STAFF REPORT FOR PLANNING COMMISSION MEETING OF SEPTEMBER 30, 2009

FILE NO: VAR-09-071 **AGENDA ITEM: H-4**

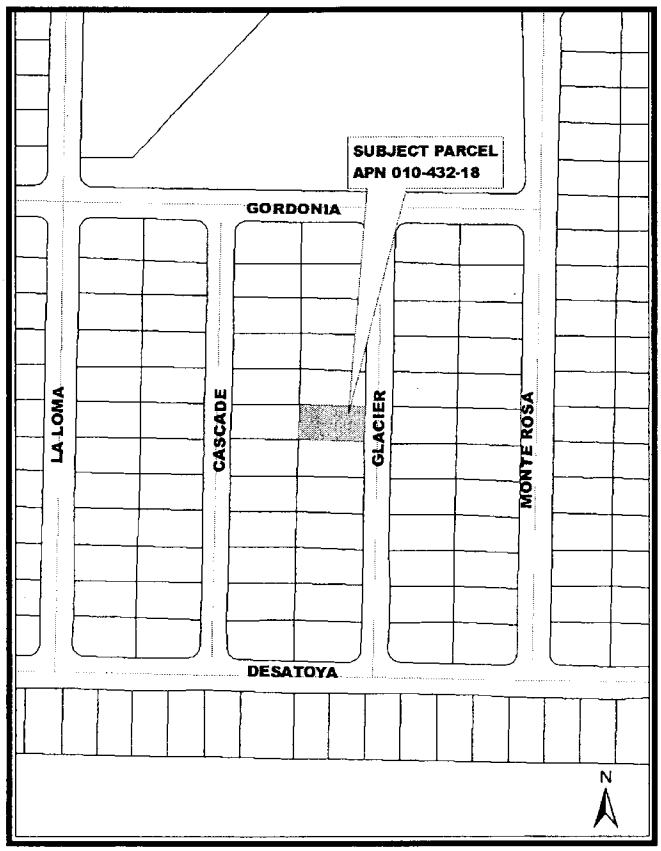
STAFF AUTHOR: Jennifer Pruitt, Principal Planner

REQUEST: Request to reduce required side property line setback from nine feet to three feet to allow an existing patio cover within the Single Family 6,000 (SF6) zoning district.

APPLICANT/OWNER: Aurelio Acebedo

LOCATION/APN: 1050 Glacier Drive/010-432-18

RECOMMENDED MOTION: "I move to deny VAR-09-071, a request to reduce the required side property line setback from nine feet to three feet to allow an existing patio cover on property zoned Single Family 6,000, located at 1050 Glacier Drive, APN 010-432-18 based on the findings for denial contained in the staff report."



LEGAL REQUIREMENTS: CCMC 18.02.085 (Variances), 18.02.050 (Review), 18.04.190 (Residential Districts Intensity and Dimensional Standards)

MASTER PLAN DESIGNATION: Low Density Residential (LDR)

PRESENT ZONING: Single Family 6,000 (SF6)

KEY ISSUES: Will the proposed reduction in the side yard setback do material damage to adjacent neighborhood? Has a hardship, pursuant to CCMC 18.02.085, been established by the applicant to the satisfaction of the Planning Commission?

SURROUNDING ZONING/LAND USE INFORMATION

NORTH: Single Family 6,000, residential
SOUTH: Single Family 6,000, residential
EAST: Single Family 6,000, residential
WEST: Single Family 6,000, residential

ENVIRONMENTAL INFORMATION

1 FLOOD ZONE: Zone C.
2 EARTHQUAKE FAULT: Zone II Moderate potential.
3 SLOPE/DRAINAGE: Flat
4 SOILS: 22 Greenbrae fine sandy Loam, 0-2% slopes

SITE DEVELOPMENT INFORMATION

1 LOT SIZE: 6,600 square feet.
2 EXISTING STRUCTURE SIZE: Existing single family dwelling unit on site is of 1,288 square feet with an attached 440 square feet garage.
3 PROPOSED STRUCTURE HEIGHT: Height is proposed at 13 feet, 5 inches in overall height.
4 PARKING: No change
5 SETBACKS:

Required:	20 feet front,	3 feet R side,	9 feet L side,	10 feet rear
Proposed:	No change,	No change,	3 feet,	No change

6 VARIANCES REQUESTED: Vary L side yard setback from nine feet to three feet.

ADDITIONAL REVIEWS

None

DISCUSSION:

A variance is a zoning procedure which grants a property owner relief from certain provisions of a zoning ordinance, when, because of the particular physical surroundings, shape, or topographical conditions of the property, compliance would result in a particular hardship upon the owner, as distinguished from a mere inconvenience, self-imposed hardship or a desire to realize monetary gain and/or excessive profit.

The applicant has submitted documentation stating that the patio cover was built two years ago without the required building permit. The patio cover is shown in submitted drawings as 26 feet by 25 feet three inches or an overall size of 656.5 square feet. Had a building permit been secured prior to the construction of the patio cover, the required setback information would have been provided, ensuring the location of the patio cover in compliance with the required setbacks, or avoiding construction entirely if it could not be located outside the setbacks, until a request for a Variance could be reviewed.

The applicant was "red tagged", which is a notice to stop work, by a Building Department inspector on September 29, 2008 and notified that because of the size, the patio cover required a permit from the Building Division. A building permit application was received in the Building Division on October 17, 2008. The Building, Engineering and Planning Divisions had deficiency comments which were returned to the applicant on October 24, 2008. The applicant was issued a citation form the Building Division in August 2009 and is currently going through the court proceedings regarding the citation issued. The comments from the Planning Division were related to the requirement for providing detail regarding setback information and meeting those setbacks for construction on the property. It was noted at that time that the patio cover did not meet the **required** setbacks for this zoning district, and that approval of a Variance by the Planning Commission would be required to maintain the patio cover in this location. It was also noted that the applicant would need to provide documentation within the Variance application for the reason(s) why the required setbacks cannot be met.

The applicant submitted the Variance application on August 17, 2009. The submission was determined to be acceptable; the site plan has been accepted and is being presented to the Planning Commission for review.

The subject site was created by the recordation of the Parcel Map #1565. At the time of the recording of the map, it was established that the setbacks were staggered. Staggered setbacks in this instance meant a three foot setback on the north and a nine foot setback of the south. This resulted in a minimum of 12 feet between single family dwelling units, which is consistent throughout this residential neighborhood.

The applicant was informed that Planning Division staff does not support this Variance request, as the information and basis for meeting the required definition and findings in Title 18.03 Definitions, "Variance" and in Title 18.02.085.5 Variance have not been met by the applicant:

Per Title 18.03 Definitions, Variance is defined as follows:

- *A Variance means to request a departure from or not to be in full compliance with the provisions of the zoning ordinance requirements for a specific parcel, except for uses, without changing the zoning ordinance or the underlying zoning of the parcel. A variance is granted only upon*

demonstration of hardship based on the peculiarity of the property in relation to other properties in the same zoning district. Because of special circumstances applicable to the property, strict application to the provisions of the development code standards and requirements deprives such property of privileges enjoyed by others in the vicinity. A self imposed hardship is not a legitimate ground or reason for a variance approval.

Per Title 18.02.085(5) required findings to be met are as follows:

a. *That because of special circumstances applicable to the subject property, including shape, size, topography or location of surroundings, the strict application of the zoning ordinance would deprive the subject property of privileges enjoyed by other properties in the vicinity or under identical zone classification;*

b. *That the granting of the application is necessary for the preservation and enjoyment of substantial property rights of the applicant;*

c. *That the granting of the application will not, under the circumstances of the particular case, adversely affect to a material degree the health or safety of persons residing or working in the neighborhood of the subject property and will not be materially detrimental to the public welfare or materially injurious to property or improvements in the neighborhood of the subject property.*

The burden of proof is required of the applicant to meet the questions of the Planning Commission and prove a viable hardship meeting the Title 18 standards described above. Please see the Findings section of this staff report (page 5-6), for Staff's analysis of these findings.

PUBLIC COMMENTS: Public notices were mailed to 62 adjacent property owners within 300 feet of the subject site. One email in **opposition** to the proposed Variance has been received, see attached. Any comments that are received after this report is completed will be submitted to the Planning Commission prior to or at the meeting on September 30, 2009, depending on the date of submission of the comments to the Planning Division.

AGENCY COMMENTS: All comments from various City departments and agencies which were received as of September 07, 2009, are included or attached to this report.

Building Division:

- This project shall comply with the Carson City Building Division comments outlined within the October 24, 2008 Development Services combined deficiency letter, and the prescriptive requirements of the *2006 International Residential Code* (*'06 IRC*), as they related to placement of a structure in relationship to a property line. The roof

projection, less than 5'-0" distance to the property line shall be protected with 1-hour fire resistance rated construction on the underside. (*'06 IRC R302.1 & Table R302.1*)

Engineering Division:

- Development Engineering has no preference of objection to the Variance request, and no recommended conditions of approval.

Fire Department:

- The Fire Department has no concerns with the applicant's request.

Health Department:

- Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.

Parks and Recreation Department:

- The Parks Department has no comments regarding the proposed project.

FINDINGS: Staff's recommendation of **Denial** is based upon the findings as required by CCMC Section 18.02.085 (Variances) enumerated below and substantiated in the public record for the project.

1. That because of special circumstances applicable to the subject property, including shape, size, topography, and location of surroundings, the strict application of the zoning ordinance would deprive the subject property of privileges enjoyed by other properties in the vicinity or under identical zone classifications.

*The applicant has noted that the structure is built already and at the time of the construction he believed the setback was three feet. This is **not** a special circumstance applicable to the subject property. This subject site does not involve shape, size, topography or location of surroundings, in which would deprive the subject property of privileges. The property is the same shape and size as numerous surrounding properties in the neighborhood. The applicant has **not** satisfied the requirement to avoid special privilege because of special circumstances related to the subject property as other areas are available outside required setbacks for placement of the patio cover.*

2. That the granting of the application is necessary for the preservation and enjoyment of substantial property rights of the applicant.

The applicant states that he understands the community must have rules and regulations. The applicant notes that if this Variance was granted, justice would be done to allow his family to keep the structure on site.

The applicant placed the patio cover on the site without a building permit, being notified by the Building Department that a permit was required after the structure was completed. Had a permit been secured prior to the construction, the applicant would have been notified to re-design the structure to meet the required setbacks or could have modified the dimensions of the proposed structure to fit within the constraints of the parcel or place it in one of the other available locations on site

3. That the granting of the application will not, under the circumstances of the particular case, adversely affect to a material degree the health or safety of persons residing or working in the neighborhood of the subject property and will be materially detrimental to the public welfare or materially injurious to property or improvements in the neighborhood of the subject property.

This finding of fact cannot be justified; the applicant notes the structure is on private property within a back yard area which is enclosed by a large concrete block wall. The neighbor to the south has a single family dwelling unit three feet from the property line as was required by the Carson City Municipal Code, and is directly impacted by the reduced setback.

Respectfully submitted,

PUBLIC WORKS DEPARTMENT, PLANNING DIVISION

Jennifer Pruitt

Jennifer Pruitt, AICP, LEED AP
Principal Planner

Attachments:
Application (VAR-09-071)
Building Division comments
Engineering Division comments
Fire Department comments
Health Department comments
Parks and Recreation comments

CARSON CITY, NEVADA

CONSOLIDATED MUNICIPALITY AND STATE CAPITAL
DEVELOPMENT SERVICES

Carson City Development Engineering
Planning Commission Report
File Number VAR-09-071

TO: Planning Commission

FROM: Jeff Sharp, P.E. - City Engineer

DATE: Sept 22, 2009 **MEETING DATE:** Sept 30, 2009

SUBJECT TITLE:
Action to consider a Variance application from Aurelio Acebedo to reduce the required setbacks to allow a patio cover on property zoned SF6, located at 1050 Glacier Drive, APN 010-432-18.

RECOMMENDATION:
Development Engineering has no preference or objection to the variance request, and no recommended conditions of approval.

DISCUSSION:
Development Engineering has reviewed the request within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.085, Variances:

CCMC 18.02.085 (2a) - Adequate Plans

The information submitted by the applicant is adequate for this analysis.

CCMC 18.02.085 (5c) - Adverse Affects to the Public

The Engineering Division finds that the granting of the application will not, under the circumstances of the particular case, adversely affect to a material degree the health or safety of persons residing or working in the neighborhood of the subject property and will not be materially detrimental to public welfare or materially injurious to property or improvements in the neighborhood of the subject if the conditions of approval are met.

H:\EngDept\P&ESHARE\Engineering\Planning Commission Reports\Variances\VAR 09-071 setbacks, 1050 Glacier Dr, apn 010-432-18.doc

File # (Ex: MPR #07-111)	*VAR 09-071*
Brief Description	*Patio Cover Encroaching Into Side Yard Setback*
Project Address or APN	*1050 Glacier*
Bldg Div Plans Examiner	*Don Wilkins*
Review Date	*Sept 11, 2009*
Total Spent on Review	

BUILDING DIVISION COMMENTS:

NOTE: These comments do not constitute a complete plan review, but are merely observations based on the information provided.

SCOPE OF APPLICATION:

This project involves a request to grant a variance to the side yard setbacks, which would allow the construction of a patio cover to encroach within 3'-0" of the property line.

GENERAL PLAN SUBMITTAL COMMENTS:

1. This project shall comply with the Carson City Building Division comments outlined within the October 24, 2008 Development Services combined deficiency letter, and the prescriptive requirements of the *2006 International Residential Code* (*'06 IRC*), as they related to placement of a structure in relationship to a property line. The roof projection, less than 5'-0" distance to the property line shall be protected with 1-hour fire resistance rated construction on the underside. (*'06 IRC R302.1 & Table R302.1*)

CARSON CITY, NEVADA

CONSOLIDATED MUNICIPALITY AND STATE CAPITAL

MEMORANDUM

TO: Lee Plemel, Planning Director
Jennifer Pruitt, Senior Planner (Hardcopy and Email)

FROM: Roger Moellendorf, Parks and Recreation Director
Vern L. Krahn, Park Planner

DATE: September 18, 2009

SUBJECT: Parks and Recreation Department's comments for the Wednesday, September 30, 2009, Planning Commission meeting.

TSM-09-063 SUP-09-064 VAR-09-065	The Open Space Advisory Committee will be reviewing the proposed Lakeview Gated Estates development at its September 28, 2009 meeting. After this meeting, Parks and Recreation Department staff will prepare a memorandum outlining issues addressed by the Committee. In addition, Parks and Recreation Department staff will be at the Planning Commission meeting to answer any questions.
VAR-09-071	No comments.
SUP-09-074	No comments.
SUP-09-075	No comments.
SUP-09-076	No comments.

MEMORANDUM

TO: Community Development

FROM: Duane Lemons, Fire Inspector

DATE: September 9, 2009

SUBJECT: AGENDA ITEMS FOR SEPTEMBER 14, 2009 PLANNING COMMISSION MEETING

We reviewed the agenda items for the September 14, 2009 Planning Commission Meeting and have the following comments:

- VAR-09-071 Aurelio Acebedo We have no concerns with the applicant's request.
- TSM-09-063 Ltd Partnership Management Service, LLC We have no concerns with the applicant's request.
- SUP-09-064 Ltd Partnership Management Service, LLC We have no concerns with the applicant's request.
- VAR-09-065 Ltd Partnership Management Service, LLC We have no concerns with the applicant's request.
- SUP-09-074 Western States Storage We have no concerns with the applicant's request.
- ZCA-09-072 Carson City Planning Division
- SUP-09-075 Costco Wholesale - The applicant will be required to comply with all codes and ordinances as they relate to this request.
- SUP-09-076 Ed Silsby Through the building plan review process, this Department has informed the applicant numerous times as to the corrections that will need to be made in ordered to meet the requirements of the Wildland Urban Interface Ordinance. As of September 1, 2009, these corrections have not been made. Until this project is in compliance, it will not be approved.

DL/llb

From: Teresa Hayes
To: MPR Committee
Date: 09/03/2009 4:16 PM
Subject: Planning Cmmission Sept 30

VAR 09-071

Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.

SUP 09-074
Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.

SUP 09-075
Carson City Health and Human Services has no comments regarding the project as described in the packet received, so as long as the scope of products placed outside do not include food products. If food products are to be stored in this location approval should be obtained on a case-by-case basis from Environmental Health. The applicant must meet all applicable codes and ordinances as they apply to this request.

SUP 09-076
Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.
Teresa Hayes, R.E.H.S.
Environmental Health Specialist II
Carson City Health and Human Services
900 E. Long St
Carson City, NV 89706
Phone: (775) 887-2190 ext 30227
Fax: (775) 887-2248

From: Lonny Rittler <lonnyj@jps.net>
To: <JPruitt@ci.carson-city.nv.us>
Date: 09/16/2009 12:47 PM
Subject: File #VAR-09-071-(APN 014-432-180

Dear Ms. Pruitt:

I am OPPOSED to the Variance Request for the above referenced property because the patio cover
was constructed to close to the property line without a permit which is detrimental to my properties
as well as the neighborhood in general.

I own parcel APN 10-433-07--1039 Glacier Drive which is directly across the street from 1050
Glacier and parcel APN 10-432-16--1104 Glacier Drive which is one house away from the subject
property.

Thank you for your attention regarding my opposition to this request.

Sincerely,

Lonny J. Rittler
4819 Marina Drive
Kelseyville, CA 95451-9753
707-277-9046

Carson City Planning Division
2621 Northgate Lane, Suite 62 · Carson City NV 89706
Phone: (775) 887-2180 · E-mail: plandept@ci.carson-city.nv.us

RECEIVED
AUG 17 2009
CARSON CITY
PLANNING DIVISION

FOR OFFICE USE ONLY:

CCMC 18.02

VARIANCE

FILE # VAR - 09 - 071

PROPERTY OWNER
AURELIO ACEBEDO
MAILING ADDRESS, CITY, STATE, ZIP
1050 GLACIER DR.
PHONE # 775-884-1384 FAX # C-722-6113

Name of Person to Whom All Correspondence Should Be Sent
APPLICANT/AGENT
SAME AS ABOVE
MAILING ADDRESS, CITY, STATE ZIP

PHONE # FAX #

E-MAIL ADDRESS

FEE: **$2,150.00 + noticing fee** + CD containing application digital data (all to be submitted once application is deemed complete by staff)

SUBMITTAL PACKET
- ☑ 6 Completed Application Packets (1 Original + 5 Copies)
- ☑ Application Form
- ☑ Site Plan
- ☑ Building Elevation Drawings and Floor Plans
- ☑ Proposal Questionnaire With Both Questions and Answers Given, supporting documentation
- ☑ Applicant's Acknowledgment Statement
- ☑ Documentation of Taxes Paid-to-Date (1 copy)

Application Reviewed and Received By:

Submittal Deadline: See attached PC application submittal schedule.
Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional Information may be required.

Project's Assessor Parcel Number(s):	Street Address	ZIP Code
010-432-18	1050 GLACIER DR.	

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
MDR	SF6	Desatoya Dr / Gordonia Dr.

Briefly describe your ~~proposed~~ Existing project: (Use additional sheets or attachments if necessary). In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal.
In accordance with Carson City Municipal Code (CCMC) Section: 18.04.190, or Development Standards, Division _____, Section _____, a request to allow a variance as follows: VARY 6' from required 9' setback.

I Aurelio Acevedo am appling for a Variance on a patio Cover that I built with out a permit. I built this patio which is free standing and has been engineered I feel that it is well constructed to my knowlage.

PROPERTY OWNER'S AFFIDAVIT

I Aurelio Acebedo, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Aurelio Acebedo — Signature
1050 GLACIER DR C.C NV — Address
8-14-09 — Date

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY CARSON CITY)

On AUGUST 14, 2009, AURELIO ACEBEDO personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Notary Public

NOTARY PUBLIC
STATE OF NEVADA
County of Carson City
ROBERT LEGMES
No: 08-6301-3
My Appointment Expires April 21, 2012

NOTE: If your project is located within the historic district, airport area, or downtown area, it may need to be scheduled before the Historic Resources Commission, the Airport Authority, and/or the Redevelopment Authority Citizens Committee prior to being scheduled for review by the Planning Commission. Planning Division personnel can help you make the above determination.

August 14, 2009

Dear Honorable Judge,

I, Aurelio Acebedo am writing this letter for the billing department regarding my patio cover. I asked a couple of people and they told me that I don't need any permit to have any patio cover unless we attach it to the house. I know we made a big mistake not asking the right people. I'm sorry but what I want to do is fix everything correctly and regarding the property line set box, we asked several people also and they told me we can build it three and a half feet away from the property line. We spent a lot of money on it which consists of all my saving over a two year period. I don't have all the recipes but the ones I went through, I spent $8000 on supplies and laborers. After all the time and effort and dedication I've put into this project , I would be devastated if I had to tear it all down, I'm just asking for the opportunity to modify it to your regulations without taking it down. I appreciate your time and patience in this matter.

Sincerely,

Aurelio Acebedo

Aurelio Acebedo

State of NEVADA

County of CARSON CITY

Subscribed and sworn/affirmed to before me this 14 day of AUGUST

20 09, by AURELIO ACEBEDO

Notary Public

My Commission Expires: 4/21/2012

NOTARY PUBLIC
STATE OF NEVADA
County of Carson City
ROBERT LESMES
No: 08-6391-3
My Appointment Expires April 21, 2012

1. **Describe the special circumstances applying to the property under consideration which exist making compliance with the provisions of this title difficult and a cause of hardship to, and abridgement of a property right of the owner of the property; and describe how such circumstances or conditions do not apply generally to other properties in the same land use district and explain how the are not self-imposed.**

I built a structure which only consists of a roof and 4 columns to support it. At the time I built this it was my understanding that the setback requirement was 3 feet, period. As I now understand, the subdivision I live in has staggered setbacks. The setback on one side is 3 feet and 9 feet on the side I built on. At the time I built this, I had no idea each side would be different and built providing a 3 foot setback where I now understand I should have provided 9 feet.

2. **Explain how granting of the variance is necessary to do justice to the applicant or owner of the property without extending any special privilege to them.**

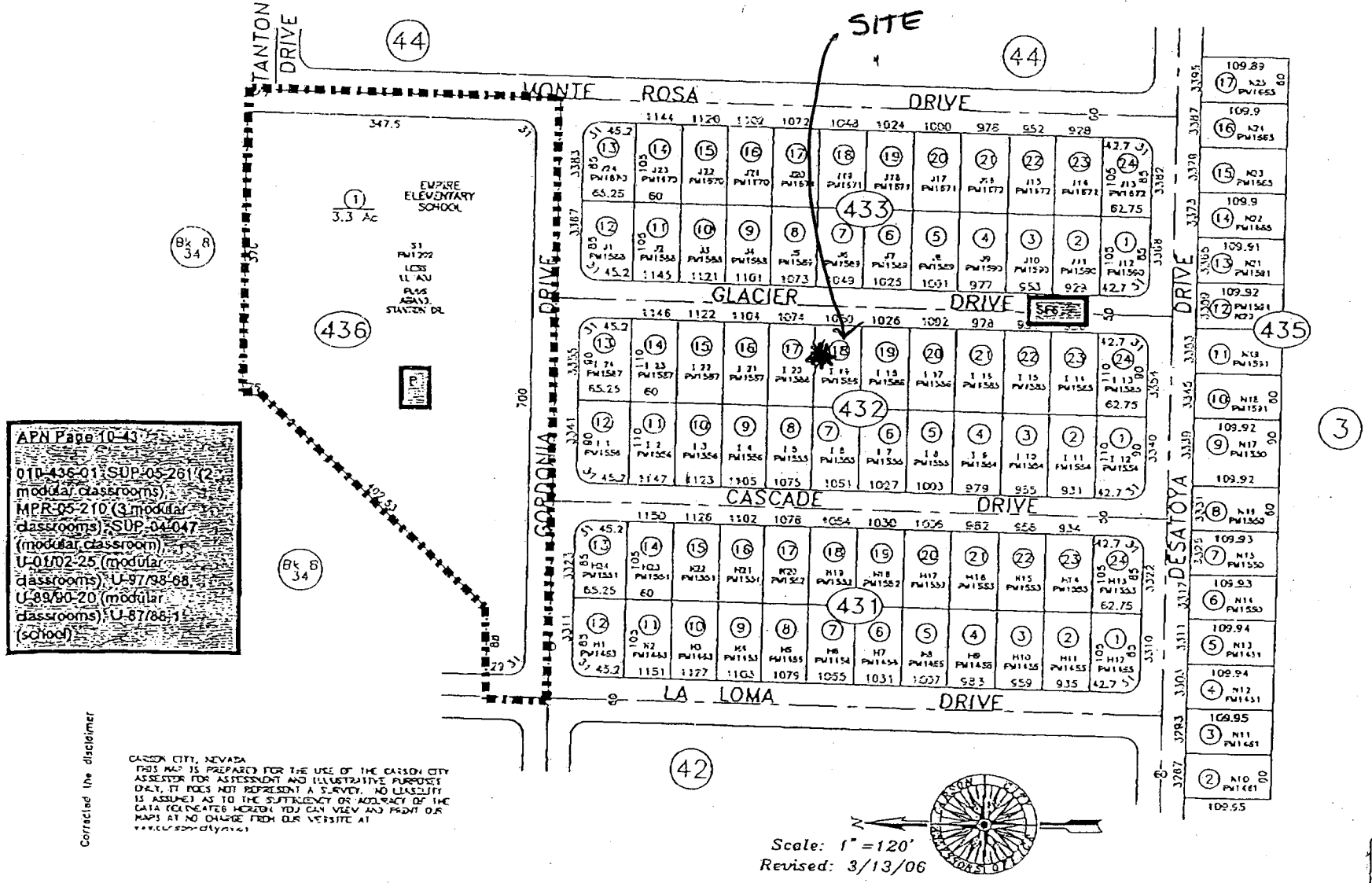
I understand a community must have rules. It is also my understanding that I should be responsible for my own actions. If you were to grant this variance, the justice you do to me would be to allow me to keep the structure I built on my property so that my family and I can enjoy our property.

3. **Explain how the granting of the variance will not result in material damage or prejudice to the other properties in the vicinity nor be detrimental to the public health, safety and general welfare.**

I do not believe this structure will result in material damage or prejudice to the other properties in the vicinity, nor be detrimental to the public health, safety or general welfare. The structure is on private property, it's in our backyard which is enclosed by a block wall and not easily visible from my neighbor's yard or the street. From my recent understanding of our setbacks, my neighbor's house is 3 feet from our property line/block wall and then our structure is 3 feet from our property line. Our neighbor doesn't see the structure from their house as there are no windows on that side of their house and with only 3 feet of yard they don't use that side for their enjoyment.

PORTION NW1/4 SECTION 15, T.15 N., R.20 E., M.D.B. & M.

10-43



APN Page 10-43

010-436-01 SUP-05-261 (2 modular classrooms); MPR-05-210 (3 modular classrooms); SUP-04-047 (modular classroom); U-01/02-25 (modular classrooms); U-97/98-68; U-89/90-20 (modular classrooms); U-87/88-1 (school)

CARSON CITY, NEVADA
THIS MAP IS PREPARED FOR THE USE OF THE CARSON CITY ASSESSOR FOR ASSESSMENT AND ILLUSTRATIVE PURPOSES ONLY. IT DOES NOT REPRESENT A SURVEY. NO LIABILITY IS ASSUMED AS TO THE SUFFICIENCY OR ACCURACY OF THE DATA CONTAINED HEREON. YOU CAN VIEW AND PRINT OUR MAPS AT NO CHARGE FROM OUR WEBSITE AT www.carson-city.nv.us

Corrected the disclaimer

Scale: 1" = 120'
Revised: 3/13/06

REVISED
10:14 am, Feb 04, 2004

The following acknowledgment and signature are to be on the response to the questionnaire prepared for the project. Please type the following, signed statement at the end of your application.

ACKNOWLEDGMENT OF APPLICANT

I certify that the foregoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission/ Board of Supervisors. I am aware that this permit becomes null and void if the use is not initiated within one year of the date of the Planning Commission/Board of Supervisors approval; and I understand that this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all City Code requirements.

Aurelio Cebrero
Applicant's Signature

8-14-09
Date

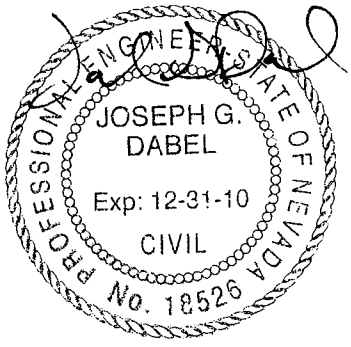
PEAK
Consulting Engineers, LLC

STRUCTURAL CALCULATIONS

PROJECT
Acebedo Patio Cover; Structural
1050 Glacier Drive
Carson City, NV 89702

PREPARED FOR
Aurelio Acebedo
1050 Glacier Drive
Carson City, NV 89702

PROJECT NO.
1552-002-000



July 17, 2009

591 S. Saliman Rd, Suite 2 • Carson City, NV 89701
Ph (775) 841-0804 • F (775) 841-0806
cc@peakengineers.com

1625 Hwy. 88, Suite 301 • Minden, NV 89423
Ph (775) 782-5050 • F (775) 841-0806
www.peakengineers.com

PEAK Consulting Engineers, LLC

1625 Hwy 88, Suite 301
Minden, NV 89423
P: (775) 782-5050
F: (775) 782-0854

PROJECT No: TBD-002-000
PROJECT: Acebedo Patio Cover; Structural

CLIENT: Aurelio Acebedo
1530 Glacier Drive
Carson City, NV 89702

PROJECT: Acebedo Patio Cover
1530 Glacier Drive
Carson City, NV 89702

DESCRIPTION: **This is the as built structural design of the above referenced project, as identified herein. No other elements are implied or assumed.** This construction is considered typical, wood framed patio cover which is an accessory to an existing residential house, Group R-3 Occupancy. The design is in accordance with the 2006 IRC with all exceptions as adopted by the Carson City Building Department. All items that do not comply with the 2006 IRC shall comply with the 2006 IBC and all local governing codes, regulations and ordinances.

DESIGN PARAMETERS:

Roof Live Load: $p_g := 30\,psf$ $p_{rll} := 0.7 \cdot 0.9 \cdot 1.1 \cdot 30 \cdot psf$ $p_{rll} := 21 psf$ (Snow Load, Carson City)

Drift loading: $p_{drift} := p_{rll} + h_{dl} \cdot ft \cdot \left[\min\left[\left(0.13 p_g + 14\right) pcf, 30 pcf\right]\right]$ $p_{drift} = 50.689\,psf$ (7 ft. max from edges)

Roof Dead Load:

Roofing	$R := 5 \cdot psf$	
Sheathing	$S := 1.8 \cdot psf$	
Insulation	$I := 0.0 \cdot psf$	(ASCE 7-05; Min Design Load for Buildings)
Framing	$F := 2.2 \cdot psf$	
Gypsum	$G := 0.0 \cdot psf$	
Miscellaneous	$M := 1.0 \cdot psf$	
Total Roof DL:	$p_{rdl} := R + S + I + F + G + M$	$p_{rdl} = 10.000\,psf$

Wind Speed:	100 mph, Exposure C	(3-second gust wind speed)
Seismic Design Category:	D2	(See Seismic Calculations)
Allowable Soil Bearing:	$p_s := 2000 \cdot psf$	(2006 IBC Table 1804.2)

5/8" Dia. Anchor Bolt:

2x sill plate:	$v_{ab2} := 890 \cdot lb \cdot 1.6$	$v_{ab2} = 1424\,lb$	$HD_{ab} := 1500 \cdot lb \cdot 1.33$
3x sill plate:	$v_{ab3} := 1140 \cdot lb \cdot 1.6$	$v_{ab3} = 1824\,lb$	$HD_{ab} = 1995.000\,lb$

Roof Framing: Site Built Trusses - see Structural Calculations Below.

NOTE: ***These calculations are based on information provided by the client and listed herein. PEAK Consulting Engineers, LLC is not responsible for any changes made to the plans or specifications unless change is approved in writing. Verification of site and soil conditions is the responsibility of the contractor/owner. These calculations are not valid unless they possess an original stamp and signature of the engineer on the cover sheet.***

PEAK
Consulting Engineers, LLC

1625 Hwy 88, Suite 301
Minden, NV 89423
P: (775) 782-5050
F: (775) 782-0854

STRUCTURAL ANALYSIS

PLAN INFORMATION:

Structure Length: $L := 26.0 \cdot ft$ Structure Width: $W := 25.25 \cdot ft$

Wall Height: $h_w := 10.33 \cdot ft$

Roof Pitch: $r_p := \frac{4}{12}$ $\operatorname{atan}(r_p) = 18.435\,deg$

Roof Height: $h_r := r_p \cdot 8.5ft$ $h_r = 2.833\ ft$

Typical Roof Height: $h_m := h_w + \frac{h_r}{2}$ $h_m = 11.747\ ft$

ROOF FRAMING:

Typical GLB Bearing Trusses:

Span: $l := 21.0 \cdot ft$ Tributary Area: $a := 9.17ft$ $a_d := 5ft$

Total Uniform Load: $w := (p_{rdl} + p_{rll}) \cdot a + (p_{rdl} + p_{drift}) \cdot a_d$ $w = 587.717\,plf$

Total Live Load: $w_{ll} := (p_{rll}) \cdot a + (p_{drift}) \cdot a_d$ $w_{ll} = 446.017\,plf$

Total Load Moment: $M_{tl}(w,l) = 32397.875\ lb \cdot ft$ Total Load EI: $EI(w,l,240) = 2.449 \times 10^9\ lb\,in^2$

Total Load Shear: $V_{tl}(w,l) = 6171.024\ lb$ Live Load EI: $EI_{ll}(w_{ll},l,360) = 2.788 \times 10^9\ lb \cdot in^2$

Use: 5 1/8" x 18" GLB 24F-V4 DF/DF

Post @ Typical GLB Bearing Trusses: (Worst Case)

Maximum Total Load: $P := p_{rdl} \cdot 197ft^2 + p_{rll} \cdot 128ft^2 + p_{drift} \cdot 69ft^2$ $P = 8155.562\ lb$ Post Height: $h_p := h_w$

Try: 6x6 P.T. DF: $d := 5.5 \cdot in$ $b := 5.5 \cdot in$ $F_c := 925 \cdot 1.15 \cdot psi$ $E := 1.6 \cdot 10^6 \cdot psi$

Where: $K_{cE} := 0.3$ $K_e := 1.0$ $c := 0.8$ $l_e := K_e \cdot h_p$ $F_{cE}(K_{cE},d,l_e,E) = 944.938\,psi$

Column Stability Factor: $C_p(K_{cE},d,l_e,E,F_c,c) = 0.649$

Allowable Stress: $F'_c(d,l_e) := F_c \cdot C_p(K_{cE},d,l_e,E,F_c,c)$ $F'_c(d,l_e) = 690.070\,psi$

Compressive Stress: $f_c := \frac{P}{d \cdot b}$ $f_c = 269.605\,psi$

Post Footing: Preliminary Pad Size: $A_{pr} := \frac{P + 3217lb}{p_s}$ $A_{pr} = 5.686\ ft^2$ $b := \sqrt{A_{pr}}$ $b = 28.615\,in$

Additional Soil Friction per pier: $HD_{sf} := 250 \cdot psf \cdot 4ft \cdot 2.5 \cdot ft$ $HD_{sf} = 2500.000\ lb$

Required Pad Size: $A_{rq} := \frac{P + 3217lb - HD_{sf}}{p_s}$ $A_{rq} = 4.436\ ft^2$ $b := \sqrt{A_{rq}}$ $b = 25.275\,in$

Use: 6"x 6" P.T. DF Post to 24"x 24"x 30" Ftg. w/ (3) #5 e.w. Top & Bott.

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1625 Hwy 88, Suite 301
Minden, NV 89423
P: (775) 782-5050
F: (775) 782-0854

Typical Truss - See Attached Risa 2D Output: Use: 4x6 No.1 DF Top Chords & 4x6 No.2 DF Bottom Chords w/ 4x4 No.2 DF Bracing, U.N.O.

Typical 2x8 Decking Over Trusses:

Span: $l := 4.0 \cdot ft$ Tributary Area: $a := 0.667 ft$

Total Uniform Load: $w := (p_{rdl} + p_{drift}) \cdot a$ $w = 40.480\,plf$

Total Live Load: $w_{ll} := (p_{rll}) \cdot a$ $w_{ll} = 14.007\,plf$

Total Load Moment: $M_{tl}(w, l) = 80.960\ lb \cdot ft$ Total Load EI: $EI(w, 1, 240) = 1.166 \times 10^6\ lb\,in^2$

Total Load Shear: $V_{tl}(w, l) = 80.960\ lb$ Live Load EI: $EI_{ll}(w_{ll}, 1, 360) = 605102.400\ lb \cdot in^2$

Use: 2" x 8" Resawn DF Decking Over Trusses

PEAK Consulting Engineers, LLC
1625 Hwy 88, Suite 301
Minden, NV 89423
P: (775) 782-5050
F: (775) 782-0854

LATERAL ANALYSIS

SEISMIC DESIGN CRITERIA SELECTION (2006 IBC Chapter 16 & ASCE7-05 Section 12.14)

Seismic Use Group and Importance Category I		$I_E := 1.00$	**(ASCE7-05, Table 11.5-1)**
Response Modification Factor:		$R := 2.0$	**(ASCE7-05, Table 12.14-1)**
House Dimensions:	L = 26.000 ft	W = 25.250 ft	h_w = 10.330 ft

Redundancy Calculation and Verification (Worst Case) Per ASCE7-05 Section 12.3.4.2

$\rho := 1.0$		$\rho = 1.000$	**USE: $\rho = 1.0$**
Seismic Base Shear:	Base Building Area:	$A_i := 656.5ft^2$	$A_i = 656.500\ ft^2$
Short Period:			
Site Coefficients:	$F_a := 1.00$	$S_s := 1.612$	**ASCE 7-05 Table 11.4-1**
Maximum short period spectral acceleration:	$S_{ms} := F_a \cdot S_s$	$S_{ms} = 1.612$	**ASCE 7-05 EQ. 11.4-1**
Design short period spectral acceleration:	$S_{ds} := \frac{2}{3} \cdot S_{ms}$	$S_{ds} = 1.075$	**ASCE 7-05 EQ. 11.4-3**
Building Dead Loads:	$F := 1.0$		**(ASCE 7-05, 12.14.8.1)**
Structure Dead Load:	$W_{hdl} := (A_i \cdot p_{rdl})$		$W_{hdl} = 6565.000$ lb
Total Structure Seismic Base Shear:	$V_{sh} := \frac{F \cdot S_{ds} \cdot W_{hdl}}{(1.4)R} \cdot \rho$	$V_{sh} = 2519.710$ lb	**Base Shear**

PEAK Consulting Engineers, LLC
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WIND CHECK (2006 IBC Section 1609 & ASCE 7-05, Section 6.4)

Loads and coefficients taken from **ASCE 7-05 Figure 6-2 (U.N.O.)**:

Importance Factor: $I := 1.0$ Height & Exposure coefficient: $\lambda := 1.21$

Topographic Factor: $K_{zt} := 1.0$ Roof Angle: $\text{atan}(r_p) = 18.435\,\text{deg}$

Wind Loads:

Worst Case Loading (conservative): Roof Load:

$p_{hr} := 3.818\text{psf} \cdot I \cdot \lambda$ $p_{hr} = 4.620\,\text{psf}$

Minimum Wind Design Load: $p_{min} := 10\text{psf}$ **(ASCE 7-05, Sect. 6.4.2.1.1)**

Check Roof Load: $p_{hr} := \text{if}(p_{hr} > p_{min}, p_{hr}, p_{min})$ $p_{hr} = 10.000\,\text{psf}$

Total Wind Shear:

Structure Shear (Longitudinal): Not Applicable

Structure Shear (Transverse): $V_{tra} := \left[p_{hr} L \cdot (h_r + 2\text{ft})\right]$ $V_{tra} = 1256.667\,\text{lb}$

Governing Design Load:

Governing Longitudinal Load: $V_L := V_{sh}$ $V_L = 2519.710\ \text{lb}$ **(Seismic Governs)**

Governing Transverse Load: $V_T := \text{if}(V_{sh} > V_{tra}, V_{sh}, V_{tra})$ $V_T = 2519.710\ \text{lb}$ **(Seismic Governs)**

CHORD FORCE :

Span: $l := 25.25\text{ft}$ Depth: $d := 17\text{ft}$ Shear : $V := V_L$ $w := \frac{V}{l}$ $w = 99.790\,\text{plf}$

Chord Force: $F_c := \frac{w \cdot l^2}{8 \cdot d}$ $F_c = 467.814\ \text{lb}$

Use: Continuous GLB & Continuous Truss Chords as Chord Ties

PEAK
Consulting Engineers, LLC

1625 Hwy 88, Suite 301
Minden, NV 89423
P: (775) 782-5050
F: (775) 782-0854

LATERAL DESIGN (Transverse & Longitudinal - Worst Case):

Roof diaphragm 1/2" APA span Rated (24/16) Sheathing w/8d common @ 6" o.c. B.N., E.N. and 12" o.c. F.N.

Embeded Posts Designed to Resist Lateral Loads: (Non-Constrained @ Grade)

(See 2006 IBC Section 1805.7.2.1)

Assume a depth of Embedment: $d_o := 2.5ft$ Load Duration Factor: $C_{DW} = 1.330$

Diameter of Footing: or length of diagonal for square ftg. $b := 34in$

Height of Applied Load Above Finished Grade: (Worst Case) $h := 8.83ft$

Applied Load: $P := \frac{V_{sh}}{4}$ $P = 629.927$ lb

Effective Passive Lateral Soil Bearing Pressure @ do: $S_1 := 2 \cdot 150 psf \cdot d_o \cdot C_{DW}$

Required Value for Analysis: $A := \frac{2.34 \cdot P}{S_1 \cdot b}$ $A = 0.522$

Required Depth of Embedment: $d := \frac{A}{2} \cdot \left(1 + \sqrt{1 + \frac{4.36 \cdot h}{A \cdot ft}}\right) \cdot ft$ $d = 2.516$ ft **OK!**

Typical CMU Column Lateral Design (Worst Case):

Span: $l := 8.83 \cdot ft$ Tributary Area: $a_t := 0 \cdot ft$ Depth of Column: $d_v := 24in$

Total Uniform Load: $w := 0$ $w = 0.000$ plf

Total Live Load: $w_{ll} := 0$ $w_{ll} = 0.000$ plf

Point Load: $P := \frac{V_{sh}}{8}$ $P = 314.964$ lb

Total Load Moment: $M_{pe}(1.5P, l) = 4171.694$ lb·ft Total Load EI: $EI_{pe}(P, l, 600) = 6.245 \times 10^9$ lb·ft in^2

Total Load Shear: $V_{pe}(1.5P) = 472.446$ lb

PEAK Consulting Engineers, LLC
1625 Hwy 88, Suite 301
Minden, NV 89423
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Wall System Properties:

Allowable Compressive Stress: $f'_m := 1500psi$

Modulus of elasticity (Masonry): $E_m := (900 \cdot f'_m)$ $E_m = 1.350 \times 10^6 psi$

Modulus of Elasticity (Steel): $E_s := 29 \cdot 10^6 psi$ Modular Ratio: $n := \frac{E_s}{E_m}$ $n = 21.481$

Reinforcing Yield Stress: $f_y := 40000psi$ Width of Beam $b := 7.625in$

Allowable Reinforcement Stress: $F_s := 20000psi$ $F_s = 20000.000\ psi$

Moment Laod: $M := M_{pe}(1.5P, l)$ $M = 4171.694\ lb \cdot ft$

Shear Load: $V := V_{pe}(1.5P)$ $V = 472.446\ lb$

Column Properties:

Depth: $d := d_v - 3.0in$ $d = 21.000\ in$ Area of Reinforcement: $A_s := 0.20in^2$

Flexural Stress:

Tension Reinforcement Ratio: $\rho := \frac{A_s}{b \cdot d}$ $\rho = 0.001$

Neutral Axis Depth Factor: $k := \sqrt{2 \cdot \rho \cdot n + (\rho \cdot n)^2} - \rho \cdot n$ $k = 0.206$

Lever Arm Factor: $j := 1 - \frac{k}{3}$ $j = 0.931$

Tensile Stress in reinforcement due to flexure: $f_s := \frac{M}{A_s \cdot j \cdot d}$ $f_s = 12799.602\ psi$

Allowable Reinforcement Stress: $F_s = 20000.000\ psi$ $F_s = 20000.000\ psi$ **O.K.**

Compresion Stress due to flexure: $f_b := \frac{2 \cdot M}{j \cdot k \cdot b \cdot d^2}$ $f_b = 154.937\ psi$

Allowable Masonry Stress: $F_b := 0.333 \cdot f'_m$ $F_b = 499.500\ psi$ **O.K.**

Shear Stress:

Shear Stress in Masonry: $f_v := \frac{V}{b \cdot d}$ $f_v = 2.950\ psi$

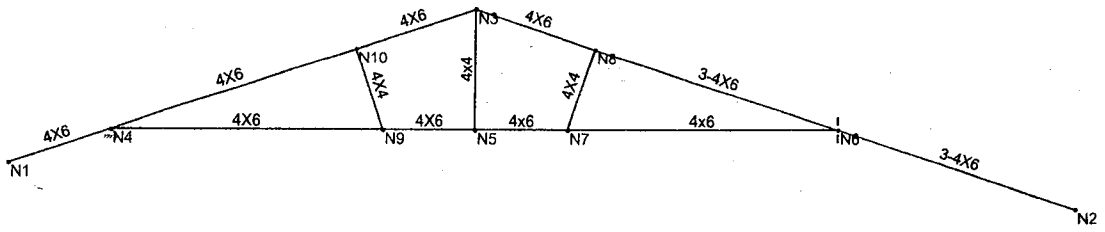
Allowable Shear Stress (Masonry only): $F_{vm} := 0.5 \min\left(\sqrt{f'_m \cdot psi}, 50psi\right)$ $F_{vm} = 19.365\ psi$ **O.K.**

Allowable Shear Stress (Masonry w/ Reinforcement): $F_{vs} := 0.5 \min\left(3\sqrt{f'_m \cdot psi}, 150psi\right)$ $F_{vs} = 58.095\ psi$ **O.K.**

Minimum Area of shear reinforcement: $A_{smin} := \frac{V}{F_s \cdot d}$ $A_{smin} = 0.001\ in$

$A_v := \text{if}\left(F_{vm} > f_v, 0in, \min\left(\frac{0.2in^2}{A_{smin}}, \frac{d}{2}\right)\right)$ $A_v = 0.000\ in$

For Masonry Shear Columns Use: 8" CMU Blocks x 24" deep w/ (1) - #4 @ Each Corner



Solution: Envelope
Plate X Corner Forces (lb)
Reaction units are lb and lb-ft

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jgd/jgd		July 17, 2009 at 1:50 PM
TBD-002-000		Acebedo Truss.R2D

Member Primary Data

	Label	I Joint	J Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	M1	N1	N4		4X6	Beam	Rectangular	DF Larch 1	Typical
2	M2	N4	N10		4X6	Beam	Rectangular	DF Larch 1	Typical
3	M3	N10	N3		4X6	Beam	Rectangular	DF Larch 1	Typical
4	M5	N6	N8		3-4X6	Beam	Rectangular	DF Larch 2	Typical
5	M6	N8	N3		4X6	Beam	Rectangular	DF Larch 1	Typical
6	M7	N5	N3		4x4	VBrace	Rectangular	DF Larch 1	Typical
7	M8	N4	N9		4X6	Beam	Rectangular	DF Larch 2	Typical
8	M9	N9	N5		4X6	Beam	Rectangular	DF Larch 2	Typical
9	M10	N5	N7		4x6	Beam	Rectangular	DF Larch 2	Typical
10	M11	N7	N6		4x6	Beam	Rectangular	DF Larch 2	Typical
11	M12	N7	N8		4X4	VBrace	Rectangular	DF Larch 2	Typical
12	M13	N9	N10		4X4	VBrace	Rectangular	DF Larch 2	Typical
13	M4	N2	N6		3-4X6	Beam	Rectangular	DF Larch 2	Typical

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	I (90,270) [i...	J (0,180) [in4]
1	WOOD1	2X6	Beam	Rectangular	DF Larch 1	Typical	8.25	1.547	20.797

Wood Material Properties

	Label	Species	Grade	Cm	Emod	Nu	Therm (\...	Dens[lb/ft^3]
1	DF Larch 1	Douglas Fir-Larch	No.1		1	.3	.3	35.001
2	So Pine	Southern Pine	No.1		1	.3	.3	35.001
3	DF Larch 2	Douglas Fir-Larch	No.2		1	.3	.3	35

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	0	0	0
2	N2	25.041667	-1.069444	0
3	N3	10.916667	3.638889	0
4	N4	2.416667	0.805556	0
5	N5	10.916667	0.805556	0
6	N6	19.416667	0.805556	0
7	N7	13.092111	0.805556	0
8	N8	13.724567	2.702922	0
9	N9	8.741222	0.805556	0
10	N10	8.108766	2.702922	0

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	DL	DL			7	1	
2	SL	SL			6		
3	WLW	WLX					3
4	WLL	WL					3
5	EL	EL					6
6	DRIFT SL	SL			2		

Load Combinations

	Description	Solve	PD...	SR...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL+SL	Yes	Y		DL	10	SL	21					6	51						

Load Combinations (Continued)

	Description	Solve	PD	SR	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
2	DL+SL+0.5WL	Yes	Y		DL	10	SL	21	3	3.075	4	1.925	6	51						
3	DL+SL+0.5WL	Yes	Y		DL	10	SL	21	4	-3.075	3	-1.925	6	51						
4	DL+0.5SL+WL	Yes	Y		DL	10	SL	10.5	3	6.15	4	3.85	6	25.5						
5	DL+0.5SL+WL	Yes	Y		DL	10	SL	10.5	4	-6.15	3	-3.85	6	25.5						
6	DL+SL+EL	Yes	Y		DL	10	SL	21	EL	3.84			6	51						
7	DL+SL+EL	Yes	Y		DL	10	SL	21	EL	-3.84			6	51						

Wood Design Parameters

	Label	Shape	Length...	Le-out[ft]	Le-in[ft]	le-bend top[ft]	le-bend bot[ft]	K-out	K-in	CV	Cr	Out s...	In sway
1	M1	4X6	2.547										
2	M2	4X6	6										
3	M3	4X6	2.96										
4	M5	3-4X6	6										
5	M6	4X6	2.96										
6	M7	4x4	2.833										
7	M8	4X6	6.325										
8	M9	4X6	2.175										
9	M10	4x6	2.175										
10	M11	4x6	6.325										
11	M12	4X4	2										
12	M13	4X4	2										
13	M4	3-4X6	5.929										

Joint Loads and Enforced Displacements (BLC 1 : DL)

	Joint Label	L,D,M	Direction	Magnitude[lb,lb-ft in,rad lb*s^2/ft]
1	N1	L	Y	-4.84
2	N4	L	Y	-17.5
3	N10	L	Y	-17
4	N3	L	Y	-11.25
5	N8	L	Y	-17
6	N6	L	Y	-24
7	N2	L	Y	-11.25

Joint Loads and Enforced Displacements (BLC 2 : SL)

	Joint Label	L,D,M	Direction	Magnitude[lb,lb-ft in,rad lb*s^2/ft]
1	N1	L	Y	-4.84
2	N4	L	Y	-17.5
3	N10	L	Y	-17
4	N3	L	Y	-11.25
5	N8	L	Y	-17
6	N6	L	Y	-11.4

Joint Loads and Enforced Displacements (BLC 6 : DRIFT SL)

	Joint Label	L,D,M	Direction	Magnitude[lb,lb-ft in,rad lb*s^2/ft]
1	N6	L	Y	-11.34
2	N2	L	Y	-11.34

Member Distributed Loads (BLC 3 : WLW)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	4	4	0	0
2	M2	X	4	4	0	0
3	M3	X	4	4	0	0

Member Distributed Loads (BLC 4 : WLL)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M6	X	4	4	0	0
2	M5	X	4	4	0	0
3	M4	X	4	4	0	0

Member Distributed Loads (BLC 5 : EL)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	4	4	0	0
2	M2	X	4	4	0	0
3	M3	X	4	4	0	0
4	M4	X	4	4	0	0
5	M5	X	4	4	0	0
6	M6	X	4	4	0	0

Envelope Joint Reactions

	Joint		X [lb]	lc	Y [lb]	lc	Moment [lb-ft]	lc
1	N4	max	543.481	5	1125.805	7	0	1
2		min	-512.368	4	740.679	4	0	1
3	N6	max	0	1	3228.007	6	0	1
4		min	0	1	1889.595	5	0	1
5	Totals:	max	543.481	5	4320.15	1		
6		min	-512.368	4	2674.275	5		

Envelope Joint Displacements

	Joint		X [in]	lc	Y [in]	lc	Rotation [rad]	lc
1	N1	max	.004	7	-.006	4	6.993e-4	7
2		min	.002	4	-.013	7	3.971e-4	4
3	N2	max	-.132	4	-.409	4	-7.806e-3	4
4		min	-.255	7	-.769	7	-1.457e-2	7
5	N3	max	.002	4	-.005	5	7.056e-4	6
6		min	0	5	-.011	6	3.614e-4	5
7	N4	max	0	4	0	4	-2.077e-5	5
8		min	0	5	0	7	-2.002e-4	6
9	N5	max	.003	6	-.005	5	1.127e-3	6
10		min	0	5	-.011	6	5.917e-4	5
11	N6	max	.004	4	0	5	-2.555e-3	4
12		min	0	5	0	6	-4.924e-3	7
13	N7	max	.004	6	.028	7	1.11e-3	6
14		min	0	5	.009	4	6.045e-4	5
15	N8	max	.012	6	.026	7	1.229e-3	6
16		min	.005	5	.008	4	6.956e-4	5
17	N9	max	.003	6	-.016	5	2.191e-4	2
18		min	0	5	-.032	6	1.22e-4	5
19	N10	max	.008	6	-.015	5	5.51e-5	3
20		min	.003	5	-.031	6	2.27e-5	4

Envelope Member Section Forces

	Member	Sec		Axial[lb]	lc	Shear[lb]	lc	Moment[lb-ft]	lc
1	M1	1	max	-31.376	4	-94.112	5	0	1
2			min	-47.447	3	-142.33	6	0	1
3		2	max	-16.514	4	-91.011	5	91.627	6
4			min	-56.727	7	-145.423	6	58.948	5
5		3	max	-1.651	4	-87.909	5	185.225	6
6			min	-66.007	7	-148.516	6	115.92	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	lc	Shear[lb]	lc	Moment[lb-ft]	lc
7		4	max	13.211	4	-84.808	5	280.792	6
8			min	-75.287	7	-151.61	6	170.917	5
9		5	max	28.074	4	-81.707	5	378.329	6
10			min	-84.567	7	-154.703	6	223.939	5
11	M2	1	max	1014.55	7	83.113	6	196.386	6
12			min	537.871	4	26.568	5	104.439	5
13		2	max	992.692	7	75.827	6	85.009	7
14			min	572.878	4	33.873	5	48.869	4
15		3	max	970.835	7	68.541	6	2.82	5
16			min	607.884	4	41.178	5	-31.095	6
17		4	max	948.977	7	71.359	7	-64.426	5
18			min	642.89	4	35.337	4	-128.443	6
19		5	max	927.119	7	78.645	7	-136.4	4
20			min	677.897	4	23.668	4	-219.713	7
21	M3	1	max	629.721	7	-92.076	4	-209.418	5
22			min	474.366	4	-153.37	7	-349.182	6
23		2	max	618.939	7	-97.832	4	-134.922	5
24			min	491.635	4	-149.776	7	-240.333	6
25		3	max	611.178	3	-95.273	5	-63.092	5
26			min	508.903	4	-152.495	6	-128.824	6
27		4	max	609.94	2	-91.669	5	6.071	5
28			min	518.379	5	-156.089	6	-14.656	6
29		5	max	618.574	2	-88.066	5	102.504	2
30			min	507.568	5	-159.684	6	72.568	5
31	M5	1	max	385.542	4	-409.639	4	-2139.912	4
32			min	-90.012	7	-793.458	7	-4006	7
33		2	max	363.628	4	-416.944	4	-1519.975	4
34			min	-68.154	7	-786.173	7	-2821.277	7
35		3	max	341.713	4	-424.249	4	-889.081	4
36			min	-46.296	7	-778.887	7	-1647.482	7
37		4	max	319.799	4	-431.554	4	-247.229	4
38			min	-24.439	7	-771.601	7	-484.617	7
39		5	max	297.884	4	-429.105	5	674.304	6
40			min	-2.581	7	-771.509	6	396.42	5
41	M6	1	max	528.243	6	14.144	4	77.343	6
42			min	364.317	5	-24.073	7	72.857	4
43		2	max	517.461	6	10.54	4	93.64	7
44			min	381.586	5	-20.479	7	63.725	4
45		3	max	506.679	6	9.472	5	107.463	7
46			min	398.855	5	-18.644	6	57.259	4
47		4	max	495.896	6	15.229	5	118.627	7
48			min	416.123	5	-22.239	6	53.459	4
49		5	max	488.579	2	20.985	5	132.527	6
50			min	433.392	5	-25.833	6	45	5
51	M7	1	max	141.866	7	181.177	6	278.637	6
52			min	18.864	4	91.462	5	141.573	5
53		2	max	141.866	7	181.177	6	150.303	6
54			min	18.864	4	91.462	5	76.788	5
55		3	max	141.866	7	181.177	6	21.97	6
56			min	18.864	4	91.462	5	12.003	5
57		4	max	141.866	7	181.177	6	-52.783	5
58			min	18.864	4	91.462	5	-106.364	6
59		5	max	141.866	7	181.177	6	-117.568	5
60			min	18.864	4	91.462	5	-234.698	6
61	M8	1	max	-267.311	5	68.766	6	182.104	3
62			min	-1095.781	6	41.638	5	119.389	4
63		2	max	-267.311	5	68.766	6	78.308	7

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	lc	Shear[lb]	lc	Moment[lb-ft]	lc
64			min	-1095.781	6	41.638	5	47.002	4
65		3	max	-267.311	5	68.766	6	-12.171	5
66			min	-1095.781	6	41.638	5	-35.514	6
67		4	max	-267.311	5	68.766	6	-78.007	5
68			min	-1095.781	6	41.638	5	-144.243	6
69		5	max	-267.311	5	68.766	6	-143.842	5
70			min	-1095.781	6	41.638	5	-252.971	6
71	M9	1	max	-143.045	5	-98.851	5	-223.941	5
72			min	-862.091	6	-169.873	6	-410.525	6
73		2	max	-143.045	5	-98.851	5	-170.18	5
74			min	-862.091	6	-169.873	6	-318.138	6
75		3	max	-143.045	5	-98.851	5	-116.418	5
76			min	-862.091	6	-169.873	6	-225.751	6
77		4	max	-143.045	5	-98.851	5	-61.358	4
78			min	-862.091	6	-169.873	6	-134.483	7
79		5	max	-143.045	5	-98.851	5	8.383	4
80			min	-862.091	6	-169.873	6	-54.314	7
81	M10	1	max	-51.582	5	-135.431	5	-150.469	5
82			min	-680.906	6	-297.78	6	-319.614	6
83		2	max	-51.582	5	-135.431	5	-73.212	4
84			min	-680.906	6	-297.78	6	-160.559	7
85		3	max	-51.582	5	-135.431	5	6.719	4
86			min	-680.906	6	-297.78	6	-3.224	7
87		4	max	-51.582	5	-135.431	5	166.24	6
88			min	-680.906	6	-297.78	6	70.498	5
89		5	max	-51.582	5	-135.431	5	328.191	6
90			min	-680.906	6	-297.78	6	144.154	5
91	M11	1	max	427.374	7	-134.38	4	-153.724	4
92			min	-327.516	4	-245.064	7	-261.959	7
93		2	max	427.374	7	-134.38	4	125.521	7
94			min	-327.516	4	-245.064	7	58.749	4
95		3	max	427.374	7	-134.38	4	513.002	7
96			min	-327.516	4	-245.064	7	271.223	4
97		4	max	427.374	7	-134.38	4	900.483	7
98			min	-327.516	4	-245.064	7	483.696	4
99		5	max	427.374	7	-134.38	4	1287.964	7
100			min	-327.516	4	-245.064	7	696.17	4
101	M12	1	max	-96.671	5	588.659	6	580.357	6
102			min	-260.649	6	317.051	5	310.718	5
103		2	max	-96.671	5	588.659	6	286.028	6
104			min	-260.649	6	317.051	5	152.192	5
105		3	max	-96.671	5	588.659	6	-6.209	4
106			min	-260.649	6	317.051	5	-8.379	7
107		4	max	-96.671	5	588.659	6	-164.859	5
108			min	-260.649	6	317.051	5	-302.631	6
109		5	max	-96.671	5	588.659	6	-323.384	5
110			min	-260.649	6	317.051	5	-596.961	6
111	M13	1	max	301.397	6	145.937	6	157.554	6
112			min	172.689	5	73.444	5	80.099	5
113		2	max	301.397	6	145.937	6	84.585	6
114			min	172.689	5	73.444	5	43.377	5
115		3	max	301.397	6	145.937	6	11.617	6
116			min	172.689	5	73.444	5	6.655	5
117		4	max	301.397	6	145.937	6	-30.067	5
118			min	172.689	5	73.444	5	-61.352	6
119		5	max	301.397	6	145.937	6	-66.789	5
120			min	172.689	5	73.444	5	-134.321	6

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	lc	Shear[lb]	lc	Moment[lb-ft]	lc
121	M4	1	max	-164.672	4	878.452	7	0	1
122			min	-293.769	2	492.756	4	0	1
123		2	max	-130.079	5	885.652	7	-725.071	4
124			min	-315.369	6	485.538	4	-1307.482	7
125		3	max	-95.485	5	892.852	7	-1439.442	4
126			min	-336.969	6	478.319	4	-2625.637	7
127		4	max	-60.891	5	900.052	7	-2143.113	4
128			min	-358.569	6	471.1	4	-3954.464	7
129		5	max	-26.297	5	907.252	7	-2836.082	4
130			min	-380.169	6	463.881	4	-5293.964	7

Envelope Member Section Deflections

	Member	Sec		x [in]	lc	y [in]	lc	L/y Ratio	lc
1	M1	1	max	0	4	-.007	4	4549.297	4
2			min	0	7	-.014	7	2225.955	7
3		2	max	0	4	-.004	4	8270.645	4
4			min	0	7	-.008	7	3631.055	7
5		3	max	0	4	-.001	4	NC	4
6			min	0	7	-.004	7	7909.701	7
7		4	max	0	4	0	4	NC	4
8			min	0	7	0	7	NC	7
9		5	max	0	1	0	1	NC	1
10			min	0	1	0	1	NC	1
11	M2	1	max	0	1	0	1	NC	1
12			min	0	1	0	1	NC	1
13		2	max	0	4	-.003	5	NC	5
14			min	0	7	-.007	6	NC	6
15		3	max	0	4	-.008	5	NC	5
16			min	-.001	7	-.018	6	NC	6
17		4	max	-.001	4	-.013	5	NC	5
18			min	-.002	7	-.028	6	NC	6
19		5	max	-.001	4	-.016	5	NC	5
20			min	-.002	7	-.032	6	NC	6
21	M3	1	max	-.001	4	-.016	5	NC	5
22			min	-.002	7	-.032	6	NC	6
23		2	max	-.001	4	-.014	5	NC	5
24			min	-.002	7	-.029	6	NC	6
25		3	max	-.002	4	-.011	5	NC	5
26			min	-.002	7	-.024	6	NC	6
27		4	max	-.002	4	-.008	5	NC	5
28			min	-.003	7	-.018	6	NC	6
29		5	max	-.002	4	-.004	5	NC	5
30			min	-.003	7	-.011	6	NC	6
31	M5	1	max	0	5	0	5	NC	5
32			min	-.004	4	-.001	4	NC	4
33		2	max	0	5	-.031	4	2622.208	4
34			min	-.004	4	-.058	7	1408.595	7
35		3	max	0	5	-.035	4	2435.784	4
36			min	-.004	4	-.069	7	1306.208	7
37		4	max	0	5	-.025	4	4276.703	4
38			min	-.004	4	-.053	7	2277.549	7
39		5	max	0	5	-.01	4	NC	4
40			min	-.004	4	-.028	7	NC	7
41	M6	1	max	0	5	-.01	4	NC	4
42			min	-.004	4	-.028	7	1036.668	7
43		2	max	0	5	-.004	4	NC	4

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	lc	y [in]	lc	L/y Ratio	lc
44			min	-.005	4	-.018	7	1483.736	7
45		3	max	0	5	.001	4	NC	4
46			min	-.005	4	-.008	7	2418.466	7
47		4	max	0	5	.006	4	NC	4
48			min	-.005	4	0	7	5329.763	7
49		5	max	0	5	.01	6	NC	6
50			min	-.005	4	.005	5	NC	5
51	M7	1	max	-.005	5	0	5	NC	5
52			min	-.011	6	-.003	6	NC	6
53		2	max	-.005	5	.003	7	8987.715	7
54			min	-.011	6	0	4	NC	4
55		3	max	-.005	5	.001	7	NC	7
56			min	-.011	6	-.001	4	NC	4
57		4	max	-.005	5	0	5	NC	5
58			min	-.011	6	-.003	6	NC	6
59		5	max	-.005	5	0	5	NC	5
60			min	-.011	6	-.002	4	NC	4
61	M8	1	max	0	1	0	1	NC	1
62			min	0	1	0	1	NC	1
63		2	max	0	6	-.003	5	NC	5
64			min	0	5	-.008	6	NC	6
65		3	max	.001	6	-.009	5	NC	5
66			min	0	5	-.02	6	NC	6
67		4	max	.002	6	-.015	5	NC	5
68			min	0	5	-.03	6	NC	6
69		5	max	.003	6	-.016	5	NC	5
70			min	0	5	-.032	6	NC	6
71	M9	1	max	.003	6	-.016	5	NC	5
72			min	0	5	-.032	6	NC	6
73		2	max	.003	6	-.014	5	NC	5
74			min	0	5	-.029	6	NC	6
75		3	max	.003	6	-.012	5	NC	5
76			min	0	5	-.025	6	8783.039	6
77		4	max	.003	6	-.008	5	NC	5
78			min	0	5	-.018	6	NC	6
79		5	max	.003	6	-.005	5	NC	5
80			min	0	5	-.011	6	NC	6
81	M10	1	max	.003	6	-.005	5	NC	5
82			min	0	5	-.011	6	NC	6
83		2	max	.004	6	.002	7	3216.554	7
84			min	0	5	-.006	4	1727.28	4
85		3	max	.004	6	.011	7	1509.954	7
86			min	0	5	0	4	2648.654	4
87		4	max	.004	6	.02	7	985.741	7
88			min	0	5	.004	4	5622.719	4
89		5	max	.004	6	.028	7	753.128	7
90			min	0	5	.009	4	NC	4
91	M11	1	max	.004	6	.028	7	NC	7
92			min	0	5	.009	4	NC	4
93		2	max	.004	6	.053	7	2369.075	7
94			min	0	5	.024	4	4537.71	4
95		3	max	.004	6	.071	7	1329.454	7
96			min	0	5	.035	4	2514.583	4
97		4	max	.004	4	.061	7	1416.075	7
98			min	0	5	.031	4	2658.549	4
99		5	max	.004	4	0	1	NC	1
100			min	0	5	0	1	NC	1

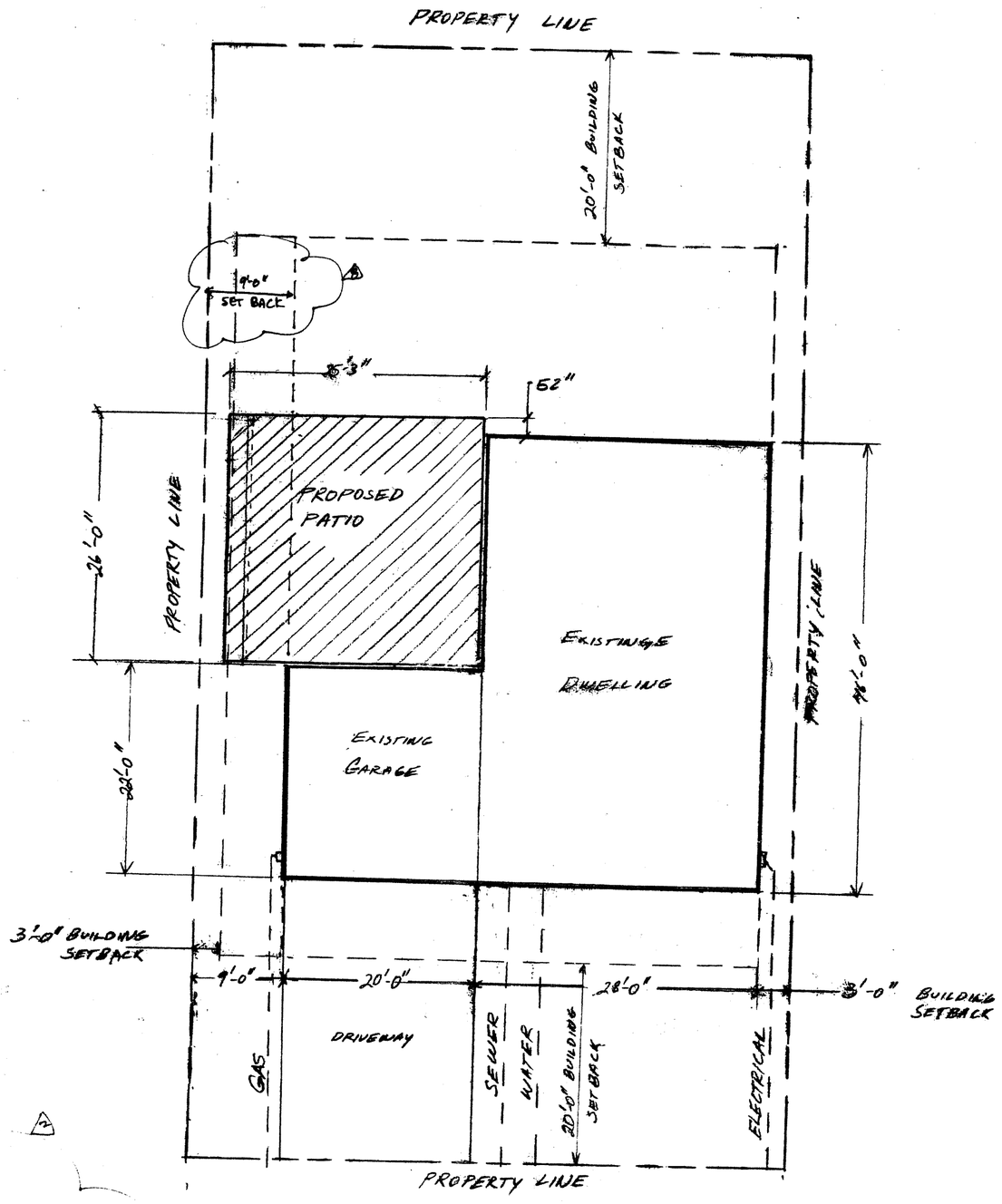
Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	lc	y [in]	lc	L/y Ratio	lc
101	M12	1	max	.028	7	.007	7	3009.583	7
102			min	.01	4	0	4	NC	4
103		2	max	.028	7	.008	7	2711.907	7
104			min	.01	4	0	4	NC	4
105		3	max	.028	7	.003	7	6619.864	7
106			min	.01	4	-.003	4	NC	4
107		4	max	.028	7	-.001	5	NC	5
108			min	.01	4	-.005	6	6963.999	6
109		5	max	.028	7	0	5	NC	5
110			min	.01	4	-.004	4	NC	4
111	M13	1	max	-.015	5	.008	6	NC	6
112			min	-.031	6	.004	5	NC	5
113		2	max	-.015	5	.007	6	NC	6
114			min	-.031	6	.004	5	NC	5
115		3	max	-.016	5	.005	6	NC	6
116			min	-.032	6	.003	5	NC	5
117		4	max	-.016	5	.003	7	NC	7
118			min	-.032	6	.002	4	NC	4
119		5	max	-.016	5	.002	7	NC	7
120			min	-.032	6	.001	4	NC	4
121	M4	1	max	0	5	.811	7	87.753	7
122			min	-.004	4	.43	4	164.947	4
123		2	max	0	5	.554	7	128.296	7
124			min	-.004	4	.293	4	241.838	4
125		3	max	0	5	.319	7	222.564	7
126			min	-.004	4	.167	4	421.345	4
127		4	max	0	5	.127	7	557.582	7
128			min	-.004	4	.066	4	1062.38	4
129		5	max	0	5	0	5	NC	5
130			min	-.004	4	-.001	4	NC	4

Envelope Wood Code Checks

	Member	Shape	Code Check	Loc[ft]	lc	Shear ...	Loc[ft]	lc	Fc'[psi]	Ft'[psi]	Fb'[psi]	Fv'[psi]	Eqn
1	M1	4X6	.167	2.547	1	.054	0	1	1770.1...	1009.1...	1495	207	3.9-1
2	M2	4X6	.103	6	1	.027	0	6	990.173	1009.1...	1495	207	3.9-3
3	M3	4X6	.157	0	1	.056	0	1	1715.84	1009.1...	1495	207	3.9-3
4	M5	3-4X6	.663	0	1	.096	0	1	1417.6...	859.625	1345.5	207	3.9-3
5	M6	4X6	.059	2.96	1	.008	2.96	6	1715.84	1009.1...	1495	207	3.9-3
6	M7	4x4	.265	0	1	.104	0	1	1803.3...	1164.3...	1725	207	3.9-3
7	M8	4X6	.173	6.325	1	.025	0	1	852.091	859.625	1345.5	207	3.9-1
8	M9	4X6	.236	0	1	.060	0	1	1631.7...	859.625	1345.5	207	3.9-1
9	M10	4x6	.188	2.175	1	.110	0	1	1631.7...	859.625	1345.5	207	3.9-1
10	M11	4x6	.644	6.325	1	.091	0	1	852.091	859.625	1345.5	207	3.9-3
11	M12	4X4	.663	2	1	.346	0	1	1716.0...	991.875	1552.5	207	3.9-1
12	M13	4X4	.163	0	1	.082	0	1	1716.0...	991.875	1552.5	207	3.9-3
13	M4	3-4X6	.883	5.929	1	.110	0	1	1426.1...	859.625	1345.5	207	3.9-1

⚠ - SYMBOL INDICATES
PLAN REV. COMM. MAY 6, 2009



1050 GLACIER DR.

SITE PLAN
1" = 10'

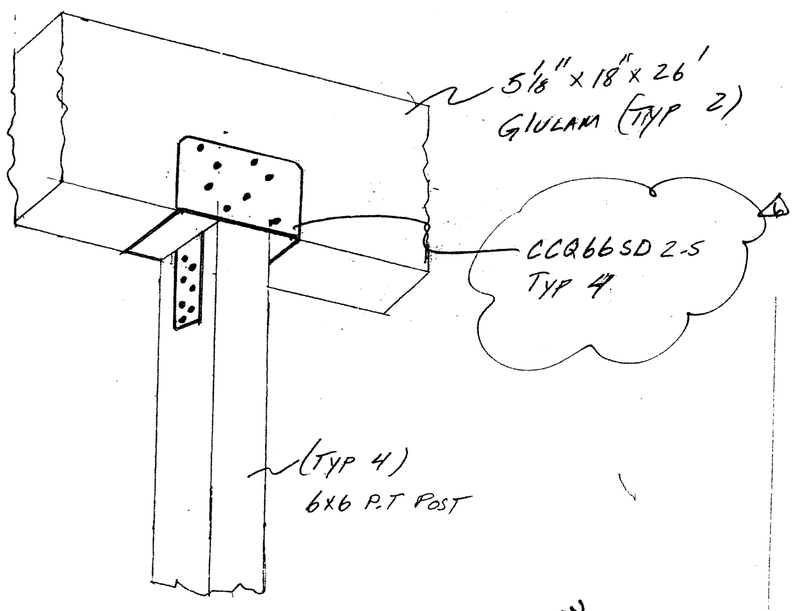
N

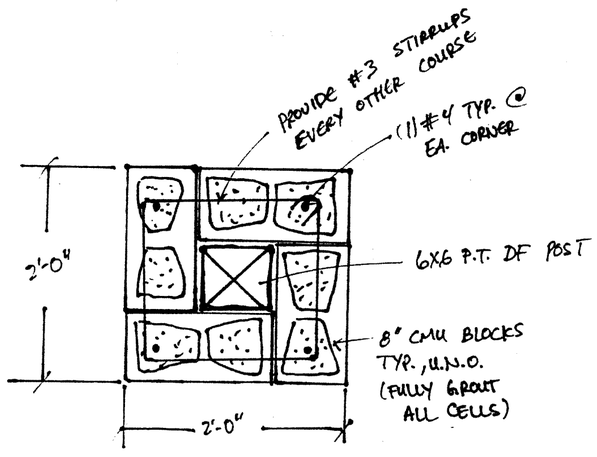
CODE - 2006 - IRC
SNOW LOAD PSF 30LBS
SEISMIC ZONE D2
WIND LOAD 100 MPH (3-second gust)

SCALE: 1" = 10'	APPROVED BY:	DRAWN BY
DATE:		REVISED
AURELIO ACEBEDO 1050 GLACIER DR. CARSON CITY NV.		
APN # 010-432-18		DRAWING NUMBER 1 of 4

⚠ - SYMBOL INDICATES
PLAN REV. COMM.
May 6, 2009

DETAIL A





CMU COLUMN DETAIL
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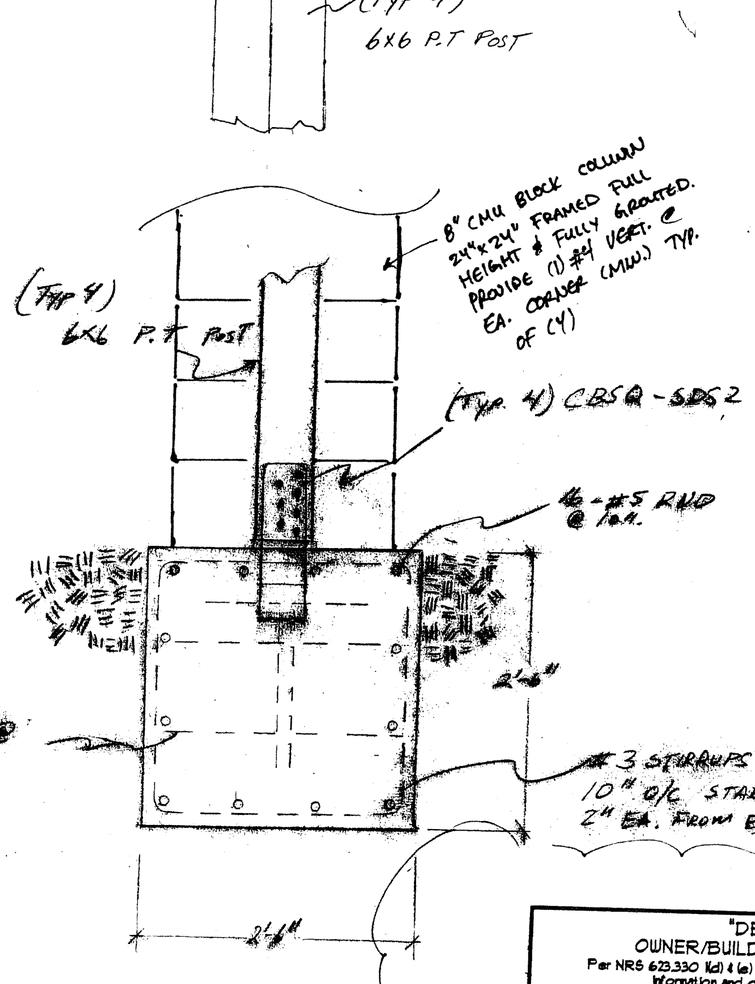

FOOTING DETAIL
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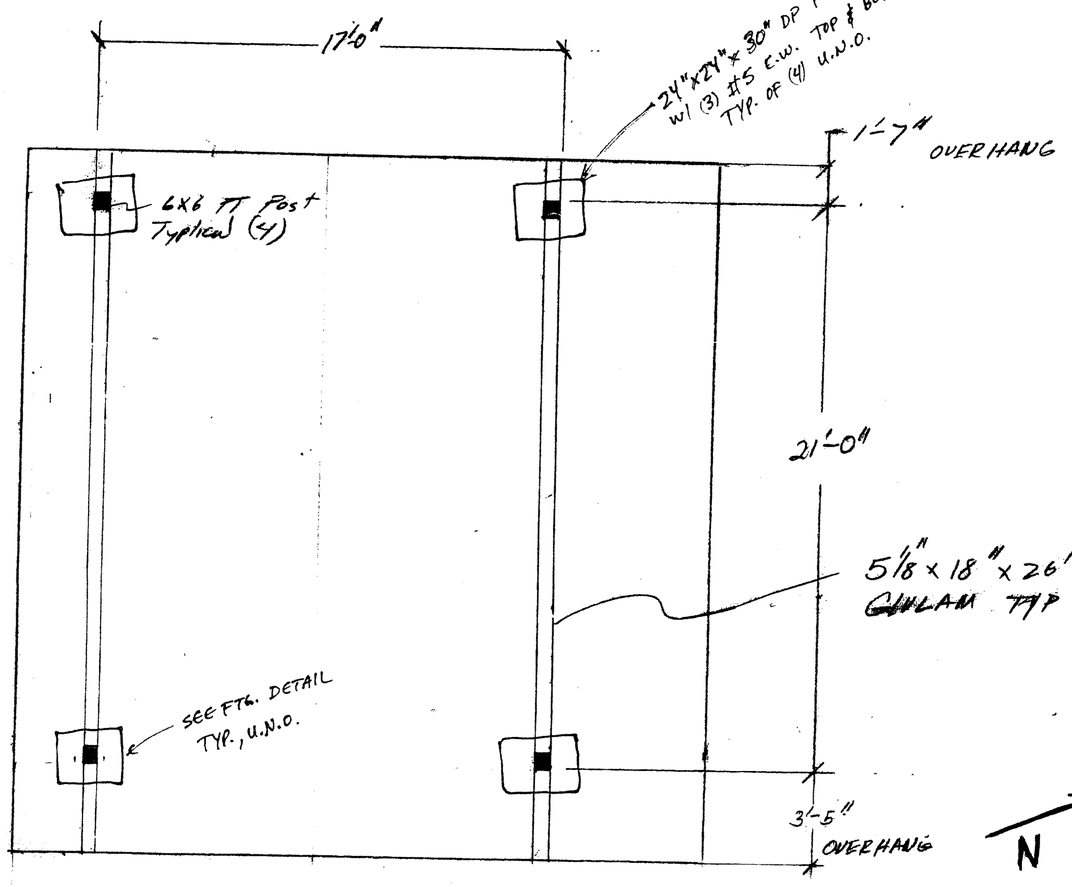


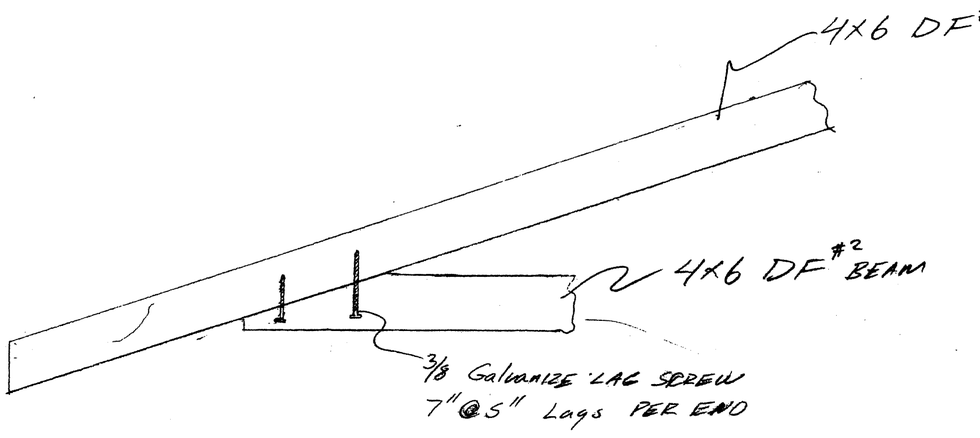
TOP VIEW
FOOTING VIEW

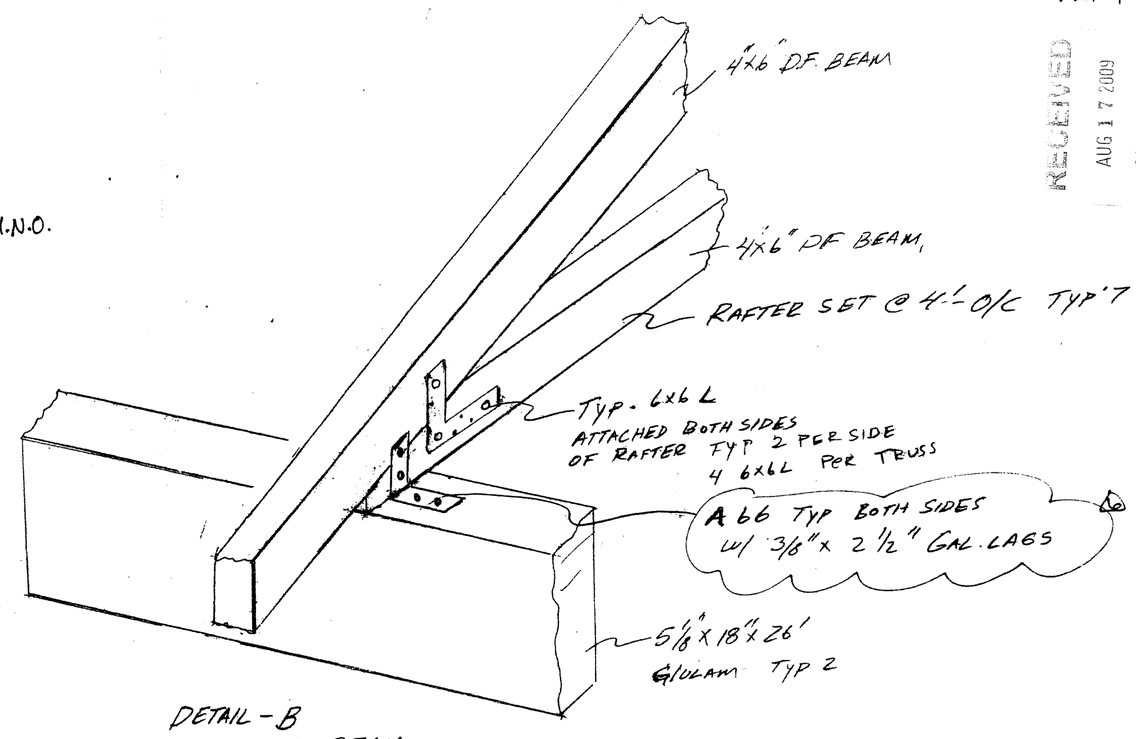
N

Structural Design Only
Peak Consulting Engineers, LLC
1625 Hwy 88 Suite 301
Minden, NV 89423

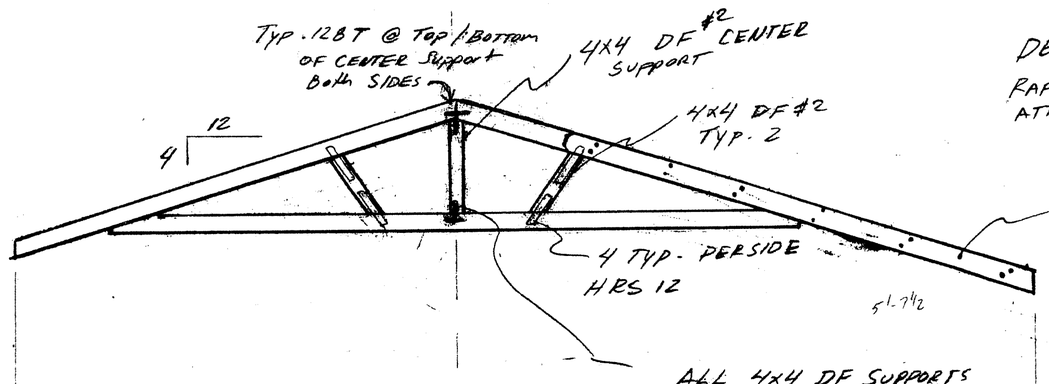
SCALE:	APPROVED BY:	DRAWN BY
DATE:		REVISED
AURELIO ACEBEDO 1050 GLACIER DR. CARSON City NV.		
APN # 010-432-18		DRAWING NUMBER 2 of 4

⚠ - SYMBOL INDICATES PLAN REV. COMM. MAY 6, 2009





DETAIL - B
RAFTER TO BEAM ATTACHMENT



ALL 4X4 DF SUPPORTS ARE ATTACHED W/ GAL LAG SCREWS TOP / BOTTOM TYP 7 RAFTERS

SCAB ON (2) 4X6 DF #2 RAFTERS X 12' LENGTH (MIN.) W/ (2) 1/2" ø THRU-BOLTS @ 24" O.C. FULL-LENGTH OF SCABBED MEMBERS. (1) ADDITIONAL 4X6 ON EACH SIDE TYP. @ EACH TRUSS WHERE TAIL EXCEEDS 3' IN LENGTH UNLESS NOTED OTHERWISE

Structural Design Only
Peak Consulting Engineers, LLC
1625 Hwy 88 Suite 301
Minden, NV 89423

"DESIGNER"
OWNER/BUILDER-CONTRACTOR
Per NRS 623.330 1(d) & (e) - I am responsible for the preparation, information and design shown on these plans.
AURELIO ACEBEDO (Owner)
1050 GLACIER DR. CARSON CITY, NV
SIGNATURE DATE

SCALE:	APPROVED BY:	DRAWN BY
DATE:		REVISED
AURELIO ACEBEDO 1050 GLACIER DR. Carson City		
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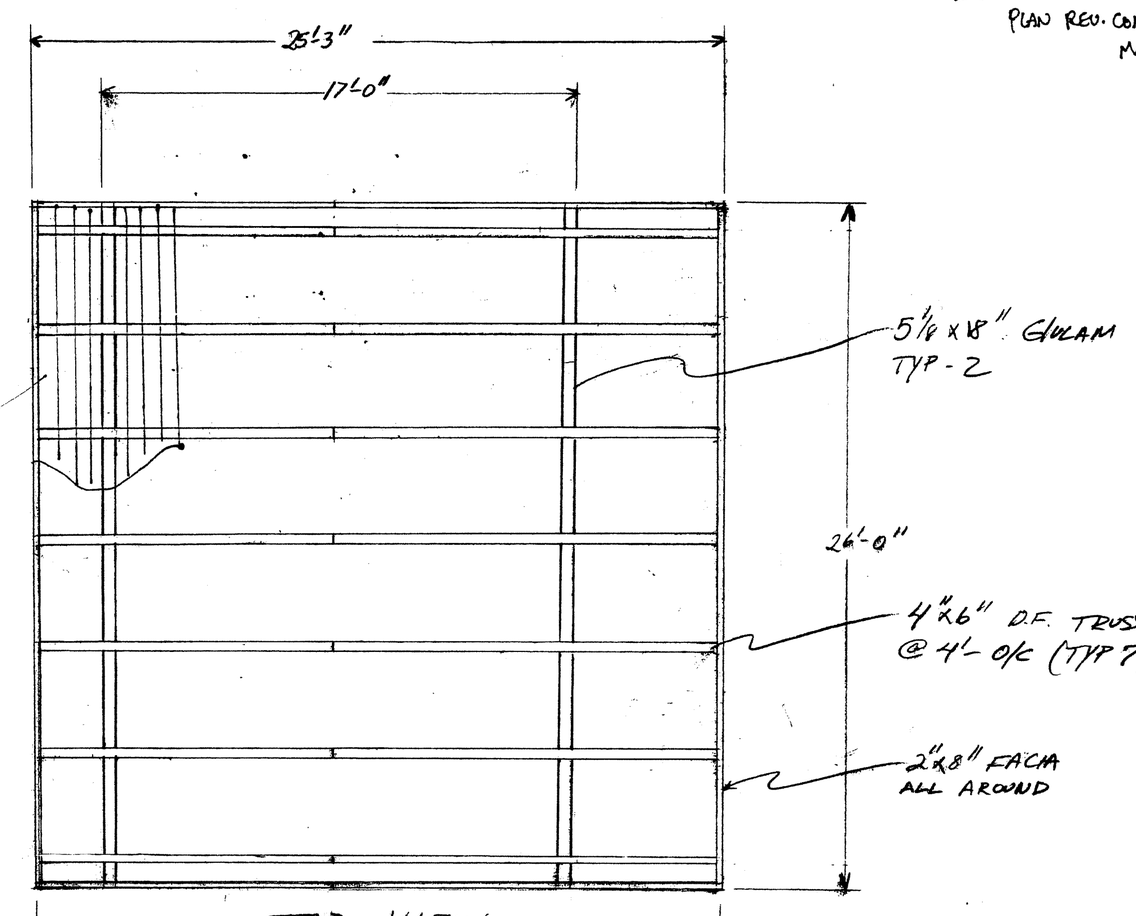
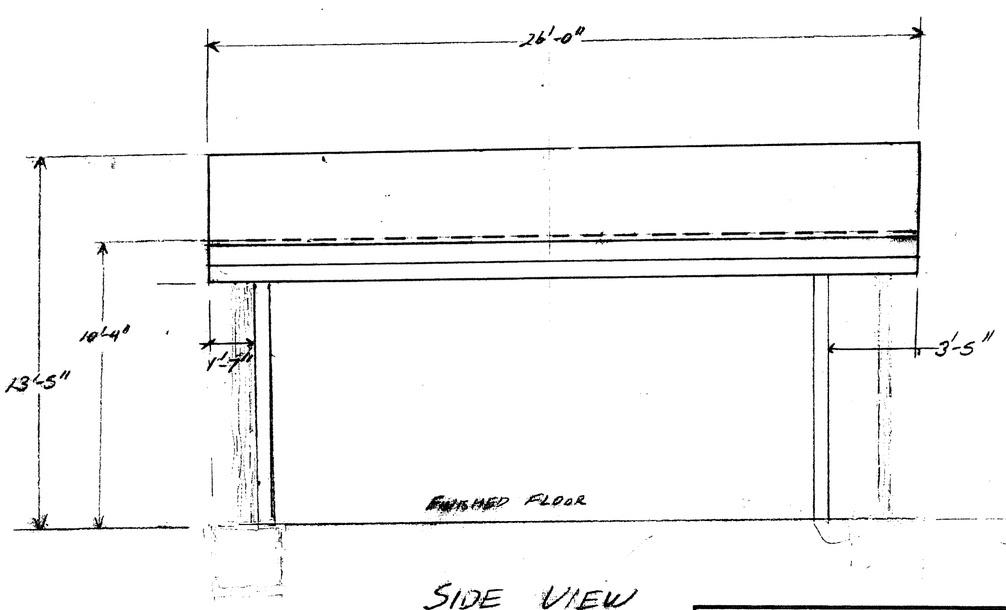
⚠ - SYMBOL INDICATES PLAN REV. COMM. May 6, 2009

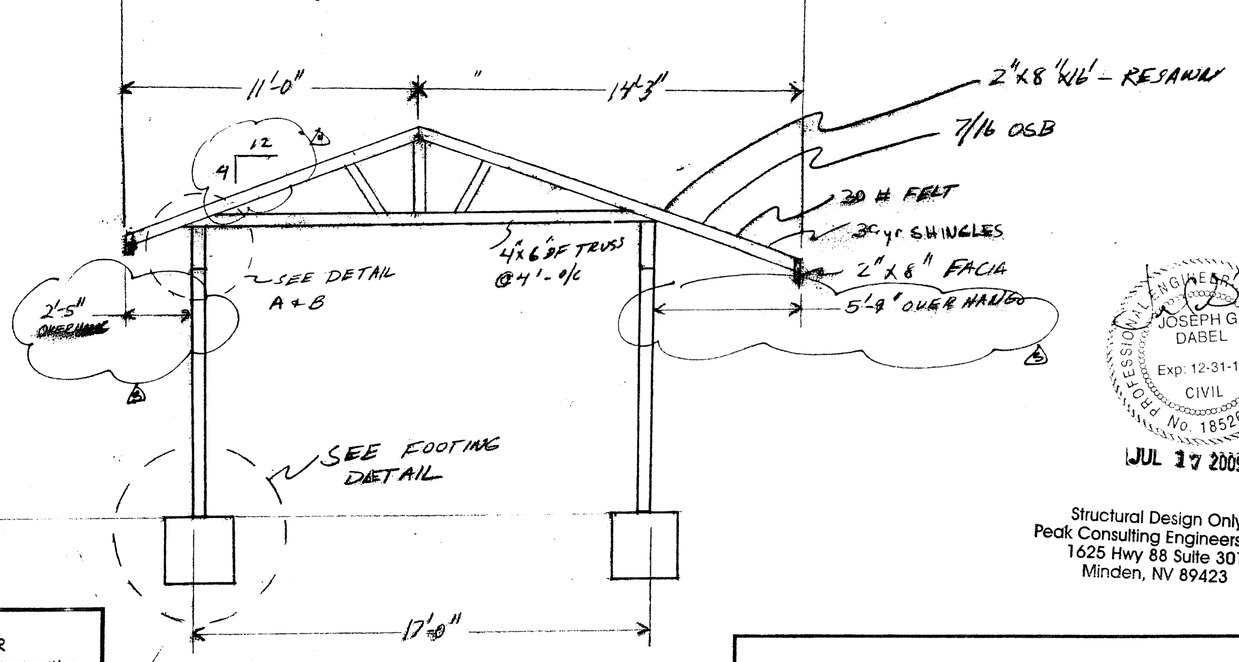
ROOF SHEATHING: PROVIDE 1/2" APA RATED SHEATHING INDEX (24/16) W/ 8d COMMON @ 6" O.C. E.N., B.N. & 12" O.C. F.N.



TOP VIEW



SIDE VIEW



FRONT VIEW

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