

City of Portland, Maine - Building or Use Permit Application
 389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 02-1252	Issue Date: NOV 20 2002	CBL: 176 G018001	24
Location of Construction: 40 Montrose Ave	Owner Name: Asbury William P &	Owner Address: 40 Montrose Ave	Phone: 82812399
Business Name:	Contractor Name: Starly Construction	Contractor Address: 150 Brentwood Street Portland	Phone: 2076713694
Lessee/Buyer's Name	Phone:	Permit Type: Additions - Dwellings	Zone: R-5
Past Use: Single Family	Proposed Use: Single Family	Permit Fee: \$373.00	Cost of Work: \$50,000.00
Proposed Project Description: Construct 10 x 18' Addition/Expand Kitchen: Create Entry: Expand Bedroom and Bath		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: R3 Type: 5B BOCA 1999
		Signature:	Signature: JWB 11/20/02
		PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)	
		Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied	
		Signature: _____ Date: _____	

Permit Taken By: gad	Date Applied For: 11/05/2002	Zoning Approval		
1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. 2. Building permits do not include plumbing, septic or electrical work. 3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: 11/20/02	Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: 11/20/02	Historic Preservation <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: 11/20/02	
	N/A			
	N/A			

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

ELECTRICAL PERMIT

City of Portland, Me.



To the Chief Electrical Inspector, Portland Maine:
 The undersigned hereby applies for a permit to make electrical installations in accordance with the laws of Maine, the City of Portland Electrical Ordinance, National Electrical Code and the following specifications:

LOCATION: 40 Montrose Avenue

METER MAKE & # _____

CMP ACCOUNT # _____

OWNER _____

TENANT William Asbury

PHONE # _____

Date _____

Permit # _____

CBL# _____

25034093
176 6018

32

OUTLETS	RECEPTACLES	SWITCHES	3	SMOKE DETECTOR	.20	
FIXTURES	12	Incandescent	1	Fluorescent	Strips	.20
SERVICES	Overhead	Underground	TTL AMPS	<800	15.00	
	Overhead	Underground		>800	25.00	
TEMPORARY SERVICE	Overhead	Underground	TTL AMPS		25.00	
METERS	(number of)				25.00	
MOTORS	(number of)				1.00	
RESID/COM	Electric units				2.00	
HEATING	oil/gas units	Interior	Exterior		1.00	
APPLIANCES	Ranges	Cook Tops	Wall Ovens		5.00	
	Insta-Hot	Water heaters	Fans		2.00	
	Dryers	Disposals	Dishwasher		2.00	
	Compactors	Spa	Washing Machine		2.00	
	Others (denote)				2.00	
MISC. (number of)	Air Cond/win				3.00	
	Air Cond/cent		Pools		10.00	
	HVAC	EMS	Thermostat		5.00	
	Signs				10.00	
	Alarms/res				5.00	
	Alarms/com				15.00	
	Heavy Duty(CRKT)				2.00	
	Circus/Carnv				25.00	
	Alterations				5.00	
	Fire Repairs				15.00	
	E Lights				1.00	
	E Generators				20.00	
PANELS	Service	Remote	/	Main	4.00	
	0-25 Kva				5.00	
	25-200 Kva				8.00	
	Over 200 Kva				10.00	
	MINIMUM FEE/COMMERCIAL 45.00				35.00	
	MINIMUM FEE				35.00	
	TOTAL AMOUNT DUE				35.00	

TOTAL EACH FEE

CONTRACTORS NAME Brian LATAMNE

ADDRESS 99 Pleasant Row E. Westbrook

MASTER LIC. # MS60017382

TELEPHONE 207-247-6053

SIGNATURE OF CONTRACTOR [Signature]

White Copy - Office

Yellow Copy - Applicant

02-1252

All Purpose Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

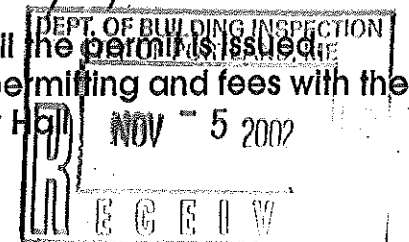
Location/Address of Construction: <u>40 Montrose Ave.</u>		
Total Square Footage of Proposed Structure <u>432 sq. ft Addition 12x18 - 2 stories</u>	Square Footage of Lot	
Tax Assessor's Chart, Block & Lot Chart# <u>176</u> Block# <u>6</u> Lot# <u>018</u>	Owner: <u>William Asbury</u>	Telephone: <u>828.2937</u>
Lessee/Buyer's Name (if Applicable)	Applicant name, address & telephone: <u>Starly Construction</u> <u>150 Brentwood St.</u> <u>Portland, Me.</u>	Cost Of Work: <u>\$50,000</u> Fee: \$ <u>373.00</u>
Current use: <u>Residence</u>		
If the location is currently vacant, what was prior use: _____		
Approximately how long has it been vacant: _____		
Proposed use: _____		
Project description: <u>12x18 two story addition to expand kitchen, create entry, expand 2nd floor bedroom, add 2nd bathroom</u>		
Contractor's name, address & telephone: <u>Starly Construction</u> <u>150 Brentwood St. Portland, Me. 04103</u>		
Who should we contact when the permit is ready: <u>Steve Bourcy 671-3694</u>		
Mailing address: <u>xx call</u>		
We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work, with a Plan Reviewer. A stop work order will be issued and a \$100.00 fee if any work starts before the permit is picked up. PHONE: <u>671-3694 OR 761-4217</u>		

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: <u>Steven Bourcy</u>	Date: <u>10/11/02</u>
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This is NOT a permit, you may not commence ANY work until the permit is issued. If you are in a Historic District you may be subject to additional permitting and fees with the Planning Department on the 4th floor of City Hall



BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or ~~874-8693~~ to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

SB **Pre-construction Meeting:** Must be scheduled with your inspection team upon receipt of this permit. Jay Reynolds, Development Review Coordinator at 874-8632 must also be contacted at this time, before any site work begins on any project other than single family additions or alterations.

- Footing/Building Location Inspection:** Prior to pouring concrete
- NA **Re-Bar Schedule Inspection:** Prior to pouring concrete
- NA **Foundation Inspection:** Prior to placing ANY backfill
- Framing/Rough Plumbing/Electrical:** Prior to any insulating or drywalling
- Final/Certificate of Occupancy:** Prior to any occupancy of the structure or use. NOTE: ~~There is a \$75.00 fee per~~ inspection at this point.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

NA **CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED**

[Signature] 11/20/02
Signature of applicant/designee Date
[Signature] 11/20/02
Signature of Inspections Official Date

CBL: 176-6-18 Building Permit #: 02-1252

Application ID Number: 2-1252

Delete Save Close

Department: Building Status: Pending Reviewer: Jeanine Bourke

Comments: 11/14/02 spoke to contractor about concerns and he will submit necessary info Approval Date: 11/20/2002

Given On Date: 11/07/2002

OK to Issue Permit Name: Jeanine Bourke Date: 11/20/2002 Date 2:

Conditions Section:

Add New Condition From Add New Condition Delete Condition

Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approval prior to work.

Separate permits are required for any electrical or plumbing work.

The contractor understands that if the existing bearing wall is relocated 18" over, a stamped plan must be submitted prior to this work showing the job's tie in and continual bearing.

Create Date: 11/06/2002 By: gg Update Date: 11/20/2002 By: jmb

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK
CITY OF PORTLAND
BUILDING INSPECTION

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED
NOV 20 2002
Permit Number: 021252
CITY OF PORTLAND

PERMIT
DBD

This is to certify that Asbury William P &/Starly Construction
has permission to Construct 10' x 18' Addition and Kitchen: Create Entry: Bedroom and Bath
AT 40 Montrose Ave 176 G018001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is altered or otherwise enclosed-in. HAZARD NOTICE IS REQUIRED.

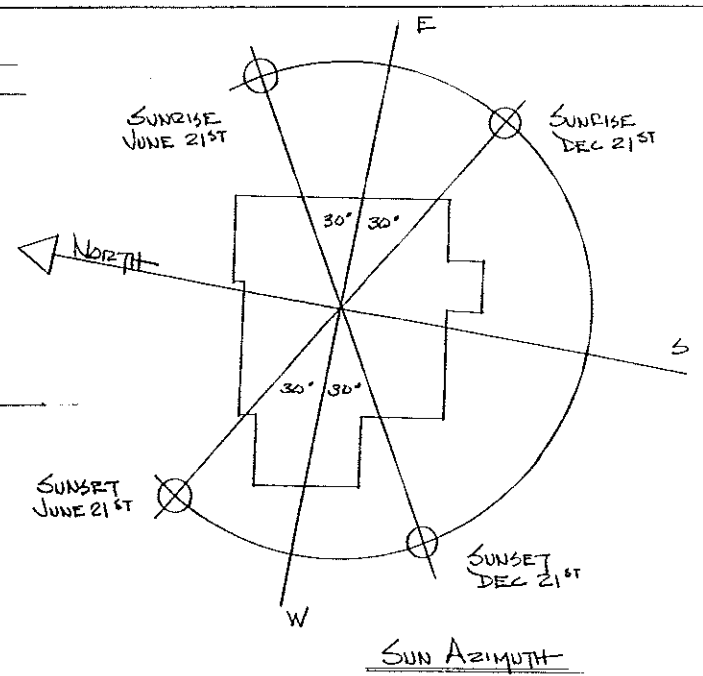
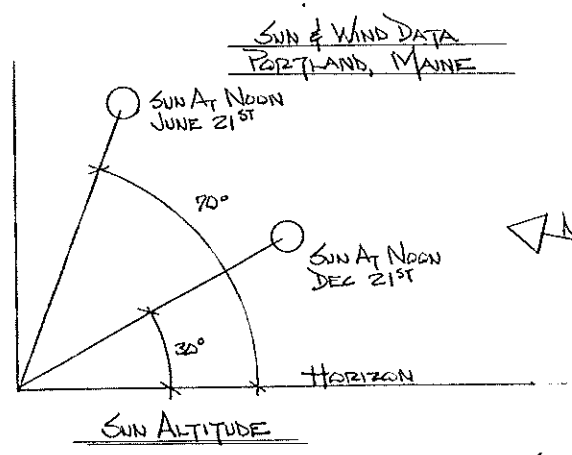
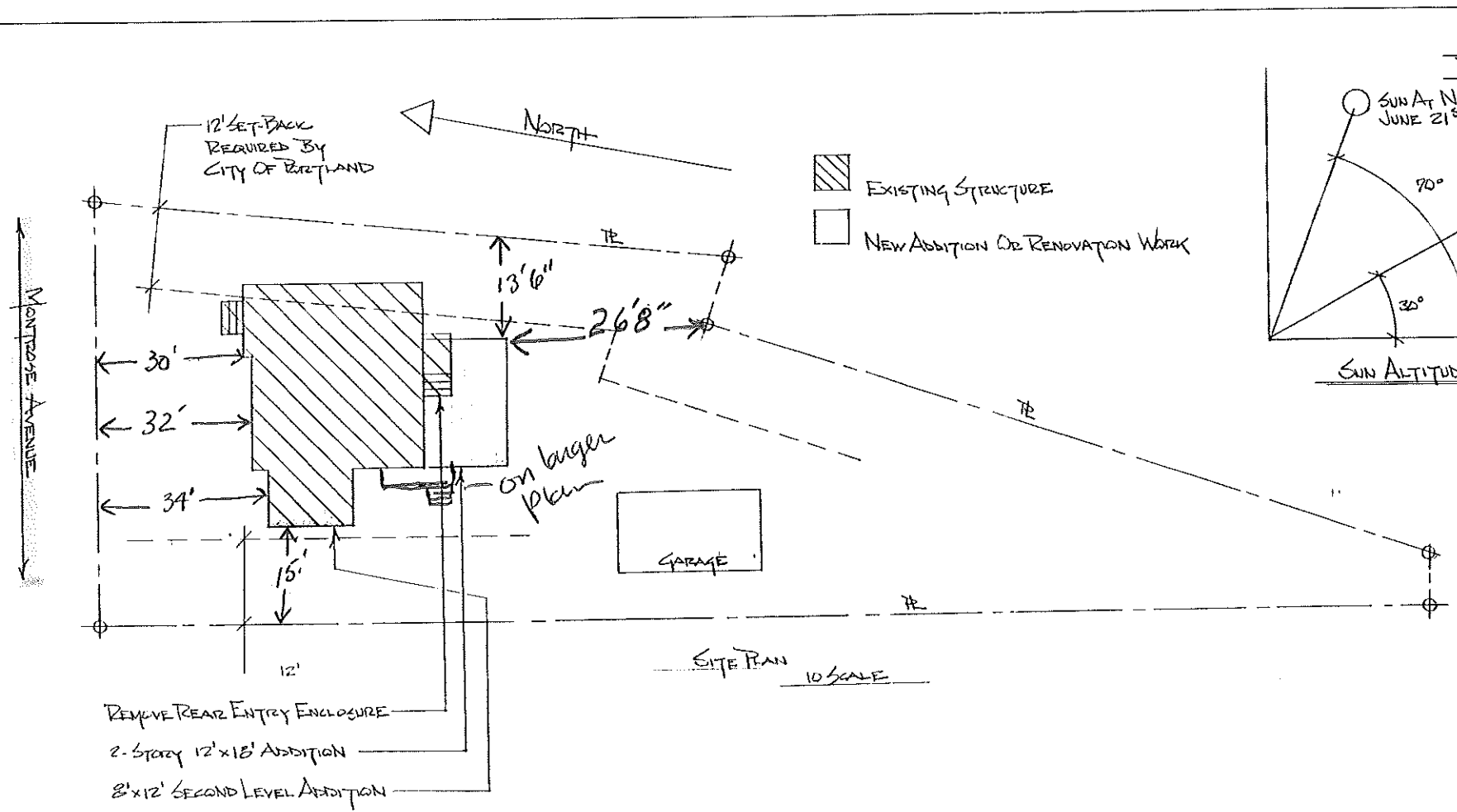
A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. _____
Health Dept. _____
Appeal Board _____
Other _____
Department Name

Jeanne Bouke 11/20/02
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD



THESE DIAGRAMS SHOW THE APPROXIMATE POSITIONS OF THE SUN FOR THE LONGEST AND SHORTEST DAYS OF THE YEAR. INTERPOLATION BETWEEN THESE POSITIONS WILL SUPPLY INFORMATION FOR OTHER DAYS IN THE YEAR. COOL SUMMER BREEZES WILL COME FROM THE SOUTH AND SOUTH-WEST DIRECTIONS. COLD WINTER WINDS WILL COME FROM THE NORTH AND NORTH-WEST DIRECTIONS. CLOSE PROXIMITY OF THIS PROPERTY TO THE ATLANTIC OCEAN MAY ALTER THESE WIND FLOW PATTERNS FROM TIME TO TIME DURING PERIODS OF HARSH WEATHER EVENTS.

R-5 Zone

6,827 sq allowed 40% coverage = 2,730

Existing = 950
New = 255 > 1205 OK

Front = 20' Req 34' Shown
Rear = 20' Req 26'8" Shown
Side = 12' Req 13'6" & 15' Shown

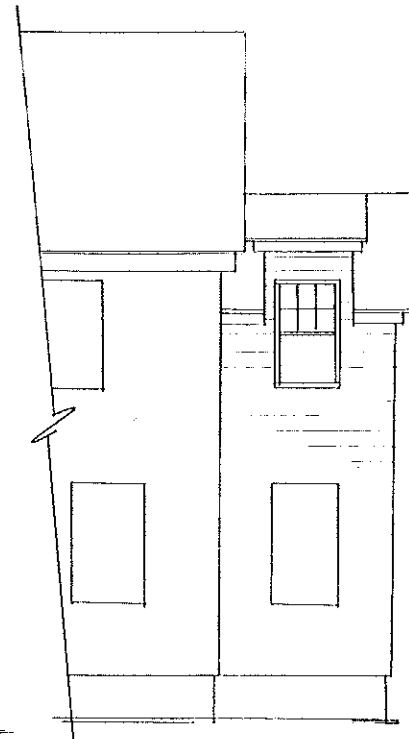
AUGUST 2002

	AGENCY PROJECT 40 MENTROSE AVENUE PORTLAND, MAINE 04103 828-2033
	SITE PLAN AND DETAILS SCALE AS NOTED
DESIGN GROUP THREE 4 BOND ROAD SOUTH PORTLAND, MAINE 04106	799-3484 1

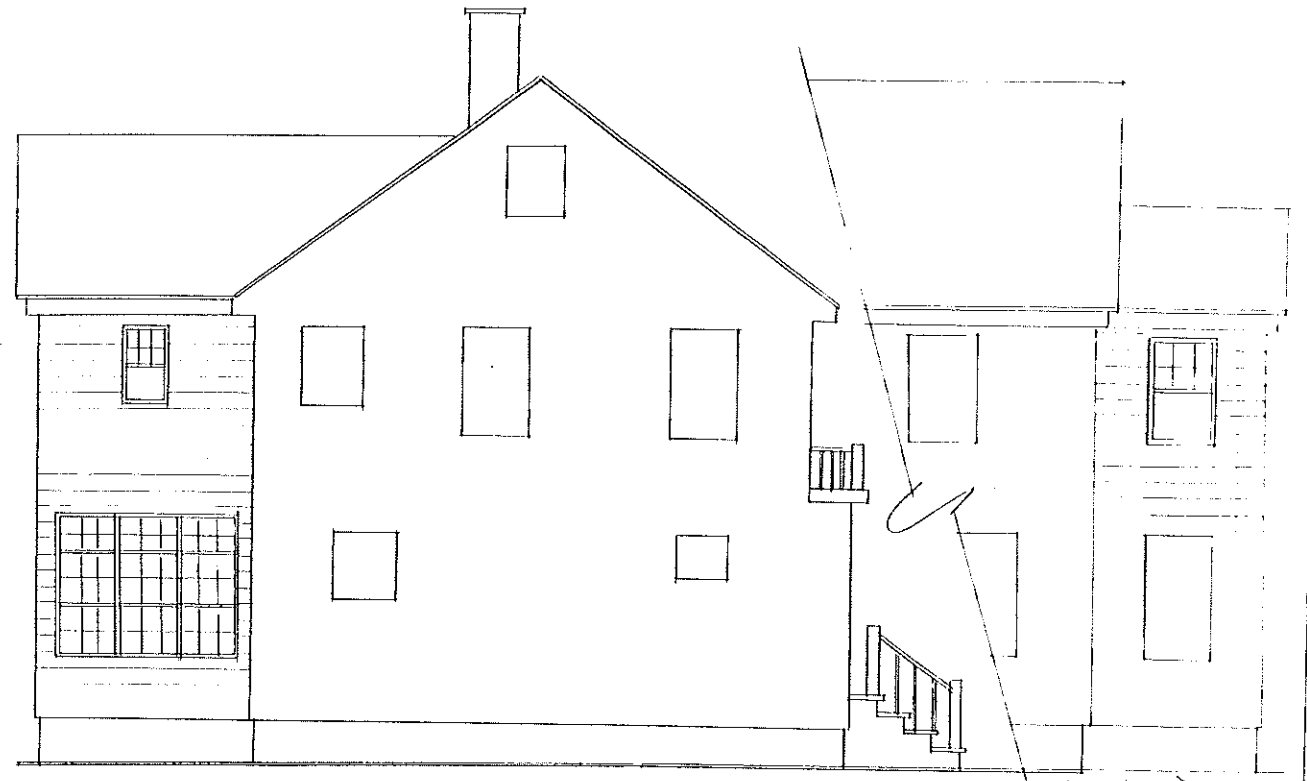
DRAWN BY BILL NILSON



REAR ELEVATION ①
1/4" SCALE



PARTIAL ELEVATION ④
1/4" SCALE
SHOWN WITH DORMER



SIDE ELEVATION ②
1/4" SCALE

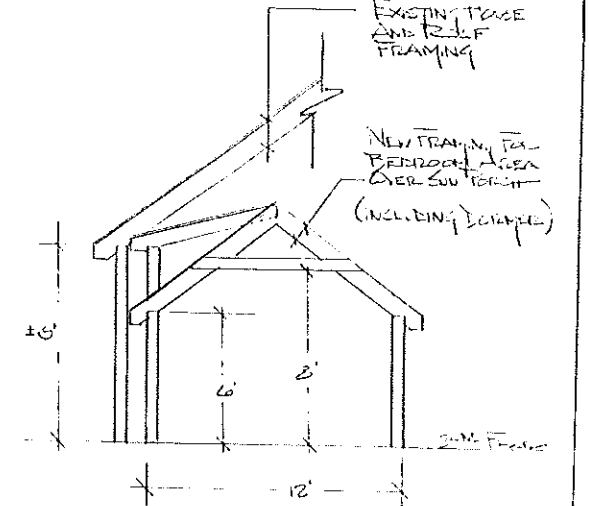
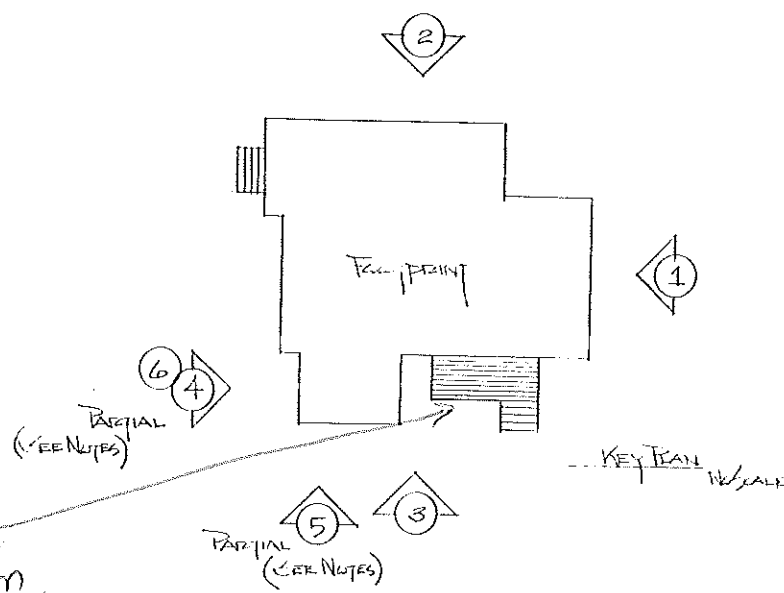
SHOWN WITH DORMER
PARTIAL ELEVATION ⑥
1/4" SCALE



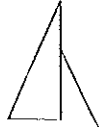
PARTIAL ELEVATION ⑤
1/4" SCALE
SHOWN WITHOUT DORMER

SIDE ELEVATION ③
1/4" SCALE
SHOWN WITH DORMER

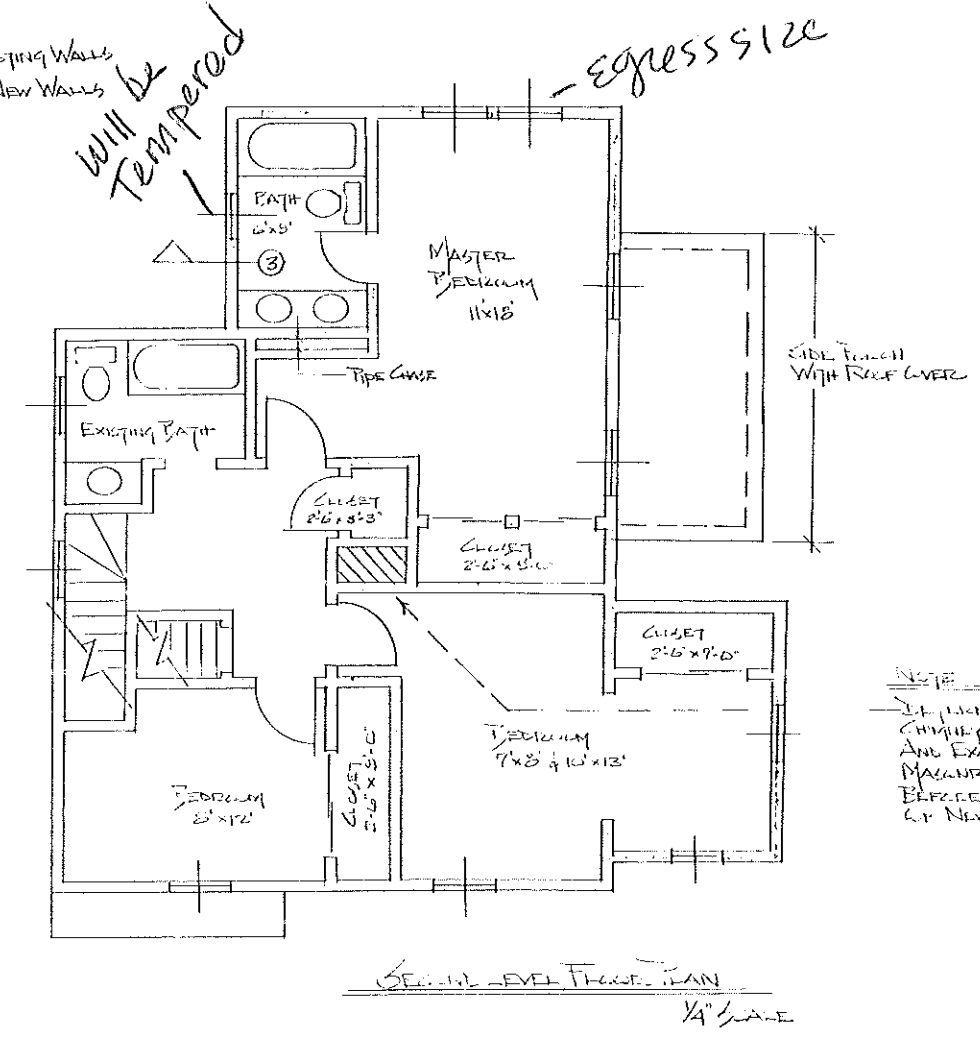
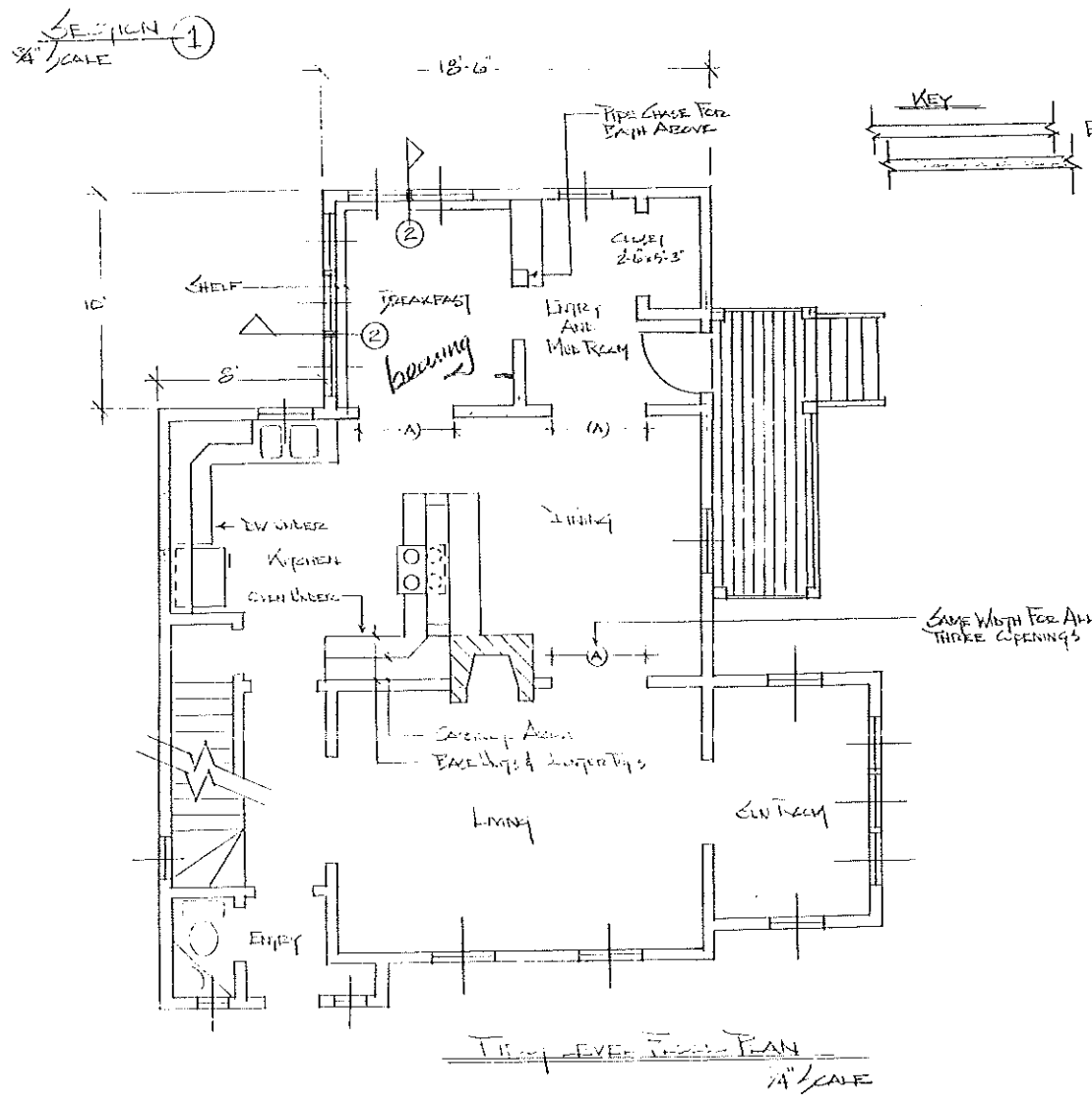
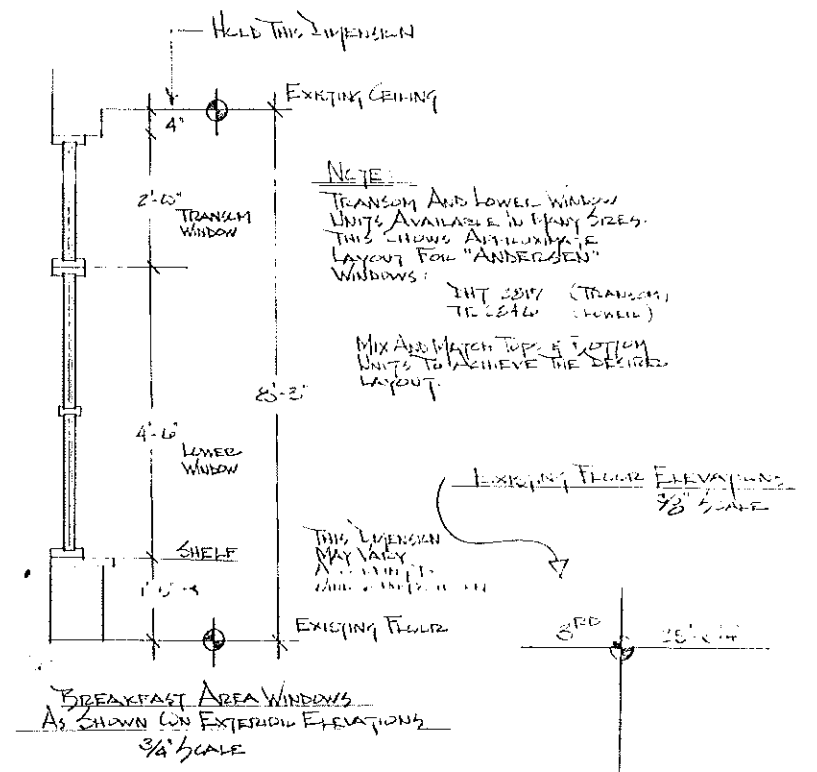
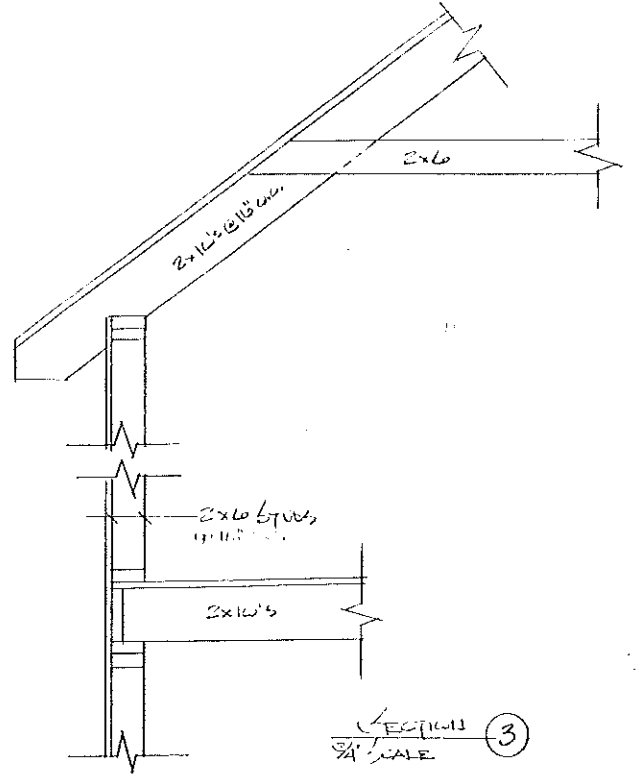
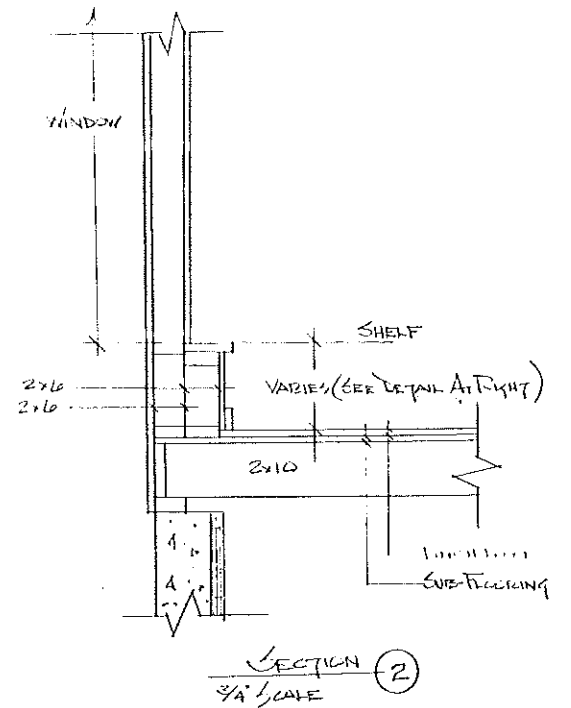
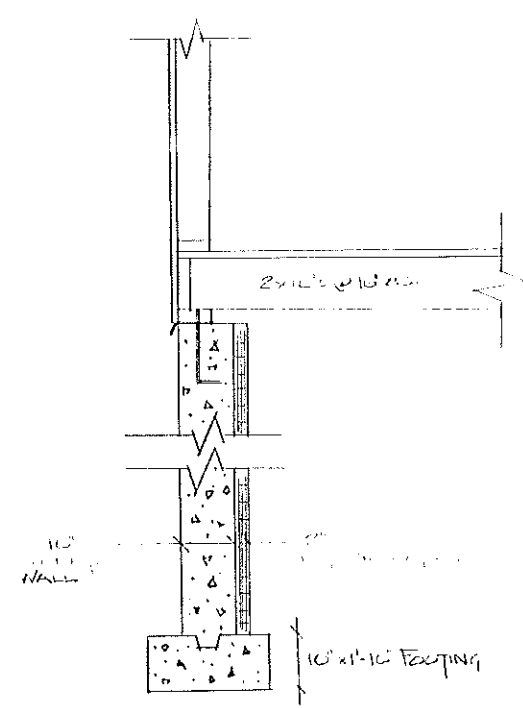
Not shown on plot plan
OK on larger plan



NOTE
THERE IS SUFFICIENT HEIGHT IN THE
FRAMING SYSTEM OF THE EXISTING
HOUSE TO MAKE A DORMER
UN-NECESSARY
SEE PARTIAL ELEVATIONS ① & ④

	ARCHITECT
	EXTERIOR ELEVATIONS DATE 11/1/68
DESIGN GROUP THREE GROUP - PRO PLAN, MASS	
6	

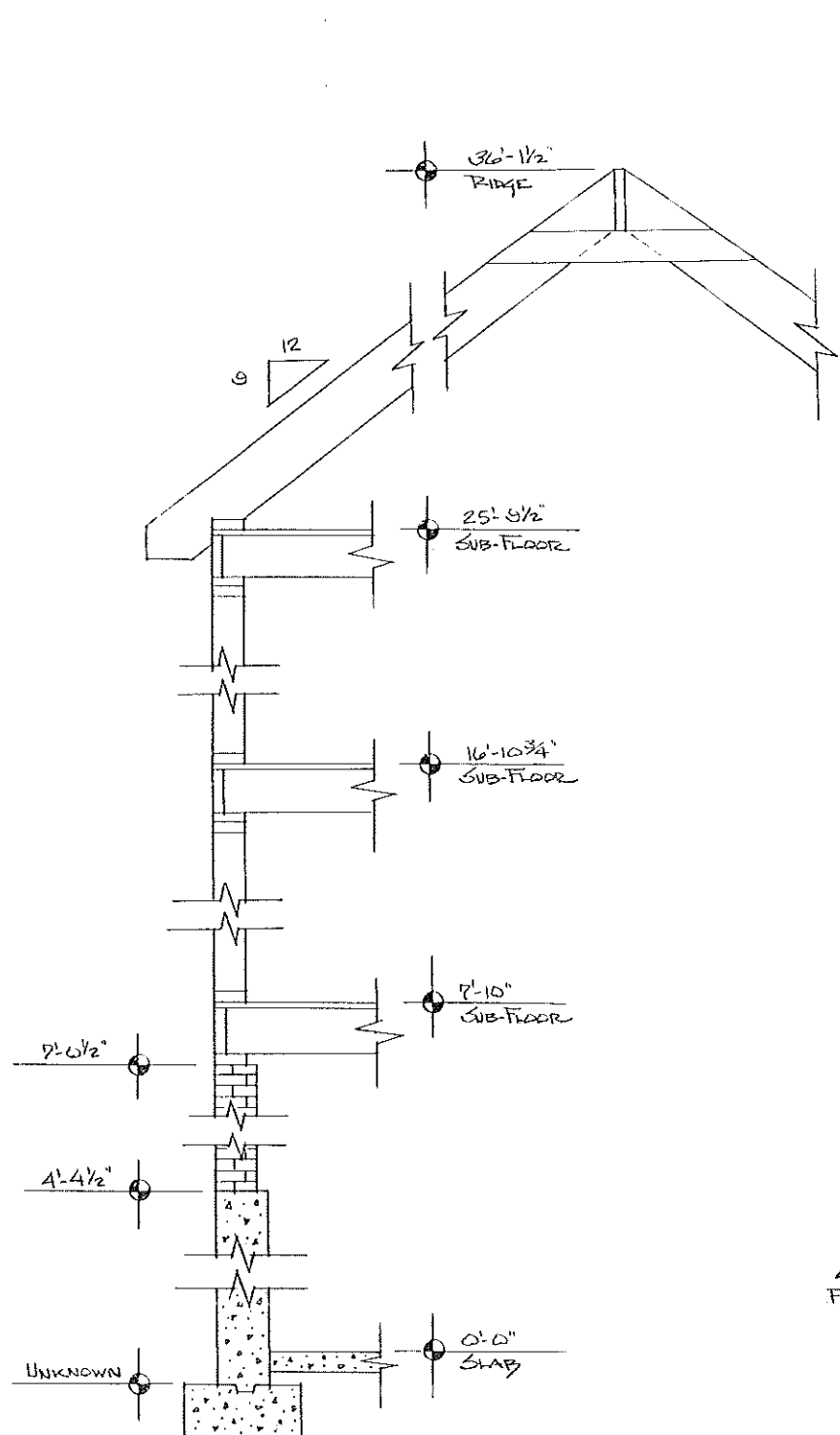
DRAWN BY BILL MASON



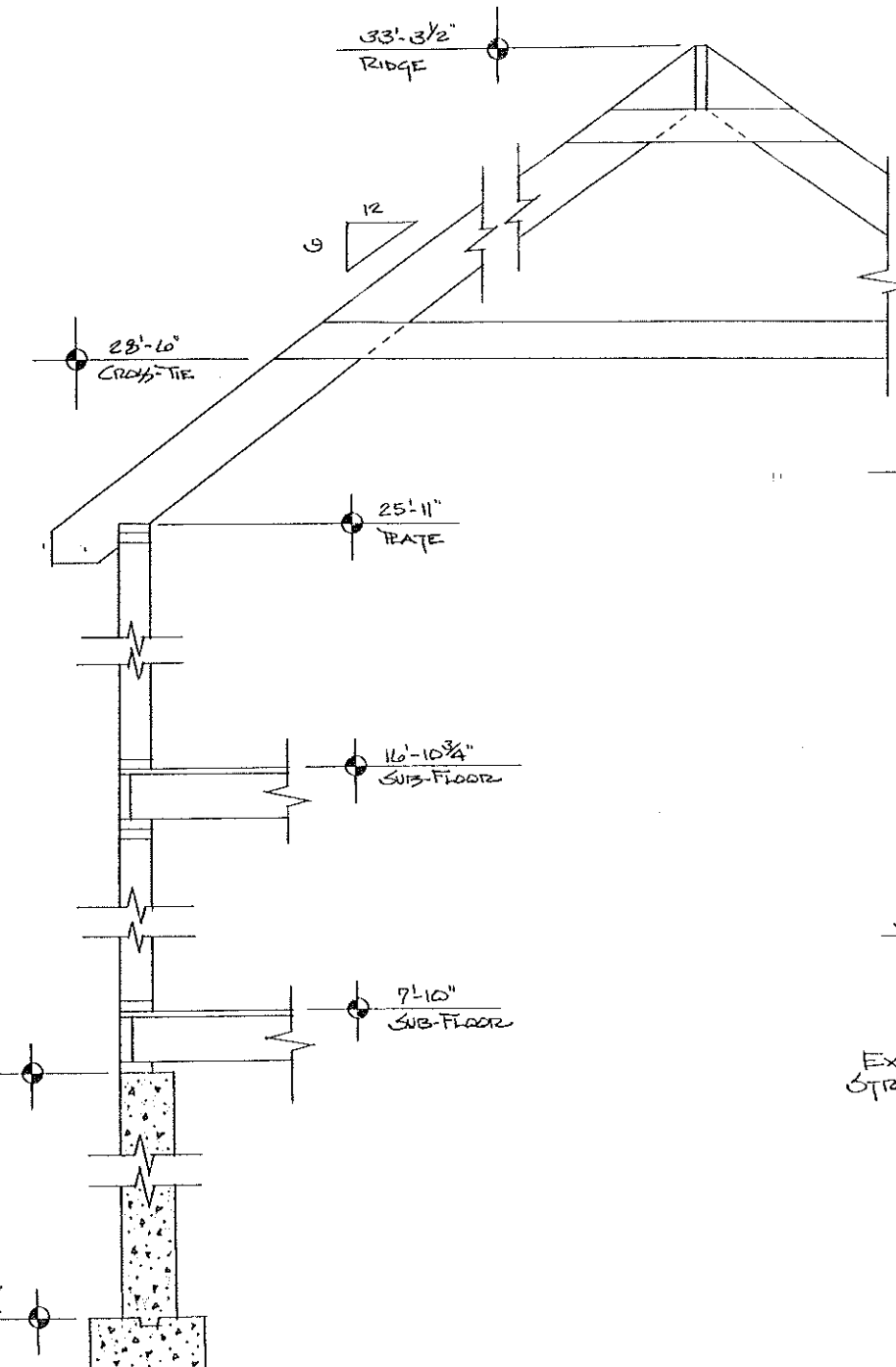
NOTE:
IF MACHINE EXACT LOCATION OF CHIMNEY BY SITE MEASUREMENTS AND EXAMINE CONDITION OF MASONRY (MAY NEED TO PATCH) BEFORE LAYOUT AND INSTALLATION OF NEW SECOND FLOOR WALLS.

	ARCHITECT
	THOMAS H. RYAN, ARCHITECT AND CONSULTANT
DEERIN GROUP, INC. SOUTH BEND, INDIANA, U.S.A.	
7	

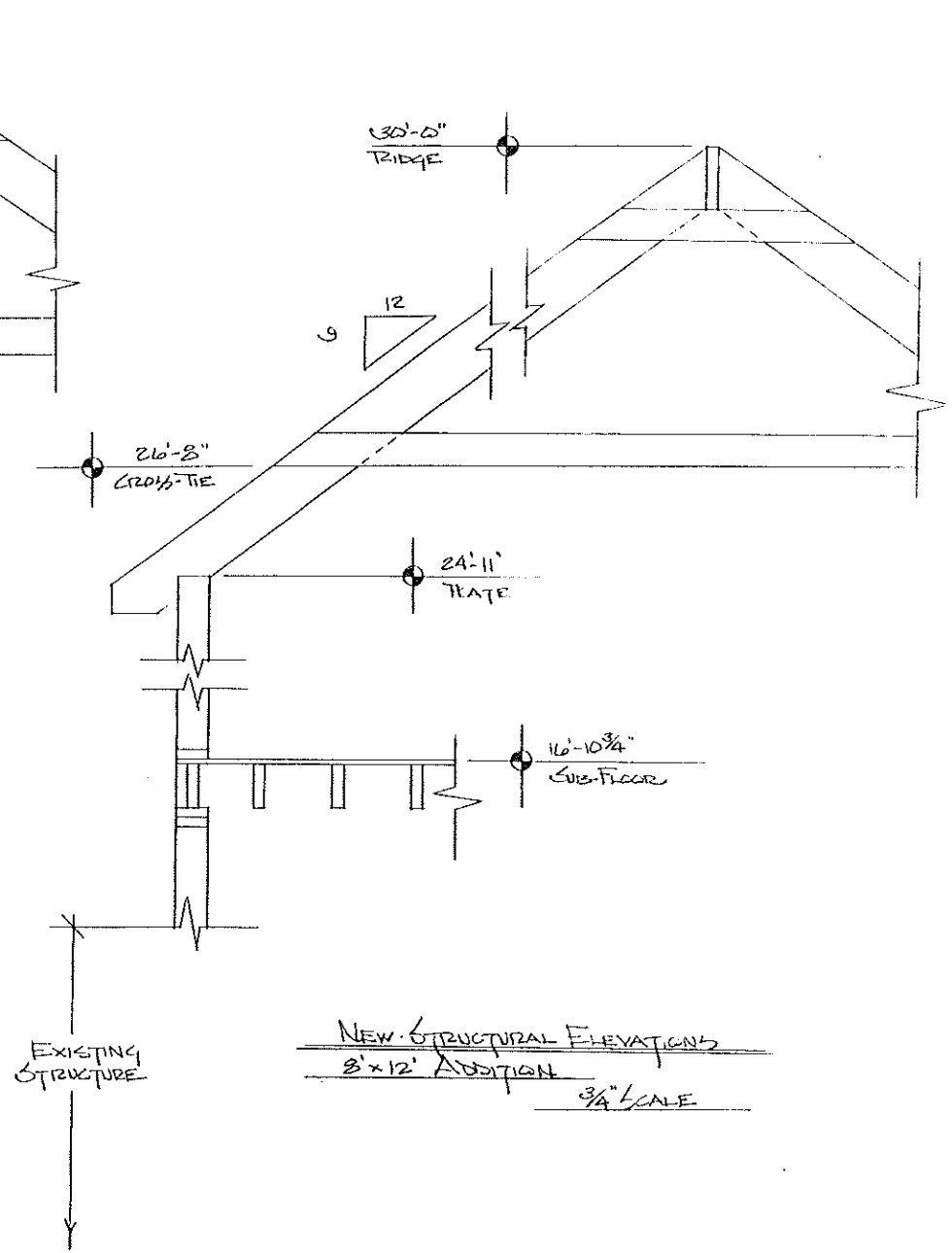
DRAWN BY BILL NELSON



EXISTING STRUCTURAL ELEVATIONS
3/4" SCALE



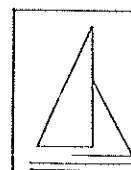
NEW STRUCTURAL ELEVATIONS
10' x 18' ADDITION
3/4" SCALE



NEW STRUCTURAL ELEVATIONS
8' x 12' ADDITION
3/4" SCALE

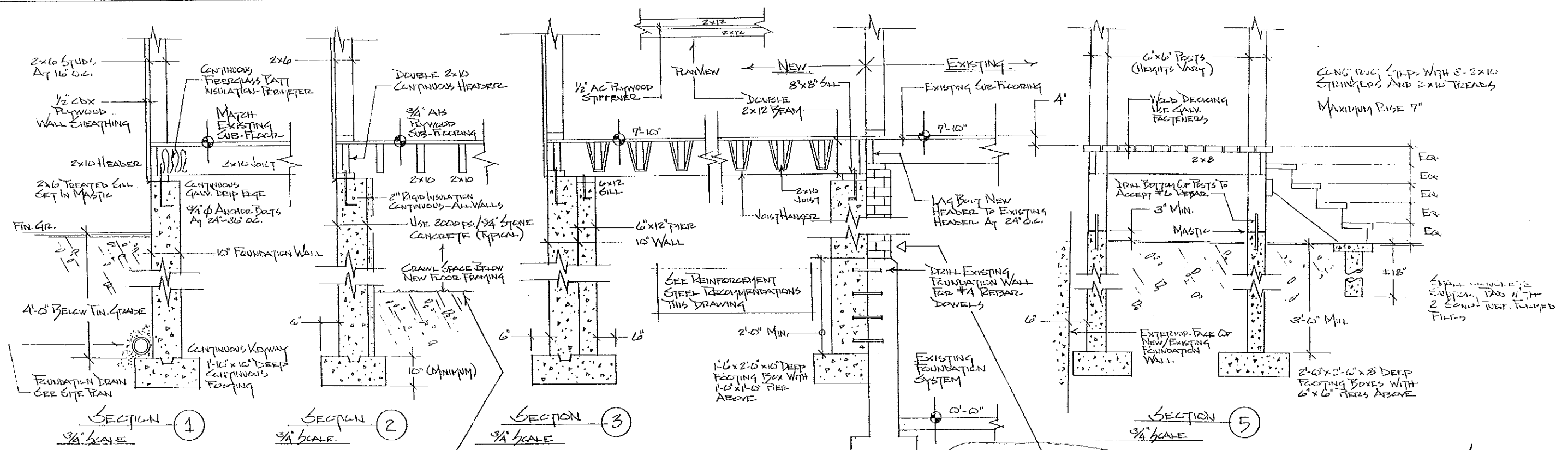
NOTE:
SEE FRAMING PLANS, SECTIONS, AND DETAILS
FOR ADDITIONAL INFORMATION.

NOTE:
SOME OF THESE VALUES ARE ESTIMATES. MANY
STRUCTURAL ELEMENTS ARE HIDDEN FROM VIEW
BY FINISH MATERIALS. VERIFY WHERE REQUIRED
BY SITE MEASUREMENT.



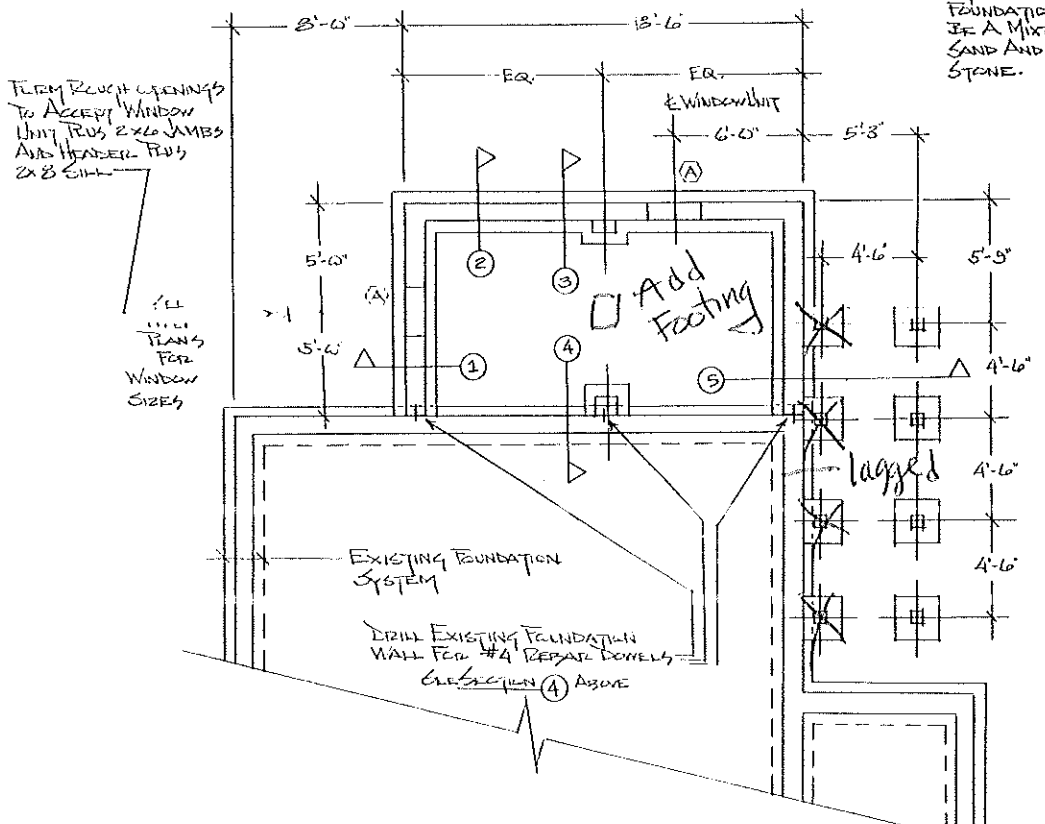
AGRIUM PROJECT
EXISTING & NEW STRUCTURAL ELEVATIONS
3/4" SCALE

DRAWN BY BILL NILSON

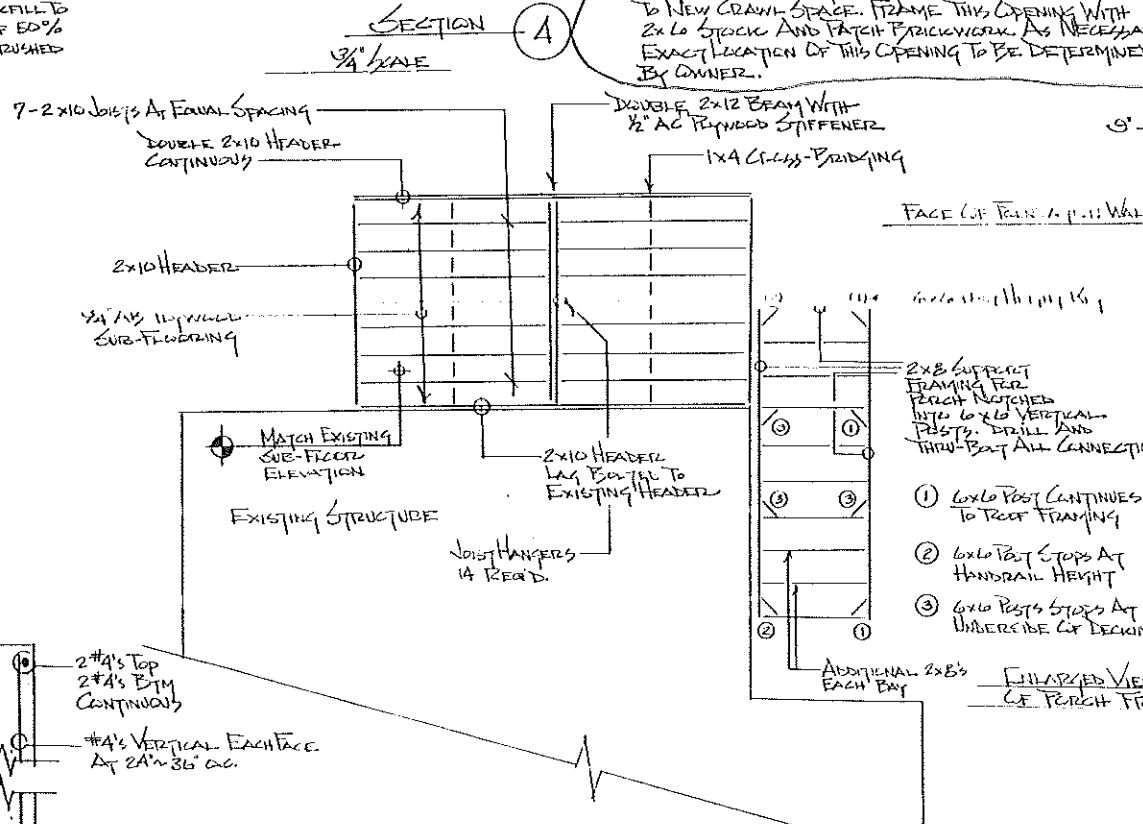


NOTE:
 REMOVE EXISTING MASONRY TO CREATE ACCESS TO NEW CRAWL SPACE. FRAME THIS OPENING WITH 2x6 STUDS AND PATCH FRICKWORK AS NECESSARY. EXACT LOCATION OF THIS OPENING TO BE DETERMINED BY OWNER.

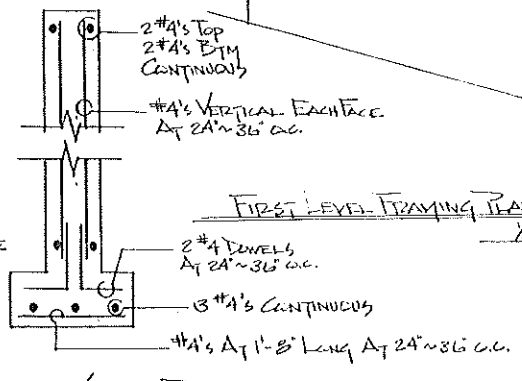
vent connection



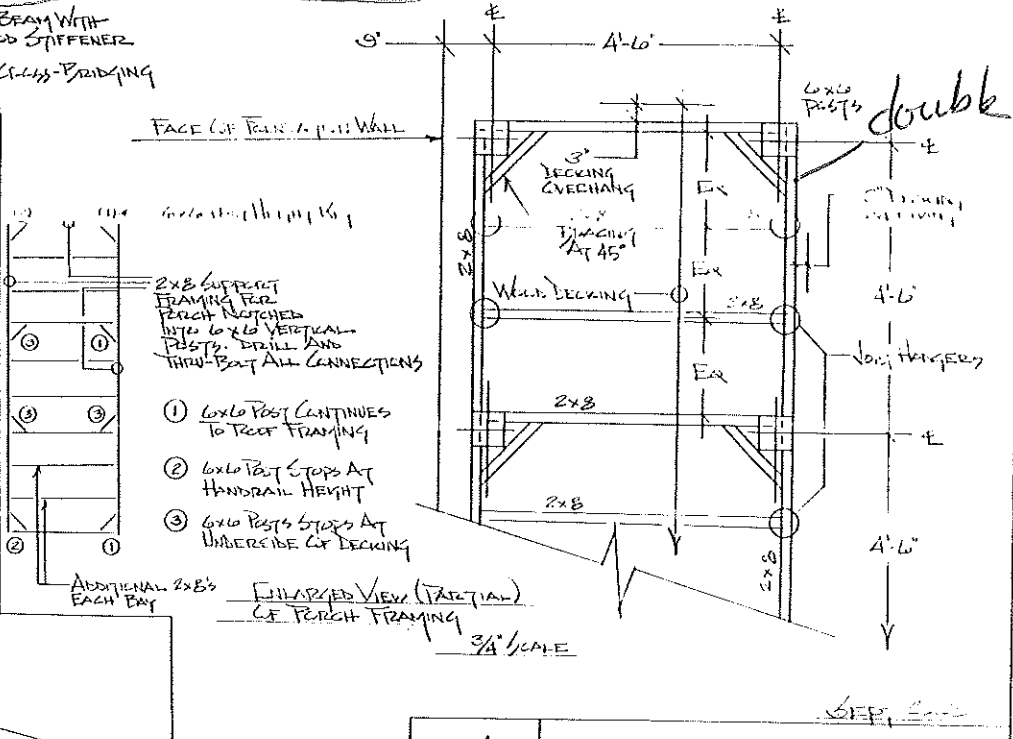
FOUNDATION PLAN
 1/4\"/>



FIRST LEVEL FRAMING PLAN
 1/4\"/>



FOUNDATION SYSTEM REINFORCEMENT
 3/4\"/>

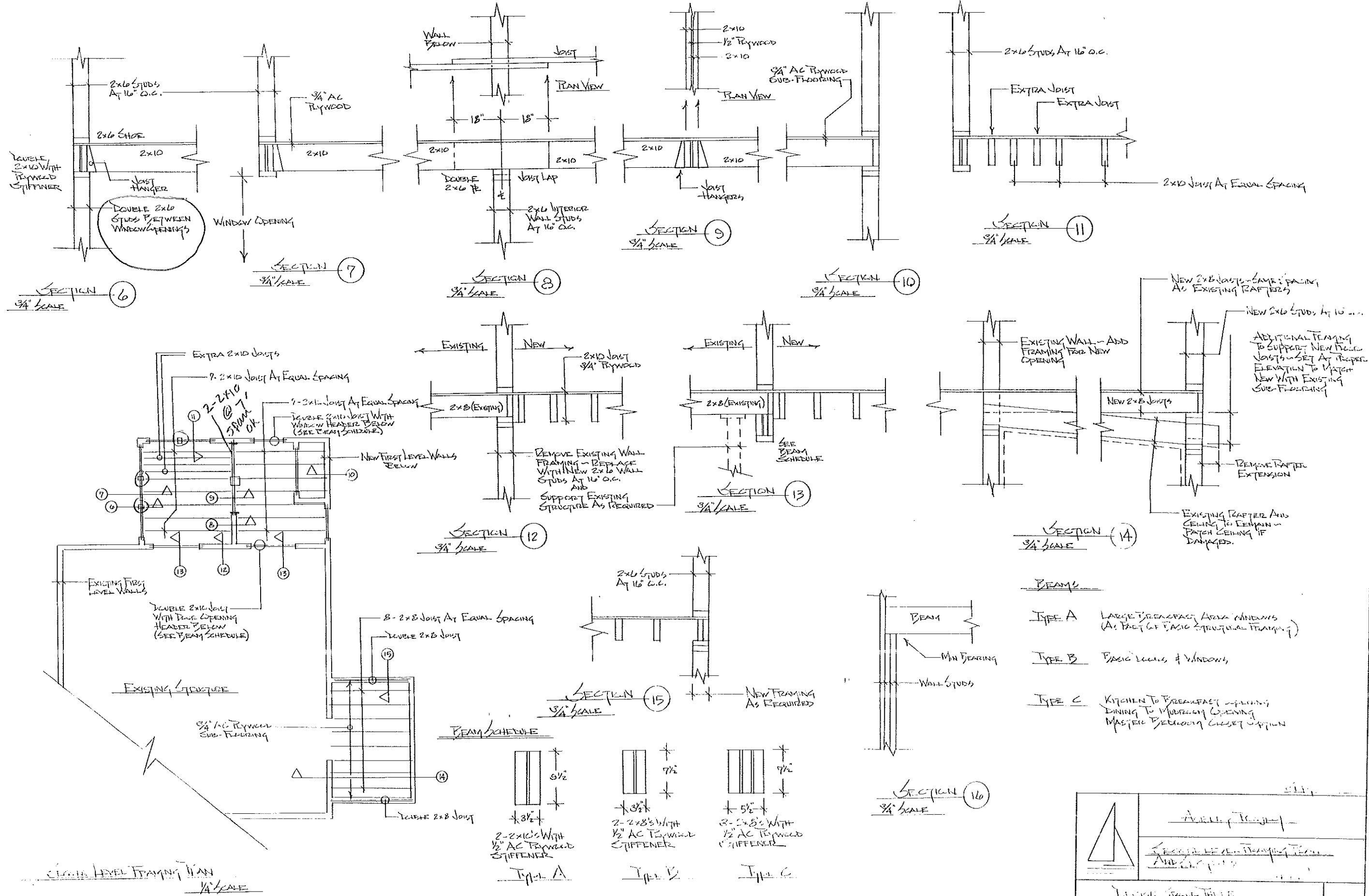


DETAILS OF PERCH FRAMING
 3/4\"/>

STEEL REINFORCEMENT FOR CONCRETE FOOTINGS AND WALLS IS NOT REQUIRED - BUT HIGHLY RECOMMENDED. USE GRADE 60 STEEL.

	ASPLEY PROJECT
	FOUNDATION PLAN & FIRST LEVEL FRAMING PLAN AND SECTION 1-5
	DESIGN GROUP THREE SOUTH PORTLAND, MAINE

DRAWN BY BILL NELSON



SECTION 6
3/4" SCALE

SECTION 7
3/4" SCALE

SECTION 8
3/4" SCALE

SECTION 10
3/4" SCALE

SECTION 12
3/4" SCALE

SECTION 13
3/4" SCALE

SECTION 14
3/4" SCALE

SECTION 15
3/4" SCALE

SECTION 16
3/4" SCALE

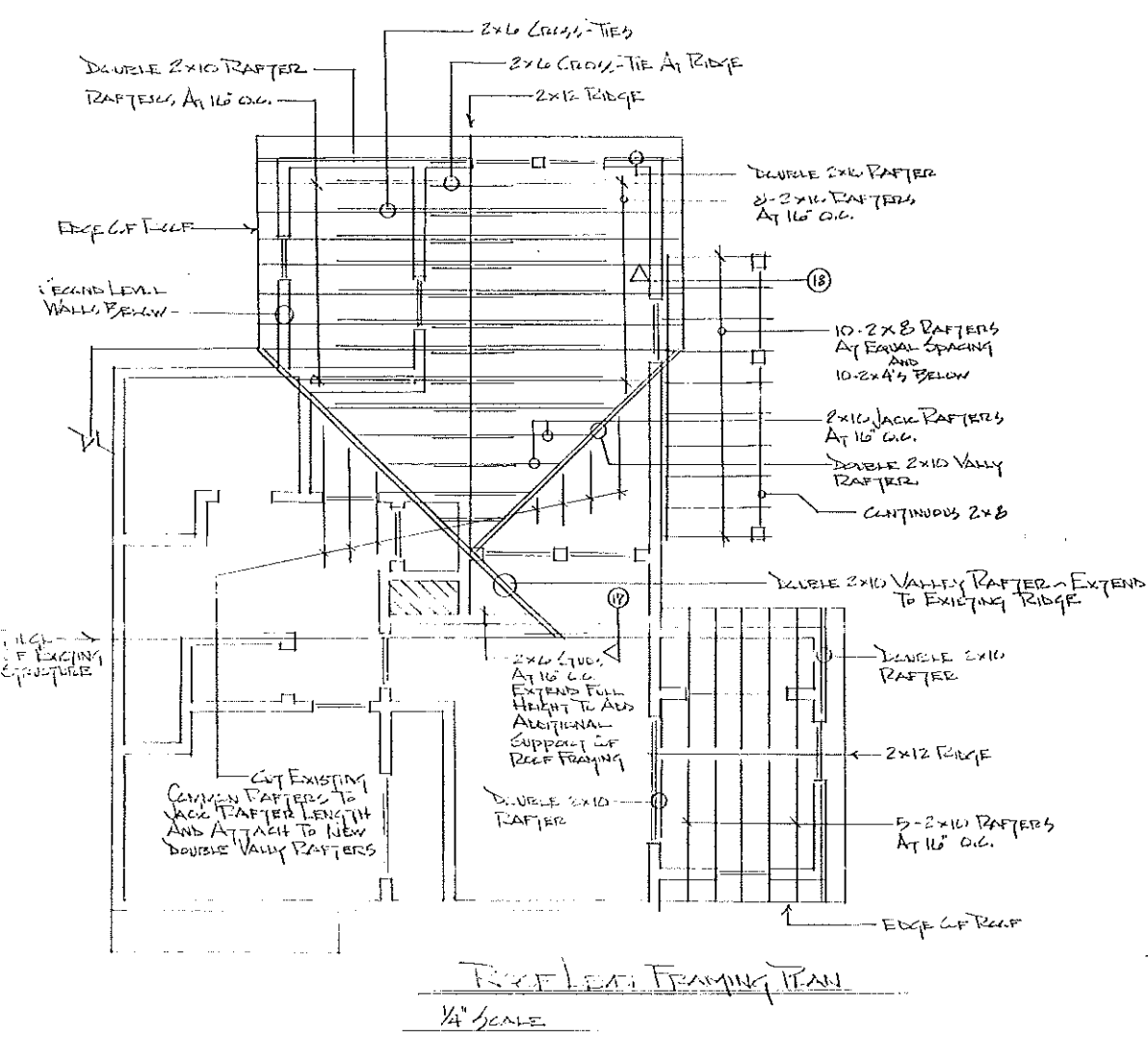
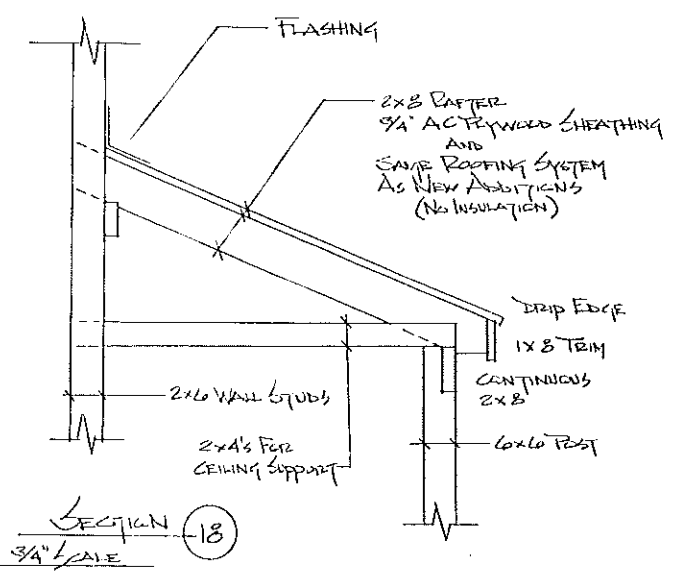
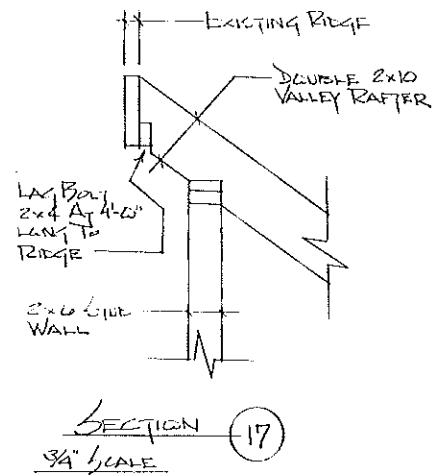
BEAM SCHEDULE

<p>2-2x10's WITH 1/2" AC PLYWOOD STIFFENER Type A</p>	<p>2-2x8's WITH 1/2" AC PLYWOOD STIFFENER Type B</p>	<p>2-2x8's WITH 1/2" AC PLYWOOD STIFFENER Type C</p>
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BEAMS

- TYPE A LARGE BREAKFAST AREA WINDOWS (A: PART OF BASIC STRUCTURAL FRAMING)
- TYPE B BASIC WALLS & WINDOWS
- TYPE C KITCHEN TO BREAKFAST DINING; DINING TO HALLWAY OPENING; MASTER BEDROOM CLOSET OPENING

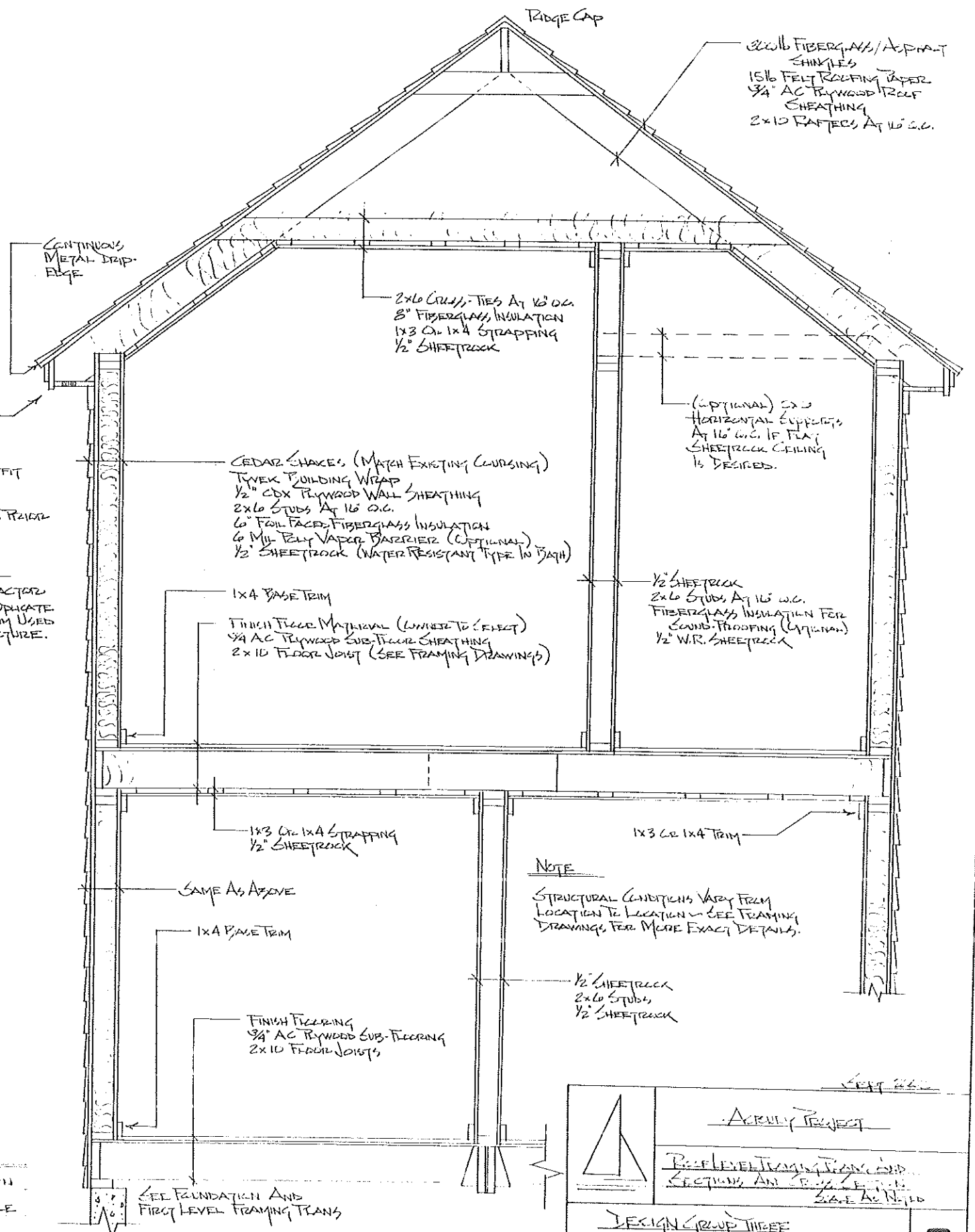
	<p>Architect</p> <p>Project Name</p> <p>Address</p>
<p>DATE</p>	
<p>Scale: 1/4" = 1'-0"</p>	
<p>Drawn by: Bill Wilson</p>	7



1x6 PINE TRIM
1x8 PINE TRIM
3/4\"/>

OPTION
OWNER AND CONTRACTOR
MAY SELECT TO DUPLICATE
EDGE OF ROOF TRIM USED
ON EXISTING STRUCTURE.

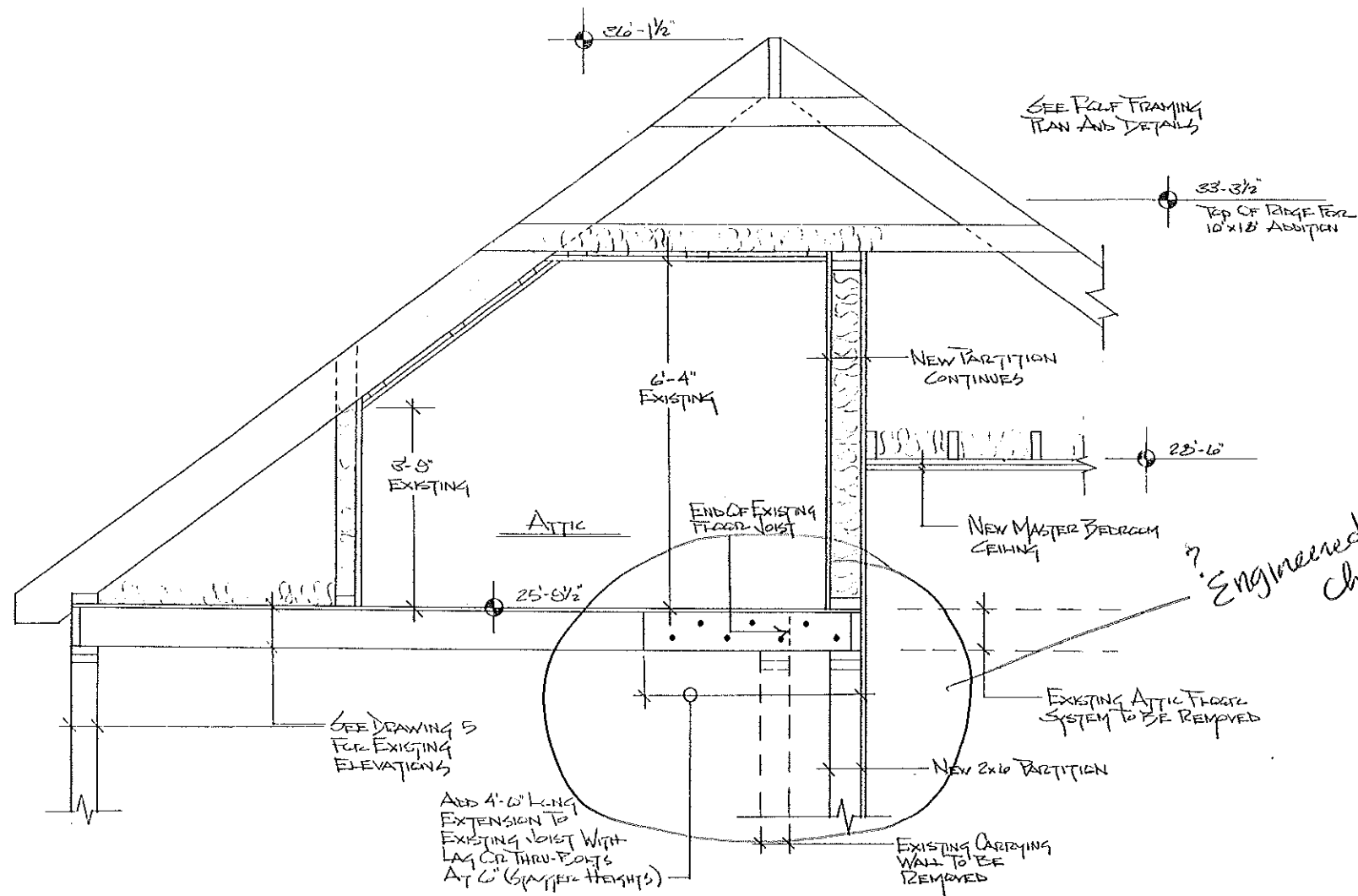
CROSS SECTION
11' x 13' ADDITION
3/4\"/>



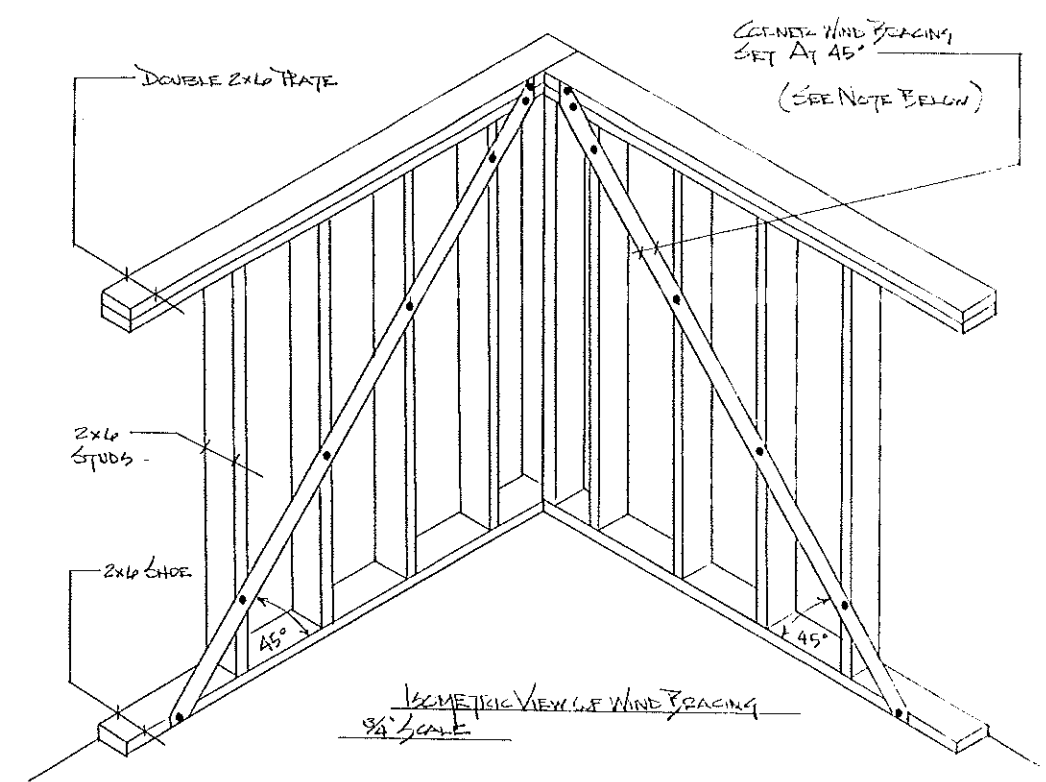
NOTE
STRUCTURAL CONDITIONS VARY FROM
LOCATION TO LOCATION - SEE FRAMING
DRAWINGS FOR MORE EXACT DETAILS.

ACRULY PROJECT
BASE LEVEL TRIMMING AND
SECTIONS AND ROOF SECTION
SCALE AS NOTED

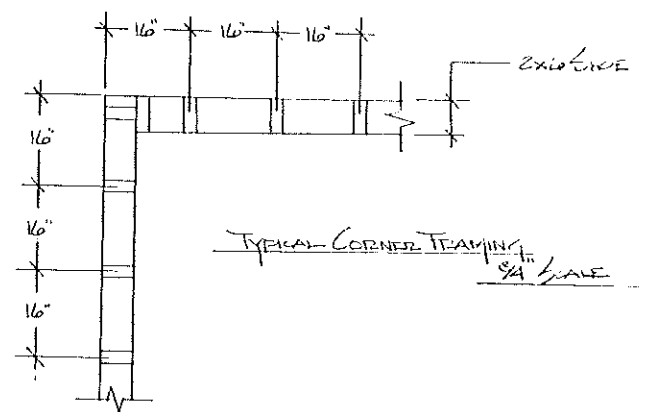
DESIGN GROUP THREE
SOUTH BOSTON, MAINE



? Engineered or changed



ISOMETRIC VIEW OF WIND BRACING
3/4" SCALE



TYPICAL CORNER FRAMING
3/4" SCALE

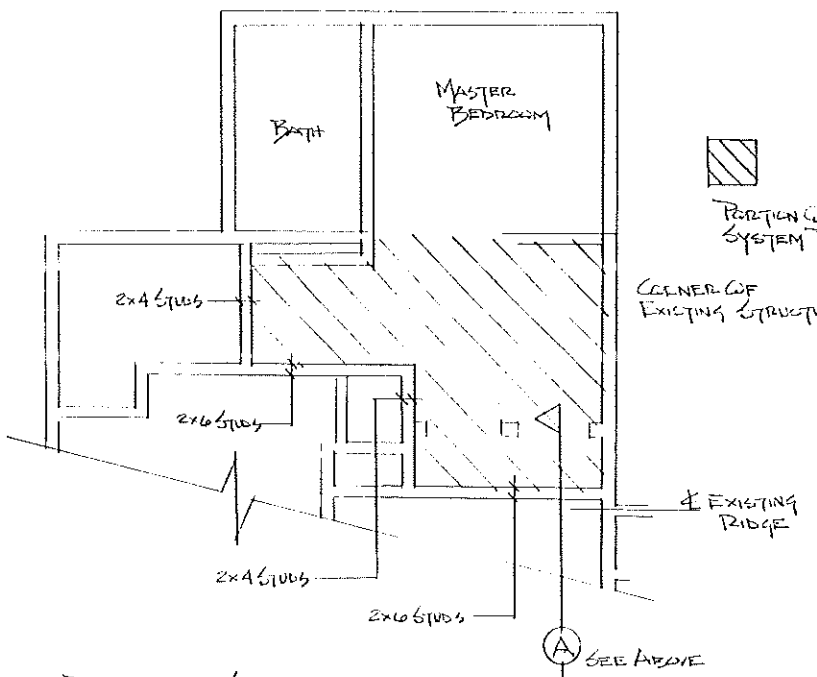
WIND BRACING

Use 16 GA. STEEL STRAP AT 14" WIDE SET AT APPROXIMATELY 45° AS SHOWN ABOVE. FASTEN TO 2x6 SHOE, 2x6 DOUBLE PLATE AND EACH 2x6 WALL STUD. INSTALLATION SHALL BE ON THE INTERIOR OR EXTERIOR FACE OF WALL STUDS - ALTHOUGH EXTERIOR INSTALLATION IS MOST COMMON.

AN ALTERNATIVE METHOD IS TO USE 1x4 STRIPS INSTEAD OF STEEL. IF THIS IS INSTALLED, NAIL EACH STUD, SHOE, AND PLATE FOR A FLUSH FINISH WITH THE FRAMING SYSTEM.

INSTALL AT SECOND LEVEL OF 10x12' ADDITION. EACH EXTERIOR CORNER. THE 1" 8"x12" MEMBER IS NOT PERMITTED.

SECTION A
3/4" SCALE
REVISIONS TO THIRD LEVEL - ATTIC AREA



PARTIAL VIEW
SECOND LEVEL FLOOR PLAN
3/4" SCALE

	ARCHITECT
	ALLIANCE INTERIORS DESIGN
DESIGN GROUP THREE SOUTH PORTLAND, MAINE	
9	

DRAWN BY BILL NILSEN

PARTIAL VIEW OF ELEVATION ④

1/4" SCALE

NOTE "A" 2x6 HORIZONTAL RAIL CAP @ 3'-0" ABOVE DECKING

NOTE "B" 1/4" x 1/4" (MINIMUM) VERTICALS AT 4" E TO E

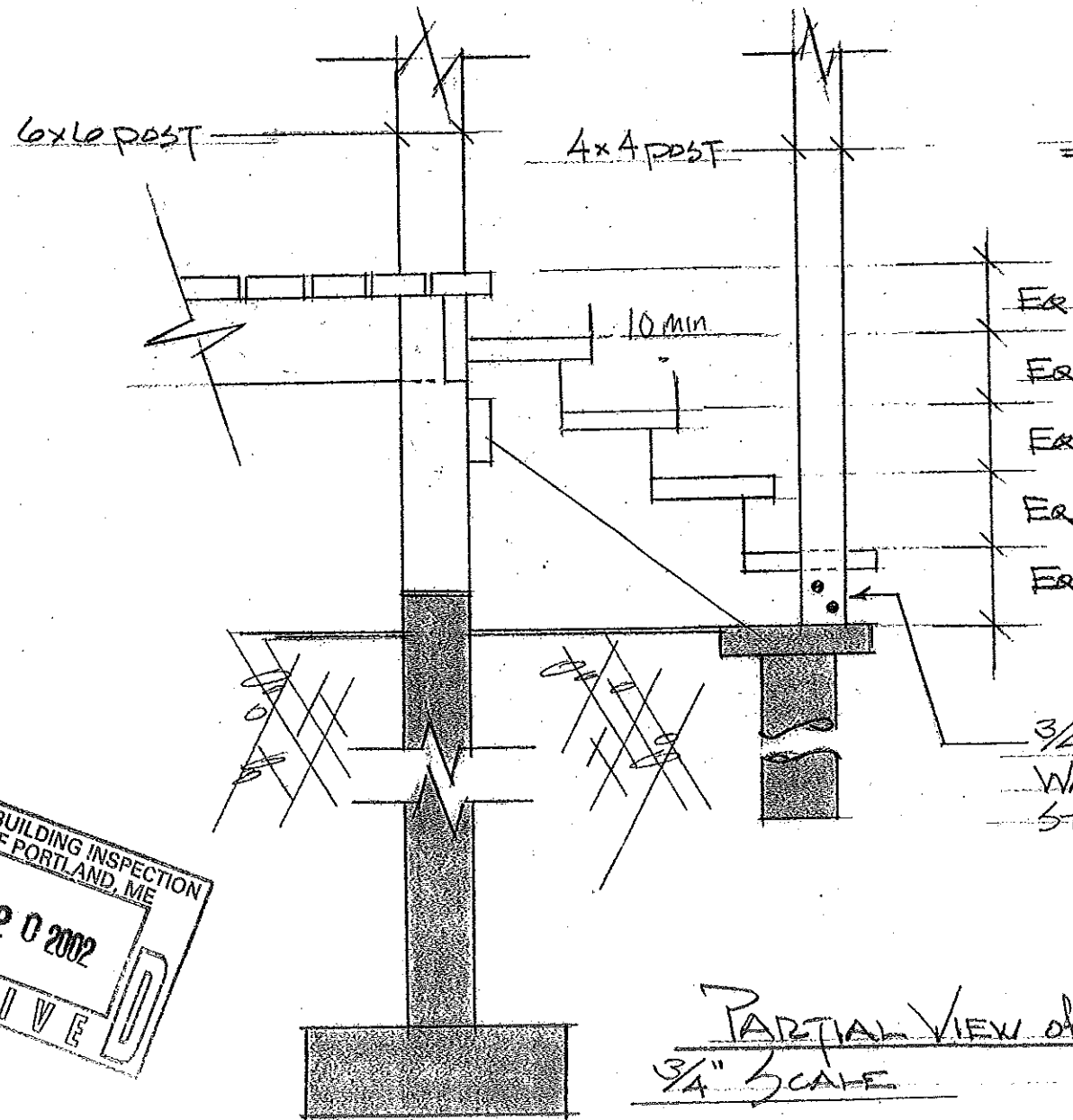
PARTIAL VIEW OF ELEVATION ②

1/4" SCALE

NOTE "C" 2x6 HANDRAILING EACH SIDE OF STAIRWAY - SAME SLOPE AS STRINGERS. MAXIMUM HEIGHT 3'-0" MINIMUM HEIGHT 3'-8" ABOVE TREADS.

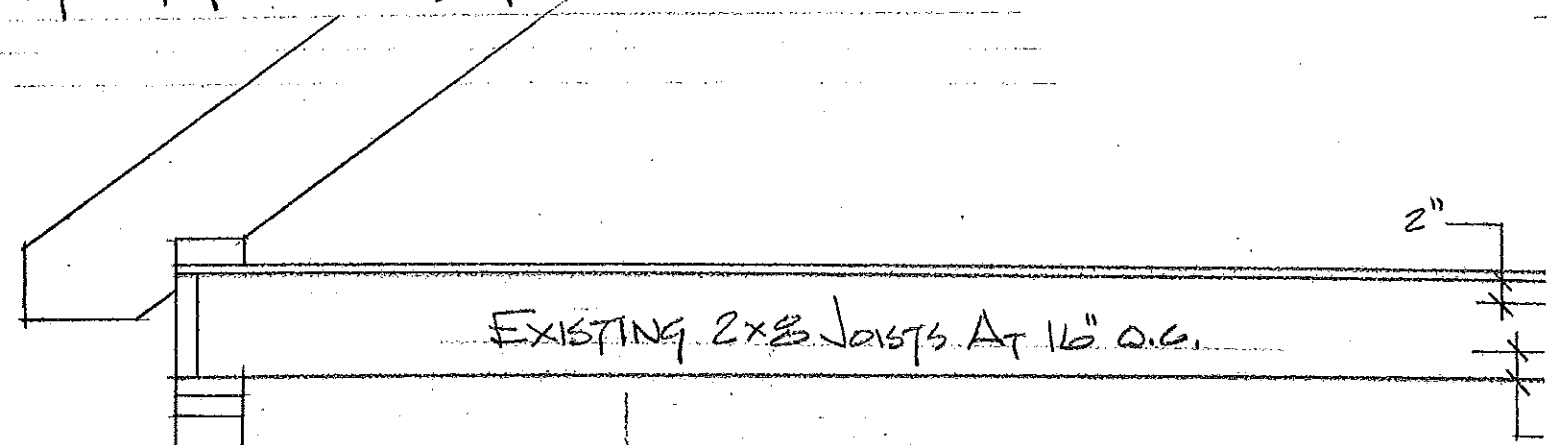
NOTE "D" 2" x 2" VERTICALS

HR = 34" to 38" HT w/ returns



STAIR CONSTRUCTION NOTES:

USE 3-2x10 OR 3-2x12 STRINGERS
 USE 2x12 TREADS
 MAXIMUM RISE 7" BETWEEN TREADS



EXISTING 2x8 JOISTS AT 16" O.C.

3/4" Ø GALV. BOLTS-NUTS-WASHERS 4x4 POST TO STRINGER

ADD 4'-0" LONG EXTENSION TO EACH SIDE OF EXISTING JOIST WITH 5/8" Ø (MINIMUM) THRU-BOLTS AND NUTS AND WASHERS AS SHOWN.

PARTIAL VIEW OF SECTION ⑤

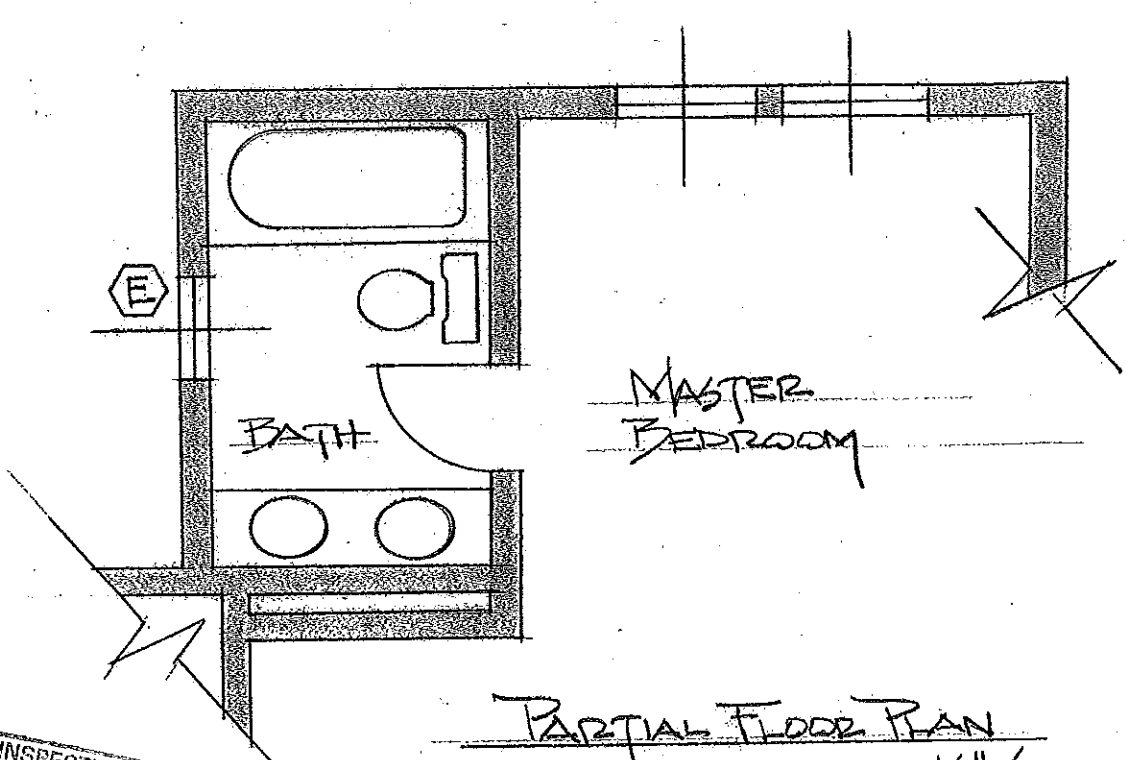
3/4" SCALE

PARTIAL VIEW OF SECTION ①

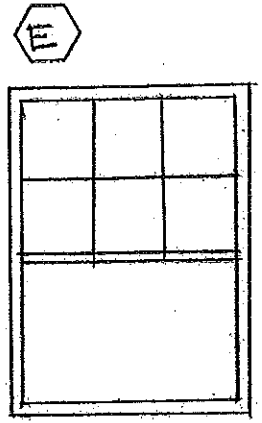
3/4" SCALE



REVISIONS TO DRAWING 3

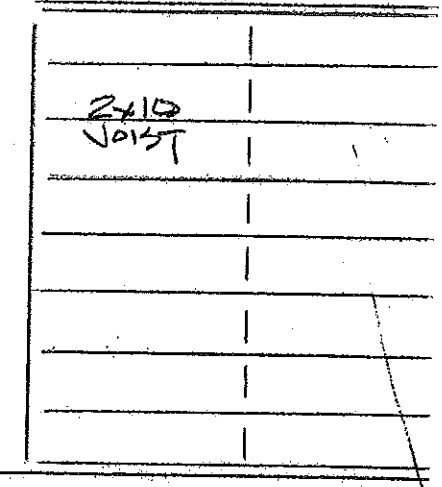


PARTIAL FLOOR PLAN
1/4" SCALE



DOUBLE HUNG
2-5 7/8 x 3-4 7/8
TW-2432
TEMPERED GLASS REQUIRED
WINDOW ELEVATION
NO SCALE

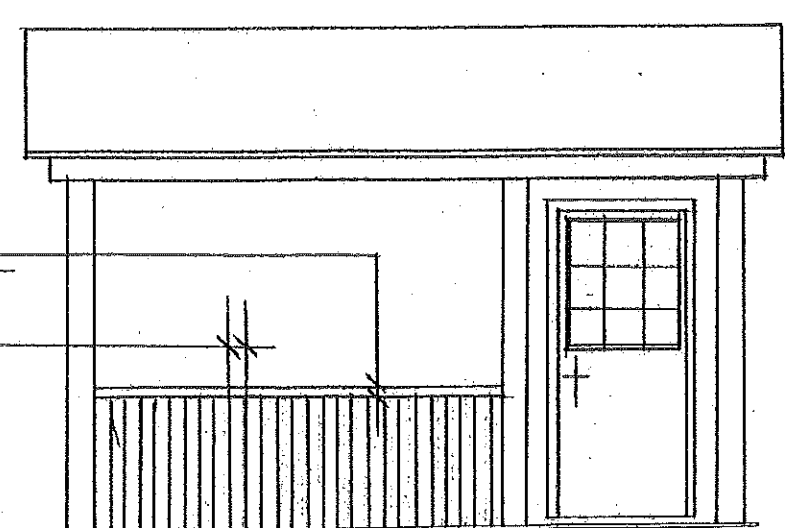
REVISIONS TO D



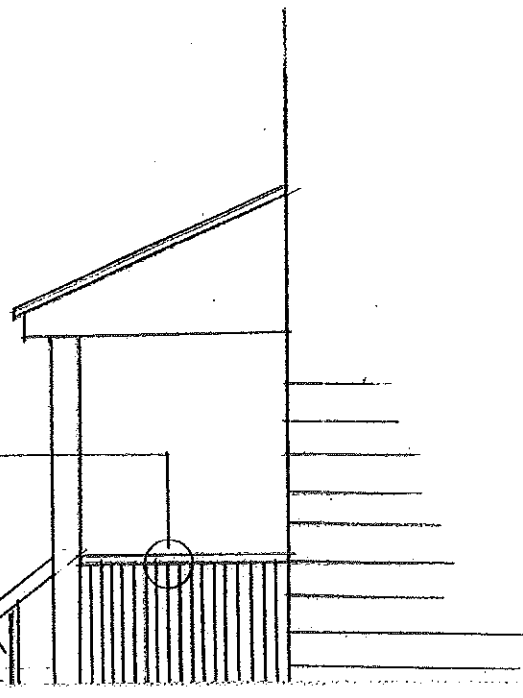
FRAMING AS SHOWN
1/4"



REVISIONS TO DRAWINGS 4 & 6



NOTE "A"
NOTE "B"



SEE NOTES
A & B
NOTE "C"
NOTE "D"

~~2-2x12 BEAM (AS SHOWN)
ASSUME 50 LB/SF FLR
CALCULATE BEAM DEFLECTION~~

~~$$D = \frac{5WL^3}{384EI}$$

$$D = \frac{(5)(4625)(1.2 \times 10^3)^3}{(384)(1.4 \times 10^4)(320)}$$

$$D = .15" (\approx 1/5")$$~~

~~MAXIMUM DEFLECTION
BEAM IS 1/250 = 1/250 = .004"
X = .15" IS WELL WITHIN~~

"A" AND "B" ARE STRONGER

REVISIONS TO DRAWING 9

This Detail Needs a Eng. Stamp! It may not be moved

ASSUME 50lb/SF FLOOR LOADING
CALCULATE EXISTING JOIST DEFLECTION

$$D = \frac{5WL^3}{384EI}$$

$$W = (50)(1.33)(13') = 864.5 \text{ lbs}$$

$$L = 156" (1.56 \times 10^2)$$

$$I = \frac{bh^3}{12} = \frac{(1.5)(7.5)^3}{12} = 52.7$$

$$E = 1.4 \times 10^6$$

$$D = .58" (\approx \frac{1}{2}')$$

$$\frac{1}{250} = \frac{1}{156}$$

$$1 = .62$$

EXISTING JOISTS SUPPORTING 3rd LEVEL ARE STRUCTURALLY SOUND, BUT SHOW SOFTNESS WITH RESPECT TO DEFLECTION

NEW WALL - USE 2x6 STUDS AT 16" O.C.

EXISTING CARRYING WALL TO BE

ASSUME 50lb/SF FLOOR LOADING
CALCULATE DEFLECTION WITH ADDED JOIST EXTENSIONS
(ADD 4' LONG 2x8 EXTENSION ON EACH SIDE OF EXISTING JOIST)

$$D = \frac{5WL^3}{384EI}$$

$$W = (50)(1.33)(14.5) = 964.25 \text{ lbs}$$

$$L = 174" (1.74 \times 10^2)$$

$$I = \left(\frac{bh^3}{12}\right)(.70) + \left(\frac{bh^3}{12}\right)(.30)$$

$$I = \left[\frac{(1.5)(7.5)^3}{12} \times .70\right] + \left[\frac{(4.5)(7.5)^3}{12} \times .30\right]$$

$$I = 36.5 + 47.5$$

$$I = 84.4$$

$$E = 1.4 \times 10^6$$

$$D = .55" (\approx \frac{1}{2}')$$

$$\frac{1}{250} = \frac{1}{174}$$

$$1 = .69$$

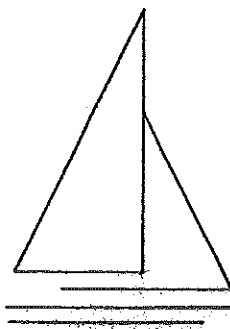
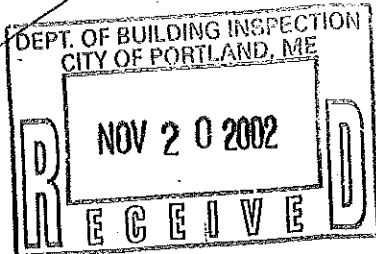
70% SINGLE JOIST
30% JOIST EXTENSION

ADDING 4' LONG 2x8 EXTENSIONS TO EACH SIDE OF EXISTING 2x8 FLOOR JOISTS IS STRUCTURALLY SOUND (DEFLECTION FALLS WITHIN THE 1/250 RATIO) AND WILL RESULT IN A FLOORING SYSTEM THAT IS 19% STIFFER THAN THE EXISTING CONDITIONS.

$$(.58)(1) = .62 \quad (.55)(1) = .69 \quad 1.25 - 1.06 = .19 (19\%)$$

$$1 = 1.06 \quad 1 = 1.25$$

(EXISTING) (NEW)



ASBURY PROJECT

REVISIONS TO DRAWINGS 1 THRU 9

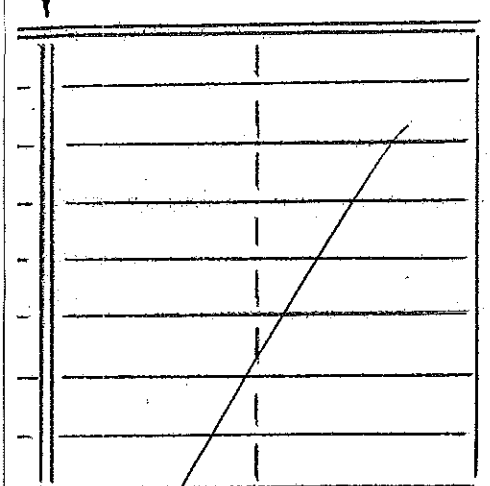
REQUESTED BY CITY OF PORTLAND

SCALE AS NOTED

DESIGN GROUP THREE

AWING L0

DOUBLE 2x12 BEAM



~~MIN SCALE~~

~~DOWN) FOR LOADING DEFLECTION:~~

~~$$W = (50)(10')(9.25')$$

$$= 4625 \text{ lbs}$$

$$L = 120" (1.2 \times 10^3)$$

$$E = 1.4 \times 10^6$$

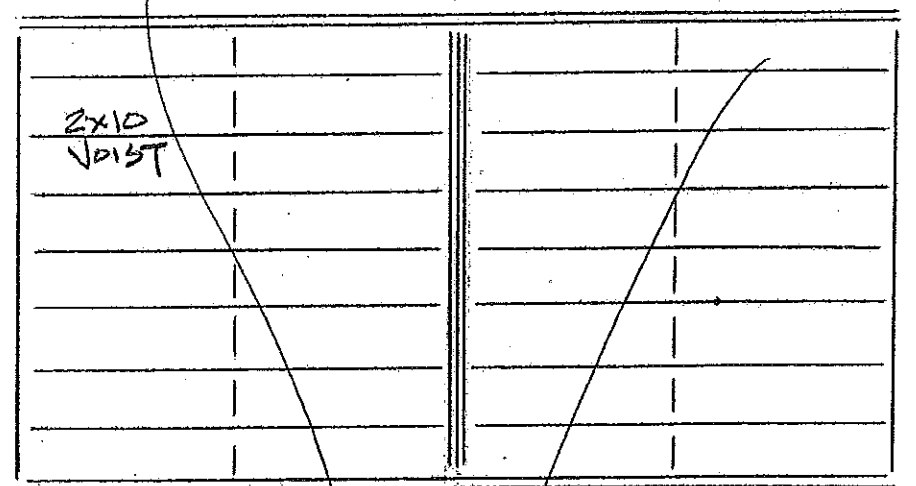
$$I = \frac{bh^3}{12}$$

$$= \frac{(3)(11.5)^3}{12}$$

$$= 380$$~~

~~LENGTH RATIO FOR A
 $\frac{7}{120}$
 $188" (\approx 1/2")$
 THIS RATIO FOR SAFETY~~

TRIPLE 2x12 BEAM



REVISED FRAMING OPTION "A"
1/4" SCALE

3-2x12 BEAM (REVISION)
ASSUME 50 lb/SF FLOOR LOADING
CALCULATE BEAM DEFLECTION:

$$D = \frac{5WL^3}{384EI}$$

$$W = (50)(10')(9.25')$$

$$= 4625$$

$$L = 120" (1.2 \times 10^3)$$

$$E = 1.4 \times 10^6$$

$$I = \frac{bh^3}{12}$$

$$= \frac{(4.5)(11.5)^3}{12}$$

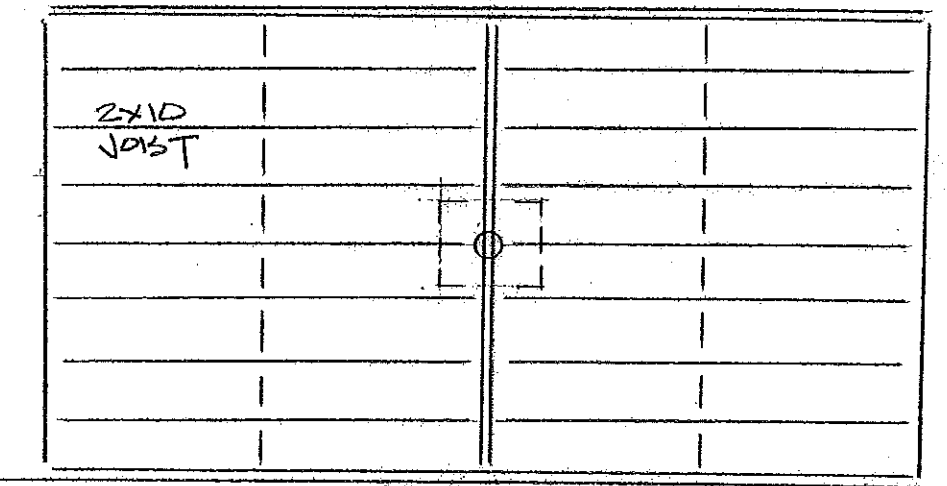
$$= 570$$

COMPARE $D = .19" \text{ vs } D = .12" : \frac{.19}{100\%} = \frac{.12}{x\%}$
 $x = 63\%$

THIS OPTION WILL REDUCE BEAM DEFLECTION BY 63%

This is the Plan

DOUBLE 2x12 BEAM WITH 2'-0" x 2'-0" x 10" DEEP FOOTING AND 4 1/2" Ø LALLY COLUMN SUPPORT AT MID-SPAN.



REVISED FRAMING OPTION "B"
1/4" SCALE

2-2x12 BEAM WITH MID-SPAN SUPPORT (REVISION)
ASSUME 50 lb/SF FLOOR LOADING
CALCULATE BEAM DEFLECTION:

$$D = \frac{5WL^3}{384EI}$$

$$W = (50)(5')(9.25')$$

$$= 2312.5$$

$$L = 60" (.6 \times 10^3)$$

$$E = 1.4 \times 10^6$$

$$I = \frac{bh^3}{12}$$

$$= \frac{(3)(11.5)^3}{12}$$

$$= 380$$

THIS OPTION WILL VIRTUALLY ELIMINATE ANY BEAM DEFLECTION

OVERALL RESULT: DOUBLE 2x12 BEAM AS SHOWN IS A STRUCTURALLY SOUND CHOICE BUT OPTIONS

