

# EXHIBIT 41



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# advice for "non permanent foundation"

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	<p><b>advice for "non permanent foundation"</b></p> <p>06-29-2010, 16:19</p>	#1
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**akscotts**  
Member

Join Date: Jun 2008  
Posts: 39

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I have been tasked with building a "non permanent" foundation, meaning no concrete can be used. The cabin walls have been built (16 ft by 20 feet full rounds, 8 feet high about - no roof yet), I have excavated a 30' by 30' area down to the gravel layer, filled the approx. 2 ft deep hole to 12 inches above grade with structural gravel, and have used water to settle (compact) the pad for a week straight. For a variety of reasons I cannot use concrete in the foundation, but I do have access to treated timbers and 16 foot railroad ties. My question: I've received advice from different sources describing two to three treated timbers (6X6X20 treated) partially buried into the top of the pad set level, then two 6 by 6 by 20's stacked on top of the two end partially buried timbers, notched into two more 6 by 6 by 16 ft treated timber spanning the partially buried timbers. Then, a floor plate built directly ontop of this "rectangle" of timbers consisting of 2 by 8's blocked to be six inches wide (to match the timbers width), and spanned with 16 foot BCI or TGI's spaced 16 inches on center. All this covered with 3/4 inch ply tongue and groove. Then, the logs set on the floor plate and all threaded to the timber "rectangle". Is this overkill? Could I get away with building the floor plate as described directly on the partially buried timbers (skipping the "rectangle of timbers"? Or other suggestions? Thanks for all the ideas in advance!

**Tags:** cabin, foundation, non permanent, timber foundation



**rifleman**  
Member

Join Date: Nov 2008  
Posts: 115

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06-30-2010, 00:07

#2

If I were going to build a cabin without concrete, I would use a pier design rather than a skid or crib design. A skid or crib design is harder to get under, and is harder to adjust, repair or replace.

12 piers under a 16x20 cabin should work (four of them would be under the centerline of the cabin along the long dimension). Of course, if there will be a deck, the deck will need more of its own piers. Build the floor structure high enough above grade so that you'll have about a 3 foot crawl space beneath floor joists. This leaves room to get underneath for maintenance, inspection, repairs, insulation, etc.

The piers should be at least 6x6 pressure treated. 8x8 would be better. Piers will minimize contact between your structure and the ground. Ensure good drainage and 2 foot eaves and two foot rakes at the gable ends so that the area beneath the cabin stays dry. If in 25 years, a pier shows signs of decay, it's easy to remove and replace a pier as required (provided you allowed 3 feet of working room when it was built). Should the structure ever need leveling, it's also easier to shim a beam resting on a pier than resting on the ground. One could also reset a pier by digging it's hole deeper or adding more fill beneath it. Dig the holes for the piers at least 4 1/2 feet deep to get below frost line. Back fill with non-frost susceptible fill, i.e. use a sand and gravel mix of mineral earth, not humus or clay.

Don't notch the piers, but set beams directly on top of them using column caps. Use blue board or similar polystyrene insulation between the floor joists (directly under the subfloor). Squirrels find spun pink fiberglass insulation to be irresistible.

I've used railroad ties as foundations for a wood shed. They were suitable for that purpose, but I think they tend to split, fracture and crumble when they decay, and would not be best for a cabin.



**hunter01**  
Member

Join Date: Apr 2007  
Posts: 20

06-30-2010, 02:25

#3

With the drainage that you have i would say it is a over kill. Iwas told that you could use the sill plate as your foundation(treated wood). The problem would be how to keep it from pushing in or out.

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**rifleman**  
Member

06-30-2010, 23:52

#4

I was thinking some more about your project. If your circumstances don't permit building on pressure treated piers, then what you described sounds like the next best way to build. Make strong connections, and keep everything as square and plumb as you can. You'll be happier in the future if you've built it up to allow a crawl space underneath, maybe accessible with a trap door or hatch. It's absolutely imperative to have a good foundation. Trying to correct problems after the structure is complete would be a lousy outcome.

P.S. Don't use railroad ties in your foundation (see previous post). Leave those for wood sheds and other less critical applications.

Join Date: Nov 2008  
Posts: 115

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**Mr. Pid**  
Member

07-01-2010, 07:25

#5

A friend of mine built a cabin on the surface and he had far less site prep than you've described. And since you have gravel, your site soils are definitely better. We removed organics as best we could and replaced with sand. On that he laid a 2x10 treated as the footer, and framed a 2x6 pony wall on top of that as the foundation wall. He used pony walls under the outside walls and one down the center. All were sheathed for shear stability. I convinced him to tie them together with diagonals to imitate a flat truss to stabilize the walls laterally. That was 23-24 years ago and the cabin has been rock solid the entire time. I thought the idea was crazy at the time but it's worked and has no signs it'll fail anytime soon.

Join Date: Apr 2006  
Posts: 3294

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# EXHIBIT 43

August 29, 2015

To Whom It May Concern,

I am a licensed professional engineer. Mr. Wizinsky asked me to review his design solution from a structural view point and render an opinion.

Mr. Wizinsky in his letter to Steve Patmore- Zoning outlined the difficulties in "shoring up" his structure including the Board stated intension of its demolition of the structure" through nature", the trees not removed, the trees being within inches of the building, the inability to get heavy equipment and materials to the structure and virtually no labor force.

Mr. Wizinsky's approach to the issues is logical based on his goal of the building's survival despite the possibility additional trees may fall on the gazebo. He defined the possible scenarios correctly and this became the basis for his restructuring of the gazebo. His approach and his solution are reasonable for any project. In this specific case they were necessary and required to insure the survivability of the structure. Considering the parameters of the problem, I would of probably come up with a similar solution had I been on the site. The use of a staircase and its structure to reinforce the gazebo is a very good engineering solution. In this specific case, it was absolutely necessary and required "to shore up" the structure for the survivability of the gazebo.

Sincerely,



Louis R. Brown

Professional Engineer in Michigan (Cert. No. 28881)  
307 Ridgemont, Oxford, MI 48370

# EXHIBIT 44

**From:** wwizinsky <wwizinsky@aol.com>

**To:** zoningadmin <zoningadmin@suttonsbaytwp.com>; shaugen  
<shaugen@co.leelanau.mi.us>; wwizinsky <wwizinsky@aol.com>

**Date:** Thu, Dec 14, 2017 10:07 am

**Attachments** [Revised Structural S...pdf \(543 KB\)](#)

**Dear Mr. Patmore,**

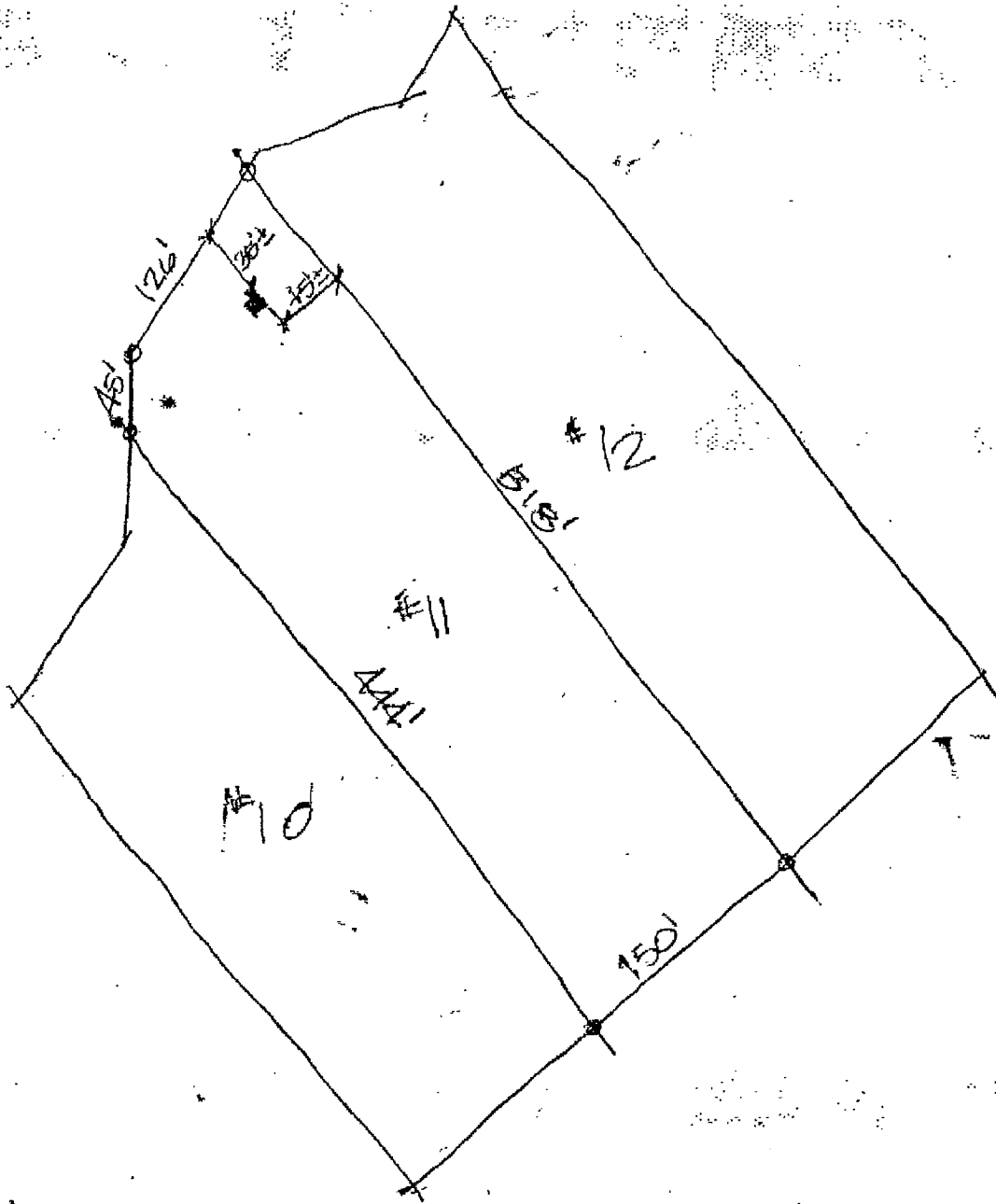
**Please receive my latest structural attached and update my July submission with it.**

**Thank you,**

**Bill**



# EXHIBIT 45



SITE PLAN

1" = 100'-0"

August 29, 2015

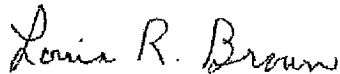
To Whom It May Concern,

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Mr. Wizinsky in his letter to Steve Patmore- Zoning outlined the difficulties in "shoring up" his structure including the Board stated intension of its demolition of the structure" through nature", the trees not removed, the trees being within inches of the building, the inability to get heavy equipment and materials to the structure and virtually no labor force.

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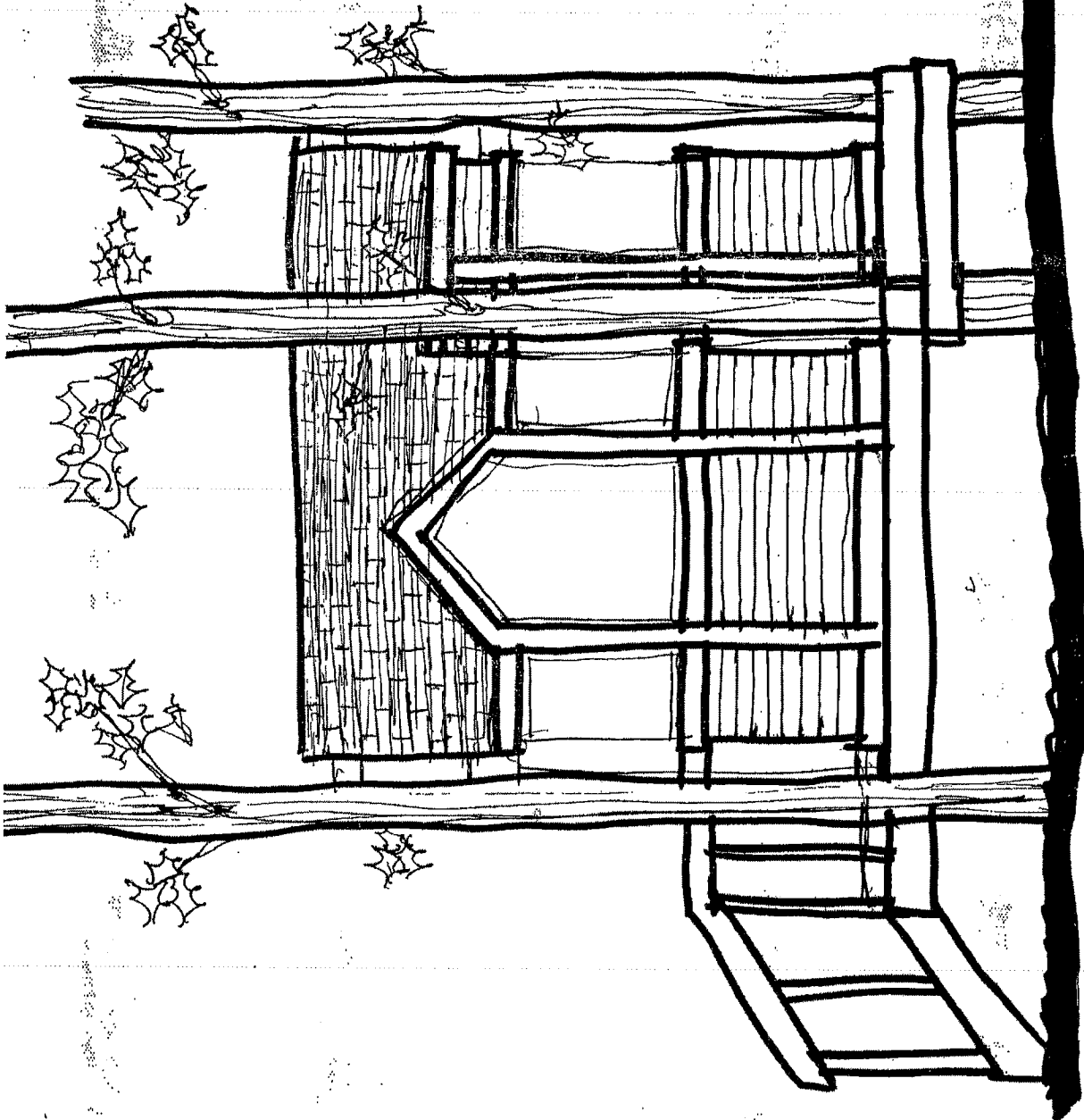
Sincerely,



Louis R. Brown

Professional Engineer in Michigan (Cert. No. 28881)

307 Ridgemont, Oxford, MI 48370



WEST ELEVATION 1/2" = 1'-0"

Leelanau County  
Construction Code & Inspections  
"Reviewed For Code Compliance"  
Permit # PB18-0051  
Date: 1-26-2018

FILE COPY

No permit required  
Must obtain all necessary  
connections

RECEIVED

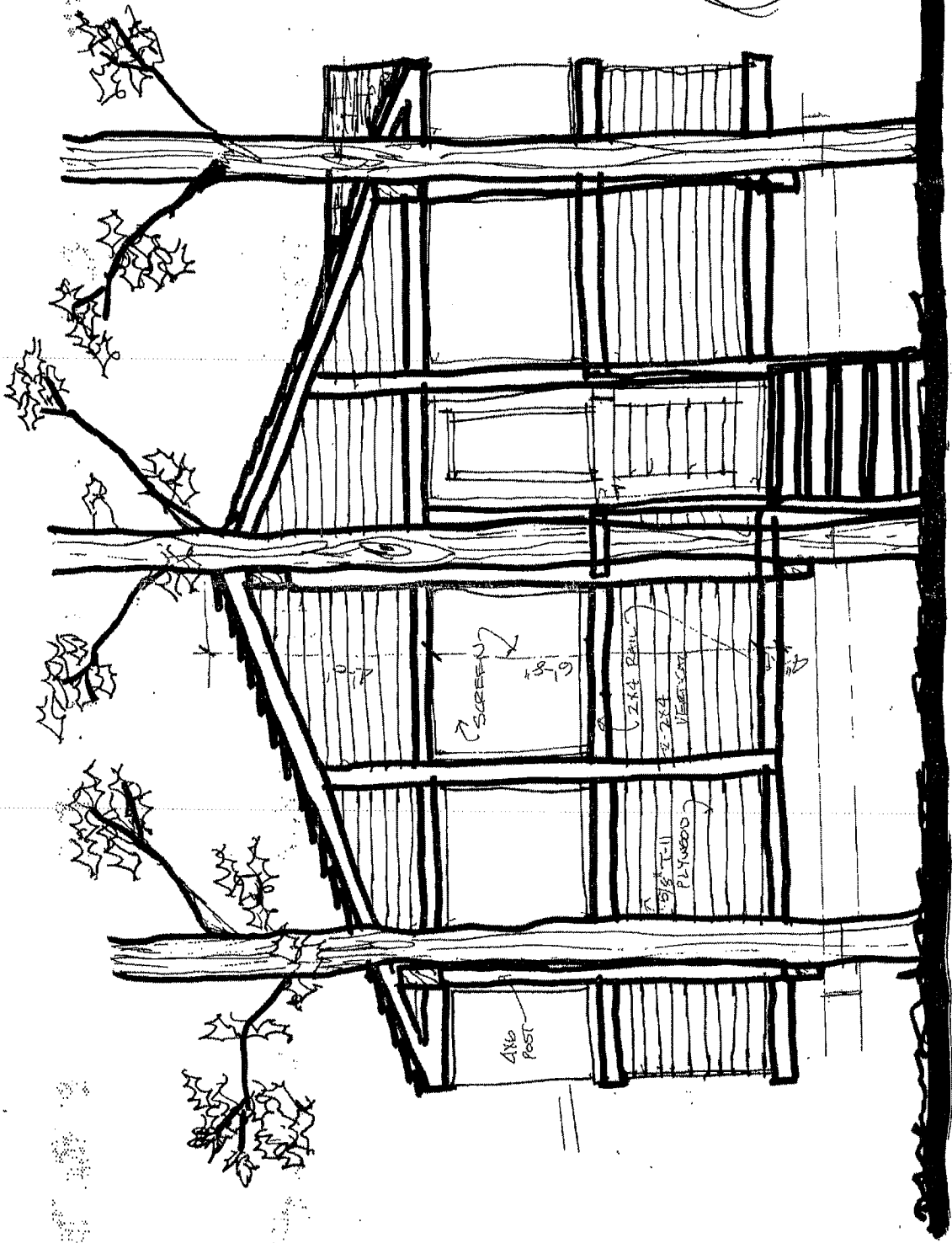
FEB 21 2017  
LEELANAU COUNTY  
CONSTRUCTION CODE

RECEIVED

AUG 16 2018  
LEELANAU COUNTY  
INSPECTIONS DEPARTMENT

OK  
APR

OK  
MRS  
710

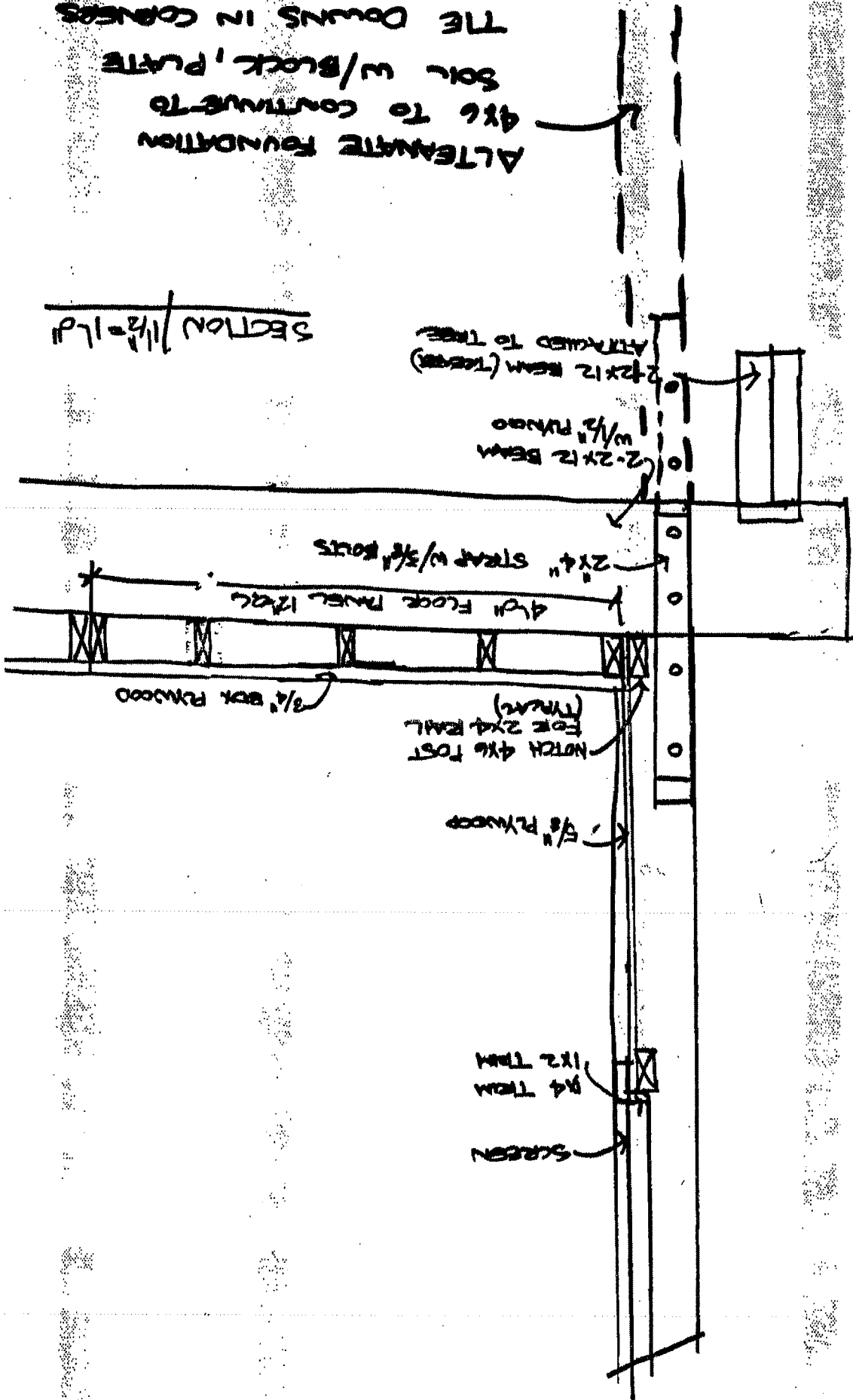


NORTH ELEVATION | 1/2" = 1'-0"

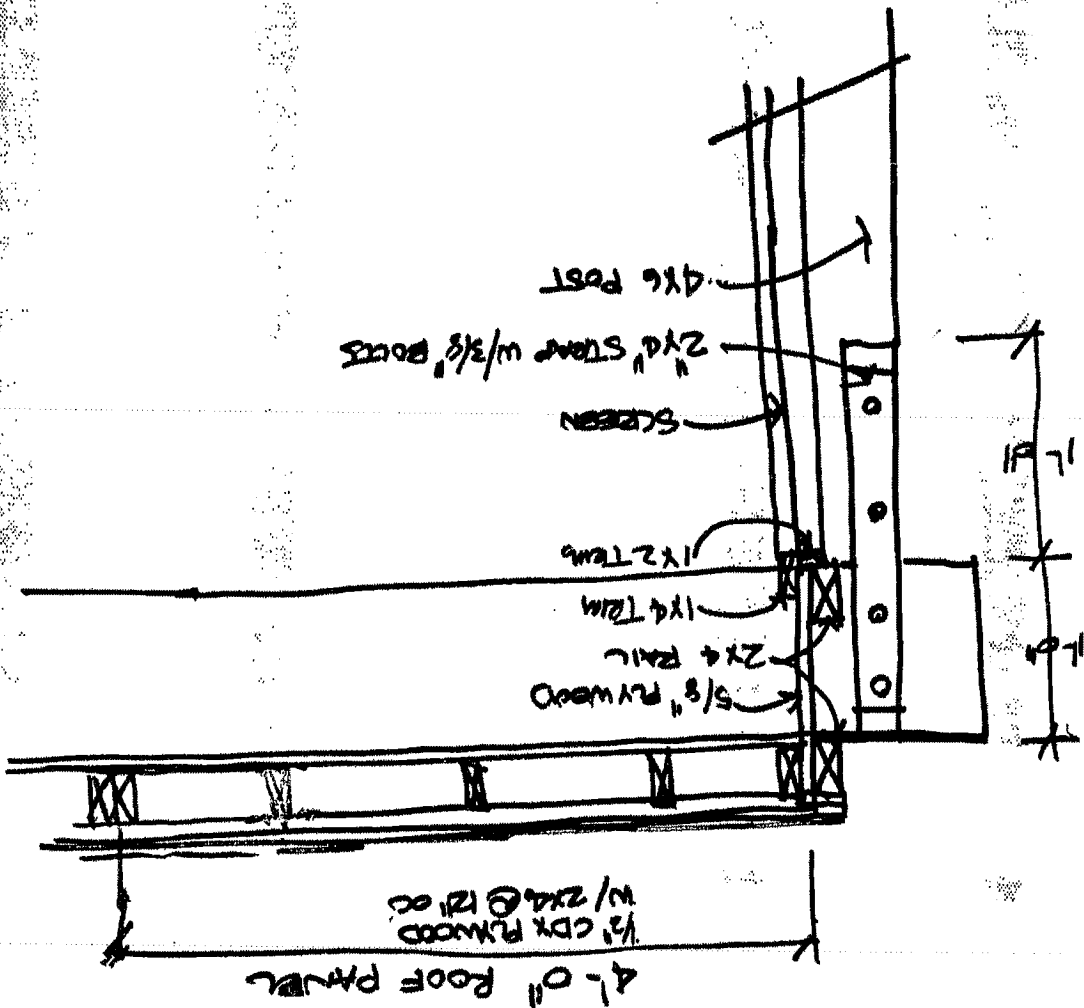


ALTERNATE FOUNDATION  
4x6 TO CONTINUE TO  
SOIL W/BLOCK, PLATE  
THE DOWNS IN CORNERS

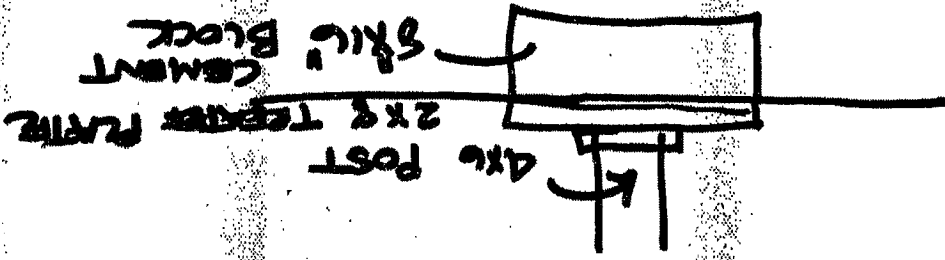
SECTION 11/2" = 1"  $\downarrow$



SECTION 1/2" = 1'-0"

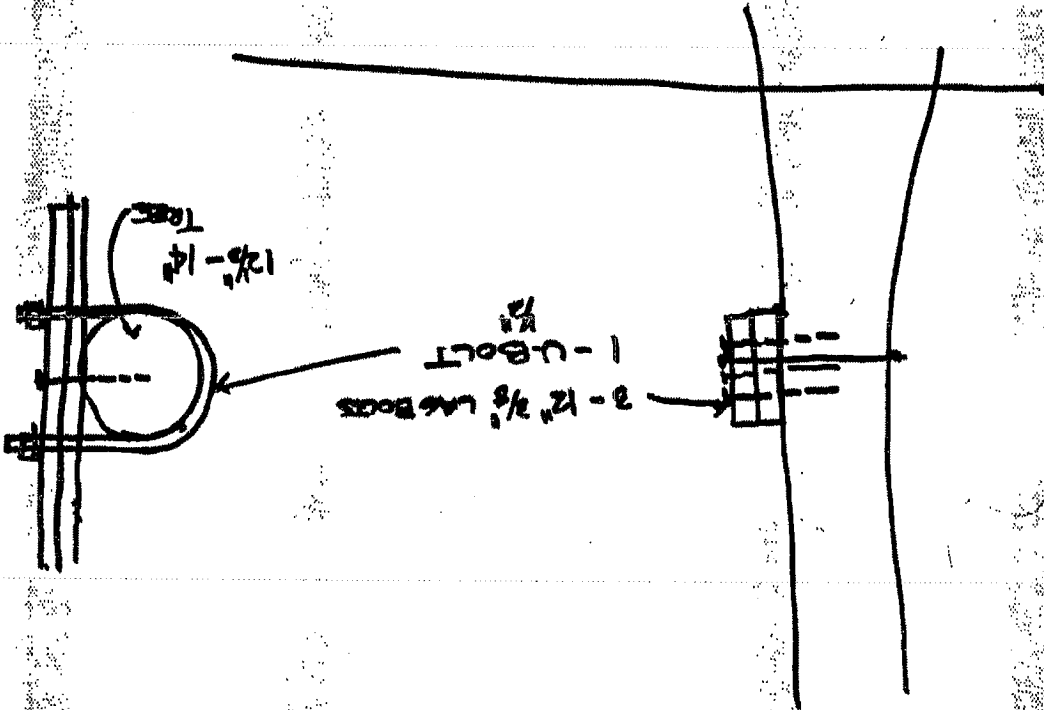






ALTERNATE FOUNDATION  
NO SCREWS

TREE CONNECTION - NO SCREWS

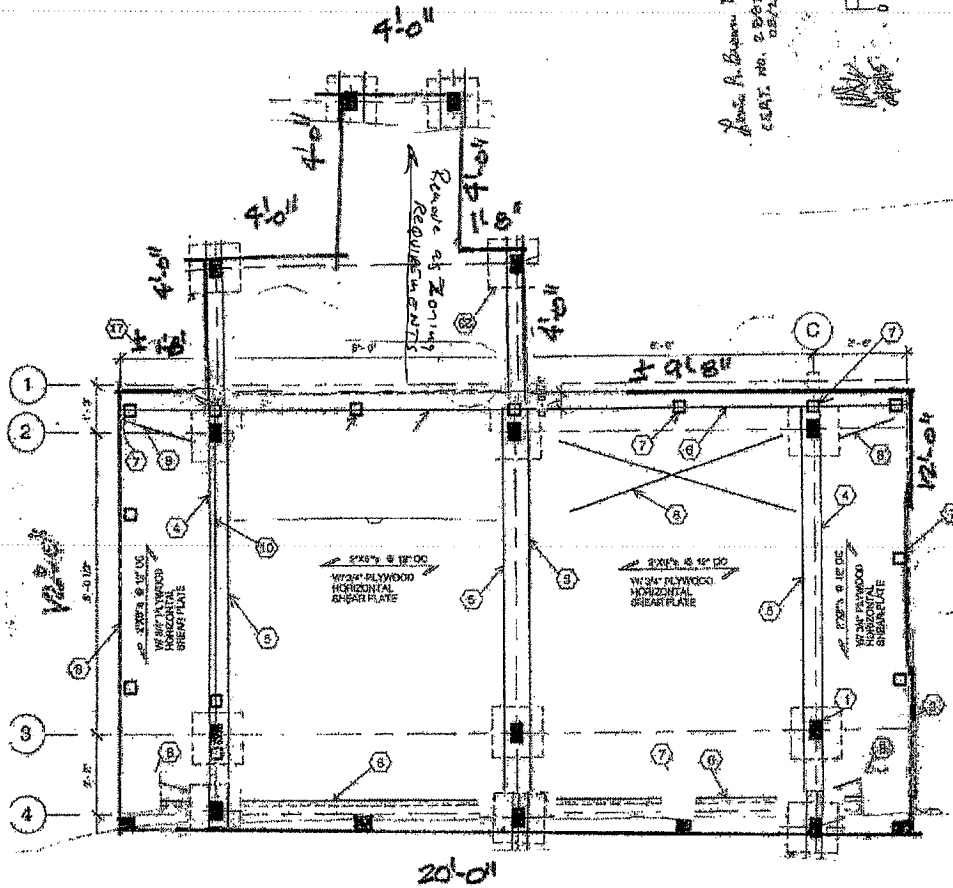




WYB ARCHITECTURAL CONSULTING AND SERVICES <small>10000 1st Street          San Francisco, California 94103</small>	<b>STRUCTURAL          PLAN</b>
S-2	

SCALE  
 1/2" = 1'-0"

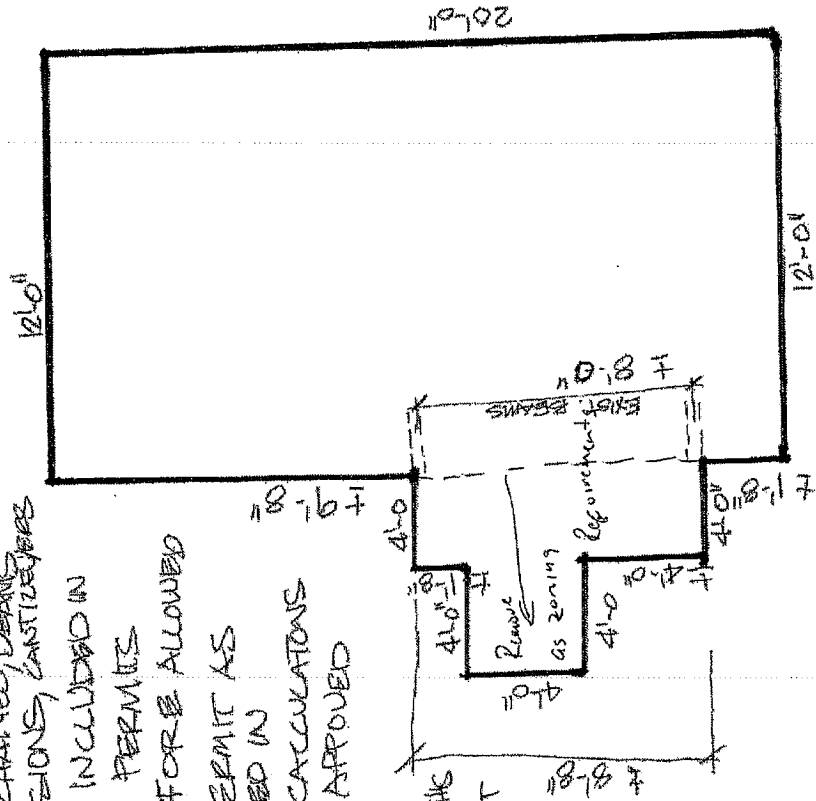
*James R. Bagshaw, P.E.*  
 CEAT. NO. 230291  
 02/23/75



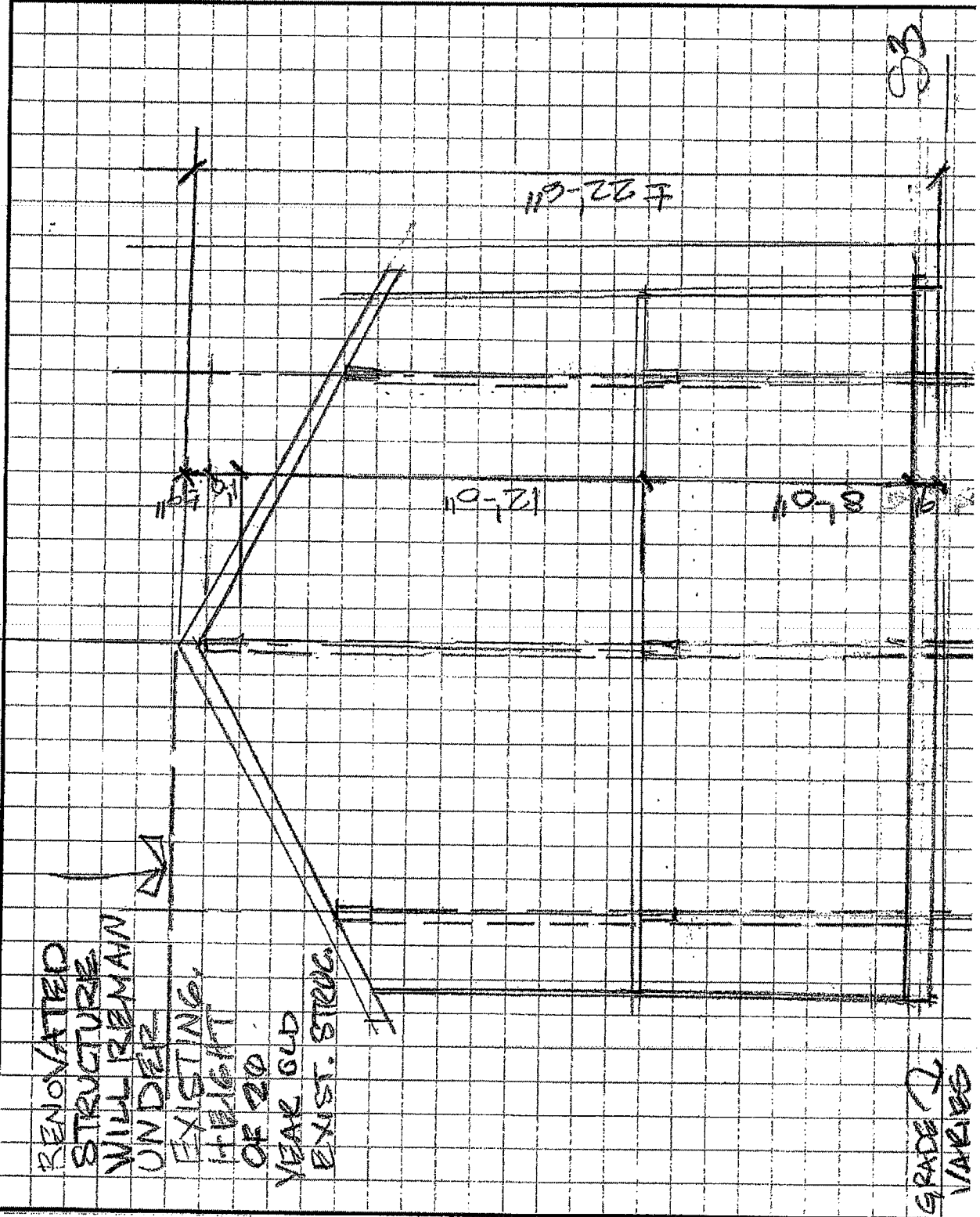
AT GRADE LAND USE AS  
IN 1992 SUBMISSION

\* IN 1992 OVERHANGS, BEAMS, BEAM EXTENSIONS, CANISTEREYES WERE NOT INCLUDED IN LAND USE PERMITS AND THEREFORE ALLOWED ON THIS PERMIT AS NOT INCLUDED IN LAND USE CALCULATIONS AND THUS APPROVED

\* STAYING IN THE PERMITTER AT GRADE, REQUIRES NO ZONING PERMIT UNDER THE ORDINANCES



RENOVATED  
STRUCTURE  
WILL REMAIN  
UNDER  
EXISTING  
HEIGHT  
OF 20  
YEAR OLD  
EXIST. STRUC.



33

GRADE  
VARIES