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Registered Professional Engineers
Texas Oklahoma Arizona
Louisiana Georgia Colorado
Mississippi Utah North Carolina
Kentucky Alabama Arkansas
Texas Firm F-1975

July 8, 2010

Mr. & Mrs. Ron Hemphill
240 Canterbury Dr.
Austin, TX 78737-4550

Ref: Structural Inspection
240 Canterbury Dr.
Project No. 1954

Dear Mr. & Mrs. Hemphill:

You have indicated that Mr. Christopher Copeland has issued a rebuttal to your complaint that you filed against him at the Texas Board of Professional Engineers. You have asked that I review the wood truss drawing that Mr. Copeland submitted to the Board. You provided a copy of that drawing and I have appended it to this letter as Exhibit "B".

Exhibit "B" appears to be a "cut and paste" reproduction of a computer generated truss diagram dated November 3, 2004 and bearing the seal of Mr. Fred Kampmann, PE. The Kampmann-sealed diagram is attached as Exhibit "C".

In referring to the MLAW report dated May 25, 2007 (one page attached as Exhibit "D"), item 1. says "Based on our attic observation and review of the relative elevation surveys, we believe that the deflection in the floor system caused sheetrock cracking in the walls and at multiple ceiling to wall interfaces." In other words, MLAW is admitting here that the second floor trusses have been damaged. The question is what caused the damage.

In item 2 of Exhibit "D" it says "based on our elevation surveys, observation of the sheetrock at the dining room (ceiling) and observation of the sheetrock at the rear most wall of bedroom 4 we believe that the floor system is overload....we have determined that the girder truss that spans across the width of the home is overloading the floor system... We have a repair drawing for this truss... see attached T5G detail. This overloading is causing the deflection in the floor system..." The repair drawing that has been attached to the May 25, 2007 report is attached to this letter as Exhibit "E".

I recall that Exhibit "E" is Mr. Copeland's repair detail and that detail is the same one that I relied on when I issued my first report concerning your house on November 20, 2008. See Exhibit "25" which is from my report.

Page 7 is out of my report and is attached as Exhibit "F." Please refer to paragraph 13. That paragraph refers to my Exhibit 23 which is also the Exhibit "C" that I mentioned above and it also refers to my Exhibit 25.

I will explain in more detail below in an effort to avoid increasing the confusion you might feel at this point in my letter.

Analysis

Please note the following:

1. The existing truss is shown in Exhibit "C" and was PE sealed by Mr. Kampmann on November 3, 2004. The diagram depicts the load bearing wall. Mr. Copeland issued Exhibit "C" and I included it in my November 20, 2008 report as Exhibit 23.
2. Exhibit C has been cut and pasted onto Mr. Copeland's response letter (with Mr. Kampmann's seal removed), and submitted to TBPE very recently as part of his response to your complaint. It is not the "truss repair" diagram. Note the diagram depicts the top portion of a load bearing wall supporting the bottom chord of the truss near the middle of the truss span. That wall represents the interior wall of the bedroom. This particular wall is currently bearing down on the floor truss system at the second floor portion of your house. It is also causing much of the problem with overloading the floor system that MLAW comments on in Exhibit "D". It is also the same diagram that I included in my report, dated November 20, 2008, in which I sought calculations to be provided by MLAW to prove that the truss repair being proposed by MLAW had been designed in accordance with proper engineering standards (Exhibit "F"). Exhibit "C" depicts the existing, unrepaired truss as it sits in your house today and that is continuing to cause damage to the second floor trusses of your home.
3. On May 25, 2007, MLAW issued the report containing the repair plan that is shown in Exhibit "E". This repair plan does not have Mr. Kampmann's PE seal and there is no logo depicting Alpine. As presented, it is the work of Mr. Copeland and MLAW. The repair plan is dated May 18, 2007 and was submitted to me in the May 25, 2007 report under seal of Mr. Copeland. This is the detail that I relied on in my report dated November 20, 2008 and is the same detail as Exhibit "25" from my report.
4. Exhibit E depicts both theory as well as a repair. Exhibit E shows that the load bearing bedroom wall acting as a support point has been removed. In actuality, what I understand that MLAW was trying to accomplish was an effort to stiffen up the existing truss and perhaps remove a top portion of the wall, including wall sheetrock, to take this truss load off the middle wall. Engineering statics dictates that this load from the roof has to find a way to the foundation, and so Mr. Copeland's theory was evidently to transfer the loads to the end walls shown at both ends of the truss. In doing this, the truss span becomes longer than originally designed since it no longer has a near-mid-span bearing point and it must span a greater distance from wall to wall. This means that the stresses in the truss are much greater than before and the existing truss must be substantially reinforced or completely replaced. This solution ignored the previous damage that had already been caused to the second floor trusses which certainly benefitted the builder when it provided cost of repairs to your house.
5. When you compare the details of the existing truss in your house (Exhibit C), with the details of Mr. Copeland's truss repair, you can see that many of the connector plates have different sizes, with Mr. Copeland showing 7x8 connector plates near the support points of the truss whereas the existing connector plates are only 4x4. Metal connector plates have metal teeth that mash into the wood and hold the members together – the larger they are, the greater the resistance of the members to being pulled apart. There are other changes to the connector plate sizes. Mr.

Copeland is calling for a change in size of the connector plates, but provides no calculations to show how he arrived at those sizes. Since the girder truss depicted actually consists of two trusses mashed together, and connector plates are attached on both faces of each individual truss, this repair cannot be accomplished inside the attic as depicted in Exhibit E because the connector plates at the touching faces cannot be reached. Mr. Copeland admits that he is not qualified to perform truss calculations (Exhibit G), yet he applied his PE seal to a report containing Exhibit E. I know that he has pled that others gave him the numbers, but that doesn't matter because you, I and the rest of the general public relied on his seal and it is evident that Mr. Copeland does not know if any numbers are actually correct and he has failed to protect the public.

Yesterday, I provided you with a letter discussing Exhibits "A" and "H". Note that Exhibit "A" attached to that letter is the same detail as Exhibit "E" in this letter.

Simply stated, my opinion is that Mr. Copeland held himself out to you (and to me and others) as being competent in structural analysis, including truss repair analysis, when he issued his May 25, 2007 report and PE sealed his report. Mr. Copeland included Exhibit "E" in that report and, as explained by my July 7, 2008 letter, Exhibit "A" (and hence Exhibit "E") does not comprise a suitable repair.

Yours truly,
AMSTAR ENGINEERING, INC.


by T. June Melton, PE

encl.

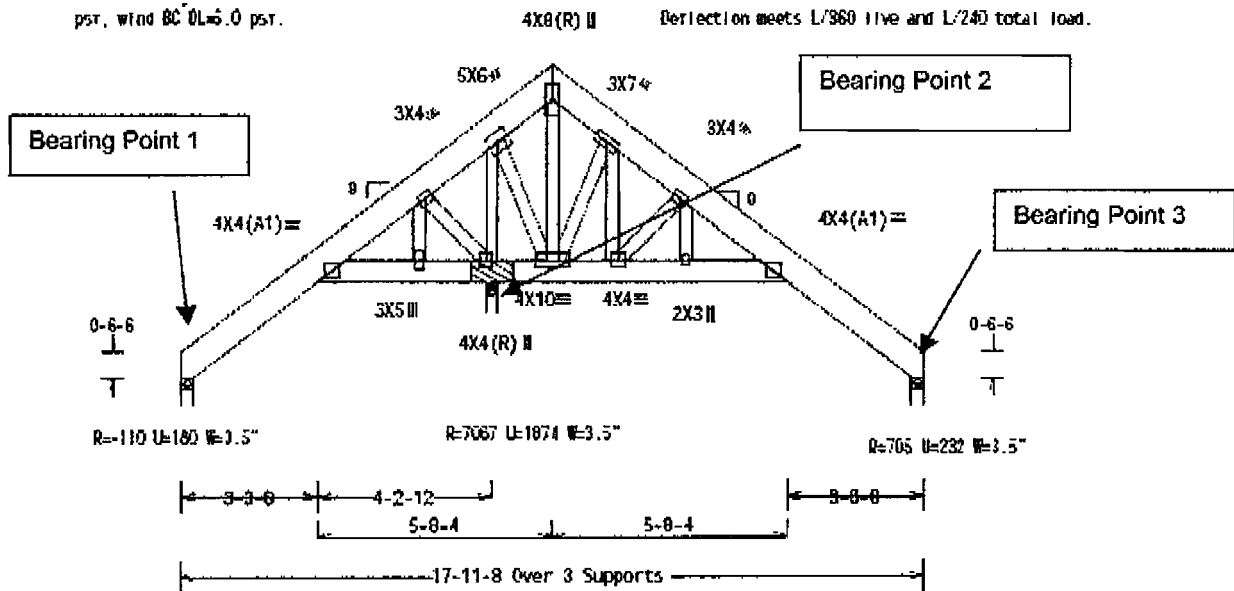




GEO-TECHNICAL / GEOSTRUCTURAL / STRUCTURAL
PAVEMENTS / FORENSIC

CONSULTANTS & ENGINEERS

this is designed by Alpine. Notice the three supports, specifically R=7067 and U=1874. That represent Live Load and Dead Load respectively and that load lands upon a beam in the floor that loads up a floor truss.



These truss drawings are designed and sealed by Alpine truss and sealed by the engineer responsible for the components.

EXHIBIT B

COMPLETE TRUSSES REQUIRED

Top chord 2x
Bot chord 2x6 SP #2
Webs 2x4 SP #3

SPECIAL LOADS

- (LUMBER DUR.FAC.=1.25 / PLATE DUR.FAC.=1.25)
- TC - From 56 PLF at 0.00 to 56 PLF at 17.96
- BC - From 14 PLF at 0.00 to 14 PLF at 17.96
- PLB- 1875 LB Conc. Load at (5.08, 20.62)
- PLB- 1102 LB Conc. Load at (7.08, 20.62)
- PLB- 957 LB Conc. Load at (9.08, 20.62)
- PLB- 2471 LB Conc. Load at (11.02, 20.62)

80 mph wind, 22.11 ft mean hgt, ASCE 7-93, CLOSED bldg, not located
 within 4.50 ft from roof edge, 100 mi from coast, CAT 1, EXP C,
 4X8 (R) III TC DL=5.0 psf, wind BC DL=5.0 psf.

NAILING SCHEDULE: (10d_box_nails)
 TOP CHORD: 1 ROW @ 12" o.c.
 BOT CHORD: 1 ROW @ 12" o.c.
 WEBS : 1 ROW @ 4" o.c.
 USE EQUAL SPACING BETWEEN ROWS AND STAGGER NAILS
 IN EACH ROW TO AVOID SPLITTING.

Bearing blocks: Nail type: 10d_box_nails
 BRG X-LOC #BLOCKS LENGTH/BLK #NAILS/BLK WALL PLATE
 2 7.375' 1 12" 5 Match Truss
 Bearing block to be same size and species as bottom chord.
 Refer to drawing CMBRGLK0503 for additional information.

Deflection meets L/360 live and L/240 total load.

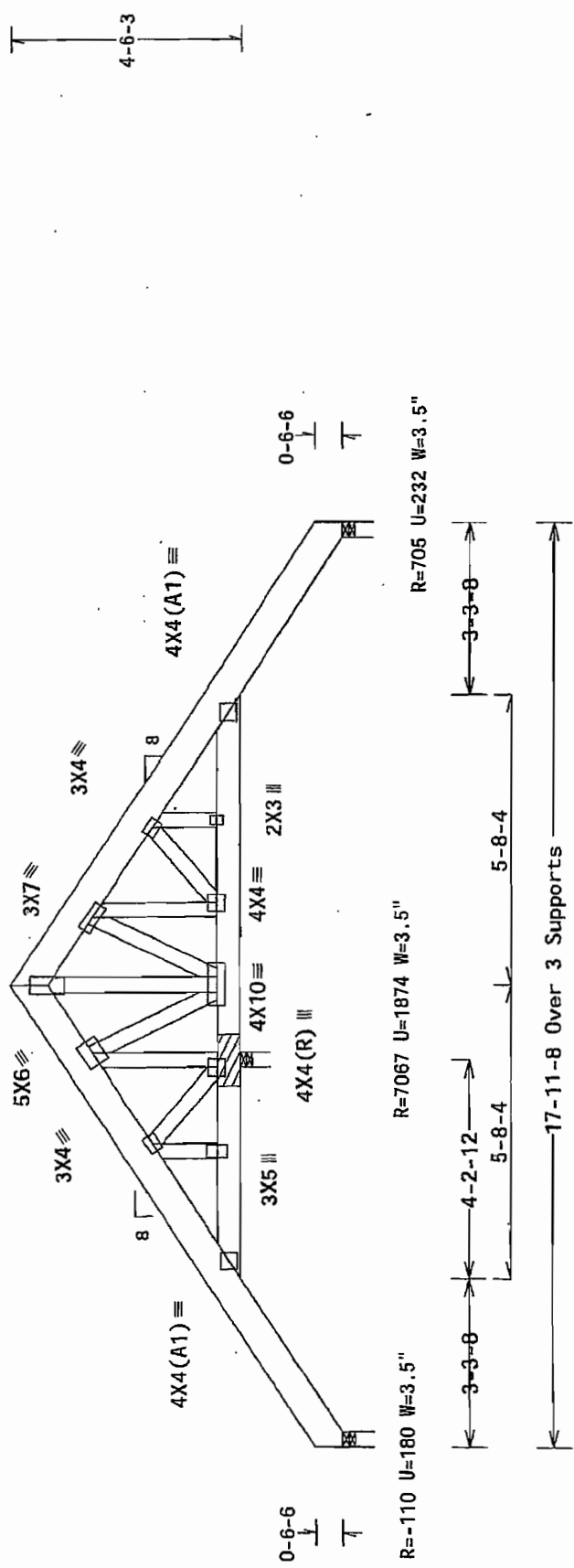
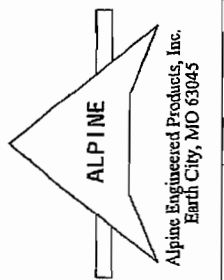


EXHIBIT C
 EXHIBIT 23



PLT TYP. WAVE TPI\ R	Design Crit: TPI-1995(STD)/UBC	7.0	TX/-/1/-/1/-/R/-	Scale = 3"/Ft.
	WARNING TRUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO 6031.1-03 (BUILDING COMPONENT SAFETY INFORMATION), PUBLISHED BY TPI TRUSS PLATE INSTITUTE, 563 D'ONDRILO DR., SUITE 200, WAUWATON, WI 53718) AND WTC (WOOD TRUSS COUNCIL OF AMERICA, 8300 ENTERPRISE LN, MADISON, WI 53718) FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED, TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING.	20.0 PSF	TC LL	REF R6918- 65364
	IMPORTANT FURNISH A COPY OF THIS DESIGN TO THE INSTALLATION CONTRACTOR. THE ENGINEER'S PRODUCTS, INC. SHALL NOT BE RESPONSIBLE FOR ANY OVIATION, FROM THIS DESIGN, ANY FAILURE TO BUILD THE TRUSS IN CONFORMANCE WITH TPI OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF NDS (NATIONAL DESIGN SPEC. BY AFAPA) AND TPI. ALPINE CONNECTOR PLATES ARE MADE OF 20/14/1066A (W-14/S/K) ASTM A563 GRADE 40/80 (R. 1/4/1.5) GALV. STEEL. APPLY PLATES TO EACH FACE OF TRUSS AND, UNLESS OTHERWISE LOCATED ON THIS DESIGN, POSITION PER DRAWINGS 100A-2. ANY INSPECTION OF PLATES FOLLOWED BY (C) SHALL BE PER AMEX A3 OF TPI-2002 SEC.3. A SEAL ON THIS DRAWING INDICATES ACCEPTANCE OF PROFESSIONAL ENGINEERING RESPONSIBILITY SOLELY FOR THE TRUSS COMPONENT AND USE OF THIS COMPONENT FOR ANY BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER PER ASCE/77/1 SEC. 2.	8.0 PSF	TC DL	DATE 11/03/04
		7.0 PSF	BC DL	DRW #00SR6918 04308005
		0.0 PSF	BC LL	MO-ENG /FK
		35.0 PSF	TOT. LD.	SEQN- 23721
		1.25	DUR. FAC.	
		24.0"	SPACING	



MAY 25, 2007

During our visual observation of the home we found the following cosmetic distress:

- Ceiling separations in upstairs rooms, primarily at the game room.
- Minor nail popouts located throughout house.
- Minor drywall cracks in stairwell and above doorway in guest bedrooms.
- Doors in several upstairs rooms are sticking and are difficult to shut.
- Minor drywall cracking in downstairs walls and ceilings.
- Sheetrock joints visible in the lower level ceiling
- Protrusion in lower level ceiling sheetrock at the dining / entry area

Discussion

Based on our visual observations, elevation readings and review of the truss drawings we have two points to discuss.

1. **Ceiling to wall sheetrock separation (bedrooms, game room areas):** based on our attic observation and review of the relative elevation surveys, we believe that the deflection in the floor system caused sheetrock cracking in the walls and at multiple ceiling to wall interfaces. Although the floor system has approximately 1 inch of elevation drop from the perimeter to the center of the home we believe that most of the deflection existed prior to the application of sheetrock or was "built-in." We make this claim due to the fact that the magnitude of the distress does not appear to correspond with the magnitude of the deflection. The ceiling to wall interface cracking is approximately $\frac{1}{4}$ " wide while the elevation change from the left rear corner of bedroom two to the hallway next to bathroom two is approximately 1 inch. We would like to point out that at least .3 inches of elevation drop is caused by concrete finishing and .1 inches of elevation drop in the compression of the framing. The remaining deflection occurred in the beam (spanning between the family room and the breakfast area) and the floor trusses (spanning from the beam to the walls on either side.) As stated previously, we believe that the beam had .2 inches of deflection and the affected floor trusses (see title heading above) had .2 inches of deflection. The remaining .2 inches of deflection occurred after sheetrock installation and is what caused the distress. To clarify, most homes, with movement or deflection of this magnitude would have cracking much more severe. Therefore, we believe most of the deflection occurred during the framing stage and that minor deflection occurred after sheetrock installation causing the distress that was noted during our investigation.
2. **Bedroom 4 and roof girder truss T5G:** based on our elevation surveys, observation of the sheetrock at the dining room and observation of the sheetrock at the (rear most) wall of bedroom 4 we believe that the floor system is overloaded. After much study, investigation and consultation with the builder and truss supplier we have determined that the girder truss that spans across the width of the home is overloading the floor system. The current configuration of the roof trusses are shown on the attached upper level ceiling drawings. In the current configuration the T5G uses the wall of bedroom 4 as a bearing point which transfers significant load into the (2) 2x12 below which is supported by a floor truss. It is this floor truss that has the hanger / sheetrock issue noted by the homeowners at the dining room area. We have a repair drawing for this truss to change the bearing location to a stacked wall thus alleviating the load to the floor system, see attached T5G detail. This overloading is causing the deflection in the floor system as noted when walking out of bedroom 4 into the hallway.

AMSTAR NOV. 20, 2008

the F8G truss. At least one block exhibited splitting. It appeared either the builder had misaligned the truss during construction or the truss fabricator had mismeasured the bearing point location. The entire load transformation process in the F8G truss was haphazard and the truss must be reinforced.

12. Inspectors had noted a sheetrock "ceiling bump" at the entry area and had opined in their reports that the protrusion was inconsequential. I unable to accurately determine the condition at the "ceiling bump" and time constraints prevented me from continuing. Other hangers in the framing system exhibit improper sizing and construction as noted above, and the "ceiling bump" condition should be further investigated whenever the ceilings are entirely removed.
13. In their report dated May 25, 2007, MLAW noted that the floor system (in the vicinity of truss F8G) is overloaded and has made recommendations for repairs associated with roof girder truss T5G. Refer to Exhibits 23, 24 and 25). MLAW notes in their report that "In the current configuration, the T5G uses the wall of bedroom 4 as a bearing point which transfers significant load into the 2-2x12 below which is supported by a floor truss." That particular floor truss referenced by MLAW is truss F8G and is the one that I observed and noted that at least one supporting wood block had split. MLAW has provided "a repair drawing for girder truss T5G (Exhibit 25) to change the bearing location to a stacked wall thus alleviating the load to the floor system." MLAW has not provided its calculations for me to review so subject to the full support system being designed and constructed in accordance with proper engineering standards to transfer the loads from the roof to and into the foundation, Amstar Engineering approves this particular approach to the problem.
14. I wish to address the issue of the general slope of the foundation toward the "kitchen wall" (Exhibits 7 thru 10). The foundation plan (exhibit 2) shows a distance of slightly over 12 feet between the outside edge of the foundation and the center of the interior grade beam. Field measurements indicate that the portion of the "kitchen wall" supporting the glue lam beam overhead, is located over 13 feet from the outer edge of the foundation, indicating that the wall may not align directly over the grade beam unless a change in location was made before the concrete was poured. MLAW called for "hard points" to be constructed at certain locations; however, if the builder did not construct those hard points either as shown on the plans or directed by MLAW personnel, then the potential exists that the applied soil pressure exceeds the allowable soil pressure and potentially the slab could be sinking at this location. MLAW should have more information on the condition in their files since they evidently conducted the pre-pour inspections. My calculations indicate that the concentrated bearing load at this particular location could be in the order of 12,000 pounds, albeit that most of that load would be considered "short term loading". MLAW's measurements from the back door to the kitchen wall varied from 0.3 to 0.4 inches and those measurements were made in April, 1987. My measurements of the same areas in October, 2008, indicated 0.375 inches of differential, indicating no differential foundation movement in 1-1/2 years time. This area merits monitoring in the future and repairs made in the future if necessary; however, no foundation repairs are required at the present time.

8.0 Conclusions

Following are the conclusions:

EXHIBIT F

May 18 07 09:30a

Buffalo Framing Truss Dpt (512) 846-0966

P. 2

THIS DWG. PREPARED BY THE ALPINE JOB DESIGNER PROGRAM FROM TRUSS (FRS).

Complete Trusses Required

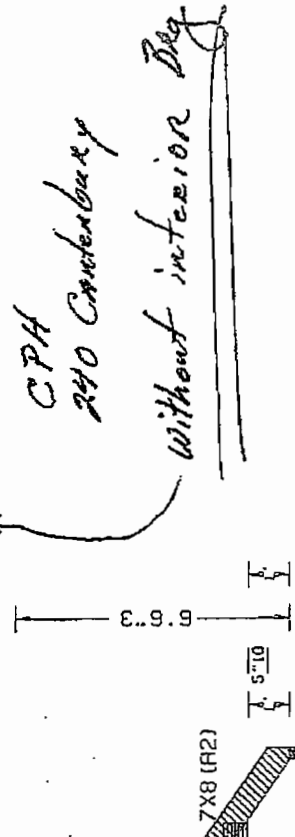
Nailing Schedule: (10d Box or Gun (0.128"x3" min.) nails)

Top Chord: 1 Row @ 12" O.C.
Bot Chord: 1 Row @ 5" O.C.
Webs: 1 Row @ 4" O.C.
Use equal spacing between rows and stagger nails in each row to avoid splitting.

80 mph wind, 22.11 ft mean hgt, ASCE 7-02, CLOSED bldg, not located within 4.50 ft from roof edge, 100 mi from coast, CAT 1, EXP C, wind TC DL=4.8 psf, wind BC DL=4.2 psf.

Calculated horizontal deflection is 0.14" due to live load and 0.13" due to dead load.

(1) 2x8x7-6-15 SP #1 scab at right end. Attach scab to face of chord with 10d Box or Gun (0.128"x3" min.) nails @ 8" OC plus additional nail clusters at BRG.: (6), heel: (8), 1st panel point: (4).



CPH
240 Canterbury
Without interior Dwg

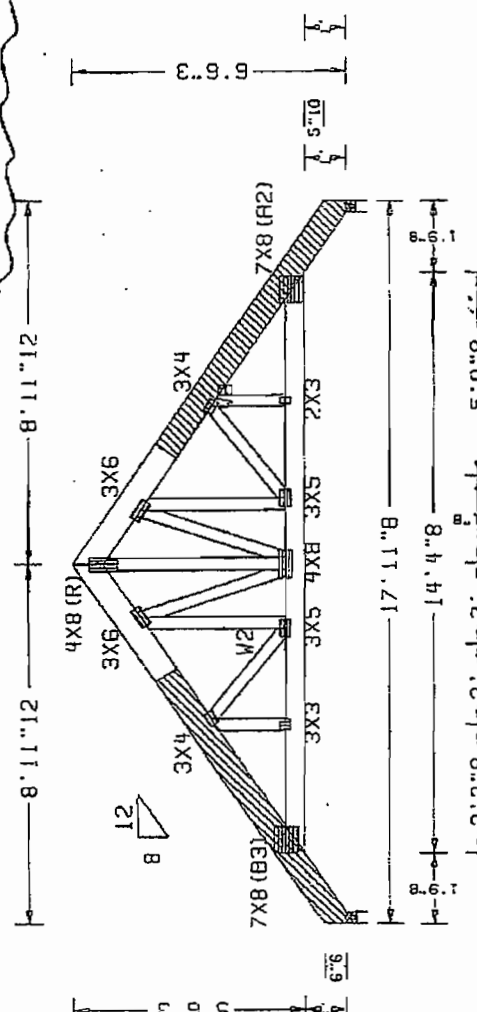
XX) KWOOD D / CANT REAR / REV AT R/C / TRAY ENT.

Top chord 2x8 SP #1
Bot chord 2x6 SP #2
Webs 2x4 SP #3 :V2, V8 2x4 SP #2:

SPECIAL LOADS
DUR.FAC.=1.25 / PLATE DUR.FAC.=1.25
TC : From 18 PLF at 0.00 to 48 PLF at 17.56
BC : From 14 PLF at 0.00 to 14 PLF at 17.56
AC : 1718 LB Canso. Load at 5.00
BC : 847 LB Canso. Load at 7.00, 9.00
BC : 1788 LB Canso. Load at 11.12

Deflection meets L/360 live and L/240 total load.

(1) 2x8x7-6-15 SP #1 scab at left end. Attach scab to face of chord with 10d Box or Gun (0.128"x3" min.) nails @ 8" OC plus additional nail clusters at BRG.: (7), heel: (11), 1st panel point: (4).



RV=3425# U=1074# V=3"8
RV=2889# U=906# V=3"8
RV=1718# U=847# V=3"8
RV=1788# U=847# V=3"8

LEFT RAKE = 1'9"10
LEFT JIG = 9'0"12
PLT. TYP. - WAVE/R

UBC/TPI.1995 (STD) QTY= 1 PLIES= 2 TOTAL= 2

RIGHT RAKE = 1'9"10
RIGHT JIG = 9'0"12
SCALE = 0.2500

Table with columns: REV, TC LL, TC DL, BC DL, BC LL, TOT. L.D., DUR. F.A.C., SPACING, TYPE, SPEC. Includes revision history and material specifications.

WARNING: TRUSSES REQUIRE EXTREME CARE IN FABRICATING, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO UBC 1709 (BUILDING COMPONENT SAFETY INFORMATION), PUBLISHED BY THE TRUSS PLATE INSTITUTE, 583 O'NEAL DR, SUITE 200, WILSON, VT 05713 AND VTR WOOD TRUSS COUNCIL, 1000 W. 10TH ST, SUITE 100, DENVER, CO 80202. UNLESS OTHERWISE INDICATED, TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED GYPSOUM CEILING.
IMPORTANT: FURNISH COPY OF THIS DESIGN TO INSTALLATION CONTRACTOR. ALPINE ENGINEERED TRUSSING SHALL BE RESPONSIBLE FOR VERIFYING THE TRUSS DESIGN IS APPLICABLE TO THE PROJECT. INSTALLATION SHALL BE IN ACCORDANCE WITH THE DESIGN AND ALL APPLICABLE PROVISIONS OF THE MOST RECENT NATIONAL DESIGN SPEC. FOR ALPINE AND TPI. ALPINE CONNECTION PLATES ARE MADE OF 2017/18/18/18 (V, H, S, X) ASTM A572 GRADE 50. ALL WELDS SHALL BE PER AISC 360. INSTALLATION SHALL BE PER UBC 1709 AND TPI 2002 SEC. 3. A SEAL ON THIS DRAWING INDICATES ACCEPTANCE OF THE SUBSTANTIALLY AND USE OF THIS COMPONENT FOR ANY BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER. PER INST/TP 1 SEC. 21

EXHIBIT 25



March 22, 2010

Delivered by hand

1917 IH-35 South
Austin, Texas 78741
Attn: Val BoothRE: Engineering complaint
240 Canterbury Drive
Belterra Subdivision
Dripping Springs, Texas
Job No.: # 714008000.004

Dear Mrs. Booth:

I am responding to the Texas Board of Professional Engineers letter regarding formal complaints against me. As I understand it Mr. and Ms. Ron Hemphill and Mr. T. June Melton, P.E. are making the formal complaints. Below I will list the allegations as summarized by the board and then rebut the allegation.

Allegation #1

... "it is alleged that on May 11, 2007, you visited their house and then prepared and affixed your Texas engineer seal and signature to an investigation report dated May 25, 2007. However, you failed to affix your seal and signature to the repair drawings and failed to provide calculations and or information to support your report.

I disagree with this allegation; both parties are confused about specialists in the building industry. The disagreement occurs over the truss repair drawings. I would like to start this discussion regarding this point by elaborating on the residential construction industry. The truss manufacturer typically designs the beams and trusses for residential frames. The truss manufacturer uses specialty software provided by MiTEK Industries that is not available to anyone except truss manufacturing plants. I did not perform calculations on the truss components for this address and neither did June Melton. I am not qualified to perform calculations on the truss components, that is a specialty position, Fred Kampman, P.E. works for Alpine in another state and he is qualified to design metal plate connected wood trusses. I am qualified to interpret code, calculate loads, trace load paths, design beams, read truss drawings and render my opinion on the performance of the frame as a whole. What happened at 240 Canterbury is that I found a load discrepancy in the sealed truss profile drawings and then pointed out that discrepancy to Capital Pacific. Capital Pacific sent my report to their vendor and they reviewed my findings and reviewed the loads interacting between the roof truss and the floor truss directly below it. The truss engineer then had to revise the roof truss to remove the center point load. He then stamped his drawings, those are engineered sealed drawings from another company; they are not produced by MLAW, I have explained this over and over to the plaintiffs and in arbitration. That engineer is responsible for the trusses and he revised and sealed his drawings. I would never seal a revised drawing designed by another engineer from another company. Alpine designed the trusses, made a load transfer mistake. I found the loading mistake and recommended they review the truss. So, there are no calculations needed for the T5G situation from MLAW as Fred Kampman, P.E. performed them. I have pasted the original T5G girder truss below. Keep in mind that MLAW did not design or stamp this drawing,

EXHIBIT 6