VILLAGE OF FOX POINT
BUILDING BOARD MINUTES
April 4, 2014

Dave & Lois Ribbens, 7200 N. Beach Drive, proposed window alterations and interior/exterior remodel. Proposed changes to the east elevation of the home. These changes include window and door alterations and other changes as described in the application. Contractor: Dwelling Renovations. It was the consensus of the Building Board to approve this application subject to the following conditions:

1. The applicant providing the Village with additional documentation showing that the proposed guardrail will be constructed in compliance with Village code.
2. The applicant providing the Village with additional documentation showing that the header above the stairway opening is properly sized.

Jim & Patti Ericson, 1060 E. Thorn Lane, proposed window alteration(s) and removal of a fireplace chimney. Contractor: Lemler Builders, LLC
It was the consensus of the Building Board to approve this application.

David Castaneda, 7845 N. Links Circle, proposed exterior door at rear of garage, construction of second story deck with stairs, construction of brick patio, construction of second story deck with roof system above front patio and other interior/exterior alterations as shown on the application. (Tabled from the September 6, 2013 & October 4, 2013 Building Board meetings.) Contractor: Lawrence Group. It was the consensus of the Building Board to approve this application subject to the following conditions:

1. The applicant providing the Village with additional documentation showing that the columns that support the deck system will be properly anchored to the concrete piers.
2. The Board is concerned that the application shows that the deck system is being supported by the masonry veneer. The application includes engineering that shows that the deck attachments are sufficient in shear to support the weight of the deck system. However, the engineering analysis does not show what effect a wind load will have on the masonry veneer or the deck attachments. As such, the Board is requiring the applicant to amend their calculations to include a wind load analysis. The wind load analysis must show that the deck attachments and the masonry veneer will not be compromised in any way as result of a wind load being applied to the deck system.

Adjourn

On motion of Christine Symchych, seconded by Tom Van Dalen, and unanimously carried the Building Board adjourned at 8:30 a.m.

Respectfully submitted,

Scott Miller
Building Inspector

GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

• Atlanta, GA
• Dallas, TX
• Los Angeles, CA
• Madison, WI
• Milwaukee, WI
• Orlando, FL
• Washington, D.C.

October 8, 2003

Village of Fox Point
7200 North Santa Monica Blvd.
Fox Point, Wisconsin 53217

Attention: Mr. Michael K. Lynett, P.E.
Village Engineer

Subject: Keystone Retaining Wall Design
Ericson Residence
1060 East Thorn Lane
Fox Point, Wisconsin
Project No. 1G-0305006

Dear Mr. Lynett:

The October 7, 2003 meeting at this residence that you requested was attended by yourself, the Village Building Inspector, representatives of David J. Frank Design Group, and Jeff Miller, P.E. of Giles. At the meeting, you requested additional information from Giles regarding the specifications, wall height, and water runoff. This information was presented orally at the meeting, and is presented in this letter.

A design document for the retaining wall was prepared by Giles and principally authored by Jeff Miller P.E. of Giles, *Keystone Retaining Wall Design, Ericson Residence*, Project No. 1G-0305006, dated July 11, 2003. You displayed your copy at the meeting. The document contains the design information in Sections 1.0 through Section 3.0, construction specifications specific to this project in Section 4.0, design plans in Appendix A, and an excerpt of Keystone Retaining Wall Systems Inc. specifications in Appendix B, along with other items. The Keystone specifications are intended as the project specifications, with the specifications specific to the site in Section 4.0, authored by Jeff Miller, as a modification to the Keystone specifications, as stated on page 5 of the document.

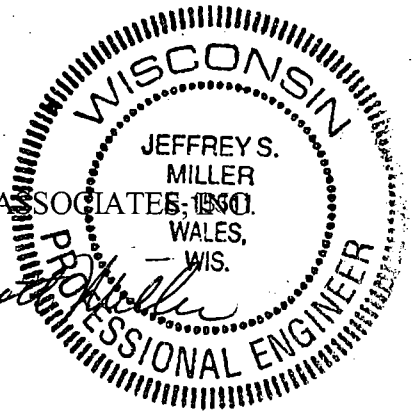
The retaining wall height is greater than the Village 6 foot height maximum. This is due to the topography of the site and end-product configuration of the retaining wall desired by Mr. Ericson. A tier configuration was studied by Giles as an alternate, but results in greater height tiers also due to the site topography.

The surface water runoff of the completed retaining wall intended by the Giles design is unchanged from the currently existing runoff pattern. Water runoff problems apparently are not present with the existing conditions.

It has been a pleasure to provide this information. If questions remain, or if further assistance is desired, please contact the undersigned at any time.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.



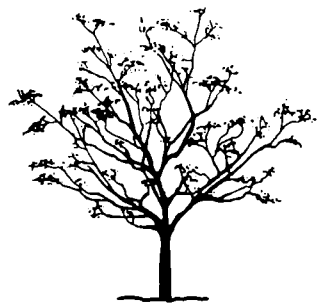
Jeffrey Scott Miller, P.E.
Sr. Project Engineer

John M. Siwula, P.E.
Geotechnical Division Manager

Distribution: Village of Fox Point
Attention: Mr. Michael K. Lynett, P.E. (1)

Mr. James D. Ericson. (1)

1g0305006-letter1/03geo2/jsm/ltc



David J. Frank Landscape Contracting, Inc.

October 9, 2003

Mr. Scott Miller
Village of Fox Point
7200 N. Santa Monica Blvd.
Fox Point, WI 53217

RE: Retaining wall @ 1060 E. Thorn Lane

Dear Mr. Miller:

Enclosed is the permit application and erosion control plan for the above referenced project.

Please let me know if you need any additional information.

Sincerely,

Jeff Hershberger, ASLA
Senior Landscape Architect

JH/wla

N120 W21350 Freistadt Road
P.O. Box 70
Germantown, WI 53022
Tel: (262) 255-4888
Fax: (262) 628-4729
mail@davidjfrank.com

VILLAGE OF FOX POINT
MILWAUKEE COUNTY
WISCONSIN

VILLAGE HALL
7200 N. SANTA MONICA BLVD.
FOX POINT 53217-3505
414-351-8900
FAX 414-351-8909

Memo

To: Scott Miller, Building Inspector

From: Mike Lynett, P. E., Village Engineer/Director of Public Works
Michael K. Lynett

Date: October 14, 2003

Subject: Certification–Proposed Construction of Retaining Wall-1060 E. Thorn Lane

Per Chapter 17.4, RETAINING WALLS, I hereby certify that, per the attached documents, the footings and method of construction and materials for Subject retaining wall are adequate, from an engineering standpoint, to serve the purpose for which the retaining wall is being built. There is no change in the flow of surface and percolating water from existing. In my view, the provisions of the Village Code have been met and you may proceed to take the steps which you normally take leading to issuance of a Building Permit.

Keep in mind that neither the design professional nor I have any control over how the construction contractor actually builds the retaining wall.

Attachments

CVB 10/8/03

FUCHS,
DESTEFANIS
& BOYLE, S. C.

TELEPHONE:(414) 257-1800
FACSIMILE: (414) 257-1510
FDB@FDBLAW.COM

620 NORTH MAYFAIR ROAD
MILWAUKEE, WISCONSIN 53226-4253

ATTORNEYS AT LAW

JOHN F. FUCHS
COURT COMMISSIONER
JOHN L. DESTEFANIS
REBECCA D. BOYLE
JOHN R. PAUNAN
CATHERINE A. GOODMAN

MEMORANDUM

TO: Village Board

FROM: John F. Fuchs, Village Attorney

DATE: October 8, 2003

SUBJECT: **1060 East Thorn Lane – Building Permit Application**

Scott Miller has received an application to repair supports for the home existing at the above address. This is a very choice property, a portion of which rests on supports over the existing bluff or ravine. Though it has not yet been received, Scott has asked the architect to verify in writing that repair of the supports is necessary to preserve the structural integrity of the home.

As of yet we have not adopted an amendment to our bluff ordinance, Chapter 17. You may recall, when the ordinance itself was first discussed with the Board, I pointed out that a literal reading of the code could prohibit construction on or over the face of the bluff even if it were strictly for repair purposes. The Board was very specific that such a reading was never intended, and that Chapter 17 was not intended to preclude non-expansive necessary repairs to existing structures. Relying on the Board's directive, which is obviously logical on its face, I have advised Scott that a building permit for construction over the bluff, only as necessary to effectuate repair of the already existing structure, should issue.

END OF MEMO

JFF/rls

To: "'Mike Lynett'" <mlynett@vil.fox-point.wi.us>
Cc: <smiller@vil.fox-point.wi.us>
Subject: RE: Request to Construct Retaining Wall at the Bluff's Edge

Mike,

You are correct that you are proceeding under the current Chapter 17 on this issue.

John Fuchs
Village Attorney

-----Original Message-----
From: Mike Lynett [mailto:mlynett@vil.fox-point.wi.us]
Sent: Wednesday, October 01, 2003 3:08 PM
To: fuchs@fdblaw.com
Cc: smiller@vil.fox-point.wi.us
Subject: Request to Construct Retaining Wall at the Bluff's Edge

John:

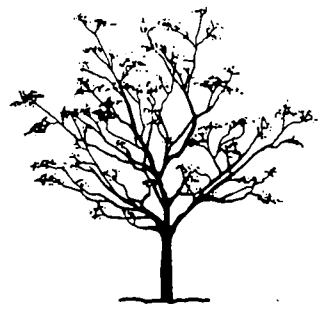
One other item. I am in receipt of a request to reconstruct a retaining wall at the edge of the bluff. I'm not 100% certain, but I believe that this retaining wall needs to be replaced in order to protect the structural integrity of the home.

In anticipation to the elected officials "getting wind", I'm communicating to clarify that I assume that Scott are allowed to proceed under the provisions of the current Chapter 17. If not, let me know. We will next meet with the architect at the site, likely next week, and will wait to hear from you, prior to granting any approvals.

Thanks for the help.

MKL

P. S. Here's the chuckle--this request was prepared by a landscape architect employed by David J. Frank Landscaping.



David J. Frank Landscape Contracting, Inc.

September 29, 2003

Mr. Mike Lynett
Village of Fox Point
7200 N. Santa Monica Blvd.
Fox Point, WI 53217

RE: 1060 East Thorn Lane

Dear Mr. Lynett:

Per our discussion last week, enclosed is the engineered wall design for the above referenced project.

This wall will replace an existing timber wall, which has substantially deteriorated.

Please let me know if you need any additional information or if you would like to schedule a site meeting.

Sincerely,

Jeff Hershberger, ASLA
Senior Landscape Architect

JH/wla

N120 W21350 Freistadt Road
P.O. Box 70
Germantown, WI 53022
Tel: (262) 255-4888
Fax: (262) 628-4729
mail@davidjfrank.com

Keystone Retaining Wall Design
Ericson Residence
1060 East Thorn Lane
Fox Point, Wisconsin

Lois
Mike,
I looked this over & they look O.K. to me

Prepared for:

Mr. James D. Ericson
Fox Point, Wisconsin

WISCONSIN
JEFFREY S. MILLER E-15511 WALES, WIS.
PROFESSIONAL ENGINEER

July 11, 2003

Project No. 1G-0305006

GILES
ENGINEERING ASSOCIATES, INC.

CHAPTER 17

REGULATION OF CONSTRUCTION ON OR OVER, AND CONTROL OF CUTTING ON, BANKS OF RAVINES AND LAKE BLUFF

17.1 PURPOSE. Because of the danger of erosion or increasing the erosion of the banks of ravines and the Lake Michigan bluff, and the possibility of disturbing the natural run-off of surface and percolating water which in either case could lead to the partial or complete collapse of buildings; to promote the public health, safety and welfare, to insure the proper access for fire, emergency and police vehicles; to preserve the natural beauty of the ravines and bluffs, and to protect the natural environment, the regulations hereinafter set forth are hereby established.

17.2 DEFINITIONS

(a) The definition of "building" and "structure" as presently set forth in 14.02 of the Fox Point Village Code shall include retaining walls and driveways.

(b) "Owner" as used in this Chapter means the owner of the property as appears in the records of the Village; in the case of joint owners or tenants in common, any one or more of such owners. The vendee under a land contract may be considered an owner.

17.3 BASIC RESTRICTION. Except as hereinafter provided, no building or structure shall be erected on or over the slope of the lake bluff or on or over the slope of a ravine bank or at the foot of the lake bluff or ravine in the Village of Fox Point.

17.4 RETAINING WALLS. Retaining walls built solely and expressly for the purpose of preventing and retarding erosion and slippage of the lake bluff or the bank of a ravine may be built. It is suggested that retaining walls of over six feet in height be avoided because they would pose a safety hazard and constitute, unless screened from view, an aesthetically unappealing surface. Terracing is suggested as preferable, if feasible, to a retaining wall of over 6'. Before any retaining wall is built, a building permit shall be obtained and plans for retaining walls shall be submitted to the Village Engineer. If, in his opinion, the footings and method of construction and materials are adequate from an engineering standpoint to serve the purpose for which such retaining wall is being built and adequate provision is made for the flow of surface and percolating water, he shall so certify to the Building Inspector. No building permit shall be issued by the Building Inspector without such certificate.

17.5 DRIVEWAYS. Before a driveway is built, a building permit shall be obtained. The grade of a driveway shall not exceed 12 degrees, and it is suggested that a driveway be one

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KEYSTONE RETAINING WALL DESIGN
ERICSON RESIDENCE
1060 EAST THORN LANE
FOX POINT, WISCONSIN
PROJECT NO. 1G-0305006

1g0305006-toc/03geo2/jsm

KEYSTONE RETAINING WALL DESIGN
ERICSON RESIDENCE
1060 EAST THORN LANE
FOX POINT, WISCONSIN
PROJECT NO. 1G-0305006

1.0 INFORMATION USED IN DEVELOPING DESIGN PARAMETERS, DESIGN ASSUMPTIONS AND RETAINING WALL DESIGN

A. Architectural sketch prepared by Gardens by Garland, Inc., revised dated October 15, 2002.
Design parameters for the planned retaining wall location, exposed face heights, and planned top of wall elevation, hereafter referred to as the "Site Plan."

B. Site Observations by Mr. Jeff Miller, P.E. on November 18, 2002.
Design parameters for the existing ground grade slopes in front of the planned retaining wall location, the existing railroad tie retaining wall location and height, and the existing residence column support locations, hereafter referred to as the "Site Observations."

C. Structural Load Calculations by David M. Felton, P.E., November 14, 2003.
Calculations of the structural load supported by the exterior columns of the residence, and footing pad size, prepared upon Giles request of Mr. Jorgen Hansen, hereafter referred to as the "Engineers Information."

D. Test boring exploration and analysis, Giles Engineering Associates, Inc.
Design parameters and assumptions for existing subsoil and water level conditions at the test boring locations drilled for the proposed retaining wall, hereafter referred to as the "Subsurface Exploration." Copies of the test boring logs and other information about the exploration are enclosed in Appendix D.

E. Foundation Location Probe Exploration, Giles Engineering Associates, Inc.
Exploration performed with driven probes to locate the apparent foundation pads beneath the exterior support columns for the residence, hereafter referred to as the "Foundation Exploration."

F. National Concrete Masonry Association (NCMA) Design Manual, 2nd Edition, 1997.
Design parameters for design methodology, factors-of-safety for internal and external stability, and for overturning, sliding bearing capacity, and global stability, hereafter referred to as "NCMA."

G. Keystone Retaining Wall Systems, Inc. Specifications 4-15-1999.
Specifications for construction and construction testing, hereafter referred to as the "Retaining Wall Specifications."

H. Keystone Retaining Wall Systems, Inc. Computer Program Keywall 2001 Version 3.1.5.
Design parameters for the Keystone modular blocks and geogrid reinforcement, and assistance for the internal and external stability design.

I. Wisconsin DOT Standard Specifications for Road and Bridge Construction, 1996 Edition.
Specifications for materials for geotextile, draintile, unit fill, reinforced wall fill, backfill, and leveling pad, hereafter referred to as "WDOT Standard Specifications".

J. Conversation with Mr. James Ericson, July 2, 2003.
Mr. Ericson's preference in installing helical pier foundations to support the residence exterior columns, especially during retaining wall excavation and construction, hereafter referred to as the "Client's Directions."

2.0 DESIGN PARAMETERS

The following design parameters and sources were used to develop the Typical Cross Sections and Details and Elevation View, shown on Sheets 1 and 2 of 2.

A. The planned retaining wall location, exposed wall heights, and the planned top of the retaining wall elevation in accordance with the Site Plan were used.

B. The existing ground grades and slopes below the planned retaining wall; and the locations of the exterior support columns in accordance with the Site Observations were used in the design.

C. The apparent top of foundation depths of 4 feet for the eastern exterior column foundation and 10 inches for the western exterior column foundation according to the results of the Foundation Exploration were used in the design .

D. The foundation pad size of 3 feet by 4 feet by 1 foot thick, and a load of 26,500± pounds on each the exterior column foundations, in accordance with the Engineers Information was used in the design.

E. The retaining wall minimum depth of embedment to the top of the leveling pad of 2.5 feet for the slopes in front of the retaining wall required by NCMA was used in the design.

F. A compacted crushed aggregate leveling pad 3 feet wide and 0.5 feet deep was used in accordance with NCMA.

G. Keystone standard modular concrete block with a 1.25:8 batter was used to develop the retaining wall external stability design.

H. The Strata Systems Stratagrid 200 strength design parameters and Stratagrid 200/Keystone connection strength design parameters from Keystone Retaining Wall Systems, Inc. were used to develop the internal stability design.

I. No load surcharge above (on top of) the retaining wall was used in the design.

J. The global stability of the wall was analyzed by us to have a factor-of-safety against rotational failure greater than 1.3 using the subsurface conditions and strength assumptions stated in Paragraph 3.0 A through D. The analysis was based on the designs having a sufficient factor of safety for retaining wall internal and external stability, according to NCMA.

3.0 DESIGN ASSUMPTIONS

The following design assumptions and sources were used to develop the Elevation View and Typical Cross Sections and Details on Sheets 1 and 2 of 2.

A. The embankment soils to be retained by the proposed retaining wall are assumed to consist of the clayey existing fill and naturally occurring silty clay encountered at Test Boring Nos. 1, 2, and 3 of the Subsurface Exploration. The soils are assumed to have a minimum effective angle of internal friction of 28 degrees, effective cohesion of zero psf, and a maximum bulk unit weight of 135 pounds per cubic foot.

B. The foundation soils beneath the proposed retaining wall are assumed to consist of the naturally occurring silty clay encountered at the location of Test Boring Nos. 1, 2, and 3 of the Subsurface Exploration, and structural compacted backfill within excavations to remove unsuitable bearing soils. The soils are assumed to have a minimum effective angle of internal friction of 28 degrees, and an effective cohesion of zero psf, and a minimum bulk unit weight of 135 pcf.

C. The soils for the reinforced wall fill zone of the retaining wall (and any newly-placed backfill behind the reinforced wall fill zone) are assumed to consist of open-graded crushed stone (WDOT Standard Specifications Section 501.3.6.4.5 Size No.1) sometimes locally known as "clear, crushed, No. 1 stone." The wall fill soils are assumed to have a minimum effective angle of internal friction of 38 degrees, effective cohesion of zero psf, and a minimum bulk density of 115 pcf.

D. The groundwater level is considered by Giles to be below the proposed retaining wall leveling pad, at the test boring locations of the Subsurface Exploration. Therefore, the retaining wall is assumed to be unaffected by water pressures from the water table.

E. The allowable maximum, net bearing capacity of the foundation soils is assumed by Giles to be at least 4,000 psf for the natural soils encountered at the test boring locations of the Subsurface Exploration. The foundation soils throughout the wall locations are assumed to have an average unconfined compressive strength greater than or equal to 2.0 tsf for the clayey soils. The foundation soils are assumed to be evaluated by Giles during construction in accordance with the Retaining Wall Specifications and **Construction Specifications** included herein.

F. The differential settlement of the retaining wall designed for a bearing capacity of 4,000 psf or less that may develop by compression of the foundation soils is assumed by Giles to be less than a 1 vertical to a 100 horizontal ratio over the wall length, based on the Subsurface Exploration information. This is assumed to be verified by field testing during construction by Giles.

G. The locations of the grades, and slopes are assumed to be constructed in accordance with the Site Plan.

H. The eastern and western exterior column foundations of the residence are assumed to be located at 5 feet and 1 foot 10 inches below the existing grade, respectively, based on the foundation thickness from the Engineers Information and the Foundation Exploration.

I. The eastern and western exterior column foundations of the residence are assumed to be supported by newly installed helical piers installed either before or during retaining wall construction and founded below the bottom of the proposed retaining wall, and are therefore assumed to not subject loads on the proposed retaining wall.

J. Any railing system support posts are assumed to be placed no closer than 3 feet behind the face of the retaining wall and embedded at least 3 feet below the surface behind the retaining wall. The railing system is assumed to have been designed by others for resistance against anticipated loadings on the railing system.

K. No existing or planned utility conduits beneath, behind, or in front of the retaining wall were assumed for the design of the retaining wall, based on the Site Plan.

L. The methods of construction are assumed to be conducted by the contractor and tested by Giles, in accordance with the Retaining Wall Specifications and modified by the **Construction Specifications** in this document.

4.0 CONSTRUCTION SPECIFICATIONS

Construction methods and construction materials shall be in accordance with the Retaining Wall Specifications, except as modified below:

A. The modular block units shall be Keystone standard units with a 1.25 : 8 batter.

B. Leveling pad crushed aggregate shall be in accordance with the WDOT Standard Specifications Section 304.2.6 gradation No. 2 Crushed Stone, sometimes locally known as "3/4 inch T.B." A copy of this specification is enclosed in Appendix C.

C. Aggregate for the unit fill zone and the reinforced wall fill zone of the retaining wall shall be in accordance with the WDOT Standard Specifications, Section 501.3.6.4.5 crushed, Size No. 1, sometimes locally known as "clear, crushed No.1 stone." A copy of these specifications are enclosed in Appendix C.

D. Backfill material behind the reinforced wall fill zone shall consist of compacted wall fill material.

E. Draintile Materials and Construction

1. Draintile materials and construction methods shall be in accordance with WDOT Standard Specifications Section 612 and Subsection 612.2.5, perforated.

2. Draintile discharge laterals shall discharge from the lowest elevation possible to daylight or a suitable storm sewer.

F. Geotextile above the unit fill zone shall be in accordance with WDOT Standard Specifications Subsection 645.2.4, Schedule A, Non-woven.

G. Excavation:

1. Excavate the existing soils for the wall fill, and leveling pad zones, as shown on the Typical Cross-Sections and Details Sheet 1 of 2 at the retaining wall location shown on the Site Plan.

2. Remove excavated soils from the site. Do not dispose of the soils in the ravine next to and below the proposed retaining wall.

3. Temporarily terminate the soil excavation within a lateral distance of 20 feet from the exterior support columns when the bottom of the excavation reaches the level of the bottom of the column foundations to coordinate underpinning installation with the helical pier contractor. Resume excavation after helical pier installation is complete.

4. Slope and/or bench and observe stability of embankment excavation behind the wall in accordance with OSHA procedures. If instability develops, perform additional sloping, benching, or bracing, and dewatering where and when necessary.

5. If water seepage is present or evidence of past water seepage is present within excavations, contact **Jeff Miller at Giles (262-544-0118)** to observe and analyze the conditions so that a design revision if necessary can be performed.

H. Foundation Soil Preparation

1. Suitable foundation soil beneath the retaining wall (foundation soils zone defined on the Typical Cross Section detail of Sheet 1 of 1) shall consist of naturally occurring silty clay soils similar to the soils beneath the existing fill encountered at the location of Test Boring Nos. 1, 2, and 3 of the Subsurface Exploration. Suitable bearing soils shall have an allowable, net bearing capacity of 4,000 psf or greater. Suitable bearing foundation soils should have at least an average unconfined compressive strength value greater than or equal to 2.0. The suitability of the foundation soils shall be determined by Giles with in-situ tests extending to a depth of at least 4 feet below the bottom of the excavation. Overexcavate unsuitable soils to same lateral dimension as shown for the foundation soils on the Typical Cross Section Sheet 1 of 2. Disturbed soils shall be removed from the foundation soils area. Protect foundation soils from weather and construction traffic damage during and after excavation. Damaged soils shall be removed. Drainage of water seepage shall be provided.

2. Overexcavated areas shall be backfilled with compacted leveling pad material. The overexcavation backfill material shall be placed and compacted in accordance with paragraph 4.0 I.2 titled *Leveling Pad Construction* of this document.

I. Leveling Pad Construction

1. Construct compacted crushed aggregate leveling pad at locations shown on the Typical Cross-Sections on Sheet 1 of 2 for the wall face lines shown on the Site Plan.

2. Compaction of leveling pad aggregate shall be performed with a vibrating plate or vibrating roller compactor, within a -1% to +3% moisture content range of the optimum water content and to a dry density of at least 95% of the maximum dry density obtained by the Standard Proctor Compaction Test ASTM D-698. Compaction tests shall be performed by Giles.

3. The leveling pad top surface shall be constructed level from front to back, and along the wall direction with a tolerance of ½± inch in 6 feet, but with an aggregate tolerance of 1± inch along length of wall.

J. Draintile Construction

1. Install perforated draintile in the wall fill zone at locations shown on the Typical Cross Section on Sheet 1 of 2.

2. Discharge the wall draintile at the lowest elevation possible to daylight with rodent guards on the discharge ends.

K. Modular Block Erection

1. Some adjustment in wall height and wall length at the end of the retaining wall may be necessary to suit site conditions. **Wall sections higher than shown on Sheet 1 of 1 will require redesign by Giles prior to continuing their construction. Contact Jeff Miller at Giles (262-544-0118) for redesign.**

2. Check that the modular blocks placed are level from front to back and side to side at least every other block course. Correct where necessary with single strips of geogrid used as shims. The shims shall not consist of other materials, and shall not consist of multiple layers.

3. Saw cut the modular blocks where they abut the existing Keystone retaining wall. Place non-woven geotextile behind the modular block tails to retain the unit fill and wall fill, and place caulk in the front of the joint abutting the existing wall.

L. Unit Fill Construction

1. Unit fill shall be placed within and completely fill the hollow cores of the modular blocks, and their voids laterally between the block unit.

2. Unit fill shall be placed within the modular block units in unison with the wall fill placement and compaction.

M. Wall Fill Placement

1. Behind the Keystone units and unit fill, and extending to the excavated bank, wall fill materials and backfill materials shall be placed and compacted in lifts to provide level surface with top of each unit course, which is 8 inches in thickness, and level from Keystone wall units to end of geogrid zone, and level along length of wall. Compaction of the wall fill and backfill shall be performed with a vibratory plate or roller compactor approved for use by Giles. Compaction tests shall be performed by Giles.

   a. Compaction of the open-graded aggregate (clear crushed No. 1 stone) shall be performed with a sufficient number of passes with the compactor such that with additional compactive effort, no additional densification is obtained as determined visually by Giles.

2. At areas of retaining wall bends, overlapping geogrid shall be vertically separated by a 3-inch minimum thickness of compacted wall fill.

3. At the end of each day's work, the wall fill and backfill shall be protected from weather damage and shall be sloped such that water drainage is kept away from the wall face and not ponded on the wall fill. Wall fill and/or backfill damaged by weather or man-made effects as determined by Giles shall be removed from wall fill and/or backfill and replaced with material satisfying paragraph 4.0.M.1a above.

N. Geotextile Installation

1. Place non-woven geotextile as a separator over the wall fill zone of the retaining wall as shown on the Typical Cross Section on Sheet 1 of 2. Maintain a separation distance of at least 3 inches between geotextile and geogrid with wall fill material.

O. Materials for the low-permeability cap behind the top of the retaining wall and above the wall fill zone shall consist of 4 to 8 inches in thickness of low permeability soil, such as clayey topsoil as shown on Sheet 1 of 2, Typical Cross Section.

P. Construction Observation and Testing

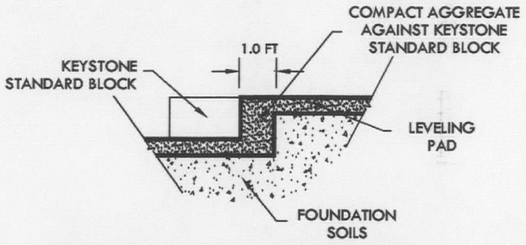
1. Giles shall observe and test the retaining wall installation materials and procedures. The items to be observed and tested should include, but are not limited to: approval of the modular blocks; verification of the engineering properties of wall fill, backfill, foundation soils; compaction of wall fill, unit fill, and backfill; phreatic conditions; type of geogrid and geotextile utilized; location and orientation of geogrid and geotextile; and location and orientation of retaining wall components.

END OF SPECIFICATIONS

1g0305006-report/03geo2/jsm

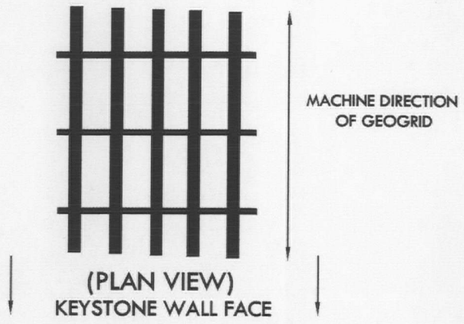
APPENDIX A

Sheet 1 of 2 Typical Cross Sections and Details
Sheet 2 of 2 Elevation View

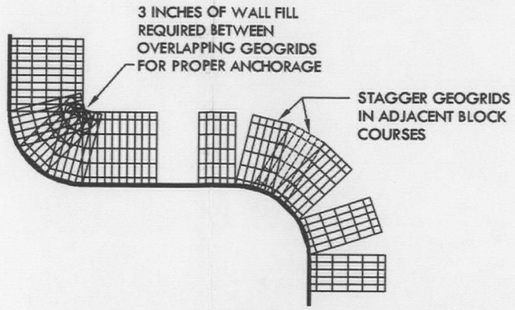


LEVELING PAD AT 1 BLOCK STEP

(ELEVATION VIEW (NOT TO SCALE))

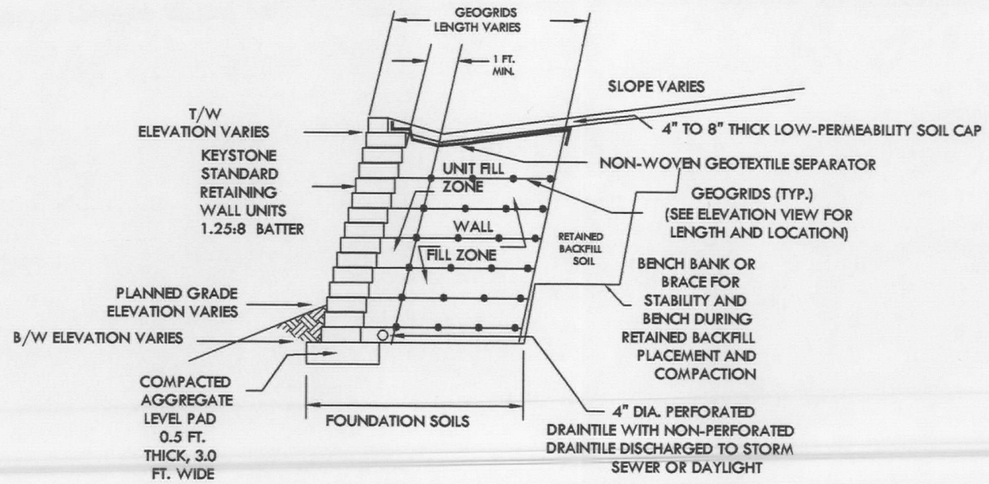


ORIENTATION OF GEOGRID



GEOGRID PLACEMENT ON CURVES

(NOT TO SCALE)



TYPICAL CROSS SECTION WITH GEOGRIDS

(NOT TO SCALE)

WISCONSIN
JEFFREY S. MILLER
E-15511
WALES, WIS.
PROFESSIONAL ENGINEER

Jeffrey S. Miller

NOTES:
- GUARDRAIL OR FENCE BY OTHERS NOT SHOWN
- REFER TO SHEET 2, AND 3 OF 3 FOR ELEVATION VIEWS
- REFER TO GILES ENG. ASSOC., INC. REPORT No. 1G-0305006 FOR DESIGN INFORMATION, AND CONSTRUCTION SPECIFICATIONS

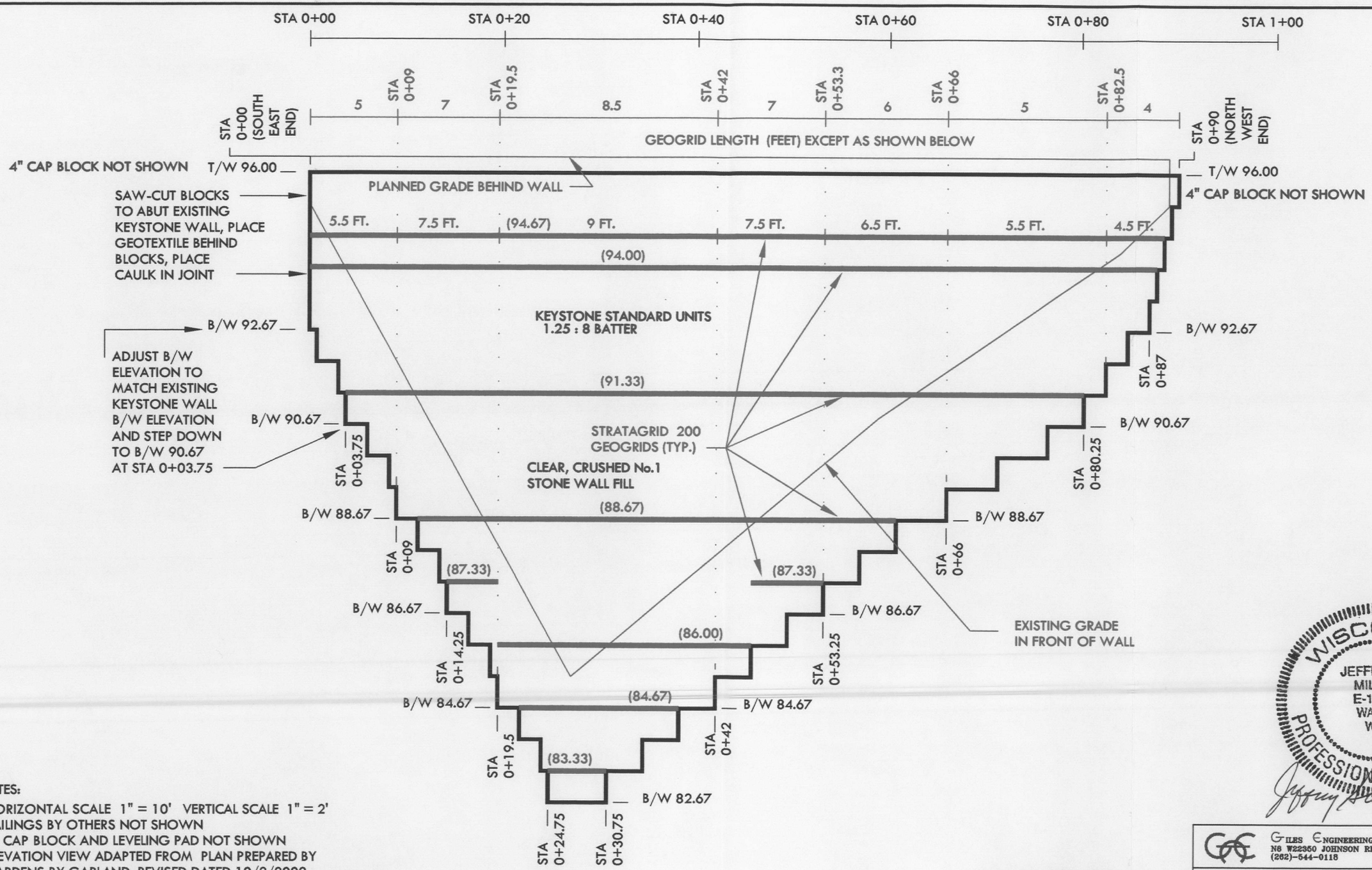
KEYSTONE RETAINING WALL
ERICSON RESIDENCE
1060 EAST THORN LANE
FOX POINT, WISCONSIN

GILES ENGINEERING ASSOCIATES, INC.
N8 W22350 JOHNSON RD.; WAUKESHA, WI, 53186
(262)-544-0118

SHEET 1 OF 2
TYPICAL CROSS SECTION AND DETAILS

DESIGNED	DRAWN	APPROVED	SCALE	DATE
JSM	JSM		SEE NOTES	7-11-2003

PROJECT NO.: 1G-0305006 | CAD NO.: 0305006a



NOTES:

- HORIZONTAL SCALE 1" = 10' VERTICAL SCALE 1" = 2'
- RAILINGS BY OTHERS NOT SHOWN
- 4" CAP BLOCK AND LEVELING PAD NOT SHOWN
- ELEVATION VIEW ADAPTED FROM PLAN PREPARED BY GARDENS BY GARLAND, REVISED DATED 10/2/2002
- REFER TO GARDENS BY GARLAND PLAN FOR WALL LOCATIONS
- REFER TO SHEET 1 OF 2 FOR TYPICAL CROSS SECTIONS AND DETAILS
- REFER TO GILES ENGINEERING ASSOC., INC. REPORT No. 1G-0305006 FOR DESIGN INFORMATION, AND CONSTRUCTION SPECIFICATIONS

KEYSTONE RETAINING WALL
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SHEET 2 OF 2
ELEVATION VIEW

DESIGNED	DRAWN	APPROVED	SCALE	DATE
JSM	JSM		SEE NOTES	7-11--2003

PROJECT NO.: 1G-0305006 | CAD NO.: 0305006b

APPENDIX B

Specifications Excerpt, 8-01-2001, Keystone Retaining Wall Systems, Inc.

KEYSTONE RETAINING WALLS, INC.
SPECIFICATION EXCERPT

MODULAR CONCRETE RETAINING WALL

PART 1: GENERAL

1.01 Description

A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.

C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

1.02 Related Sections

A. Section 02100 - Site Preparation
B. Section 02200 - Earthwork

1.03 Reference Documents

A. American Society for Testing and Materials (ASTM)

1. ASTM C-1372 Specification for Segmental Retaining Wall Units
2. ASTM D-422 Particle Size Analysis
3. ASTM D-698 Laboratory Compaction Characteristics of Soil -Standard Effort
4. ASTM D-4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils
5. ASTM D-4595 Tensile Properties of Geotextiles - Wide Width Strip
6. ASTM D-5262 Unconfined Tension Creep Behavior of Geosynthetics
7. ASTM D-3034 Polyvinyl Chloride Pipe (PVC)
8. ASTM D-1248 Corrugated Plastic Pipe

B. Geosynthetic Research Institute (GRI)

1. GRI-GG4 Determination of Long Tern Design Strength of Geogrids
2. GRI-GG5 Determination of Geogrid (soil) Pullout

C. National Concrete Masonry Association (NCMA)

1. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW
2. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

1.06 Delivery, Storage and Handling

A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.

B. Contractor shall protect all materials from damage due to jobsite conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Definitions

A. Modular Unit - a concrete retaining wall element machine made from portland cement, water, and aggregates.

B. Structural Geogrid - a structural element formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.

C. Unit Drainage Fill - drainage aggregate which is placed within and immediately behind the modular concrete units.

D. Reinforced Backfill - compacted soil which is placed within the reinforced soil volume as outlined on the plans.

2.02 Modular Concrete Retaining Wall Units

A. Modular concrete units shall conform to the following architectural requirements:

face color - concrete gray - standard manufacturers' color may be specified by the Owner.

face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.

bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.

exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.

B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.

C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:

compressive strength = 3000 psi minimum;

absorption = 8 % maximum (6% in northern states) for standard weight aggregates;

dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split face, ±1/16" unit height - top and bottom planes;

unit size - 8" (H) x 18" (W) x 18" (D) minimum;

unit weight - 100 lbs/unit minimum for standard weight aggregates;

inter-unit shear strength - 1500 plf minimum at 2 psi normal pressure;

geogrid/unit peak connection strength -1000 plf minimum at 2 psi normal force.

D. Modular concrete units shall conform to the following constructability requirements:

vertical setback = 1/8"± per course (near vertical) or 1"+ per course per the design; alignment and grid positioning mechanism - fiberglass pins, two per unit minimum; maximum horizontal gap between erected units shall be - 1/2 inch.

2.03 Shear Connectors

A. Shear connectors shall be 1/2 inch diameter thermoset isopthalic polyester resin-pultruded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.

B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.04 Base Leveling Pad Material

A. Material shall consist of a compacted crushed stone base or non-reinforced concrete as shown on the construction drawings.

2.05 Unit Drainage Fill

A. Unit drainage fill shall consist of clean 1" minus crushed stone or crushed gravel meeting the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75-100
No. 4	0 - 10
No. 50	0 - 5

B. One cubic foot, minimum, of drainage fill shall be used for each square foot of wall face. Drainage fill shall be placed within cores of, between, and behind units to meet this requirement.

2.06 Reinforced Backfill

A. Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-35

Plasticity Index (PI) <15 and Liquid Limit <40 per ASTM D-4318.

B. The maximum aggregate size shall be limited to 3/4 inch unless field tests have been performed to evaluate potential strength reductions to the geogrid design due to damage during construction.

C. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.

D. Contractor shall submit reinforced fill sample and laboratory test results to the Architect/Engineer for approval prior to the use of any proposed reinforced fill material.

2.07 Geogrid Soil Reinforcement

A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn or high density polyethylene. Polyester geogrid shall be knitted from high tenacity polyester filament yarn with a molecular weight exceeding 25,000 Meg/m and a carboxyl end group values less than 30. Polyester geogrid shall be coated with an impregnated PVC coating that resists peeling, cracking, and stripping.

B. Ta, Long Term Allowable Tensile Design Load, of the geogrid material shall be determined as follows:

Ta = Tult / (RFcr*RFd*RFid*FS)
Ta shall be evaluated based on a 75 year design life.

1. Tult, Short Term Ultimate Tensile Strength
   Tult is based on the minimum average roll values (MARV)

2. RFcr, Reduction Factor for Long Term Tension Creep
   RFcr shall be determined from 10,000 hour creep testing performed in accordance with ASTM D5262. Reduction value = 1.60 minimum.

3. RFd, Reduction Factor for Durability
RFd shall be determined from polymer specific durability testing covering the range of expected soil environments. RFd = 1.10 minimum.

4. RFid, Reduction Factor for Installation Damage
RFid shall be determined from product specific construction damage testing performed in accordance with GRI-GG4. Test results shall be provided for each product to be used with project specific or more severe soil type. RFid = 1.10 minimum.

5. FS, Overall Design Factor of Safety
FS shall be 1.5 unless otherwise noted for the maximum allowable working stress calculation.

C. The maximum design tensile load of the geogrid shall not exceed the laboratory tested ultimate strength of the geogrid/facing unit connection as limited by the "Hinge Height" divided by a factor of safety of 1.5. The connection strength testing and computation procedures shall be in accordance with NCMA SRWU-1 Test Method for Determining Connection Strength of SRW.

D. Soil Interaction Coefficient, Ci
Ci values shall be determined per GRI:GG5 at a maximum 0.75 inch displacement.

E. Manufacturing Quality Control
The geogrid manufacturer shall have a manufacturing quality control program that includes QC testing by an independent laboratory.
The QC testing shall include:
Tensile Strength Testing
Melt Flow Index (HDPE)
Molecular Weight (Polyester)

2.08 Drainage Pipe

A. If required, the drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM D-3034 or corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3 EXECUTION

3.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall inspect the excavation and approve prior to placement of leveling material or fill soils. Proof roll foundation area as directed to determine if remedial work is required.

B. Over-excavation and replacement of unsuitable foundation soils and replacement with approved compacted fill will be compensated as agreed upon with the Owner.

3.02 Base Leveling Pad

A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.

B. Soil leveling pad materials shall be compacted to a minimum of 95 % Standard Proctor density per ASTM D-698

C. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Installation

A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.

B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

C. Install shear/connecting devices per manufacturer's recommendations.

D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.

E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed two courses.

3.04 Structural Geogrid Installation

A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.

C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to backfill placement on the geogrid.

D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

3.05 Reinforced Backfill Placement

A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.

B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.

C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be dry of optimum, + 0%, - 3%.

D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.

E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.

G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

3.06 Cap Installation

A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

3.07 As-built Construction Tolerances

A. Vertical alignment : ± 1.5" over any 10' distance.

B. Wall Batter: within 2 degrees of design batter.

C. Horizontal alignment: ± 1.5" over any 10' distance.
Corners, bends, curves ± 1 ft to theoretical location.

D. Maximum horizontal gap between erected units shall be 1/2 inch.

3.08 Field Quality Control

A. Quality Assurance - The Owner shall/may engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during

construction. This does not relieve the Contractor from securing the necessary construction quality control testing.

B. Quality assurance should include foundation soil inspection. Verification of geotechnical design parameters, and verification that the contractor's quality control testing is adequate as a minimum. Quality assurance shall also include observation of construction for general compliance with design drawings and project specifications. Quality assurance is best performed by the site geotechnical engineer.

C. Quality Control – The Contractor shall engage inspection and testing services to perform the minimum quality control testing described in the retaining wall design plans and specifications. Only qualified and experienced technicians and engineers shall perform testing and inspection services.

D. Quality control testing shall include soil and backfill testing to verify soil types and compaction and verification that the retaining wall is being constructed in accordance with the design plans and project specifications.

END OF EXCERPT

APPENDIX C

WDOT Standard Specifications Excerpts

304.2.3.1 Asphaltic Pavement, Base Course. Other requirements of Subsection 304.2 shall not apply. Existing asphaltic pavement shall be processed so 100 percent will pass a 37.5 mm sieve.

304.2.3.2 Salvaged Asphaltic Pavement, Base Course. Other requirements of Subsection 304.2 shall not apply. Existing asphaltic pavement shall be processed so 100 percent will pass a 25.0 mm sieve.

304.2.4 Soundness. When the fraction of the aggregates retained on the 4.75 mm sieve is subjected to five cycles of the sodium sulfate soundness test (AASHTO T 104), the weighted loss shall not exceed 18 percent by mass for crushed aggregate base course, or 12 percent for crushed aggregate base course, open graded, unless otherwise provided in the contract. If the quality of material or conditions of deposition in a quarry or deposit make questionable the continuous compliance with this soundness requirement, the engineer reserves the right to require maintenance of a stockpile or stockpiles of produced material sufficiently large to preclude use of material which has not been previously approved by test.

304.2.5 Filler for Blending. If filler in addition to that naturally present in the base course material is necessary for meeting the gradation requirements or for satisfactory binding of the material, it shall be blended uniformly with the base course material at the crushing plant, or when permitted by the engineer, on the road. The material obtained for such purpose shall be obtained from sources approved by the engineer, shall be free from agglomerations or lumps, and shall contain not more than 15 percent of material retained on a 4.75 mm sieve. Lime sludge obtained as a waste product of the paper manufacturing process shall not be used.

304.2.6 Gradation Requirements. The aggregates shall be well graded between the limits specified and conform to the following gradation requirements, with the exception of aggregates for open graded base course and breaker run:

	Percentage by Mass Passing					
	Gradation No. 1		*Gradation No. 2*		*Gradation No. 3*	
Sieve Size	*Crushed Gravel*	*Crushed Stone*	*Crushed Gravel*	*Crushed Stone*	*Crushed Gravel*	*Crushed Stone*
37.5 mm	100	100	—	—	—	—
25.0 mm	75-100	—	100	100	100	100
19.0 mm	—	—	—	—	95-100	95-100
9.5 mm	40-75	30-65	50-85	40-75	50-90	50-90
4.75 mm	30-60	25-55	35-65	25-60	35-70	35-70
2.00 mm	20-45	15-40	25-50	15-45	20-55	15-55
425 µm	10-30	—	10-30	—	10-35	—
75 µm	3-10*	2-12	3-10*	3-12	8-15	5-15

* Limited to a maximum of eight percent in base course placed between old and new pavement.

Unless otherwise provided in the contract, aggregates for the top layer of base course shall be Gradation No. 2, and either Gradation No. 1 or Gradation No. 2 may be used in the lower layers.

Aggregates used in the construction of the top 75 mm of unpaved or unstabilized shoulders directly adjacent to live traffic lanes or to paved shoulders shall conform to Gradation No. 3 and other shoulder aggregate shall conform to either Gradation No. 2

State of Wisconsin Department of Transportation
Specifications Excerpt
Standard Specifications for Highway and Structure Construction
1996 Edition

501.3.6.4.5 Size Requirements. Coarse aggregate shall be well graded between the limits specified in the following:

Sieve Size	*Percentage by Mass Passing*	
	Size No. 1	*Size No. 2*
	(No. 67*)	(No. 4*)
50 mm	—	100
37.5 mm	—	90-100
25.0 mm	100	20- 55
19.0 mm	90-100	0- 15
9.5 mm	20- 55	0- 5
4.75 mm	0- 10	—
2.36 mm	0- 5	—

*Size Number AASHTO M 43.

The coarse aggregates shall be furnished in the separate sizes indicated, and each size shall be stored separately in such a manner as to prevent intermingling until they have been proportioned in the required amounts into each batch, except that the combining of two aggregate fractions to produce a gradation within the limits specified for Size No. 1 or Size No. 2 will be permitted, provided they are proportioned separately by mass into the batch in the proportions approved by the engineer.

Except as hereinafter provided, the contractor shall furnish coarse aggregate conforming to Size No. 1 and Size No. 2, combined in the proportions designated under Subsection 501.5.2, for the pertinent grade and class of concrete.

The coarse aggregate for concrete masonry Grade A, A2, A3, A-FA, A-IP, A-S or A-IS shall consist entirely of Size No. 1 when specified by the engineer. The coarse aggregate for concrete masonry Grade E and Grade C, C-FA, C-S, C-IS or C-IP, except for concrete pavement repair and when Grade C, C-FA, C-S, C-IS or C-IP is substituted for Grade A Air Entrained High Early Strength Class Concrete as provided in Subsection 501.4.1, and for prestressed concrete members shall consist wholly of Size No. 1. The coarse aggregate for concrete masonry Grade D, D-FA, D-S, D-IS or D-IP may consist entirely of Size No. 1, provided that only Size No. 1 shall be used throughout the superstructure.

501.3.6.5 Sampling and Testing. Sampling and testing will be in accordance with the following AASHTO methods, except for revisions thereto approved by the engineer:

Sampling aggregates	T 2
Lightweight pieces in aggregate	T 113
Material finer than 75 µm sieve	T 11
Unit mass of aggregate	T 19
Organic impurities in sands	T 21
Sieve analysis of aggregates	T 27
Effect of organic impurities in fine aggregate	T 71
Los Angeles abrasion of coarse aggregate	T 96
Sodium Sulfate soundness of aggregates	T104
Specific gravity and absorption of fine aggregate	T 84
Specific gravity and absorption of coarse aggregate	T 85
Sampling fresh concrete	T 141
Making and curing concrete compressive strength test specimens	T 23
Compressive strength of molded concrete cylinders	T 22

State of Wisconsin Department of Transportation
Specifications Excerpt
Standard Specifications for Highway and Structure Construction
1996 Edition

APPENDIX D

Subsurface Exploration Discussion
Records of Subsurface Exploration
Unified Classification System
General Notes

KEYSTONE RETAINING WALL DESIGN
ERICSON RESIDENCE
1060 EAST THORN LANE
FOX POINT, WISCONSIN
PROJECT NO. 1G-0305006

SUBSURFACE EXPLORATION DISCUSSION

Subsurface Exploration

Three test borings were drilled for this project, each to a depth of 10± feet below existing grade, at locations along the approximate alignment of the proposed retaining wall. Upon completion of drilling and sampling, the test borings were backfilled to existing grade in accordance with appropriate state regulations for backfilling procedures. It should be noted, however, that the backfill may settle with time and moisture variations. Further backfilling or maintenance of the boreholes by the contractor may therefore be required. Copies of the Test Boring Logs (Record of Subsurface Exploration) are enclosed. The test boring locations are described on the logs. The elevations indicated on the Test Boring Logs were determined by us, using a level survey procedure, related to the top of the existing Keystone retaining wall assumed at El. 100.00. The elevations are considered accurate to within 1± foot.

The field exploration for this project consisted of portable drilling equipment and obtaining geoprobe samples of the subsoils. The samples were obtained for visual classification and laboratory testing. The subsoils were classified by a geotechnical engineer in general accordance with the Unified Soil Classification System (ASTM D-2488-75) as indicated on the enclosed Test Boring Logs. The engineering characteristics of the materials encountered during field testing and the results of laboratory tests have been presented on the enclosed test boring logs enclosed. The symbols and notations used on the test boring logs have been defined in the General Notes enclosed. All geotechnical field and laboratory testing was performed in general accordance with ASTM or other applicable specifications.

Subsurface Conditions

The subsurface conditions found to exist at the test boring locations consisted of existing fill composed of soft to medium stiff silty clay, with mixed in black clayey silt and organic matter to a depth of 4± feet below the surface. Underlying soils encountered generally consisted of naturally occurring stiff to hard consistency silty clay at least to the maximum depths explored of 10± feet below the surface.

Free water was not encountered during drilling. Based on the lack of free water and the soil coloration, the hydrostatic water table level at the time of the exploration was assumed to have existed below the maximum depth explored, below about El. 73± at the test boring locations. The elevation of the water table may, however, fluctuate during heavy precipitation or runoff.

The above discussed subsurface conditions have been simplified for ease of interpretation. A more detailed description of the subsurface conditions has been described on the Test Boring Logs enclosed.

1g0305006-subsurface discussion/03geo2/jsm

RECORD OF SUBSURFACE EXPLORATION

BORING NO. & LOCATION:	PROJECT:
1	Proposed Retaining Wall
SURFACE ELEVATION:	PROJECT LOCATION:
92.2	1060 East Thorn Lane
COMPLETION DATE:	
5/6/03	Fox Point, Wisconsin
FIELD REPRESENTATIVE:	
Ryan Fett	GILES PROJECT NUMBER: 1G-0305006

GILES ENGINEERING ASSOCIATES, INC.

Milwaukee Los Angeles
Madison Dallas Atlanta
Washington, D.C. Orlando

MATERIAL DESCRIPTION	Feet Below Surface	Sample No. & Type	N	q_u (tsf)	q_p (tsf)	q_s (tsf)	w (%)	PID	NOTES
Red-Brown Silty Clay, trace mixed Black Clayey Silt and Organic Matter (Fill)-Moist		1-DS	--						(a)
		2-DS	--						
		3-DS	--						
Red-Brown slightly mottled Orange-Brown Silty Clay-Damp		4-DS	--	4.0			17		
	5	5-DS	--	5.0	4.5+		18		
Red-Brown Silty Clay Silty, trace Gravel (Cobbles and Boulders encountered at 5½± feet)-Damp		6-PS	--						(b)
Red-Brown to Red-Gray Silty Clay, trace Gravel-Damp		7-PS	--						
	10								
Boring terminated at 10 feet									

WATER OBSERVATION DATA	REMARKS
WATER ENCOUNTERED DURING DRILLING: None	Test Boring Location: 31± feet west and 9½± feet north of residence northeast corner.
WATER LEVEL AFTER REMOVAL: None	(a) DS = 1-3/8± inch inside diameter drive sample
CAVE DEPTH AFTER REMOVAL: None	(b) PS = GeoProbe drive sample
WATER LEVEL AFTER HOURS:	
CAVE DEPTH AFTER HOURS:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

RECORD OF SUBSURFACE EXPLORATION

BORING NO. & LOCATION:	PROJECT:
2	Proposed Retaining Wall
SURFACE ELEVATION:	PROJECT LOCATION:
82.7	1060 East Thorn Lane
COMPLETION DATE:	
5/6/03	Fox Point, Wisconsin
FIELD REPRESENTATIVE:	
Ryan Fett	GILES PROJECT NUMBER: 1G-0305006

GILES ENGINEERING ASSOCIATES, INC.

Milwaukee Los Angeles
Madison Dallas Atlanta
Washington, D.C. Orlando

MATERIAL DESCRIPTION	Feet Below Surface	Sample No. & Type	N	q_u (tsf)	q_p (tsf)	q_s (tsf)	W (%)	PID	NOTES
Red-Brown Silty Clay, trace mixed Black Clayey Silt and Organic Matter (Fill)-Moist		1-DS	--						(a)
		2-AU	--						
		3-AU	--						
Red-Brown Silty Clay-Moist to Damp		4-DS	--	4.0	3.7		19		
	5	5-AU	--						
		6-DS	--	4.1	3.5		19		LL = 36, PL = 14
		7-DS	--						
Red-Brown to Red-Gray Silty Clay, trace Gravel-Damp		8-DS	--						
		9-DS	--						
Boring terminated at 9½ feet									

	WATER OBSERVATION DATA	REMARKS
▽	WATER ENCOUNTERED DURING DRILLING: None	Test Boring Location: 8± feet north and 8± feet east of residence northeast corner.
▼	WATER LEVEL AFTER REMOVAL: None	
▒	CAVE DEPTH AFTER REMOVAL: None	(a) DS = 1-3/8± inch inside diameter drive sample
▼	WATER LEVEL AFTER HOURS:	
▬	CAVE DEPTH AFTER HOURS:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

RECORD OF SUBSURFACE EXPLORATION

BORING NO. & LOCATION:	PROJECT:
3	Proposed Retaining Wall
SURFACE ELEVATION:	PROJECT LOCATION:
92.7	1060 East Thorn Lane
COMPLETION DATE:	
5/6/03	Fox Point, Wisconsin
FIELD REPRESENTATIVE:	
Ryan Fett	GILES PROJECT NUMBER: 1G-0305006

GILES ENGINEERING ASSOCIATES, INC.

Milwaukee Los Angeles
Madison Dallas Atlanta
Washington, D.C. Orlando

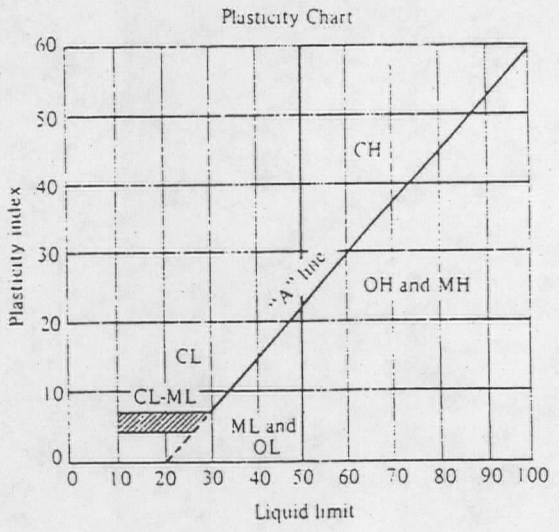
MATERIAL DESCRIPTION	Feet Below Surface	Sample No. & Type	N	q_u (tsf)	q_p (tsf)	q_s (tsf)	W (%)	PID	NOTES
Red-Brown Silty Clay, trace mixed Black Clayey Silt and Organic Matter (Fill)-Moist		1-AU	--						
		2-AU	--						
		3-AU	--						
Red-Brown Silty Clay (Possible Fill)-Moist		4-DS	--	0.9	1.1	0.5	20		(a)
Red-Brown Silty Clay, trace Gravel-Damp	5	5-DS	--	4.5	3.7		19		
(Cobbles and Boulders encountered at 7± feet)		6-PS	--						(b)
Boring terminated at 10 feet	10								

WATER OBSERVATION DATA	REMARKS
WATER ENCOUNTERED DURING DRILLING: None	Test Boring Location: 15± feet south and 6± feet east of residence northeast corner.
WATER LEVEL AFTER REMOVAL: None	(a) DS = 1-3/8± inch inside diameter drive sample
CAVE DEPTH AFTER REMOVAL: None	(b) PS = GeoProbe drive sample
WATER LEVEL AFTER HOURS:	
CAVE DEPTH AFTER HOURS:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

UNIFIED SOIL CLASSIFICATION SYSTEM. (ASTM D-2487)

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria	
Coarse-grained soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 per cent: GW, GP, SW, SP. More than 12 per cent: GM, GC, SM, SC. 5 to 12 per cent: *Borderline* cases requiring dual symbols[b]	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW
		Gravels with fines (Appreciable amount of fines)	GM[a] d / u	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits below "A" line with P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			SP	Poorly graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM[a] d / u	Silty sands, sand-silt mixtures	Atterberg limits above "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7	
Fine-grained soils (More than half material is smaller than No. 200 sieve)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH	Inorganic clays of high plasticity, fat clays		
			OH	Organic clays of medium to high plasticity, organic silts		
	Highly organic soils		Pt	Peat and other highly organic soils		



[a] Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u used when L.L. is greater than 28.

[b] Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

GENERAL NOTES

SAMPLE IDENTIFICATION

All samples are visually classified in general accordance with the Unified Soil Classification System (ASTM D-2487-75 or D-2488-75)

DESCRIPTIVE TERM (% BY DRY WEIGHT)

Trace:	1-10%
Little:	11-20%
Some:	21-35%
And/Adjective	36-50%

PARTICLE SIZE (DIAMETER)

Boulders:	8 in and larger
Cobbles:	3 in to 8 in
Gravel:	coarse - ¾ to 3 in
	fine - No. 4 (4.76 mm) to ¾ in
Sand:	coarse - No. 4 (4.76 mm) to No. 10 (2.0 mm)
	medium - No. 10 (2.0 mm) to No. 40 (0.42 mm)
	fine - No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt:	No. 200 (0.074 mm) and smaller (Non-plastic)
Clay:	No. 200 (0.074 mm) and smaller (Plastic)

SOIL PROPERTY SYMBOLS

Dd:	Dry Density (pcf)
LL:	Liquid Limit, percent
PL:	Plastic Limit, percent
PI:	Plasticity Index (LL-PL)
LOI:	Loss on Ignition, percent
Gs:	Specific Gravity
K:	Coefficient of Permeability
w:	Moisture content, percent
qp:	Calibrated Penetrometer Resistance, tsf
qs:	Vane-Shear Strength, tsf
qu:	Unconfined Compressive Strength, tsf
qc:	Static Cone Penetrometer Resistance Correlated to Unconfined Compressive Strength, tsf
PID:	Results of vapor analysis conducted on representative samples utilizing a Photoionization Detector calibrated to a benzene standard. Results expressed in HNU-units (BDL=Below Detection Limits)

DRILLING AND SAMPLING SYMBOLS

SS:	Split-Spoon
ST:	Shelby Tube - 3" O.D. (except where noted)
CS:	3" O.D. California Ring Sampler
DC:	Dynamic Cone Penetrometer per ASTM Special Technical Publication No. 399
AU:	Auger Sample
DB:	Diamond Bit
CB:	Carbide Bit
WS:	Wash Sample
RB:	Rock-Roller Bit
BS:	Bulk Sample
Note:	Depth intervals for sampling shown on Record of Subsurface Exploration are not indicative of sample recovery, but position where sampling initiated

N: Penetration Resistance per 6 inch interval, or fraction thereof, for a standard 2 inch O.D. (1⅜ inch I.D.) split spoon sampler driven with a 140 pound weight free-falling 30 inches. Performed in general accordance with Standard Penetration Test Specifications (ASTM D-1586). N in blows per foot equals sum of N values where plus sign is shown

Nc: Penetration Resistance per 1¾ inches of Dynamic Cone Penetrometer. Approximately equivalent to Standard Penetration Test N-Value in blows per foot.

Nr: Penetration Resistance per 6 inch interval, or fraction thereof, for California Ring Sampler driven with a 140 pound weight free-falling 30 inches per ASTM D-3550. Not equivalent to Standard Penetration Test N-Value.

SOIL STRENGTH CHARACTERISTICS

COHESIVE (CLAYEY) SOILS

COMPARATIVE CONSISTENCY	BLOWS PER FOOT (N)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
Very Soft	0-2	0-0.25
Soft	3-4	0.25-0.50
Medium Stiff	5-8	0.50-1.00
Stiff	9-15	1.00-2.00
Very Stiff	16-30	2.00-4.00
Hard	31+	4.00+

DEGREE OF PLASTICITY	PI
None to Slight	0-4
Slight	5-10
Medium	11-30
High to Very High	31+

NON-COHESIVE (GRANULAR) SOILS

RELATIVE DENSITY	BLOWS PER FOOT (N)
Very Loose	0-4
Loose	5-10
Firm	11-30
Dense	31-50
Very Dense	51+

DEGREE OF EXPANSIVE POTENTIAL	PI
Low	0-15
Medium	15-25
High	25+

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washdc2@gilesengr.com

website: www.gilesengr.com

GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

Jan 17, 2006
By DMF

Ericson Residence
1060 E. Thorn Lane
Fox Point, Wisconsin

Structural Calculations For Removal of Bearing Wall in Kitchen

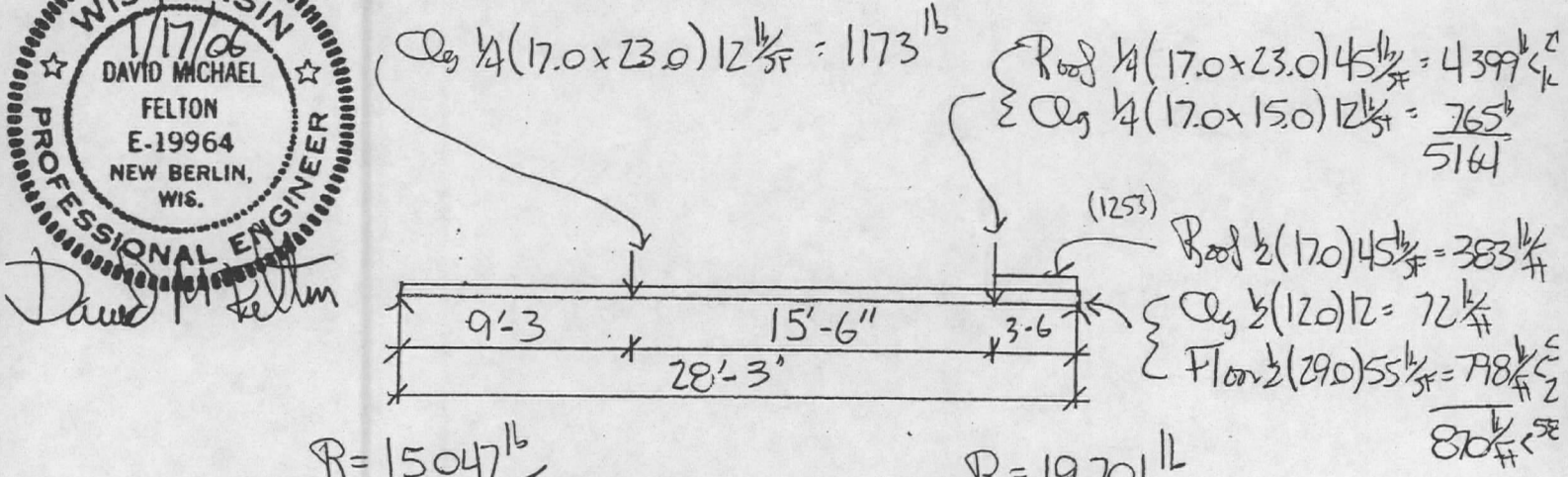
Loading

Roof = 30 lb/SF (Live) + 15 lb/SF (Dead) = 45 lb/SF
Ceiling = 5 lb/SF (Live) + 7 lb/SF (Dead) = 12 lb/SF
Floor = 40 lb/SF (Live) + 15 lb/SF (Dead) = 55 lb/SF

See Page 6 For Plan Notes

Steel Beam Above Kitchen

WISCONSIN
1/17/06
DAVID MICHAEL FELTON
E-19964
NEW BERLIN, WIS.
PROFESSIONAL ENGINEER
David M Felton



Columns H ≤ 9'-0"

Use (5) 2×6's
P = 17,531 lb

Use (6) 2×6's
P = 21,038

or 3½" Std Pipe Col

Moment = 111,287 ft-lb

See Page 2 & 3

Use W10×88 d = 10.84"
Mr = 270,875 ft-lb bf = 10.265

Jan 17, 2006
By DMF

Ericson Residence
1060 E. Thorn Lane
Fox Point, Wisconsin

Structural Calculations For Removal of Bearing Wall in Kitchen

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Roof = 30 lb/SF (Live) + 15 lb/SF (Dead) = 45 lb/SF
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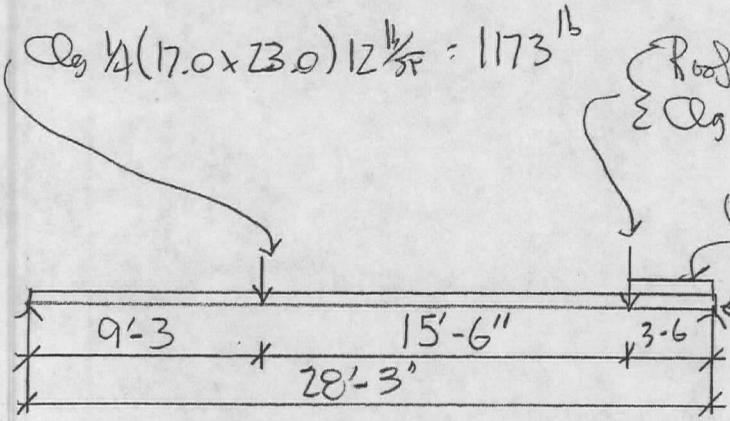

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or 3½" Std Pipe Col

Moment = 111,287 ft-lb
See Page 2 & 3

Use W10×88 d = 10.84"
Mr = 270,815 ft-lb bf = 10.265"

Load Case	Member	Direction	Offset ft	Magnitude

Ericson Residence

VisualAnalysis 5.00 Report
Company: Felton Engineering Engineer: David M.Felton
Project File: Design Group 3-Ericson.vap
Folder: C:\My Documents\Dave\Structural Calculations\

Member Elements

Member	Section	Material	(1)Node	(2)Node	Length ft	Weight lb
M1	W10X88	ASTM A992 Grade 50	N1	N2	28.250	2493.54

Member Uniform Loads

Load Case	Member	Direction	Offset ft	End Offset ft	Magnitude
Dead loads	M1	DY	0.0000	24.7500	-870.000 lb/ft
"	"	"	24.7500	28.2500	-1253.00 lb/ft

Member Point Loads

Load Case	Member	Direction	Offset ft	Magnitude
Dead loads	M1	DY	9.2500	-1173.0000 lb
"	"	"	24.7500	-5164.0000 lb

Member Extreme Results

Member	Fx(lc) lb	Vy(lc) lb	Mz(lc) lb-ft	Dy(lc) in
M1	0.0000 (1)	-19701 (1)	0.0000 (1)	-1.0501 (1)
"	0.0000 (1)	15047.2 (1)	111287 (1)	0.0000 (1)

Nodal Reactions

Node	Result Case Name	FX lb	FY lb	MZ lb-ft
N1	Dead loads First Order	0.0000	15047.2	-NA-
N2	"	-NA-	19701.2	-NA-

Dead loads	M1	DY	9.2500	-1173.0000 lb
"	"	"	24.7500	-5164.0000
lb				

Member Extreme Results

Member	Fx(lc)	Vy(lc)	Mz(lc)	Dy(lc)

	lb	lb	lb-ft	in
M1	0.0000 (1)	-19701 (1)	0.0000 (1)	-1.0501 (1)
"	0.0000 (1)	15047.2 (1)	111287 (1)	0.0000 (1)

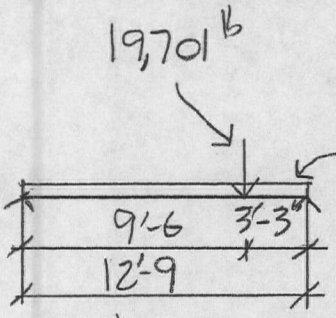
Nodal Reactions

Node	Result Case Name	FX lb	FY lb	MZ lb-ft
N1	Dead loads First Order	0.0000	15047.2	-NA-
N2	"	-NA-	19701.2	-NA-

Jan 17, 2006
By DMF

Ericson Residence
1060 E. Thorn Lane
Fox Point, Wisconsin

Optional Beam Above Pocket Door



Roof ½(28.0) 45 lb/sf = 630 lb/ft < 420 L / 210 D
Flrs ½(21.0) 12 lb/sf = 126 lb/ft < 532 L / 730 D
Wall 9ft x 15 lb/sf = 135 lb/ft

Use 5¼ x 18" 2.0E Parallam See Page 5

Column H = 8'-0

Use (3) 2x6's
P_{Allow} = 10,519 lb

Use (6) 2x6's
P_{Allow} = 21,038 lb

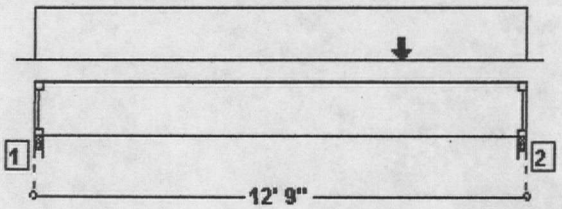
Trus Joist
A Weyerhaeuser Business

TJ-Beam® 6.20 Serial Number: 7002007566
User: 2 1/11/06 4:50:46 PM
Page 1 Engine Version: 6.20.16

Optional Beam Above Pocket Door

5 1/4" x 18" 2.0E Parallam® PSL

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED



Product Diagram is Conceptual.

LOADS:

Analysis is for a Drop Beam Member. Tributary Load Width: 1'
Primary Load Group - Residential - Living Areas (psf): 0.0 Live at 100 % duration, 0.0 Dead
Vertical Loads:

Type	Class	Live	Dead	Location	Application	Comment
Point(lbs)	Roof(1.15)	0	19701	9' 6"	-	
Uniform(plf)	Roof(1.15)	420.0	210.0	0 To 12' 9"	Adds To	
Uniform(plf)	Floor(1.00)	53.0	73.0	0 To 12' 9"	Adds To	
Uniform(plf)	Floor(1.00)	0.0	80.0	0 To 12' 9"	Adds To	

SUPPORTS:

		Input Width	Bearing Length	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	3.00"	4.68"	3015 / 7428 / 0 / 10443	L1: Blocking	1 Ply 1 1/4" x 18" 1.3E TimberStrand® LSL
2	Stud wall	3.00"	9.10"	3015 / 17278 / 0 / 20294	L1: Blocking	1 Ply 1 1/4" x 18" 1.3E TimberStrand® LSL

-See TJ SPECIFIER'S / BUILDERS GUIDE for detail(s): L1: Blocking
-Bearing length requirement exceeds input at support(s) 1, 2. Supplemental hardware is required to satisfy bearing requirements.

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	-20185	-16591	16443	Passed (101%)	Rt. end Span 1 under Dead loading
Moment (Ft-Lbs)	58853	51924	58948	Passed (88%)	MID Span 1 under Dead loading
Live Load Defl (in)		0.062	0.417	Passed (L/999+)	MID Span 1 under Roof loading
Total Load Defl (in)		0.343	0.625	Passed (L/438)	MID Span 1 under Roof loading

-Deflection Criteria: MINIMUM(LL:L/360,TL:L/240).
-Bracing(Lu): All compression edges (top and bottom) must be braced at 12' 9" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

ADDITIONAL NOTES:

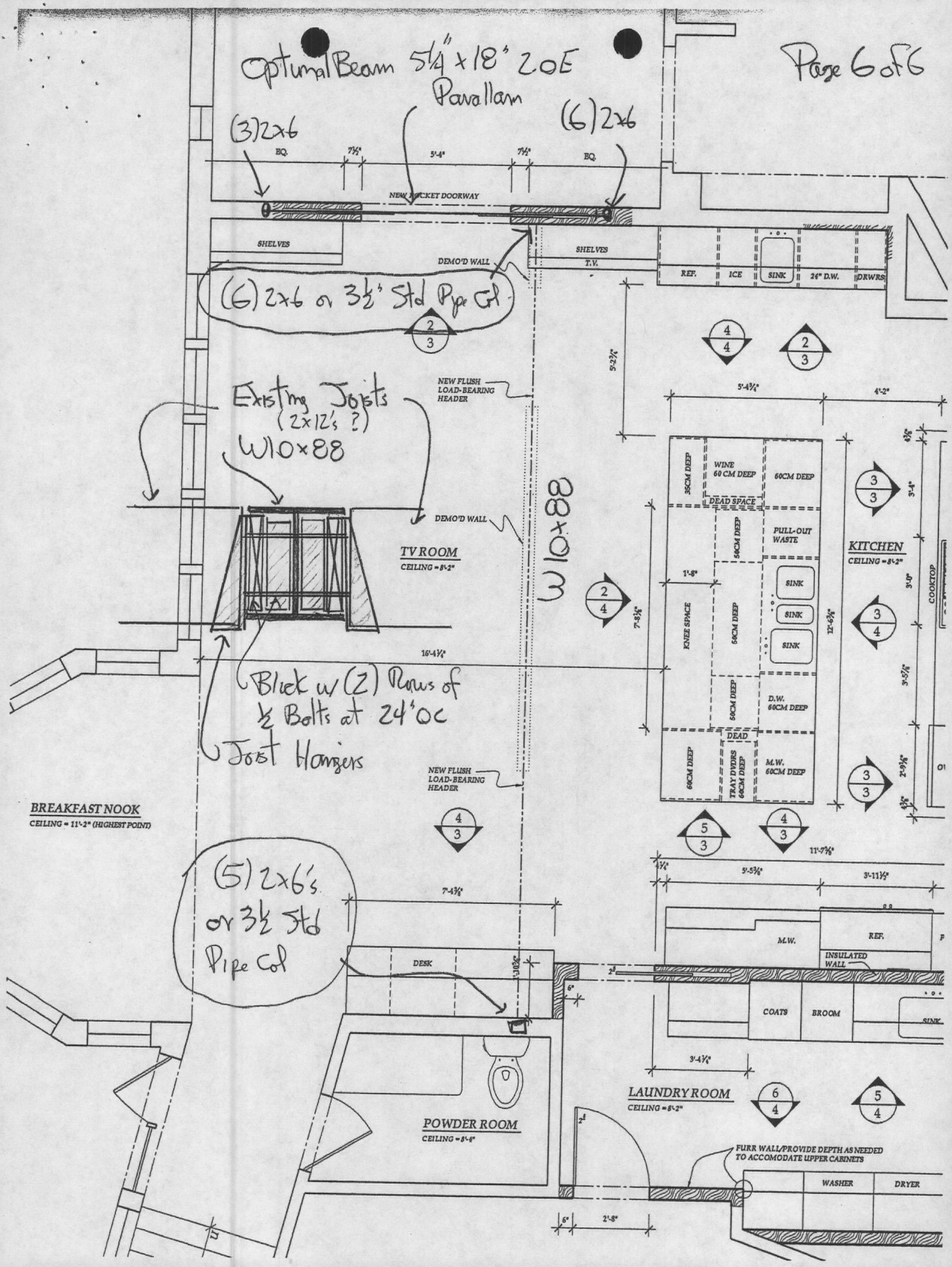
-IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). TJ warrants the sizing of its products by this software will be accomplished in accordance with TJ product design criteria and code accepted design values. The specific product application, input design loads, and stated dimensions have been provided by the software user. This output has not been reviewed by a TJ Associate.
-Not all products are readily available. Check with your supplier or TJ technical representative for product availability.
-THIS ANALYSIS FOR TRUS JOIST PRODUCTS ONLY! PRODUCT SUBSTITUTION VOIDS THIS ANALYSIS.
-Allowable Stress Design methodology was used for Building Code IBC analyzing the TJ Distribution product listed above.

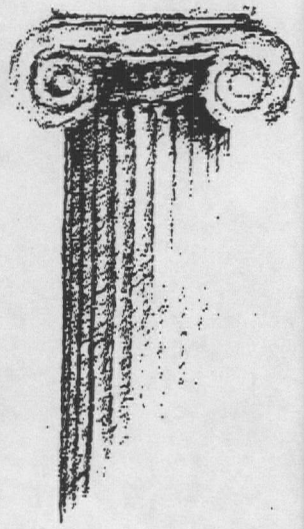
PROJECT INFORMATION:

Ericson Residence

OPERATOR INFORMATION:

David Felton
Felton Engineering
12910 Hawthrone Lane
New Berlin, WI 53151
Phone : 414-425-6630
Fax : 414-425-6732
dfelton@execpc.com


Optimal Beam 5¼" x 18" 20E Parallam
(3) 2x6
(6) 2x6
EQ.
7½"
5'-4"
7½"
EQ.
NEW POCKET DOORWAY
SHELVES
DEMO'D WALL
SHELVES
T.V.
REF.
ICE
SINK
24" D.W.
DRWRS
(6) 2x6 or 3½" Std Pipe Col
2/3
4/4
2/3
5'-2¾"
5'-4¾"
4'-2"
NEW FLUSH LOAD-BEARING HEADER
Existing Joists (2x12's ?)
W10x88
DEMO'D WALL
TV ROOM
CEILING = 8'-2"
W10x88
35CM DEEP
WINE 60 CM DEEP
60CM DEEP
DEAD SPACE
50CM DEEP
PULL-OUT WASTE
KITCHEN
CEILING = 8'-2"
SINK
SINK
SINK
KNEE SPACE
56CM DEEP
COOKTOP
D.W. 60CM DEEP
DEAD
60CM DEEP
TRAY DVDRS 60CM DEEP
M.W. 60CM DEEP
16'-4¼"
7'-8⅜"
12'-6⅜"
1'-8"
3'-4"
3'-0"
3'-5⅞"
2'-9⅛"
6⅜"
Block w/ (2) Rows of ½ Bolts at 24" OC
Joist Hangers
NEW FLUSH LOAD-BEARING HEADER
BREAKFAST NOOK
CEILING = 11'-2" (HIGHEST POINT)
3/3
4/3
5/3
4/3
11'-7⅞"
(5) 2x6's or 3½ Std Pipe Col
7'-4⅜"
5'-5¾"
3'-11½"
DESK
M.W.
REF.
INSULATED WALL
COATS
BROOM
SINK
3'-4¼"
LAUNDRY ROOM
CEILING = 8'-2"
6/4
5/4
POWDER ROOM
CEILING = 8'-4"
FURR WALL/PROVIDE DEPTH AS NEEDED TO ACCOMODATE UPPER CABINETS
WASHER
DRYER
5"
2'-8"



FAX TRANSMITTAL LETTER

Date: 5-26-06

Time: 1:30 pm

NUMBER OF PAGES INCLUDING THIS ONE: 2

PLEASE DELIVER TO: Scott Miller

COMPANY NAME: Village of Fox Point

FAX NUMBER: 414 351-8909

THIS FAX WAS SENT FROM: _____

(414) 962-0122 FAX NUMBER

IF YOU DO NOT RECEIVE ALL THE PAGES ON THIS FAX, PLEASE CONTACT DESIGN GROUP THREE AT 962-5560.

SPECIAL INSTRUCTIONS: _____

Ericson Project

Our License; As Requested

- Jeff Sampson

DESIGN GROUP THREE

ARCHITECTURE
RENOVATION
CONSTRUCTION

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Milwaukee, WI 53217
414.962.5560

BIERMAN
CONSTRUCTION
CORPORATION
N76 W24839 RIDGEFIELD DRIVE
SUSSEX, WI 53089
VOICE (262) 820-1780
FAX (262) 820-3346

FACSIMILE TRANSMITTAL

TO: SCOTT MILLER **FAX:** (414) 351-8909

FROM: TIMM BIERMAN **DATE:** 10/29/2002

RE: ERICSON ADDITION **PAGES:** 1 (INCLUDING COVER)

CC:

☐ URGENT ☑ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

SCOTT,

THE COST FOR THE PROPOSED ADDITION IS $125,000. PLEASE CALL ME WITH THE TOTAL PERMIT FEE AND WHEN I CAN STOP BY & PICK IT UP.

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL.

THANKS,

TIMM

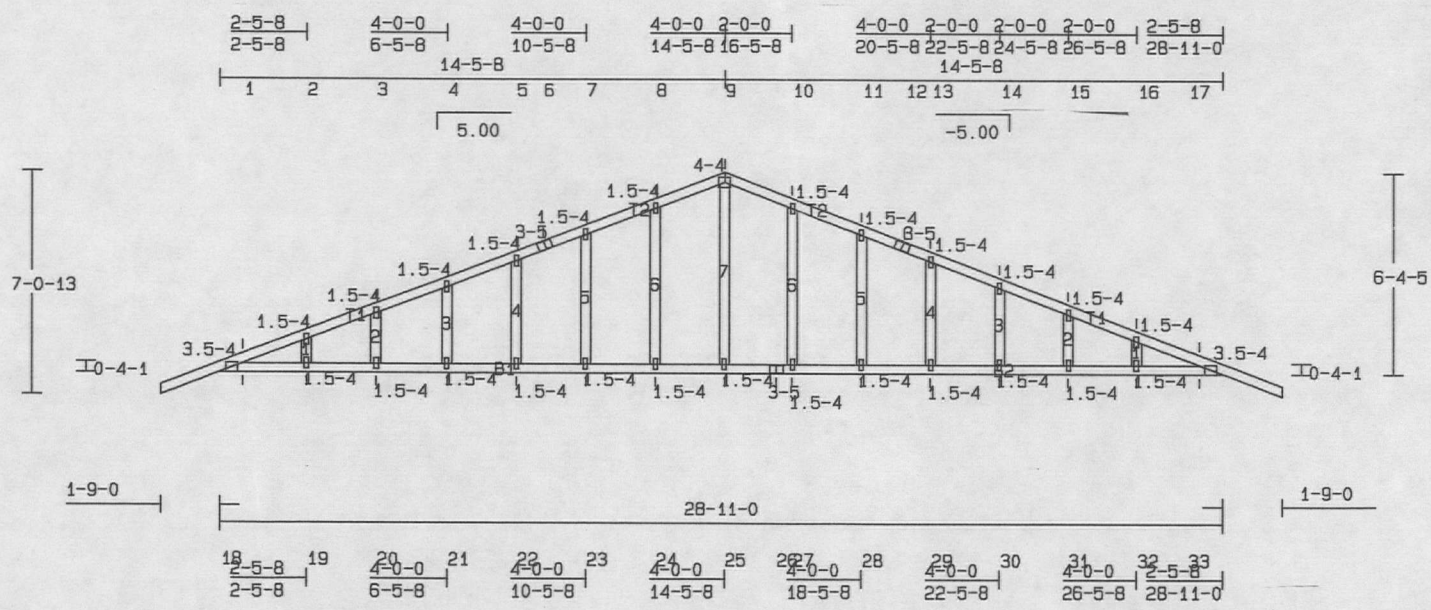
Id:
696569
BIERMAN CONSTRUCTION CORP

Certification, License, or Registration Name	Expires
Dwelling Contractor Financial Responsibility Certification	08/04/03

Wisconsin Department of Commerce
Signature:

Customer: B & E GEN'L CONTR. Job Name: ROSS WO#: 93859 Truss: 3859T2E QTY: 1

***** CUTTING ONLY *****
TOP CHORD 2x4 SPF C1650F1.5E
BOT CHORD 2x4 SPF C1650F1.5E



===== Joint Locations =====

1	0- 0- 0	18	0- 0- 0
2	2- 5- 8	19	2- 5- 8
3	4- 5- 8	20	4- 5- 8
4	6- 5- 8	21	6- 5- 8
5	8- 5- 8	22	8- 5- 8
6	9- 2- 9	23	10- 5- 8
7	10- 5- 8	24	12- 5- 8
8	12- 5- 8	25	14- 5- 8
9	14- 5- 8	26	16- 0- 0
10	16- 5- 8	27	16- 5- 8
11	18- 0- 0	28	18- 5- 8
12	19- 6- 7	29	20- 5- 8
13	20- 5- 8	30	22- 5- 8
14	22- 5- 8	31	24- 5- 8
15	24- 5- 8	32	26- 5- 8
16	26- 5- 8	33	28-11- 0
17	28-11- 0		

2/ 2/96

All plates are 20 gauge Truswal Connectors unless preceded by "18" for 18 gauge or "H" for 16 gauge. OVER CONTINUOUS SUPPORT Scale: 3/16" = 1'

RICHCO STRUCTURES
CTY.HWY.FF W989N, Haven, WI 53083

WARNING Read all notes on this sheet and give a copy of it to the erecting contractor.

This design is for an individual building component. It has been based on specifications provided by the component manufacturer and done in accordance with the latest versions of TPI and AFPA design standards. No responsibility is assumed for dimensional accuracy. Dimensions are to be verified by the component manufacture and/or building designer prior to fabrication. The building designer shall ascertain that the loads utilized on this design meet or exceed the loading imposed by the local building code. It is assumed that the top chord is laterally braced by the roof or floor sheathing and the bottom chord is laterally braced by a rigid sheathing material directly attached. Bracing shown is for lateral support of component members only to reduce buckling length. This component shall not be placed in any environment that will cause the moisture content of the wood to exceed 19% and/or cause connector plate corrosion. Fabricate, handle, install and brace this truss in accordance with the following standards: 'TRUSCOM MANUAL', by Truswal, 'QUALITY CONTROL STANDARD FOR METAL PLATE CONNECTED WOOD TRUSSES' - (QST-88), 'HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES' - (HIB-91) and 'HIB-91 SUMMARY SHEET' by TPI. The Truss Plate Institute (TPI) is located at 583 D'Onofrio Drive, Madison, Wisconsin 53719. The American Forest and Paper Association (AFPA) is located at 1250 Connecticut Ave, NW, Ste 200, Washington, DC 20036.

Date: 2/ 2/96	
Chk: GS	
Dsgnr: GS	
TC Live	30.0 psf
TC Dead	7.0 psf
BC Live	.0 psf
BC Dead	10.0 psf
TOTAL	47.0 psf

WO: 93859	
Customer Name:	
B & E GEN'L CONTR.	
DurFacs L=1.15	P=1.15
Rep Mbr Bnd	1.15
O.C.Spacing	2- 0- 0
Design Spec	TPI
Seqn 09.28.95-	62448

ESTIMATE

Liffert LUMBER AND FUEL CO.

6826 S. 13TH STREET, OAK CREEK, WISCONSIN 53154 — 762-9090
2128 W. MORGAN AVE., MILWAUKEE, WISCONSIN 53221 — 383-4900

NO. _____

AMOUNT _____

_____ 19__

TERMS: This proposal is based only on the articles hereunder specified. Clerical errors and omissions subject to correction. The latest grading rules and recognized standard sizes govern this contract. All sizes are subject to natural shrinkage. Payments 10th prox. – net 30 days – 1.5% per month interest charged on past due accounts. Privilege reserved to cancel contract in default of payments as stipulated. This proposal will be void unless accepted within ten days from date. Deliveries subject to delays caused by strikes, accidents, fire, the elements or other causes beyond our control.
SHORTAGE CLAIMS: No claims for shortage will be allowed unless material is tallied when received and claims for shortage made at once.
DELIVERY DESTINATION: Our driver will deliver as close to required destination as consistent, and unload next to delivery equipment. Delaying delivery equipment due to extra handling is not permitted. Any extra expense or labor must be paid for by purchaser.
MATERIAL RETURNED: Drivers are not allowed to receive material to be returned without instructions from our office. Excess stock returned will be credited on basis of sale, less service cost, if the same is in as good condition when returned as when delivered.

CONTRACTOR B & E Const. OWNER Ross Res

ADDRESS _____ JOB ADDRESS Breakfast Area Beam for Point.

PHONE _____ FINANCED BY _____

PIECES	Check over this Estimate carefully to avoid error and misunderstanding. We agree to furnish only the articles, grade and quantities listed hereon.	FEET	PRICE	AMOUNT

Given. Span 11'-2¼" Beam.

Wall Load 100# L.F.

Breakfast Nook Roof Span 8'-0"
8'-0" + 1'-0" O.H. = 9'-0" Roof Span
9'-0" ÷ 2 = 4'-6" or 4.5'
4.5' × 47# T/L = 211.5#/L.F.

30# LL
10# DL
7# WL
47# T/L

Floor Load 2nd Flr.
Span 11'-8½" or 12'
12 ÷ 2 = 6
6 × 50#/# = 300#/L.F.

40# LL
10# DL
50# T/L.

Gable Roof — i.e. No Load

Wall 100#/L.F.
B.N. Roof 212#/L.F.
Flr Load 300#/L.F.
612#/L.F.

Data. L/360
Span 12'0"
I.8E.

Pg. 22 of Truss Joist. Book.
3 - 1¾ × 9¼ = 801#/L.F.

On Pg. 13 of G.P. LVL Book
2 - 1¾ × 11⅞ = 1076#/L.F. Based on 2.0E value which is the 11⅞ LVL beams we have, Or.

ghway

Sept 7, 2006
BY DMF

Ericson Residence
1600 Throne Lane
Fox Point, Wisconsin

WISCONSIN
DAVID MICHAEL FELTON
E-19564
NEW BERLIN, WIS.
PROFESSIONAL ENGINEER
9/11/06

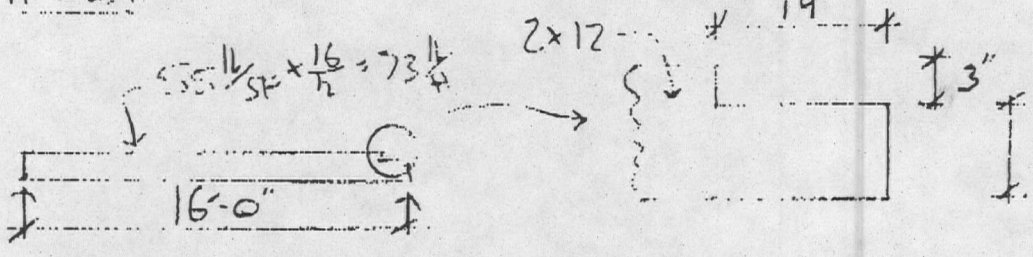
David M Felton

Structural Calculation for Notch Floor Joist

Loading

$FT_{SST} = 40\,lb/SF\,(Live) + 15\,lb/SF\,(Dead) = 55\,lb/SF$

Notch Joist



R = 587 lb

See Page 2

Fb SPF Lumber or Better

Fv = 135 psi

$fv = \frac{1.5 \times 587\,lb}{14 \times 8.25} = 71\,psi < 135\,psi$

Existing 2×12 Joists At 16" oc
Can Be Notched As Shown
Floor Joist Are Adequate

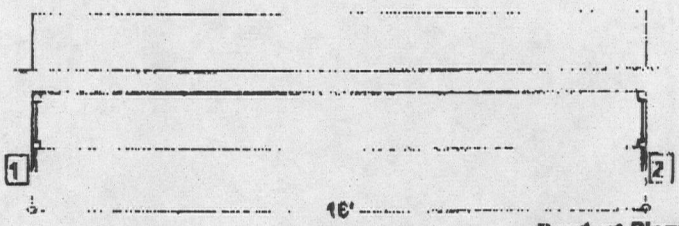
Page 2 of 2

Trus Joist
A Weyerhaeuser business
Version 6.28 Serial Number 7002007560
User: D...9/7/06 @ 7:39 PM
Page 1 Engine Version: 6.25.71

Floor Joists

1 1/2" x 11 1/4" 1.4E Solid Sawn SprucePine Flr #2 @ 16" o/c

THIS PRODUCT MEETS OR EXCEEDS THE SET DESIGN CONTROLS FOR THE APPLICATION AND LOADS LISTED



Product Diagram is Conceptual.

LOADS:

Analysis is for a Joist Member.
Primary Load Group - Residential - Living Areas (psf): 40.0 Live at 100 % duration, 15.0 Dead

SUPPORTS:

		Input Width	Bearing Length	Vertical Reactions (lbs) Live/Dead/Uplift/Total	Detail	Other
1	Stud wall	1.50"	1.50"	427 / 160 / 0 / 587	By Others - Blocking: Blocking	1 Ply 1 1/2" x 11 1/4" 1.5E TimberStrand® LSL
2	Stud wall	1.50"	1.50"	427 / 160 / 0 / 587	By Others - Blocking: Blocking	1 Ply 1 1/2" x 11 1/4" 1.5E TimberStrand® LSL

See TJ SPECIFIER'S / BUILDERS GUIDE for detail(s): By Others - Blocking, Blocking

DESIGN CONTROLS:

	Maximum	Design	Control	Control	Location
Shear (lbs)	584	-509	1519	Passed (33%)	Rt. end Span 1 under Floor loading
Vertical Reaction (lbs)	584	584	956	Passed (61%)	Bearing 2 under Floor loading
Moment (Ft-Lbs)	2322	2322	2653	Passed (88%)	MID Span 1 under Floor loading
Live Load Defl (in)		0.309	0.531	Passed (L/618)	MID Span 1 under Floor loading
Total Load Defl (in)		0.425	0.796	Passed (L/449)	MID Span 1 under Floor loading

Deflection Criteria: MINIMUM(LL:L/360,TL:L/240).
Allowable moment was increased for repetitive member usage.
Bracing(Lu): All compression edges (top and bottom) must be braced at 5' 10" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.
The allowable shear stress (Fv) has not been increased due to the potential of splits, checks and shakes. See NDS for applicability of increase.

ADDITIONAL NOTES:

IMPORTANT! The analysis presented is output from software developed by Trus Joist (TJ). TJ warrants the sizing of its products by this software will be accomplished in accordance with TJ product design criteria and code accepted design values. The specific product application, input design loads, and member dimensions have been provided by the software user. This output has not been reviewed by a TJ Associate.
Not all products are readily available. Check with your supplier or TJ technical representative for product availability.
THIS ANALYSIS FOR iLevel PRODUCTS ONLY! PRODUCT SUBSTITUTION VOIDS THIS ANALYSIS. Solid sawn lumber analysis is in accordance with 2001 NDS methodology.
Allowable Stress Design methodology was used for Building Code IBC analyzing the solid sawn lumber material listed above.

PROJECT INFORMATION:

Erlson Residence

OPERATOR INFORMATION:

David Felton
Felton Engineering
12910 Hawthorne Lane
New Berlin, WI 53151
Phone : 414-425-6630
Fax : 414-425-6732
dfelton@execpc.com

Customer: BIERMANN CONST	Job Name: ERICSON ADDITION	WO#: 11027	Truss: 1027T5E	QTY: 1

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
GBL BLK 2x4 SPF STUD-CAN

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

	ANSI/TPI-95	TW-20	TW-18	TW-16(H)
	SP	195	195	156
	FL	186	186	157
	HF	150	150	108
(SG=.42)	SPF	187	187	112
(SG=.50)	SPF	189	189	136
	WW	130	130	101

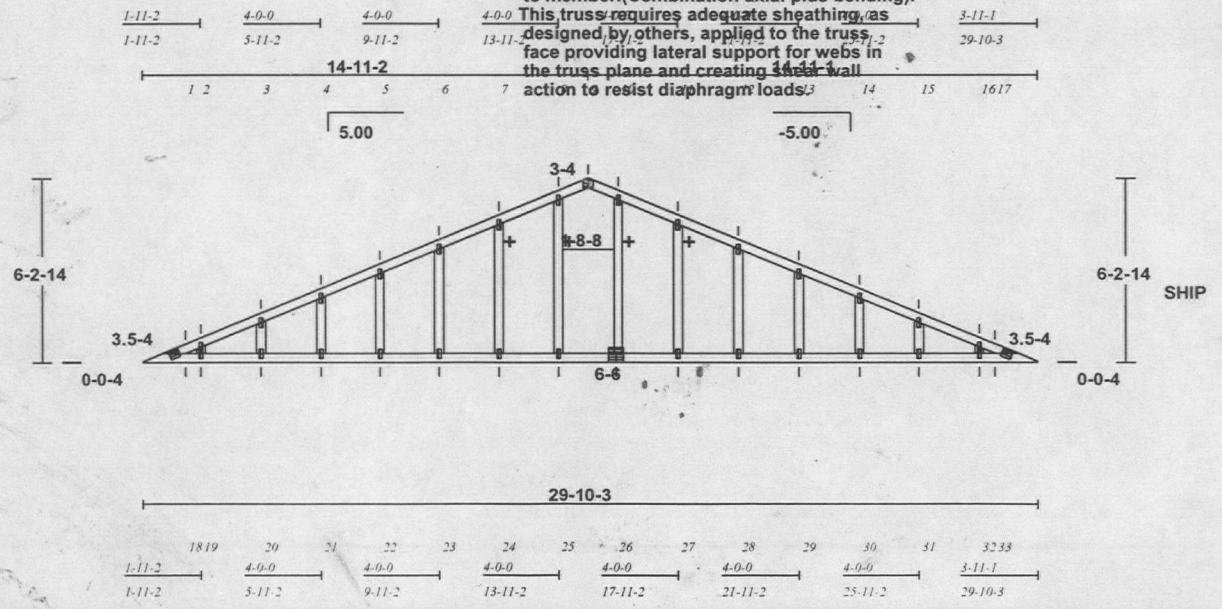
Top chord supports 24.0 " of uniform load at 30 psf live load and 7 psf dead load. Additional design considerations may be required if sheathing is attached.
[+] indicates the requirement for lateral bracing (designed by others) perpendicular to the plane of the member at 48"intervals. Bracing is a result of wind load applied to member.(Combination axial plus bending).
This truss requires adequate sheathing, as designed by others, applied to the truss face providing lateral support for webs in the truss plane and creating shear wall action to resist diaphragm loads.

This truss is designed using the
ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 30.17 ft
Mean roof height = 11.45 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

TRUSS WEIGHT: 150
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	18	0- 0- 0
2	1-11- 2	19	1-11- 2
3	3-11- 2	20	3-11- 2
4	5-11- 2	21	5-11- 2
5	7-11- 2	22	7-11- 2
6	9-11- 2	23	9-11- 2
7	11-11- 2	24	11-11- 2
8	13-11- 2	25	13-11- 2
9	14-11- 2	26	15-10- 3
10	15-11- 2	27	17-11- 2
11	17-11- 2	28	19-11- 2
12	19-11- 2	29	21-11- 2
13	21-11- 2	30	23-11- 2
14	23-11- 2	31	25-11- 2
15	25-11- 2	32	27-11- 2
16	27-11- 2	33	29-10- 3
17	29-10- 3		



TYPICAL PLATE : 1.5-4

OVER CONTINUOUS SUPPORT

12/16/2002

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Scale: 5/32" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.		Drwg:	
Chk:			
Dsgnr: JKR			
TC Live	30.00 psf	DurFacs	L=1.15 P=1.15
TC Dead	7.00 psf	Rep Mbr Bnd	1.15
BC Live	0.00 psf	O.C.Spacing	2- 0- 0
BC Dead	10.00 psf	Design Spec	WIC
TOTAL	47.00 psf	T6.3.7 -Seqn	0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027T6** **QTY: 3**

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 3- 0	1397	6.00"	1.65"
2	29-11- 0	1415	6.00"	2.22"

TC	FORCE	AXL	BND	CSI
TL- 1	-537	0.00	0.99	0.99
1-2	-4216	0.03	0.62	0.65
2-3	-3248	0.19	0.53	0.72
3-4	-2134	0.07	0.43	0.50
4-5	-2103	0.04	0.61	0.65
5-6	-2767	0.08	0.61	0.69

BC	FORCE	AXL	BND	CSI
7-8	4126	0.67	0.21	0.88
8-9	2674	0.43	0.11	0.54
9-10	2130	0.55	0.06	0.61
10-11	2424	0.63	0.17	0.80
11-12	2458	0.64	0.32	0.96

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	-1322	0.60	10-	-333	0.32
3-8	746	0.36	10	-705	0.55
3-9	-927	0.39	11	92	0.04
4-9	1420	0.66			

TC 2x8 SP M-23
2x4 SPF #1/#2-CAN 2-4
2x4 SPF C1650F1.5E 4-6
BC 2x4 SPF #1/#2-CAN
2x4 SPF C1650F1.5E 7-9
WEB 2x4 SPF STUD-CAN
Lumber shear allowables are per NDS-97.

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

ANSI/TPI-95	TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

UPLIFT REACTION(S) :
Support 1 -276 lb
Support 2 -280 lb
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 20.00 ft
Mean roof height = 22.87 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

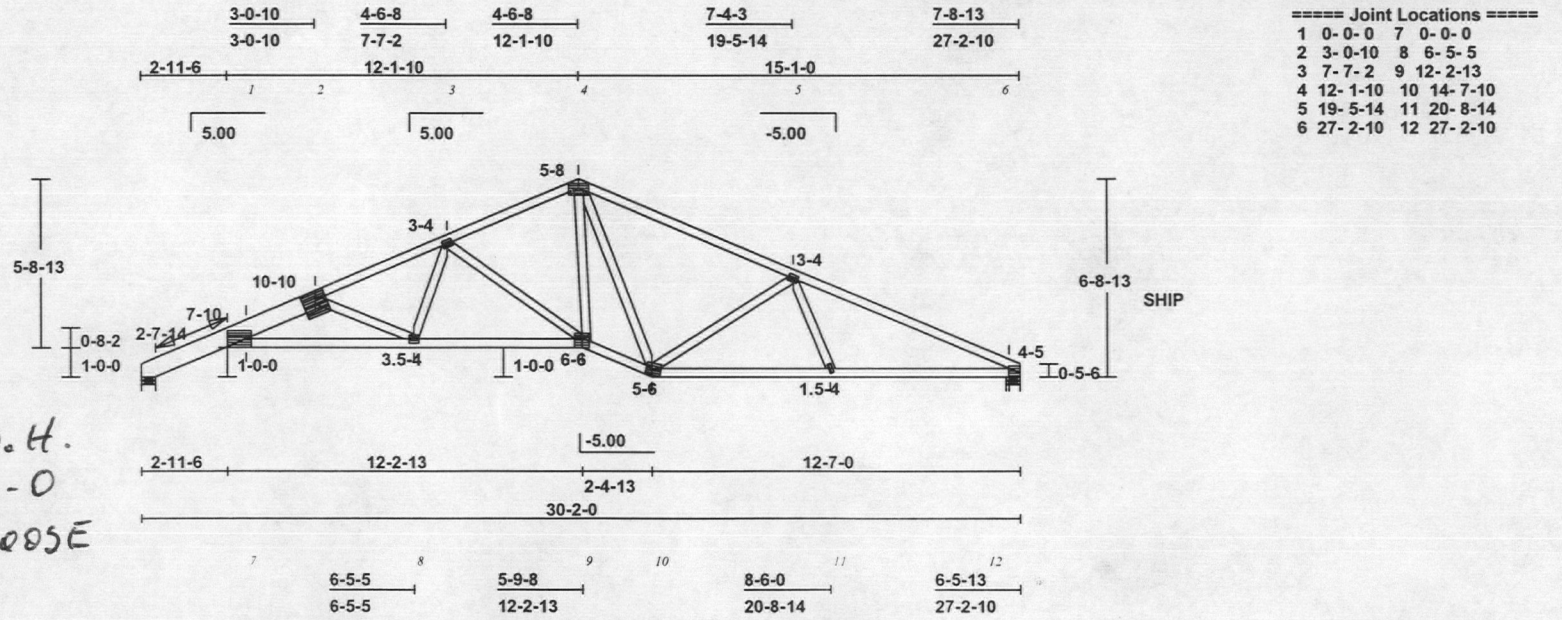
----------LOAD CASE #1 DESIGN LOADS ----------

Dir	L.Plf	L.Loc	R.Plf	R.Loc	LL/TL
TC Vert	94.00	0- 3- 0	94.00	2-11- 6	0.64
TC Vert	74.00	2-11- 6	74.00	30- 2- 0	0.81
BC Vert	20.00	2-11- 6	20.00	30- 2- 0	0.00

MAX DEFLECTION (span) :
L/770 IN MEM 7-8 (LIVE)
L= -0.46" D= -0.26" T= -0.73"
TRUSS WEIGHT: 160
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	7	0- 0- 0
2	3- 0-10	8	6- 5- 5
3	7- 7- 2	9	12- 2-13
4	12- 1-10	10	14- 7-10
5	19- 5-14	11	20- 8-14
6	27- 2-10	12	27- 2-10



Left O.H. OF 1-9-0 SENT LOOSE

12/16/2002

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HWY.FF W989N. HAVEN, WI 53083

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Dsgnr: JKR			
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TC Dead	7.00 psf	Rep Mbr Bnd	1.15
BC Live	0.00 psf	O.C.Spacing	2- 0- 0
BC Dead	10.00 psf	Design Spec	WIC
TOTAL	47.00 psf	T6.3.7 -Seqn	0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027T7G** **QTY: 2**

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 3- 0	2826	6.00"	1.67"
2	29-11- 0	1764	6.00"	1.50"

TC	FORCE	AXL	BND	CSI
TL- 1	-1087	0.00	0.80	0.80
1-2	-10403	0.04	0.41	0.45
2-3	-5320	0.12	0.25	0.37
3-4	-3239	0.04	0.28	0.32
4-5	-2967	0.02	0.33	0.35
5-6	-3576	0.03	0.43	0.46

BC	FORCE	AXL	BND	CSI
7-8	10182	0.53	0.30	0.82
8-9	10093	0.52	0.16	0.68
9-10	4669	0.24	0.04	0.28
10-11	3153	0.41	0.12	0.53
11-12	3197	0.42	0.08	0.50
12-13	3199	0.42	0.30	0.71

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	1909	0.44	10-14	2553	0.59
2-9	-5510	0.47	9-11	-738	0.12
3-9	1825	0.53	9-12	-679	0.10
3-10	-2158	0.51	11-12	75	0.02

TC 2x8 SP M-23
2x4 SPF #1/#2-CAN 2-4
2x4 SPF C1650F1.5E 4-6
BC 2x4 SPF #1/#2-CAN
2x6 SPF C1650F1.5E 7-10
WEB 2x4 SPF STUD-CAN
SCAB 2x8 SP M-23
Lumber shear allowables are per NDS-97.
SCAB (cross-hatched area) to be same size and grade as chord to which it is attached. (1)=1 scab, (2)=2 scabs. Use 10d nails at 3" O.C. plus clusters if shown by (). Each scab is unspliced unless noted otherwise. If 2 scabs are req. attach 1 scab per face. Nails may be common or box (NDS-97 Sect.12)
Nail pattern shown is for uniform loads only. Concentrated loads > 350# must be distributed (by others) equally to each ply, unless nail clusters are shown ( ).

Plating spec : ANSI/TPI - 1995
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SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

Permanent bracing is required (by others) to prevent rotation/toppling. See HIB-91 and ANSI/TPI 1-1995; 10.3.4.5 and 10.3.4.6.

2-PLY! Nail w/10d BOX, staggered (NDS-97 Sect. 12) in: TC- 2/ft BC- 2/ft WEBS- 2/ft
UPLIFT REACTION(S) :
Support 1 -403 lb
Support 2 -251 lb
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 20.00 ft
Mean roof height = 22.87 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

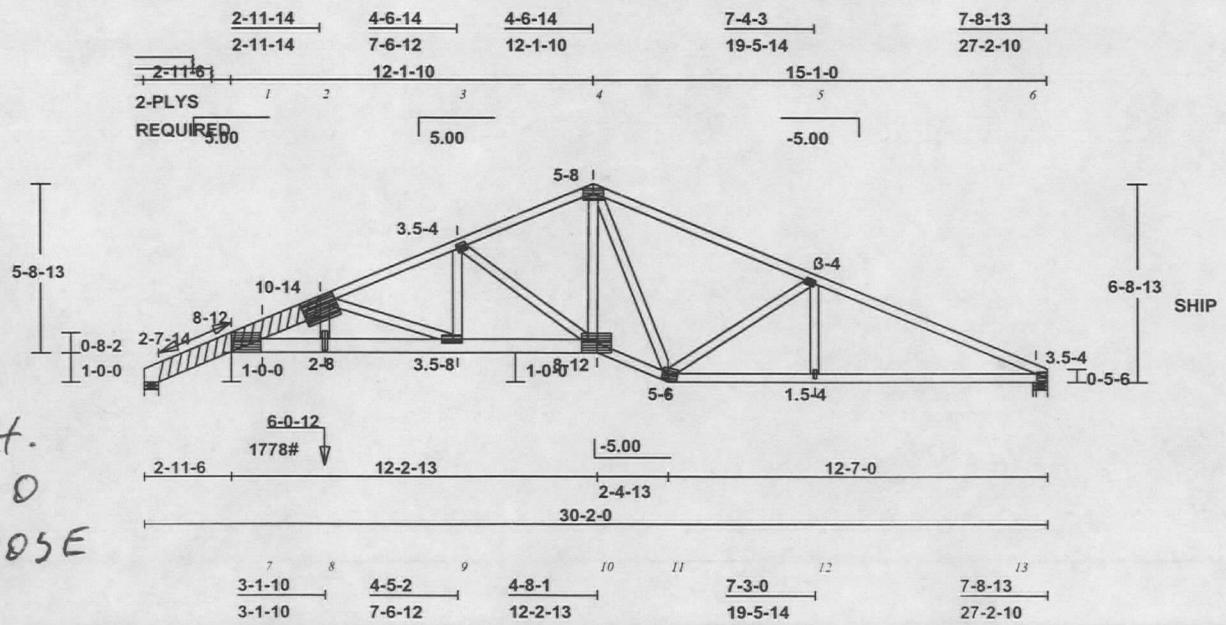
----------LOAD CASE #1 DESIGN LOADS ----------

	Dir	L.Plf	L.Loc	R.Plf	R.Loc	LL/TL
TC Vert	94.00	0- 3- 0	94.00	2-11- 6	0.64	
TC Vert	74.00	2-11- 6	74.00	30- 2- 0	0.81	
BC Vert	20.00	2-11- 6	20.00	30- 2- 0	0.00	
...Type...	lbs	X.Loc	LL/TL			
BC Vert	1778.0	6- 0-12	0.64			

MAX DEFLECTION (span) :
L/808 IN MEM 8-9 (LIVE)
L= -0.44" D= -0.25" T= -0.69"
TRUSS WEIGHT: 198
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	8	3- 1-10
2	2-11-14	9	7- 6-12
3	7- 6-12	10	12- 2-13
4	12- 1-10	11	14- 7-10
5	19- 5-14	12	19- 5-14
6	27- 2-10	13	27- 2-10
7	0- 0- 0		



Left O.H.
OF 1-9-0
SENT LOOSE

12/16/2002

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RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.		Drwg:	
Chk:			
Dsgnr: JKR			
TC Live	30.00 psf	DurFacs	L=1.15 P=1.15
TC Dead	7.00 psf	Rep Mbr Bnd	1.00
BC Live	0.00 psf	O.C.Spacing	2- 0- 0
BC Dead	10.00 psf	Design Spec	WIC
TOTAL	47.00 psf	T6.3.7 -Seqn	0

Customer: BIERMANN CONST	Job Name: ERICSON ADDITION	WO#: 11027	Truss: 1027T8	QTY: 2

BRG X-LOC REACT SIZE REQ'D
1 0- 3- 0 1132 6.00" 1.78"
2 23-10-12 1128 3.50" 1.77"

BRG HANGER NOTE
2 HUS26

Hangers are not designed for horizontal loads.
SEE SIMPSON CATALOG FOR ADDITIONAL INSTALLATION NOTES

TC	FORCE	AXL	BND	CSI
1-2	-2101	0.06	0.82	0.88
2-3	-1396	0.03	0.82	0.85
3-4	-1306	0.06	0.63	0.69
4-5	-1349	0.03	0.39	0.41
5-6	70	0.02	0.27	0.28

BC	FORCE	AXL	BND	CSI
7-8	1847	0.48	0.15	0.63
8-9	1804	0.47	0.13	0.60
9-10	1340	0.35	0.27	0.62
10-11	1083	0.28	0.36	0.64

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	119	0.56	10	129	0.06
2-9	-745	0.58	11	-1413	0.95
4-9	-86	0.08	11	-136	0.03
4-10	612	0.28			

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
WEB 2x4 SPF STUD-CAN
End verticals designed for axial loads only.
End verticals that are extended above or below the truss profile (if any) may require additional design consideration (by others) for lateral forces due to wind or seismic loads on the building.

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

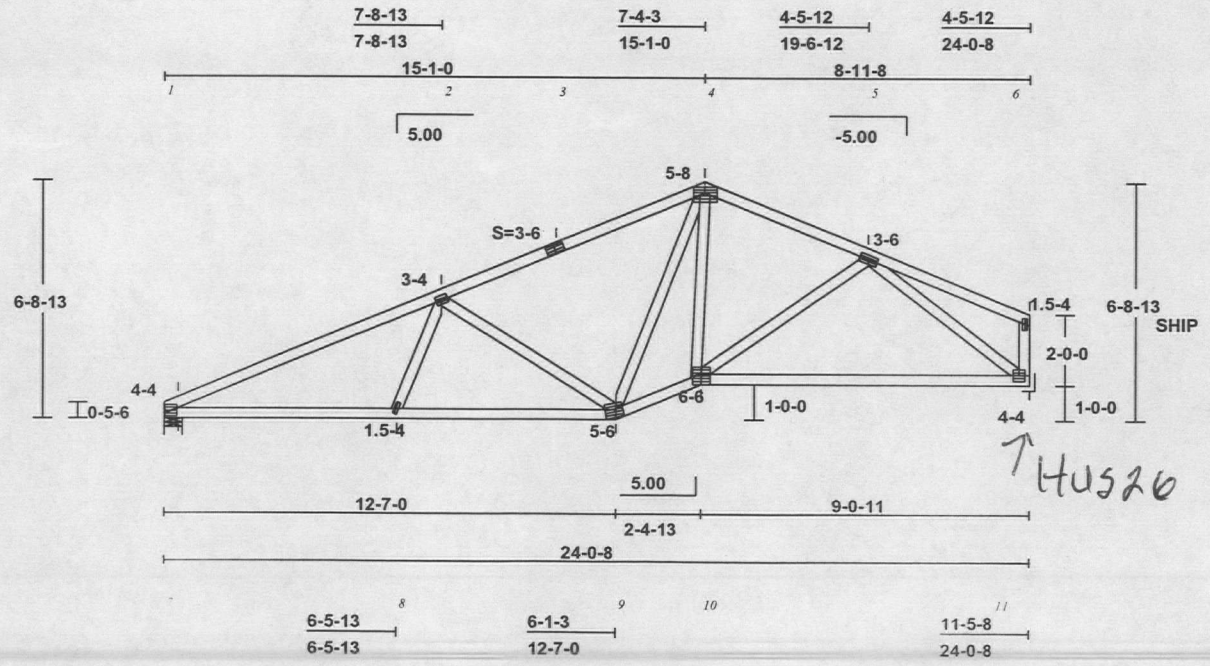
ANSI/TPI-95	TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

Required bearing widths and bearing areas apply when truss not supported in a hanger.
UPLIFT REACTION(S) :
Support 1 -222 lb
Support 2 -229 lb
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 24.04 ft
Mean roof height = 11.70 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

MAX DEFLECTION (span) :
L/999 IN MEM 10-11 (LIVE)
L= -0.22" D= -0.12" T= -0.34"
TRUSS WEIGHT: 126
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	7	0- 0- 0
2	7- 8-13	8	6- 5-13
3	10-11- 1	9	12- 7- 0
4	15- 1- 0	10	14-11-13
5	19- 6-12	11	24- 0- 8
6	24- 0- 8		



12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted.

Scale: 3/16" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.		Drwg:	
Chk:			
Dsgnr: JKR			
TC Live	30.00 psf	DurFacs	L=1.15 P=1.15
TC Dead	7.00 psf	Rep Mbr Bnd	1.15
BC Live	0.00 psf	O.C.Spacing	2- 0- 0
BC Dead	10.00 psf	Design Spec	WIC
TOTAL	47.00 psf	T6.3.7 -Seqn	0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027T9G** **QTY: 1**

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 3- 0	3075	6.00"	2.55"
2	29-11- 0	1763	6.00"	2.51"

TC	FORCE	AXL	BND	CSI
1-2	-6143	0.37	0.56	0.93
2-3	-4061	0.19	0.26	0.45
3-4	-3976	0.35	0.27	0.63
4-5	-2694	0.12	0.47	0.59
5-6	-2732	0.14	0.66	0.80
6-7	-2768	0.07	0.63	0.70
7-8	-3576	0.13	0.86	0.99

BC	FORCE	AXL	BND	CSI
9-10	5586	0.31	0.26	0.56
10-11	5535	0.30	0.26	0.56
11-12	3626	0.20	0.05	0.25
12-13	3195	0.52	0.28	0.79
13-14	3198	0.52	0.46	0.98

WEB	FORCE	CSI	WEB	FORCE	CSI
2-10	1595	0.62	1598	0.74	
2-11	-2160	0.86	-810	0.45	
4-11	1368	0.83	98	0.05	
4-12	-1661	0.66			

TC 2x4 SPF C1650F1.5E
2x4 SPF #1/#2-CAN 3-5
BC 2x6 SP 2400F-2.0E
2x4 SPF C1650F1.5E 12-14
WEB 2x4 SPF STUD-CAN
2x10 SP M-23 10-2
PLT BLK 2x4 SPF #1/#2-CAN
Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
UPLIFT REACTION(S) :
Support 1 -438 lb
Support 2 -251 lb

☒ Denotes the requirement for lateral bracing at each location shown. Lateral bracing systems which include diagonal or x-bracing are the responsibility of the building designer. Truswal Systems BRACE-IT may be used for continuous lateral bracing on trusses spaced 24" oc. Alternatively, use scabs or T-braces as shown on Truswal Systems standard details.
Permanent bracing is required (by others) to prevent rotation/toppling. See HIB-91 and ANSI/TPI 1-1995; 10.3.4.5 and 10.3.4.6.
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 20.00 ft
Mean roof height = 23.37 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

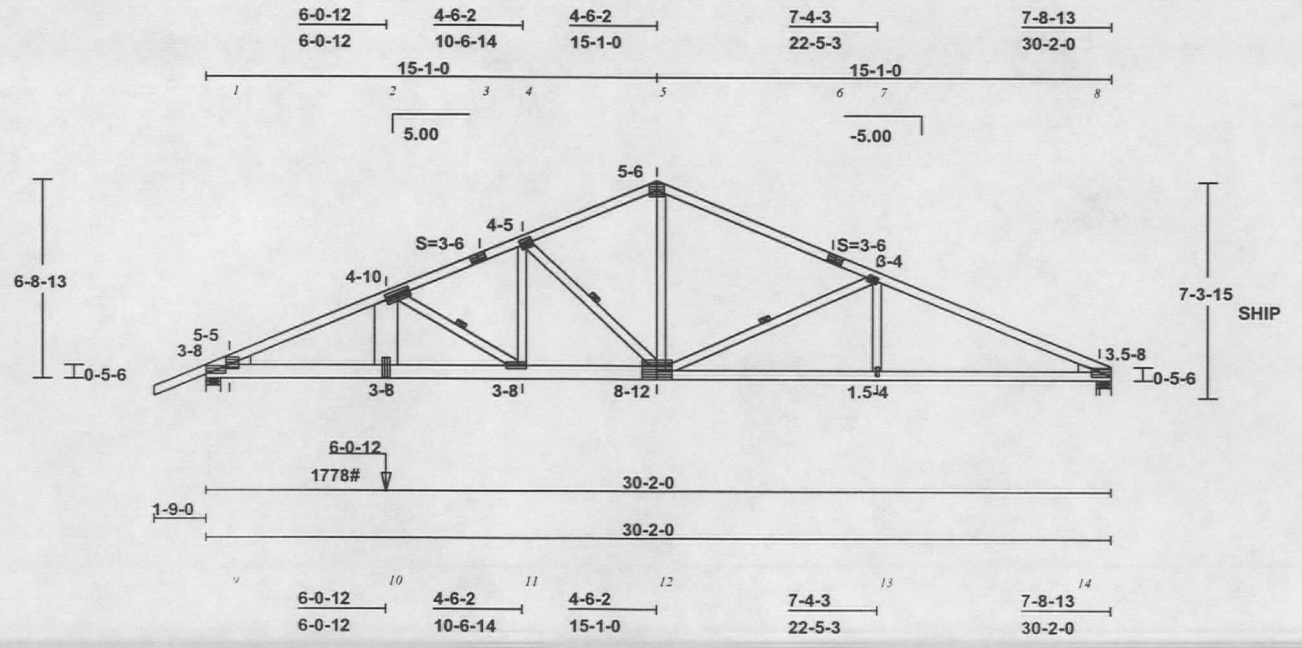
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

	ANSI/TPI-95 TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

----------LOAD CASE #1 DESIGN LOADS ----------

Dir	L.Plf	L.Loc	R.Plf	R.Loc	LL/TL
TC Vert	74.00	0- 0- 0	74.00	30- 2- 0	0.81
BC Vert	20.00	0- 0- 0	20.00	30- 2- 0	0.00

...Type... lbs X.Loc LL/TL
BC Vert 1778.0 6- 0-12 0.64



MAX DEFLECTION (span) :
L/999 IN MEM 12-13 (LIVE)
L= -0.29" D= -0.16" T= -0.45"
TRUSS WEIGHT: 183
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	8	30- 2- 0
2	6- 0-12	9	0- 0- 0
3	9- 2- 1	10	6- 0-12
4	10- 6-14	11	10- 6-14
5	15- 1- 0	12	15- 1- 0
6	20-11-15	13	22- 5- 3
7	22- 5- 3	14	30- 2- 0

12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted.

Scale: 5/32" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.	Drwg:
Chk:	
Dsgnr: JKR	
TC Live 30.00 psf	DurFacs L=1.15 P=1.15
TC Dead 7.00 psf	Rep Mbr Bnd 1.00
BC Live 0.00 psf	O.C.Spacing 2- 0- 0
BC Dead 10.00 psf	Design Spec WIC
TOTAL 47.00 psf	T6.3.7 -Seqn 0

Customer: BIERMANN CONST	Job Name: ERICSON ADDITION	WO#: 11027	Truss: 1027T10	QTY: 4

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 3- 0	1642	6.00"	2.58"
2	29-11- 0	1418	6.00"	2.22"

TC	FORCE	AXL	BND	CSI
1-2	-2744	0.13	0.71	0.85
2-3	-2415	0.10	0.73	0.84
3-4	-2373	0.18	0.66	0.84
4-5	-2373	0.18	0.66	0.84
5-6	-2415	0.10	0.73	0.84
6-7	-2744	0.13	0.71	0.85

BC	FORCE	AXL	BND	CSI
8-9	2438	0.63	0.36	0.99
9-10	1634	0.42	0.33	0.76
10-11	1634	0.42	0.33	0.76
11-12	2438	0.63	0.36	0.99

WEB	FORCE	CSI	WEB	FORCE	CSI
2-9	-523	0.21	11	791	0.37
4-9	791	0.37	11	-523	0.21

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
WEB 2x4 SPF STUD-CAN
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 30.17 ft
Mean roof height = 11.70 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

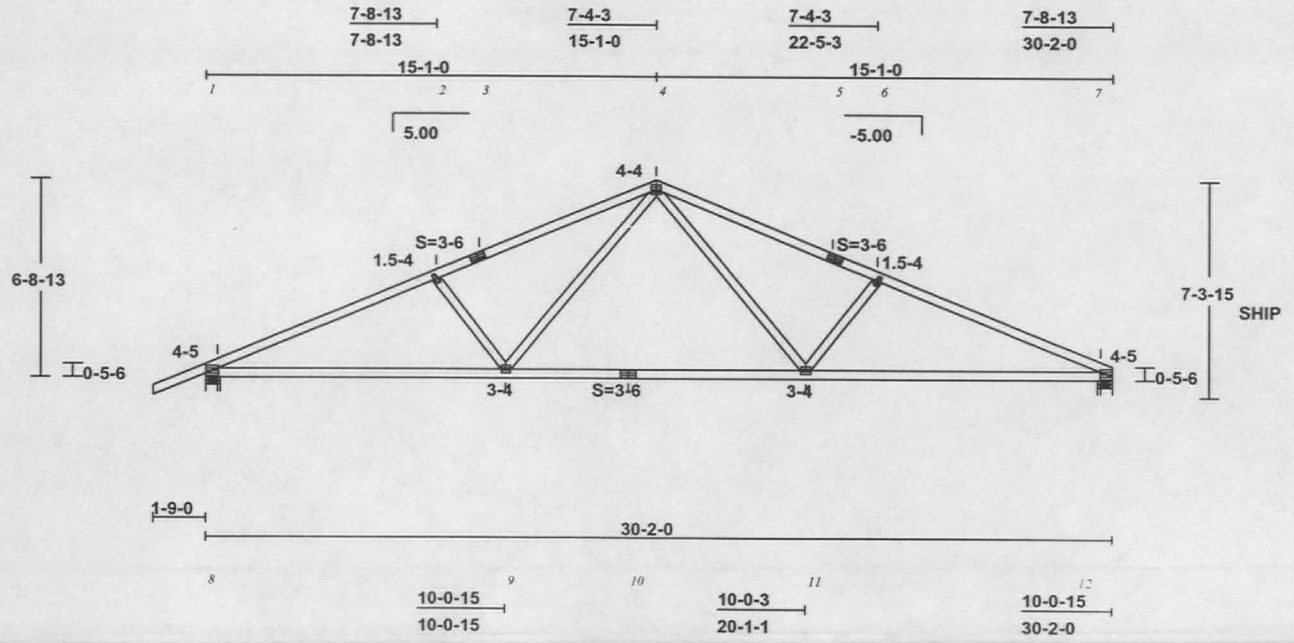
ANSI/TPI-95	TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

UPLIFT REACTION(S) :
Support 1 -361 lb
Support 2 -280 lb

MAX DEFLECTION (span) :
L/999 IN MEM 10-11 (LIVE)
L= -0.30" D= -0.17" T= -0.47"
TRUSS WEIGHT: 132
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	7	30- 2- 0
2	7- 8-13	8	0- 0- 0
3	9- 2- 1	9	10- 0-15
4	15- 1- 0	10	14- 2- 0
5	20-11-15	11	20- 1- 1
6	22- 5- 3	12	30- 2- 0



12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted.

Scale: 5/32" = 1'

RICHCO STRUCTURES
HWY FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.		Drwg:	
Chk:			
Dsgnr: JKR			
TC Live	30.00 psf	DurFacs	L=1.15 P=1.15
TC Dead	7.00 psf	Rep Mbr Bnd	1.15
BC Live	0.00 psf	O.C.Spacing	2- 0- 0
BC Dead	10.00 psf	Design Spec	WIC
TOTAL	47.00 psf	T6.3.7 -Seqn	0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027F1G** **QTY: 1**

BRG X-LOC REACT SIZE REQ'D
1 0- 1-12 1778 3.50" 1.50"
2 5- 8-12 1778 3.50" 1.50"
BRG HANGER NOTE
1 HUS26
2 HUS26
Hangers are not designed for horizontal loads.
SEE SIMPSON CATALOG FOR ADDITIONAL INSTALLATION NOTES

	TC	FORCE	AXL	BND	CSI
1-2		-1591	0.05	0.18	0.23
2-3		-1591	0.05	0.18	0.23

	BC	FORCE	AXL	BND	CSI
4-5		0	0.00	0.26	0.26
5-6		0	0.00	0.26	0.26

WEB	FORCE	CSI	WEB	FORCE	CSI
1-4	-1006	0.24	2-4	1825	0.85
1-5	1825	0.85	3-5	-1006	0.24
2-5	-213	0.05			

TC 2x4 SPF #1/#2-CAN
BC 2x6 SP 2400F-2.0E
WEB 2x4 SPF STUD-CAN
Lumber shear allowables are per NDS-97.
Drainage must be provided to avoid ponding.
Permanent bracing is required (by others) to prevent rotation/toppling. See HIB-91 and ANSI/TPI 1-1995; 10.3.4.5 and 10.3.4.6.
End verticals designed for axial loads only.
End verticals that are extended above or below the truss profile (if any) may require additional design consideration (by others) for lateral forces due to wind or seismic loads on the building.

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

ANSI/TPI-95	TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

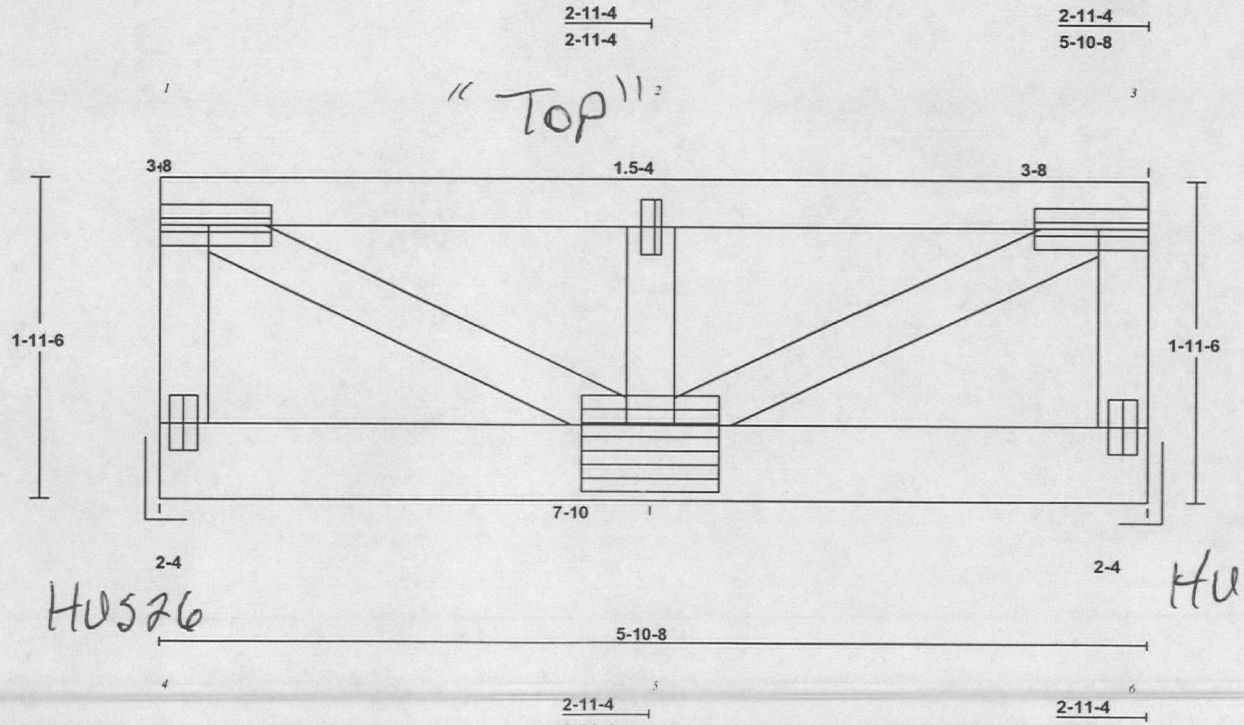
Required bearing widths and bearing areas apply when truss not supported in a hanger.
UPLIFT REACTION(S) :
Support 1 -253 lb
Support 2 -253 lb
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 5.88 ft
Mean roof height = 20.97 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf
----------LOAD CASE #1 DESIGN LOADS ----------

	Dir	L.Plf	L.Loc	R.Plf	R.Loc	LL/TL
TC Vert		74.00	0- 0- 0	74.00	5-10- 8	0.81
BC Vert		531.13	0- 0- 0	531.13	5-10- 8	0.61

MAX DEFLECTION (span) :
L/999 IN MEM 4-5 (LIVE)
L= -0.02" D= -0.01" T= -0.04"
TRUSS WEIGHT: 42
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	4	0- 0- 0
2	2-11- 4	5	2-11- 4
3	5-10- 8	6	5-10- 8



12/16/2002

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Scale: 7/8" = 1'

RICHCO STRUCTURES
HWY FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.
Chk:
Dsgnr: JKR

Drwg:

TC Live	30.00 psf
TC Dead	7.00 psf
BC Live	0.00 psf
BC Dead	10.00 psf
TOTAL	47.00 psf

DurFacs L=1.15 P=1.15
Rep Mbr Bnd 1.00
O.C.Spacing 2- 0- 0
Design Spec WIC
T6.3.7 -Seqn 0

Customer: BIERMANN CONST	Job Name: ERICSON ADDITION	WO#: 11027	Truss: 1027T1E	QTY: 1

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
GBL BLK 2x4 SPF STUD-CAN

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

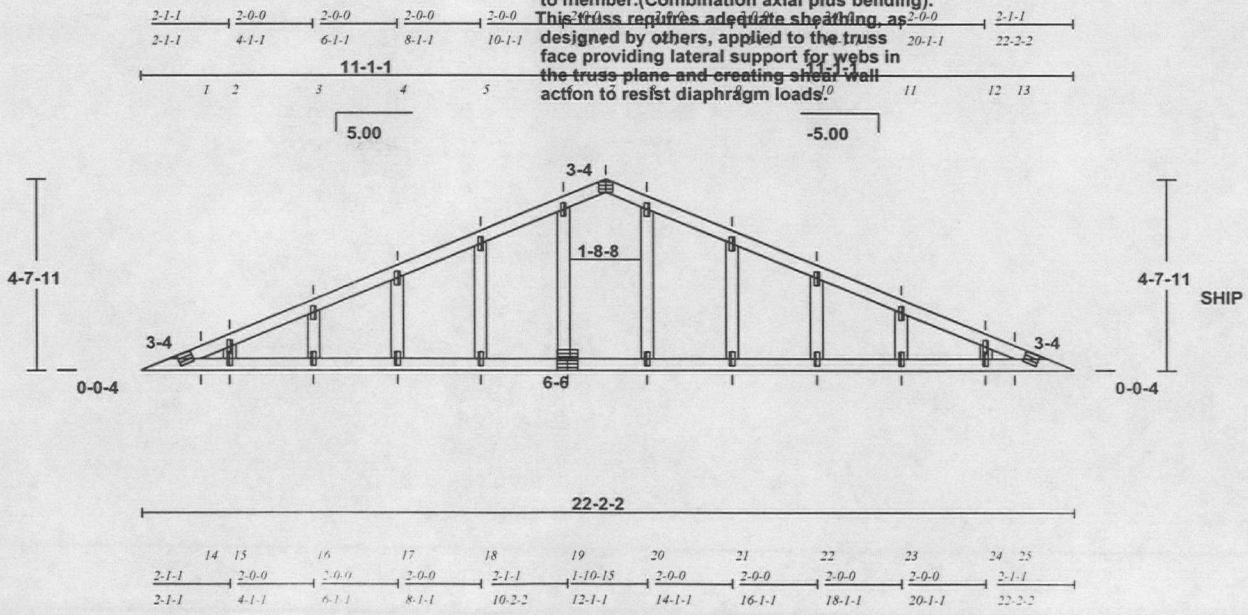
	ANSI/TPI-95 TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

Top chord supports 24.0 " of uniform load at 30 psf live load and 7 psf dead load. Additional design considerations may be required if sheathing is attached.
[+] indicates the requirement for lateral bracing (designed by others) perpendicular to the plane of the member at 48"intervals. Bracing is a result of wind load applied to member.(Combination axial plus bending).
This truss requires adequate sheathing, as designed by others, applied to the truss face providing lateral support for webs in the truss plane and creating shear wall action to resist diaphragm loads.

This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 22.50 ft
Mean roof height = 10.65 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

TRUSS WEIGHT: 98
Live Load Def Crit:L/240

===== Joint Locations =====			
1	0- 0- 0	14	0- 0- 0
2	2- 1- 1	15	2- 1- 1
3	4- 1- 1	16	4- 1- 1
4	6- 1- 1	17	6- 1- 1
5	8- 1- 1	18	8- 1- 1
6	10- 1- 1	19	10- 2- 2
7	11- 1- 1	20	12- 1- 1
8	12- 1- 1	21	14- 1- 1
9	14- 1- 1	22	16- 1- 1
10	16- 1- 1	23	18- 1- 1
11	18- 1- 1	24	20- 1- 1
12	20- 1- 1	25	22- 2- 2
13	22- 2- 2		



TYPICAL PLATE : 1.5-4

OVER CONTINUOUS SUPPORT

12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted.

Scale: 7/32" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

WARNING *Read all notes on this sheet and give a copy of it to the Erecting Contractor.*
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Salesman: DAVE Z.		Drwg:
Chk:		
Dsgnr: JKR		
TC Live	30.00 psf	DurFacs L=1.15 P=1.15
TC Dead	7.00 psf	Rep Mbr Bnd 1.15
BC Live	0.00 psf	O.C.Spacing 2- 0- 0
BC Dead	10.00 psf	Design Spec WIC
TOTAL	47.00 psf	T6.3.7 -Seqn 0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027T2** **QTY: 9**

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 2- 0	1282	4.00"	2.01"
2	22- 4- 0	1282	4.00"	2.01"

TC	FORCE	AXL	BND	CSI
1-2	-1966	0.06	0.39	0.45
2-3	-1454	0.04	0.39	0.43
3-4	-1454	0.04	0.39	0.43
4-5	-1966	0.06	0.39	0.45

BC	FORCE	AXL	BND	CSI
6-7	1746	0.45	0.40	0.85
7-8	1746	0.45	0.44	0.89
8-9	1746	0.45	0.44	0.89

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	-524	0.48	4-8	-524	0.41
3-8	646	0.30			

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
WEB 2x4 SPF STUD-CAN
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 22.50 ft
Mean roof height = 10.90 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

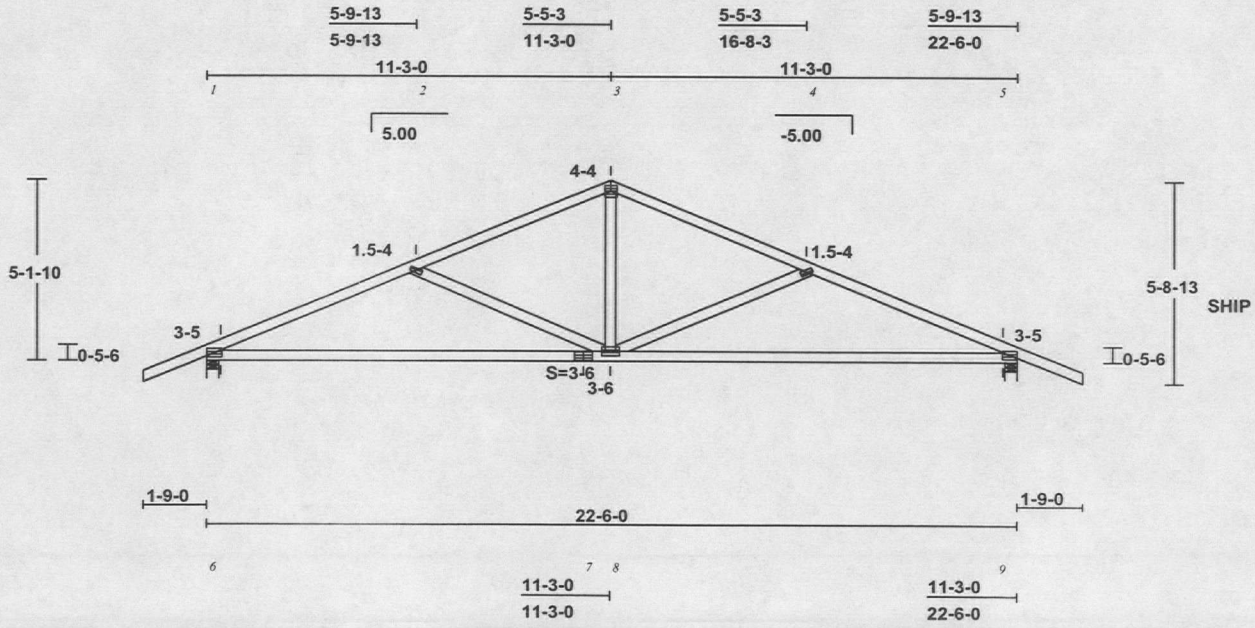
	ANSI/TPI-95	TW-20	TW-18	TW-16(H)
	SP	195	195	156
	FL	186	186	157
	HF	150	150	108
(SG=.42)	SPF	187	187	112
(SG=.50)	SPF	189	189	136
	WW	130	130	101

UPLIFT REACTION(S) :
Support 1 -289 lb
Support 2 -289 lb

MAX DEFLECTION (span) :
L/999 IN MEM 6-7 (LIVE)
L= -0.19" D= -0.11" T= -0.30"
TRUSS WEIGHT: 100
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	6	0- 0- 0
2	5- 9-13	7	10- 6- 0
3	11- 3- 0	8	11- 3- 0
4	16- 8- 3	9	22- 6- 0
5	22- 6- 0		



12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted.

Scale: 3/16" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

WARNING *Read all notes on this sheet and give a copy of it to the Erecting Contractor.*
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Salesman: DAVE Z.
Chk:
Dsgnr: JKR

TC Live	30.00 psf
TC Dead	7.00 psf
BC Live	0.00 psf
BC Dead	10.00 psf
TOTAL	47.00 psf

Drwg:

DurFacs L=1.15 P=1.15
Rep Mbr Bnd 1.15
O.C.Spacing 2- 0- 0
Design Spec WIC
T6.3.7 -Seqn 0

Customer: BIERMANN CONST	Job Name: ERICSON ADDITION	WO#: 11027	Truss: 1027T3	QTY: 2

BRG	X-LOC	REACT	SIZE	REQ'D
1	0- 2- 0	1283	4.00"	2.01"
2	22- 4- 4	1057	3.50"	1.66"

TC	FORCE	AXL	BND	CSI
1-2	-1968	0.06	0.39	0.45
2-3	-1457	0.04	0.39	0.43
3-4	-1457	0.04	0.40	0.44
4-5	-1972	0.06	0.40	0.46

BC	FORCE	AXL	BND	CSI
6-7	1749	0.45	0.40	0.85
7-8	1749	0.45	0.44	0.90
8-9	1753	0.45	0.44	0.90

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	-524	0.48	8	-529	0.41
3-8	649	0.30			

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
WEB 2x4 SPF STUD-CAN
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 22.50 ft
Mean roof height = 10.90 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

Plating spec : ANSI/TPI - 1995
THIS DESIGN IS THE COMPOSITE RESULT OF MULTIPLE LOAD CASES.
NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

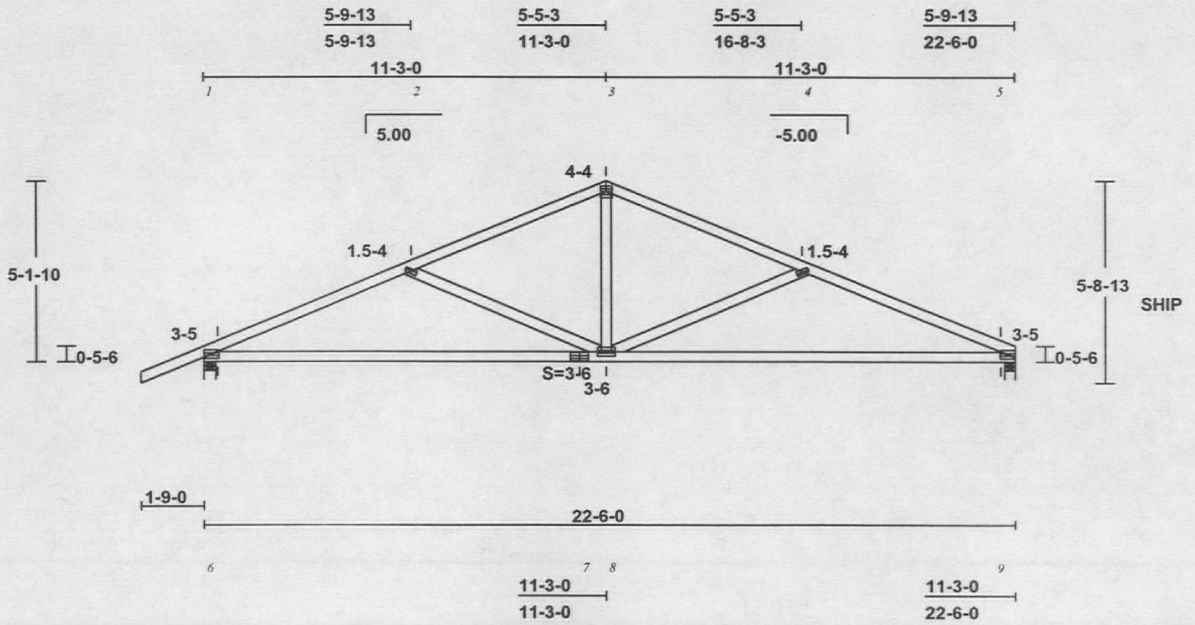
ANSI/TPI-95	TW-20	TW-18	TW-16(H)
SP	195	195	156
FL	186	186	157
HF	150	150	108
(SG=.42)SPF	187	187	112
(SG=.50)SPF	189	189	136
WW	130	130	101

UPLIFT REACTION(S) :
Support 1 -290 lb
Support 2 -209 lb

MAX DEFLECTION (span) :
L/999 IN MEM 8-9 (LIVE)
L= -0.20" D= -0.11" T= -0.31"
TRUSS WEIGHT: 97
Live Load Def Crit:L/240

===== Joint Locations =====

1	0- 0- 0	6	0- 0- 0
2	5- 9-13	7	10- 6- 0
3	11- 3- 0	8	11- 3- 0
4	16- 8- 3	9	22- 6- 0
5	22- 6- 0		



12/16/2002

All plates are 20 gauge Truswal Connectors unless preceded by "MX" for HS 20 gauge or "H" for 16 gauge, positioned per Joint Detail Reports available from Truswal software, unless noted. Scale: 3/16" = 1'

RICHCO STRUCTURES
HWY.FF W989N. HAVEN, WI 53083

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Salesman: DAVE Z.	Drwg:
Chk:	
Dsgnr: JKR	
TC Live 30.00 psf	DurFacs L=1.15 P=1.15
TC Dead 7.00 psf	Rep Mbr Bnd 1.15
BC Live 0.00 psf	O.C.Spacing 2- 0- 0
BC Dead 10.00 psf	Design Spec WIC
TOTAL 47.00 psf	T6.3.7 -Seqn 0

Customer: BIERMANN CONST **Job Name: ERICSON ADDITION** **WO#: 11027** **Truss: 1027T4** **QTY: 1**

BRG	X-LOC	REACT	SIZE	REQ'D
1	0-2-0	1059	4.00"	1.66"
2	22-4-4	1057	3.50"	1.66"

TC	FORCE	AXL	BND	CSI
1-2	-1968	0.06	0.39	0.45
2-3	-1457	0.04	0.39	0.43
3-4	-1457	0.04	0.40	0.44
4-5	-1972	0.06	0.40	0.46

BC	FORCE	AXL	BND	CSI
6-7	1749	0.45	0.40	0.85
7-8	1749	0.45	0.44	0.90
8-9	1753	0.45	0.44	0.90

WEB	FORCE	CSI	WEB	FORCE	CSI
2-8	-524	0.48	8	-529	0.41
3-8	649	0.30			

TC 2x4 SPF #1/#2-CAN
BC 2x4 SPF #1/#2-CAN
WEB 2x4 SPF STUD-CAN
This truss is designed using the ASCE7-98 Wind Specification
Bldg Enclosed = Yes
Truss Location = Not End Zone
Hurricane/Ocean Line = No , Exp Category = B
Bldg Length = 40.00 ft, Bldg Width = 22.50 ft
Mean roof height = 10.90 ft, mph = 90
TPI Standard Occupancy, Dead Load = 10.2 psf

Plating spec : ANSI/TPI - 1995
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NOTE: This Design conforms to the State of Wisconsin Administrative Dwelling Code and Administrative Building and Heating, Ventilating and AC Code. Required information is on attached sheet. Connector plates are covered in approval No.990040-N. (replaces No.930002-N) Plate holding values(psi) are:

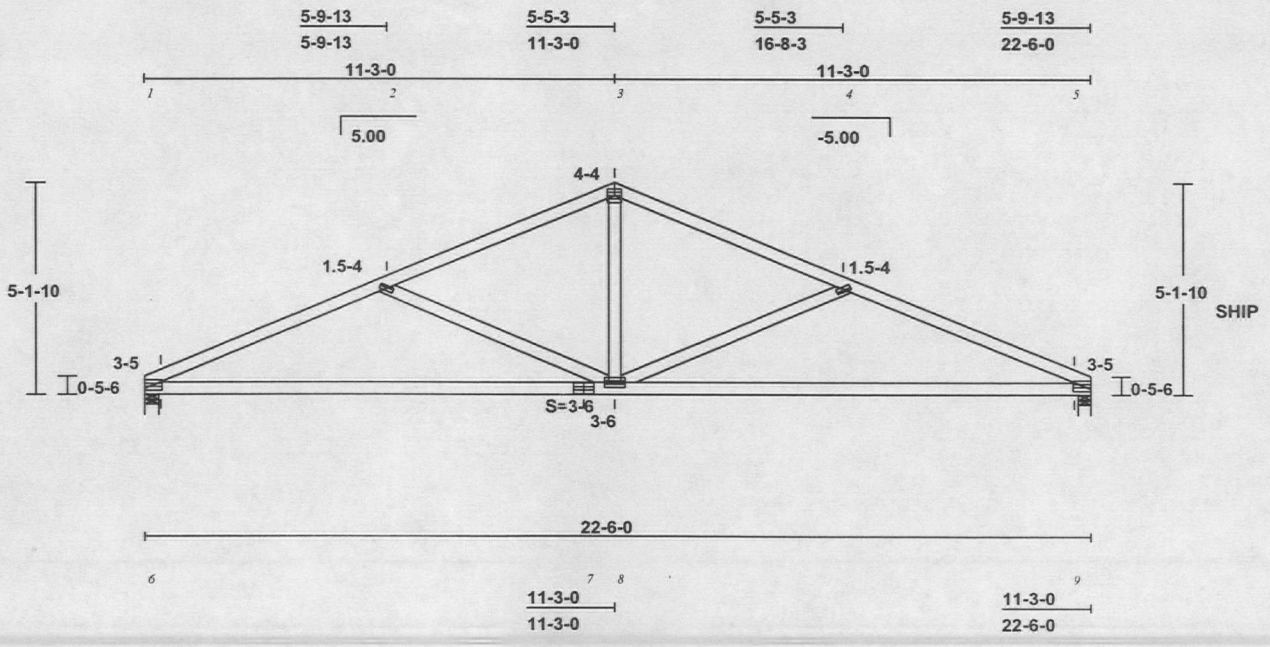
	ANSI/TPI-95	TW-20	TW-18	TW-16(H)
	SP	195	195	156
	FL	186	186	157
	HF	150	150	108
(SG=.42)	SPF	187	187	112
(SG=.50)	SPF	189	189	136
	WW	130	130	101

UPLIFT REACTION(S) :
Support 1 -209 lb
Support 2 -209 lb

MAX DEFLECTION (span) :
L/999 IN MEM 8-9 (LIVE)
L= -0.20" D= -0.11" T= -0.31"
TRUSS WEIGHT: 94
Live Load Def Crit:L/240

===== Joint Locations =====

1	0-0-0	6	0-0-0
2	5-9-13	7	10-6-0
3	11-3-0	8	11-3-0
4	16-8-3	9	22-6-0
5	22-6-0		



12/16/2002

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Scale: 7/32" = 1'

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HWY.FF W989N. HAVEN, WI 53083

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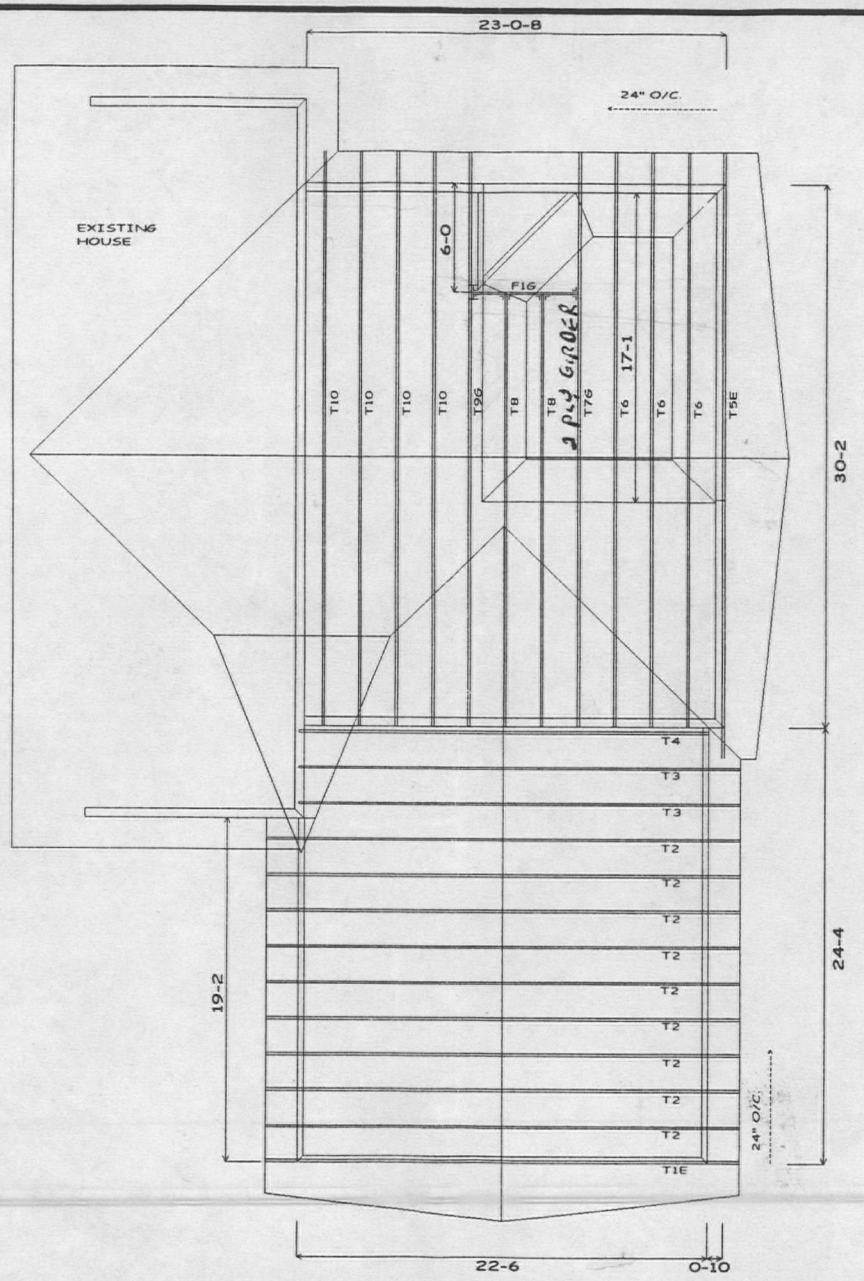
Salesman: DAVE Z.
Chk:
Dsgnr: JKR

TC Live	30.00 psf
TC Dead	7.00 psf
BC Live	0.00 psf
BC Dead	10.00 psf
TOTAL	47.00 psf

Drwg:

DurFacs L=1.15 P=1.15
Rep Mbr Bnd 1.15
O.C.Spacing 2-0-0
Design Spec WIC
T6.3.7 -Seqn 0



RICHCO STRUCTURES

HAVEN
920-565-3986
MILWAUKEE
920-344-7820
INWARD WATTS
1-800-845-8910
FLOOR TRUSS FAX
920-565-2533
ROOF TRUSS FAX
920-565-4392

HWY.FF W989N, HAVEN, WI 53083

ERICSON ADDITION
BIERMANN CONSTRUCTION

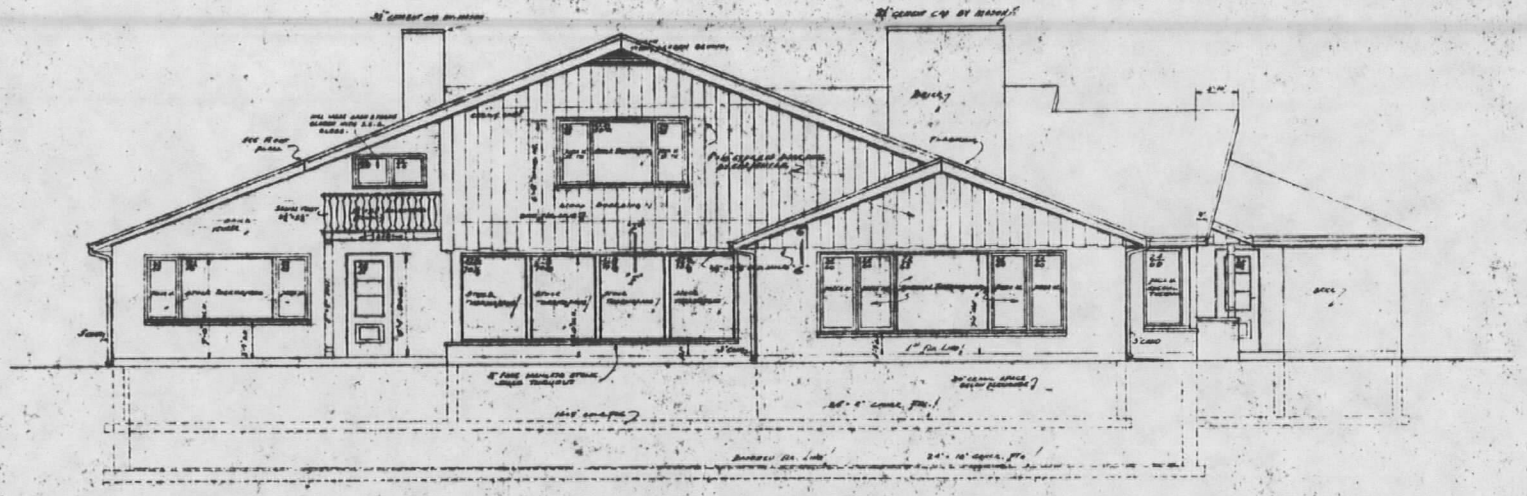
SALES REP : DAVE Z.
DUE DATE :
DSGNR/CHKR : AJR /

WO# : 11027

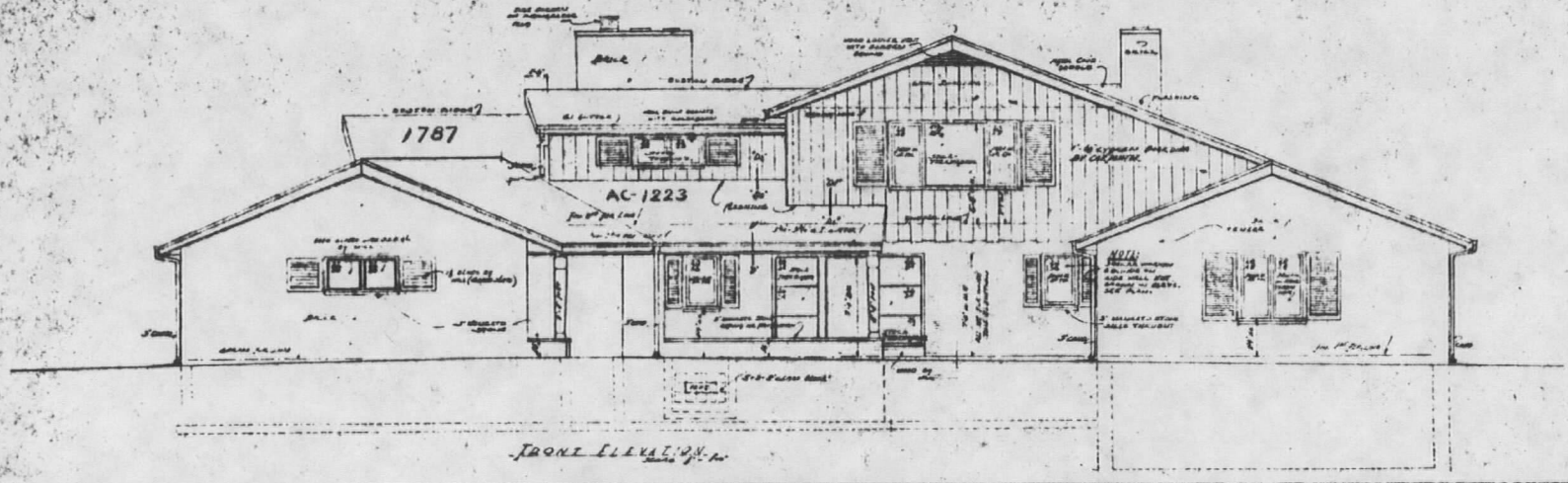
Date : 12/13/2002 7:13

TC Live	30.00 psf
TC Dead	7.00 psf
BC Live	0.00 psf
BC Dead	10.00 psf
Total	47.00 psf

DurFac-Lbr : 1.15
DurFac-Plt : 1.15
O.C. Spacing : 24.0
Design Spec : WIC
#Tr/#Cfg : 26 / 11



REAR ELEVATION



FRONT ELEVATION

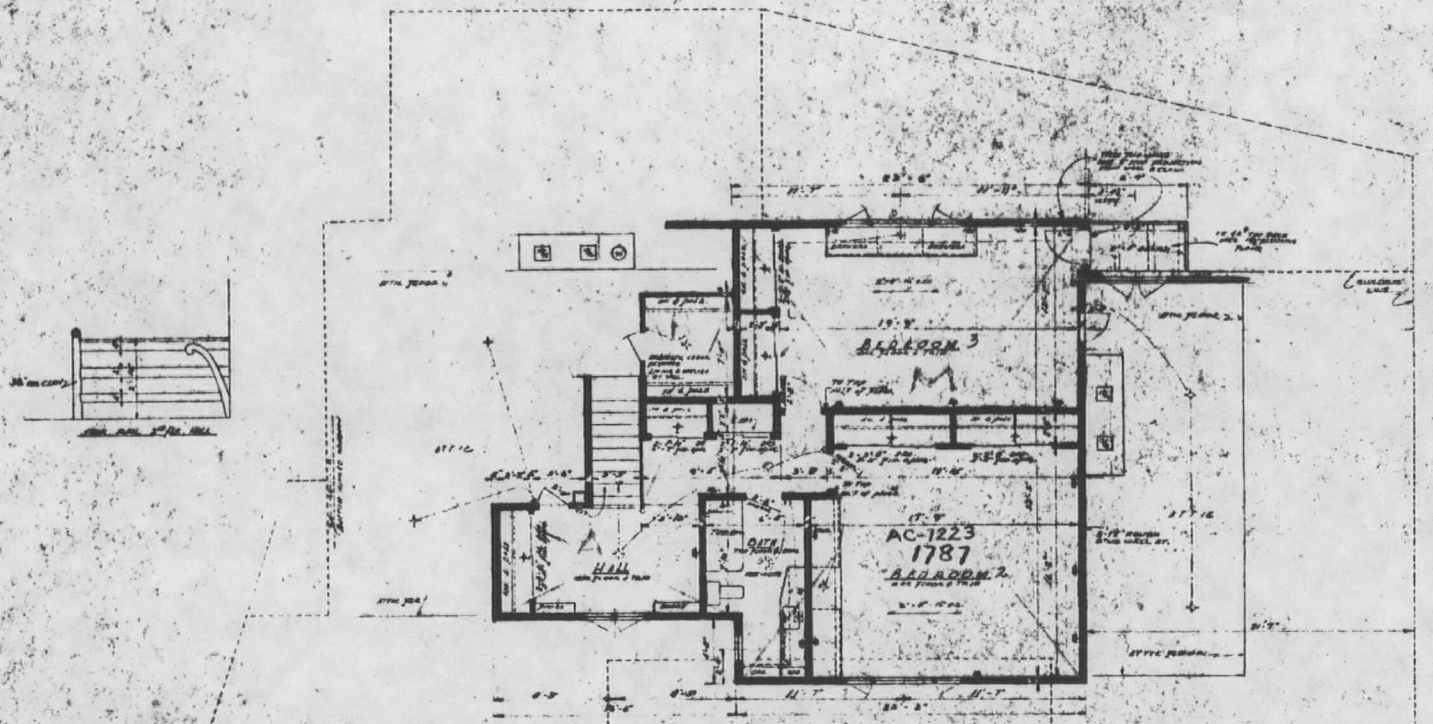
RESIDENCE TO BE ERECTED AT 1036 E. THIRD LANE VILLAGE OF FOX POINT, WISCONSIN.

ROLAND C. KURTZ architect

AUGUST 1953

PLAN 549

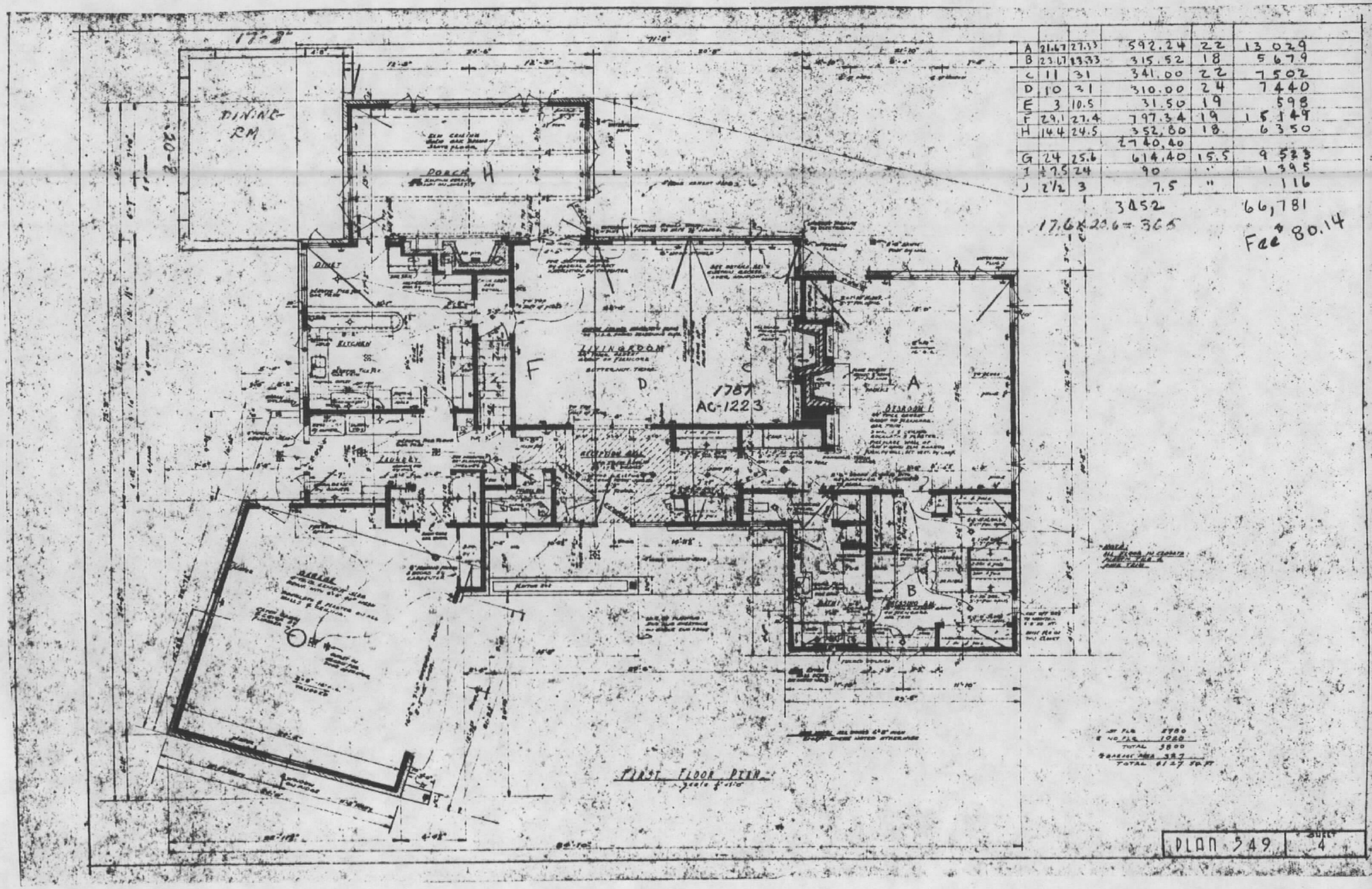
SHEET 1



M	23.1	33	762
A	16.5	8	132
B	6	14.5	87

981

PLAN 549 | SHEET 5



A	21.67	27.33	592.24	22	13 029
B	23.67	13.33	315.52	18	5679
C	11	31	341.00	22	7502
D	10	31	310.00	24	7440
E	3	10.5	31.50	19	598
F	29.1	27.4	797.34	19	15 149
H	14.4	24.5	352.80	18	6350
			2740.40		
G	24	25.6	614.40	15.5	9523
I	67.5	24	90	"	1395
J	2½	3	7.5	"	116
			3452		66,781

17.6 × 20.6 = 365

Fac 80.14

1 sty flr 3780
2 sty flr 1020
TOTAL 3800
GARAGE AREA 387
TOTAL 61 47 sq ft

PLAN 549 | SHEET 4

STRUCTURAL CALCULATIONS FOR KITCHEN DESIGN STUDIO
KATHLEEN KLEINMAN
1060 E THORPE LANE
FOX POINT WISCONSIN

DEAD LOADS

ROOF:

ASSUME WOOD SHINGLES	3.0 PSF
ASSUME 5/8" PLYWOOD SHEATHING	1.9 PSF
WITH 2x6 RAFTERS @ 16" C/C	5.0 PSF

SECOND FLOOR:

WEIGHT OF WALL	11.0 PSF.
3/4" PLYWOOD SHEATHING	2.2 PSF
2x12 JOISTS @ 12" C/C	8.0 PSF

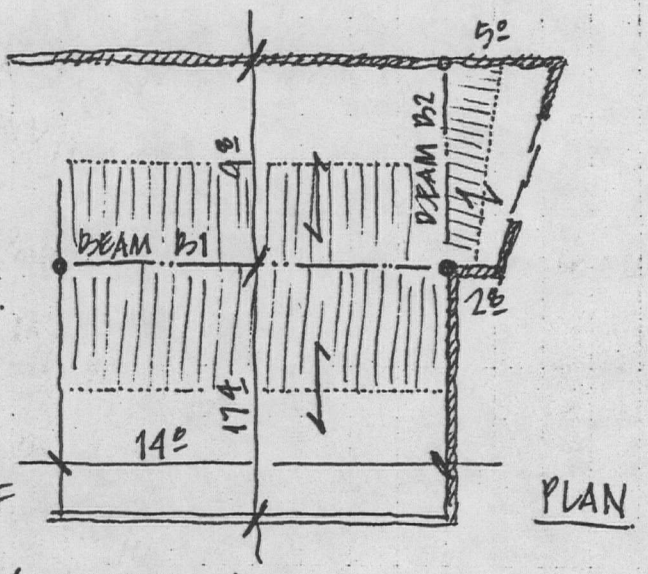
LIVE LOADS:

ROOF	30.0 PSF
FLOOR	40.0 PSF

LOADING

BEAM B1:
$(14.0)(4.83 + 8.66) = 189.0$ SF.
$(13.5')(10.2 + 40.0) = 677.7$ PLF.

BEAM B2:
$(9.67)(1.91) = 18.53$ SF.
WALL LOAD: $(11.0\ PSF)(8') = 88.$ PLF



PLAN

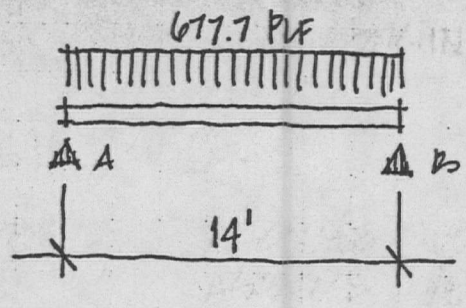
CALCULATE SNOWDRIFT LOADING (ILHR 53.11)

$C_s = 15\frac{h}{q}$ $\quad C_s = 15(8/30)$ $\quad C_s = 4.0$ $\quad \therefore$ USE $C_s = 3.0$

$s = C_s q$ $\quad s = (3)(30)$ $\quad s = 90.0$ PSF

TOTAL LOAD: $(90.0\ PSF)(2.5'\ MAX) = 225$ PLF $+ 88$ PLF $= 313$ PLF

LOADING @ BEAM B1:



ASSUME $F_B = 3100$ PSI

$M = WL/8$

$= (677.7)(14^2)/8$

$= 16603.7$ Ft.Lbs $= 199243.8$ in.Lbs.

$S = M/F_B$

$= 199243.8/3100$

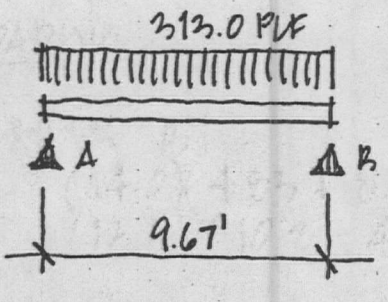
$= 64.27$ in^3

$S_{MIN} = bd^2/6$

$64.27 = b(121/6)$

2 · 1 3/4" x 11" MICROLAM PROVIDED .... $b_{MIN} = 3.19$" OK

LOADING @ BEAM B2:



ASSUME $F_B = 1200$ PSI

$M = WL/8$

$= 3658.5$ Ft.Lbs $= 43902.4$ in.Lbs.

$S = M/F_B$

$= 36.6$ in^3

$S_{MIN} = bd^2/6$

$36.6 = b(126.6)/6$

2 · 2 x 12 1/2 PROVIDED ..... $b_{MIN} = 1.73$" OK

bernier
peck
gozalkowski
& carr
consulting engineers

Pamela S. Beyor, R.A.
Marl L. Cecil, R.A.
Paul G. Carr, P.E.

FAX TRANSMITTAL FORM

DATE: 5-2-94

PAGES TO FOLLOW: 1

TO: Scott Miller
Fox Point Village Hall

RE: 1060 E Thorn Ln
House plans

FAX #(414) 351-8909

WE ARE TRANSMITTING THE FOLLOWING ITEMS:

DESCRIPTION 1 letter

REMARKS

SIGNED: ICE Kleczewski

bernier
peck
gozalkowski
& carr
consulting engineers

Pamela S. Beyor, R.A.
Mari L. Cecil, R.A.
Paul G. Carr, P.E.

May 2, 1994

Fox Point Village Hall
Fox Point, WI 53217
Attn.: Scott Miller

Dear Mr. Miller:

Please release a copy of the blueprints for 1060 E. Thorn Ln. to Mr. and Mrs. Bruce Ross or to Mr. Bob Guenther.

The Ross' have recently purchased my house. If you have questions I can be reached at this number during business hours or at home (315 649-5232).

Thank you.

Very truly yours,

Kathleen E. Kleinman

Kathleen E. Kleinman

VILLAGE OF FOX POINT
MILWAUKEE COUNTY
WISCONSIN

VILLAGE HALL
7200 N. SANTA MONICA BLVD.
FOX POINT 53217-3505
414-351-8900

April 21, 1994

Kathleen Kleinman
1060 e. thorn lane
Fox Point, WI 53217

Dear Mrs. Kleinman:

I am writing to follow-up my letter dated July 31, 1991 concerning the clear water drainage system which was installed along the south side of your home. Per this letter, we requested that our force main sewer be protected from erosion. Also, we expressed concern over the possible destablization of the lake bluff.

I observed on April 21, 1994 that the lake bluff is starting to show signs of becoming destablized. I noted that a drainage channel was forming on the face of the lake bluff below your drainage system. Village records indicate that our force main sewer is located in this same area.

I am hereby requesting that you make the appropriate repairs to this system to prevent any further damage to the lake bluff. If you have any questions concerning this notice, please feel free to contact me.

Sincerely,

Scott Miller
Inspector

cc Village Manager
Village Attorney
Village Engineer
File

VILLAGE OF FOX POINT

MILWAUKEE COUNTY

WISCONSIN

VILLAGE HALL
7200 N. SANTA MONICA BLVD.
FOX POINT 53217-3505
414-351-8900

July 31, 1991

Leonard Kleinman
1016 E. Thorn Lane
Fox Point, WI 53217

Dear Mr. Kleinman:

On July 26, 1991 it was brought to our attention that you are installing a clear water drainage system which runs along the south side of your home and discharges east towards the bluff.

I am writing you to express several concerns I have regarding this installation. They are:

1) In checking our records it was learned that we have a 10 foot easement along your south property line. I am bringing this to your attention because discharging this system over this area could result in a cover problem for our force main sewer. By adding additional runoff over the original trench of this sewer can result in the erosion of the necessary fill which protects this main from freezing.

2) The discharging of clear water over the edge of the bluff during times of peak flow could destablize the bluff in this area. Proper precautions should be applied to minimize this possibility.

Please contact me prior to the completion of this system so that we can schedule a meeting to address these concerns.

Yours very truly,

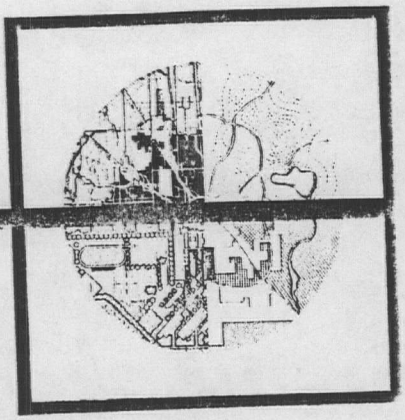
Scott Miller
Building Inspector

SM/jsg

cc: Village Manager
Village Engineer

VES AND ASSOCIATES

DSCAPE ARCHITECTURE·PLANNING·SITE DEVELOPMENT



Dr. & Mrs. Kleinman
1060 East Thorne Lane
Fox Point, WI 53217

Subject: Retention basin dry wall at your property

August 7, 1991

Dear Clients,

In response to the letter from the building inspector, Village of Fox Point, I requested a meeting in the field to review the physical site and the problems allegedly brought to our attention by your neighbor to the south, Mr. Reilly.

I met with the building inspector at about 3:30 on August 6th, with regard to the concern by the village that we were altering the movement of storm water. I pointed out that, on the contrary, we were the victims of a poor drainage plan. The water from our property, the neighboring properties and the roadway was diverted across the south end of our property, rendering it useless and a constant problem with regard to mosquitos and trapped drainage water.

The trapped drainage water has naturally (or unnaturally) discharged over the bluff at the southeast corner of your property as long as you have owned it and, apparently, ever since the installation of the sanitary sewer pumping station.

I reiterated my concern about the supposed easement which I could not, with my experience, believe existed. I questioned whether or not it was a shared easement, half by your neighbor and half by you, since we had no evidence of an easement existing during the title search. The building inspector produced an old right of way Milwaukee Sewer Commission property acquired in 1934, which showed the sewerage booster station and equipment.

We reviewed the information and the present pumping station, and I indicated that our excavation was three to five feet above what was indicated as flow line for the sewer. The flow line for the sewer was conceivably in the right of way.

I also indicated to the building inspector our supposition that the sewer was not dug there, but on your property outside of the easement, indicated by our experience and knowledge and analysis of the cutting and slashing of the trees.

710 WEST BENDER ROAD, MILWAUKEE, WISCONSIN 53217, 414-962-501

I showed him the crock and the diverging line for the french drain retention basin, and indicated our proposed program to manage the water that was now moving through the property and down to the northeast corner. Our effort was to divert the flow across a single point on the bluff, and to eliminate the pothole and bog-type situation that it had created, which were beginning to jeopardize our trees.

In the area of the woods there was a distinct sewerage odor, which did not surprise me, since Kathy and I had reviewed the situation the day before, and the pump was functioning, and a strong sewerage odor emanated at that time. It did appear to concern the building inspector, and he indicated he would talk to the engineer.

To the best of my knowledge and experience, the retention french drain, and the attempt to rectify the serious drainage problem created by the road drainage and neighborhood movement of water through your property, follows good practice. It will work to reduce the potential damage outlined in the letter.

The discovery that the sewer could possibly be on your property outside of the easement, and that there is no knowledge of the easement that cuts across your bank and your property is a matter for you to discuss with the city when the building inspector and the engineer have completed their analysis of the situation.

The crossover on your property will be plotted in your master plan so that you can get a little bit better idea of what's happening, and I would suggest that you check with your lawyer (if you have one) with regard to your responsibility, since the sewer apparently lies in your property outside of the granted easement.

I could see a serious problem, should the village decide they had to do something to the sewer piping, and would have to go into your landscaped grounds to service something which they do not have a proper easement. Better that we resolve this now than later.

As always, this office is available if anything should arise. We would like to be informed, and will continue to follow through with the village as they investigate the situation. There should be no concern on your part, since the depth of our dry well is well above the main, should it be found to be on your property.

Sincerely,

Robert Greaves

Robert Greaves

RG:cm

cc: S. Miller
E. Jensen

Customer: B & E GEN'L CONTR. Job Name: ROSS WO#: 93859 Truss: 3859T3 QTY: 12

BRG	X-LOC	REACT	SIZE	REQD.
1	0- 1-12	1584	3.50"	2.48"
2	28- 9- 4	1584	3.50"	2.48"

TOP CHORD	2x4	SPF C1650F1.5E	
	2x4	SPF #1/#2-CAN	2,3
BOT CHORD	2x4	SPF C1650F1.5E	
WEB	2x4	SPF STUD-CAN	

Lumber shall be free of shakes and splits.

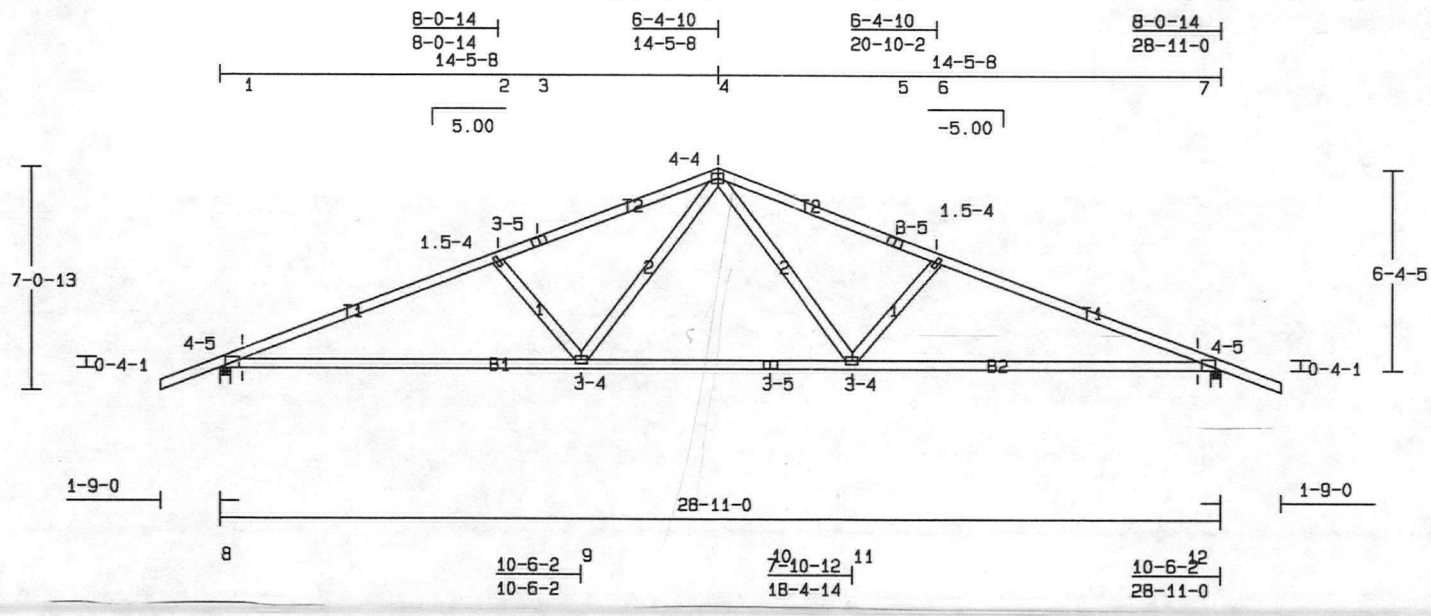
TC	FORCE	AXL	BND	CSI
1	-2657	.15	.72	.88
2	-2309	.05	.67	.72
3	-5272	.12	.95	.47
4	-5272	.12	.95	.47
5	-2309	.05	.67	.72
6	-2657	.15	.72	.88

BC	FORCE	AXL	BND	CSI
1	2369	.38	.32	.71
2	1603	.26	.29	.55
3	1603	.26	.29	.55
4	2369	.38	.32	.71

WB	FORCE	CSI	WB	FORCE	CSI
1	-556	.23	3	772	.36
2	772	.36	4	-556	.23

MAX DEFLECTION :
L/999 IN MEM 8-9 (LIVE)
L= -.32" D= -.18" T= -.50"

Joint Locations					
1	0- 0- 0	7	28-11- 0		
2	8- 0-14	8	0- 0- 0		
3	9- 2- 9	9	10- 6- 2		
4	14- 5- 8	10	16- 0- 0		
5	19- 8- 7	11	18- 4-14		
6	20-10- 2	12	28-11- 0		



2/ 2/96

All plates are 20 gauge Truswal Connectors unless preceded by "18" for 18 gauge or "H" for 16 gauge.

Scale: 3/16" = 1'

RICHCO STRUCTURES
CTY.HWY.FF W989N, Haven, WI 53083

WARNING Read all notes on this sheet and give a copy of it to the erecting contractor.
This design is for an individual building component. It has been based on specifications provided by the component manufacturer and done in accordance with the latest versions of TPI and AFPA design standards. No responsibility is assumed for dimensional accuracy. Dimensions are to be verified by the component manufacture and/or building designer prior to fabrication. The building designer shall ascertain that the loads utilized on this design meet or exceed the loading imposed by the local building code. It is assumed that the top chord is laterally braced by the roof or floor sheathing and the bottom chord is laterally braced by a rigid sheathing material directly attached. Bracing shown is for lateral support of component members only to reduce buckling length. This component shall not be placed in any environment that will cause the moisture content of the wood to exceed 19% and/or cause connector plate corrosion. Fabricate, handle, install and brace this truss in accordance with the following standards: 'TRUSCOM MANUAL', by Truswal, 'QUALITY CONTROL STANDARD FOR METAL PLATE CONNECTED WOOD TRUSSES' - (QST-88); 'HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES' - (HIB-91) and 'HIB-91 SUMMARY SHEET' by TPI. The Truss Plate Institute (TPI) is located at 583 D'Onofrio Drive, Madison, Wisconsin 53719. The American Forest and Paper Association (AFPA) is located at 1250 Connecticut Ave, NW, Ste 200, Washington, DC 20036.

Date: 2/ 2/96	
Chk: GS	
Dsgnr: GS	
TC Live	30.0 psf
TC Dead	7.0 psf
BC Live	.0 psf
BC Dead	10.0 psf
TOTAL	47.0 psf

WO: 93859	
Customer Name:	
B & E GEN'L CONTR.	
DurFacs	L=1.15 P=1.15
Rep Mbr Bnd	1.15
O.C.Spacing	2- 0- 0
Design Spec	TPI
Seqn 09.28.95-	62421

All 03 sales

median .975

Average .916

mode 1.03

Use .97 for 1-04 PP

per DFW