ENGINEERING AND PRODUCT DATA

STAR BUILDING SYSTEMS

STAR BUILDING SYSTEMS
an NCI Company

P. O. Box 94910
Oklahoma City, OK 73143-4910
405-636-2010
FAX 405-636-2419

April 24, 2007

ALLIED STEEL
6400 N ANDREWS AVENUE SUITE 200
FORT LAUDERDALE, FL 33309

Subject: DJ HOLDINGS
SHERWOOD PARK, ALBERTA
(A) SRLO 60'-0" x 100'-0" x 18'-0" ls
2@22'-9", 2@27'-3", Bay Spacings
Star Job Number 11-B-72753

Gentlemen:

This is to certify that materials for the subject structure have been designed in accordance with the order documents, specifically as shown per the attached Engineering Design Criteria Sheet.

Aspects of code compliance as related to use or occupancy, such as sprinkler requirements, are not addressed by these documents.

The materials for this building have been designed in general accordance with the 9th edition, AISC Steel Construction Manual and 1996 AISI Cold Formed Steel Design Manual with 1999 addendum.

Star Building Systems is certified by AISC in Category MB. These structural components have been designed at the Oklahoma City, OK, facility and will be fabricated at one or more of the following AISC certified locations: Monticello, IA; Lockeford, CA; or Elizabethton, TN.

These materials, when properly erected on an adequate foundation in accordance with the erection drawings as supplied and using the components as furnished, will meet the attached loading requirements without exceeding the allowable working stress.

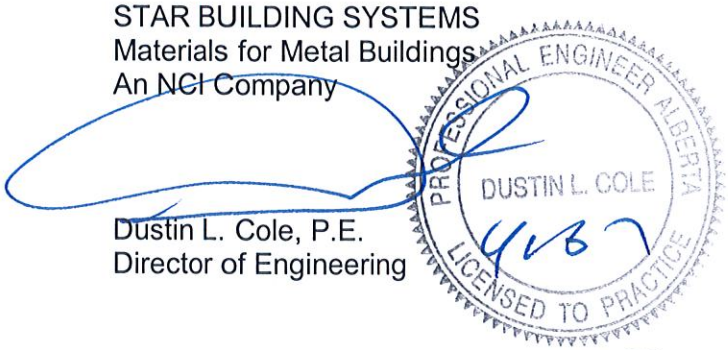
This certification does not cover field modifications or the design of materials not furnished by Star Building Systems.

The attached calculations are to remain with and form part of this Letter of Certification.

These calculations and the metal building they represent are the product of Star Building Systems or a division of its affiliate NCI Building Systems. The engineer whose seal appears hereon is employed by either Star Building Systems or a division of its affiliate NCI Building Systems and is not the engineer of record for this project.

Cordially,

STAR BUILDING SYSTEMS
Materials for Metal Buildings
An NCI Company



Dustin L. Cole, P.E.
Director of Engineering

/td

Star Building Systems
Engineering Services
Design Criteria

Job Number:		11-B-72753		
Building Code		1997 Alberta		
Building End Use		Warehouse		
Building Occupancy		Group F Division 3		
Roof Dead Load (Star Material) (Average weight of panels + purlins)		0.16kPa	//	3.33 psf
Roof Collateral Load (total)		0.00 kPa	//	0.00 psf
Sprinkler		0.00 kPa	//	0.00 psf
Ceiling		0.00 kPa	//	0.00 psf
Lights		0.00 kPa	//	0.00 psf
Other		0.00 kPa	//	0.00 psf
Fixed Service Equipment		None		
Live Load Due to Use and Occupancy		1.00kPa	//	20.89psf
Ground Snow Load	So =	1.60kPa	//	33.42psf
Rain Load	Sr =	0.10kPa	//	2.09psf
Roof Slope Factor	Cs =	1.00		
Importance Factor	I =	1.00		
Exposure Factor	Cw =	1.00		
Sloped Roof Snow	S =	1.38kPa	//	28.82psf
Wind Load	1/30	0.45kPa	//	9.40psf
	1/10	0.32kPa	//	6.68psf
Building Designed		Partially Enclosed		
Importance Factor	I =	1.0		
Seismic Data	v =	0.05		
	Za =	0.0		
	Zv =	1.0		
Importance Factor	I =	1.0		
	F =	1.5		
Transverse Response Modification		1.5		
Longitudinal Response Modification		1.5		

"Bracing size" as noted on Engineering documents and Erection drawings denotes thread diameter for rod bracing and wire strand cable diameter for wire strand cable bracing.

Bolted joints with A325 Type 1 bolts greater than 1/2" diameter are specified as pretensioned joints in accordance with the "Specification for Structural Joints Using ASTM A325 or A490 Bolts, June 23, 2000". The turn-of-nut method of tightening is recommended.

The manufacturer has not designed the structure for snow accumulation loads at the ground level which may impose snow loads on the wall framing by Star.

Twenty five percent of the roof snow has been included in the calculations of the seismic forces.

The cutting or removal of girts shown on the erection drawings due to the addition of open areas, framed openings, or doors not shown may void all warranties and certifications supplied by manufacturer as they apply to this condition.

Wall panel, not by Star, shall be structurally sufficient to sustain the minimum specified design loads. (tie-in Not by Star.)
Wall panel, not by Star, shall be attached to the wall girts at a maximum spacing of 3'-0

Roof panel, not by Star, shall be structurally sufficient to sustain the minimum specified design loads. (tie-in Not by Star.)
Roof panel, not by Star, shall be attached to the roof purlins at a maximum spacing of 3'-0

Roof and wall panel by others may not exceed a total weight of 2.33 psf.
Tie-in is not by Star.

The material supplied by Star has been designed with the following minimum deflection criteria. The actual deflection may be less depending on actual load and actual member length. The frame sidesway for wind loading is based on a 10 year mean occurrence wind interval.

Roof Purlins		Wall Panels	
Live	L / 150	Total Wind	L / 60
Snow	L / 180	Wall Girts	
Wind	L / 180	Total Wind	L / 90
Total Gravity	L / 120	Endwall Columns	
		Total Wind	L / 90
Roof Rafters		Frame/Portal Frame Sidesway	
Live	L / 180	Frame Live	H / 60
Snow	L / 180	Frame Snow	H / 60
Wind	L / 180	Frame Wind	H / 60
Total Gravity	L / 120	Frame Seismic	H / 50
		Frame Crane	H / 100
Roof Panels		Frame Total Wind	H / 60
Live	L / 60	Frame Total Seismic	H / 50
Snow	L / 60	Frame Total Gravity	H / 60
Total Uplift	L / 60	Portal Total Wind	H / 60
		Portal Total Seismic	H / 50

All deflection and sidesway limits shown are at service loads unless indicated otherwise.

P.O. Box 94910
Oklahoma City, OK 73143
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5/17/2006 rev2

Engineering Data

1) This structural design data includes magnitude and location of design loads and support conditions, material properties, and type and size of major structural members necessary to show compliance with the Order Documents at the time of this mailing. Final detailing has not been completed. Location of structural members may change during detailing. Any change to building loads or dimensions can change structural member sizes and locations shown here. This structural design data will be superseded and voided by any future mailing. Please check with your Star Builder Service Representative.

2) The reactions provided with this engineering data or with the F (anchor rod) drawings has been created with the following layout (unless noted otherwise).
   a) Reactions are provided in two tables. The "Load Group" table provides the reactions for each load group. The "Maximum Reaction" table provides the maximum reactions for gravity, wind, and earthquake (seismic) load combinations that were used in the design of the anchor rods.
   b) Rigid Frames
      (1) Gabled Buildings
         (a) Left and Right columns are determined as if viewing the left side of the building, as shown on the anchor rod drawing, from the outside of the building.
         (b) Interior columns are spaced from left side to right side.
      (2) Single Slope Buildings
         (a) Left column is the low side column.
         (b) Right column is the high side column.
         (c) Interior columns are spaced from low side to high side.
   c) Endwalls
      (1) Left and Right columns are determined as if viewing the wall from the outside.
      (2) Interior columns are spaced from left to right.
   d) Anchor rod size is determined by shear and tension at the bottom of the base plate. Rod spacing will generally require the use of a bearing angle, or other means of shear transfer to the concrete. The length of the anchor rod and method of load transfer to the foundation are to be determined by the foundation engineer.
   e) X-Bracing
      (1) Rod Bracing reactions have been included in values shown in the reaction tables.

M A I N B U I L D I N G D E S I G N S U M M A R Y R E P O R T

BUILDING DATA

SRLO 60'0 x 100'0 x 18'0 2.:12
Bays: 22'9 2@27'3 22'9

Live Load:	20.88 psf
Tributary Check:	. NO
Ground snow:	33.42 psf
Roof Snow Load:	28.82 psf
Wind Load 10yr:	6.68 psf
Wind Load 30yr:	9.40 psf
Dead Load:	3.33 psf

Seismic Coefficients: Zv= 1 Za= 0 v= 0.050

Main Code Requirements Per:
1997 Alberta
Windforce-resistance System Per:
1997 Alberta
Seismic-resistance System Per:
1997 Alberta
Cold-Formed Steel Design Spec:
2001 AISI (CAN/CSA-S136-01) Limit States Design
Other Steel Design Spec:
2001 CAN/CSA-S16-01 Limit States Design

ROOF PLANE ------- RPA

PANEL : Panel not by Star

PURLIN SPACING : 2@4'5-5/16 4@5'0 1.1130

Bay #	Length (ft)	Member Size Identification	Brace Locations	L Lap Exten	R Lap Exten
1	22.750	10Z75 PURLIN	2 points	S 0.000	1.583 C
2	27.250	10Z75 PURLIN	2 points	C 2.083	2.083 C
3	27.250	10Z75 PURLIN	2 points	C 2.083	2.083 C
4	22.750	10Z75 PURLIN	2 points	C 1.583	0.000 S

Purlin Web Stiffener @ Level 2-7 @ Frame Lines:1,5

Purlin Anchorage Hdwe @ Level 7 @ Frame Lines:1-5

ROOF PLANE ------- RPC

PANEL : Panel not by Star

PURLIN SPACING : 2@4'5-5/16 4@5'0 1.1130

Bay #	Length (ft)	Member Size Identification	Brace Locations	L Lap Exten	R Lap Exten
1	22.750	10Z75 PURLIN	2 points	S 0.000	1.583 C
2	27.250	10Z75 PURLIN	2 points	C 2.083	2.083 C
3	27.250	10Z75 PURLIN	2 points	C 2.083	2.083 C
4	22.750	10Z75 PURLIN	2 points	C 1.583	0.000 S

Purlin Web Stiffener @ Level 2-7 @ Frame Lines:1,5

Purlin Anchorage Hdwe @ Level 7 @ Frame Lines:1-5

Note: Sag angles in bottom purlin hole
SWC Eave Strut @ 18.000 (ft) : 10E84 @ Bays 1-4;
SWA Eave Strut @ 18.000 (ft) : 10E84 @ Bays 1-4;

BRACING ---- Roof: 1 bays rods
Plane SWA : Portal Frame
Plane SWC : 1 bays rods
Plane EWB : 1 bays rods
Plane EWD : 1 bays rods

SIDEWALL PLANE SWA -- (8.500" Inset columns)

PANELS : Panel not by Star

GIRTS SPACINGS : 7'4 6'0 3'2

Bay #	Elev. (ft-in)	Length (ft)	Member Size Identification		Brace Locations	L Lap Exten	R Lap Exten
1	7'4	22.750	8.5Z57	GIRT	F.O.	S 0.000	0.188 S
2	7'4	27.250	8.5Z57	GIRT	F.O.	S 0.188	0.188 S
3	7'4	27.250	8.5Z57	GIRT	F.O.	S 0.188	0.188 S
4	7'4	22.750	8.5Z57	GIRT	F.O.	S 0.188	0.000 S
1	13'4	22.750	8.5Z57	GIRT	F.O.	S 0.000	0.188 S
2	13'4	27.250	8.5Z57	GIRT	F.O.	S 0.188	0.188 S
3	13'4	27.250	8.5Z57	GIRT	F.O.	S 0.188	0.188 S
4	13'4	22.750	8.5Z88	GIRT	3 points	S 0.188	0.000 S
1	16'6	22.750	8.5Z72	GIRT	None	S 0.000	2.083 C
2	16'6	27.250	8.5Z72	GIRT	None	C 3.188	3.188 C
3	16'6	27.250	8.5Z72	GIRT	None	C 3.188	3.188 C
4	16'6	22.750	8.5Z72	GIRT	3 points	C 2.083	0.000 S

Girt @ Level 2: Washers Req`d @ Frame:4-5
Girt @ Level 3: Washers Req`d @ Frame:2-3

Note : Maximum Distance To Extend Girt From Adjacent Bay is 12.00 inches.

SIDEWALL PLANE SWC -- (8.500" Inset columns)

PANELS : Panel not by Star

GIRTS SPACINGS : 7'4 6'0

Bay #	Elev. (ft-in)	Length (ft)	Member Size Identification		Brace Locations	L Lap Exten	R Lap Exten
1	7'4	22.750	8.5Z72	GIRT	2 points	S 0.000	1.583 C
2	7'4	27.250	8.5Z80	GIRT	F.O.	C 2.083	0.188 S
3	7'4	27.250	8.5Z88	GIRT	3 points	S 0.188	2.583 C
4	7'4	22.750	8.5Z80	GIRT	2 points	C 1.583	0.000 S
1	13'4	22.750	8.5Z57	GIRT	2 points	S 0.000	2.583 C
2	13'4	27.250	8.5Z64	GIRT	None	C 3.188	3.188 C
3	13'4	27.250	8.5Z64	GIRT	3 points	C 3.188	3.188 C
4	13'4	22.750	8.5Z57	GIRT	2 points	C 2.583	0.000 S

Girt @ Level 1: Washers Req`d @ Frame:2,4
Girt @ Level 2: Washers Req`d @ Frame:3-4

Note : Maximum Distance To Extend Girt From Adjacent Bay is 12.00 inches.

ENDWALL PLANE EWB ---- Bearing Frame (BF)

PANELS ----- Panel not by Star

RAFTERS -----

Mem #	Description Member Size Identification	Length (ft)	Start (ft)	End (ft)
1	W8X10	29.206	0.000	29.206
	connections... Left: Type-V SEP Right: Type-I MEP			
2	W8X10	29.206	29.206	58.411
	connections... Left: Type-I MEP Right: Type-V SEP			

Type-I MEP = (8)-1/2" A325N bolts w/ 3/8" Moment End Plate
Type-V SEP = (4)-1/2" A325N bolts w/ 3/8" Shear End Plate

Flange Braces at following purlins (horizontal distance from eave) :
PLANE SWA: 13.887, 28.887 FB=S-TYPE
PLANE SWC: 13.887, 28.887 FB=S-TYPE

GIRT SPACING ----- 7.3333 6.0000 5.2917 4.3750

GIRTS ----- (BYPASS)

Bay #	Elev. (ft-in)	Length (ft)	Member Size Identification	Brace Locations	L Lap Exten	R Lap Exten
1	7'4	20.000	8.5Z72 GIRT	None	S 0.000	1.583 C
2	7'4	20.000	8.5Z57 GIRT	None	C 1.083	1.083 C
3	7'4	20.000	8.5Z72 GIRT	None	C 1.583	0.000 S
1	13'4	20.000	8.5Z64 GIRT	None	S 0.000	1.083 C
2	13'4	20.000	8.5Z57 GIRT	None	C 1.083	1.083 C
3	13'4	20.000	8.5Z64 GIRT	None	C 1.083	0.000 S
1	18'7-1/2	20.000	8.5Z57 GIRT	None	S 0.000	1.083 C
2	18'7-1/2	20.000	8.5Z57 GIRT	None	C 1.083	1.083 C
3	18'7-1/2	20.000	8.5Z57 GIRT	None	C 1.083	0.000 S

Girt @ Level 1-2: Washers Req`d @ Frame:2-3
Note : ok to lower 18'7-1/2" girt if required for connection
Note : Maximum Distance To Extend Girt From Adjacent Bay is 12.00 inches.

ewb cont...

COLUMNS ----- (8.5" Inset columns)

Col #	Description Member Size Ident.	Base plate design information Thickness & bolts
1D	W10X12	0.375" BP thk w/(4)-0.750" A307
1C	W10X12	0.375" BP thk w/(4)-0.750" A307
	Flange Brace @ 7.33, 13.33 elev. FB=S-TYPE TYPICAL	
1B	W10X12	0.375" BP thk w/(4)-0.750" A307
	Flange Brace @ 7.33, 13.33 elev.	
1A	W10X12	0.375" BP thk w/(4)-0.750" A307

ENDWALL COLUMN TO BRIDGE CHANNEL CONNECTIONS:

COL. NO.	STRUT-TO-COLUMN CLIP ENDWALL FRAME LINE 1
1C	BETWEEN PURLINS IN ZONE E, TYPE 1 CONN., 2:12 AND UNDER PC64 (0.2500") (2)-1/2" A325N W8X10 COLUMN EXTENSION w/ 12.000 " LAP LENGTH; 8.5C92 BRIDGE CHANNEL
1B	BETWEEN PURLINS IN ZONE E, TYPE 1 CONN., 2:12 AND UNDER PC64 (0.2500") (2)-1/2" A325N W8X10 COLUMN EXTENSION w/ 12.000 " LAP LENGTH; 8.5C92 BRIDGE CHANNEL

ENDWALL PLANE EWD ---- Bearing Frame (BF)

PANELS ----- Panel not by Star

RAFTERS -----

Mem #	Description Member Size Identification	Length (ft)	Start (ft)	End (ft)
1	W8X10	29.206	0.000	29.206
	connections... Left: Type-V SEP Right: Type-I MEP			
2	W8X10	29.206	29.206	58.411
	connections... Left: Type-I MEP Right: Type-V SEP			

Type-I MEP = (8)-1/2" A325N bolts w/ 3/8" Moment End Plate
Type-V SEP = (4)-1/2" A325N bolts w/ 3/8" Shear End Plate

Flange Braces at following purlins (horizontal distance from eave) :
PLANE SWA: 13.887, 28.887 FB=S-TYPE
PLANE SWC: 13.887, 28.887 FB=S-TYPE

GIRT SPACING ----- 7.3333 6.0000 5.2917 4.3750

GIRTS ----- (BYPASS)

Bay #	Elev. (ft-in)	Length (ft)	Member Size Identification	Brace Locations	L Lap Exten	R Lap Exten
1	7'4	20.000	8.5Z57 GIRT	F.O.	S 0.000	0.000 S
2	7'4	20.000	8.5Z72 GIRT	None	S 0.000	1.083 C
3	7'4	20.000	8.5Z72 GIRT	None	C 1.583	0.000 S
1	13'4	20.000	8.5Z88 GIRT	2 points	S 0.000	2.083 C
2	13'4	20.000	8.5Z57 GIRT	None	C 2.083	2.083 C
3	13'4	20.000	8.5Z64 GIRT	None	C 2.083	0.000 S
1	18'7-1/2	20.000	8.5Z57 GIRT	2 points	S 0.000	1.083 C
2	18'7-1/2	20.000	8.5Z57 GIRT	None	C 1.083	1.083 C
3	18'7-1/2	20.000	8.5Z57 GIRT	None	C 1.083	0.000 S

Girt @ Level 1: Washers Req`d @ Frame:2-3
Girt @ Level 2: Washers Req`d @ Frame:3
Note : ok to lower 18'7-1/2" girt if required for connection
Note : Maximum Distance To Extend Girt From Adjacent Bay is 12.00 inches.

COLUMNS ----- (8.5" Inset columns)

Col #	Description Member Size Ident.	Base plate design information Thickness & bolts
5A	W10X12	0.375" BP thk w/(4)-0.750" A307
5B	W10X12	0.375" BP thk w/(4)-0.750" A307
	Flange Brace @ 7.33, 13.33 elev. FB=S-TYPE TYPICAL	
5C	W10X12	0.375" BP thk w/(4)-0.750" A307
	Flange Brace @ 7.33, 13.33 elev.	
5D	W10X12	0.375" BP thk w/(4)-0.750" A307

EWD CONT...

ENDWALL COLUMN TO BRIDGE CHANNEL CONNECTIONS:

COL. NO.	STRUT-TO-COLUMN CLIP ENDWALL FRAME LINE 5
5B	BETWEEN PURLINS IN ZONE E, TYPE 1 CONN., 2:12 AND UNDER PC64 (0.2500") (2)-1/2" A325N W8X10 COLUMN EXTENSION w/ 12.000 " LAP LENGTH; 8.5C92 BRIDGE CHANNEL
5C	BETWEEN PURLINS IN ZONE E, TYPE 1 CONN., 2:12 AND UNDER PC64 (0.2500") (2)-1/2" A325N W8X10 COLUMN EXTENSION w/ 12.000 " LAP LENGTH; 8.5C92 BRIDGE CHANNEL

FRAMES -----	Type	Span	Live	Wind	Eave	Trib	Frame Lines
	SRLO	60.000	20.88/	6.68	18.00/	27.25	2 -4

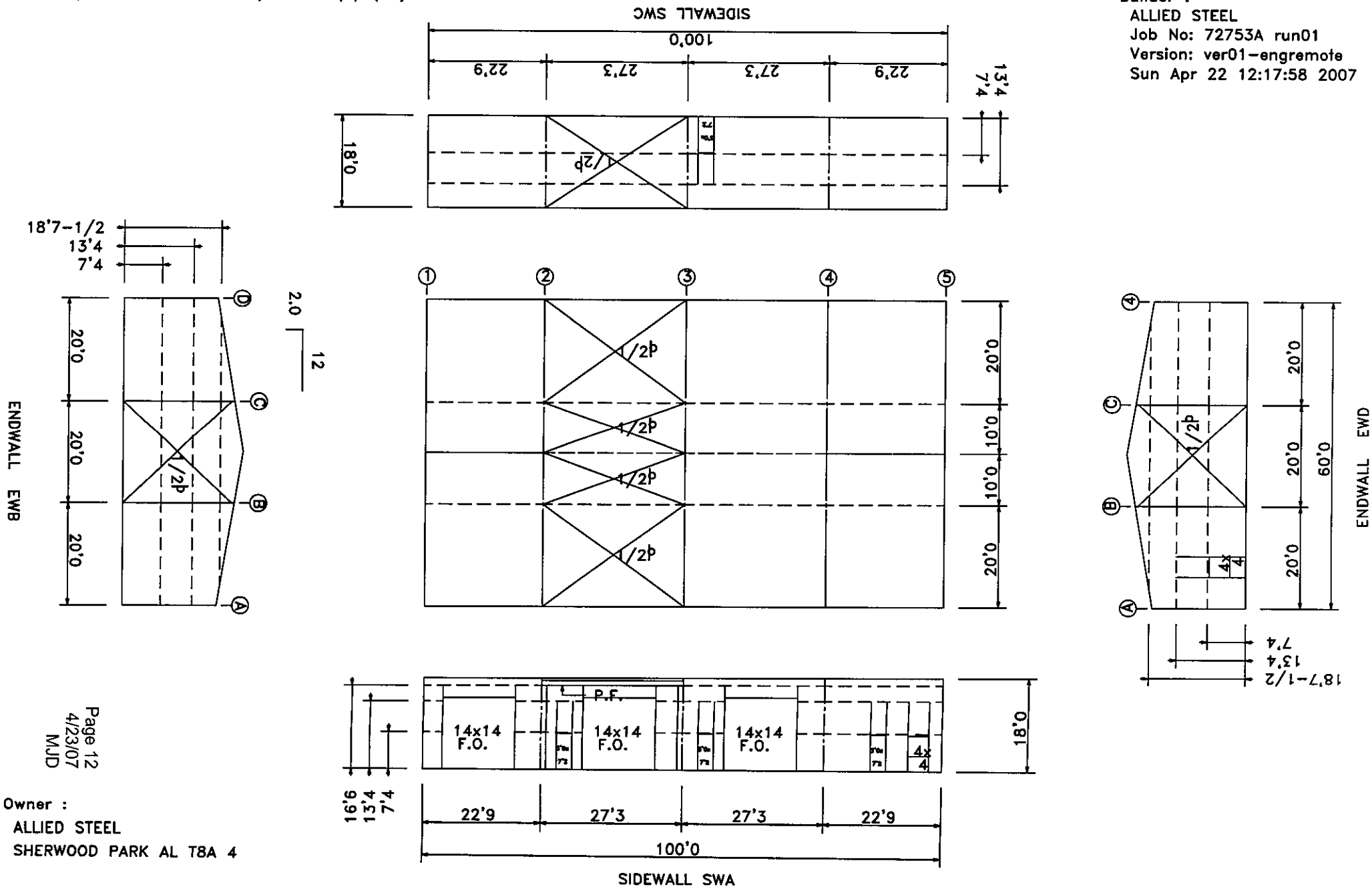
Note: Use square anchor bolt layout.

FRAMED OPENINGS:

Qty	Size	Jamb & Header	Wall	Bay	Distance
1	14'0 x 14'0	8.5C75 Ptd	SWA	1	3'9
1	3'0 x 7'2	8.5C75 Ptd	SWA	2	3'0
1	14'0 x 14'0	8.5C75 Ptd	SWA	2	8'0
1	3'0 x 7'2	8.5C75 Ptd	SWA	3	3'0
1	14'0 x 14'0	8.5C75 Ptd	SWA	3	8'0
1	3'0 x 7'2	8.5C75 Ptd	SWA	4	9'0
1	4'0 x 4'0	8.5C75 Ptd	SWA	4	16'3
1	3'0 x 7'2	8.5C75 Ptd	SWC	2	22'3
1	4'0 x 4'0	8.5C75 Ptd	EWD	1	6'0

Strut key: x=double Z, xx=triple Z, o=pipe(FM)

Builder :
ALLIED STEEL
Job No: 72753A run01
Version: ver01-engremote
Sun Apr 22 12:17:58 2007



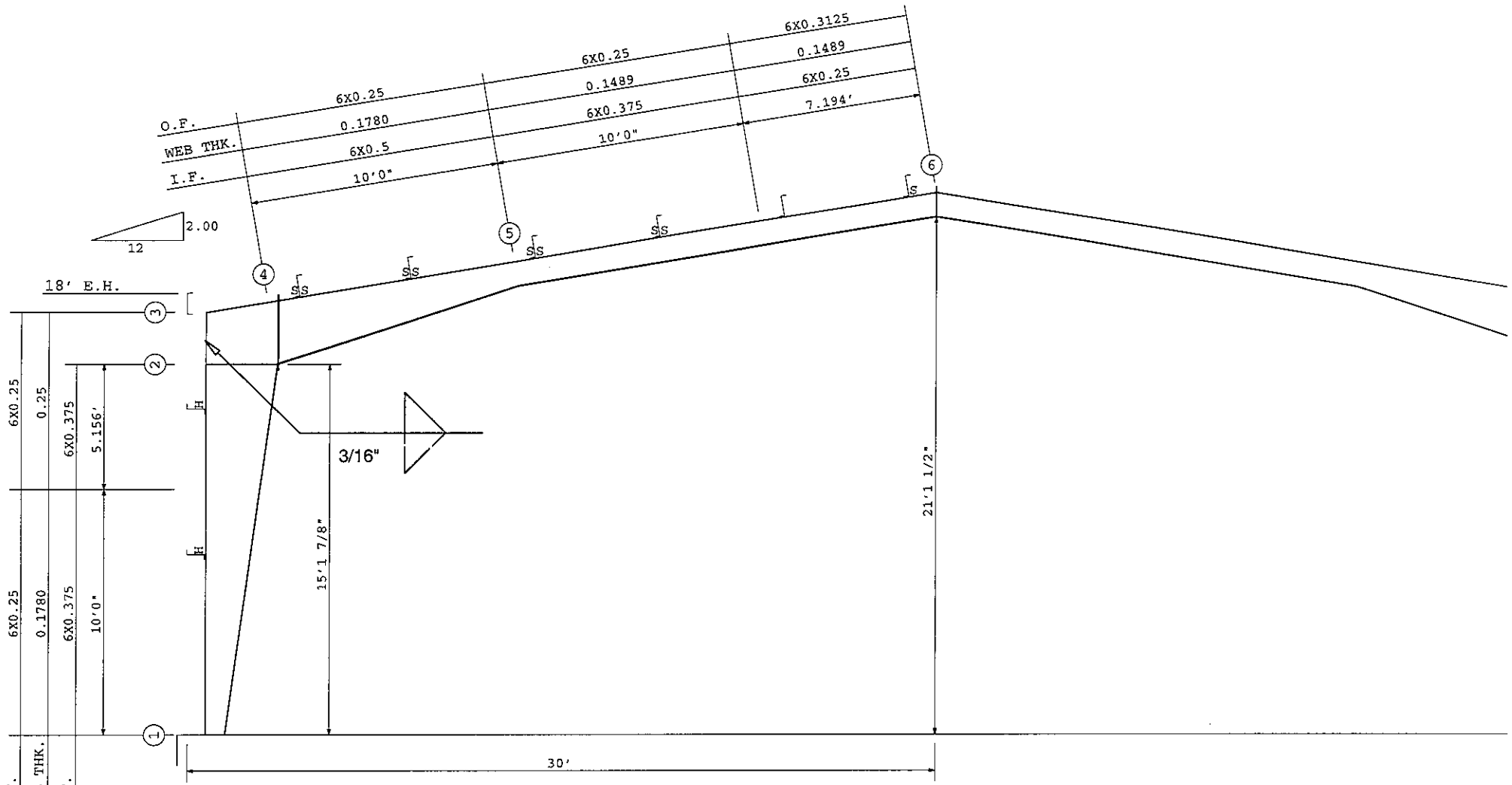
Owner :
ALLIED STEEL
SHERWOOD PARK AL T8A 4

Star Building Systems 8600 S. I-35, Oklahoma City, OK 73149	**FRAME DESCRIPTION:** srlo 60./18./27.25 20.88/9.398/33.417	**USER NAME:**engremot **JOB NAME:**72753A	**DATE:** 4/22/07 **TIME:**12:47:01 **PAGE:** 2-1 **FILE:**frame2_4.fra

DESIGN AND ESTIMATION INFORMATION
WEIGHT: 2760 lbs
YIELD STRENGTH(ksi) - PLATE:50, PIPE:42, TUBE:46, W.F.:50, FLG BRC:50, BOLTS:A325 SNUG TIGHT
PURLINS(horz. from eave) :10"-Z 2@4'5 5/16",4@5'
GIRTS (vert. from floor):8.5"-Z 7'4",6'(BYPASS)

FRAME ID #02 **LOCATION:** frame lines 2 -4
DETAIL FILE: Eng\11-B-72753\ver01-engremote\Bldg-A\Drftg\x02L

STANDARD NOTES:
(1) All sectional dimensions are in inches.
(2) All Flange lengths are measured along outer flange.

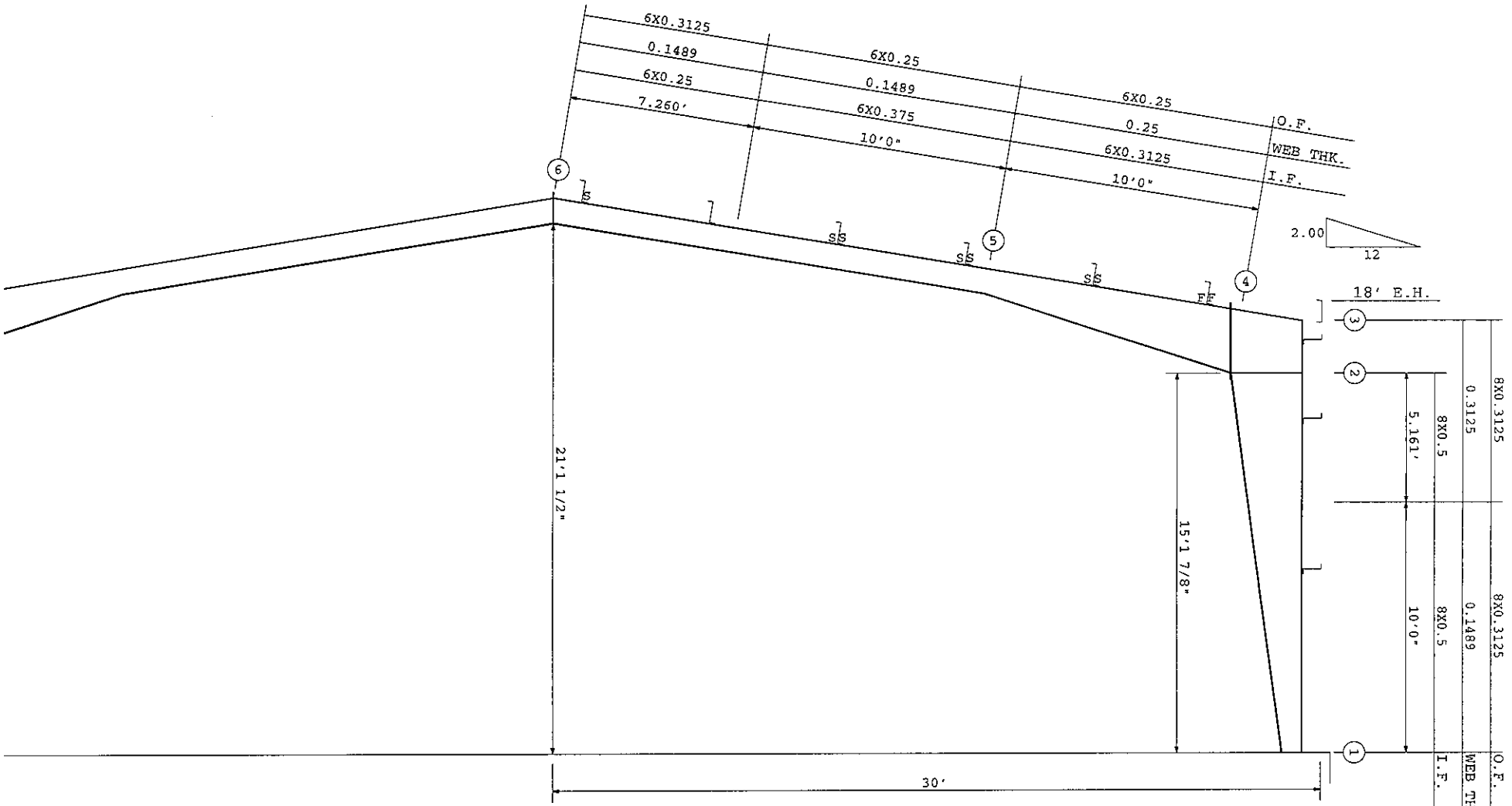


CONNECTION DETAILS :

Location	(1)	(2)	(3)	(4)	(5)	(6)
Web Dep.	9.0	34.0	N/A	30.0	11.5	11.5
Type	BASE	HORZ STF	CAP (EXT)	3E/2E	SPLICE	2E/2E
Plate(DN)	8.0X0.375	2.75X0.5	6.0X0.25	6.0X0.5	N/A	6.0X0.375
Plate(UP)	N/A	N/A	N/A	6.0X0.5	N/A	6.0X0.375
Bolts	(4)-3/4	N/A	N/A	(10)-3/4	N/A	(8)-3/4

DESIGN AND ESTIMATION INFORMATION FRAME ID #02 LOCATION: frame lines 2 -4
DETAIL FILE: Eng\11-B-72753\ver01-engremote\Bldg-A\Drftg\x02R
WEIGHT: 2760 lbs
YIELD STRENGTH(ksi) - PLATE:50, PIPE:42, TUBE:46, W.F.:50, FLG BRC:50, BOLTS:A325 SNUG TIGHT
PURLINS(horz. from eave) :10"-Z 2@4'5 5/16",4@5'
GIRTS (vert. from floor):8.5"-Z 7'4",6',3'2"(BYPASS)

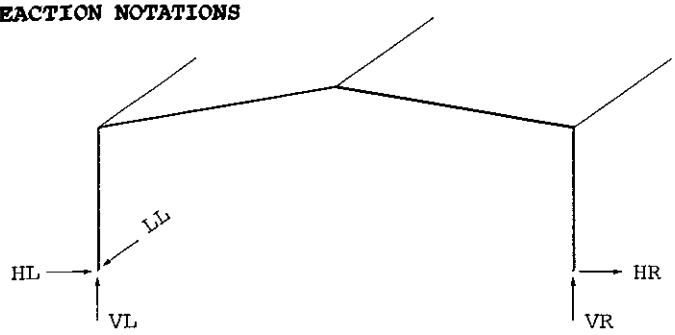
STANDARD NOTES:
(1) All sectional dimensions are in inches.
(2) All Flange lengths are measured along outer flange.



CONNECTION DETAILS :

Location	(1)	(2)	(3)	(4)	(5)	(6)
Web Dep.	9.0	33.0	N/A	30.0	11.5	11.5
Type	BASE	HORZ STF	CAP (EXT)	3E/2E	SPLICE	2E/2E
Plate(DN)	8.0X0.375	3.75X0.3125	8.0X0.25	8.0X0.5	N/A	6.0X0.375
Plate(UP)	N/A	N/A	N/A	6.0X0.5	N/A	6.0X0.375
Bolts	(4)-3/4	N/A	N/A	(10)-3/4	N/A	(8)-3/4

REACTION NOTATIONS



LOAD GROUP REACTION TABLE

COLUMN	LEFT COLUMN			RIGHT COLUMN		
BASE PLATE	8.0X10.0X0.375			8.0X10.0X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4		
LOAD GROUP	HL	VL	LL	HR	VR	LR
DL	2.0	3.8	0.0	-2.0	4.0	0.0
PAR1	6.7	17.9	0.0	-6.7	5.7	0.0
PAR2	6.7	5.6	0.0	-6.7	17.9	0.0
SNOW	13.4	23.6	0.0	-13.4	23.6	0.0
LL	9.7	17.1	0.0	-9.7	17.1	0.0
LEQ	0.0	-1.4	-2.0	0.0	0.0	0.0
EQ	-0.7	-0.4	0.0	-0.7	0.4	0.0
WL1	-6.9	-8.9	0.0	1.5	-5.5	0.0
WL2	-8.0	-13.8	0.0	2.7	-10.4	0.0
WL3	-5.8	-4.0	0.0	0.4	-0.6	0.0
LWL1	-1.6	-10.2	-3.6	2.3	-6.1	0.0
LWL2	-2.7	-15.1	-3.6	3.4	-11.0	0.0
LWL3	-0.5	-5.4	-3.6	1.2	-1.2	0.0
LWL4	-2.3	-8.5	-3.6	1.6	-7.8	0.0
LWL5	-3.4	-13.4	-3.6	2.7	-12.7	0.0
LWL6	-1.2	-3.6	-3.6	0.5	-2.9	0.0
WL4	-1.5	-5.5	0.0	6.9	-8.9	0.0
WL5	-2.7	-10.4	0.0	8.0	-13.8	0.0
WL6	-0.4	-0.6	0.0	5.8	-4.0	0.0

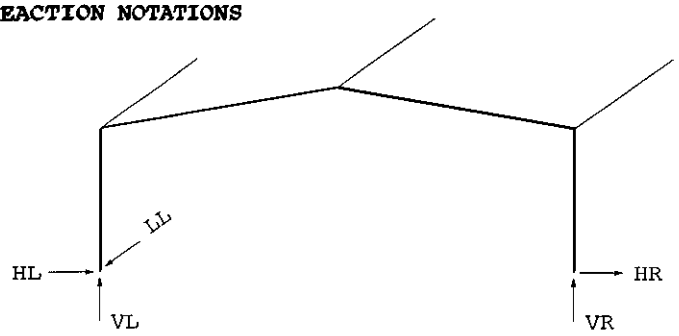
LOAD GROUP DESCRIPTION

DL : Roof Dead Load
PAR1 : Partial Load [PARxx]
PAR2 : Partial Load [PARxx]
SNOW : Roof Snow Load
LL : Roof Live Load
LEQ : Longitudinal Seismic Load [located in perp. plane]
EQ : Lateral Seismic Load [parallel to plane of frame]
WL1 : Lateral Primary Wind Load
WL2 : Lateral Primary Wind Load
WL3 : Lateral Primary Wind Load
LWL1 : Longitudinal Primary Wind Load
LWL2 : Longitudinal Primary Wind Load
LWL3 : Longitudinal Primary Wind Load
LWL4 : Longitudinal Primary Wind Load
LWL5 : Longitudinal Primary Wind Load
LWL6 : Longitudinal Primary Wind Load
WL4 : Lateral Primary Wind Load
WL5 : Lateral Primary Wind Load
WL6 : Lateral Primary Wind Load

MAX. SUPPORT REACTIONS FOR LOAD COMBINATIONS FRAME ID #02 LOCATION:frame lines 2 -4

NOTES: (1) All reactions are in kips and kip-ft. TIME:12:47:01
(2) These reactions are from loads determined from the applicable code for LSD design. Seismic loads are limit state and include magnification factors when so required by the seismic provisions of the applicable code for LSD design. It is the responsibility of the foundation designer to apply the load factors and load combinations appropriate for the concrete foundation design.

REACTION NOTATIONS



LOAD COMBINATION MAXIMUM REACTION TABLE

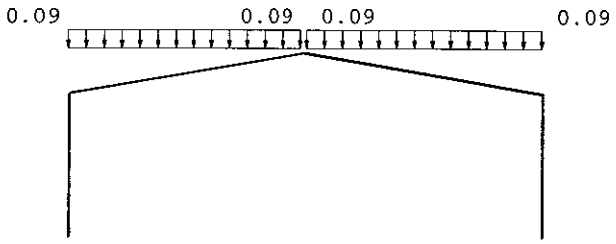
COLUMN	LEFT COLUMN			RIGHT COLUMN		
BASE PLATE	8.0X10.0X0.375			8.0X10.0X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4		
LOAD COMB	HL	VL	LL	HR	VR	LR
GRAVITY LOAD COMBINATION						
5	**22.8**	**40.2**	0.0	-22.3	40.2	0.0
6	22.3	40.0	0.0	**-22.8**	**40.5**	0.0
WIND LOAD COMBINATION						
71	**16.2**	**29.0**	0.0	-10.3	25.5	0.0
28	**-10.5**	-17.5	0.0	2.3	-12.1	0.0
34	-2.4	**-19.5**	-5.5	3.5	-13.1	0.0
31	-0.7	-12.1	**-5.5**	1.8	-5.8	0.0
45	-2.3	-12.2	0.0	**10.5**	**-17.3**	0.0
54	10.3	25.2	0.0	**-16.2**	**29.2**	0.0
TRANSVERSE EARTHQUAKE LOAD COMBINATION						
19	**9.4**	**16.0**	0.0	-7.9	15.4	0.0
18	7.9	15.2	0.0	**-9.4**	**16.2**	0.0
LONGITUDINAL EARTHQUAKE LOAD COMBINATION						
11	**8.7**	**14.3**	-2.0	-8.6	15.7	0.0
9	2.0	2.5	**-2.0**	-1.9	4.0	0.0
12	8.6	14.2	-2.0	**-8.7**	**15.8**	0.0

LOAD COMBINATION DESCRIPTION

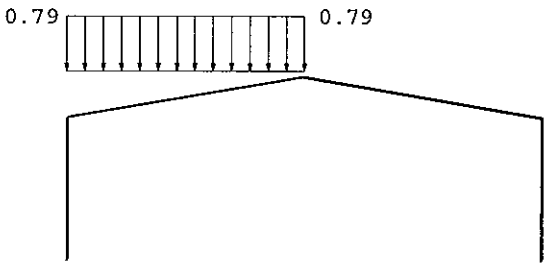
5 : 1.25DL +1.5SNOW
6 : 1.25DL +1.5SNOW
9 : DL +LEQ
11 : DL +0.5SNOW +LEQ
12 : DL +0.5SNOW +LEQ
18 : DL +0.5SNOW +EQ
19 : DL +0.5SNOW -EQ
28 : 0.85DL +1.5WL2
31 : 0.85DL +1.5LWL1
34 : 0.85DL +1.5LWL2
45 : 0.85DL +1.5WL5
54 : 1.25DL +1.05SNOW +1.05WL3
71 : 1.25DL +1.05SNOW +1.05WL6

FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

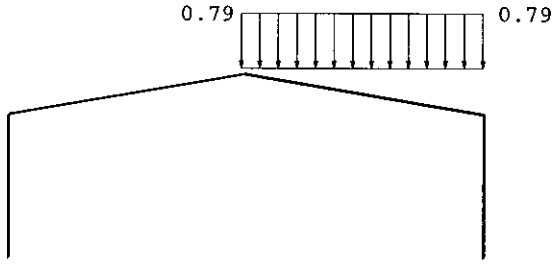
[1] DL



[2] PAR1

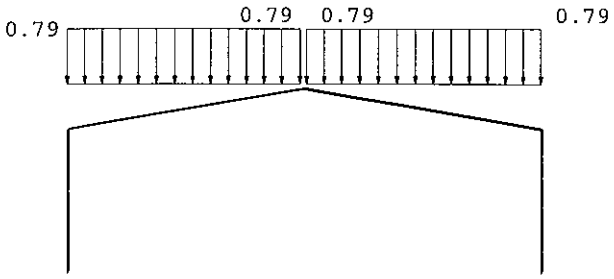


[3] PAR2

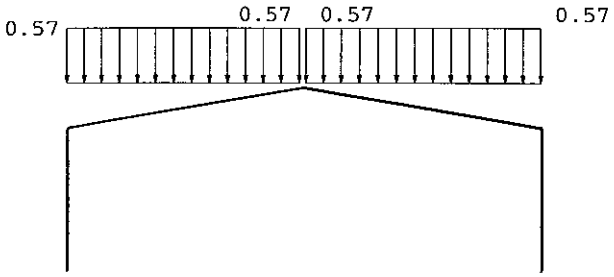


FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

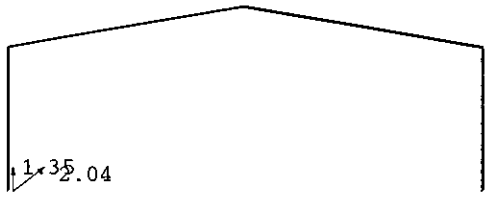
[4] SNOW



[5] LL

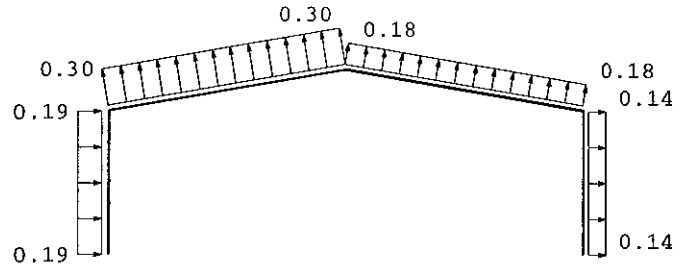


[6] LEQ

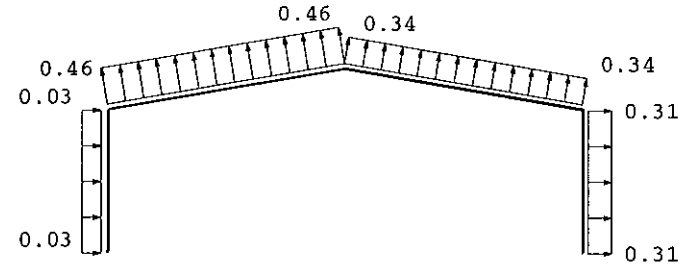


FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

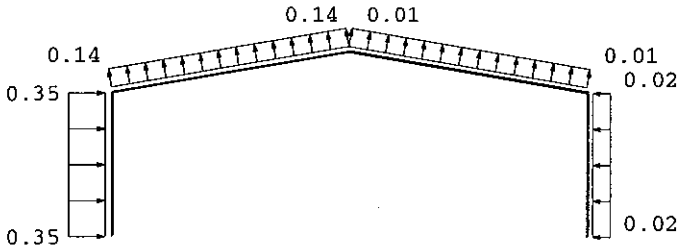
[7] WL1



[8] WL2

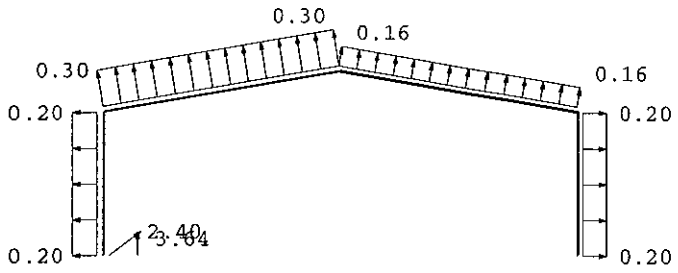


[9] WL3

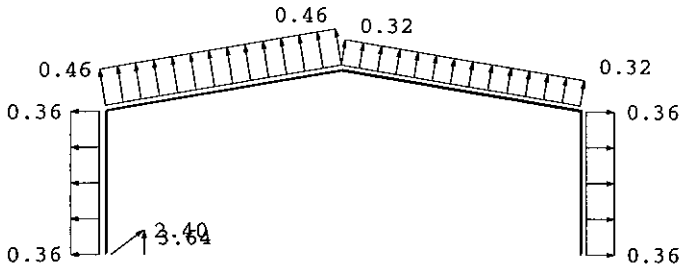


FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

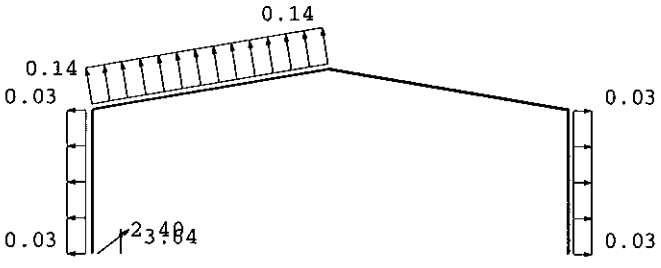
[10] LWL1



[11] LWL2

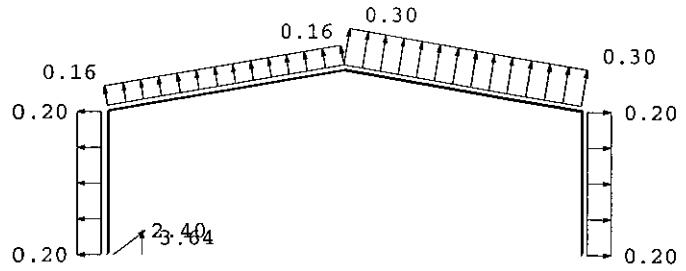


[12] LWL3

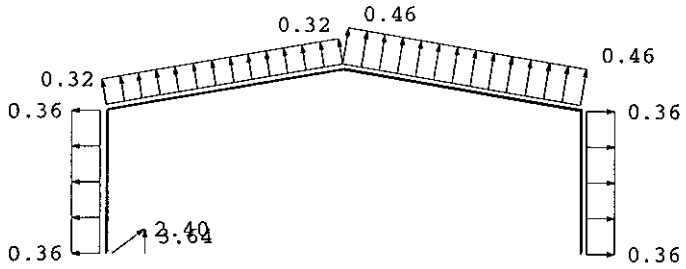


FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

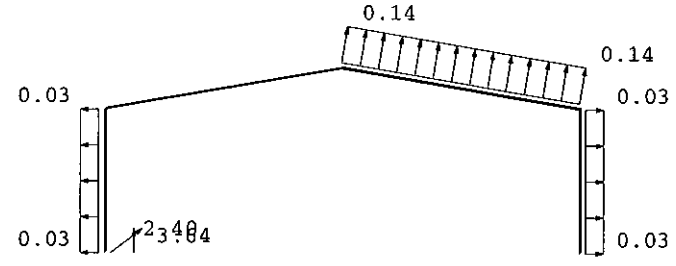
[13] LWL4



[14] LWL5

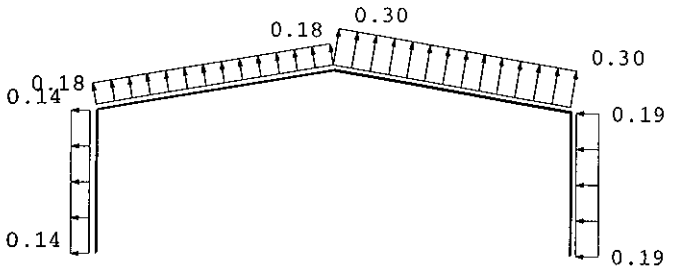


[15] LWL6

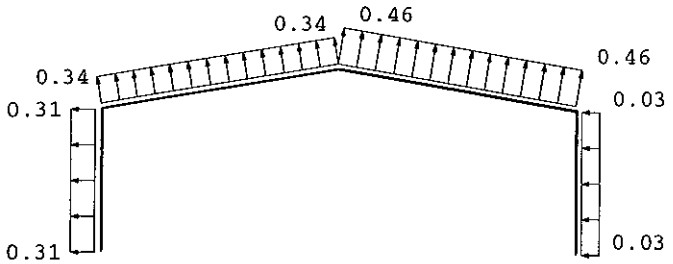


FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

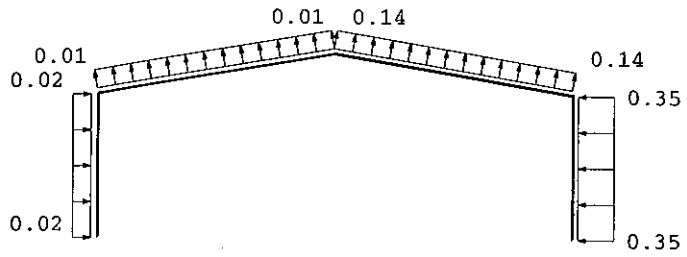
[16] WL4



[17] WL5

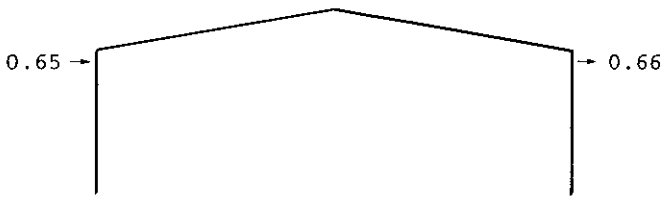


[18] WL6



FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

[19] EQ



Star Building Systems
8600 S. I-35, Oklahoma City, OK 73149

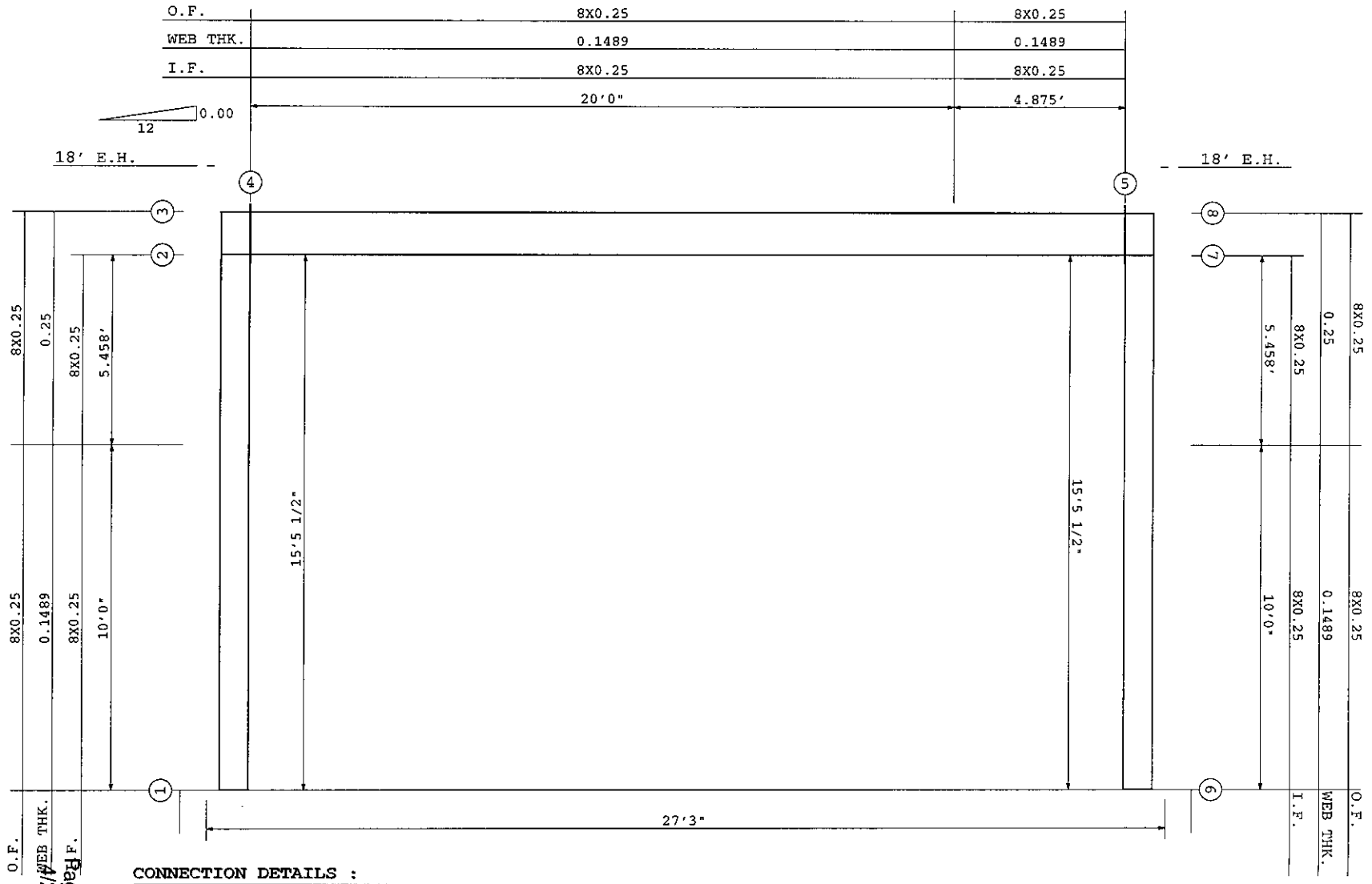
FRAME DESCRIPTION:
pf 27.25/18. main building at plane SWA

USER NAME:engremot **JOB NAME:**72753A

DATE: 4/22/07 **TIME:**12:47:16 **PAGE:** 4-1
FILE:portal.fra

DESIGN AND ESTIMATION INFORMATION **FRAME ID #04** **LOCATION:** Portal SWA
WEIGHT: 1273 lbs
DETAIL FILE: Eng\11-B-72753\ver01-engremote\Bldg-A\Drftg\x04L
YIELD STRENGTH(ksi) - PLATE:50, PIPE:42, TUBE:46, W.F.:50, FLG BRC:50, BOLTS:A325 SNUG TIGHT
PURLINS(horz. from eave) :0"-Z
GIRTS (vert. from floor): 0"-Z [4.25"OUTSET]- LEFT COLUMN 0"-Z [4.25"OUTSET]- RIGHT COLUMN

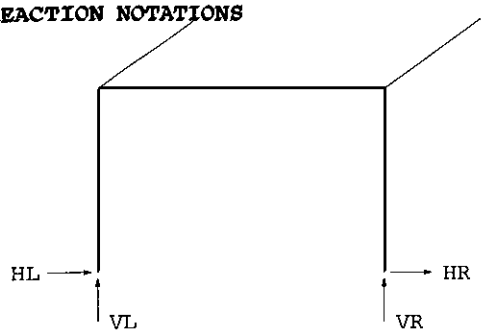
STANDARD NOTES:
(1) All sectional dimensions are in inches.
(2) All Flange lengths are measured along outer flange.



CONNECTION DETAILS :

Location	1	2	3	4	5	6	7	8
Web Dep.	9.5	9.5	N/A	14.5	14.5	9.5	9.5	N/A
Type	BASE	HORZ STF	CAP (EXT)	2E/2E	2E/2E	BASE	HORZ STF	CAP (EXT)
Plate(DN)	8.0X0.375	3.75X0.25	8.0X0.25	8.0X0.375 C	8.0X0.375 C	8.0X0.375	3.75X0.25	8.0X0.25
Plate(UP)	N/A	N/A	N/A	8.0X0.375 R	8.0X0.375 R	N/A	N/A	N/A
Bolts	(4)-3/4	N/A	N/A	(8)-3/4	(8)-3/4	(4)-3/4	N/A	N/A

REACTION NOTATIONS



LOAD GROUP REACTION TABLE

COLUMN	LEFT COLUMN			RIGHT COLUMN		
BASE PLATE	8.0X10.0X0.375			8.0X10.0X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4		
LOAD GROUP	HL	VL	LL	HR	VR	LR
DL	0.0	0.6	0.0	0.0	0.6	0.0
EQ	-1.7	-2.3	0.0	-1.8	2.3	0.0
WL1	-1.8	-2.4	0.0	-1.9	2.4	0.0
WL2	1.9	2.4	0.0	1.8	-2.4	0.0

LOAD GROUP DESCRIPTION

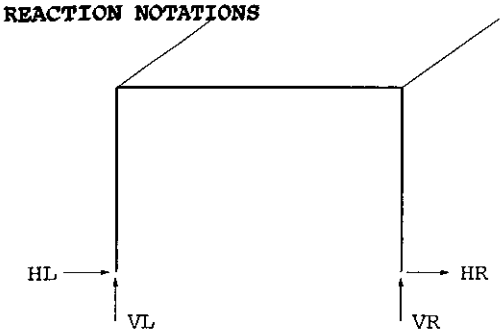
DL : Roof Dead Load
EQ : Lateral Seismic Load [parallel to plane of frame]
WL1 : Lateral Primary Wind Load
WL2 : Lateral Primary Wind Load

MAX. SUPPORT REACTIONS FOR LOAD COMBINATIONS FRAME ID #04 LOCATION:Portal SWA

TIME:12:47:16

NOTES: (1) All reactions are in kips and kip-ft.
(2) These reactions are from loads determined from the applicable code for LSD design. Seismic loads are limit state and include magnification factors when so required by the seismic provisions of the applicable code for LSD design. It is the responsibility of the foundation designer to apply the load factors and load combinations appropriate for the concrete foundation design.

REACTION NOTATIONS



LOAD COMBINATION MAXIMUM REACTION TABLE

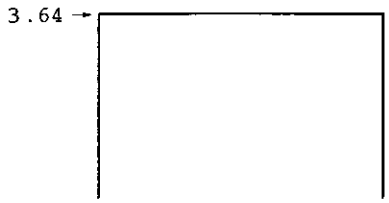
COLUMN	LEFT COLUMN			RIGHT COLUMN		
BASE PLATE	8.0X10.0X0.375			8.0X10.0X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4		
LOAD COMB	HL	VL	LL	HR	VR	LR
GRAVITY LOAD COMBINATION						
1	**0.0**	**0.7**	0.0	0.0	0.7	0.0
2	0.0	0.7	0.0	**0.0**	**0.7**	0.0
WIND LOAD COMBINATION						
9	**2.9**	**4.1**	0.0	**2.7**	**-3.1**	0.0
8	**-2.7**	**-3.1**	0.0	**-2.9**	**4.1**	0.0
TRANSVERSE EARTHQUAKE LOAD COMBINATION						
5	**1.8**	**2.9**	0.0	**1.8**	**-1.7**	0.0
4	**-1.7**	**-1.7**	0.0	**-1.8**	**2.9**	0.0

LOAD COMBINATION DESCRIPTION

1 : 1.25DL
2 : 1.25DL
4 : DL +EQ
5 : DL -EQ
8 : 0.85DL +1.5WL1
9 : 0.85DL +1.5WL2

FOR REFERENCE ONLY. LOADS ARE INCLUDED IN THE REACTION TABLE

[1] WL1



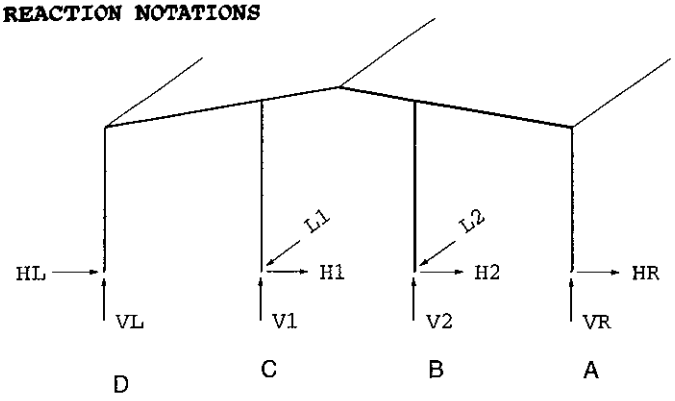
[2] WL2

[3] EQ

SUPPORT REACTIONS FOR EACH LOAD GROUP
NOTE: All reactions are in kips and kip-ft.

TIME:12:46:07

REACTION NOTATIONS



FRAME LINE 1

LOAD GROUP REACTION TABLE

COLUMN	LEFT COLUMN			RIGHT COLUMN			INTERIOR COLUMN 1			INTERIOR COLUMN 2		
BASE PLATE	8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4			(4)-3/4			(4)-3/4		
LOAD GROUP	HL	VL	LL	HR	VR	LR	H1	V1	L1	H2	V2	L2
D	0.010	0.641	0.	-0.010	0.641	0.	0.	1.326	-0.002	0.	1.326	-0.002
L	0.051	2.149	0.	-0.051	2.149	0.	0.	5.341	-0.012	0.	5.341	-0.012
S	0.071	2.987	0.	-0.071	2.987	0.	0.	7.372	-0.017	0.	7.372	-0.017
W+	-0.060	-2.532	0.	0.060	-2.532	0.	0.	-5.436	3.539	0.	-5.436	3.539
W-	-0.060	-2.532	0.	0.060	-2.532	0.	0.	-5.436	-3.836	0.	-5.436	-3.836
WR	-0.060	-2.532	0.	0.060	-2.532	0.	-1.518	-7.055	0.013	-1.518	-7.055	0.013
WL	-0.060	-2.532	0.	0.060	-2.532	0.	1.518	-7.055	0.013	1.518	-7.055	0.013
ER	0.	0.	0.	0.	0.	0.	-0.481	-0.513	0.	-0.481	-0.513	0.
EL	0.	0.	0.	0.	0.	0.	0.481	-0.513	0.	0.481	-0.513	0.

LOAD GROUP DESCRIPTION

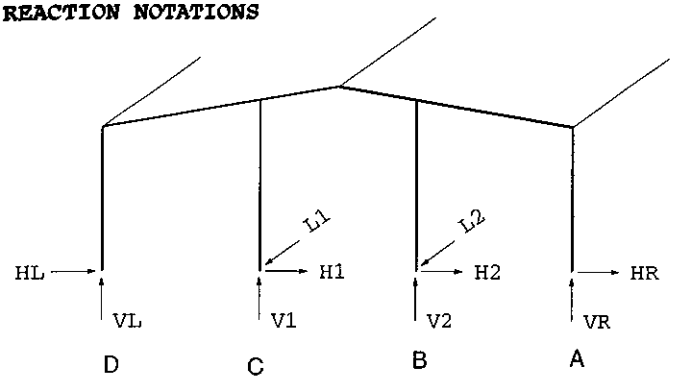
D : DEAD LOAD
L : LIVE LOAD
S : SNOW LOAD
W+ : WIND LOAD AS AN INWARD ACTING PRESSURE
W- : WIND LOAD AS AN OUTWARD ACTING SUCTION
WR : WIND FORCE FROM THE RIGHT
WL : WIND FORCE FROM THE LEFT
ER : EARTHQUAKE FORCE FROM RIGHT
EL : EARTHQUAKE FORCE FROM LEFT

MAX. SUPPORT REACTIONS FOR LOAD COMBINATIONS

NOTES: (1) All reactions are in kips and kip-ft.
(2) These reactions are from loads determined from the applicable code for ASD design. Seismic loads are limit state and include magnification factors when so required by the seismic provisions of the applicable code for ASD design. It is the responsibility of the foundation designer to apply the load factors and load combinations appropriate for the concrete foundation design.

TIME:12:46:07

REACTION NOTATIONS



FRAME LINE 1

LOAD COMBINATION MAXIMUM REACTION TABLE

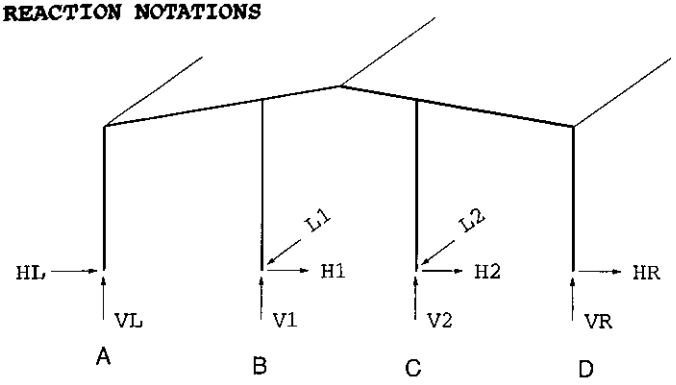
COLUMN	LEFT COLUMN			RIGHT COLUMN			INTERIOR COLUMN 1			INTERIOR COLUMN 2		
BASE PLATE	8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4			(4)-3/4			(4)-3/4		
LOAD COMB	HL	VL	LL	HR	VR	LR	H1	V1	L1	H2	V2	L2
GRAVITY LOAD COMBINATION												
1	**0.119**	**5.282**	0.	**-0.119**	**5.282**	0.	0.	**12.72**	**-0.028**	0.	**12.72**	**-0.028**
WIND LOAD COMBINATION												
14	**0.024**	**1.279**	0.	**-0.024**	**1.279**	0.	0.	**3.690**	3.696	0.	**3.690**	3.696
2	**-0.081**	**-3.253**	0.	**0.081**	**-3.253**	0.	0.	-7.027	**5.307**	0.	-7.027	**5.307**
5	-0.081	-3.253	0.	0.081	-3.253	0.	**2.277**	-9.455	0.018	**2.277**	-9.455	0.018
4	-0.081	-3.253	0.	0.081	-3.253	0.	**-2.277**	**-9.455**	0.018	**-2.277**	**-9.455**	0.018
3	-0.081	-3.253	0.	0.081	-3.253	0.	0.	-7.027	**-5.756**	0.	-7.027	**-5.756**
TRANSVERSE EARTHQUAKE LOAD COMBINATION												
24	**0.046**	**2.135**	0.	**-0.046**	**2.135**	0.	-0.481	**4.499**	**-0.011**	-0.481	**4.499**	**-0.011**
23	0.010	0.641	0.	-0.010	0.641	0.	**0.481**	0.813	-0.002	**0.481**	0.813	-0.002
22	0.010	0.641	0.	-0.010	0.641	0.	**-0.481**	0.813	-0.002	**-0.481**	0.813	-0.002

LOAD COMBINATION DESCRIPTION

1	:	1.25D + 1.50S
2	:	0.85D + 1.50W+
3	:	0.85D + 1.50W-
4	:	0.85D + 1.50WR
5	:	0.85D + 1.50WL
14	:	1.25D + 1.05S + 1.05W+
22	:	D + ER
23	:	D + EL
24	:	D + 1/2S + ER

SUPPORT REACTIONS FOR EACH LOAD GROUP
NOTE: All reactions are in kips and kip-ft.

REACTION NOTATIONS



FRAME LINE 5

LOAD GROUP REACTION TABLE

COLUMN	LEFT COLUMN			RIGHT COLUMN			INTERIOR COLUMN 1			INTERIOR COLUMN 2		
BASE PLATE	8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4			(4)-3/4			(4)-3/4		
LOAD GROUP	HL	VL	LL	HR	VR	LR	H1	V1	L1	H2	V2	L2
D	0.010	0.641	0.	-0.010	0.641	0.	0.	1.326	-0.002	0.	1.326	-0.002
L	0.051	2.149	0.	-0.051	2.149	0.	0.	5.341	-0.012	0.	5.341	-0.012
S	0.071	2.987	0.	-0.071	2.987	0.	0.	7.372	-0.017	0.	7.372	-0.017
W+	-0.060	-2.532	0.	0.060	-2.532	0.	0.	-5.436	3.539	0.	-5.436	3.539
W-	-0.060	-2.532	0.	0.060	-2.532	0.	0.	-5.436	-3.836	0.	-5.436	-3.836
WR	-0.060	-2.532	0.	0.060	-2.532	0.	-1.518	-7.055	0.013	-1.518	-7.055	0.013
WL	-0.060	-2.532	0.	0.060	-2.532	0.	1.518	-7.055	0.013	1.518	-7.055	0.013
ER	0.	0.	0.	0.	0.	0.	-0.481	-0.513	0.	-0.481	-0.513	0.
EL	0.	0.	0.	0.	0.	0.	0.481	-0.513	0.	0.481	-0.513	0.

LOAD GROUP DESCRIPTION

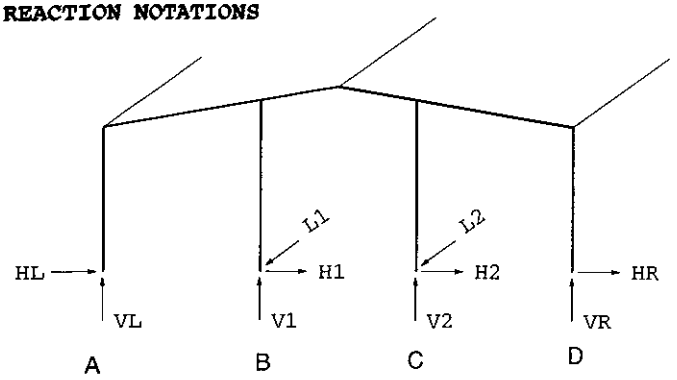
D : DEAD LOAD
L : LIVE LOAD
S : SNOW LOAD
W+ : WIND LOAD AS AN INWARD ACTING PRESSURE
W- : WIND LOAD AS AN OUTWARD ACTING SUCTION
WR : WIND FORCE FROM THE RIGHT
WL : WIND FORCE FROM THE LEFT
ER : EARTHQUAKE FORCE FROM RIGHT
EL : EARTHQUAKE FORCE FROM LEFT

MAX. SUPPORT REACTIONS FOR LOAD COMBINATIONS

NOTES: (1) All reactions are in kips and kip-ft.
(2) These reactions are from loads determined from the applicable code for ASD design. Seismic loads are limit state and include magnification factors when so required by the seismic provisions of the applicable code for ASD design. It is the responsibility of the foundation designer to apply the load factors and load combinations appropriate for the concrete foundation design.

TIME:12:46:07

REACTION NOTATIONS



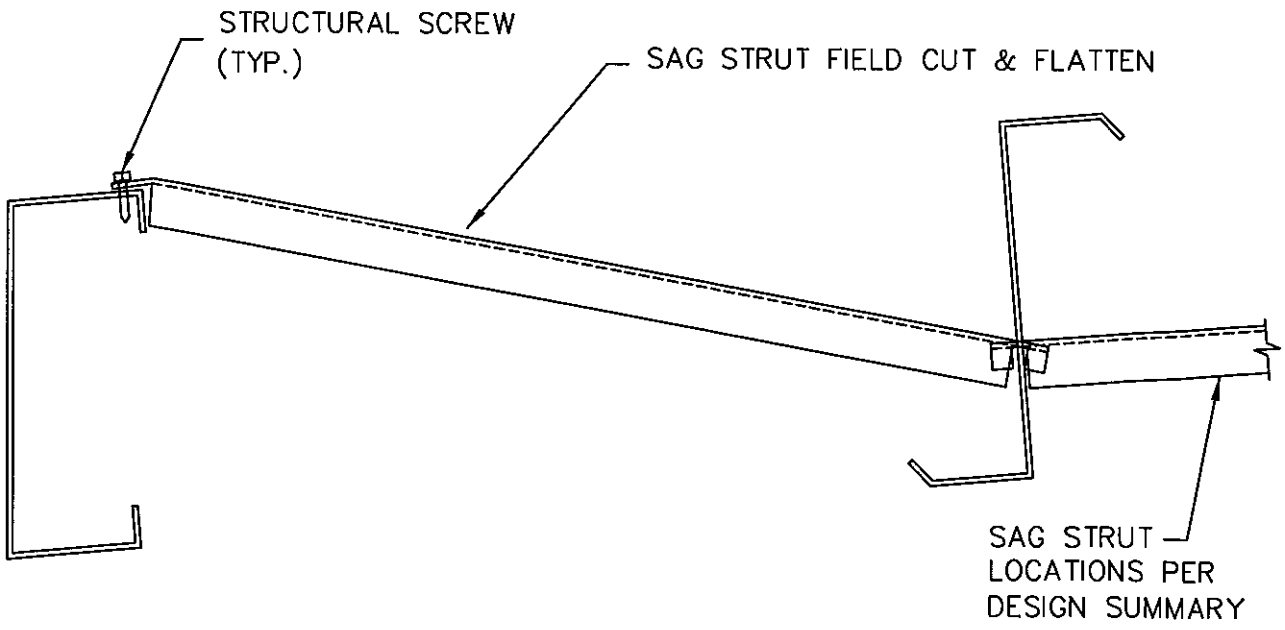
FRAME LINE 5

LOAD COMBINATION MAXIMUM REACTION TABLE

COLUMN	LEFT COLUMN			RIGHT COLUMN			INTERIOR COLUMN 1			INTERIOR COLUMN 2		
BASE PLATE	8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375			8.0X9.875X0.375		
ANC. BOLTS	(4)-3/4			(4)-3/4			(4)-3/4			(4)-3/4		
LOAD COMB	HL	VL	LL	HR	VR	LR	H1	V1	L1	H2	V2	L2
GRAVITY LOAD COMBINATION												
1	**0.119**	**5.282**	0.	**-0.119**	**5.282**	0.	0.	**12.72**	**-0.028**	0.	**12.72**	**-0.028**
WIND LOAD COMBINATION												
14	**0.024**	**1.279**	0.	**-0.024**	**1.279**	0.	0.	**3.690**	3.696	0.	**3.690**	3.696
2	**-0.081**	**-3.253**	0.	**0.081**	**-3.253**	0.	0.	-7.027	**5.307**	0.	-7.027	**5.307**
5	-0.081	-3.253	0.	0.081	-3.253	0.	**2.277**	-9.455	0.018	**2.277**	-9.455	0.018
4	-0.081	-3.253	0.	0.081	-3.253	0.	**-2.277**	**-9.455**	0.018	**-2.277**	**-9.455**	0.018
3	-0.081	-3.253	0.	0.081	-3.253	0.	0.	-7.027	**-5.756**	0.	-7.027	**-5.756**
TRANSVERSE EARTHQUAKE LOAD COMBINATION												
24	**0.046**	**2.135**	0.	**-0.046**	**2.135**	0.	-0.481	**4.499**	**-0.011**	-0.481	**4.499**	**-0.011**
23	0.010	0.641	0.	-0.010	0.641	0.	**0.481**	0.813	-0.002	**0.481**	0.813	-0.002
22	0.010	0.641	0.	-0.010	0.641	0.	**-0.481**	0.813	-0.002	**-0.481**	0.813	-0.002

LOAD COMBINATION DESCRIPTION

1	:	1.25D + 1.50S
2	:	0.85D + 1.50W+
3	:	0.85D + 1.50W-
4	:	0.85D + 1.50WR
5	:	0.85D + 1.50WL
14	:	1.25D + 1.05S + 1.05W+
22	:	D + ER
23	:	D + EL
24	:	D + 1/2S + ER



ERECTION NOTE:

SAG STRUTS TO BE INSTALLED
IN THE BOTTOM HOLE LOCATION
OF PURLIN OVER ENTIRE ROOF