



City of Anacortes
 904 6th Street
 P.O.Box 547
 Anacortes, WA 98221-0547
 (360) 293-1901

0726004-2 0001 09/17/2007 002 8
 Permit Fees 007695 \$2,271.78

Permit #: BLD-2007-0632
Issue date: 09/17/2007
Expire date: 09/16/2008

Job Address: 707 22ND ST
 ANACORTES WA 98221-2598

Permit Type: Commercial Repair/Alter Permit
Project:

APN: P78000

Remarks: Repair building doors, rebuild south end wall, new footing under south wall, pour new non-structural slab. Replace the roofing covering.

Owner: MJB PROPERTIES

Contractor: OWNER

Address: 9125 10TH AVE S

Address:

SEATTLE WA 98108-4612

Phone: (206) 762-9125

Phone:

License #:

General Information:

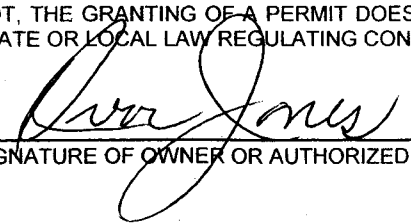
Building Valuation 230000

Fees:

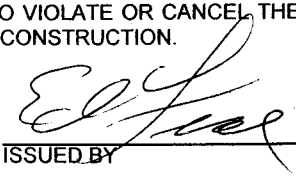
Building Permit Fee	1,374.50
State Building Code Fee	4.50
Plan Review Fee	892.78

Total Calculated:	2,271.78
Deposits/Receipts:	0.00
Total Due:	2,271.78

THIS PERMIT BECOMES NULL AND VOID IF WORK OR CONSTRUCTION AUTHORIZED IS NOT COMMENCED WITHIN 180 DAYS, OR IF CONSTRUCTION OR WORK IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AT ANY TIME AFTER WORK IS COMMENCED. I HEREBY CERTIFY THAT I HAVE READ AND EXAMINED THIS APPLICATION AND KNOW THE SAME TO BE TRUE AND CORRECT. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT, THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER STATE OR LOCAL LAW REGULATING CONSTRUCTION OR THE PERFORMANCE OF CONSTRUCTION.



 SIGNATURE OF OWNER OR AUTHORIZED AGENT



 ISSUED BY

Rupert Engineering, Inc.

CONSULTING ENGINEERS/CIVIL AND STRUCTURAL

STRUCTURAL DESIGN CALCULATIONS

CITY OF ANACORTES PERMIT CENTER
APPROVED PLANS

of

PERMIT NO. PLD-2007-0632

ADDRESS 709-02nd St

APPROVED BY: EJ 9/17/07

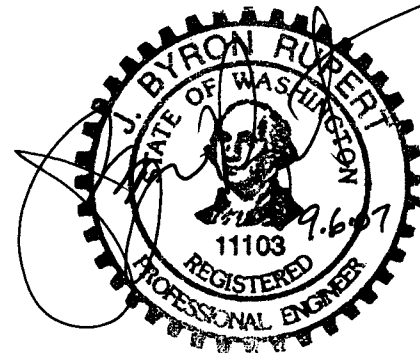
SUBJECT TO FIELD INSPECTION. OVERSIGHT
OR VIOLATION OF CODE IS NOT INCLUDED

**Metal Building End Wall
Wind Design
Anacortes, WA**

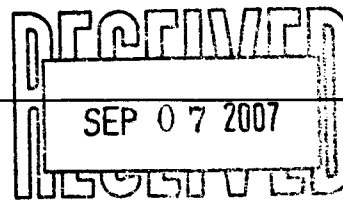
for

**Ivor Jones
Seattle, WA**

**September 2007
REI #07104**



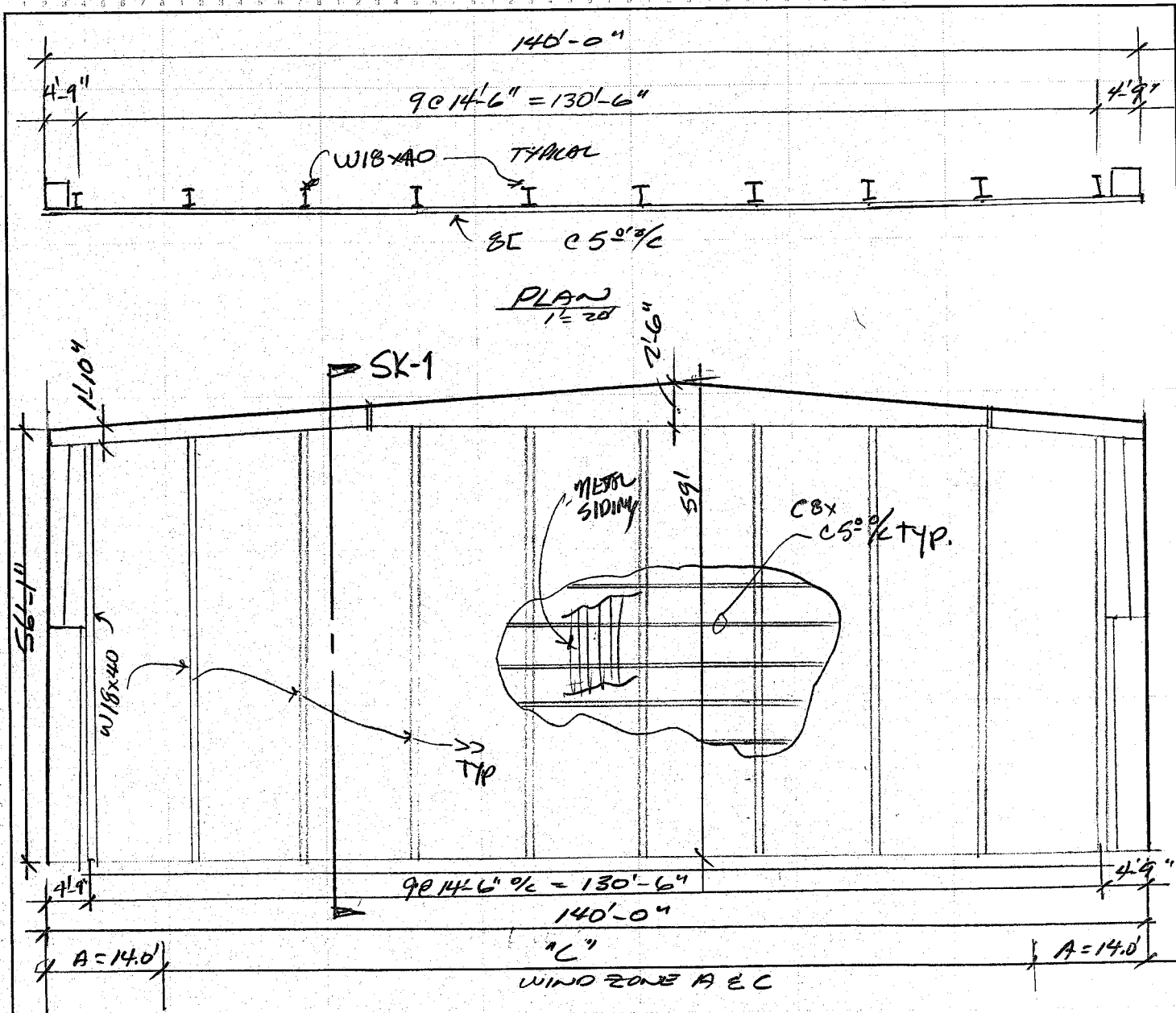
EXPIRES 6.23.08



Rupert Engineering, Inc.
CONSULTING ENGINEERS/CIVIL AND STRUCTURAL

1519 West Valley Highway North/Suite 101/Auburn, WA 98001
Post Office Box 836/Auburn, WA 98071
253-833-7776 Fax 253-939-2168

JOB ANACAPAZ METAL BODY 1
SHEET NO. END WALL - OF _____
CALCULATED BY JBR DATE Sept/07
CHECKED BY _____ DATE _____
SCALE _____



ZONE A = 0.10(140') = 14.0 ←
SMALLER OF OR 0.40(59') = 23.6

Per IBC-06
& ASCE 7-05 CHAPTEL 6 - C.4 METHOD 1

$$p_s = \lambda K_{zt} I p_{s30}$$

$$\lambda = 1.0 \quad w/h \leq 30'$$

$$1.19 \quad w/h = 55'$$

$$p_{s30} = 11.5 \text{ psf} \quad \left. \begin{array}{l} \text{Roof } \phi < 5^\circ \\ \text{85 MPH} \\ \text{HORIZ PRESS: ZONE A} \\ \text{ZONE "A"} \end{array} \right\} \text{Fig 6-2}$$

$$I = 1.0$$

$$K_{zt} = 1.0$$

$$\therefore w/h = 0-30' \quad p_{s30} = 11.5 (1)(1) = 11.5 \text{ psf}$$

$$h = 30-55' \quad p_{s30} = 11.5 (1.19) = 13.7 \text{ psf}$$

$$\text{ZONE "C"} \quad p_{s30} = 7.4 \text{ psf}$$

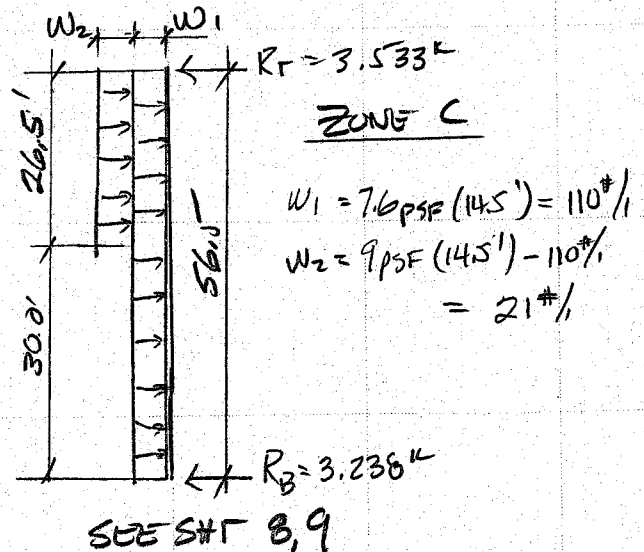
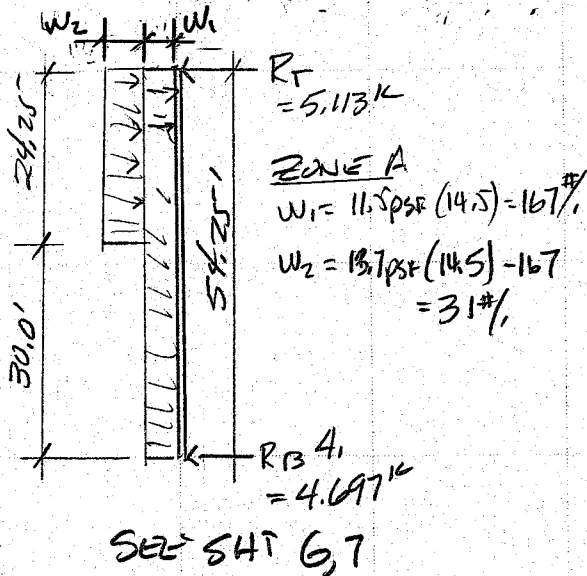
$$p_{s30} = 7.4 (1.19) = 9 \text{ psf}$$

w/ VERTICAL BEAMS @ 14'-6" o/c

$$\text{ZONE A } h = (56.08' - 1.83') = 54.25'$$

$$\text{ZONE C } h = (59.0') (2'-6") = 56.5'$$

ZONE 'A'



Simplified Design Wind Pressure, p_{s30} (psf) (Exposure B at $h = 30$ ft., $K_{zt} = 1.0$, with $I = 1.0$)

Basic Wind Speed (mph)	Roof Angle (degrees)	Load Case	Zones									
			Horizontal Pressures				Vertical Pressures				Overhangs	
			A	B	C	D	E	F	G	H	ECH	GCH
85	0 to 5°	1	11.5	-5.9	7.6	-3.5	-13.8	-7.8	-9.6	-6.1	-19.3	-15.1
	10°	1	12.9	-5.4	8.6	-3.1	-13.8	-8.4	-9.6	-6.5	-19.3	-15.1
	15°	1	14.4	-4.8	9.6	-2.7	-13.8	-9.0	-9.6	-6.9	-19.3	-15.1
	20°	1	15.9	-4.2	10.6	-2.3	-13.8	-9.6	-9.6	-7.3	-19.3	-15.1
	25°	1	14.4	2.3	10.4	2.4	-6.4	-8.7	-4.6	-7.0	-11.9	-10.1
		2	-----	-----	-----	-----	-2.4	-4.7	-0.7	-3.0	-----	-----
90	30 to 45	1	12.9	8.8	10.2	7.0	1.0	-7.8	0.3	-6.7	-4.5	-5.2
		2	12.9	8.8	10.2	7.0	5.0	-3.9	4.3	-2.8	-4.5	-5.2
	0 to 5°	1	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9
	10°	1	14.5	-6.0	9.6	-3.5	-15.4	-9.4	-10.7	-7.2	-21.6	-16.9
	15°	1	16.1	-5.4	10.7	-3.0	-15.4	-10.1	-10.7	-7.7	-21.6	-16.9
	20°	1	17.8	-4.7	11.9	-2.6	-15.4	-10.7	-10.7	-8.1	-21.6	-16.9
100	25°	1	16.1	2.6	11.7	2.7	-7.2	-9.8	-5.2	-7.8	-13.3	-11.4
		2	-----	-----	-----	-----	-2.7	-5.3	-0.7	-3.4	-----	-----
	30 to 45	1	14.4	9.9	11.5	7.9	1.1	-8.8	0.4	-7.5	-5.1	-5.8
		2	14.4	9.9	11.5	7.9	5.6	-4.3	4.8	-3.1	-5.1	-5.8
	0 to 5°	1	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9
	10°	1	17.9	-7.4	11.9	-4.3	-19.1	-11.6	-13.3	-8.9	-26.7	-20.9
105	15°	1	19.9	-6.6	13.3	-3.8	-19.1	-12.4	-13.3	-9.5	-26.7	-20.9
	20°	1	22.0	-5.8	14.6	-3.2	-19.1	-13.3	-13.3	-10.1	-26.7	-20.9
	25°	1	19.9	3.2	14.4	3.3	-8.8	-12.0	-6.4	-9.7	-16.5	-14.0
		2	-----	-----	-----	-----	-3.4	-6.6	-0.9	-4.2	-----	-----
	30 to 45	1	17.8	12.2	14.2	9.8	1.4	-10.8	0.5	-9.3	-6.3	-7.2
		2	17.8	12.2	14.2	9.8	6.9	-5.3	5.9	-3.8	-6.3	-7.2
110	0 to 5°	1	17.5	-9.0	11.6	-5.4	-21.1	-11.9	-14.7	-9.3	-29.4	-23.0
	10°	1	19.7	-8.2	13.1	-4.7	-21.1	-12.8	-14.7	-9.8	-29.4	-23.0
	15°	1	21.9	-7.3	14.7	-4.2	-21.1	-13.7	-14.7	-10.5	-29.4	-23.0
	20°	1	24.3	-6.4	16.1	-3.5	-21.1	-14.7	-14.7	-11.1	-29.4	-23.0
	25°	1	21.9	3.5	15.9	3.5	-9.7	-13.2	-7.1	-10.7	-18.2	-15.4
		2	-----	-----	-----	-----	-3.7	-7.3	-1.0	-4.6	-----	-----
115	30 to 45	1	19.6	13.5	15.7	10.8	1.5	-11.9	0.6	-10.3	-6.9	-7.9
		2	19.6	13.5	15.7	10.8	7.6	-5.8	6.5	-4.2	-6.9	-7.9
	0 to 5°	1	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3
	10°	1	21.6	-9.0	14.4	-5.2	-23.1	-14.1	-16.0	-10.8	-32.3	-25.3
	15°	1	24.1	-8.0	16.0	-4.6	-23.1	-15.1	-16.0	-11.5	-32.3	-25.3
	20°	1	26.6	-7.0	17.7	-3.9	-23.1	-16.0	-16.0	-12.2	-32.3	-25.3
120	25°	1	24.1	3.9	17.4	4.0	-10.7	-14.6	-7.7	-11.7	-19.9	-17.0
		2	-----	-----	-----	-----	-4.1	-7.9	-1.1	-5.1	-----	-----
	30 to 45	1	21.6	14.8	17.2	11.8	1.7	-13.1	0.6	-11.3	-7.6	-8.7
		2	21.6	14.8	17.2	11.8	8.3	-6.5	7.2	-4.6	-7.6	-8.7
	0 to 5°	1	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1
	10°	1	25.8	-10.7	17.1	-6.2	-27.4	-16.8	-19.1	-12.9	-38.4	-30.1
125	15°	1	28.7	-9.5	19.1	-5.4	-27.4	-17.9	-19.1	-13.7	-38.4	-30.1
	20°	1	31.6	-8.3	21.1	-4.6	-27.4	-19.1	-19.1	-14.5	-38.4	-30.1
	25°	1	28.6	4.6	20.7	4.7	-12.7	-17.3	-9.2	-13.9	-23.7	-20.2
		2	-----	-----	-----	-----	-4.8	-9.4	-1.3	-6.0	-----	-----
	30 to 45	1	25.7	17.6	20.4	14.0	2.0	-15.6	0.7	-13.4	-9.0	-10.3
		2	25.7	17.6	20.4	14.0	9.9	-7.7	8.6	-5.5	-9.0	-10.3

Unit Conversions—1.0 ft = 0.3048 m; 1.0 psf = 0.0479 kN/m²

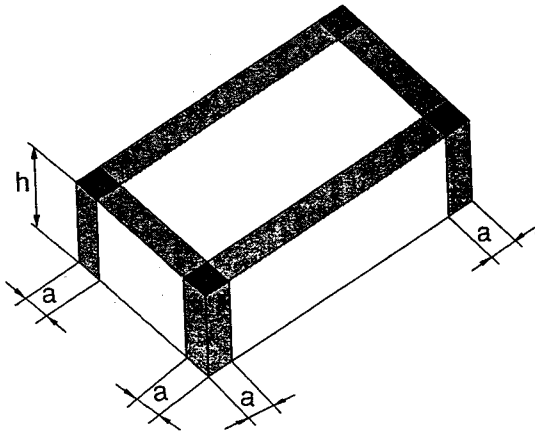
Main Wind Force Resisting System – Method 1		h ≤ 60 ft.
Figure 6-2 (cont'd)	Design Wind Pressures	Walls & Roofs A
Enclosed Buildings		

Adjustment Factor for Building Height and Exposure, λ			
Mean roof height (ft)	Exposure		
	B	C	D
15	1.00	1.21	1.47
20	1.00	1.29	1.55
25	1.00	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.09	1.49	1.74
45	1.12	1.53	1.78
50	1.16	1.56	1.81
55	1.19	1.59	1.84
60	1.22	1.62	1.87

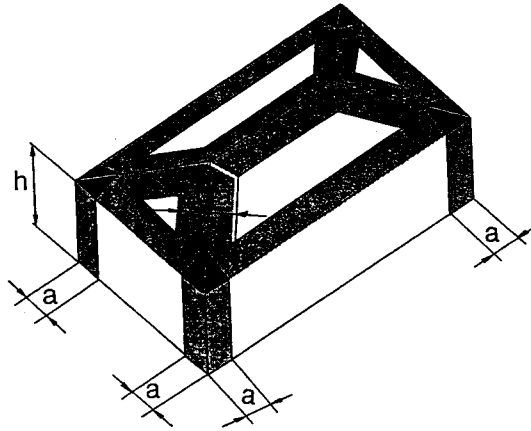


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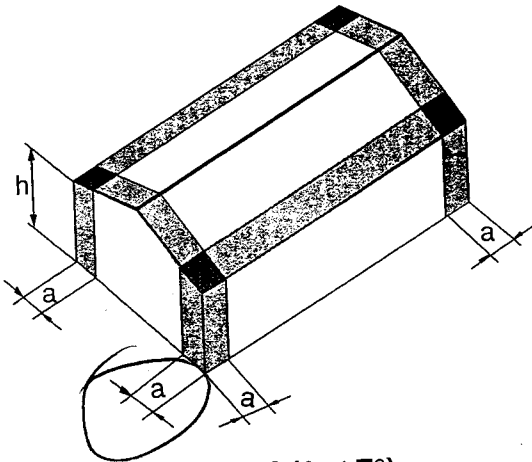
Enclosed Buildings



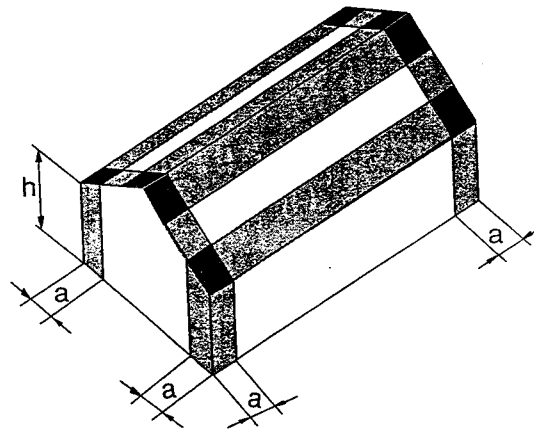
Flat Roof



Hip Roof ($7^\circ < \theta \leq 27^\circ$)



Gable Roof ($\theta \leq 7^\circ$)



Gable Roof ($7^\circ < \theta \leq 45^\circ$)

 Interior Zones
Roofs - Zone 1/Walls - Zone 4

 End Zones
Roofs - Zone 2/Walls - Zone 5

 Corner Zones
Roofs - Zone 3

Notes:

1. Pressures shown are applied normal to the surface, for exposure B, at $h = 30$ ft (9.1m), $I = 1.0$, and $K_{zt} = 1.0$. Adjust to other conditions using Equation 6-2.
2. Plus and minus signs signify pressures acting toward and away from the surfaces, respectively.
3. For hip roofs with $\theta \leq 25^\circ$, Zone 3 shall be treated as Zone 2.
4. For effective wind areas between those given, value may be interpolated, otherwise use the value associated with the lower effective wind area.
5. Notation:
 - a : 10 percent of least horizontal dimension or $0.4h$, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m).
 - h : Mean roof height, in feet (meters), except that eave height shall be used for roof angles $< 10^\circ$.
 - θ : Angle of plane of roof from horizontal, in degrees.

JB Rupert, PE
 Rupert Engineering, Inc
 519 West Valley Highway #101
 Auburn, WA 98001
 253-833-7776 | jrupert@ruperteng.com

Title :
 Dsgnr:
 Description :

Job #
 Date: 8:45AM, 6 SEP 07

Scope :

Rev: 580007
 User: KW-0601423, Ver 5.8.0, 1-Nov-2006
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Steel Beam Design

Page 1

Description Anacortes Metal Bldg-End Wall Wind Beam-Zone "A"

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : W18X40

Center Span 54.25 ft
 Left Cant. 0.00 ft
 Right Cant 0.00 ft
 Lu : Unbraced Length 5.00 ft

Pinned-Pinned
 LL & ST Don't Act Together

Fy 50.00ksi
 Load Duration Factor 1.33
 Elastic Modulus 29,000.0ksi

Distributed Loads

Note! Short Term Loads Are WIND Loads.

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	
DL	0.167	0.031						k/ft
LL								k/ft
ST								k/ft
Start Location		30.000						ft
End Location	54.250	54.250						ft

Summary

Beam OK
 Static Load Case Governs Stress

Using: W18X40 section, Span = 54.25ft, Fy = 50.0ksi
 End Fixity = Pinned-Pinned, Lu = 5.00ft, LDF = 1.330

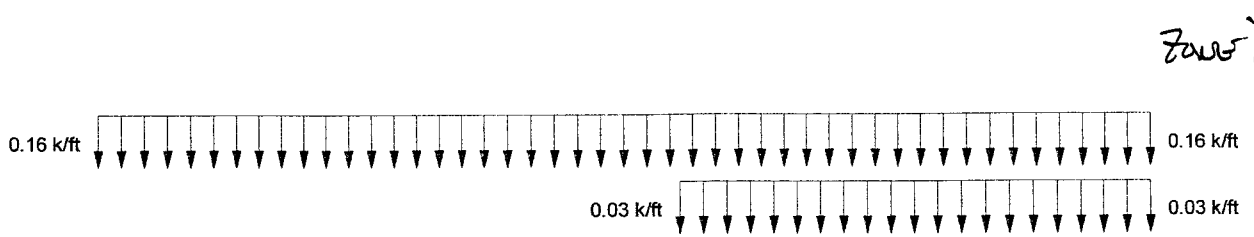
	Actual	Allowable		
Moment	66.078 k-ft	188.100 k-ft	Max. Deflection	-1.975 in
fb : Bending Stress	11.593 ksi	33.000 ksi	Length/DL Defl	329.6 : 1
fb / Fb	0.351 : 1		Length/(DL+LL Defl)	329.6 : 1
Shear	5.114 k	112.770 k		
fv : Shear Stress	0.907 ksi	20.000 ksi		
fv / Fv	0.045 : 1			

Force & Stress Summary

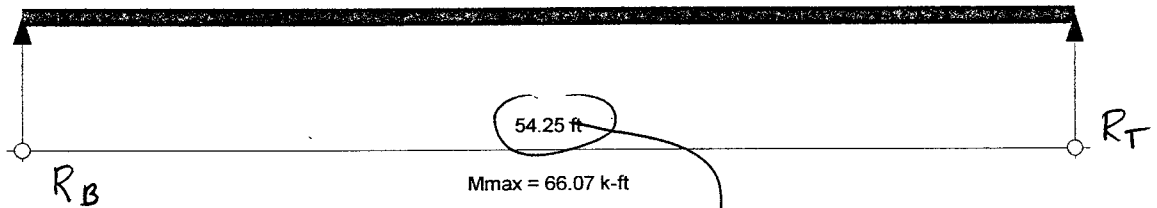
<<-- These columns are Dead + Live Load placed as noted -->>

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	66.08 k-ft	66.08					k-ft
Max. M -		-0.00					k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	4.70 k	4.70					k
Shear @ Right	5.11 k	5.11					k
Center Defl.	-1.975 in	-1.975	0.000	-1.975	0.000	0.000	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
...Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000	in
Reaction @ Left	4.70	4.70		4.70			k
Reaction @ Rt	5.11	5.11		5.11			k

Fa calc'd per Eq. E2-1, K*L/r < Cc
 I Beam Passes Table B5.1, Fb per Eq. F1-1, Fb = 0.66 Fy



ZONE 'A'



$L_{max} = 4.697 \text{ k}$
 $V_{max} @ \text{left} = 4.697 \text{ k}$

ZONE 'A'

$R_{max} = 5.113 \text{ k}$
 $V_{max} @ \text{rt} = 5.113 \text{ k}$

JB Rupert, PE
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 1519 West Valley Highway #101
 Auburn, WA 98001
 253-833-7776\jrupert@ruperteng.com

Title :
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Job #
 Date: 9:10AM, 6 SEP 07 3

Rev: 580007
 User: KW-0601423, Ver 5.8.0, 1-Nov-2006
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Steel Beam Design

Description Anacortes Metal Bldg-End Wall Wind Beam-Zone "A/C"

General Information Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section : W18X40		Fy	50.00ksi
Center Span	56.50 ft	Load Duration Factor	1.33
Left Cant.	0.00 ft	Elastic Modulus	29,000.0 ksi
Right Cant	0.00 ft		
Lu : Unbraced Length	5.00 ft		

Pinned-Pinned
 LL & ST Don't Act Together

Distributed Loads Note! Short Term Loads Are WIND Loads.

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	
DL	0.110	0.021						k/ft
LL								k/ft
ST								k/ft
Start Location		30.000						ft
End Location	56.500	56.500						ft

Summary

Using: W18X40 section, Span = 56.50ft, Fy = 50.0ksi
 End Fixity = Pinned-Pinned, Lu = 5.00ft, LDF = 1.330

Beam OK
 Static Load Case Governs Stress

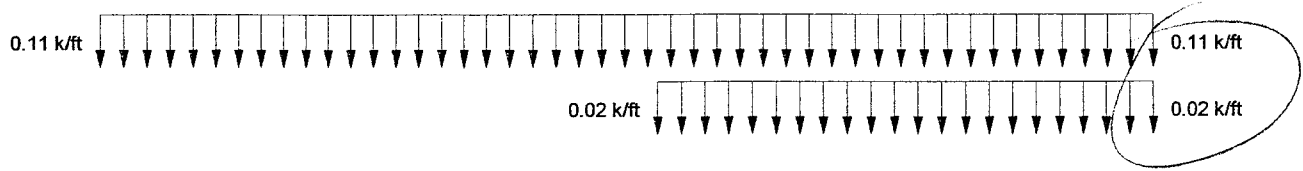
	Actual	Allowable		
Moment	47.657 k-ft	188.100 k-ft	Max. Deflection	-1.543 in
fb : Bending Stress	8.361 ksi	33.000 ksi	Length/DL Defl	439.3 : 1
fb / Fb	0.253 : 1		Length/(DL+LL Defl)	439.3 : 1
Shear	3.533 k	112.770 k		
fv : Shear Stress	0.627 ksi	20.000 ksi		
fv / Fv	0.031 : 1			

Force & Stress Summary

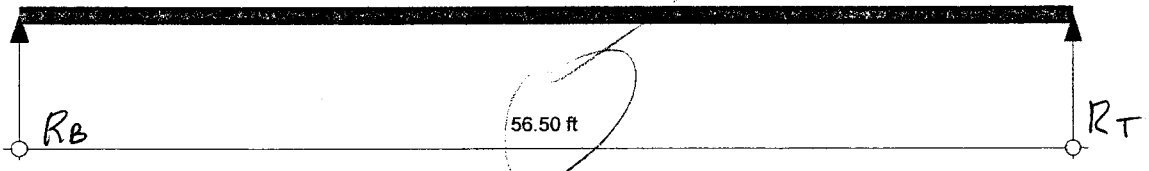
<<- These columns are Dead + Live Load placed as noted ->>

	Maximum	DL Only	LL @ Center	LL+ST @ Center	LL @ Cants	LL+ST @ Cants	
Max. M +	47.66 k-ft	47.66					k-ft
Max. M -		-0.00					k-ft
Max. M @ Left							k-ft
Max. M @ Right							k-ft
Shear @ Left	3.24 k	3.24					k
Shear @ Right	3.53 k	3.53					k
Center Defl.	-1.543 in	-1.543	0.000	-1.543	0.000	0.000	in
Left Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
Right Cant Defl	0.000 in	0.000	0.000	0.000	0.000	0.000	in
...Query Defl @	0.000 ft	0.000	0.000	0.000	0.000	0.000	in
Reaction @ Left	3.24	3.24		3.24			k
Reaction @ Rt	3.53	3.53		3.53			k

Fa calc'd per Eq. E2-1, $K^*L/r < Cc$
 I Beam Passes Table B5.1, Fb per Eq. F1-1, Fb = 0.66 Fy



ZONE 'C'



$M_{max} = 47.65 \text{ k-ft}$
 $D_{max} = -1.5433 \text{ in}$

$L_{max} = 3.238 \text{ k}$
 $V_{max} \text{ @ left} = 3.238 \text{ k}$

$R_{max} = 3.533 \text{ k}$
 $V_{max} \text{ @ rt} = 3.533 \text{ k}$

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Title :
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Scope :

Job #
Date: 8:45AM, 6 SEP 07

9A

Rev: 580007
 User: KW-0601423, Ver 5.8.0, 1-Nov-2006
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Steel Beam Design

Page 2

Description Anacortes Metal Bldg-End Wall Wind Beam-Zone "A" d c'

Section Properties		W18X40	
Depth	17.900 in	Weight	40.08 #/ft
Web Thick	0.315 in	Ixx	612.000 in4
Width	6.015 in	Iyy	19.100 in4
Flange Thick	0.525 in	Sxx	68.400 in3
Area	11.80 in2	Syy	6.350 in3
Rt	1.520 in	R-xx	7.210 in
Values for LRFD Design....		R-yy	1.270 in
J	0.810 in4	Zx	78.400 in3
Cw	1,440.00 in6	Zy	9.950 in3
		K	0.927 in

Bottom Reaction

Zone A' $R_B = 4.697^k$

Zone C $R_B = 3.238^k$

$(6) \frac{3}{4}'' \text{ ANK. BOLT} > \frac{4.697^k}{6} = 0.78^k \text{ EA SHEAR}$

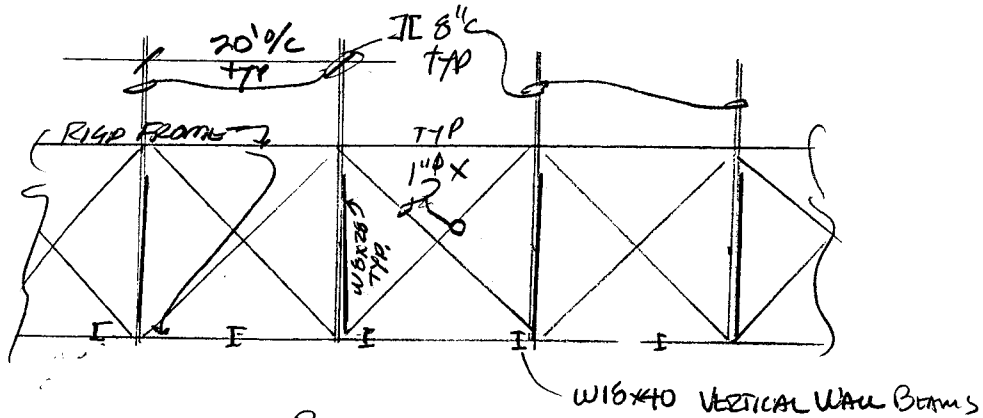
O.K.

TOP REACTION

TOTAL REACTION = $\frac{(2) 5,113^k + 8(3,238^k)}{140'} = 0.258\%$

w/ STRUT @ 20°/c $P = 0.258\% (20) = 5.16^k$

O.K. W 8x23 I 8' l = 24' O.K. SEE SHEET (11)



PLAN
ROOF END @ Wind Wall

JB Rupert, PE
 Rupert Engineering, Inc
 1519 West Valley Highway #101
 Auburn, WA 98001
 253-833-7776 \ jrupert@ruperteng.com

Title :
 Dsgnr:
 Description :

Job #
 Date: 2:02PM, 6 SEP 07

11

Scope :

Rev: 580010
 User: KW-0601423, Ver 5.8.0, 1-Nov-2006
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Steel Column *STRUT*

Page 1

Description Anacortes Wind Wall Compression Strut at Roof

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section	W8X28	Fy	36.00 ksi	X-X Sidesway :	Restrained
		Duration Factor	1.330	Y-Y Sidesway :	Restrained
Column Height	24.000 ft	Elastic Modulus	29,000.00 ksi		
End Fixity	Pin-Pin	X-X Unbraced	24.000 ft	Kxx	1.000
Live & Short Term Loads Combined		Y-Y Unbraced	23.500 ft	Kyy	1.000

Loads

Axial Load...

Dead Load	k	Ecc. for X-X Axis Moments	0.000 in
Live Load	k	Ecc. for Y-Y Axis Moments	0.000 in
Short Term Load	5.16 k		

Summary

Column Design OK

Section : W8X28, Height = 24.00ft, Axial Loads: DL = 0.00, LL = 0.00, ST = 5.16k, Ecc. = 0.000in
 Unbraced Lengths: X-X = 23.50ft, Y-Y = 24.00ft

Combined Stress Ratios	Dead	Live	DL + LL	DL + ST + (LL if Chosen)
AISC Formula H1 - 1				
AISC Formula H1 - 2				
AISC Formula H1 - 3				0.0993

XX Axis : Fa calc'd per Eq. E2-2, $K^2L/r > Cc$
 XX Axis : I Beam, Major Axis, $L/rT > (510,000 * Cb / Fy)^{.5}$, Fb per Eq. F1-7
 XX Axis : I Beam, Major Axis, Fb per Eq. F1-8, $Fb = 12,000 Cb Af / (I * d)$
 YY Axis : Fa calc'd per Eq. E2-2, $K^2L/r > Cc$
 YY Axis : I Beam, Minor Axis, Passes Table B5.1, $Fb = 0.75 Fy$ per Eq. F2-1

Stresses

Allowable & Actual Stresses	Dead	Live	DL + LL	DL + Short
Fa : Allowable	4.74 ksi	0.00 ksi	4.74 ksi	6.30 ksi
fa : Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.63 ksi
Fb:xx : Allow [F1-6]	15.71 ksi	0.00 ksi	15.71 ksi	20.89 ksi
Fb:xx : Allow [F1-7] & [F1-8]	15.71 ksi	0.00 ksi	15.71 ksi	20.89 ksi
fb : xx Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi
Fb:yy : Allow [F1-6]	27.00 ksi	0.00 ksi	27.00 ksi	35.91 ksi
Fb:yy : Allow [F1-7] & [F1-8]	27.00 ksi	0.00 ksi	27.00 ksi	35.91 ksi
fb : yy Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi

Analysis Values

F'ex : DL+LL	22,306 psi	Cm:x DL+LL	0.60	Cb:x DL+LL	1.00
F'ey : DL+LL	4,736 psi	Cm:y DL+LL	0.60	Cb:y DL+LL	1.00
F'ex : DL+LL+ST	29,667 psi	Cm:x DL+LL+ST	0.60	Cb:x DL+LL+ST	1.00
F'ey : DL+LL+ST	6,298 psi	Cm:y DL+LL+ST	0.60	Cb:y DL+LL+ST	1.00
Max X-X Axis Deflection	0.000 in at	0.000 ft	Max Y-Y Axis Deflection	0.000 in at	0.000 ft

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Auburn, WA 98001
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Steel Column

Page 2

Description Anacortes Wind Wall Compression Strut at Roof

Section Properties **W8X28**

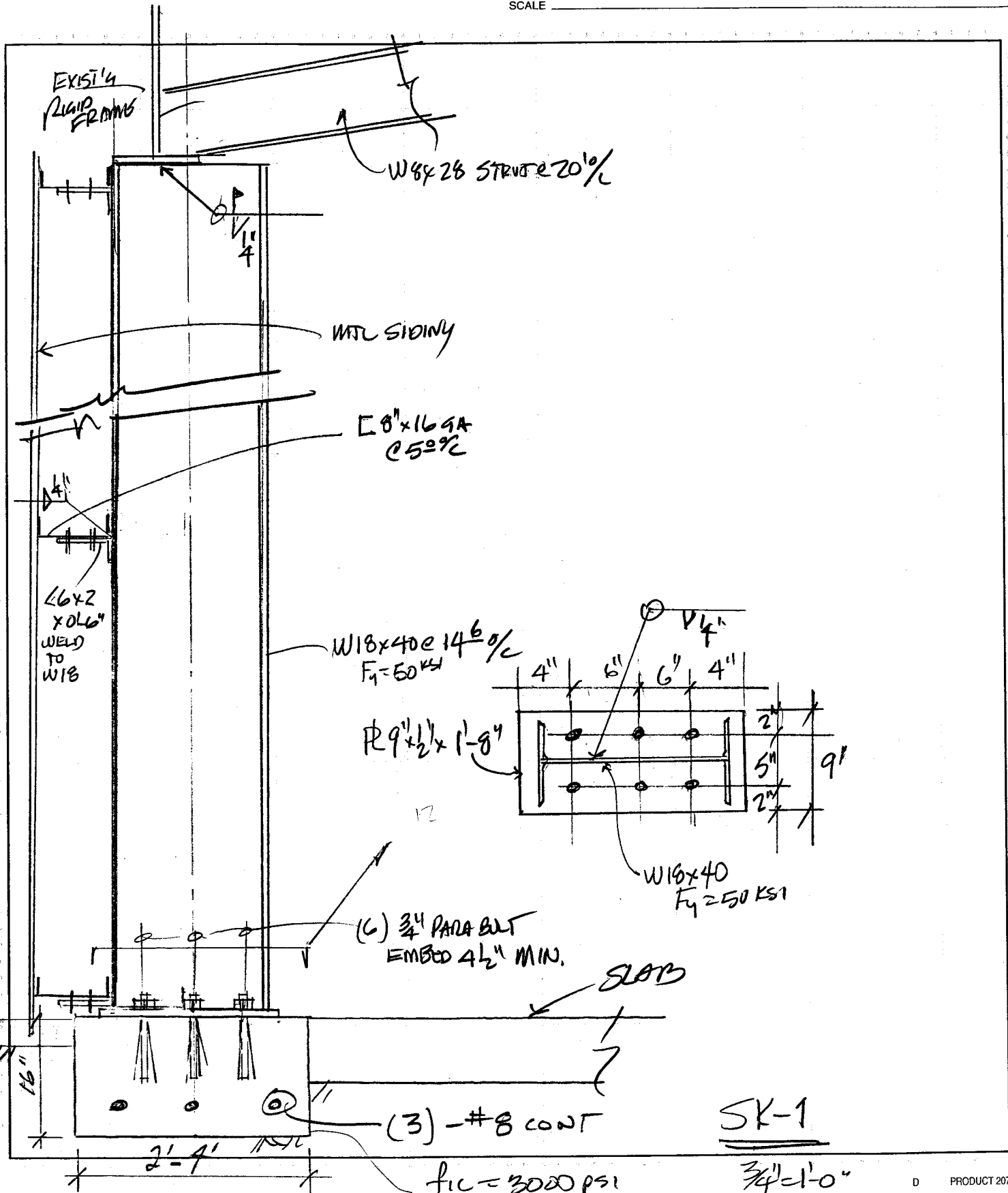
				Values for LRFD Design....	
Depth	8.060 in	Weight	28.02 #/ft	J	0.540 in4
Web Thick	0.285 in	Ixx	98.000 in4	Cw	312.00 in6
Width	6.535 in	Iyy	21.700 in4	Zx	27.200 in3
Flange Thick	0.465 in	Sxx	24.300 in3	Zy	10.100 in3
Area	8.25 in2	Syy	6.630 in3	K	0.859 in
Rt	1.770 in	Rxx	3.450 in		
		Ryy	1.620 in		

Section Type = W

Rupert Engineering, Inc.
CONSULTING ENGINEERS/CIVIL AND STRUCTURAL

1519 West Valley Highway North/Suite 101/Auburn, WA 98001
Post Office Box 836/Auburn, WA 98071
253-833-7776 Fax 253-939-2168

JOB ANGLED METAL BRG - Wind Wall 13
SHEET NO. _____ OF _____
CALCULATED BY JAL DATE Sept/07
CHECKED BY _____ DATE _____
SCALE _____



SK-1

707 22 n7



ANACORTES FIRE DEPARTMENT

1016 13TH STREET, ANACORTES, WA 98221

(360) 293-1925

RICHARD CURTIS, CHIEF

FAX (360) 299-1965

707 22 n7

August 15, 2001

Darrell L. Lehman
T Bailey, Inc.
12441 Bartholomew Road
Anacortes, WA 98221

Re: Approval for Temporary Operations at 22nd and T Avenue

Dear Sir,

I have spoken with Fire Chief Curtis and shared your proposal for the temporary operations to be located on the MJB property at 22nd and T Ave.

After some explanation and follow up research with the current fire code and building code, we believe that you can proceed to set up and operate a temporary steel fabrication and painting process for a period of approximately 3 months, as requested. However, it should be noted that there are some requirements that need to be met and visually inspected prior to any hazardous activities occurring at this site. They are as follows:

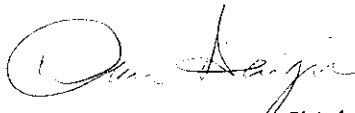
1. The south wall of the structure needs to be opened from floor to ceiling to provide complete natural ventilation of the west half of this facility.
2. A vapor tight barrier needs to be provided as a "partition" around any electrical services within twenty feet, horizontally from the spray area. Ten feet vertically from the spray area shall also be provided. An inspection of that separation shall be performed prior to any hazardous activity. Schedule that with the building department and fire marshal.
3. Labor and Industries shall inspect the areas designated as being within twenty feet horizontally and ten feet vertically of the spray area that requires the hazardous rated electrical service or adequate separating partitions. Please provide proof of their inspection and approval. This separation is called out for in the electrical code and they enforce the electrical code.

4. A "partition" to prevent the migration of flammable vapors from the west side to the east side of the building shall be provided. Inspection to confirm it's appropriateness is required.
5. Confer with the city building department for any required permits and inspections for any construction performed on the existing building or property.

These requirements are intended to assist you with accomplishing only this one, single temporary project. This structure will require other significant upgrades in order to be fully approved for continued use and activity of this hazardous nature. You will need to pursue these requirements should this project be extended or renewed for more production units.

Thank you for requesting our input into this process. Your pro-activity is appreciated. Thank you.

Respectfully,



Dan Harju, Assistant Chief
Anacortes Fire Department

Cc: Ed Frank
Ian Munce
Chief Curtis