Conservation District Review

LIVING WITH HISTORY

Milwaukee Common Council/City Clcerk/809 N. Broadway/PO Box 324/Milwaukee, WI 53201-0324/414-286-5712

Property 1864 N. WARREN AV.
Description of work Remove 1 chimney and install a new roof structure and shingles.
Date issued 1-26-2010 PTS ID 61403 Conservation District Review

In accordance with the provisions of Section 308-81(9) of the Milwaukee Code of Ordinances, the Milwaukee Historic Preservation Commission has issued a certificate of appropriateness for the work listed above. The work was found to be consistent with preservation guidelines. The following conditions apply to this certificate of appropriateness:

Work to be done according to attached drawings. Roofing material will be dimension asphalt thigngles\. Work is limited to roof replacement and chimney removal.

All work must be done in a craftsman-like manner, and must be completed within one year of the date this certificate was issued. Staff must approve any changes or additions to this certificate before work begins. Work that is not completed in accordance with this certificate may be subject to correction orders or citations. If you require technical assistance, please contact Paul Jakubovich of the City of Milwaukee Clerk staff as follows: Phone: (414) 286-5712 Fax: (414) 286-0232 E-mail: pjakub@milwaukee.gov.

If permits are required, you are responsible for obtaining them from the Milwaukee Development Center. If you have questions about permit requirements, please consult the Development Center's web site, www.mkedcd.org/build, or call (414) 286-8210 or 8211.

PAUL JAKUBOVICH
City clerk--Historic Preservation Staff

Copies to: Development Center, Ald. Nik Kovac, Contractor Brian Hellenbeck, Inspector Jim Friedrichs (286-5982) TINA

FERGUSON REMODEL - ROOF DESIGN ONLY

1864 N. WARREN - MILWAUKEE, WI 53202

VICINITY MAP

Owner's Approval

[illegible]

Signature Date

Printed Name Title

PROJECT CONTACT INFO

OWNER:

GENERAL CONTRACTOR/ CONSTRUCTION MANAGER:

HOLLENBECK HOME IMPROVEMENTS, LLC
4788 N. BERKELEY BLVD
WHITEFISH BAY, WI 53211
Tele: 414.617.2667

CONTACT: BRIAN HOLLENBECK
EMAIL: HOLLENBECK_HI@YAHOO.COM

ALL EXISTING DIMENSIONS SHOULD BE FIELD VERIFIED PRIOR TO BEGINNING CONSTRUCTION. TRUSS DESIGN AND STRUCTURAL CALCULATIONS HAVE BEEN CALCULATED ASSUMING ALL BEARING WALLS, FOOTINGS, FOUNDATIONS, AND OTHER STRUCTURAL COMPONENTS ARE ADEQUATELY SIZED AND SUPPORTED, AND THAT ALL NECESSARY REPAIR TO THESE COMPONENTS HAS BEEN COMPLETED PRIOR TO ROOF CONSTRUCTION AND LOADING. THE PROJECT GC IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF AND ANY NECESSARY REPAIRS TO ALL NON-ROOF TRUSS STRUCTURAL COMPONENTS. ALL OTHER STRUCTURAL MEMBERS SHOWN WITHIN THIS DRAWING SET ARE TO BE CONSIDERED "FOR REFERENCE ONLY."

DRAWING INDEX

DESIGN DOCUMENTS:

A1	ROOF DESIGN	12.14.09
	ALSO REFER TO ATTACHED (13 SHEETS) STRUCTURAL CALCS FOR ROOF TRUSS	12.14.09

PROJECT INFO

CONTAINED WITHIN THESE DOCUMENTS IS THE DESIGN, TRUSS DESIGN, AND STRUCTURAL CALCULATIONS FOR A FULL REPLACEMENT ROOF, WHICH WILL DUPLICATE THE EXISTING PITCH, HEEL HEIGHT, AND OVERHANGS. THIS SET OF DOCUMENTS ARE FOR THE ROOF AND ROOF TRUSS DESIGN ONLY. ALL NON-TRUSS STRUCTURAL AND DESIGN COMPONENTS ARE TO BE DESIGNED BY AND ARE THE RESPONSIBILITY OF OTHERS.

[illegible]

Revisions:
Bid Set 12.14.09

HOLLENBECK HOME IMPROVEMENTS, LLC
"Quality Service At A Fair Price"
4788 N. Berkeley Blvd Whitefish Bay, WI 414.617.2667

- CONSTRUCTION SET -
FOR HOLLENBECK HOME IMPROVEMENT, LLC USE ONLY

ROOF DESIGN FOR:
FERGUSON REMODEL
1864 N. WARREN
MILWAUKEE, WI 53202

SHEET TITLE:
TITLE SHEET

Date: 12.14.09
Scale:
Drawn: -
Job: -
Sheet: T

HALF SCALE PLOT

NOT USED | 6

TYPICAL ROOF SHEATHING ATTACHMENT DETAIL | 4

TRUSS DESIGN | 2

BEARING WALL PLAN | 5

ROOF FRAMING PLAN | 3

ROOF SECTION | 1

FLOOR PLAN AND FRAMING PLAN ARE SHOWN FOR REFERENCE ONLY. REFER TO SECTION, TRUSS DETAIL, AND STRUCTURAL CALCULATION / NOTES FOR ALL ADDITIONAL INFORMATION. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ROOF CONTRACTOR TO RECORD ALL EXISTING ROOF DIMENSIONS PRIOR TO DEMOLITION OF EXISTING ROOF - NEW ROOF TO MATCH EXISTING PROFILE.

ALL FINISHED ROOF DIMENSIONS TO MATCH EXISTING. ROOFING CONTRACTOR TO INSPECT GABLE ENDS OF ROOF AND MAKE ANY NECESSARY REPAIRS FOR SAME.

ALL COMPONENTS SHOWN LIGHT ARE EXISTING, ALL BOLD COMPONENTS ARE NEW, UNLESS NOTED OTHERWISE.

ROOF CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO BEGINNING CONSTRUCTION. ALL NON-ROOF TRUSS STRUCTURAL MEMBERS SHOWN WITHIN THIS DRAWING SET ARE TO BE CONSIDERED "FOR REFERENCE ONLY" - DESIGN, SIZING AND REPAIRS TO THESE "FOR REFERENCE ONLY" COMPONENTS ARE THE RESPONSIBILITY OF THE PROJECT G.C. THESE DRAWINGS ARE NOT INTENDED TO DELINEATE OR FIRLY DELINEATION OF ANY PROJECT RESPONSIBILITY, OR TO IDENTIFY ANY CONTRACTOR'S SCOPE OF WORK. REFER TO INDIVIDUAL SIGNED CONTRACTS FOR SPECIFIC CONTRACTOR'S SCOPE OF WORK DESCRIPTION TYPICAL.

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Revisions:
Bid Set
12.14.09

HOLLENBECK HOME IMPROVEMENTS, LLC
"Quality Service At A Fair Price"
4788 N. Berkeley Blvd Whitefish Bay, WI 414.617.2667

- CONSTRUCTION SET -
FOR HOLLENBECK HOME IMPROVEMENT, LLC USE ONLY

ROOF DESIGN FOR
FERGUSON REMODEL
1904 N. WARREN
MILWAUKEE, WI 53202

SHEET TITLE:
FLOOR PLAN & FRAMING PLAN

Date: 12.14.09
Scale: AS NOTED
Drawn: -
Job: -
Sheet: A1.1

HALF SCALE PLOT

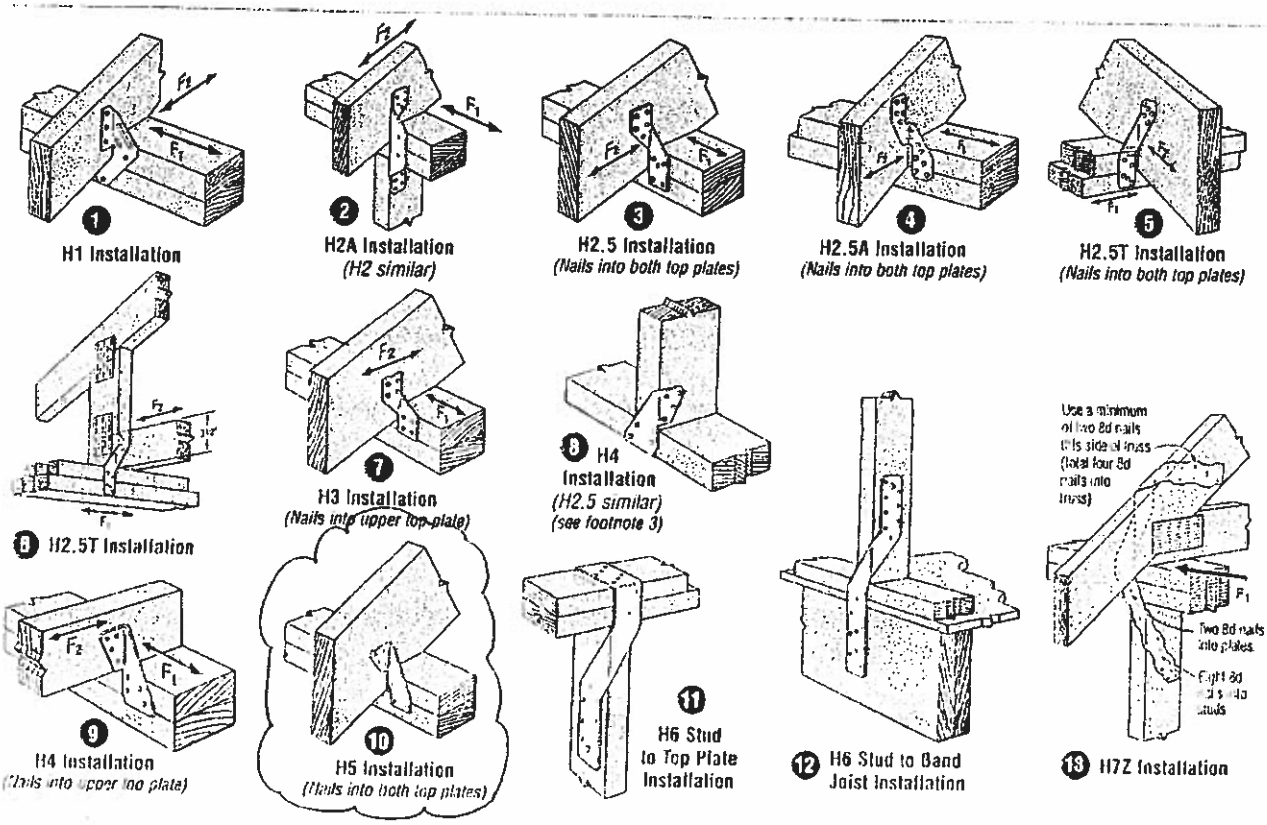
H Seismic & Hurricane Ties

SIMPSON Strong-Tie

These products are available with additional corrosion protection. Additional products on this page may also be available with this option, check with Simpson Strong-Tie for details.

Model No.	Ga	Fasteners: To Rafters/Truss	Fasteners: To Plates	Fasteners: To Studs	DF/SP Allowable Loads: Uplift (160)	DF/SP Lateral (160): F_1	DF/SP Lateral (160): F_2	Uplift Load with 8dx1½ Nails (160)	SPF/HF Allowable Loads: Uplift (160)	SPF/HF Lateral (160): F_1	SPF/HF Lateral (160): F_2	Uplift Load with 8dx1½ Nails (160)	Code Ref.
H1	18	6-8dx1½	4-8d	—	585	485	165	455	400	415	140	370	I17, L22, F16
H2	18	5-8d	—	5-8d	335	—	—	335	230	—	—	230	
H2A	18	5-8dx1½	2-8dx1½	5-8dx1½	575	130	55	—	495	130	55	—	IP1, F25
H2.5	18	5-8d	5-8d	—	415	150	150	415	365	130	130	365	I17, L22, F16
H2.5A	18	5-8d	5-8d	—	600	110	110	480	535	110	110	480	I17, F16
H2.5T	18	5-8d	5-8d	—	545	135	145	425	545	135	145	425	IP1, F25
H3	18	4-8d	4-8d	—	455	125	160	415	320	105	140	290	I17, L22, F16
H4	20	4-8d	4-8d	—	360	165	160	360	235	140	135	235	
H5	18	4-8d	4-8d	—	455	115	200	455	265	100	170	265	
H6	16	—	8-8d	8-8d	950	—	—	—	820	—	—	—	I17, F16
H7Z	16	4-8d	2-8d	8-8d	985	400	—	—	845	345	—	—	
H8	18	5-10dx1½	5-10dx1½	—	745	75	—	630	565	75	—	510	F26
H10	18	8-8dx1½	8-8dx1½	—	995	590	235	—	850	505	235	—	I17, F16
H10A	18	9-10dx1½	9-10dx1½	—	1140[7]	590	285	—	1015	505	285	—	I17, F25
H10S[8,10]	18	8-8dx1½	8-8dx1½[10]	8-8d	1010	660	215	550	870	570	185	475	IP1, F25
H10-2	18	6-10d	6-10d	—	760	455	395	—	655	390	340	—	I17, F16
H11Z	18	6-16dx2½	6-16dx2½	—	830	525	760	—	715	450	655	—	170
H14	18	[1] 12-8dx1½	13-8d	—	1350[7]	515	265	—	1050	480	245	—	IP1, F25
		[2] 12-8dx1½	15-8d	—	1350[7]	515	265	—	1050	480	245	—	

1. Loads have been increased 60% for wind or earthquake loading with no further increase allowed; reduce where other loads govern.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate *(exception: connectors installed such that nails on opposite sides don't interfere)*.
3. Allowable DF/SP uplift load for stud to bottom plate installation *(see detail 15)* is 400 lbs. (H2.5); 390 lbs. (H2.5A); 360 lbs. (H4) and 310 lbs. (H8). For SPF/HF values multiply these values by 0.86.
4. Allowable loads in the F_1 direction are not intended to replace diaphragm boundary members or prevent cross grain bending of the truss or rafter members.
5. When cross-grain bending or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces may be considered.
6. Hurricane Ties are shown installed on the outside of the wall for clarity and assume a minimum overhang of 3½" installation on the inside of the wall is acceptable *(see General Instructions for the Installer notes u on page 14)*. For uplift Continuous Load Path, connections in the same area *(i.e. truss to plate connector and plate to stud connector)* must be on same side of the wall.
7. Southern Pine allowable uplift loads for H10A = 1340 lbs. and for H14 = 1465 lbs.
8. Refer to technical bulletin T-HTIE8EARING for H1, H10, H10S, H10-2, H11Z, H14 allowable bearing enhancement loads *(see page 191 for details)*.
9. H10S can have the stud offset a maximum of 1" from rafter *(center to center)* for a reduced uplift of 890 lbs. (DF/SP), and 765 lbs. (SPF).
10. H10S nails to plates are optional for uplift but required for lateral loads.
11. **NAILS:** 16dx2½ = 0.162" dia. x 2½" long, 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long, 8d = 0.131" dia. x 2½" long, 8dx1½ = 0.131" dia. x 1½" long. See page 16-17 for other nail sizes and information.



1 H1 Installation
2 H2A Installation (H2 similar)
3 H2.5 Installation (Nails into both top plates)
4 H2.5A Installation (Nails into both top plates)
5 H2.5T Installation (Nails into both top plates)
6 H2.5T Installation
7 H3 Installation (Nails into upper top plate)
8 H4 Installation (H2.5 similar) (see footnote 3)
9 H4 Installation (Nails into upper top plate)
10 H5 Installation (Nails into both top plates)
11 H6 Stud to Top Plate Installation
12 H6 Stud to Band Joist Installation
13 H7Z Installation

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Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear[...	lc	z Shear[...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
77		4	max	.057	3	.002	3	0	1	.021	3	0	1	0	1	0	1
78			min	0	1	0	1	0	1	0	1	-.021	3	0	1	0	1
79		5	max	.057	3	.002	3	0	1	.052	3	0	1	0	1	0	1
80			min	0	1	0	1	0	1	0	1	-.052	3	0	1	0	1
81	M9	1	max	0	1	0	2	0	1	.04	3	0	1	0	1	0	1
82			min	-.086	3	0	3	0	1	0	1	-.04	3	0	1	0	1
83		2	max	0	1	0	2	0	1	.022	3	0	1	0	1	0	1
84			min	-.087	3	0	3	0	1	0	1	-.022	3	0	1	0	1
85		3	max	0	1	0	1	0	1	.008	2	.004	3	0	1	0	1
86			min	-.087	3	-.001	3	0	1	-.004	3	-.008	2	0	1	0	1
87		4	max	0	1	0	1	0	1	0	1	.037	3	0	1	0	1
88			min	-.088	3	-.001	3	0	1	-.037	3	0	1	0	1	0	1
89		5	max	0	1	0	1	0	1	0	1	.078	3	0	1	0	1
90			min	-.088	3	-.002	3	0	1	-.078	3	0	1	0	1	0	1
91	M10	1	max	0	1	0	2	0	1	.028	3	.019	2	0	1	0	1
92			min	-.113	3	0	1	0	1	-.019	2	-.028	3	0	1	0	1
93		2	max	0	1	0	2	0	1	.03	3	.002	2	0	1	0	1
94			min	-.112	3	0	3	0	1	-.002	2	-.03	3	0	1	0	1
95		3	max	0	1	0	2	0	1	.024	3	0	1	0	1	0	1
96			min	-.112	3	0	3	0	1	0	1	-.024	3	0	1	0	1
97		4	max	0	1	0	1	0	1	.011	3	0	1	0	1	0	1
98			min	-.111	3	0	3	0	1	0	1	-.011	3	0	1	0	1
99		5	max	0	1	0	1	0	1	.005	2	.011	3	0	1	0	1
100			min	-.111	3	0	3	0	1	-.011	3	-.005	2	0	1	0	1
101	M11	1	max	.083	3	0	3	0	1	.019	2	0	1	0	1	0	1
102			min	0	1	0	2	0	1	0	1	-.019	2	0	1	0	1
103		2	max	.082	3	0	3	0	1	.012	3	0	1	0	1	0	1
104			min	0	1	0	2	0	1	0	1	-.012	3	0	1	0	1
105		3	max	.082	3	0	3	0	1	.017	3	.005	2	0	1	0	1
106			min	0	1	0	2	0	1	-.005	2	-.017	3	0	1	0	1
107		4	max	.082	3	0	3	0	1	.021	3	.019	2	0	1	0	1
108			min	0	1	-.001	2	0	1	-.019	2	-.021	3	0	1	0	1
109		5	max	.082	3	0	3	0	1	.024	3	.034	2	0	1	0	1
110			min	0	1	-.001	2	0	1	-.034	2	-.024	3	0	1	0	1

Envelope Wood Code Checks

	Member	Shape	Code Check	Loc[ft]	lc	Shear ...	Loc[ft]	Dir	lc	Fc' [ksi]	Ft' [ksi]	Fb1' [k...	Fb2' [k...	Fv' [ksi]	Eqn
1	M1	2X6	.622	0	3	.295	5.274	y	3	.276	.9	1.65	1.897	.09	3.6.3
2	M2	2X6	.684	0	3	.367	5.863	y	3	.225	.9	1.65	1.897	.09	3.6.3
3	M3	2X6	.777	5.863	3	.609	0	y	3	.225	.9	1.65	1.897	.09	3.9-3
4	M4	2X6	.665	5.274	3	.329	0	y	3	.276	.9	1.65	1.897	.09	3.6.3
5	M5	2X6	.078	1.492	3	.154	4.938	y	3	.313	.9	1.65	1.897	.09	3.9-1
6	M6	2X6	.101	0	3	.145	0	y	2	.224	.9	1.65	1.897	.09	3.6.3
7	M7	2X6	.081	3.137	3	.152	0	y	2	.313	.9	1.65	1.897	.09	3.9-1
8	M8	2X4	.118	3.92	3	.027	0	y	3	.484	1.05	1.85	2.035	.1	3.6.3
9	M9	2X4	.126	8.405	3	.016	8.405	y	3	.111	1.05	1.795	2.035	.1	3.9-1
10	M10	2X4	.123	1.401	3	.009	8.405	y	3	.111	1.05	1.795	2.035	.1	3.9-1
11	M11	2X4	.171	0	3	.013	3.92	y	2	.484	1.05	1.85	2.035	.1	3.6.3

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear[...	lc	z Shear[...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
20			min	0	1	-.033	3	0	1	-.41	3	0	1	0	1	0	1
21	M3	1	max	.111	3	.055	3	0	1	0	1	.452	3	0	1	0	1
22			min	0	1	0	1	0	1	-.452	3	0	1	0	1	0	1
23		2	max	.129	3	.029	3	0	1	.081	3	.005	2	0	1	0	1
24			min	0	1	0	1	0	1	-.005	2	-.081	3	0	1	0	1
25		3	max	.146	3	.002	3	0	1	.279	3	0	1	0	1	0	1
26			min	0	1	0	1	0	1	0	1	-.279	3	0	1	0	1
27		4	max	.164	3	0	1	0	1	.142	3	0	1	0	1	0	1
28			min	0	1	-.024	3	0	1	0	1	-.142	3	0	1	0	1
29		5	max	.174	3	0	1	0	1	0	1	.277	3	0	1	0	1
30			min	0	1	-.04	3	0	1	-.277	3	0	1	0	1	0	1
31	M4	1	max	.151	3	.03	3	0	1	0	1	.267	3	0	1	0	1
32			min	0	1	0	1	0	1	-.267	3	0	1	0	1	0	1
33		2	max	.159	3	.017	3	0	1	.03	2	0	1	0	1	0	1
34			min	0	1	0	1	0	1	0	1	-.03	2	0	1	0	1
35		3	max	.167	3	.005	3	0	1	.129	3	0	1	0	1	0	1
36			min	0	1	0	1	0	1	0	1	-.129	3	0	1	0	1
37		4	max	.175	3	0	1	0	1	.114	3	0	1	0	1	0	1
38			min	0	1	-.008	3	0	1	0	1	-.114	3	0	1	0	1
39		5	max	.184	3	0	1	0	1	0	1	.044	3	0	1	0	1
40			min	0	1	-.02	3	0	1	-.044	3	0	1	0	1	0	1
41	M5	1	max	0	1	.007	2	0	1	.075	3	0	1	0	1	0	1
42			min	-.009	3	0	1	0	1	0	1	-.075	3	0	1	0	1
43		2	max	0	1	.002	2	0	1	.112	3	0	1	0	1	0	1
44			min	-.009	3	0	1	0	1	0	1	-.112	3	0	1	0	1
45		3	max	0	1	0	1	0	1	.097	3	0	1	0	1	0	1
46			min	-.009	3	-.004	3	0	1	0	1	-.097	3	0	1	0	1
47		4	max	0	1	0	1	0	1	.027	3	0	1	0	1	0	1
48			min	-.009	3	-.009	3	0	1	0	1	-.027	3	0	1	0	1
49		5	max	0	1	0	1	0	1	0	1	.095	3	0	1	0	1
50			min	-.009	3	-.014	3	0	1	-.095	3	0	1	0	1	0	1
51	M6	1	max	.023	3	.012	3	0	1	0	1	.09	3	0	1	0	1
52			min	0	1	0	1	0	1	-.09	3	0	1	0	1	0	1
53		2	max	.023	3	.006	3	0	1	.029	3	0	1	0	1	0	1
54			min	0	1	0	1	0	1	0	1	-.029	3	0	1	0	1
55		3	max	.023	3	0	3	0	1	.073	3	0	1	0	1	0	1
56			min	0	1	0	1	0	1	0	1	-.073	3	0	1	0	1
57		4	max	.023	3	0	1	0	1	.041	3	0	1	0	1	0	1
58			min	0	1	-.006	2	0	1	0	1	-.041	3	0	1	0	1
59		5	max	.023	3	0	1	0	1	0	1	.087	2	0	1	0	1
60			min	0	1	-.012	2	0	1	-.087	2	0	1	0	1	0	1
61	M7	1	max	0	1	.013	3	0	1	0	1	.092	2	0	1	0	1
62			min	-.018	3	0	1	0	1	-.092	2	0	1	0	1	0	1
63		2	max	0	1	.008	3	0	1	.037	3	0	1	0	1	0	1
64			min	-.018	3	0	1	0	1	0	1	-.037	3	0	1	0	1
65		3	max	0	1	.003	3	0	1	.092	3	0	1	0	1	0	1
66			min	-.018	3	0	1	0	1	0	1	-.092	3	0	1	0	1
67		4	max	0	1	0	1	0	1	.095	3	0	1	0	1	0	1
68			min	-.018	3	-.002	2	0	1	0	1	-.095	3	0	1	0	1
69		5	max	0	1	0	1	0	1	.044	3	0	1	0	1	0	1
70			min	-.018	3	-.007	2	0	1	0	1	-.044	3	0	1	0	1
71	M8	1	max	.056	3	.003	3	0	1	0	1	.082	3	0	1	0	1
72			min	0	1	0	1	0	1	-.082	3	0	1	0	1	0	1
73		2	max	.056	3	.003	3	0	1	0	1	.046	3	0	1	0	1
74			min	0	1	0	1	0	1	-.046	3	0	1	0	1	0	1
75		3	max	.057	3	.003	3	0	1	0	1	.012	3	0	1	0	1
76			min	0	1	0	1	0	1	-.012	3	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Momen...	lc	z-z Momen...	lc
77		4	max	.299	3	.008	3	0	1	0	1	0	1	0	1
78			min	0	1	0	1	0	1	0	1	0	1	-.005	3
79		5	max	.3	3	.008	3	0	1	0	1	0	1	0	1
80			min	0	1	0	1	0	1	0	1	0	1	-.013	3
81	M9	1	max	0	1	.001	2	0	1	0	1	0	1	0	1
82			min	-.454	3	-.002	3	0	1	0	1	0	1	-.01	3
83		2	max	0	1	0	2	0	1	0	1	0	1	0	1
84			min	-.457	3	-.003	3	0	1	0	1	0	1	-.006	3
85		3	max	0	1	0	1	0	1	0	1	0	1	0	3
86			min	-.459	3	-.004	3	0	1	0	1	0	1	-.002	2
87		4	max	0	1	0	1	0	1	0	1	0	1	.009	3
88			min	-.462	3	-.005	3	0	1	0	1	0	1	0	1
89		5	max	0	1	0	1	0	1	0	1	0	1	.02	3
90			min	-.464	3	-.005	3	0	1	0	1	0	1	0	1
91	M10	1	max	0	1	.003	2	0	1	0	1	0	1	.005	2
92			min	-.592	3	0	1	0	1	0	1	0	1	-.007	3
93		2	max	0	1	.002	2	0	1	0	1	0	1	0	2
94			min	-.59	3	0	3	0	1	0	1	0	1	-.008	3
95		3	max	0	1	0	2	0	1	0	1	0	1	0	1
96			min	-.587	3	-.001	3	0	1	0	1	0	1	-.006	3
97		4	max	0	1	0	1	0	1	0	1	0	1	0	1
98			min	-.585	3	-.002	3	0	1	0	1	0	1	-.003	3
99		5	max	0	1	0	1	0	1	0	1	0	1	.003	3
100			min	-.582	3	-.003	3	0	1	0	1	0	1	-.001	2
101	M11	1	max	.434	3	.002	3	0	1	0	1	0	1	0	1
102			min	0	1	-.003	2	0	1	0	1	0	1	-.005	2
103		2	max	.433	3	.002	3	0	1	0	1	0	1	0	1
104			min	0	1	-.003	2	0	1	0	1	0	1	-.003	3
105		3	max	.432	3	.001	3	0	1	0	1	0	1	.001	2
106			min	0	1	-.003	2	0	1	0	1	0	1	-.004	3
107		4	max	.43	3	0	3	0	1	0	1	0	1	.005	2
108			min	0	1	-.004	2	0	1	0	1	0	1	-.005	3
109		5	max	.429	3	0	3	0	1	0	1	0	1	.009	2
110			min	0	1	-.004	2	0	1	0	1	0	1	-.006	3

Envelope Member Section Stresses

	Member	Sec		Axial[ksi]	lc	y Shear[...	lc	z Shear[...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1	M1	1	max	.172	3	.023	3	0	1	0	1	.075	3	0	1	0	1
2			min	0	1	0	1	0	1	-.075	3	0	1	0	1	0	1
3		2	max	.164	3	.011	3	0	1	.117	3	0	1	0	1	0	1
4			min	0	1	0	1	0	1	0	1	-.117	3	0	1	0	1
5		3	max	.155	3	0	1	0	1	.167	3	0	1	0	1	0	1
6			min	0	1	-.002	3	0	1	0	1	-.167	3	0	1	0	1
7		4	max	.147	3	0	1	0	1	.075	3	0	1	0	1	0	1
8			min	0	1	-.014	3	0	1	0	1	-.075	3	0	1	0	1
9		5	max	.139	3	0	1	0	1	0	1	.16	3	0	1	0	1
10			min	0	1	-.027	3	0	1	-.16	3	0	1	0	1	0	1
11	M2	1	max	.154	3	.022	3	0	1	0	1	.126	3	0	1	0	1
12			min	0	1	0	1	0	1	-.126	3	0	1	0	1	0	1
13		2	max	.145	3	.008	3	0	1	.067	3	0	1	0	1	0	1
14			min	0	1	0	1	0	1	0	1	-.067	3	0	1	0	1
15		3	max	.136	3	0	1	0	1	.084	3	0	1	0	1	0	1
16			min	0	1	-.006	3	0	1	0	1	-.084	3	0	1	0	1
17		4	max	.126	3	0	1	0	1	0	1	.075	3	0	1	0	1
18			min	0	1	-.019	3	0	1	-.075	3	0	1	0	1	0	1
19		5	max	.117	3	0	1	0	1	0	1	.41	3	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Momen...	lc	z-z Momen...	lc
20			min	0	1	-.182	3	0	1	0	1	0	1	0	1
21	M3	1	max	.918	3	.301	3	0	1	0	1	0	1	.285	3
22			min	0	1	0	1	0	1	0	1	0	1	0	1
23		2	max	1.062	3	.157	3	0	1	0	1	0	1	.003	2
24			min	0	1	0	1	0	1	0	1	0	1	-.051	3
25		3	max	1.206	3	.013	3	0	1	0	1	0	1	0	1
26			min	0	1	0	1	0	1	0	1	0	1	-.176	3
27		4	max	1.35	3	0	1	0	1	0	1	0	1	0	1
28			min	0	1	-.131	3	0	1	0	1	0	1	-.09	3
29		5	max	1.438	3	0	1	0	1	0	1	0	1	.174	3
30			min	0	1	-.219	3	0	1	0	1	0	1	0	1
31	M4	1	max	1.243	3	.163	3	0	1	0	1	0	1	.168	3
32			min	0	1	0	1	0	1	0	1	0	1	0	1
33		2	max	1.311	3	.095	3	0	1	0	1	0	1	0	1
34			min	0	1	0	1	0	1	0	1	0	1	-.019	2
35		3	max	1.379	3	.027	3	0	1	0	1	0	1	0	1
36			min	0	1	0	1	0	1	0	1	0	1	-.082	3
37		4	max	1.447	3	0	1	0	1	0	1	0	1	0	1
38			min	0	1	-.041	3	0	1	0	1	0	1	-.072	3
39		5	max	1.515	3	0	1	0	1	0	1	0	1	.027	3
40			min	0	1	-.109	3	0	1	0	1	0	1	0	1
41	M5	1	max	0	1	.041	2	0	1	0	1	0	1	0	1
42			min	-.071	3	0	1	0	1	0	1	0	1	-.047	3
43		2	max	0	1	.014	2	0	1	0	1	0	1	0	1
44			min	-.071	3	0	1	0	1	0	1	0	1	-.071	3
45		3	max	0	1	0	1	0	1	0	1	0	1	0	1
46			min	-.071	3	-.022	3	0	1	0	1	0	1	-.061	3
47		4	max	0	1	0	1	0	1	0	1	0	1	0	1
48			min	-.071	3	-.049	3	0	1	0	1	0	1	-.017	3
49		5	max	0	1	0	1	0	1	0	1	0	1	.06	3
50			min	-.071	3	-.076	3	0	1	0	1	0	1	0	1
51	M6	1	max	.187	3	.067	3	0	1	0	1	0	1	.057	3
52			min	0	1	0	1	0	1	0	1	0	1	0	1
53		2	max	.187	3	.035	3	0	1	0	1	0	1	0	1
54			min	0	1	0	1	0	1	0	1	0	1	-.018	3
55		3	max	.187	3	.003	3	0	1	0	1	0	1	0	1
56			min	0	1	0	1	0	1	0	1	0	1	-.046	3
57		4	max	.187	3	0	1	0	1	0	1	0	1	0	1
58			min	0	1	-.032	2	0	1	0	1	0	1	-.026	3
59		5	max	.187	3	0	1	0	1	0	1	0	1	.055	2
60			min	0	1	-.065	2	0	1	0	1	0	1	0	1
61	M7	1	max	0	1	.069	3	0	1	0	1	0	1	.058	2
62			min	-.152	3	0	1	0	1	0	1	0	1	0	1
63		2	max	0	1	.042	3	0	1	0	1	0	1	0	1
64			min	-.152	3	0	1	0	1	0	1	0	1	-.023	3
65		3	max	0	1	.015	3	0	1	0	1	0	1	0	1
66			min	-.152	3	0	1	0	1	0	1	0	1	-.058	3
67		4	max	0	1	0	1	0	1	0	1	0	1	0	1
68			min	-.152	3	-.014	2	0	1	0	1	0	1	-.06	3
69		5	max	0	1	0	1	0	1	0	1	0	1	0	1
70			min	-.152	3	-.041	2	0	1	0	1	0	1	-.027	3
71	M8	1	max	.295	3	.01	3	0	1	0	1	0	1	.021	3
72			min	0	1	0	1	0	1	0	1	0	1	0	1
73		2	max	.296	3	.009	3	0	1	0	1	0	1	.012	3
74			min	0	1	0	1	0	1	0	1	0	1	0	1
75		3	max	.297	3	.009	3	0	1	0	1	0	1	.003	3
76			min	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	lc	y [in]	lc	z [in]	lc	x Rotate [r...	lc	(n) L/y Ratio	lc	(n) L/z Ratio	lc
77		4	max	.022	3	0	1	0	1	0	1	NC	1	NC	1
78			min	0	1	-.004	3	0	1	0	1	5448.082	3	NC	1
79		5	max	.021	3	0	1	0	1	0	1	NC	1	NC	1
80			min	0	1	-.007	3	0	1	0	1	4037.108	3	NC	1
81	M9	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
82			min	-.021	3	-.008	3	0	1	0	1	NC	3	NC	1
83		2	max	0	1	0	1	0	1	0	1	NC	1	NC	1
84			min	-.019	3	-.009	3	0	1	0	1	NC	3	NC	1
85		3	max	0	1	0	1	0	1	0	1	NC	1	NC	1
86			min	-.018	3	-.006	2	0	1	0	1	NC	2	NC	1
87		4	max	0	1	0	1	0	1	0	1	NC	1	NC	1
88			min	-.017	3	-.004	2	0	1	0	1	NC	2	NC	1
89		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
90			min	-.015	3	-.006	3	0	1	0	1	NC	3	NC	1
91	M10	1	max	.016	3	0	1	0	1	0	1	NC	1	NC	1
92			min	0	1	-.005	3	0	1	0	1	NC	3	NC	1
93		2	max	.018	3	0	1	0	1	0	1	NC	1	NC	1
94			min	0	1	-.014	3	0	1	0	1	NC	3	NC	1
95		3	max	.019	3	0	1	0	1	0	1	NC	1	NC	1
96			min	0	1	-.016	3	0	1	0	1	NC	3	NC	1
97		4	max	.021	3	0	1	0	1	0	1	NC	1	NC	1
98			min	0	1	-.014	3	0	1	0	1	NC	3	NC	1
99		5	max	.023	3	0	1	0	1	0	1	NC	1	NC	1
100			min	0	1	-.009	3	0	1	0	1	NC	3	NC	1
101	M11	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
102			min	-.023	3	-.007	3	0	1	0	1	NC	3	NC	1
103		2	max	0	1	0	1	0	1	0	1	NC	1	NC	1
104			min	-.024	3	-.005	3	0	1	0	1	NC	3	NC	1
105		3	max	0	1	0	2	0	1	0	1	NC	2	NC	1
106			min	-.024	3	-.002	3	0	1	0	1	NC	3	NC	1
107		4	max	0	1	.002	2	0	1	0	1	NC	2	NC	1
108			min	-.025	3	0	1	0	1	0	1	NC	1	NC	1
109		5	max	0	1	.006	3	0	1	0	1	NC	3	NC	1
110			min	-.026	3	0	1	0	1	0	1	NC	1	NC	1

Envelope Member Section Forces

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Momen...	lc	z-z Momen...	lc
1	M1	1	max	1.417	3	.126	3	0	1	0	1	0	1	.047	3
2			min	0	1	0	1	0	1	0	1	0	1	0	1
3		2	max	1.349	3	.058	3	0	1	0	1	0	1	0	1
4			min	0	1	0	1	0	1	0	1	0	1	-.074	3
5		3	max	1.281	3	0	1	0	1	0	1	0	1	0	1
6			min	0	1	-.01	3	0	1	0	1	0	1	-.105	3
7		4	max	1.213	3	0	1	0	1	0	1	0	1	0	1
8			min	0	1	-.078	3	0	1	0	1	0	1	-.047	3
9		5	max	1.145	3	0	1	0	1	0	1	0	1	.101	3
10			min	0	1	-.146	3	0	1	0	1	0	1	0	1
11	M2	1	max	1.271	3	.121	3	0	1	0	1	0	1	.08	3
12			min	0	1	0	1	0	1	0	1	0	1	0	1
13		2	max	1.195	3	.045	3	0	1	0	1	0	1	0	1
14			min	0	1	0	1	0	1	0	1	0	1	-.042	3
15		3	max	1.119	3	0	1	0	1	0	1	0	1	0	1
16			min	0	1	-.03	3	0	1	0	1	0	1	-.053	3
17		4	max	1.044	3	0	1	0	1	0	1	0	1	.047	3
18			min	0	1	-.106	3	0	1	0	1	0	1	0	1
19		5	max	.968	3	0	1	0	1	0	1	0	1	.258	3

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	lc	y [in]	lc	z [in]	lc	x Rotate [r...	lc	(n) L/y Ratio	lc	(n) L/z Ratio	lc
20			min	-.011	3	-.012	3	0	1	0	1	NC	3	NC	1
21	M3	1	max	.012	3	0	1	0	1	0	1	NC	1	NC	1
22			min	0	1	-.011	3	0	1	0	1	NC	3	NC	1
23		2	max	.011	3	0	1	0	1	0	1	NC	1	NC	1
24			min	0	1	-.028	3	0	1	0	1	5459.971	3	NC	1
25		3	max	.009	3	0	1	0	1	0	1	NC	1	NC	1
26			min	0	1	-.041	3	0	1	0	1	3160.403	3	NC	1
27		4	max	.008	3	0	1	0	1	0	1	NC	1	NC	1
28			min	0	1	-.037	3	0	1	0	1	4686.753	3	NC	1
29		5	max	.006	3	0	1	0	1	0	1	NC	1	NC	1
30			min	0	1	-.026	3	0	1	0	1	NC	3	NC	1
31	M4	1	max	.006	3	0	1	0	1	0	1	NC	1	NC	1
32			min	0	1	-.026	3	0	1	0	1	NC	3	NC	1
33		2	max	.005	3	0	1	0	1	0	1	NC	1	NC	1
34			min	0	1	-.023	3	0	1	0	1	NC	3	NC	1
35		3	max	.003	3	0	1	0	1	0	1	NC	1	NC	1
36			min	0	1	-.022	3	0	1	0	1	7207.44	3	NC	1
37		4	max	.002	3	0	1	0	1	0	1	NC	1	NC	1
38			min	0	1	-.014	3	0	1	0	1	8876.867	3	NC	1
39		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
40			min	0	1	0	1	0	1	0	1	NC	1	NC	1
41	M5	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
42			min	0	1	0	1	0	1	0	1	NC	1	NC	1
43		2	max	0	3	0	1	0	1	0	1	NC	1	NC	1
44			min	0	1	-.012	3	0	1	0	1	9509.07	3	NC	1
45		3	max	0	3	0	1	0	1	0	1	NC	1	NC	1
46			min	0	1	-.018	3	0	1	0	1	8011.469	3	NC	1
47		4	max	0	3	0	1	0	1	0	1	NC	1	NC	1
48			min	0	1	-.021	3	0	1	0	1	NC	3	NC	1
49		5	max	0	3	0	1	0	1	0	1	NC	1	NC	1
50			min	0	1	-.022	3	0	1	0	1	NC	3	NC	1
51	M6	1	max	0	3	0	1	0	1	0	1	NC	1	NC	1
52			min	0	1	-.022	3	0	1	0	1	NC	3	NC	1
53		2	max	0	2	0	1	0	1	0	1	NC	1	NC	1
54			min	0	1	-.027	3	0	1	0	1	NC	3	NC	1
55		3	max	0	1	0	1	0	1	0	1	NC	1	NC	1
56			min	0	3	-.03	3	0	1	0	1	NC	3	NC	1
57		4	max	0	1	0	1	0	1	0	1	NC	1	NC	1
58			min	0	3	-.028	3	0	1	0	1	NC	3	NC	1
59		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
60			min	0	3	-.024	3	0	1	0	1	NC	3	NC	1
61	M7	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
62			min	0	3	-.024	3	0	1	0	1	NC	3	NC	1
63		2	max	0	1	0	1	0	1	0	1	NC	1	NC	1
64			min	0	3	-.022	3	0	1	0	1	NC	3	NC	1
65		3	max	0	1	0	1	0	1	0	1	NC	1	NC	1
66			min	0	3	-.019	3	0	1	0	1	8453.188	3	NC	1
67		4	max	0	1	0	1	0	1	0	1	NC	1	NC	1
68			min	0	3	-.012	3	0	1	0	1	NC	3	NC	1
69		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
70			min	0	1	0	1	0	1	0	1	NC	1	NC	1
71	M8	1	max	.023	3	.005	3	0	1	0	1	NC	3	NC	1
72			min	0	1	0	1	0	1	0	1	NC	1	NC	1
73		2	max	.022	3	.004	3	0	1	0	1	NC	3	NC	1
74			min	0	1	0	1	0	1	0	1	NC	1	NC	1
75		3	max	.022	3	0	3	0	1	0	1	NC	3	NC	1
76			min	0	1	0	1	0	1	0	1	NC	1	NC	1

Load Combinations (Continued)

	Description	Solve	PD...	SR...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
9	IBC 16-10 (c)	Yes			DL	1	LL	.75	RLL	.75	EL	.7								
10	IBC 16-10 (d)	Yes			DL	1	LL	.75	RLL	.75	EL	-.7								
11	IBC 16-10 (e)	Yes			DL	1	LL	.75	SL	.75	WL	.75								
12	IBC 16-10 (f)	Yes			DL	1	LL	.75	SL	.75	WL	-.75								
13	IBC 16-10 (g)	Yes			DL	1	LL	.75	SL	.75	EL	.7								
14	IBC 16-10 (h)	Yes			DL	1	LL	.75	SL	.75	EL	-.7								
15	IBC 16-10 (i)	Yes			DL	1	LL	.75	RL	.75	WL	.75								
16	IBC 16-10 (j)	Yes			DL	1	LL	.75	RL	.75	WL	-.75								
17	IBC 16-10 (k)	Yes			DL	1	LL	.75	RL	.75	EL	.7								
18	IBC 16-10 (l)	Yes			DL	1	LL	.75	RL	.75	EL	-.7								
19	IBC 16-11 (a)	Yes			DL	.6	WL	1												
20	IBC 16-11 (b)	Yes			DL	.6	WL	-1												
21	IBC 16-12 (a)	Yes			DL	.6	EL	.7												
22	IBC 16-12 (b)	Yes			DL	.6	EL	-.7												

Member Distributed Loads (BLC 1 : Dead Load)

	Member Label	Direction	Start Magnitude[k/ft,d...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.03	-.03	0	0
2	M2	Y	-.03	-.03	0	0
3	M3	Y	-.03	-.03	0	0
4	M4	Y	-.03	-.03	0	0
5	M5	Y	-.02	-.02	0	0
6	M6	Y	-.02	-.02	0	0
7	M7	Y	-.02	-.02	0	0

Member Distributed Loads (BLC 2 : Live Load)

	Member Label	Direction	Start Magnitude[k/ft,d...	End Magnitude[k/ft,d...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.041	-.041	0	0
2	M2	Y	-.041	-.041	0	0
3	M4	Y	-.041	-.041	0	0
4	M3	Y	-.107	-.107	0	4.667
5	M3	Y	-.041	-.041	4.667	12

Envelope Member Section Deflections

	Member	Sec		x [in]	lc	y [in]	lc	z [in]	lc	x Rotate [r...	lc	(n) L/y Ratio	lc	(n) L/z Ratio	lc
1	M1	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
2			min	0	1	0	1	0	1	0	1	NC	1	NC	1
3		2	max	0	1	0	1	0	1	0	1	NC	1	NC	1
4			min	-.001	3	-.015	3	0	1	0	1	6845.481	3	NC	1
5		3	max	0	1	0	1	0	1	0	1	NC	1	NC	1
6			min	-.003	3	-.024	3	0	1	0	1	4928.529	3	NC	1
7		4	max	0	1	0	1	0	1	0	1	NC	1	NC	1
8			min	-.004	3	-.025	3	0	1	0	1	7803.398	3	NC	1
9		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
10			min	-.006	3	-.023	3	0	1	0	1	NC	3	NC	1
11	M2	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
12			min	-.006	3	-.023	3	0	1	0	1	NC	3	NC	1
13		2	max	0	1	0	1	0	1	0	1	NC	1	NC	1
14			min	-.007	3	-.023	3	0	1	0	1	NC	3	NC	1
15		3	max	0	1	0	1	0	1	0	1	NC	1	NC	1
16			min	-.009	3	-.021	3	0	1	0	1	NC	3	NC	1
17		4	max	0	1	0	1	0	1	0	1	NC	1	NC	1
18			min	-.01	3	-.014	3	0	1	0	1	NC	3	NC	1
19		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area (Me...	Surface (...
1	Dead Load	DL		-1				7		
2	Live Load	LL						5		

Wood Design Parameters

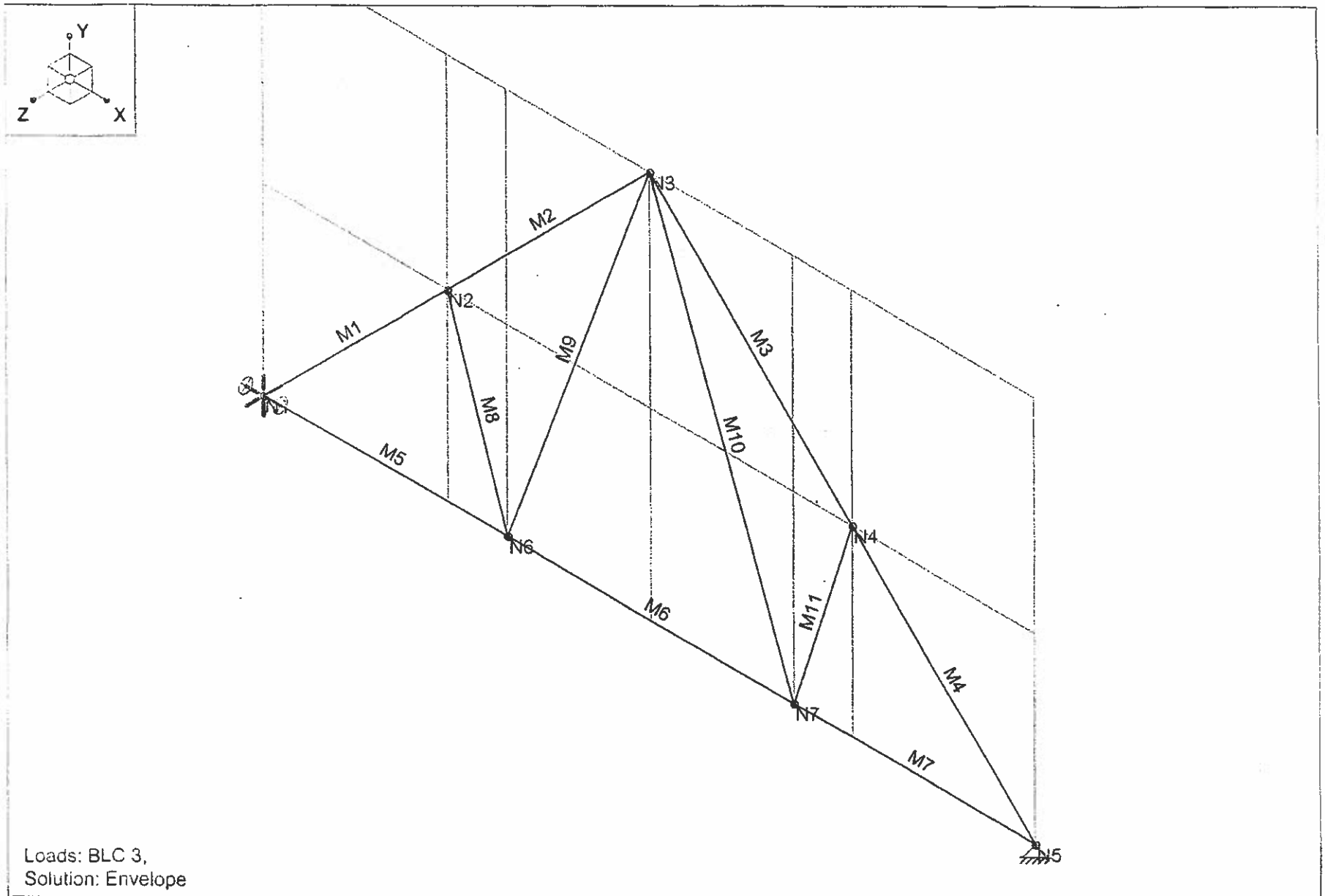
	Label	Shape	Length[ft]	le2[ft]	le1[ft]	le-bend to...	le-bend bo...	Kyy	Kzz	CH	Cr	y sway	z sway
1	M1	2X6	5.274										
2	M2	2X6	5.863										
3	M3	2X6	5.863										
4	M4	2X6	5.274										
5	M5	2X6	4.938										
6	M6	2X6	5.875										
7	M7	2X6	4.938										
8	M8	2X4	3.92										
9	M9	2X4	8.405										
10	M10	2X4	8.405										
11	M11	2X4	3.92				-						

Load Combination Design

	Description	ASIF	CD	ABIF	Service	Hot Rolled	Cold Formed	Wood	Concrete	Footings
1						Yes	Yes	Yes	Yes	Yes
2	IBC 16-7		.9		Yes	Yes	Yes	Yes	Yes	Yes
3	IBC 16-8				Yes	Yes	Yes	Yes	Yes	Yes
4	IBC 16-9 (a)		1.25		Yes	Yes	Yes	Yes	Yes	Yes
5	IBC 16-9 (b)		1.15		Yes	Yes	Yes	Yes	Yes	Yes
6	IBC 16-9 (c)		1.15		Yes	Yes	Yes	Yes	Yes	Yes
7	IBC 16-10 (a)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
8	IBC 16-10 (b)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
9	IBC 16-10 (c)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
10	IBC 16-10 (d)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
11	IBC 16-10 (e)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
12	IBC 16-10 (f)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
13	IBC 16-10 (g)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
14	IBC 16-10 (h)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
15	IBC 16-10 (i)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
16	IBC 16-10 (j)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
17	IBC 16-10 (k)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
18	IBC 16-10 (l)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
19	IBC 16-11 (a)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
20	IBC 16-11 (b)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
21	IBC 16-12 (a)		1.6		Yes	Yes	Yes	Yes	Yes	Yes
22	IBC 16-12 (b)		1.6		Yes	Yes	Yes	Yes	Yes	Yes

Load Combinations

	Description	SolvePD...	SR...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1		Yes																	
2	IBC 16-7	Yes		DL	1														
3	IBC 16-8	Yes		DL	1	LL	1												
4	IBC 16-9 (a)	Yes		DL	1	LL	1	RLL	1										
5	IBC 16-9 (b)	Yes		DL	1	LL	1	SL	1										
6	IBC 16-9 (c)	Yes		DL	1	LL	1	RL	1										
7	IBC 16-10 (a)	Yes		DL	1	LL	.75	RLL	.75	WL	.75								
8	IBC 16-10 (b)	Yes		DL	1	LL	.75	RLL	.75	WL	-.75								



Loads: BLC 3,
Solution: Envelope

	Hollenbeck Austin Roof Truss	
Eric Dohrmann		Dec 13, 2009 at 11:29 AM
262-271-1784		Roof Truss.r3d

JOB TITLE

JOB NO. SHEET NO.
CALCULATED BY DATE
CHECKED B DATE

VII. Snow Loads :

Roof slope	=	45.0 deg
Horiz. eave to ridge dist (W)	=	7.9 ft
Roof length parallel to ridge (L)	=	45.8 ft

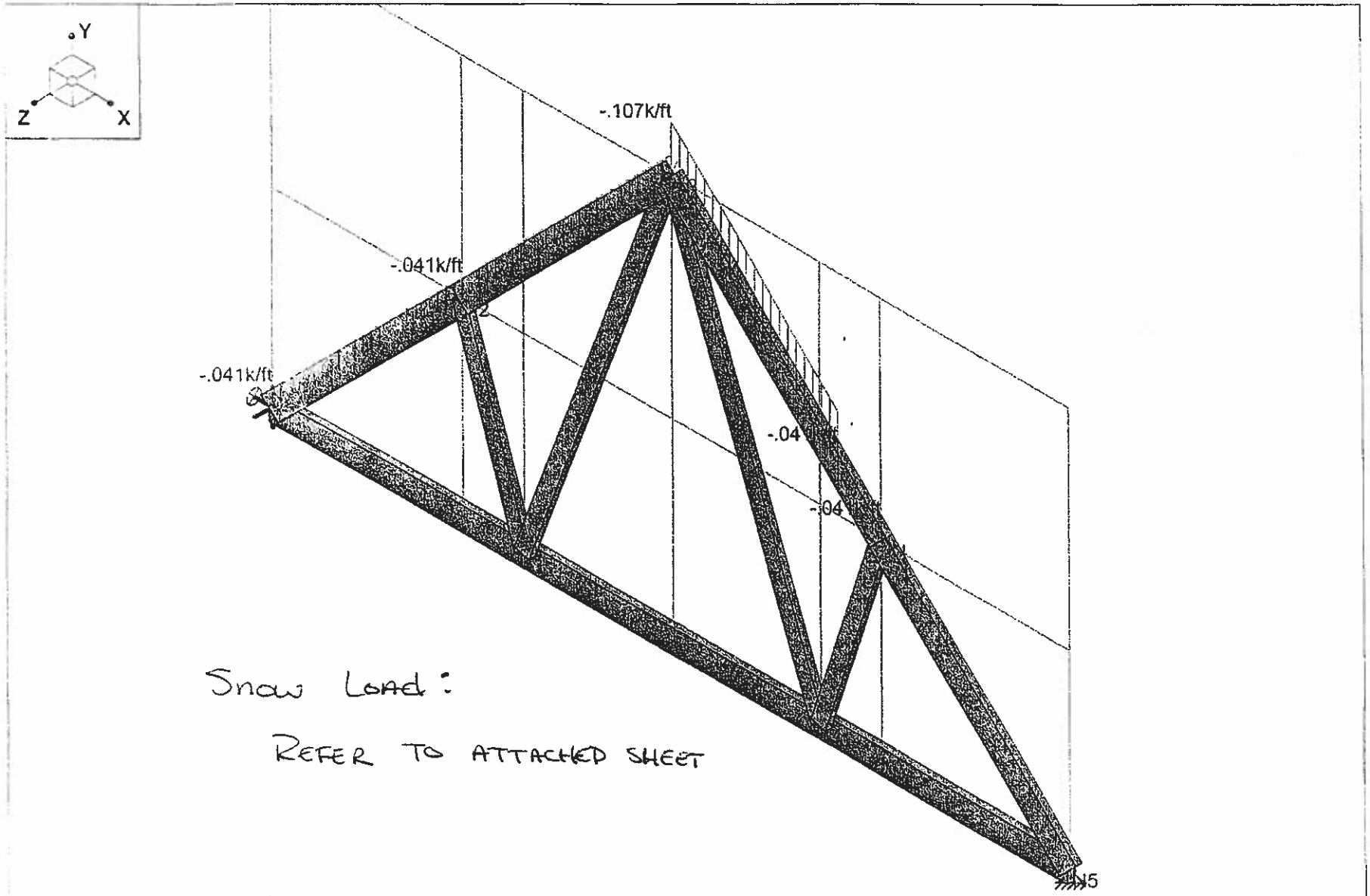
Type of Roof		Hip and gable w/ trussed systems
Ground Snow Load	Pg =	35.0 psf
Importance Category	=	II
Importance Factor	I =	1.0
Thermal Factor	Ct =	1.10
Exposure Factor	Ce =	1.0
Pf = 0.7*Ce*Ct*I*Pg	=	27.0 psf
Pf min	=	0.0 psf
Flat Roof Snow Load	Pf =	27.0 psf
Rain on Snow Surcharge Angle	=	0.16 deg
Code Maximum Rain Surcharge		5.0 psf
Rain on Snow Surcharge	=	0.0 psf
Unobstructed Slippery Surface (per Section 7.4)	=	no
Sloped-roof Factor	Cs =	0.77
Design Roof Snow Load (Ps)	=	20.7 psf ("balanced" snow load)
Building Official Minimum	=	20.7 psf

Exposure Factor, Ce			
	Exposure of roof		
Terrain	Fully	Partially	Sheltered
A	n/a	1.1	1.3
B	0.9	1.0	1.2
C	0.9	1.0	1.1
D	0.8	0.9	1.0
Above treeline	0.7	0.8	n/a
Alaska-no trees	0.7	0.8	n/a

NOTE: Alternate spans of continuous beams and other areas shall be loaded with half the design roof snow load so as to produce the greatest possible effect - see code.

Unbalanced Snow Loads - for Hip & Gable roofs only

Larger of 2.38 degrees or 70/W ÷ 0.5 =	9.4 deg	**Unbalanced snow loads must be applied**
Windward snow load =	6.2 psf	= 0.3Ps
Leeward snow load from ridge to 4.68' =	53.3 psf	= hdγ / √S + Ps
Leeward snow load from 4.68' to the eave =	20.7 psf	= Ps

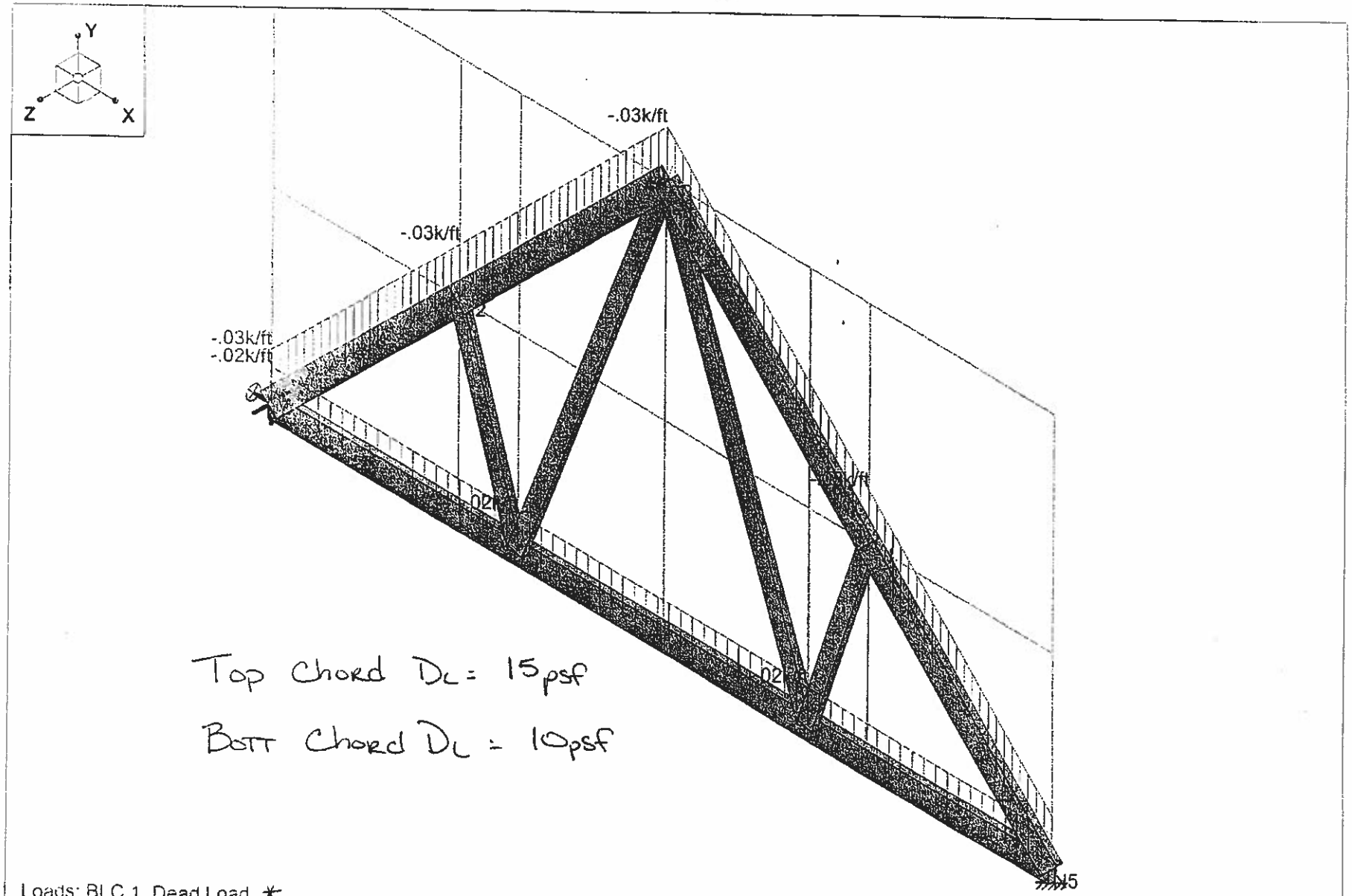


Snow Load:

REFER TO ATTACHED SHEET

Loads: BLC 2, Live Load *

	Hollenbeck Austin Roof Truss	
Eric Dohrmann		Dec 13, 2009 at 11:21 AM
262-271-1784		Roof Truss.r3d



Loads: BLC 1, Dead Load

Eric Dohrmann	Hollenbeck Austin Roof Truss	Dec 13, 2009 at 11:22 AM
262-271-1784		Roof Truss.r3d