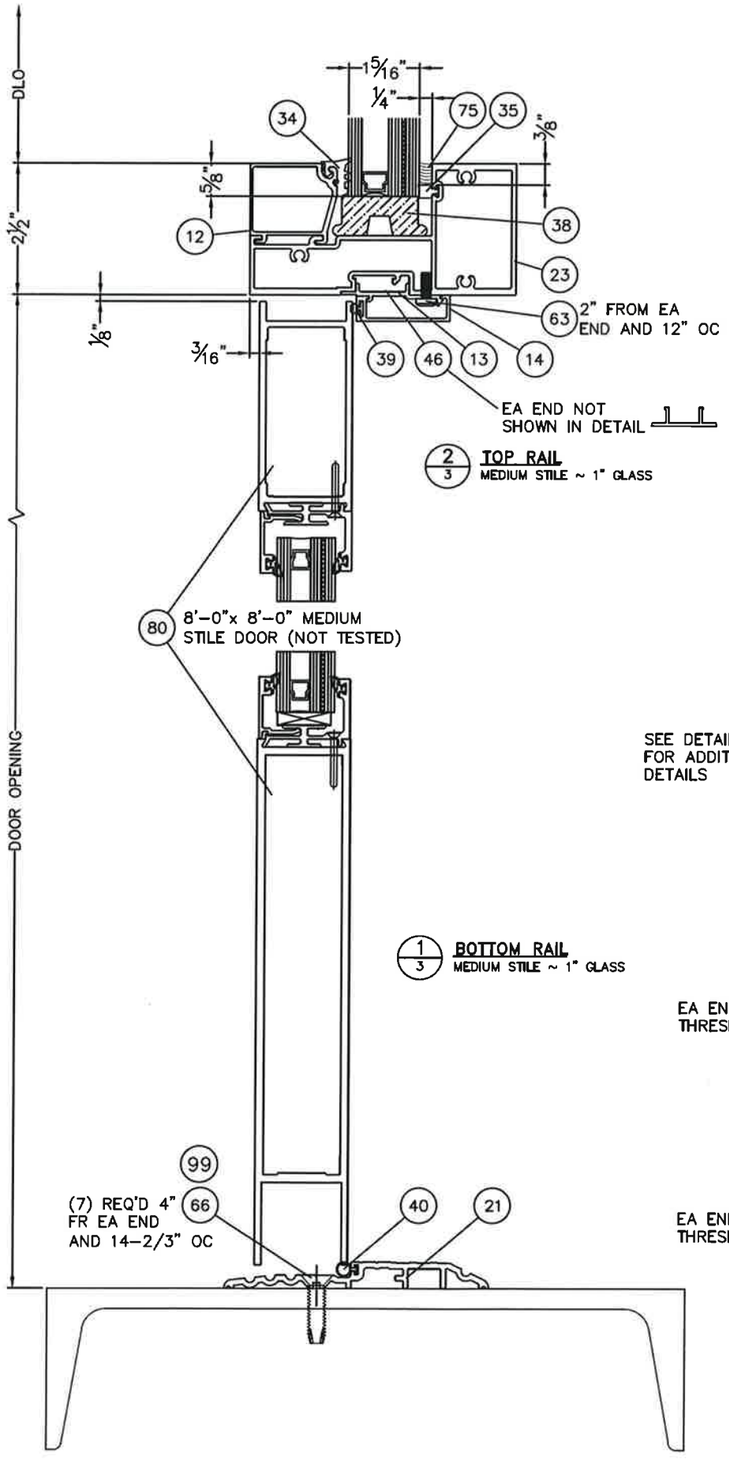
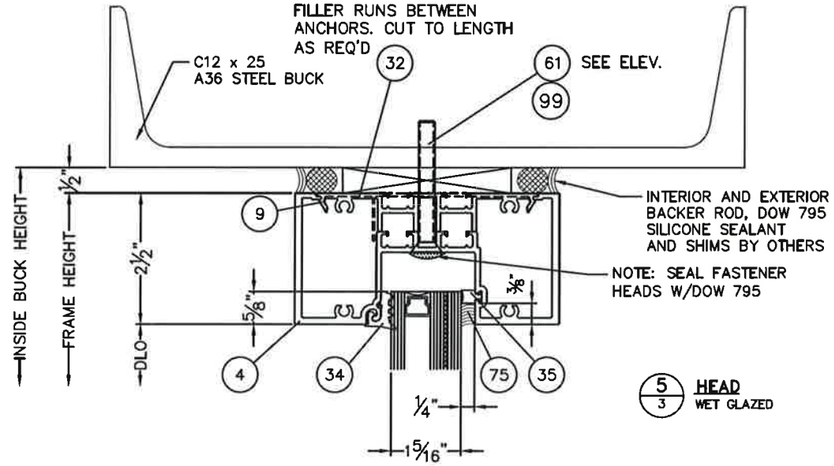


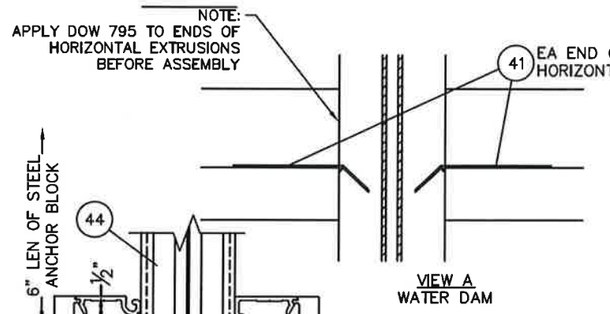
2/3 **TOP RAIL**
MEDIUM STILE ~ 1" GLASS

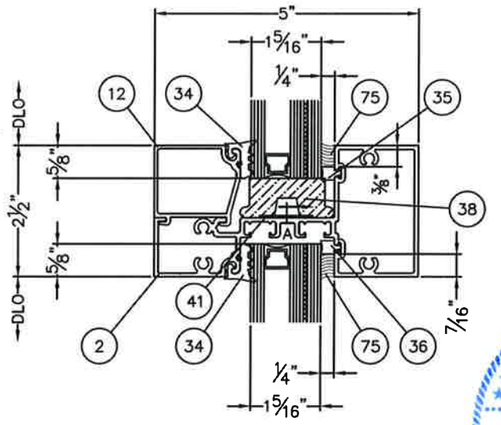
1/3 **BOTTOM RAIL**
MEDIUM STILE ~ 1" GLASS

67 TYPICAL FRAME TO FRAME ASSEMBLY FASTENERS (NOT SHOWN)

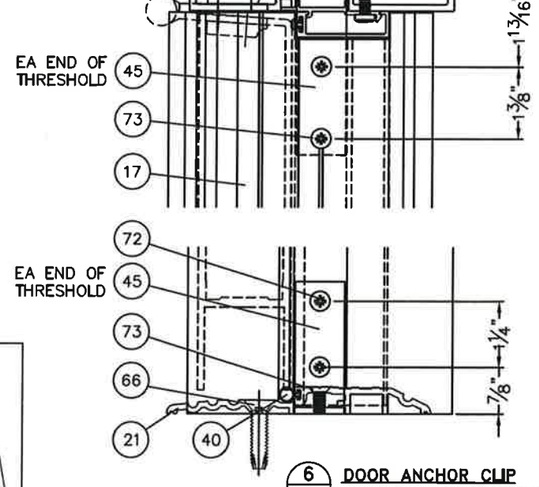


5/3 **HEAD**
WET GLAZED

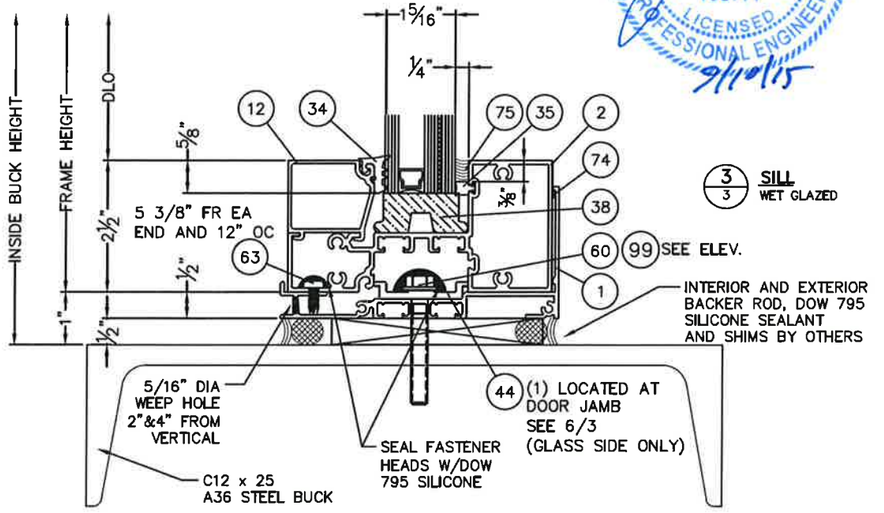




4/3 **HORIZONTAL**
WET GLAZE



6/3 **DOOR ANCHOR CLIP**
LOCATE EACH END OF THRESHOLD



3/3 **SILL**
WET GLAZED

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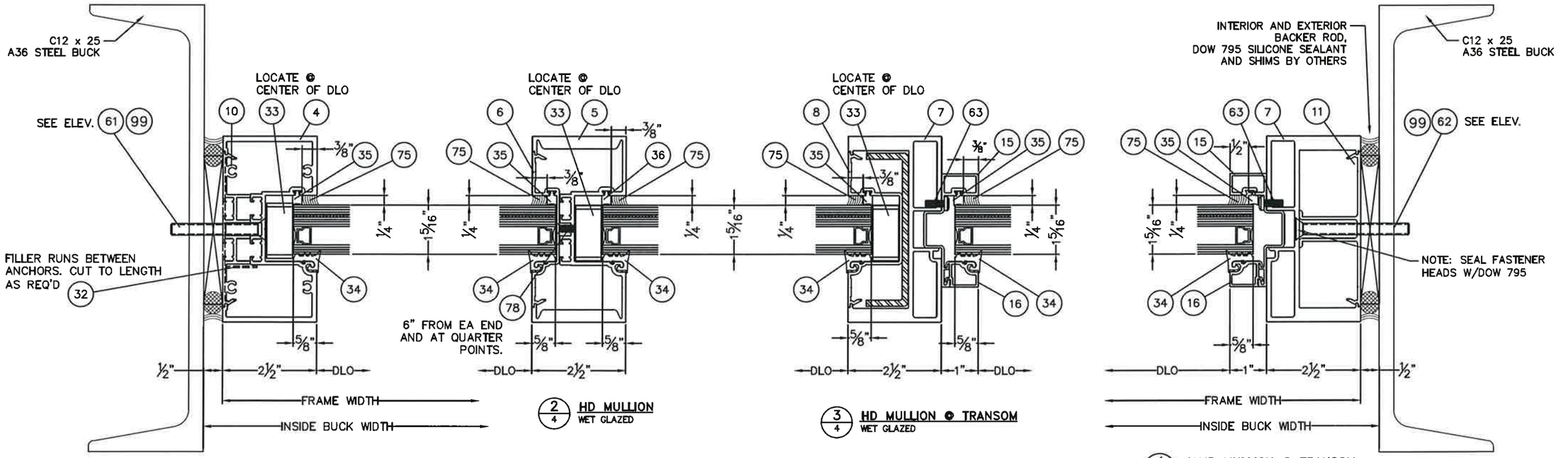


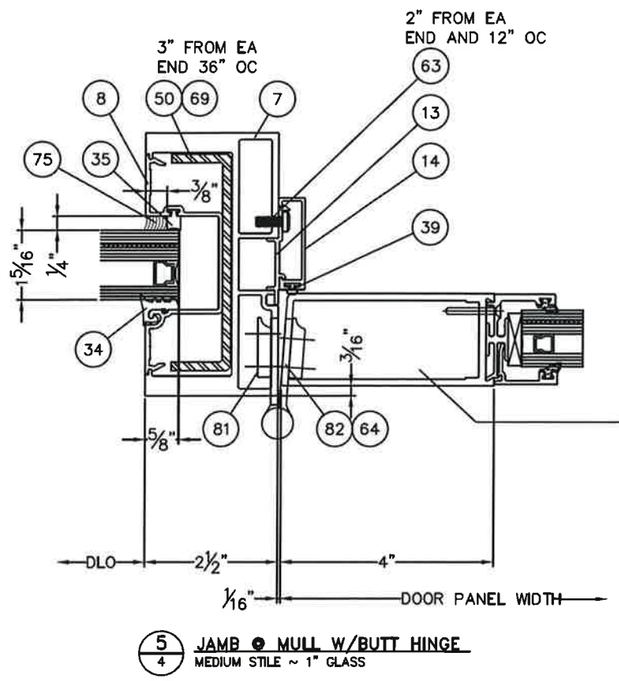
1/4 JAMB MULLION
WET GLAZED

2/4 HD MULLION
WET GLAZED

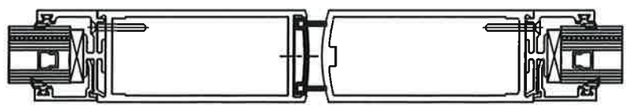
3/4 HD MULLION ℄ TRANSOM
WET GLAZED

4/4 JAMB MULLION ℄ TRANSOM
WET GLAZED

67 TYPICAL FRAME TO FRAME ASSEMBLY FASTENERS (NOT SHOWN)

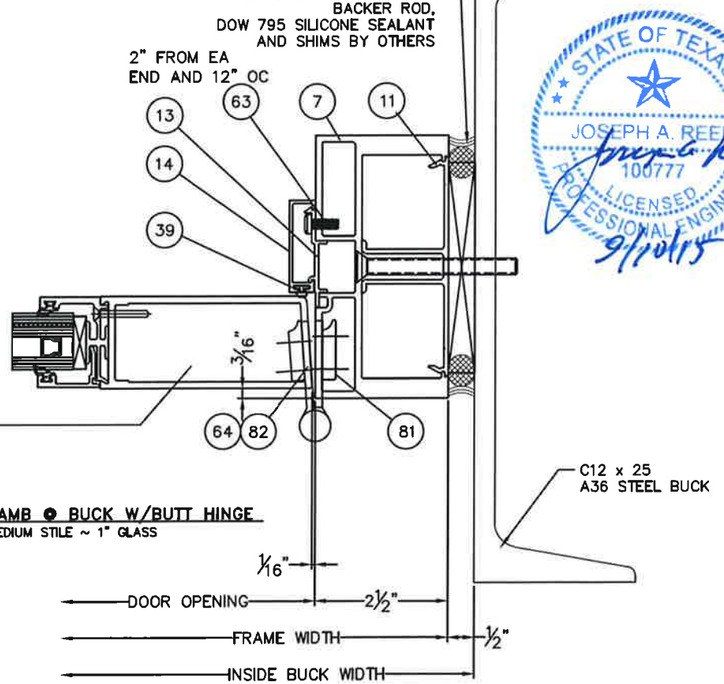


5/4 JAMB ℄ MULL W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS



8'-0"x 8'-0" MEDIUM STILE DOOR (NOT TESTED) 80

6/4 STANDARD DOORS
MEDIUM STILE ~ 1" GLASS



7/4 JAMB ℄ BUCK W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS

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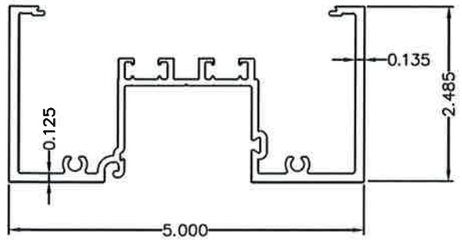
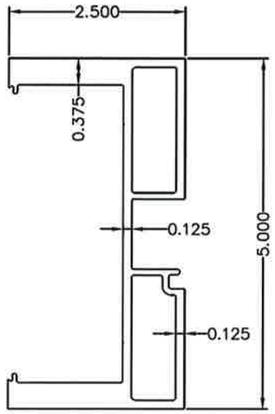
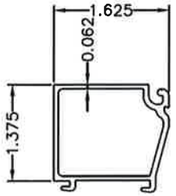


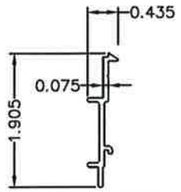
ITEM 4–T34441
VERTICAL/HEAD



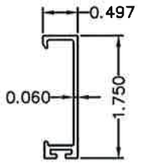
ITEM 7–E34244
HEAVY DOOR JAMB



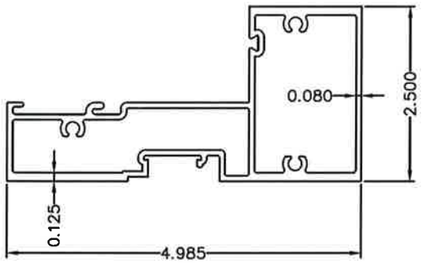
ITEM 12–E34104
GLASS STOP SILL/HORIZONTAL



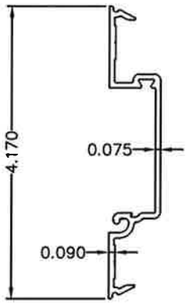
ITEM 13–E6507
INNER DOOR STOP

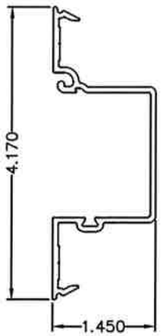


ITEM 14–E6505
OUTER DOOR STOP

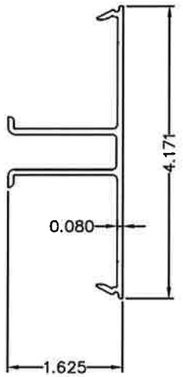


ITEM 23–E34124
DOOR HEADER

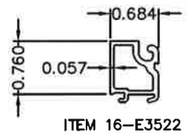




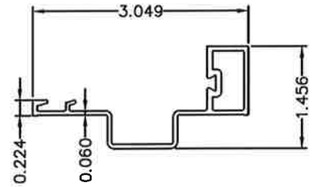
ITEM 8–E34022
DEEP POCKET FILLER



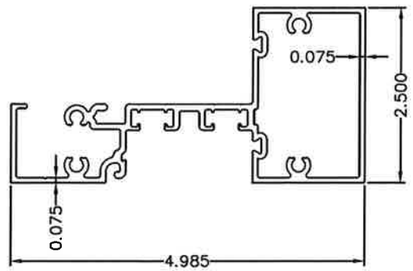
ITEM 11–E34242
DOOR JAMB FILLER



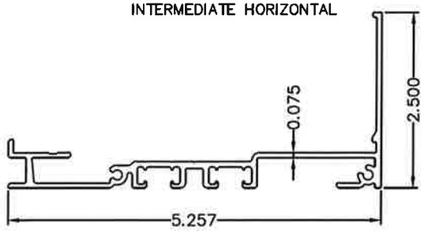
ITEM 16–E3522
GLASS STOP



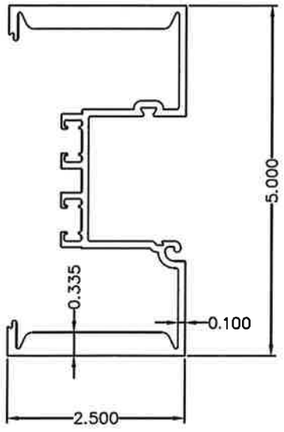
ITEM 15–E3521
GLASS STOP HORIZONTAL



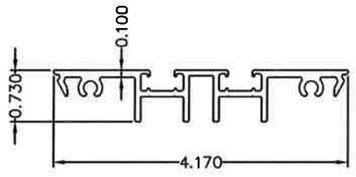
ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 1–E34259
SUB SILL

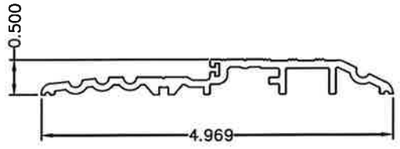


ITEM 5–T34261
HD VERTICAL



ITEM 9–P3446 9" LG
(E34442) FILLER FOR STANDARD ANCHORING

ITEM 10–P3445 3" LG
(E34442) FILLER FOR STANDARD ANCHORING



ITEM 21–E3550
THRESHOLD

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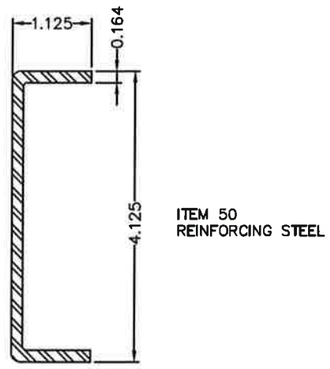
Sheet 5/28

HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	4	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3				
4	5	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5	2	E34261	EXTRUSION ~ HD VERTICAL	ALUMINUM–6063–T6
6	3	E34445	EXTRUSION ~ SHALLOW POCKET FILLER	ALUMINUM–6063–T6
7	2	E34244	EXTRUSION ~ HEAVY DOOR JAMB	ALUMINUM–6063–T6
8	1	E34022	EXTRUSION ~ DEEP POCKET FILLER	ALUMINUM–6063–T6
9	9	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10	1	P3445	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
11	1	E34242	EXTRUSION ~ DOOR JAMB FILLER	ALUMINUM–6063–T6
12	5	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T5
13	3	E6507	EXTRUSION ~ INNER DOOR STOP	ALUMINUM–6063–T5
14	3	E6505	EXTRUSION ~ OUTER DOOR STOP	ALUMINUM–6063–T5
15	2	E3521	EXTRUSION ~ SASH	ALUMINUM–6063–T5
16	2	E3522	EXTRUSION ~ GLASS STOP	ALUMINUM–6063–T5
17				
18				
19				
20				
21	1	E3550	EXTRUSION ~ THRESHOLD	ALUMINUM–6063–T6
22				
23	1	E34124	EXTRUSION ~ DOOR HEADER	ALUMINUM–6063–T6
24				
25				
26				
27				
28				
29				
30				
31				
32	3 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	4	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	115'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35	115'	P6587	WET GLAZE GASKET, GLASS, EPG	P–PART–RUBBER
36				
37				
38	10	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39	25'	P6296	BULB GASKET	P–PART–PLASTIC/FAB
40	8'	P3450	BULB GASKET @ THRESHOLD	P–PART–PLASTIC/FAB
41	4	P6581	WATER DIVERTER	P–PART–PVC
42	1	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
44	1	P3426	SILL ANCHOR BLOCK (E34260)	P–PART–ALUM–6063–T5
45	2	P3497	DR. ANCHOR CLIP 2 1/2"x3 1/2"x 1/8", 15/16" LG (E1592)	P–PART–ALUM–6063–T5
46	2	P503	FILLER	P–PART–ALUM–6063–T5
47				
48				
49				
50	1	P3437	1 1/8 X 4 1/8 X 8 GA STEEL CHANNEL (HOT ROLLED STEEL)	P–PART–STEEL
51				
52				
53				
54				
55				
56				
57				
58				
59				

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	11	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	17	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62	5	BY OTHERS	SCREW ~ 5/16"–18 x 3" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
63	40	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL, DOOR STOP)	P–PART–FASTENER
64	64	S070	SCREW ~ #12–24 x 1/2" PHIL FLAT HD UC MS (HINGE)	P–PART–FASTENER
65				
66	6	BY OTHERS	SCREW ~ 1/4–20 X 1" TYPE F FH THD CUTTING (THRES. TO STEEL BUCK)	P–PART–FASTENER
67	75	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	2	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69	4	BY OTHERS	SCREW ~ #8 X 3/4" TEKS SCREW (STEEL TO MULLION)	P–PART–FASTENER
70				
71				
72	4	S293	SCREW ~ #10–24 X 3/8" SELF TAPPING P HD (DR ANCHOR CLIP TO DR)	P–PART–FASTENER
73	4	S070	SCREW ~ #12–24 x 1/2" PHIL FH UC MS (THRESHOLD TO DR ANCHOR CLIP)	P–PART–FASTENER
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 995	P–PART–SEALANT
76				
77				
78	8	S161	SCREW ~ #10–24 x 1/2" PHIL FH UC MS (CLOSURE PLATE TO VERTICAL)	P–PART–FASTENER
79				
80	1	NA	8'–0" x 8'–0" MEDIUM STILE STANDARD DOOR (NOT TESTED)	DOOR ASSEMBLY
81	16	P2093	HINGE, BUTT, REINFORCEMENT (P2093) (DOOR)	
82	8	P094	BUTT HINGE HAGAR RCBB–1199	
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				



ITEM 50
REINFORCING STEEL

STATE OF TEXAS
JOSEPH A. REED
100777
LICENSED
PROFESSIONAL ENGINEER
9/10/15

TUBELITE
FORCEFRONT
HURRICANE IMPACT
E34000 STOREFRONT

TUBELITE®
DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE DRIVE N.W.
WALKER, MICHIGAN 49544
PH: 800.866.2227
FX: 616.301.0008
WEB SITE: WWW.TUBELITEINC.COM

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11–15–13	8–5–14

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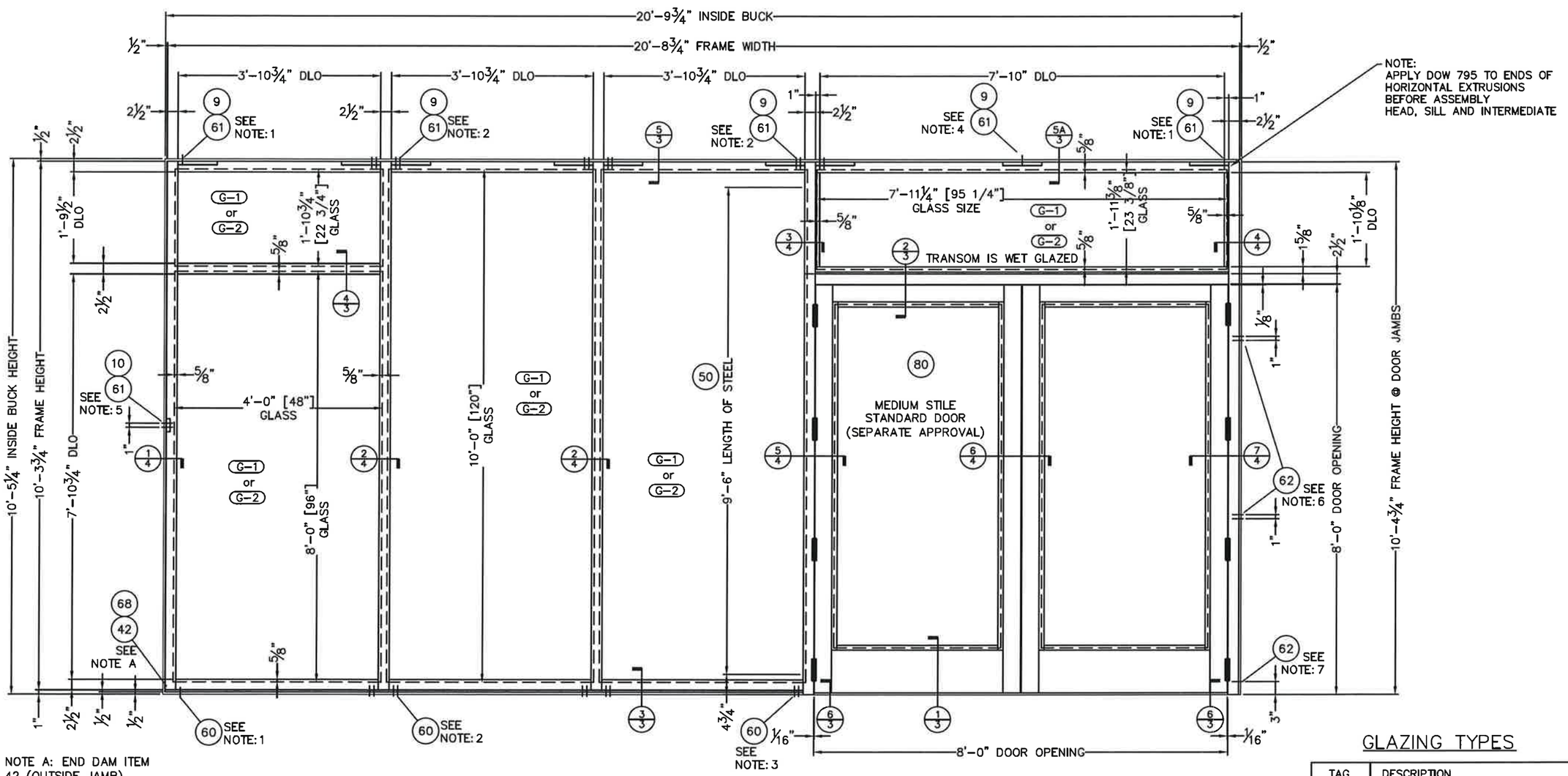
ENGINEERED BY:



NOTE A: END DAM ITEM 42 (OUTSIDE JAMB) ATTACHED W/(2) ITEM 68

STATE OF TEXAS
JOSEPH A. REED
100777
LICENSED PROFESSIONAL ENGINEER
9/10/15

E34000 STOREFRONT

HURRICANE IMPACT +70/-61 PSF
NON-THERMAL EXTRUSIONS, HEAVY DUTY MULLION
DRY GLAZED
TRANSOM IS WET GLAZED

NOTE 1: (1) FASTENER REQ'D AS MARKED. 1" FROM SIDE OF JAMB MULLION & 2" CEN TO CEN.

NOTE 2: (4) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN (2) EA SIDE OF TYPICAL MULLIONS.

NOTE 3: (2) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN W/ ITEM 44

NOTE 4: (1) FASTENER REQ'D AS MARKED. CENTER OF DLO. 2" CEN TO CEN.

NOTE 5: LOCATE ITEM 10 @ MIDSPAN (2) FASTENERS REQ'D AS MARKED. 2" CEN TO CEN.

NOTE 6: LOCATE FASTENERS @ 1/3 AND 2/3 POINTS. (2) FASTENERS REQ'D @ EA LOCATION 2" CEN TO CEN.

NOTE 7: LOCATE FASTENER 3" FR END OF MULL. (1) FASTENER REQ'D.

GLAZING TYPES

TAG	DESCRIPTION
G-1	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.077 SOLUTIA VS-02 -1/4" CLEAR, HEAT STRENGTHENED
G-2	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.090" DUPONT SENTRY GLAS PLUS -1/4" CLEAR, HEAT STRENGTHENED

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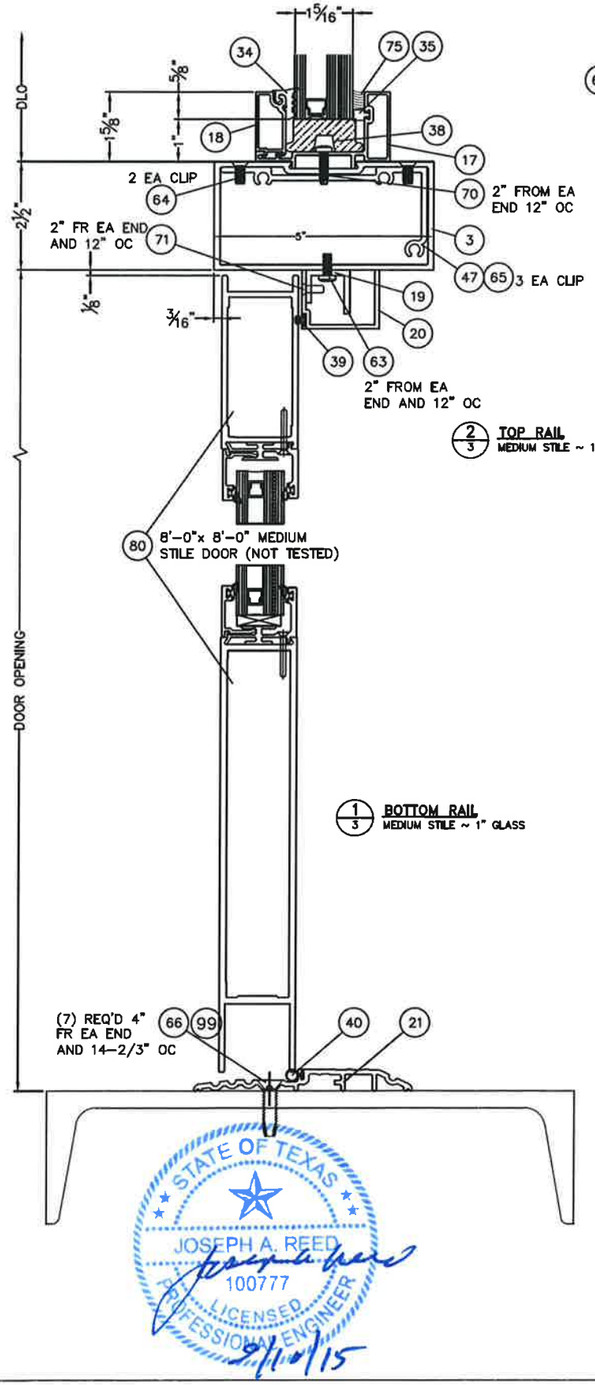
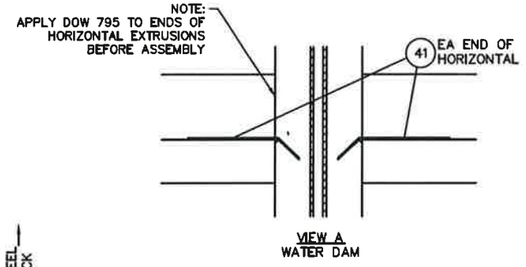


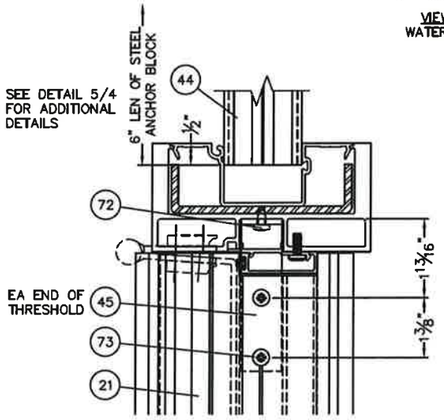
(67) TYPICAL FRAME TO FRAME ASSEMBLY FASTENERS (NOT SHOWN)

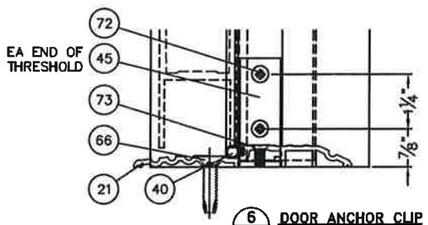
(2/3) TOP RAIL
MEDIUM STILE ~ 1" GLASS

(1/3) BOTTOM RAIL
MEDIUM STILE ~ 1" GLASS

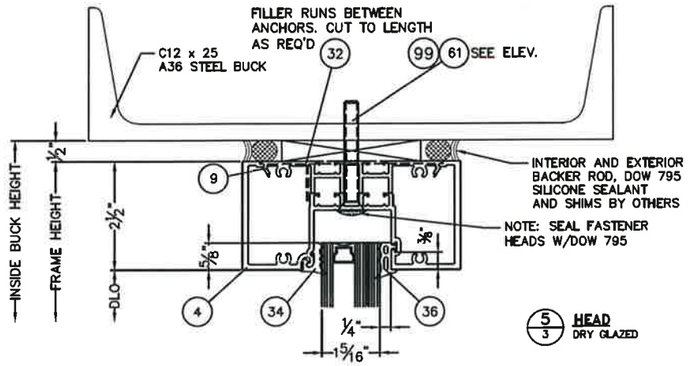


VIEW A
WATER DAM

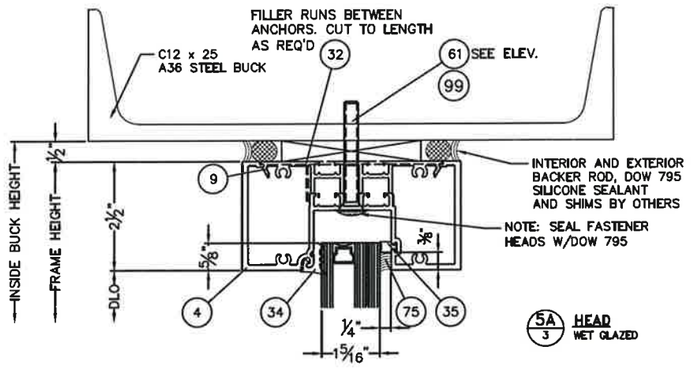




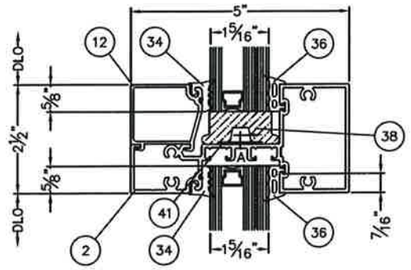
(6/3) DOOR ANCHOR CLIP
LOCATE EACH END OF THRESHOLD



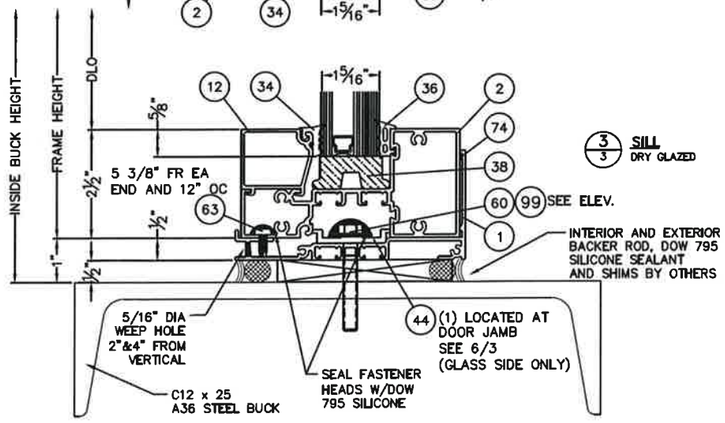
(5/3) HEAD
DRY GLAZED



(5A/3) HEAD
WET GLAZED



(4/3) HORIZONTAL
DRY GLAZE



(3/3) SILL
DRY GLAZED

STATE OF TEXAS
JOSEPH A. REED
100777
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PROFESSIONAL ENGINEER
9/10/15

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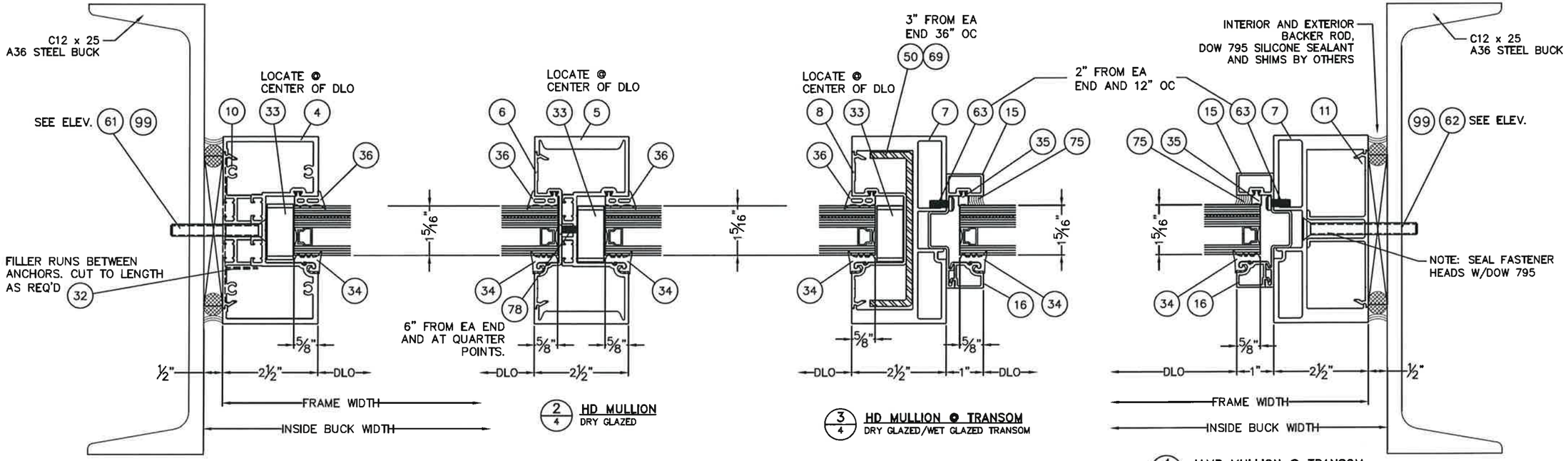


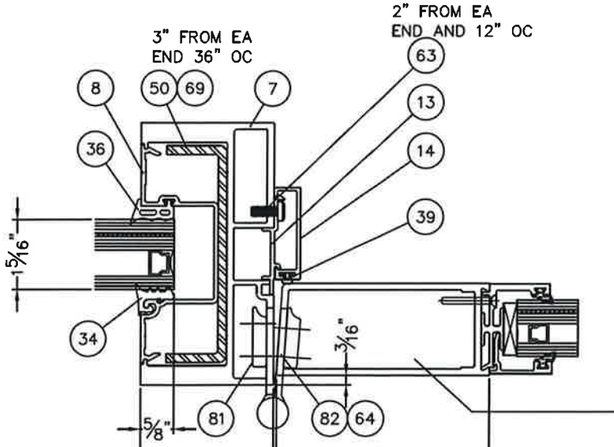
1/4 JAMB MULLION
DRY GLAZED

2/4 HD MULLION
DRY GLAZED

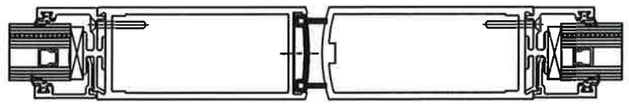
3/4 HD MULLION ℄ TRANSOM
DRY GLAZED/WET GLAZED TRANSOM

4/4 JAMB MULLION ℄ TRANSOM
WET GLAZED

(67) TYPICAL FRAME TO FRAME ASSEMBLY
FASTENERS (NOT SHOWN)

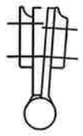


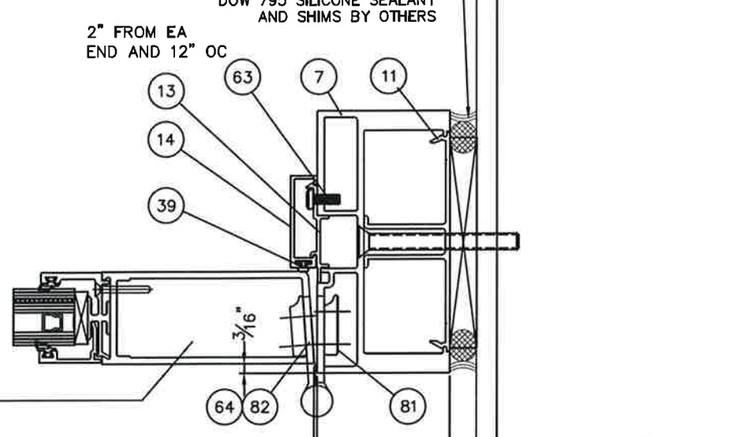
5/4 JAMB ℄ MULL W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS



8'-0"x 8'-0" MEDIUM
STILE DOOR (NOT TESTED) (80)

6/4 STANDARD DOORS
MEDIUM STILE ~ 1" GLASS





7/4 JAMB ℄ BUCK W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS

STATE OF TEXAS
JOSEPH A. REED
100777
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PROFESSIONAL ENGINEER
5/11/15

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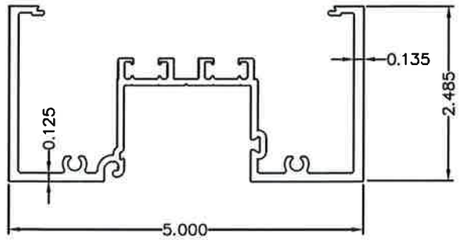
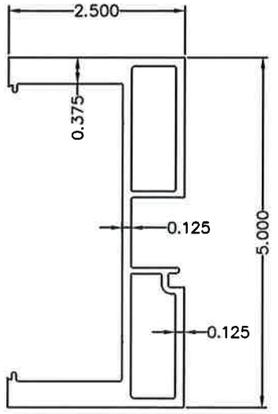
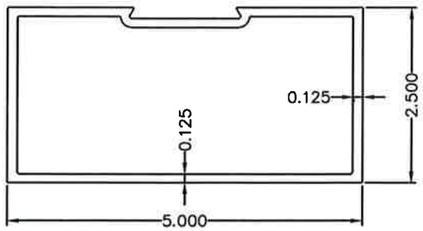


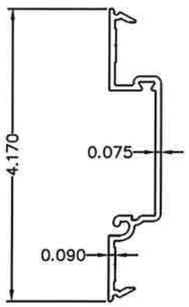
ITEM 4–T34441
VERTICAL/HEAD



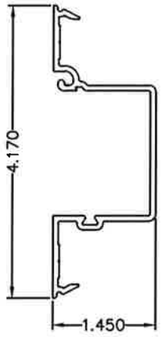
ITEM 7–E34244
HEAVY DOOR JAMB



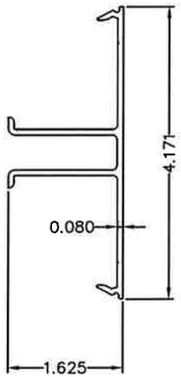
ITEM 3–E34125
DOOR HEADER



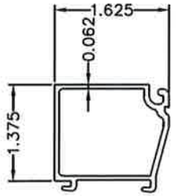
ITEM 6–E34445
SHALLOW POCKET FILLER



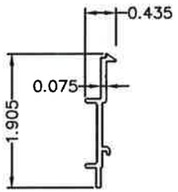
ITEM 8–E34022
DEEP POCKET FILLER



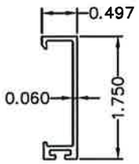
ITEM 11–E34242
DOOR JAMB FILLER



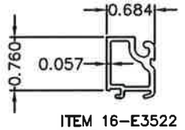
ITEM 12–E34104
GLASS STOP SILL/HORIZONTAL



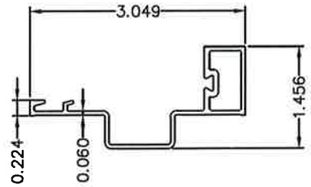
ITEM 13–E6507
INNER DOOR STOP



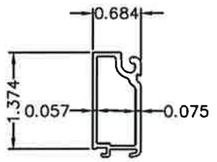
ITEM 14–E6505
OUTER DOOR STOP



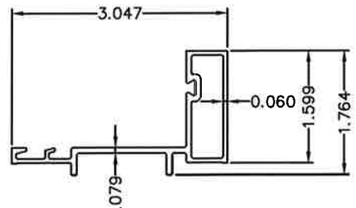
ITEM 16–E3522
GLASS STOP



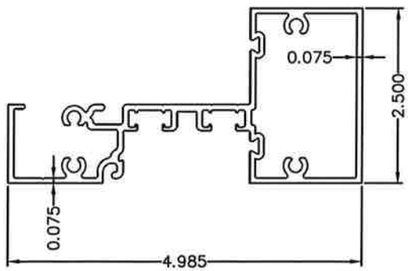
ITEM 15–E3521
GLASS STOP HORIZONTAL



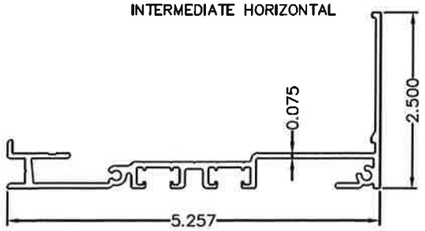
ITEM 18–E6644
GLASS STOP



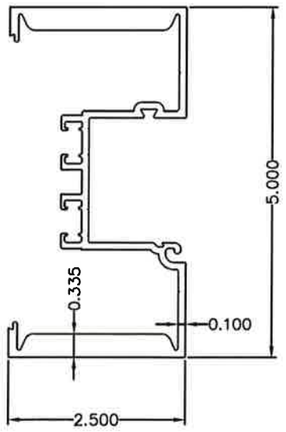
ITEM 17–E34006
SASH



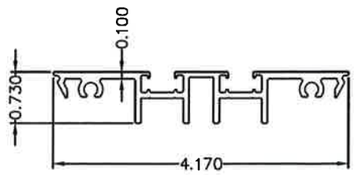
ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 1–E34259
SUB SILL

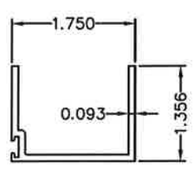


ITEM 5–T34261
HD VERTICAL

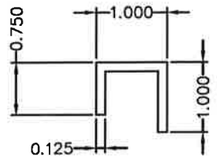


ITEM 9–P3446 9" LG
(E34442) FILLER FOR STANDARD ANCHORING

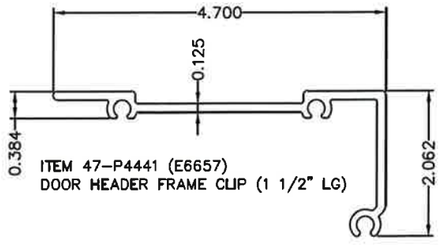
ITEM 10–P3445 3" LG
(E34442) FILLER FOR STANDARD ANCHORING



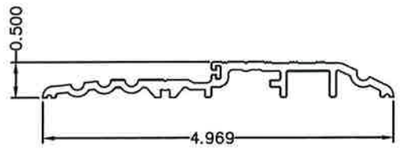
ITEM 20 – E2298
DO"OR STOP



ITEM 19–E6504
CHANNEL



ITEM 47–P4441 (E6657)
DOOR HEADER FRAME CLIP (1 1/2" LG)



ITEM 21–E3550
THRESHOLD

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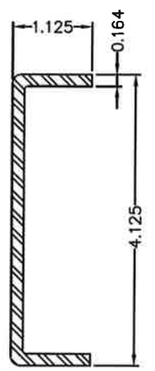
ENGINEERED BY:

Sheet 10/28

HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	4	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3	1	E34125	EXTRUSION ~ DOOR HEADER	ALUMINUM–6063–T6
4	5	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5	2	E34261	EXTRUSION ~ HD VERTICAL	ALUMINUM–6063–T6
6	3	E34445	EXTRUSION ~ SHALLOW POCKET FILLER	ALUMINUM–6063–T6
7	2	E34244	EXTRUSION ~ HEAVY DOOR JAMB	ALUMINUM–6063–T6
8	1	E34022	EXTRUSION ~ DEEP POCKET FILLER	ALUMINUM–6063–T6
9	9	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10	1	P3445	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
11	1	E34242	EXTRUSION ~ DOOR JAMB FILLER	ALUMINUM–6063–T6
12	4	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T5
13	2	E6507	EXTRUSION ~ INNER DOOR STOP	ALUMINUM–6063–T5
14	2	E6505	EXTRUSION ~ OUTER DOOR STOP	ALUMINUM–6063–T5
15	2	E3521	EXTRUSION ~ SASH	ALUMINUM–6063–T5
16	2	E3522	EXTRUSION ~ GLASS STOP	ALUMINUM–6063–T5
17	1	E34006	EXTRUSION ~ SASH	ALUMINUM–6063–T5
18	1	E6644	EXTRUSION ~ GLASS STOP	ALUMINUM–6063–T5
19	1	E6504	EXTRUSION ~ CHANNEL 1"x1"x1/8"	ALUMINUM–6063–T5
20	1	E2298	EXTRUSION ~ DOOR STOP	ALUMINUM–6063–T5
21	1	E3550	EXTRUSION ~ THRESHOLD	ALUMINUM–6063–T6
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32	3 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	4	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	115'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35	115'	P6587	WET GLAZE GASKET, GLASS, EPG	P–PART–RUBBER
36				
37				
38	10	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39	25'	P6296	BULB GASKET	P–PART–PLASTIC/FAB
40	8'	P3450	BULB GASKET @ THRESHOLD	P–PART–PLASTIC/FAB
41	4	P6581	WATER DIVERTER	P–PART–PVC
42	1	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
44	1	P3426	SILL ANCHOR BLOCK (E34260)	P–PART–ALUM–6063–T5
45	2	P3497	DR. ANCHOR CLIP 2 1/2"x3 1/2"x 1/8", 15/16" LG (E1592)	P–PART–ALUM–6063–T5
46				
47	2	P4441	EXTRUSION ~ DOOR HEADER FRAME CLIP (1 1/2" LG)	P–PART–ALUM–6063–T5
48				
49				
50	1	P3437	1 1/8 X 4 1/8 X 8 GA STEEL CHANNEL (HOT ROLLED STEEL)	P–PART–STEEL
51				
52				
53				
54				
55				
56				
57				
58				
59				

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	11	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	17	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62	5	BY OTHERS	SCREW ~ 5/16"–18 x 3" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
63	40	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL, DR STOP)	P–PART–FASTENER
64	68	S070	SCREW ~ #12–24 x 1/2" FLAT HD PHIL (HINGE)	P–PART–FASTENER
65	6	S205	SCREW ~ #12 X 2" HWH TYPE 23 SELF TAPPING (P4441 TO MULLION)	P–PART–FASTENER
66	6	BY OTHERS	SCREW ~ 1/4–20 X 1" TYPE F FH THD CUTTING (THRES. TO STEEL BUCK)	P–PART–FASTENER
67	75	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	2	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69	4	BY OTHERS	SCREW ~ #8 X 3/4" TEKS SCREW (STEEL TO MULLION)	P–PART–FASTENER
70	10	S270	SCREW ~ #10–24 X 3/4" SS PH (GLASS STOP)	P–PART–FASTENER
71	10	S174	SCREW ~ #8–32 X 1/2" FH (DOOR STOP)	P–PART–FASTENER
72	4	S293	SCREW ~ #10–24 X 3/8" SELF TAPPING P HD (DR ANCHOR CLIP TO DR)	P–PART–FASTENER
73	4	S070	SCREW ~ #12–24 x 1/2" PHIL FH UC MS (THRESHOLD TO DR ANCHOR CLIP)	P–PART–FASTENER
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 995	P–PART–SEALANT
76				
77				
78	8	S161	SCREW ~ #10–24 x 1/2" PHIL FH UC MS (CLOSURE PLATE TO VERTICAL)	P–PART–FASTENER
79				
80	1	NA	8'–0" x 8'–0" MEDIUM STILE STANDARD DOOR (NOT TESTED)	DOOR ASSEMBLY
81	8	P2093	HINGE, BUTT, REINFORCEMENT (P2093) (DOOR)	
82	8	P094	BUTT HINGE HAGAR RCBB–1199	
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				



ITEM 50
REINFORCING STEEL

STATE OF TEXAS
JOSEPH A. REED
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PROFESSIONAL ENGINEER
9/10/15

TUBELITE
FORCEFRONT
HURRICANE IMPACT
E34000 STOREFRONT

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FX: 616.301.0008
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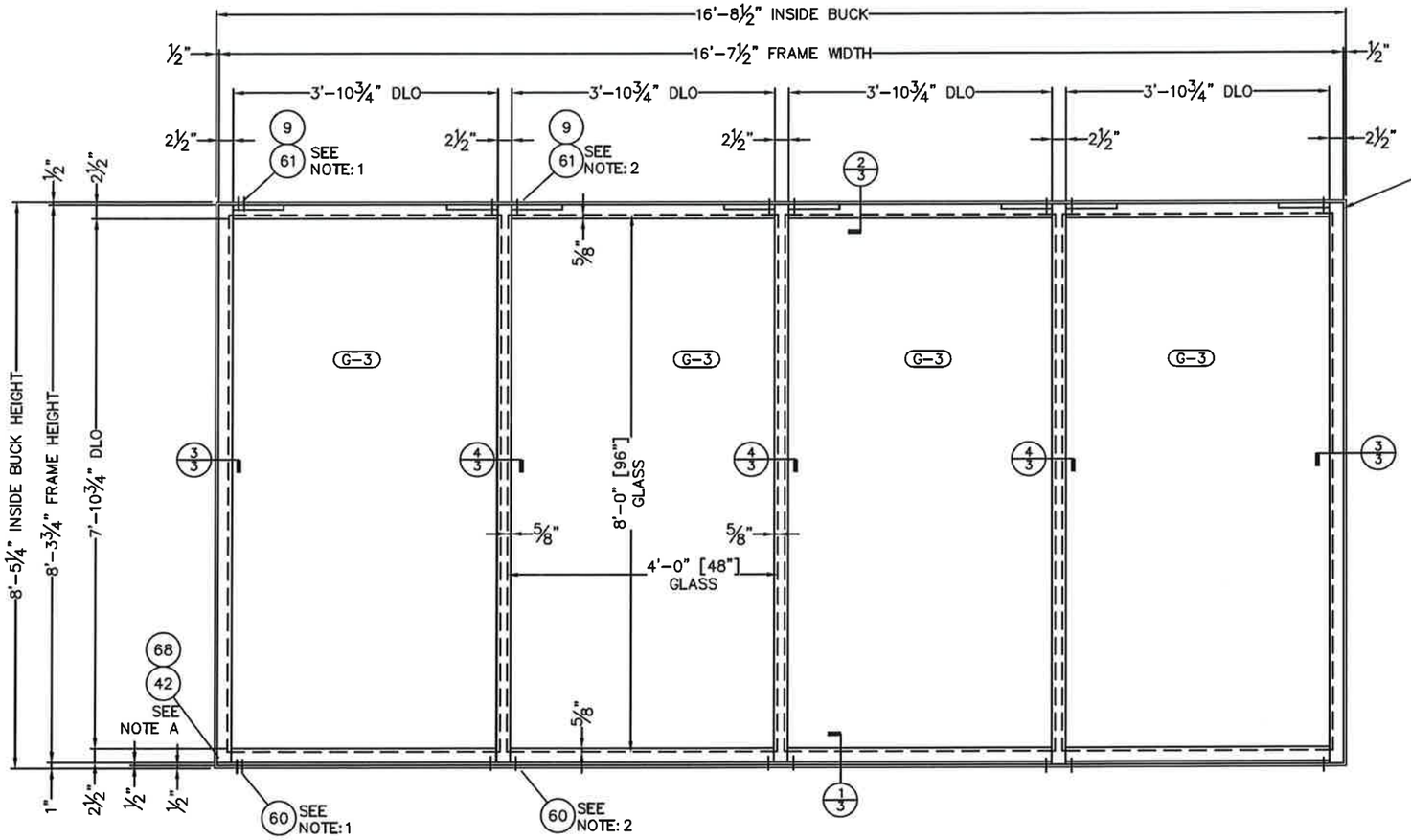

NOTE A: END DAM ITEM
42 (OUTSIDE JAMB)
ATTACHED W/(2) ITEM 68

NOTE 1: (2) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
TYPICAL @ JAMB MULLION.

NOTE 2: (2) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
(1) EA SIDE OF TYPICAL MULLIONS.

E34000 STOREFRONT

HURRICANE IMPACT ±50 PSF
NON-THERMAL EXTRUSIONS, STANDARD MULLION
WET GLAZED

GLAZING TYPES

TAG	DESCRIPTION
G-3	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -.090 DUPONT BUTACITE PVB -1/4" CLEAR, HEAT STRENGTHENED

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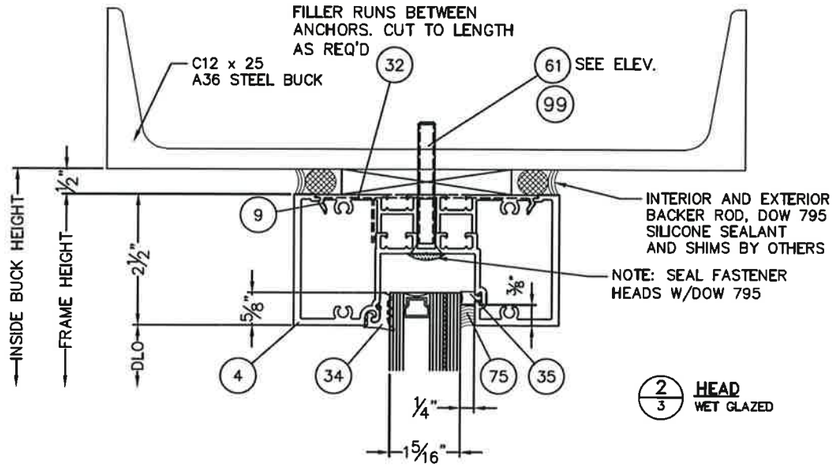
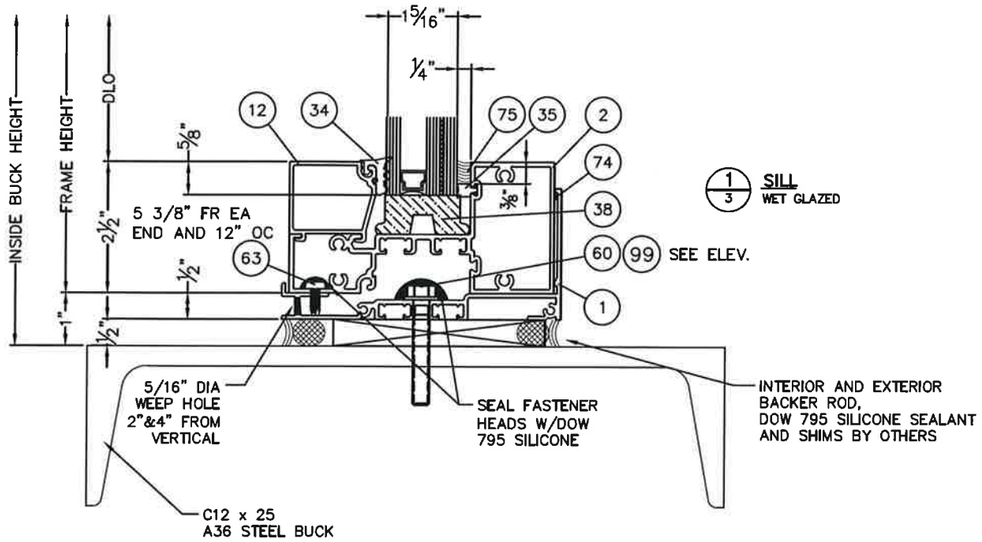
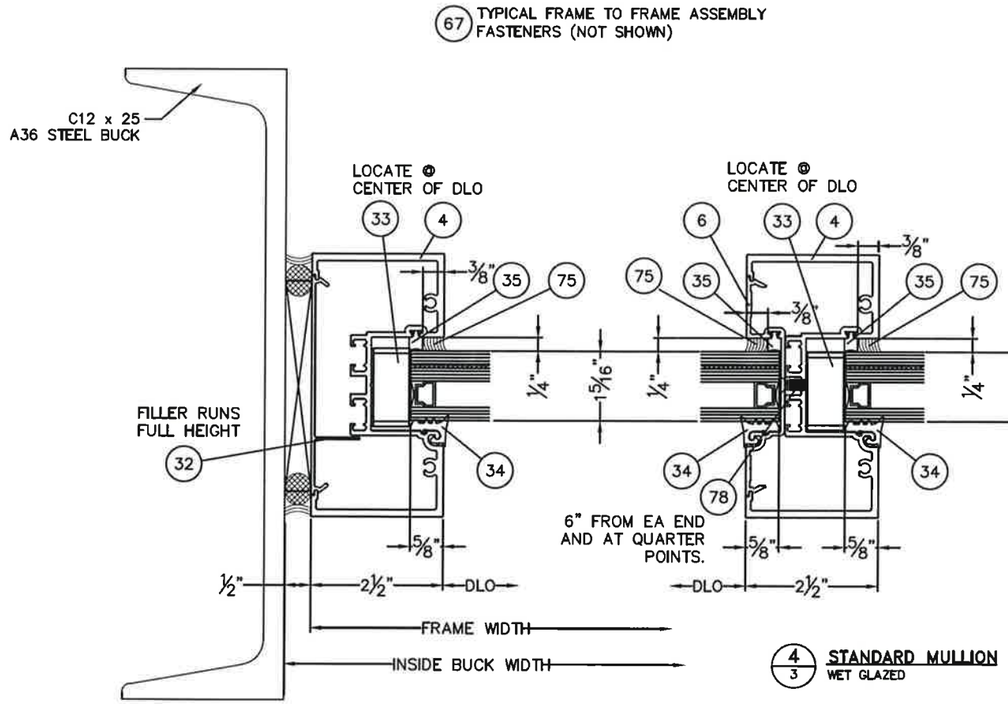


2/3 HEAD
WET GLAZED



1/3 SILL
WET GLAZED



4/3 STANDARD MULLION
WET GLAZED

3/3 JAMB MULLION
WET GLAZED

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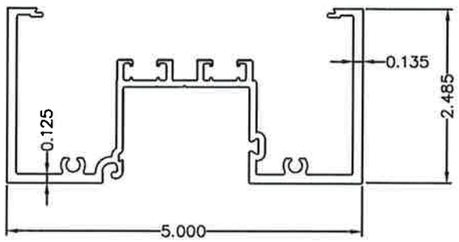
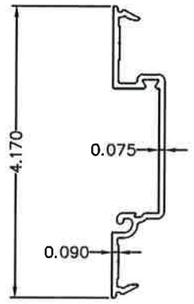
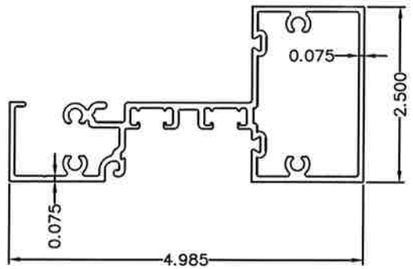


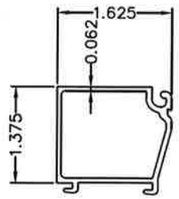
ITEM 3–T34441
VERTICAL/HEAD



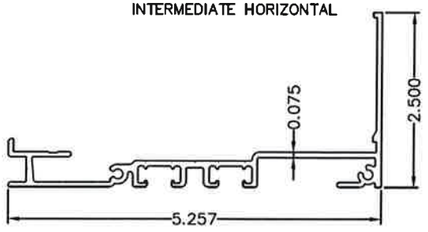
ITEM 6–E34445
SHALLOW POCKET FILLER



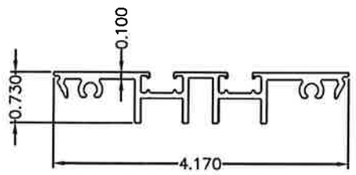
ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 5–E34104
GLASS STOP SILL/HORIZONTAL



ITEM 1–E34259
SUB SILL



ITEM 9–P3449 9" LG
(E34442) FILLER FOR STANDARD ANCHORING

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HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	4	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3				
4	9	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5				
6	3	E34445	EXTRUSION ~ SHALLOW POCKET FILLER	ALUMINUM–6063–T6
7				
8				
9	8	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10				
11				
12	4	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T5
13				
14				
15				
16				
17				
18				
19				
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21				
22				
23				
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31				
32	3 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	5	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	100'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35	100'	P6587	WET GLAZE GASKET, GLASS, EPG	P–PART–RUBBER
36				
37				
38	8	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39				
40				
41				
42	2	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
44				
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54				
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56				
57				
58				
59				

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	9	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	9	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62				
63	16	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL)	P–PART–FASTENER
64				
65				
66				
67	64	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	4	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69				
70				
71				
72				
73				
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 995	P–PART–SEALANT
76				
77				
78	12	S161	SCREW ~ #10–24 x 1/2" PHIL FH UC MS (CLOSURE PLATE TO VERTICAL)	P–PART–FASTENER
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				

STATE OF TEXAS
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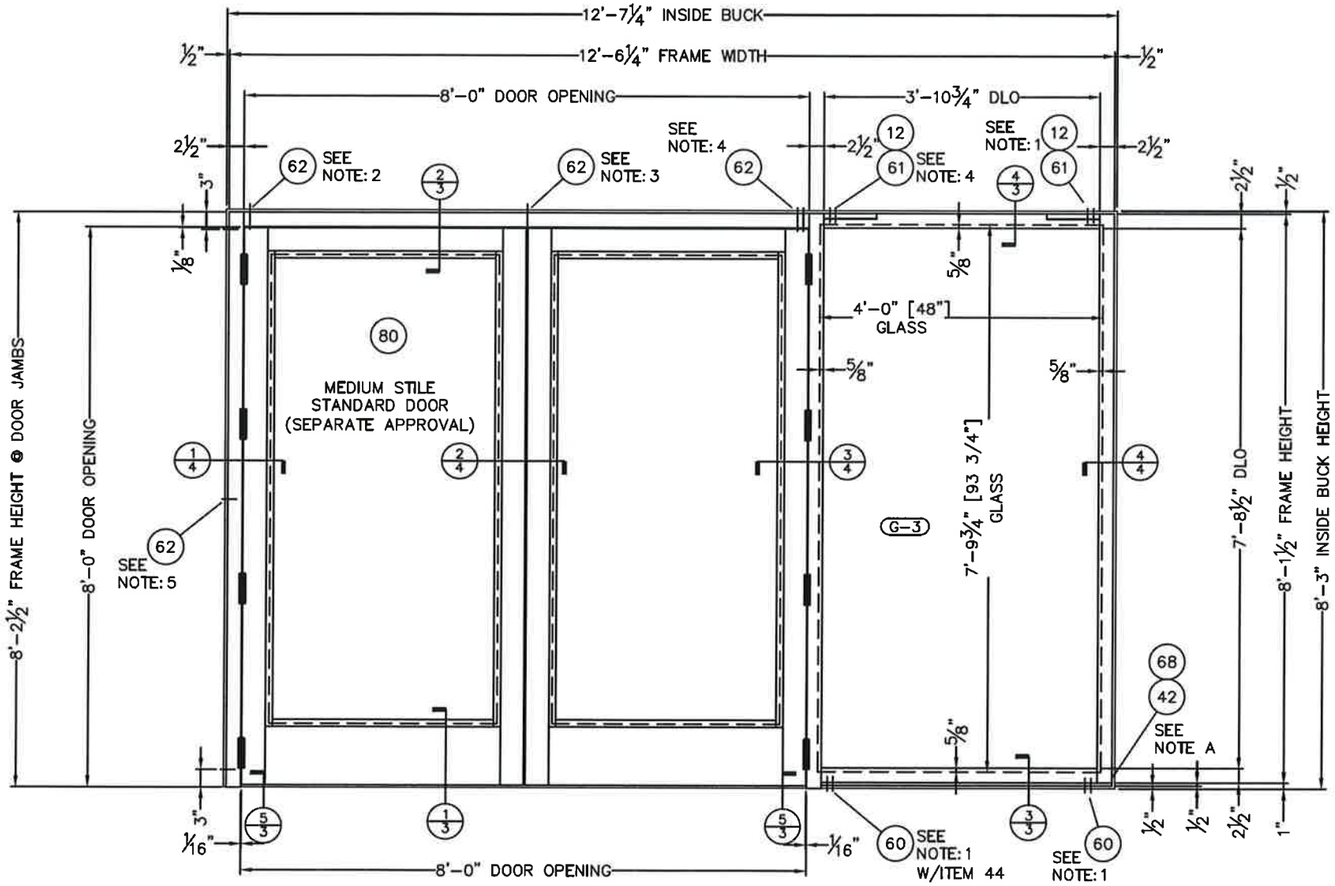

NOTE A: END DAM ITEM 42 (OUTSIDE JAMB) ATTACHED W/(2) ITEM 68

E34000 STOREFRONT

HURRICANE IMPACT ±70 PSF
NON-THERMAL EXTRUSIONS, STANDARD MULLION

NOTE 1: (2) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN

NOTE 2: (1) FASTENER REQ'D AS MARKED. 1" FROM SIDE OF JAMB MULLION & 2" CEN TO CEN.

NOTE 3: (1) FASTENER REQ'D AS MARKED. CENTER OF DOOR OPENING.

NOTE 4: (4) FASTENERS REQ'D AS MARKED. 1" FROM SIDE OF MULLION & 2" CEN TO CEN (2) EA SIDE OF MULLION.

NOTE 5: LOCATE FASTENER 3" FR EA END AND MIDSPAN. (1) FASTENER REQ'D @ EA LOCATION.

GLAZING TYPES

TAG	DESCRIPTION
G-3	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -.090 DUPONT BUTACITE PVB -1/4" CLEAR, HEAT STRENGTHENED

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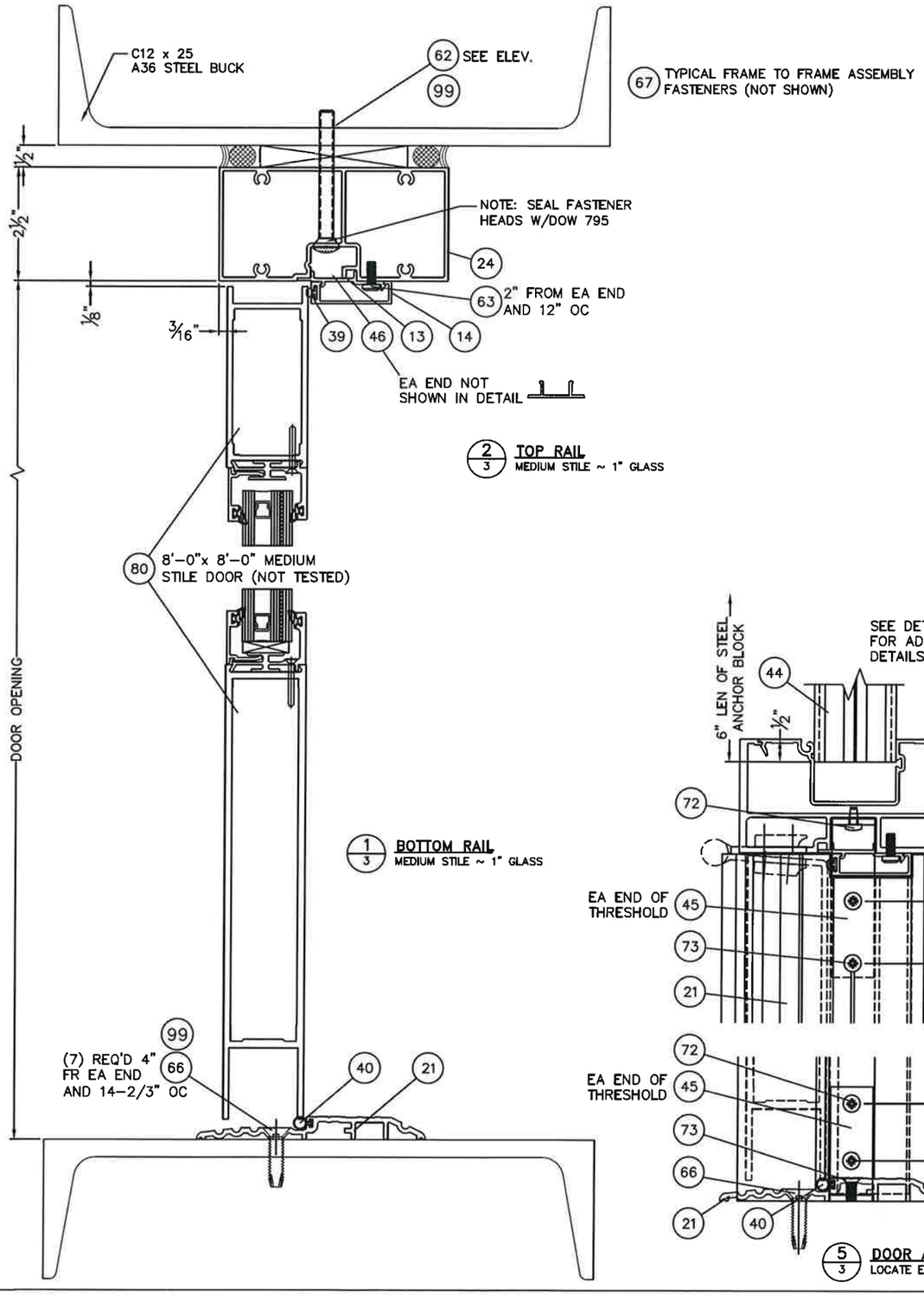

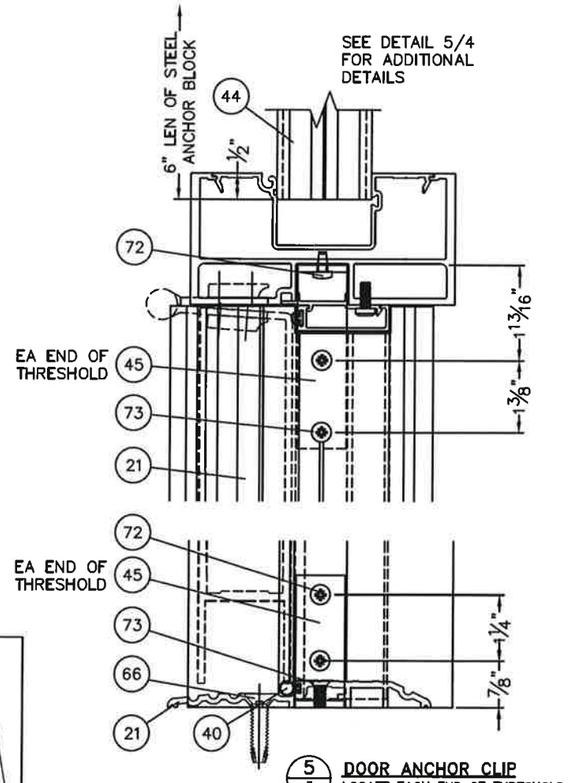

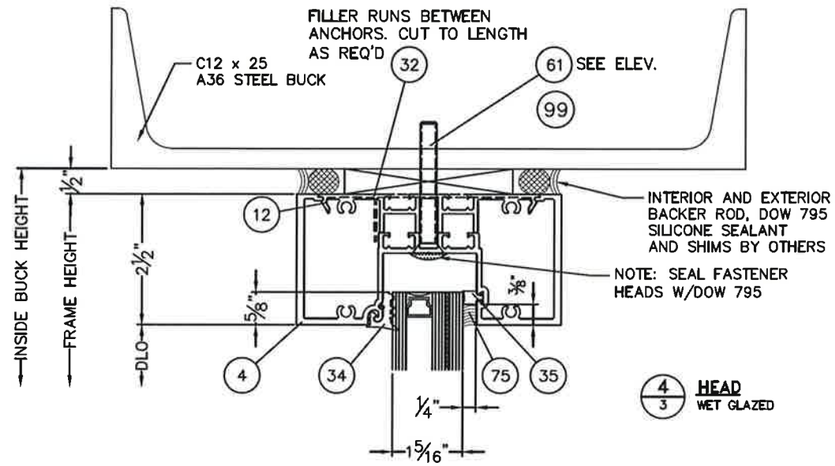

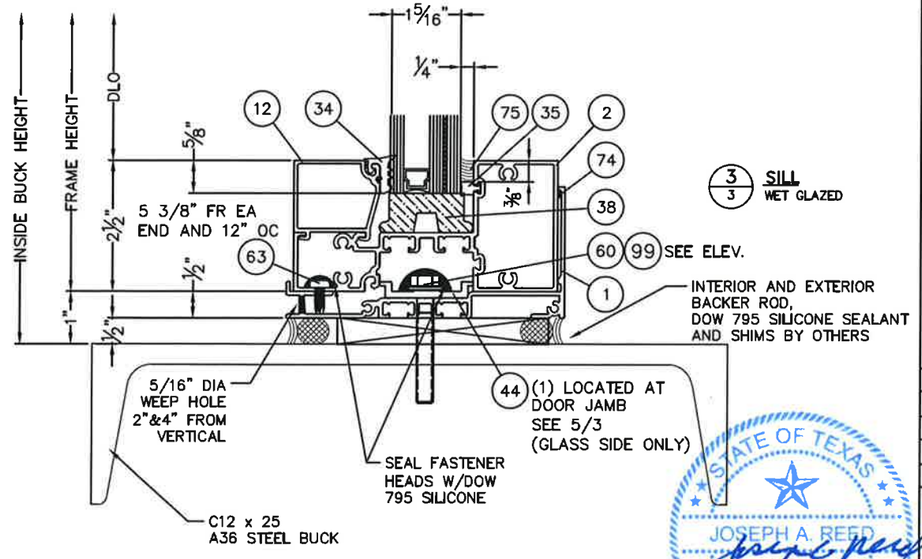

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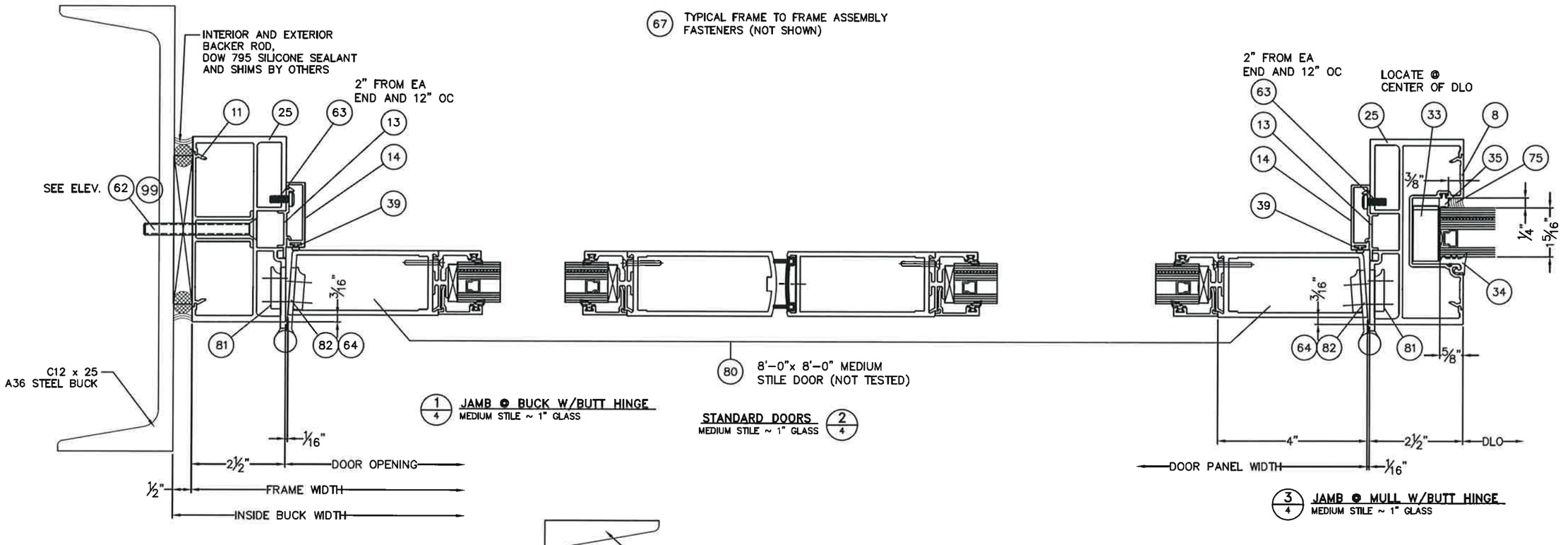
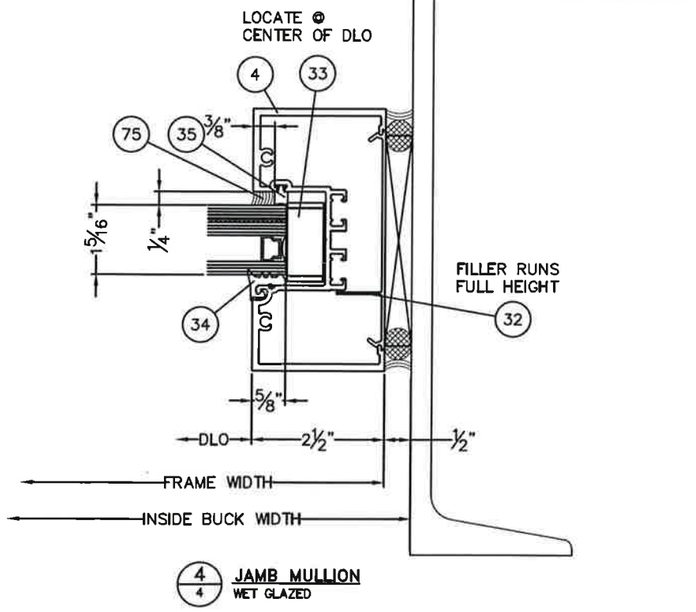
(67) TYPICAL FRAME TO FRAME ASSEMBLY FASTENERS (NOT SHOWN)



1/4 JAMB ℄ BUCK W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS

STANDARD DOORS
MEDIUM STILE ~ 1" GLASS 2/4

3/4 JAMB ℄ MULL W/BUTT HINGE
MEDIUM STILE ~ 1" GLASS



4/4 JAMB MULLION
WET GLAZED

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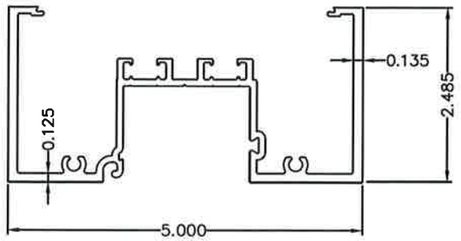
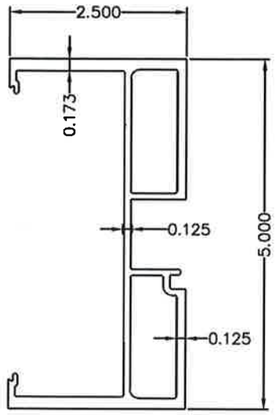
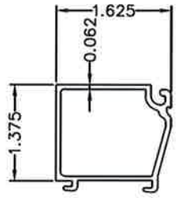


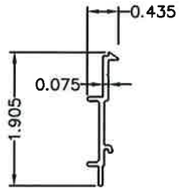
ITEM 4–T34441
VERTICAL/HEAD



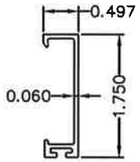
ITEM 5–E34144
DOOR JAMB



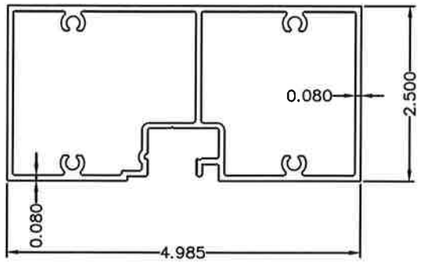
ITEM 9–E34104
GLASS STOP SILL/HORIZONTAL



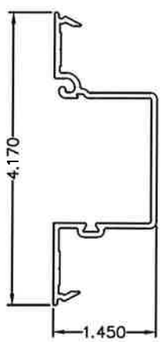
ITEM 13–E6507
INNER DOOR STOP



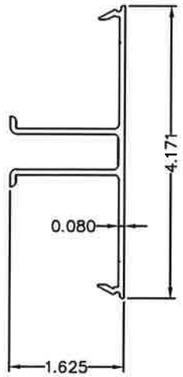
ITEM 14–E6505
OUTER DOOR STOP



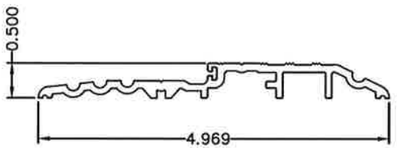
ITEM 24–E34224
DOOR HEADER



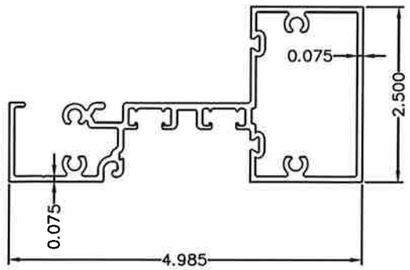
ITEM 8–E34022
DEEP POCKET FILLER



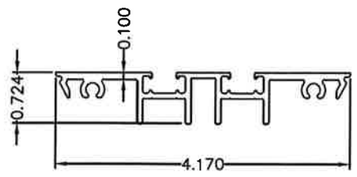
ITEM 11–E34242
DOOR JAMB FILLER



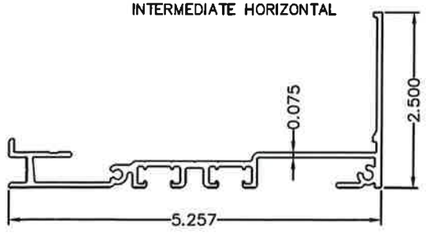
ITEM 21–E3550
THRESHOLD



ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 12–P3446 12" LG
(E34442) FILLER FOR STANDARD ANCHORING



ITEM 1–E34259
SUB SILL

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REVISIONS	NO.	DATED	BY	DESCRIPTION
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DATED	LATEST RELEASE
11–19–13	8–5–14

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ENGINEERED BY:

Sheet 19/28

HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	1	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3				
4	2	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5				
6				
7				
8	1	E34022	EXTRUSION ~ DEEP POCKET FILLER	ALUMINUM–6063–T6
9	2	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10				
11	1	E34242	EXTRUSION ~ DOOR JAMB FILLER	ALUMINUM–6063–T6
12	1	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T6
13	3	E6507	EXTRUSION ~ INNER DOOR STOP	ALUMINUM–6063–T5
14	3	E6505	EXTRUSION ~ OUTER DOOR STOP	ALUMINUM–6063–T5
15				
16				
17				
18				
19				
20				
21	1	E3550	EXTRUSION ~ THRESHOLD	ALUMINUM–6063–T6
22				
23				
24	1	E34224	EXTRUSION ~ DOOR HEADER	ALUMINUM–6063–T6
25	2	E34144	EXTRUSION ~ DOOR JAMB	ALUMINUM–6063–T6
26				
27				
28				
29				
30				
31				
32	2 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	1	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	25'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35	25'	P6587	WET GLAZE GASKET, GLASS, EPG	P–PART–RUBBER
36				
37				
38	2	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39	25'	P6296	BULB GASKET	P–PART–PLASTIC/FAB
40	8'	P3450	BULB GASKET @ THRESHOLD	P–PART–PLASTIC/FAB
41				
42	1	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
44	1	P3426	SILL ANCHOR BLOCK (E34260)	P–PART–ALUM–6063–T5
45	2	P3497	DR. ANCHOR CLIP 2 1/2"x3 1/2"x 1/8", 15/16" LG (E1592)	P–PART–ALUM–6063–T5
46	2	P503	FILLER	P–PART–ALUM–6063–T5
47				
48				
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58				
59				

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	4	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	4	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62	7	BY OTHERS	SCREW ~ 5/16"–18 x 3" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
63	35	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL, DR STOP)	P–PART–FASTENER
64	64	S070	SCREW ~ #12–24 x 1/2" FLAT HD PHIL (HINGE)	P–PART–FASTENER
65				
66	6	BY OTHERS	SCREW ~ 1/4–20 X 1" TYPE F FH THD CUTTING (THRES. TO STEEL BUCK)	P–PART–FASTENER
67	24	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	2	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69				
70				
71				
72	4	S293	SCREW ~ #10–24 X 3/8" SELF TAPPING P HD (DR ANCHOR CLIP TO DR)	P–PART–FASTENER
73	4	S070	SCREW ~ #12–24 x 1/2" PHIL FH UC MS (THRESHOLD TO DR ANCHOR CLIP)	P–PART–FASTENER
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 995	P–PART–SEALANT
76				
77				
78				
79				
80	1	NA	8'–0" x 8'–0" MEDIUM STILE STANDARD DOOR (NOT TESTED)	DOOR ASSEMBLY
81	16	P2093	HINGE, BUTT, REINFORCEMENT (P2093) (DOOR)	
82	8	P094	BUTT HINGE HAGAR RCBB–1199	
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				

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DATED	LATEST RELEASE
11–19–13	8–5–14

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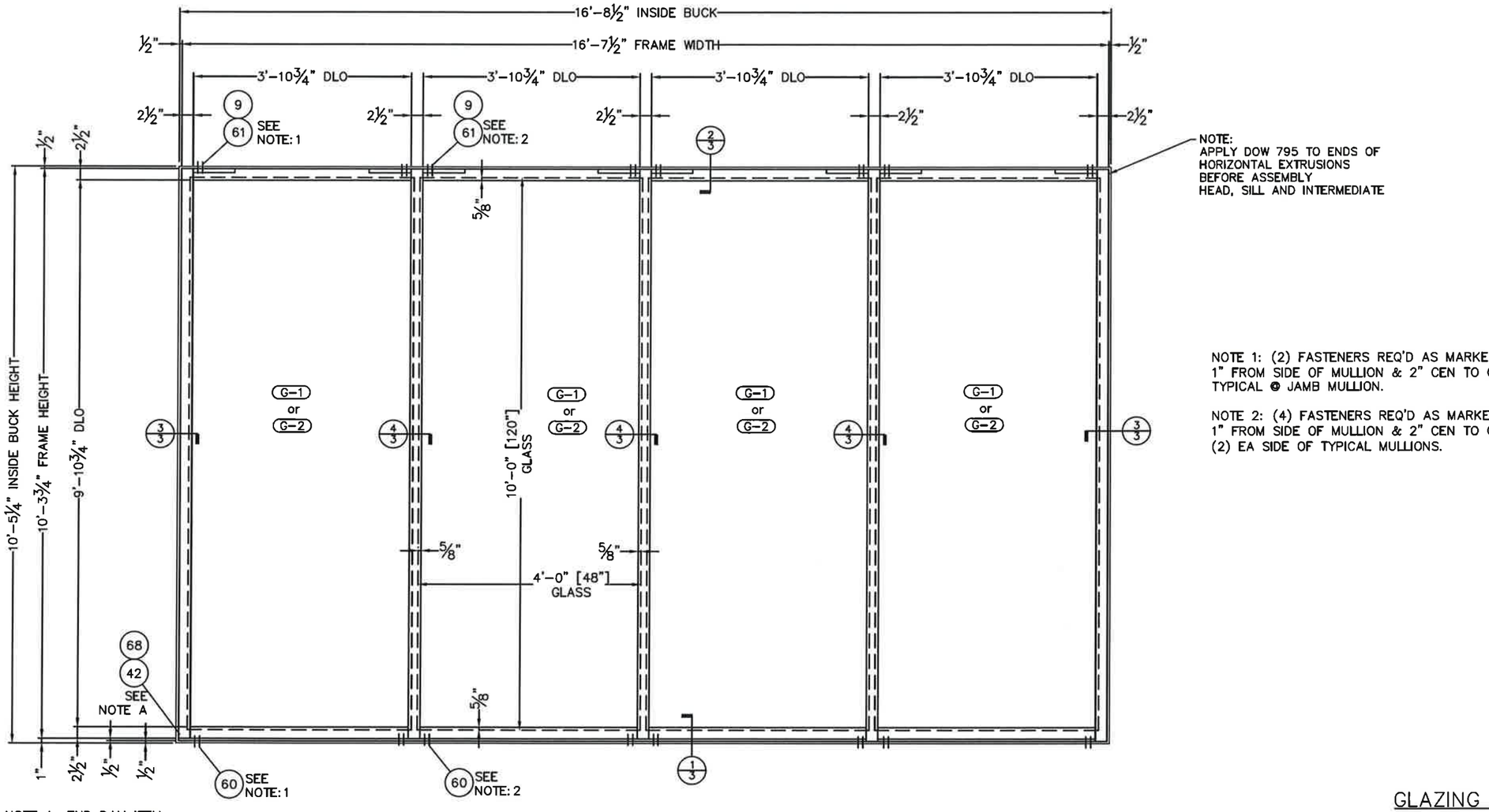
Sheet 20/28



NOTE A: END DAM ITEM
42 (OUTSIDE JAMB)
ATTACHED W/(2) ITEM 68

NOTE 1: (2) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
TYPICAL @ JAMB MULLION.

NOTE 2: (4) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
(2) EA SIDE OF TYPICAL MULLIONS.

E34000 STOREFRONT

HURRICANE IMPACT ±70 PSF
NON-THERMAL EXTRUSIONS, HEAVY DUTY MULLION
WET GLAZED

GLAZING TYPES

TAG	DESCRIPTION
G-1	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.077 SOLUTIA VS-02 -1/4" CLEAR, HEAT STRENGTHENED
G-2	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.090" DUPONT SENTRY GLAS PLUS -1/4" CLEAR, HEAT STRENGTHENED

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	-	-	-	-

DATED	LATEST RELEASE
11-22-13	8-5-14

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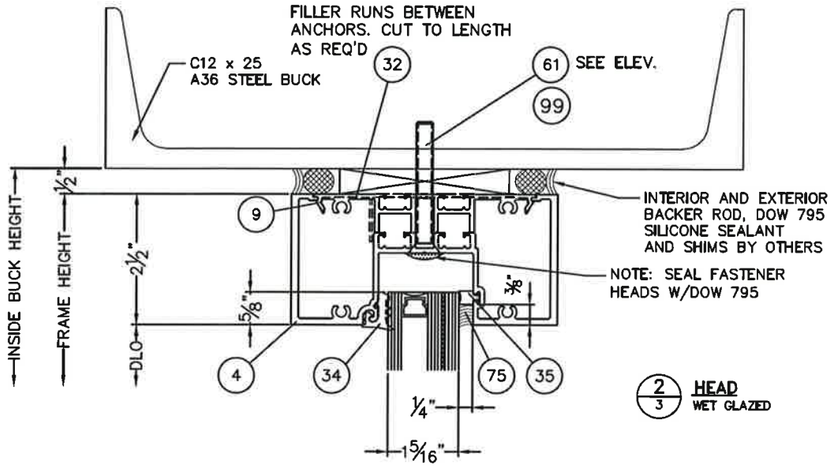
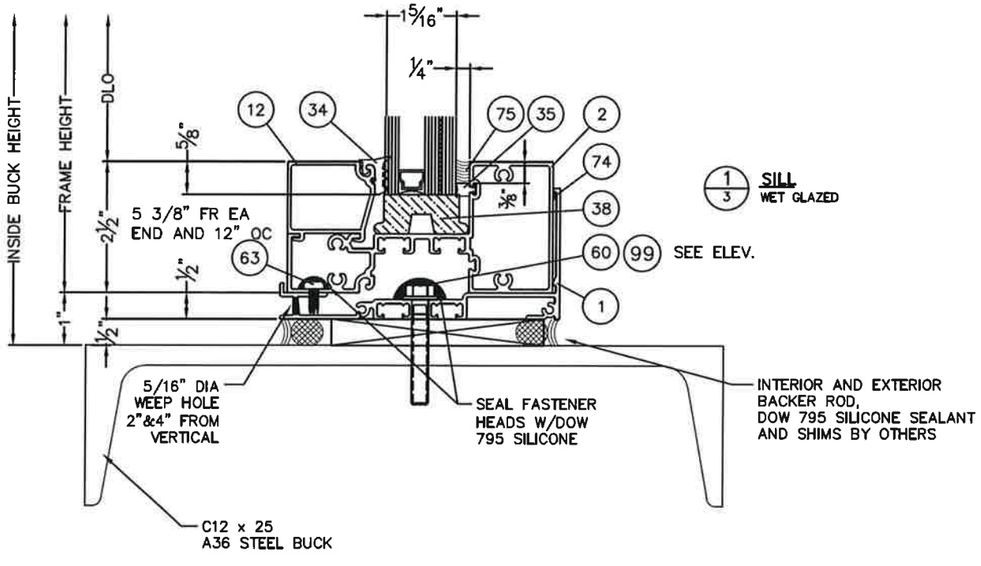
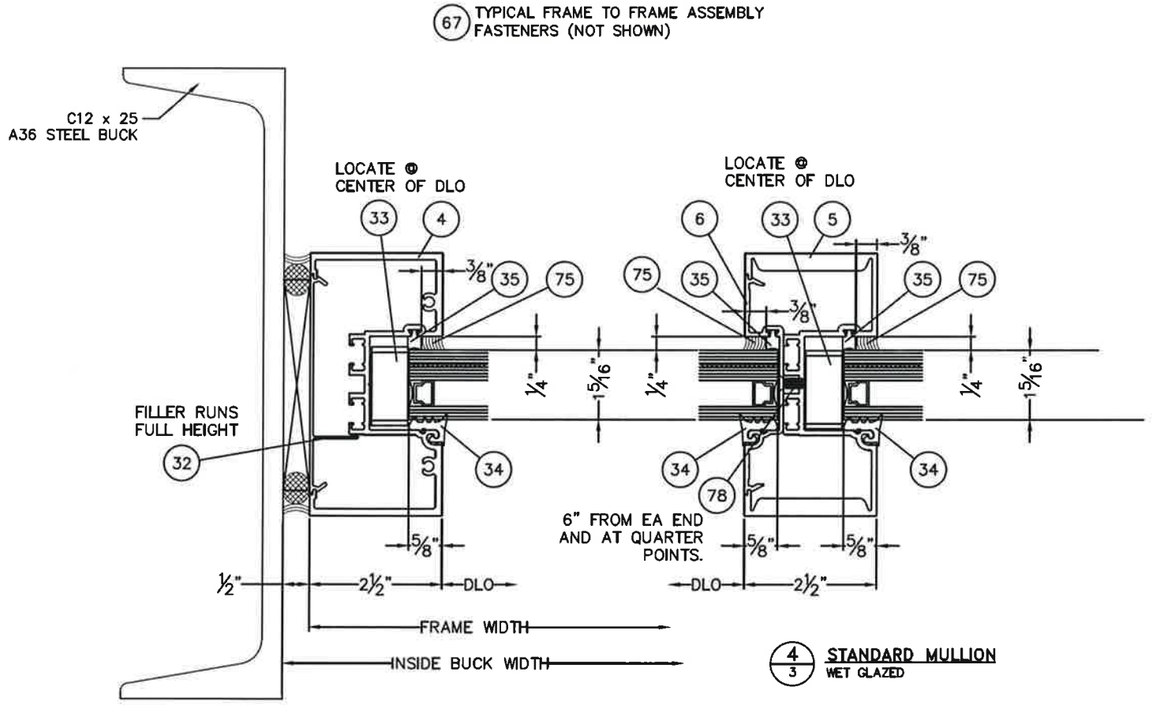


2/3 HEAD
WET GLAZED



1/3 SILL
WET GLAZED



3/3 JAMB MULLION
WET GLAZED

4/3 STANDARD MULLION
WET GLAZED

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DATED	LATEST RELEASE
11-22-13	8-5-14

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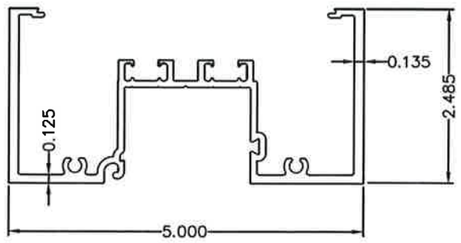
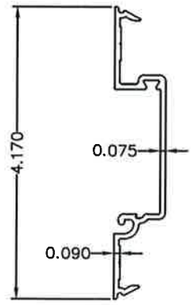
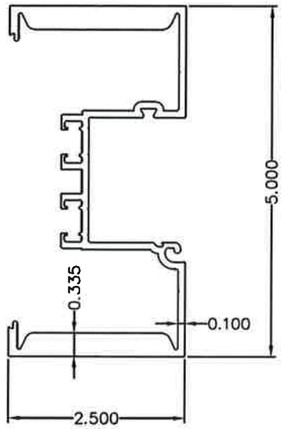


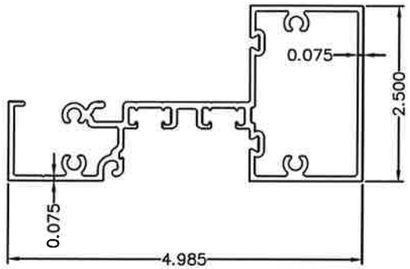
ITEM 4–T34441
VERTICAL/HEAD



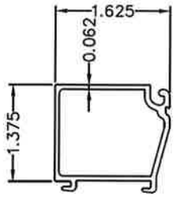
ITEM 6–E34445
SHALLOW POCKET FILLER



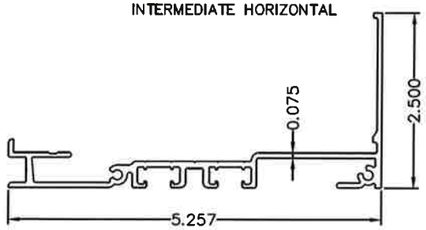
ITEM 5–T34261
HD VERTICAL



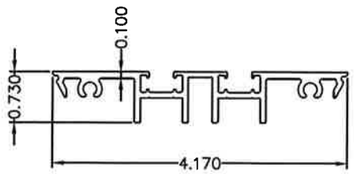
ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 12–E34104
GLASS STOP SILL/HORIZONTAL



ITEM 1–E34259
SUB SILL



ITEM 9–P3446 9" LG
(E34442) FILLER FOR STANDARD ANCHORING

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DATED	LATEST RELEASE
11–22–13	8–5–14

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Sheet 23/28

HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	4	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3				
4	6	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5	3	E34261	EXTRUSION ~ HD VERTICAL	ALUMINUM–6063–T6
6	3	E34445	EXTRUSION ~ SHALLOW POCKET FILLER	ALUMINUM–6063–T6
7				
8				
9	8	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10				
11				
12	4	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T5
13				
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28				
29				
30				
31				
32	3 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	5	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	120'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35	120'	P6587	WET GLAZE GASKET, GLASS, EPG	P–PART–RUBBER
36				
37				
38	8	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39				
40				
41				
42	2	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
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ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	16	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	16	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62				
63	16	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL)	P–PART–FASTENER
64				
65				
66				
67	64	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	4	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69				
70				
71				
72				
73				
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 995	P–PART–SEALANT
76				
77				
78	12	S161	SCREW ~ #10–24 x 1/2" PHIL FH UC MS (CLOSURE PLATE TO VERTICAL)	P–PART–FASTENER
79				
80				
81				
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86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				

STATE OF TEXAS
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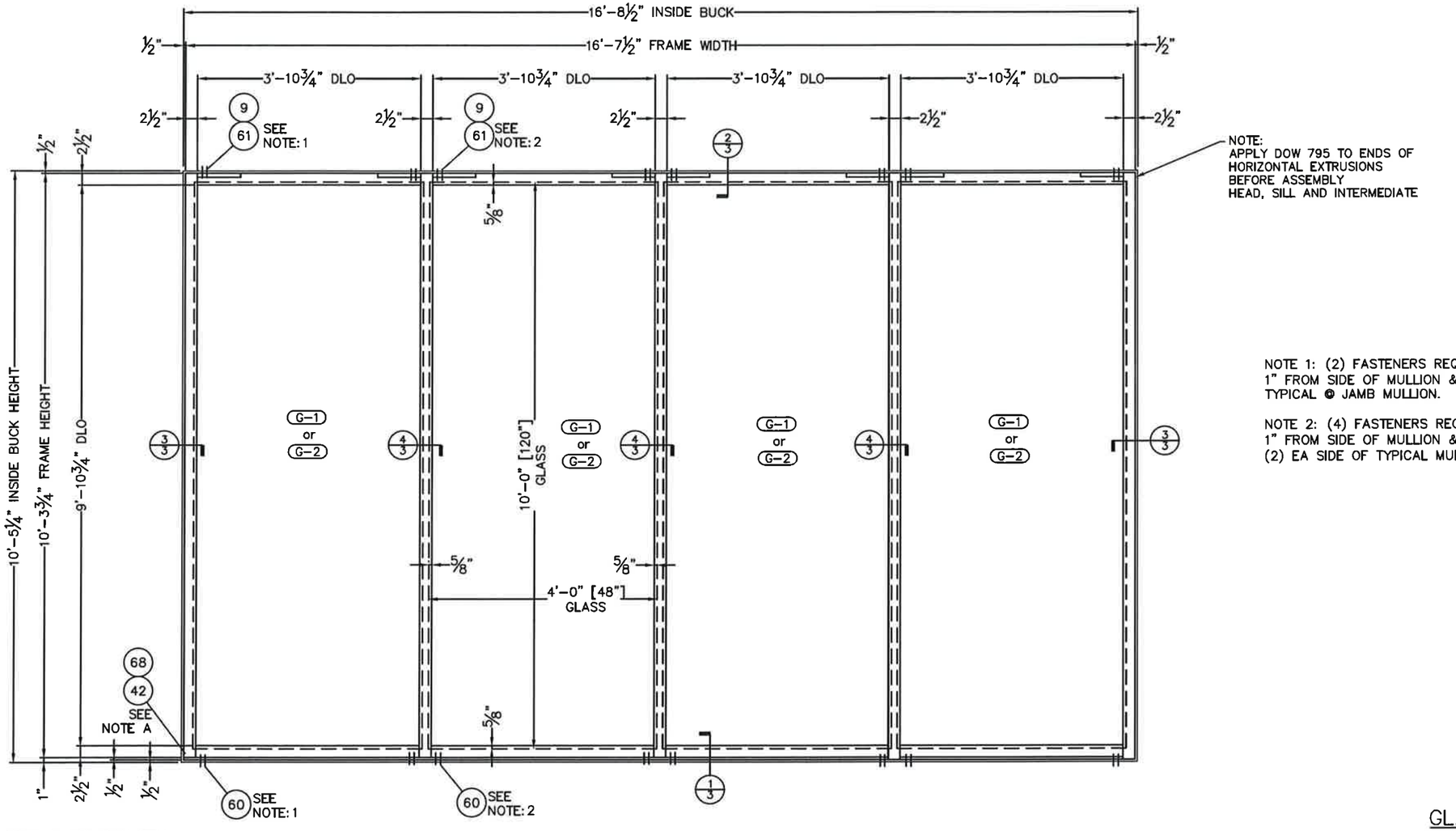
DATED	LATEST RELEASE
11–22–13	8–5–14

DRAWINGS BY: HLP
ENGINEERED BY:



NOTE A: END DAM ITEM
42 (OUTSIDE JAMB)
ATTACHED W/(2) ITEM 68

NOTE 1: (2) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
TYPICAL @ JAMB MULLION.

NOTE 2: (4) FASTENERS REQ'D AS MARKED.
1" FROM SIDE OF MULLION & 2" CEN TO CEN
(2) EA SIDE OF TYPICAL MULLIONS.

E34000 STOREFRONT

HURRICANE IMPACT ±70 PSF
NON-THERMAL EXTRUSIONS, HEAVY DUTY MULLION
DRY GLAZED

GLAZING TYPES

TAG	DESCRIPTION
G-1	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.077 SOLUTIA VS-02 -1/4" CLEAR, HEAT STRENGTHENED
G-2	1 5/16" THK INSULATED GLASS -1/4" CLEAR, TEMPERED -1/2" AIRSPACE -1/4" CLEAR, HEAT STRENGTHENED -0.090" DUPONT SENTRY GLAS PLUS -1/4" CLEAR, HEAT STRENGTHENED

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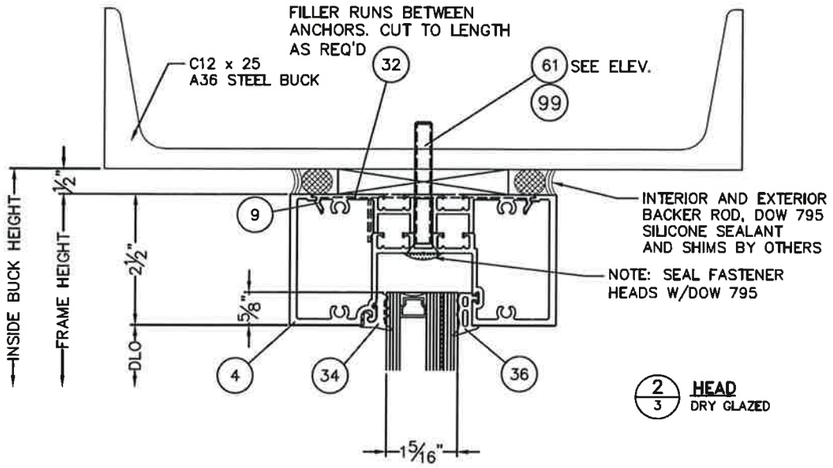
HURRICANE IMPACT
E34000 STOREFRONT

TUBELITE® DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS
3056 WALKER RIDGE DRIVE N.W.
WALKER, MICHIGAN 49544
PH: 800.866.2227
FX: 616.301.0008
WEB SITE: WWW.TUBELITEINC.COM

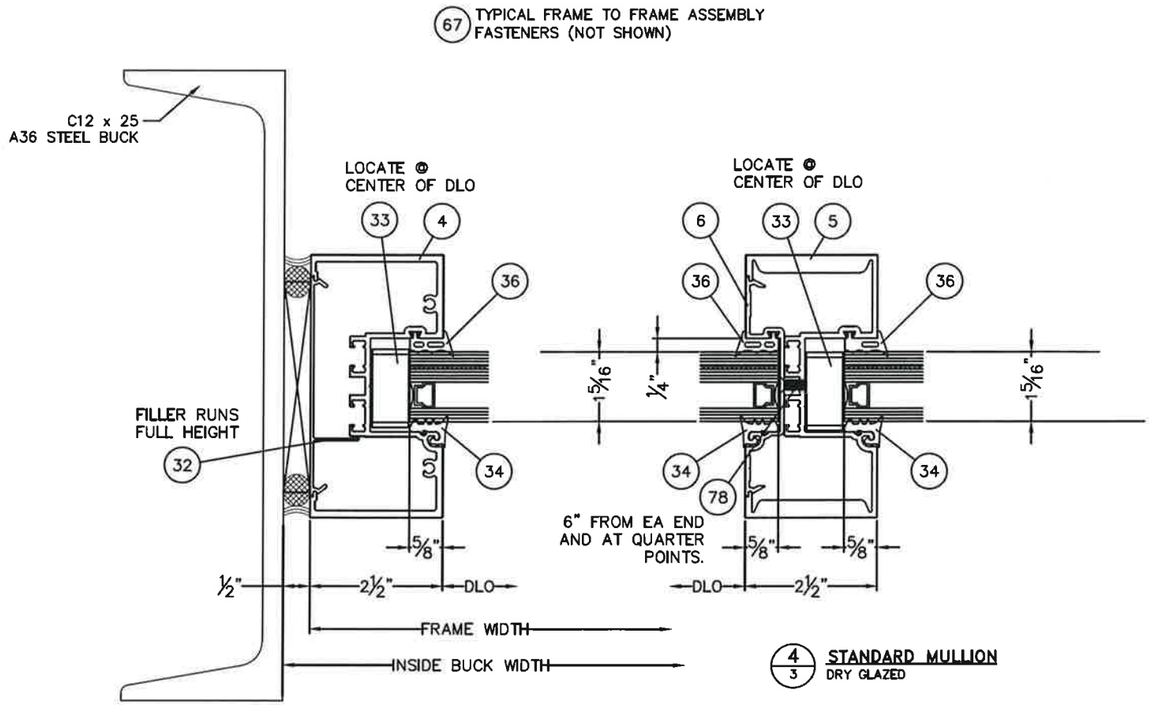
REVISIONS	NO.	DATED	BY	DESCRIPTION
	-	-	-	-

DATED	LATEST RELEASE
11-22-13	8-5-14

DRAWINGS BY: HLP
ENGINEERED BY:

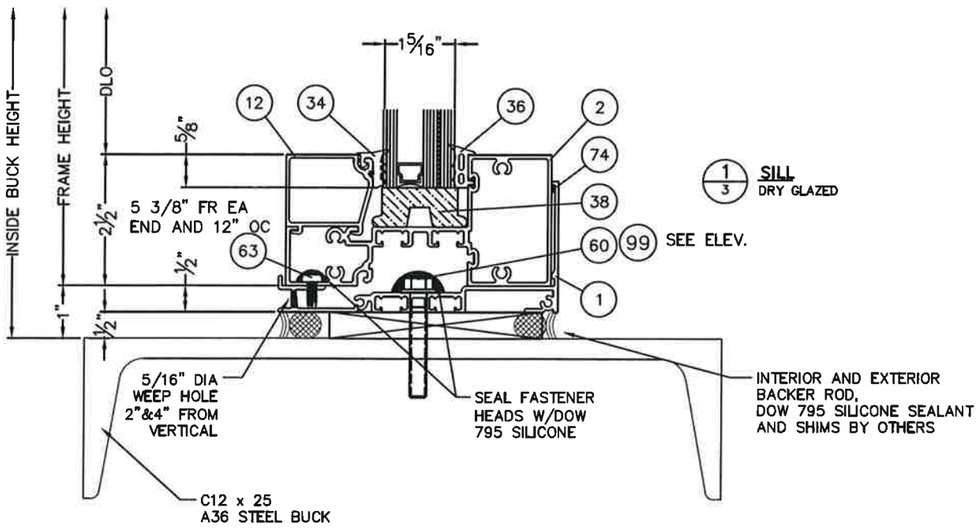


2/3 HEAD
DRY GLAZED



4/3 STANDARD MULLION
DRY GLAZED

3/3 JAMB MULLION
DRY GLAZED



1/3 SILL
DRY GLAZED

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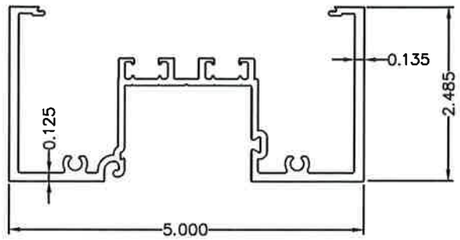
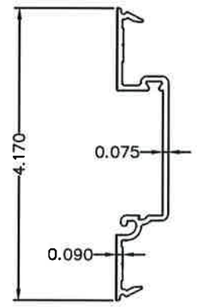
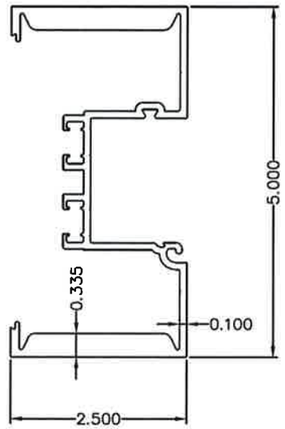


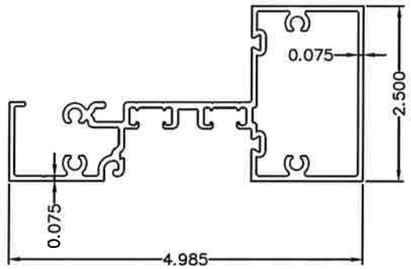
ITEM 4–T34441
VERTICAL/HEAD



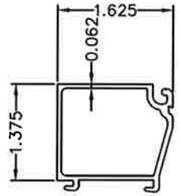
ITEM 6–E34445
SHALLOW POCKET FILLER



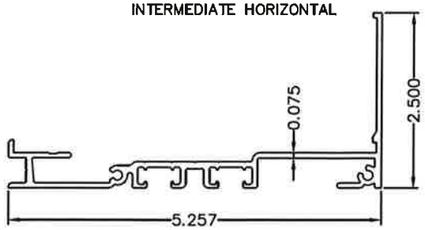
ITEM 5–T34261
HD VERTICAL



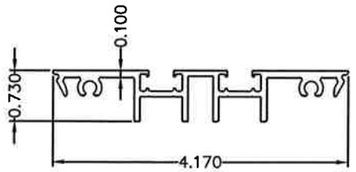
ITEM 2–E34143
INTERMEDIATE HORIZONTAL



ITEM 12–E34104
GLASS STOP SILL/HORIZONTAL



ITEM 1–E34259
SUB SILL



ITEM 9–P3446 9" LG
(E34442) FILLER FOR STANDARD ANCHORING

TUBELITE FORCEFRONT HURRICANE IMPACT E34000 STOREFRONT

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STATE OF TEXAS
JOSEPH A. REED
100777
LICENSED
PROFESSIONAL ENGINEER
8/11/15

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HURRICANE STOREFRONT TEST SPECIMEN – PARTS LIST				MATERIAL
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	1	E34259	EXTRUSION ~ SUB SILL	ALUMINUM–6063–T6
2	4	E34143	EXTRUSION ~ INTERMEDIATE HORIZONTAL/SILL	ALUMINUM–6063–T6
3				
4	6	E34441	EXTRUSION ~ VERTICAL/HEAD	ALUMINUM–6063–T6
5	3	E34261	EXTRUSION ~ HD VERTICAL	ALUMINUM–6063–T6
6	3	E34445	EXTRUSION ~ SHALLOW POCKET FILLER	ALUMINUM–6063–T6
7				
8				
9	8	P3446	EXTRUSION ~ SNAP IN FILLER (E34442)	ALUMINUM–6063–T6
10				
11				
12	4	E34104	EXTRUSION ~ GLAZING STOP	ALUMINUM–6063–T5
13				
14				
15				
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31				
32	3 @ 10'–0"	P3443	PERIMETER CAULK BACKER – FLAT LEG SNAP IN FILLER	P–PART–RIGID PVC
33	5	P1916	W ANTI–WALK BLOCK	P–PART–EPDM
34	120'	P6503	TOP LOAD WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
35				
36	115'	P6586	PRESET WEDGE GASKET, GLASS, EPG	P–PART–RUBBER
37				
38	8	P6541	SETTING BLOCK 3/4 x 1 3/4 x 4" LG	P–PART–RUBBER
39				
40				
41				
42	2	P1156	END DAM FOR SUB SILL E44259	P–PART–ALUM .040 SHT.
43				
44				
45				
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ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
60	16	BY OTHERS	SCREW ~ 5/16"–18 x 2" HEX HD MS SS W/FWS (FR. TO STEEL BUCK)	P–PART–FASTENER
61	16	BY OTHERS	SCREW ~ 5/16"–18 x 2 1/2" FH MS SS (FR. TO STEEL BUCK)	P–PART–FASTENER
62				
63	16	S206	SCREW ~ #10–24 x 1/2" P PH TYPE 23 ST (SILL TO SUB SILL)	P–PART–FASTENER
64				
65				
66				
67	64	S419	SCREW ~ #12–14 x 1 1/2" HWH SD #3PT (FRAME TO FRAME)	P–PART–FASTENER
68	4	S196	SCREW ~ #8 X 3/8" SELF TAPPING PAN HEAD (END DAM TO SUB SILL)	P–PART–FASTENER
69				
70				
71				
72				
73				
74	AS REQ'D	BY OTHERS	SILICONE SEALANT DOW 795	P–PART–SEALANT
75				
76				
77				
78	12	S161	SCREW ~ #10–24 x 1/2" PHIL FH UC MS (CLOSURE PLATE TO VERTICAL)	P–PART–FASTENER
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99	AS REQ'D	BY OTHERS	3/8" Hilti KB–3 1–3/4" Spacing, 2" Embed, 5" Edge Dist.	Alternate Anchor
100				
101				
102				
103				

STATE OF TEXAS
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9/10/15

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