



4535 Lakeshore Place
Arden Hills, MN 5512-1925

X LL

X ML

GENERAL NOTES

All dimensions are to framing

SIP's structure

CF foundation walls

Full basement: Future finished

Shutters: By owner

	Roof overhang 1'
--	------------------

6" Facia boards

Note: These drawings are not considered as approved for construction until accompanied by the SIP and truss manufacture shop drawings as supporting documents.

[illegible]

ORIENTATION

	STAMP
--	-------

ALL DRAWINGS ARE THE PROPERTY OF THE DESIGNER
AND THEY ARE NOT TO BE REPRODUCED IN WHOLE OR IN
PART WITHOUT THE WRITTEN CONSENT OF THE DESIGNER

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS
BEFORE COMMENCING WORK AND TO REPORT ANY
DISCREPANCIES TO THE DESIGNER

BROADVIEW BUILDERS, INC.

651-248-3522
broadviewbuilders.com

PROJECT NAME:

Loosbrock

CLIENT:

NAME: Mike and Lacy

DRAWING:

Cover

SCALE: N/A

DATE: 5/31/2018

DRAWN BY:

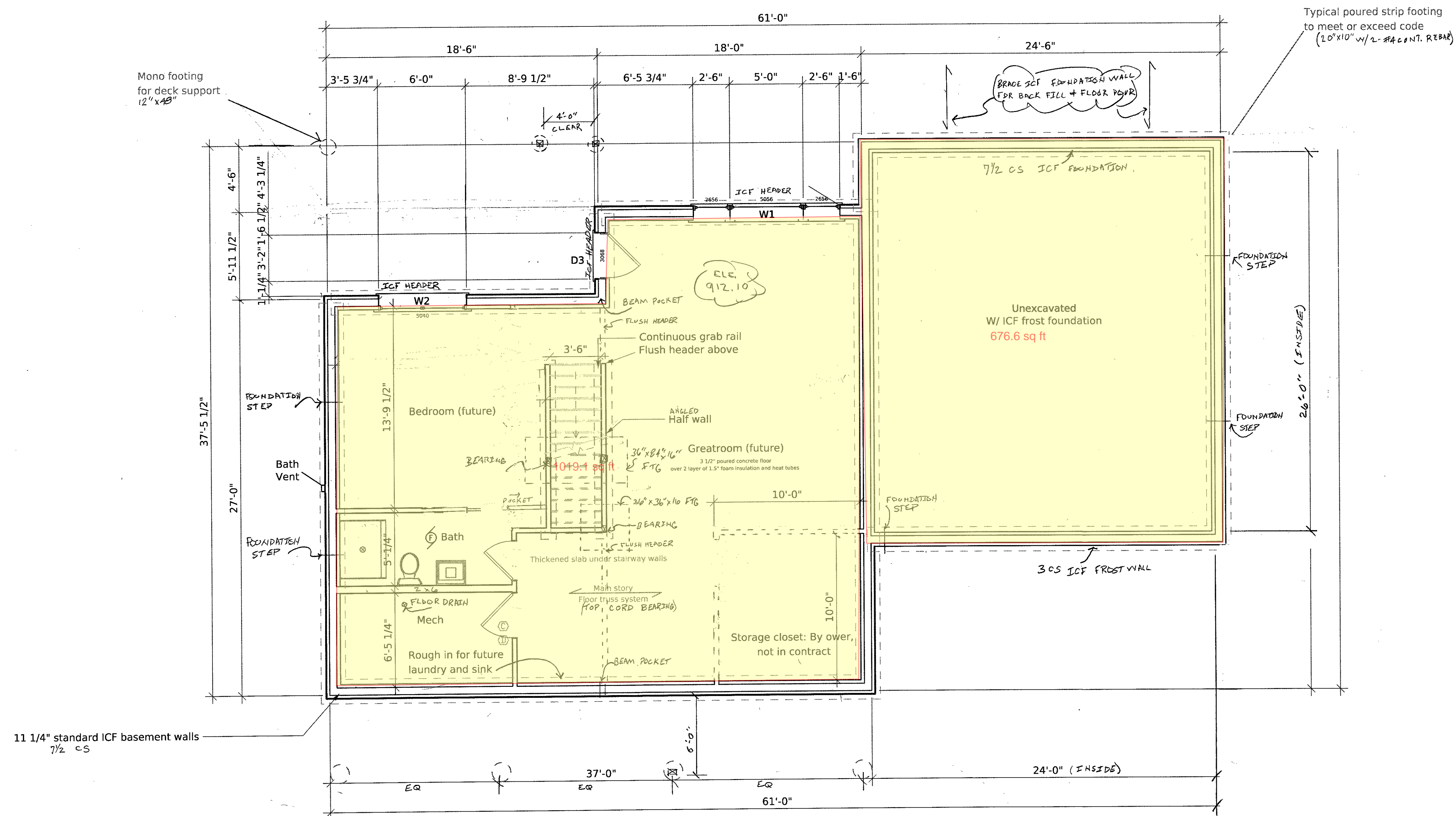
BY: EMD

CHECKED BY:

APPROVED BY

SHEET:

A.C.
OFF



X LL
X ML

GENERAL NOTES

8' ceiling
Walkout basement door
Landscaping block to be designed

Note: These drawings are not considered as approved for construction until accompanied by the SIP and truss manufacture shop drawings as supporting documents.

No.	REVISION/ISSUE	DATE

ORIENTATION	STAMP

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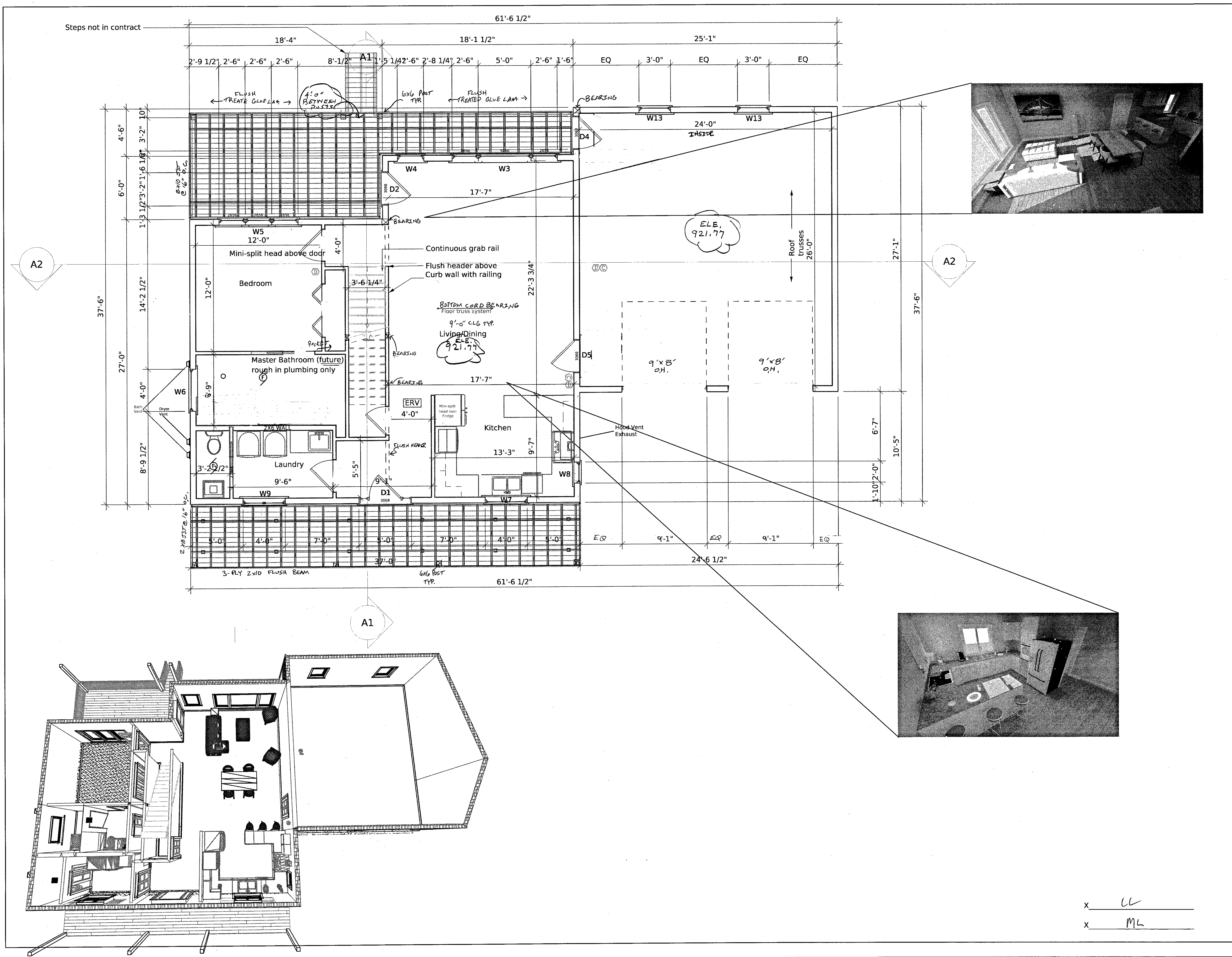
BROADVIEW BUILDERS, INC.
651-248-3522
broadviewbuilders.com

PROJECT NAME:
Loosbrock Home

CLIENT:
Mike and Lacy

DRAWING:
Basement
SCALE: 1/4" = 1' DATE: 5/31/2018

DRAWN BY: EMD
CHECKED BY:
APPROVED BY:
SHEET:
A.1
0811



GENERAL NOTES

9' Ceilings

Side walls: 6" SIP's

20" floor truss

Stairs: Rise and run per local code

2X6 wall between laundry and M Bath

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PROJECT NAME:

Loosbrock Home

CLIENT:

Mike and Lacy

DRAWING:

Main Floor

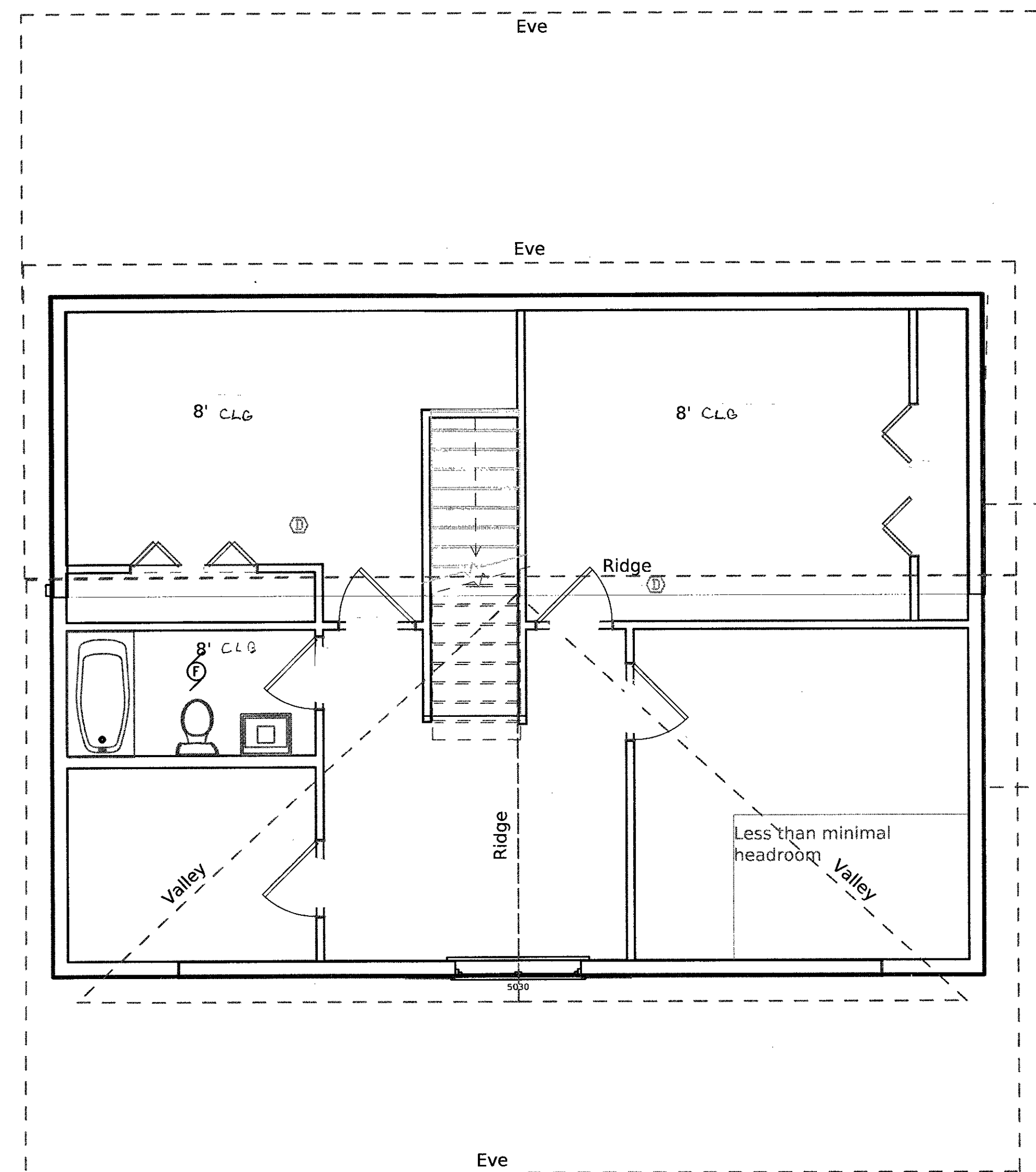
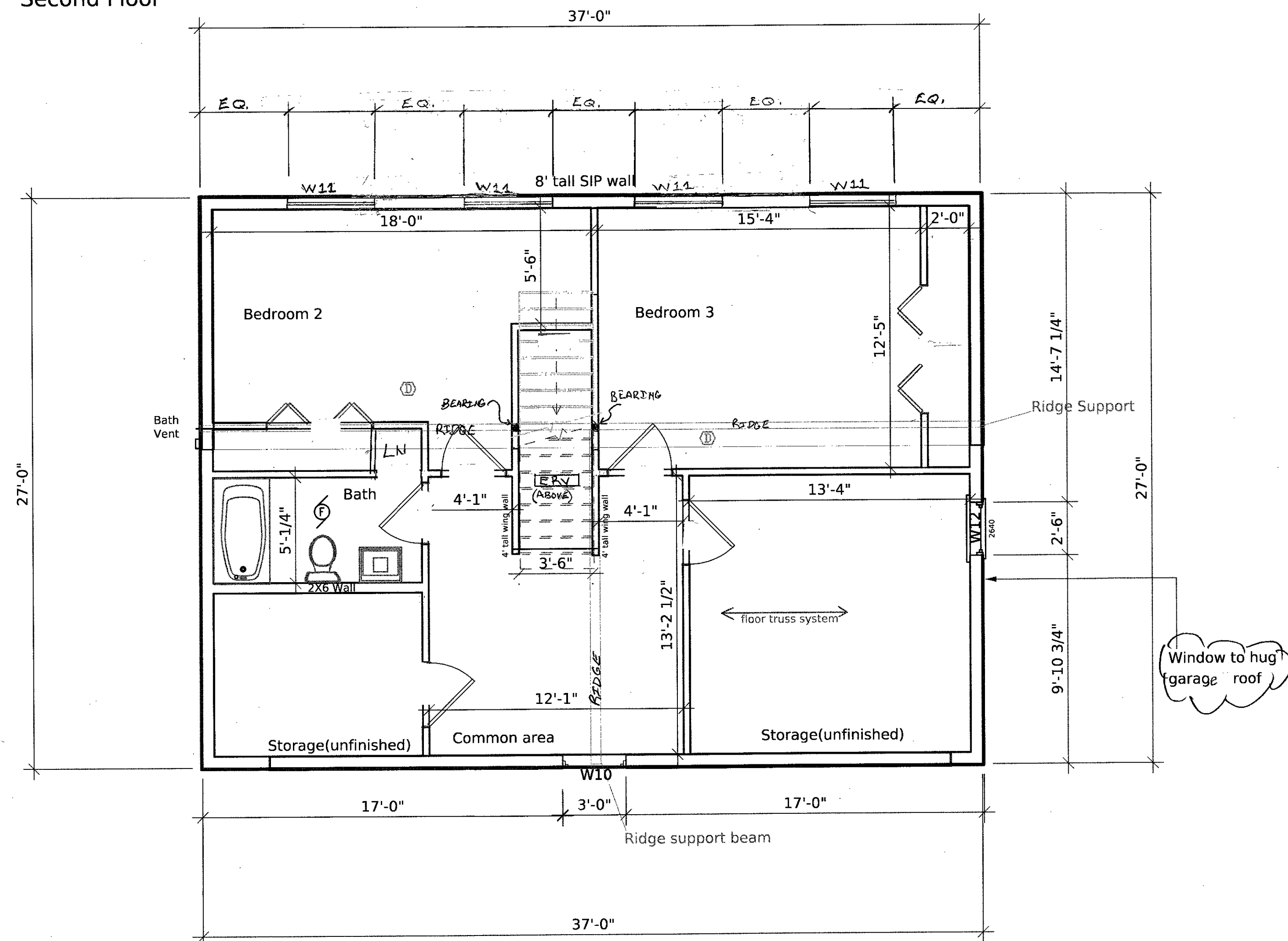
SCALE: 1/4" = 1' DATE: 5/31/2018

DRAWN BY:	EMD	SHEET:
CHECKED BY:		A.2
APPROVED BY:		

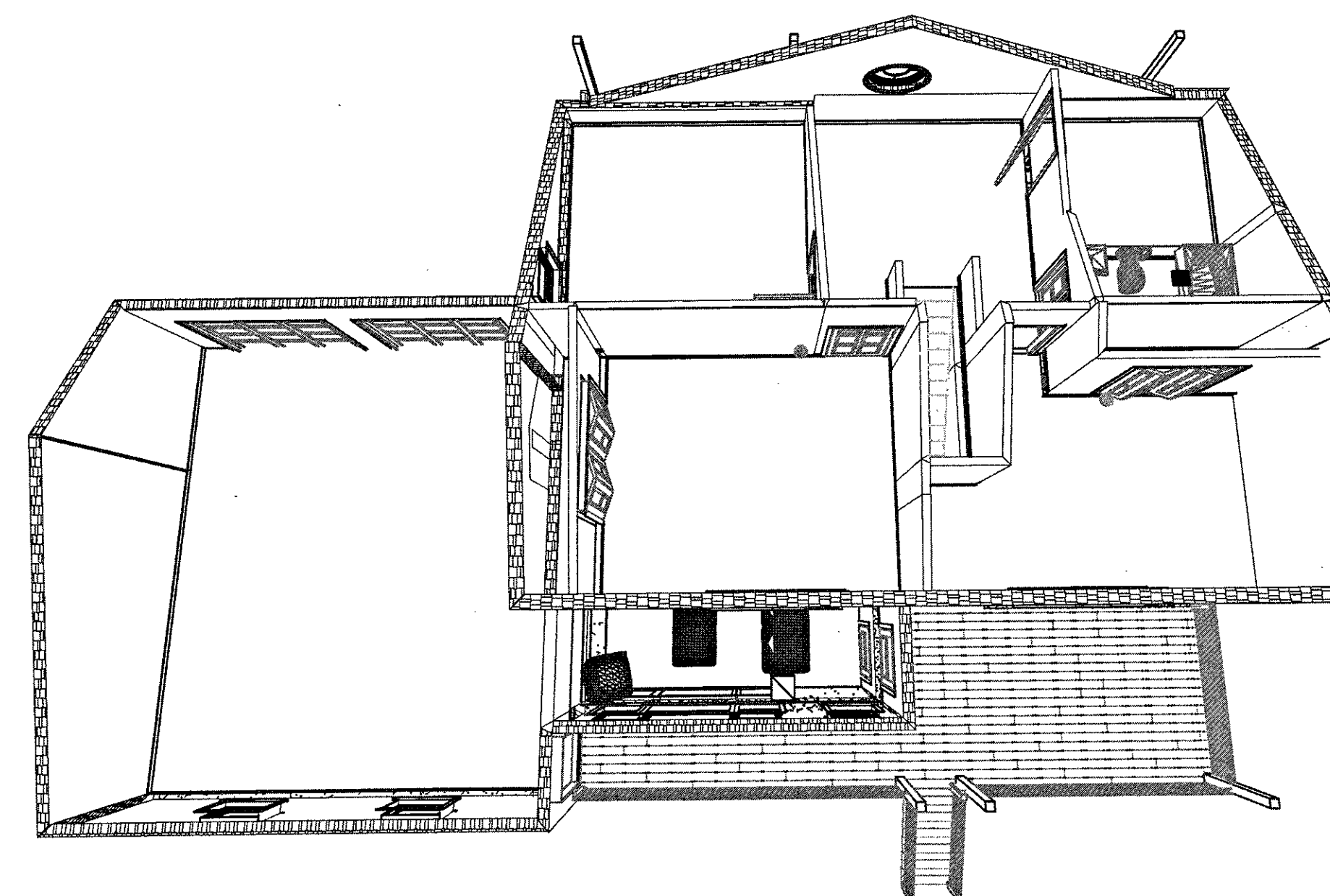
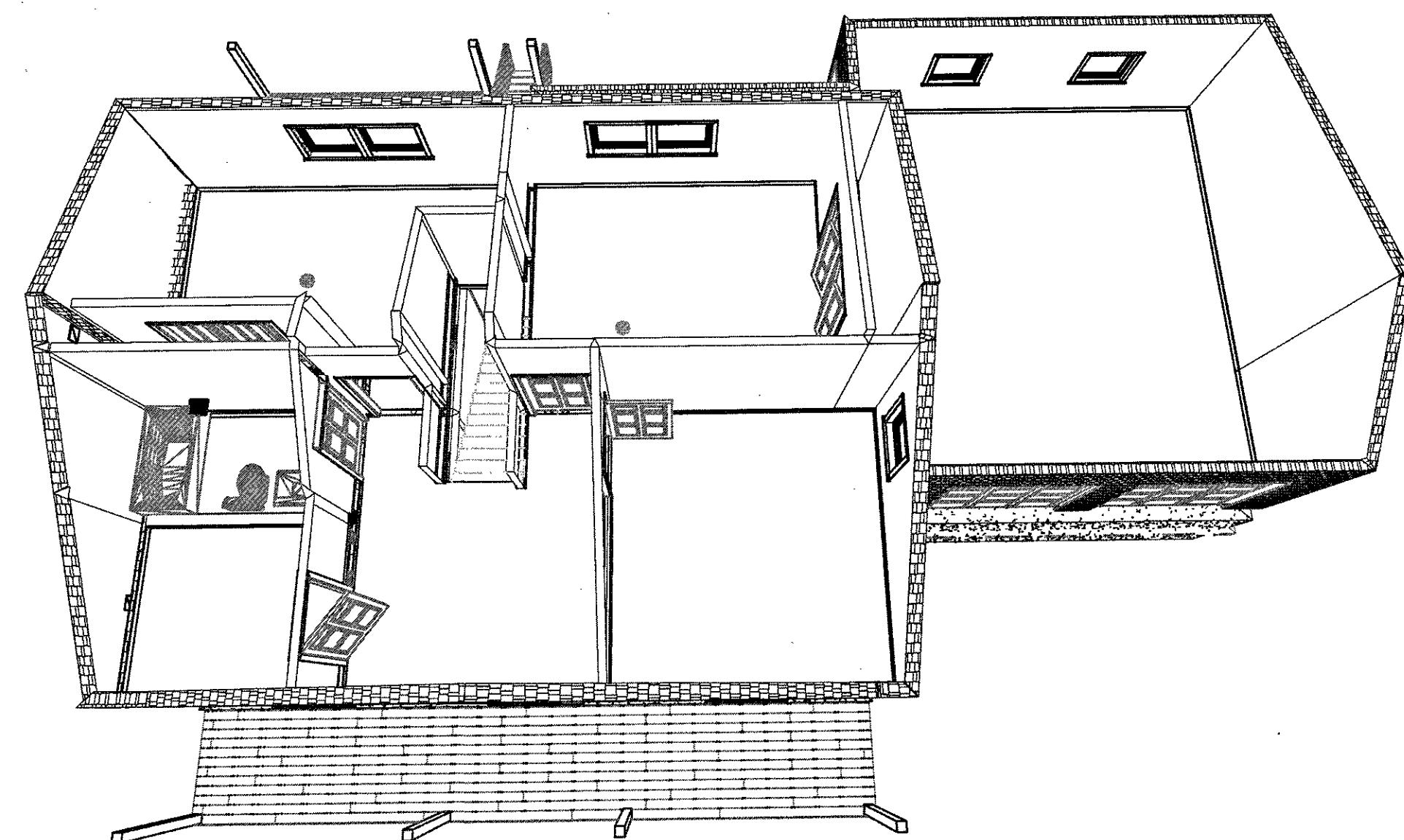
x CL

x ML

Second Floor



Reflective Ceiling Plan



X LL
X ML

GENERAL NOTES

Exterior wall heights determined by SIP roof with the exception of the 8' foot high common wall of bedrooms

8' framed ceiling in bedrooms and bathroom only

Ceiling vaulted to SIP's roof in common area and storage rooms

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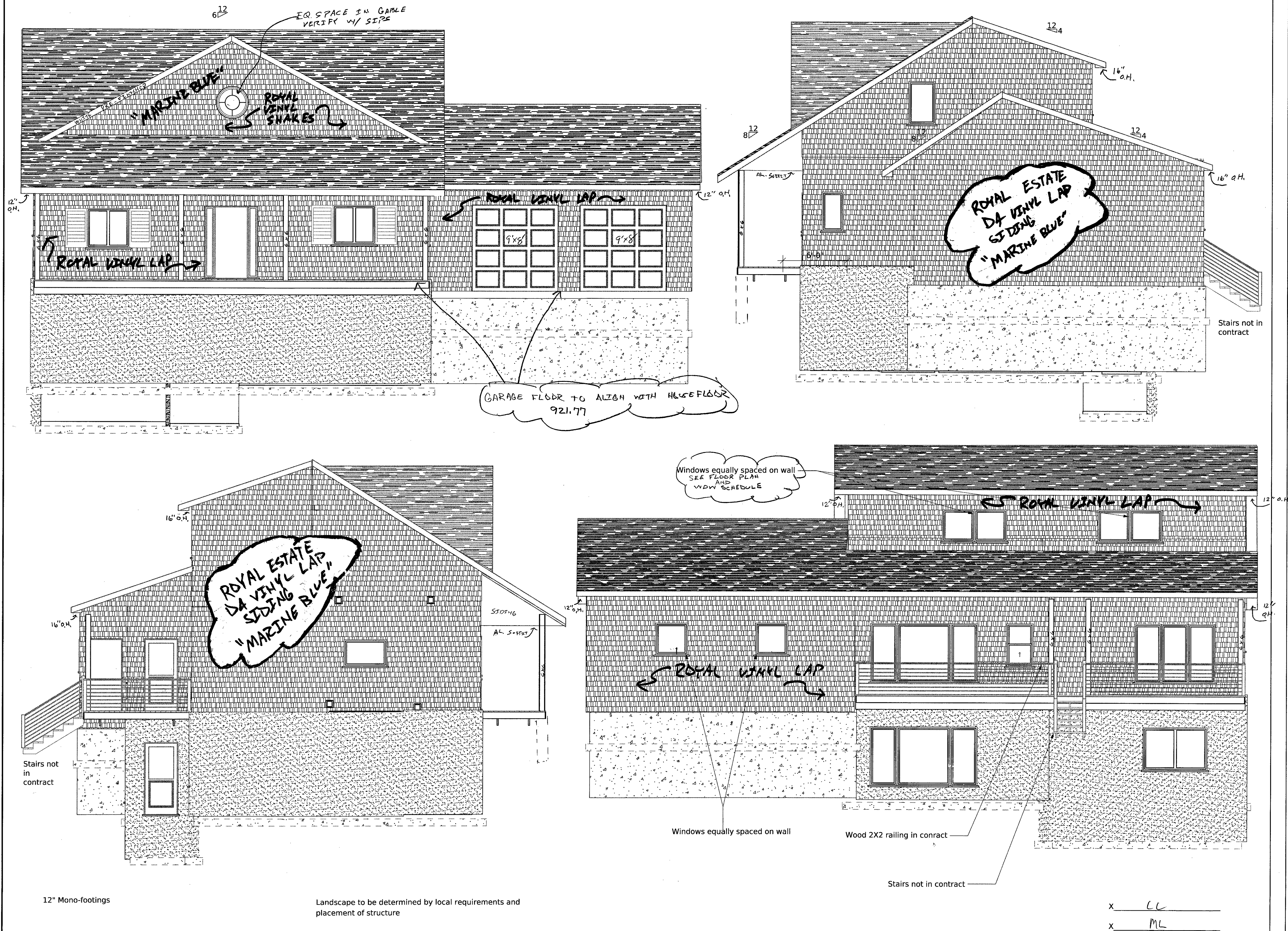
PROJECT NAME:
Loosbrock Home

CLIENT:
Mike and Lacy

DRAWING:
Second Floor

SCALE: 1/4" = 1' DATE: 5/31/2018

DRAWN BY: EMD
CHECKED BY:
APPROVED BY:
SHEET:
A.3
of 11



GENERAL NOTES

12" SIP roof system on house
Typical truss roof system on garage

Typical 1' overhang with 6" fascia

ICF foundation walls on house

Typical poured footings per local code

Main floor level deck on front and back

Post and mono footing support for decks (not shown here)

Landscape to be designed in accord to local requirments and location of structure

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No.	REVISION/ISSUE	DATE

ORIENTATION

STAMP

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PROJECT NAME:

Loosbrock Home

CLIENT:

Mike and Lacy

DRAWING:

Elevations

SCALE: N/A

DATE: 5/31/2018

DRAWN BY:

EMD

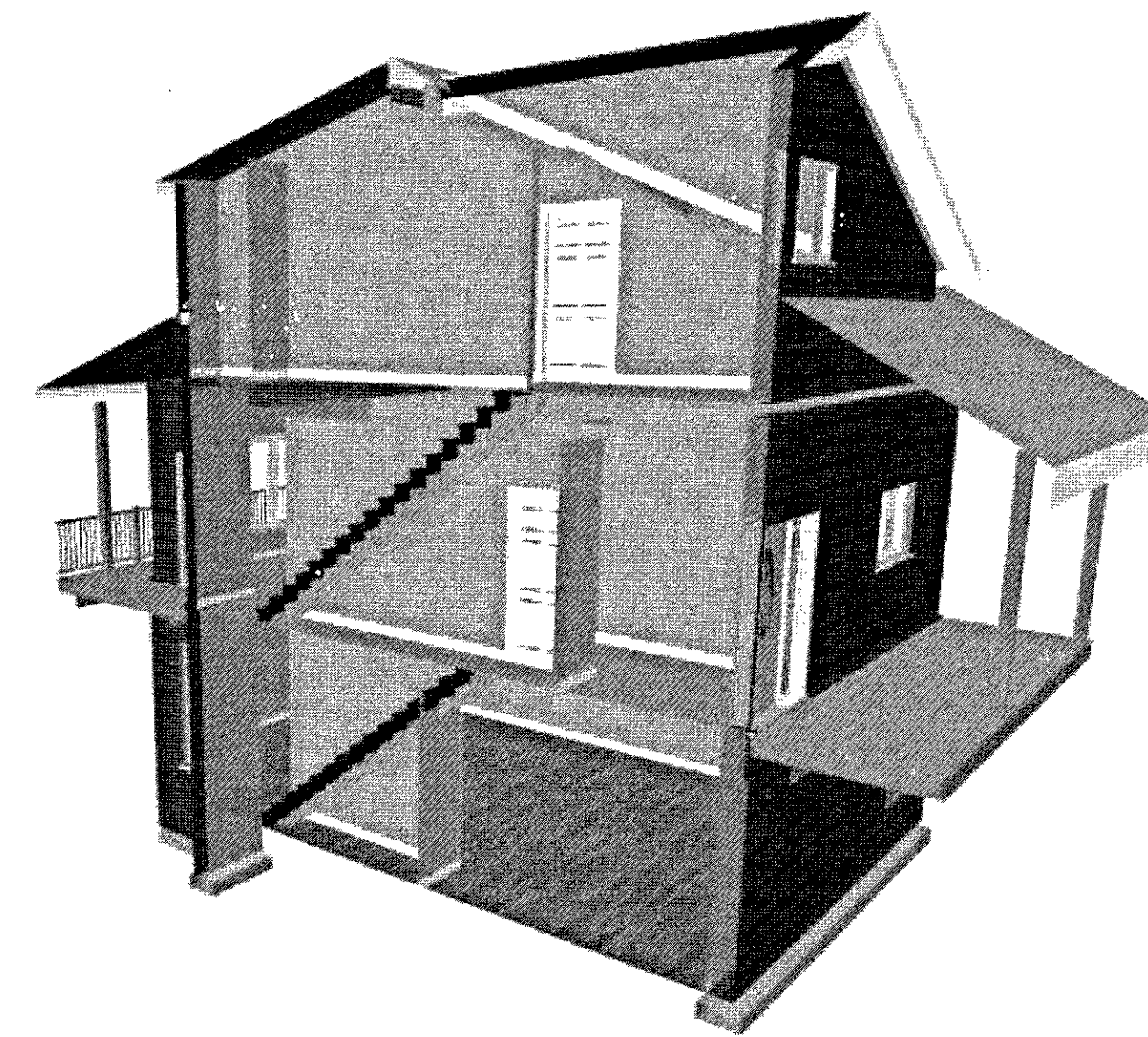
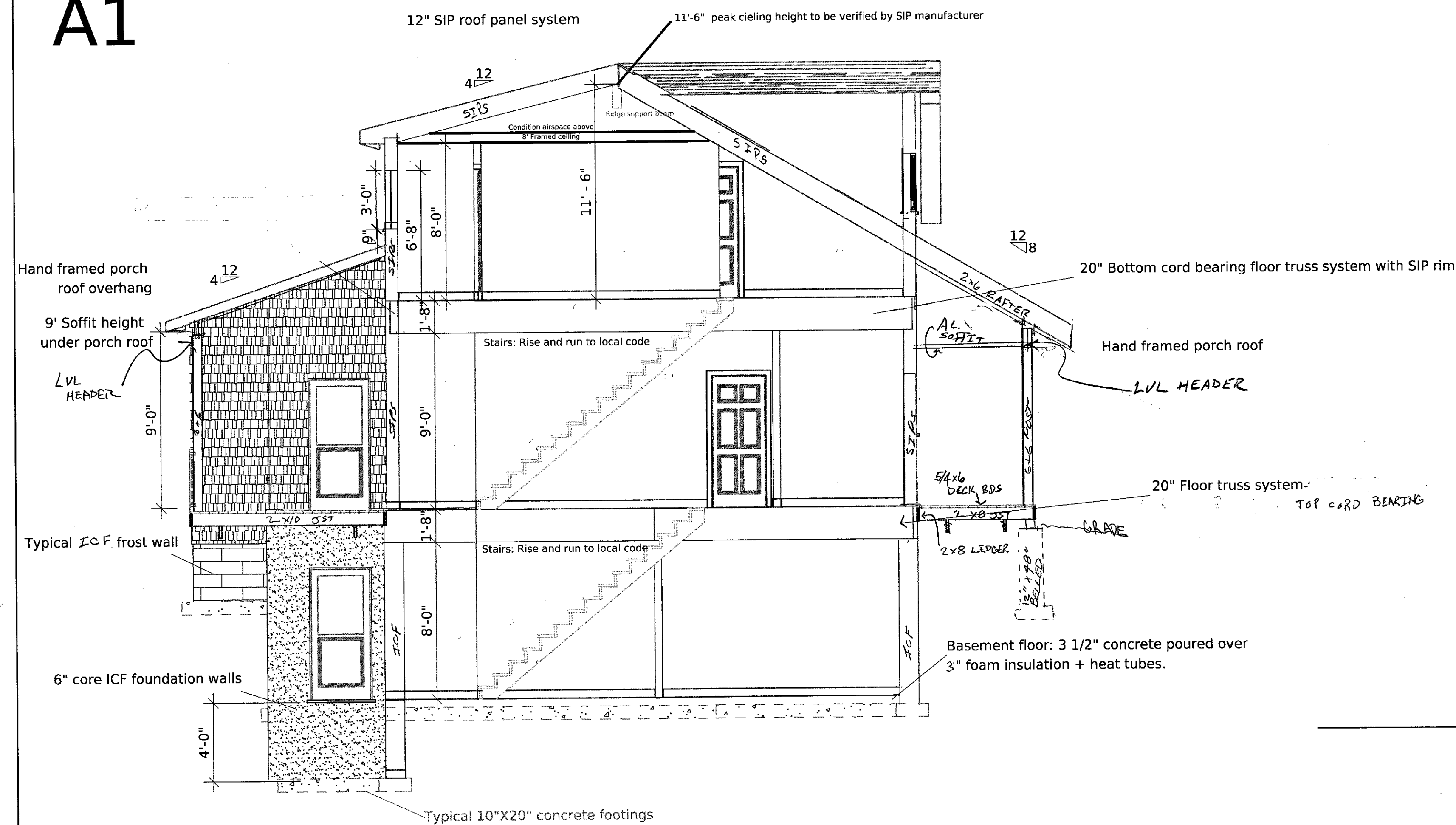
CHECKED BY:

APPROVED BY:

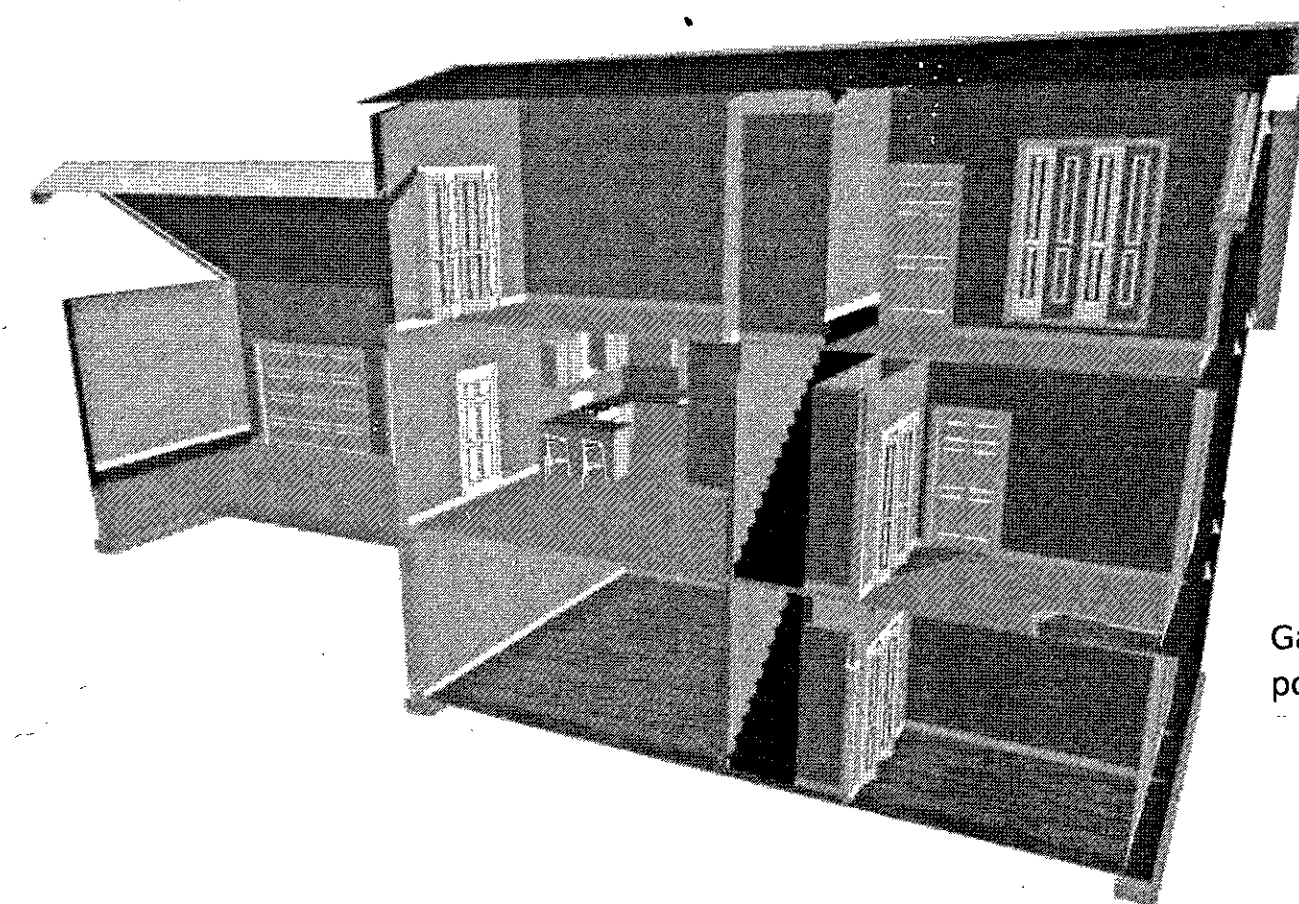
SHEET:

A.4
of 11

A1



A2



Garage floor: 3 1/2" concrete floor poured over 3" foam insulation heat tubes

Standard typical truss roof over garage



X CL

X ML

GENERAL NOTES

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ORIENTATION	STAMP

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BROADVIEW BUILDERS, INC.

651-248-3522
broadviewbuilders.com

PROJECT NAME:

Loosbrock Home

CLIENT:

Mike and Lacy

DRAWING:

Sections

SCALE: N/A

DATE: 5/31/2018

DRAWN BY:

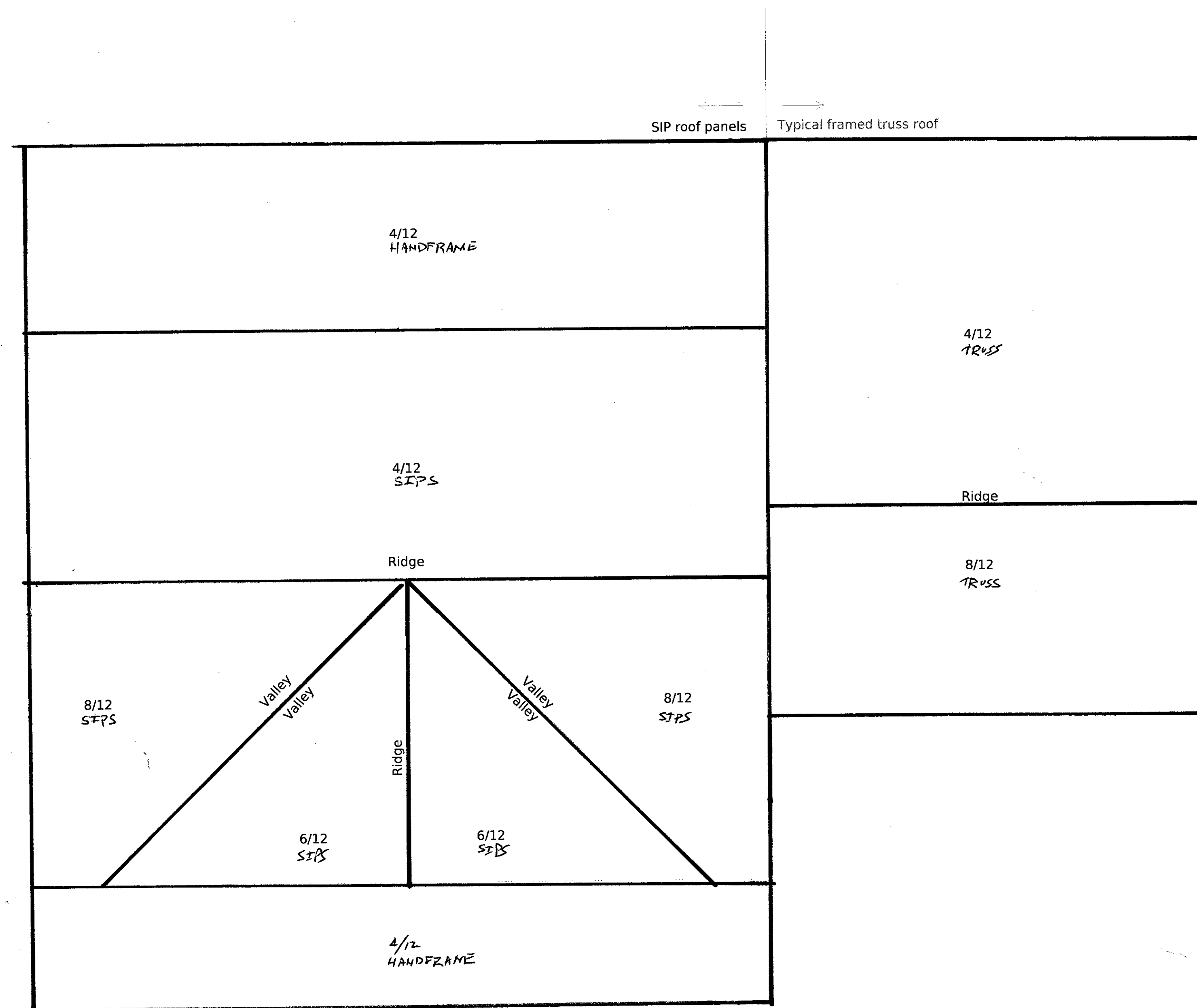
EMD

CHECKED BY:

APPROVED BY:

SHEET:

A.5
of 11



x CL

x ML

GENERAL NOTES

Typical 12" over hang

SIP Roof system to be engineered
over house
Truss roof system to be engineered
over garage

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BUILDERS, INC.**

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PROJECT NAME:

Loosbrock Home

CLIENT:

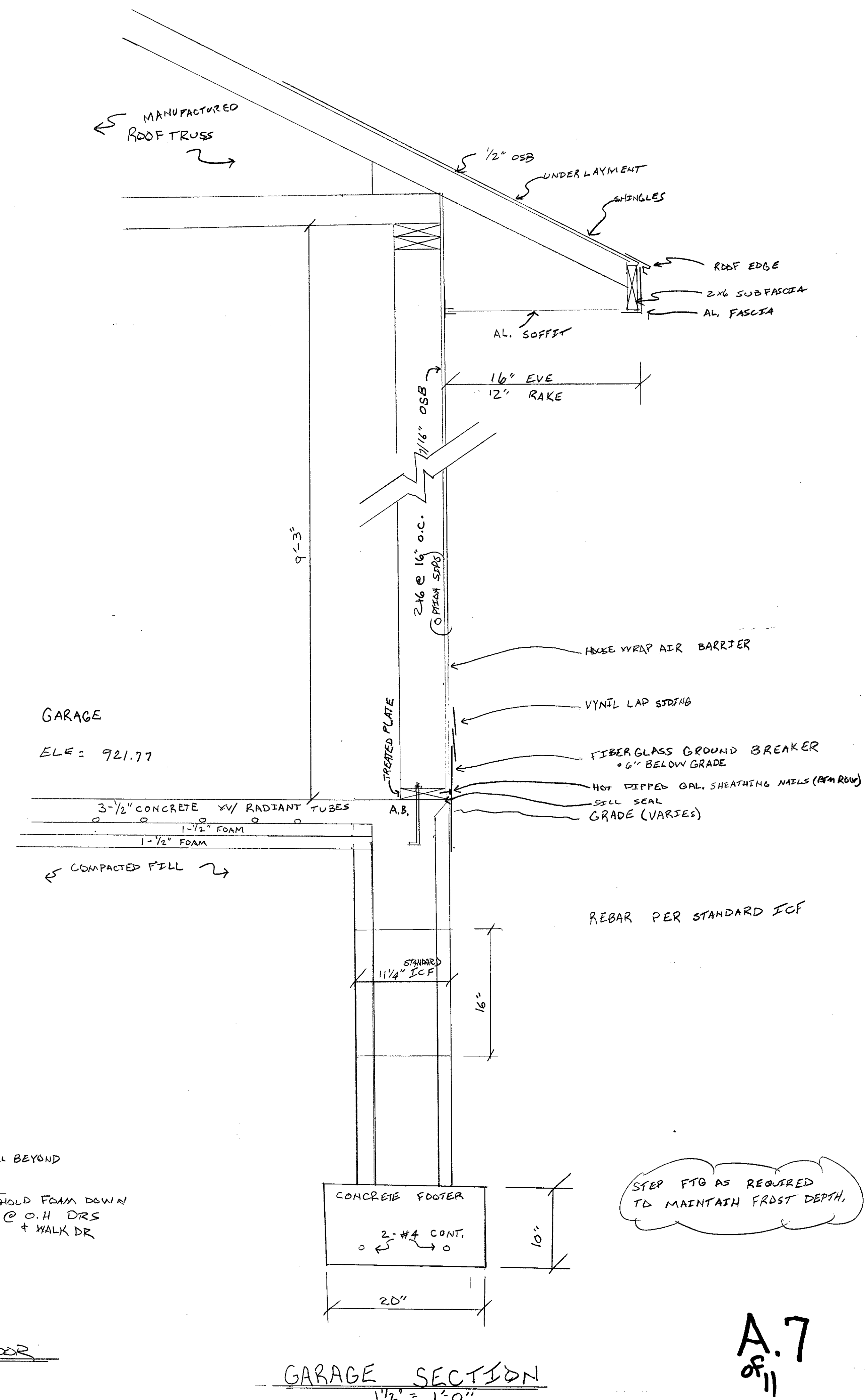
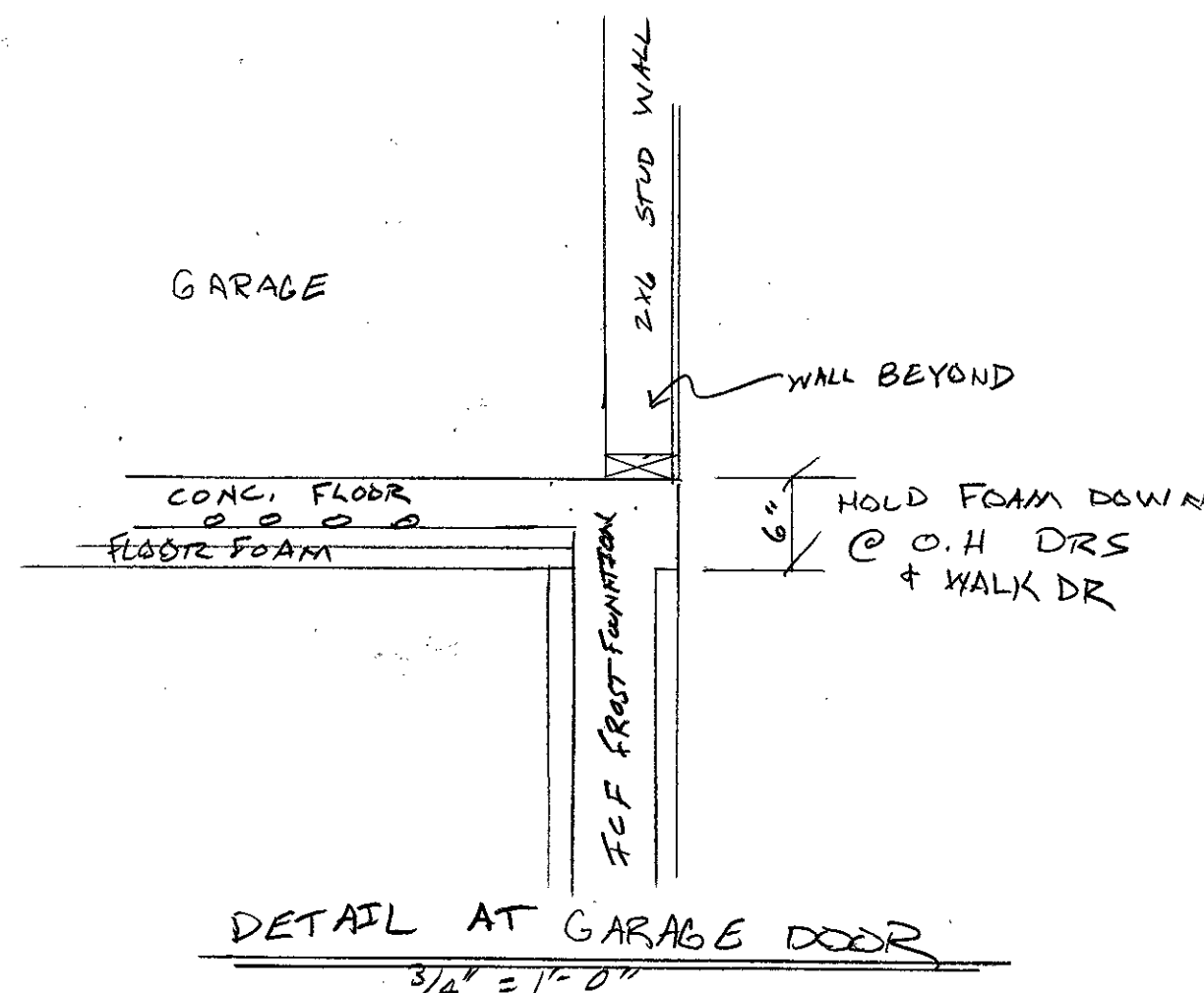
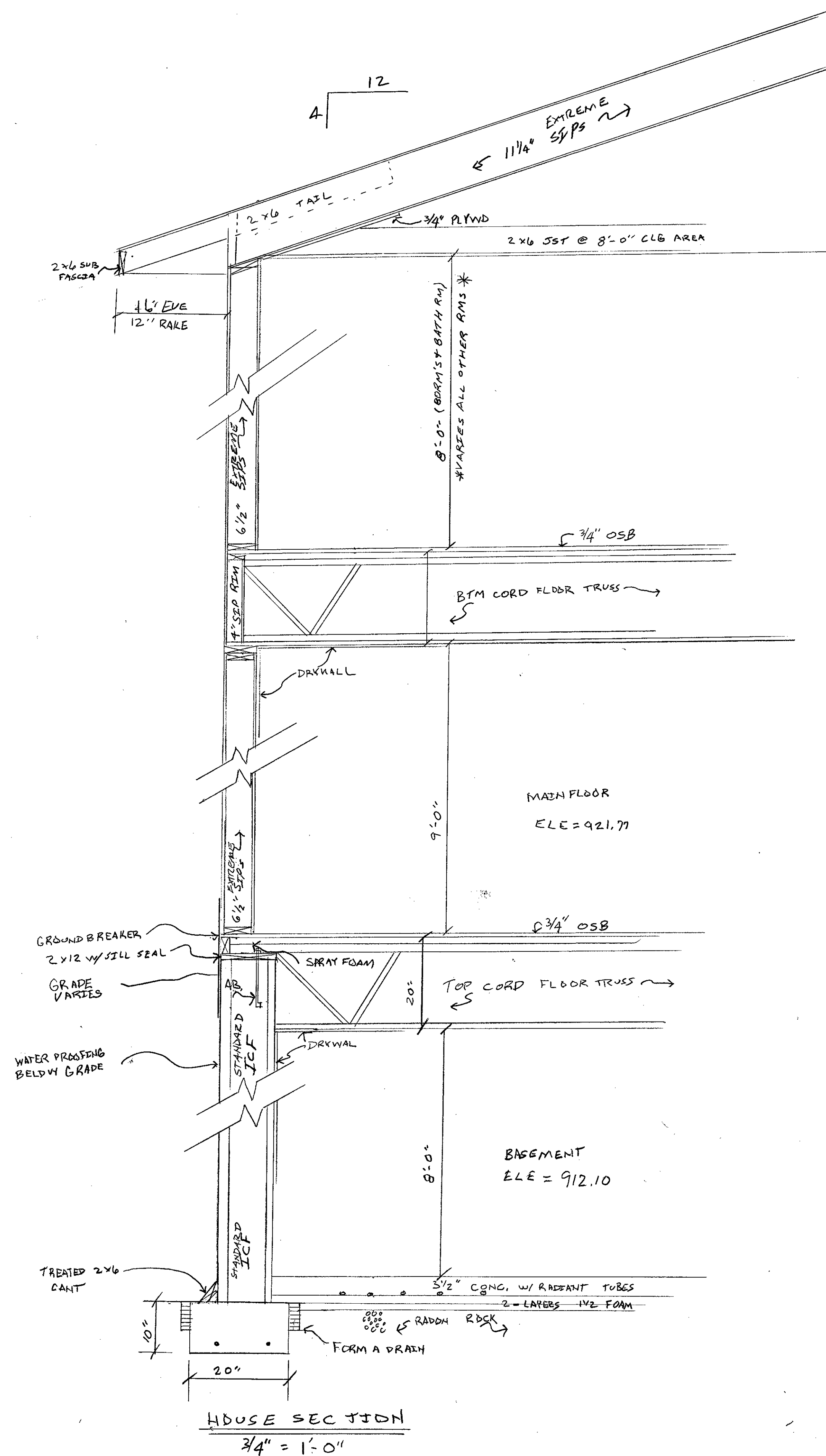
Mike and Lacy

DRAWING:

Roof Layout

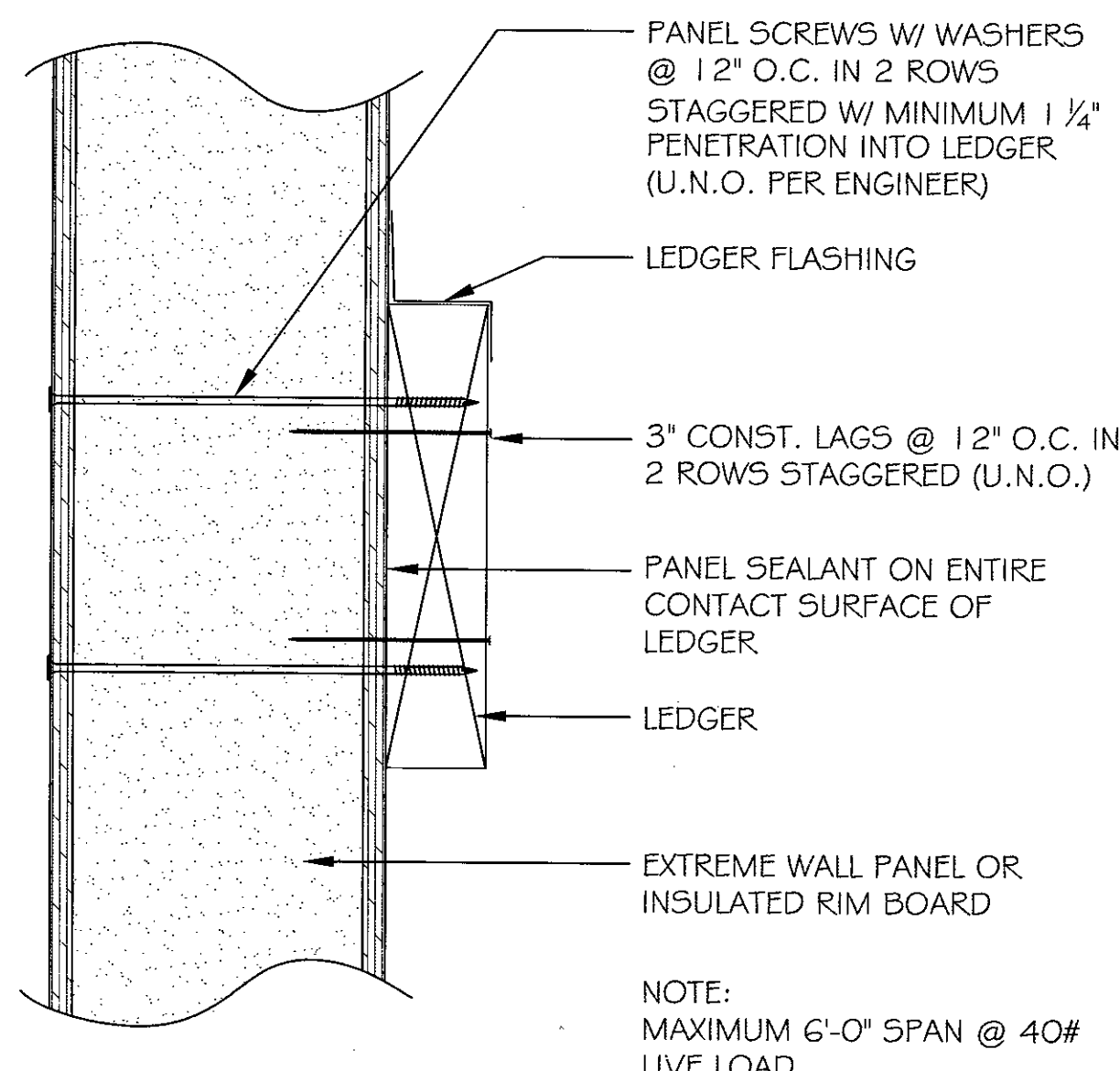
SCALE: N/A DATE: 5/31/2018

DRAWN BY:	E M D	SHEET:
CHECKED BY:		A.6 8/11
APPROVED BY:		



STEP FTG AS REQUIRED TO MAINTAIN FROST DEPTH.

INSTALLATION SEQUENCE:
TO ATTACH LEDGER TO WALL PANELS USE PANEL SEALANT
SPREAD EVENLY ON ENTIRE CONTACT SURFACE AND 3" CONST.
LAGS SPACED @ 12" O.C. IN 2 ROWS STAGGERED (U.N.O.) --
THEN USE PANEL SCREWS W/ WASHERS FROM OTHER SIDE OF
WALL @ 12" O.C. IN 2 ROWS STAGGERED (U.N.O.)



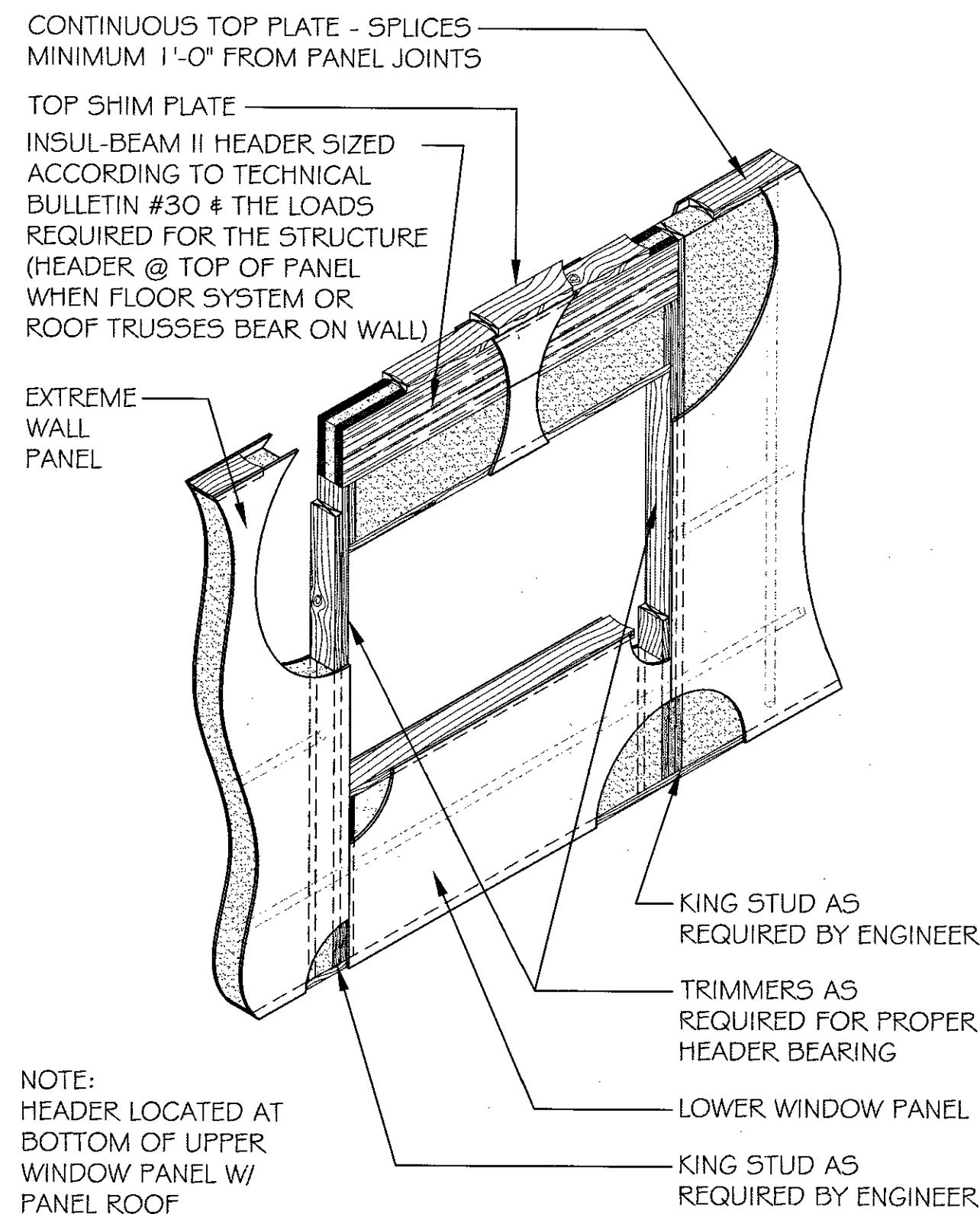
NOTE:
MAXIMUM 6'-0" SPAN @ 40#
LIVE LOAD.

SECTION
NOT TO SCALE

POORCH ROOF LEDGER

DETAIL TITLE : DECK LEDGER ATTACHMENT
DETAIL NO. : EP-120
PAGE NO. : 1 - 20
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



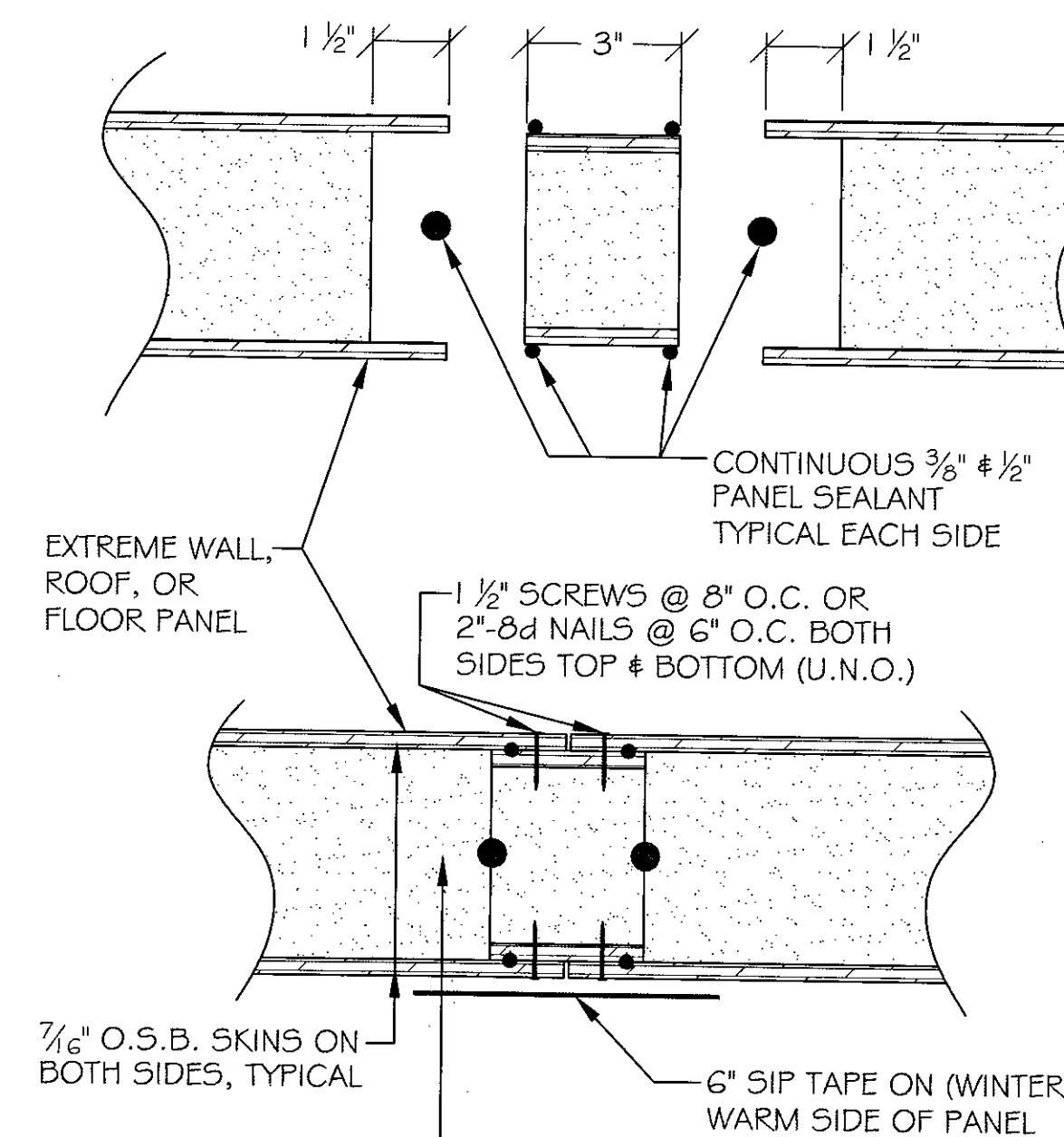
NOTE:
HEADER LOCATED AT
BOTTOM OF UPPER
WINDOW PANEL W/
PANEL ROOF

SECTION
NOT TO SCALE

DETAIL TITLE : INSUL-BEAM II HEADERED OPENING
DETAIL NO. : EP-304B
PAGE NO. : 3 - 4b
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

PRE-ASSEMBLED VIEW



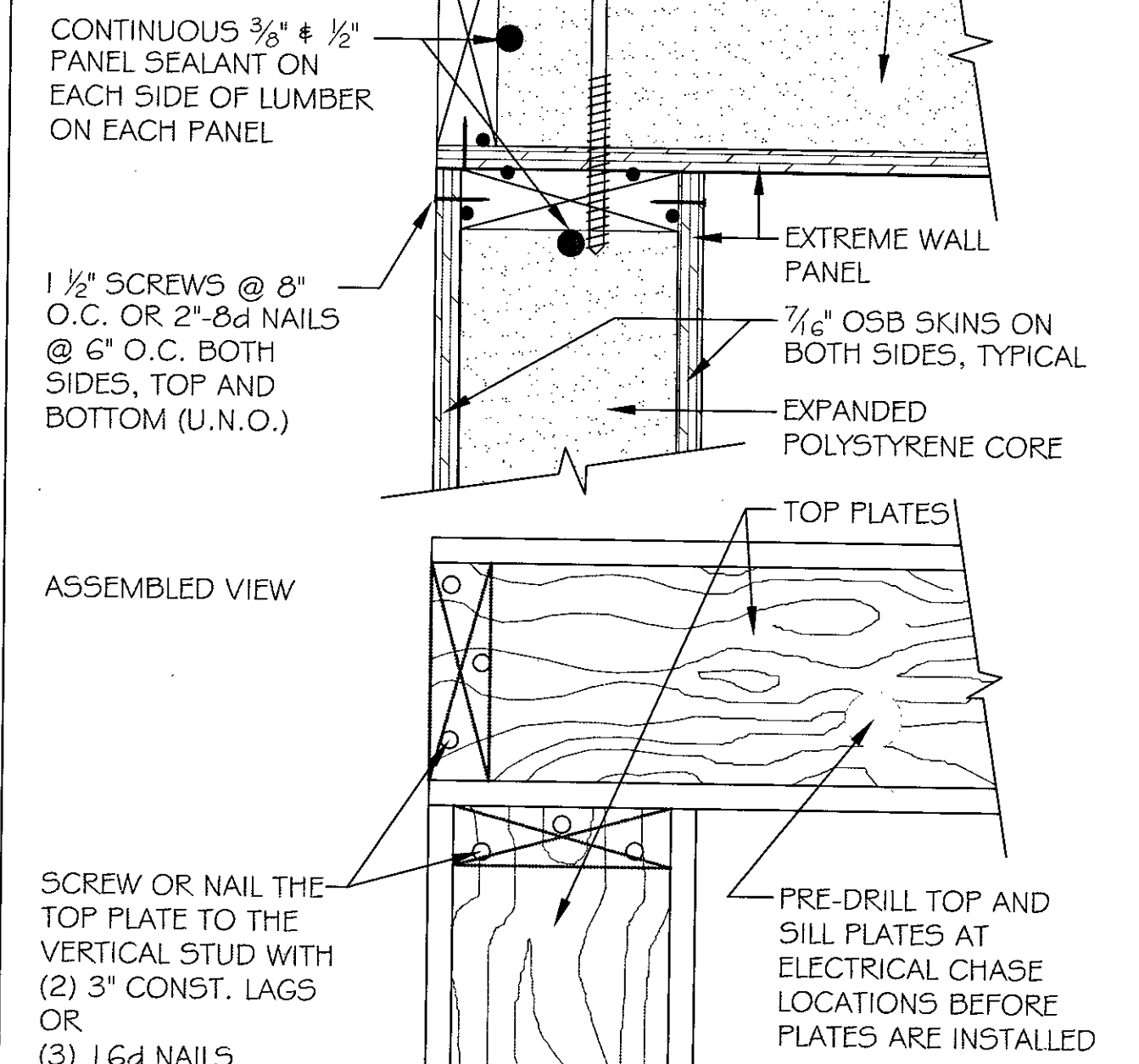
ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : BLOCK SPLINE CONNECTION (STD)
DETAIL NO. : EP-103
PAGE NO. : 1 - 3
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

PRE-ASSEMBLED VIEW (WITHOUT TOP PLATES)



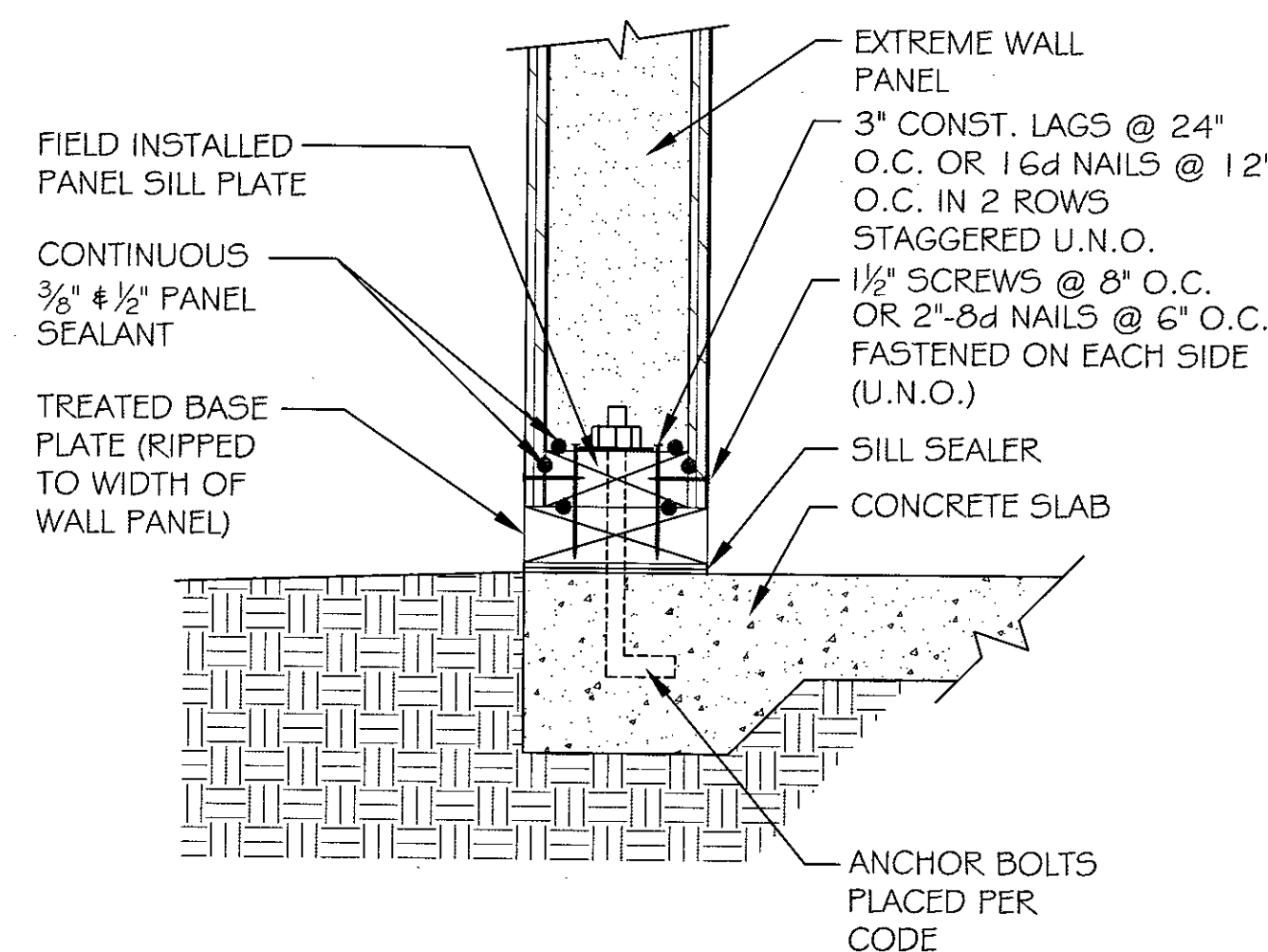
ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : BUTT CORNER CONNECTION (STD)
DETAIL NO. : EP-112
PAGE NO. : 1 - 12
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

OPTION C GARAGE



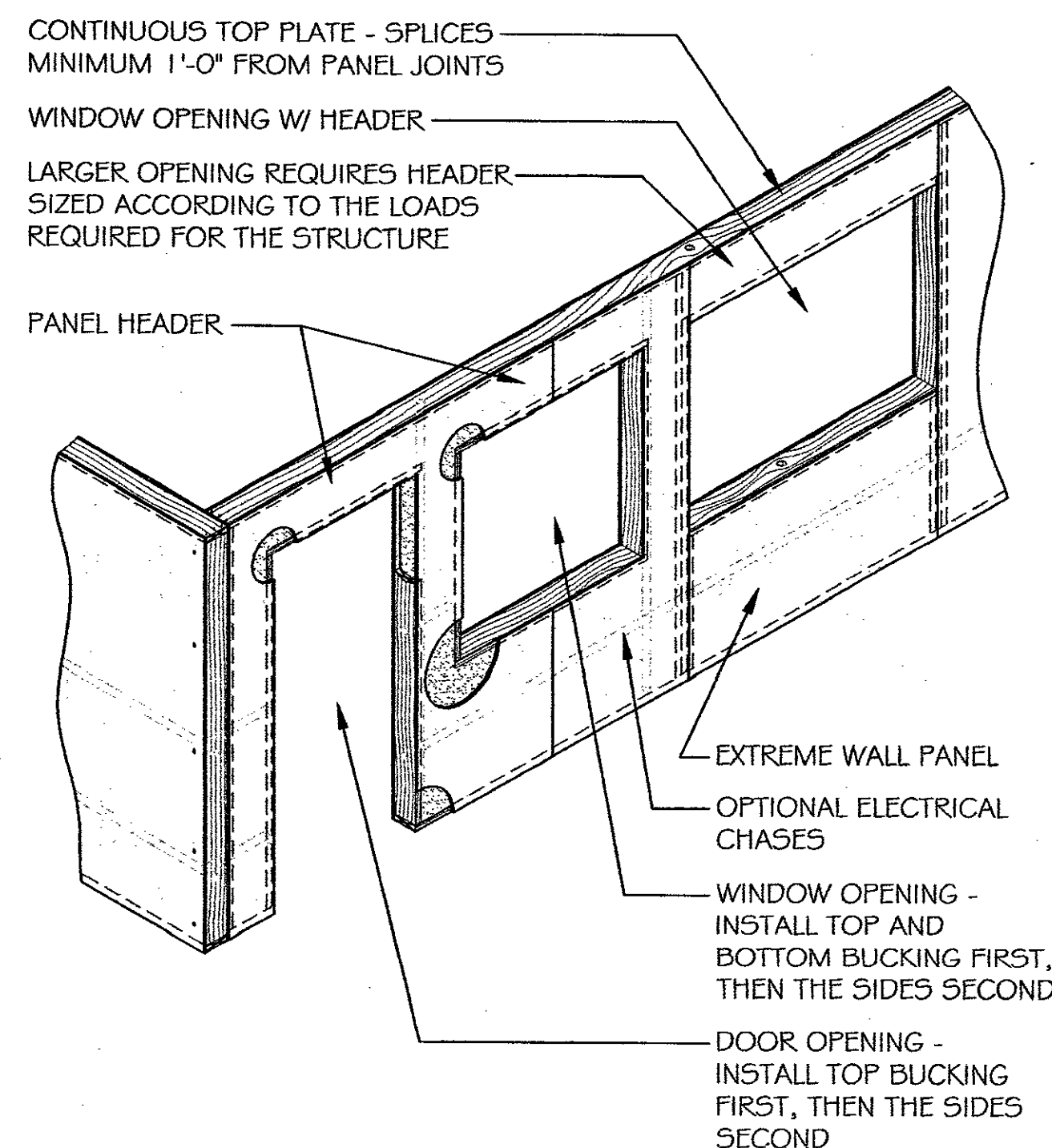
NOTE:
THIS DETAIL IS ONLY DESIGNED TO ILLUSTRATE THE
BASE & SILL PLATES. CONCRETE PLACEMENT AND
CONSTRUCTION PRACTICE SHOULD BE PER LOCAL
CODES.

SECTION
NOT TO SCALE

DETAIL TITLE : TREATED BASE PLATE
DETAIL NO. : EP-201
PAGE NO. : 2 - 1
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

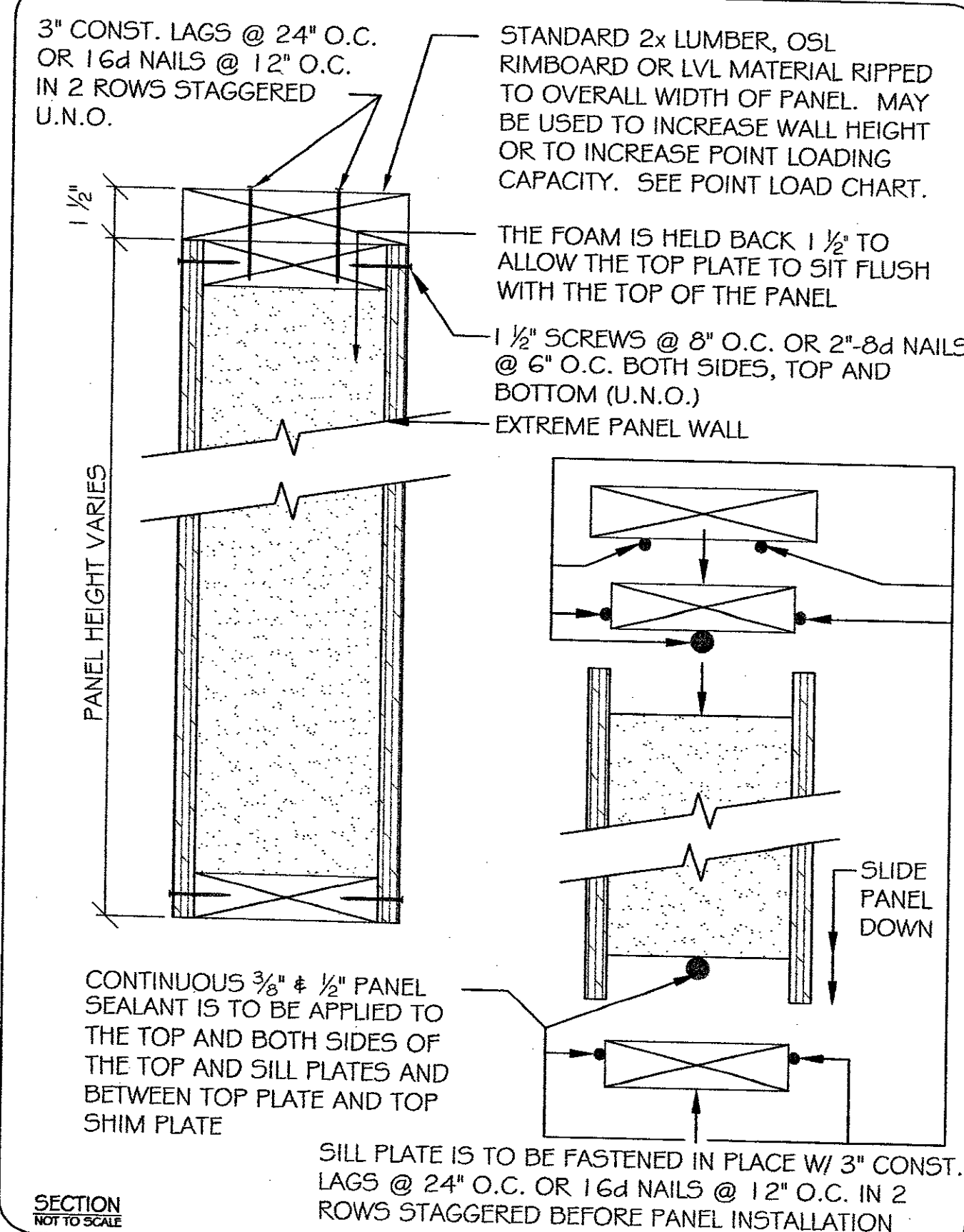
NOTE: SEE PBS DESIGN MANUAL LOAD
CHARTS FOR ALLOWABLE LOADS



SECTION
NOT TO SCALE

DETAIL TITLE : TYPICAL PANEL WALL
DETAIL NO. : EP-301
PAGE NO. : 3 - 1
UPDATED : MARCH 2017

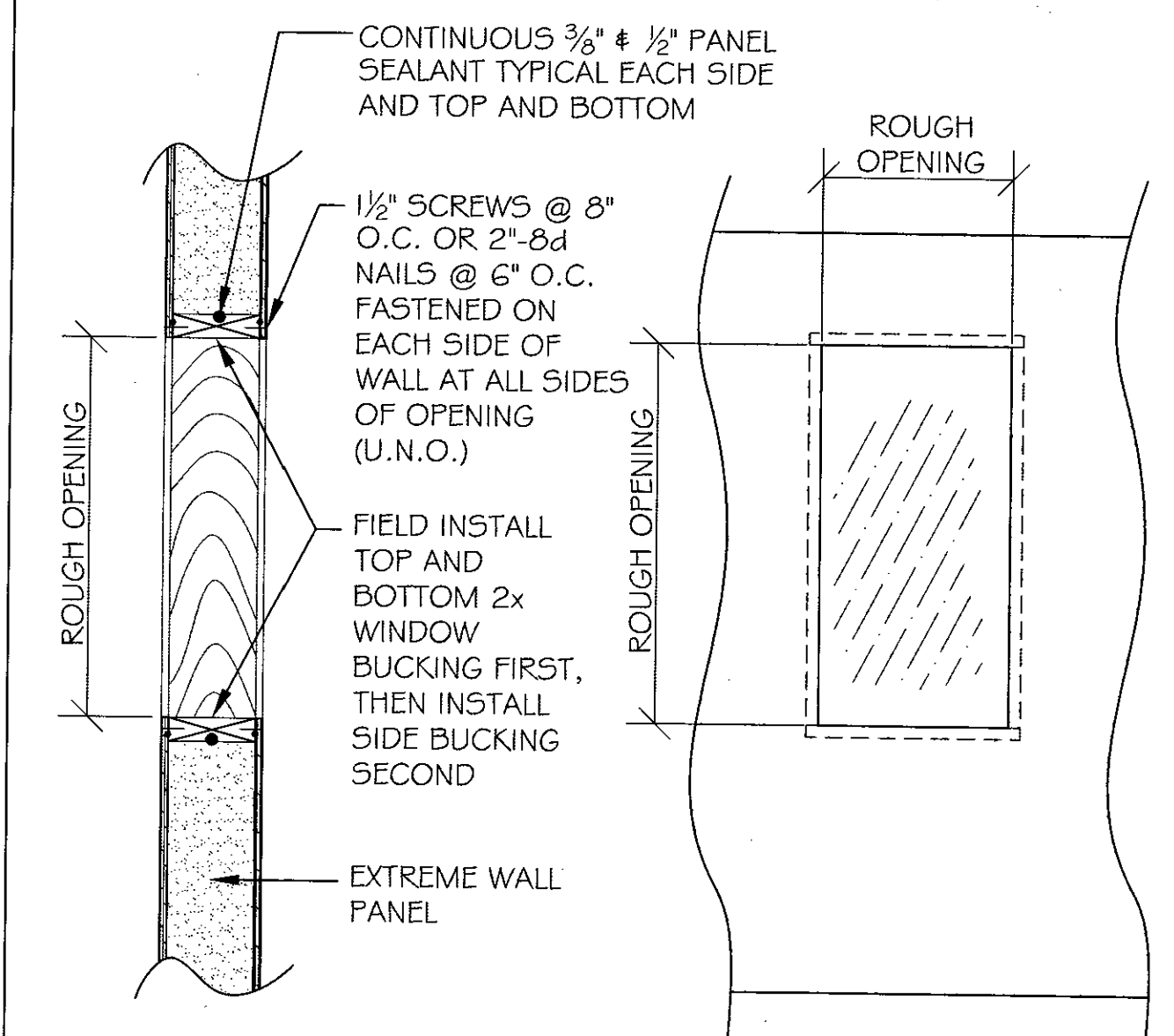
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SECTION
NOT TO SCALE

DETAIL TITLE : TOP SHIM PLATE CONNECTION
DETAIL NO. : EP-111
PAGE NO. : 1 - 11
UPDATED : MARCH 2017

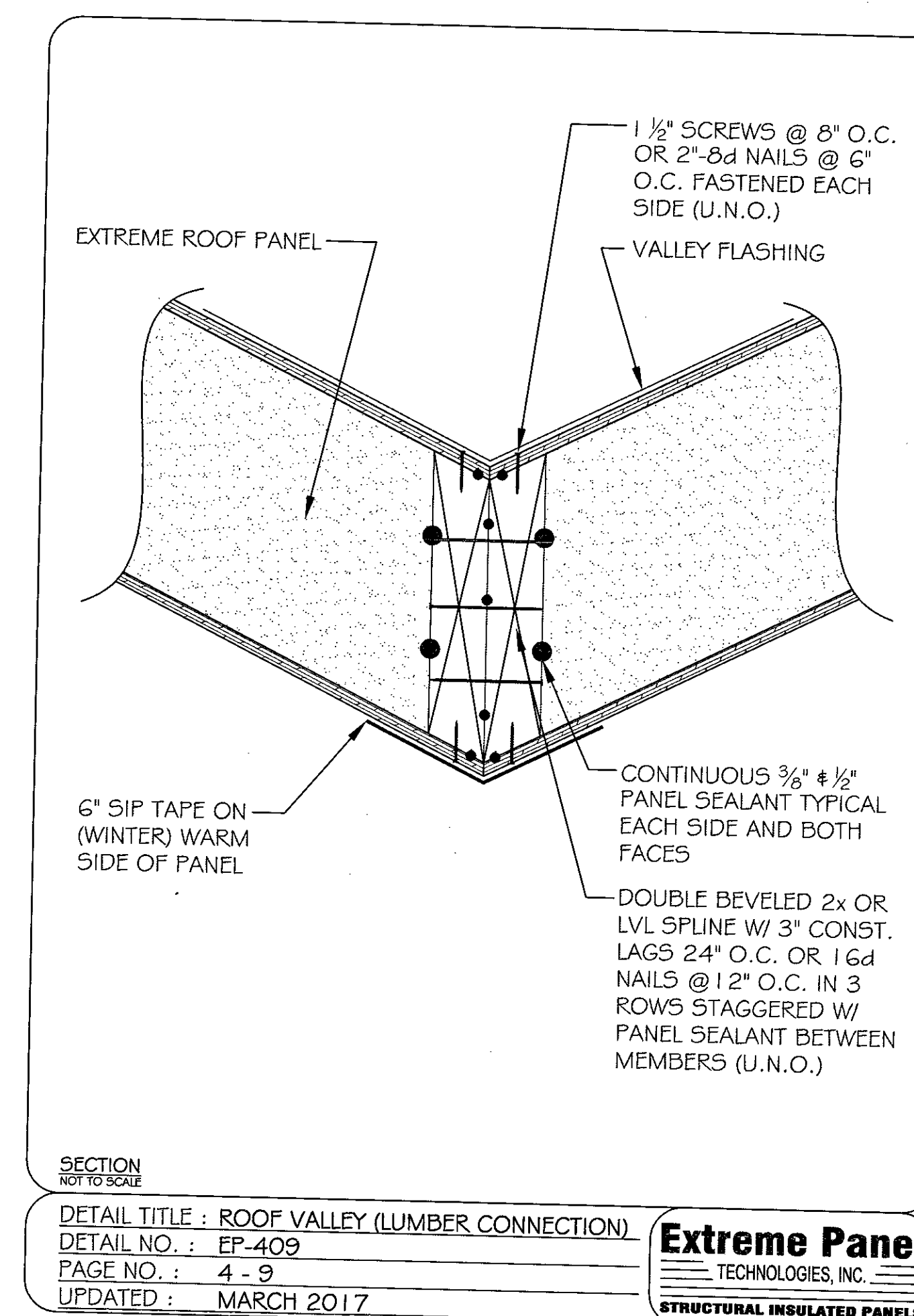
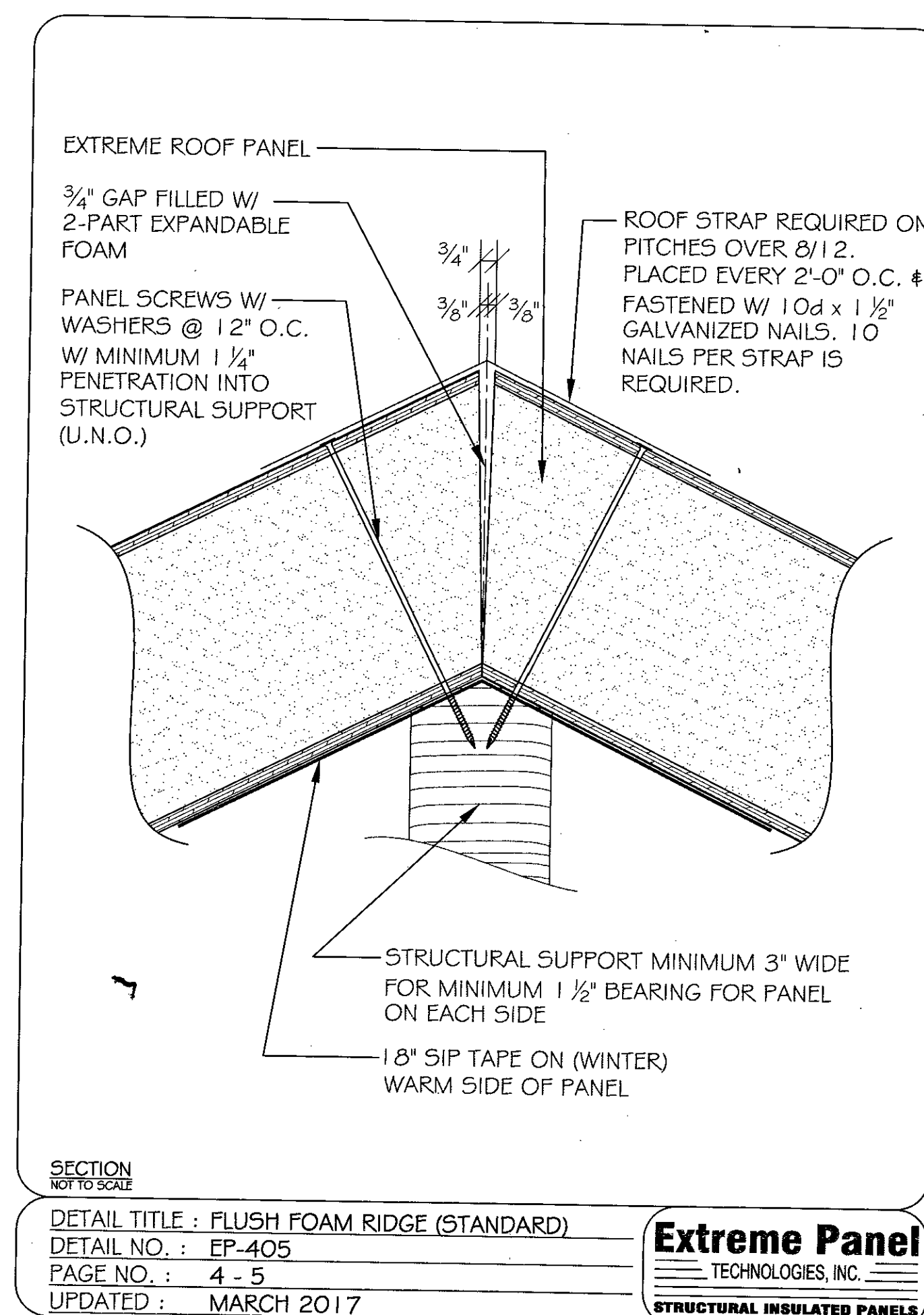
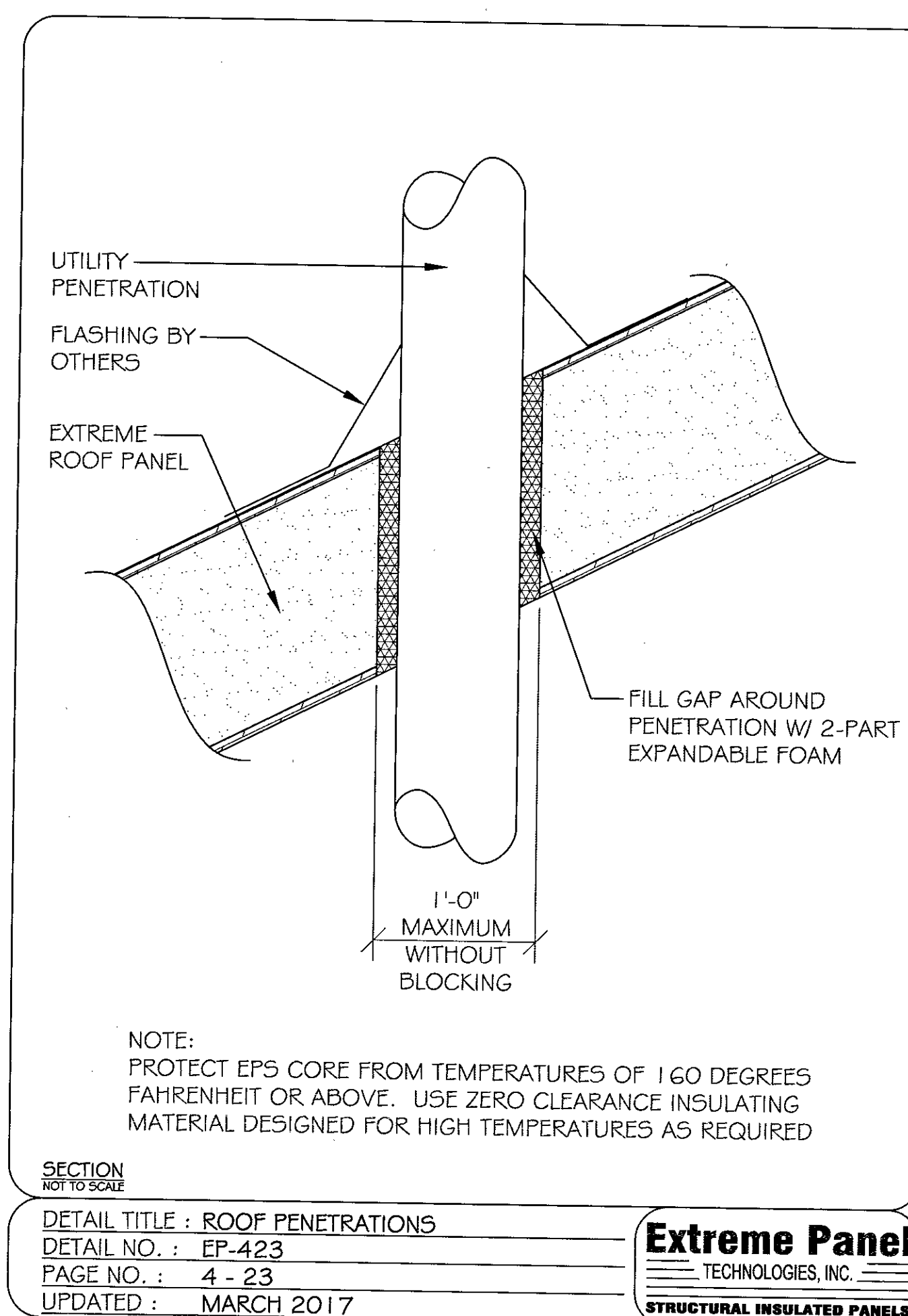
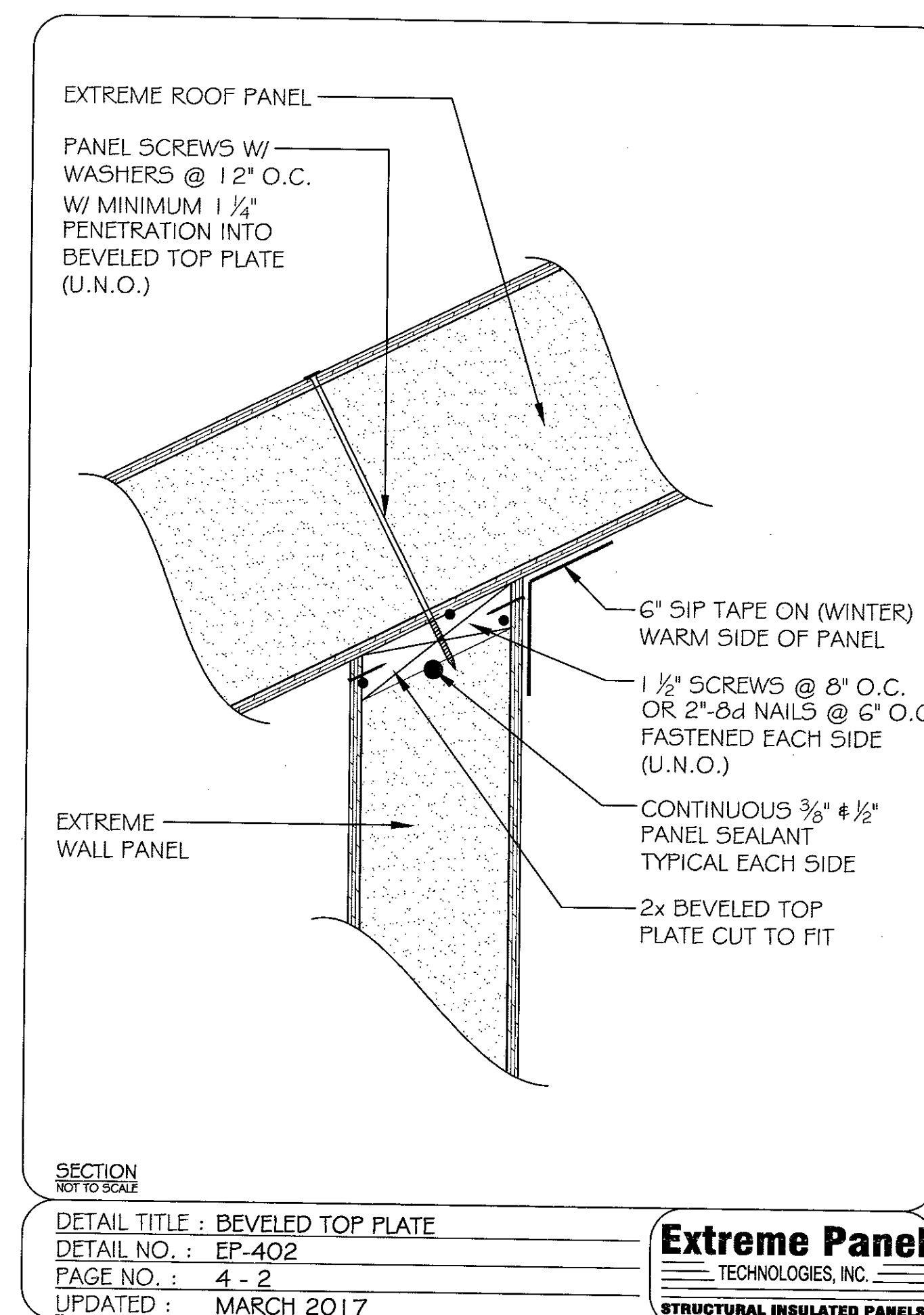
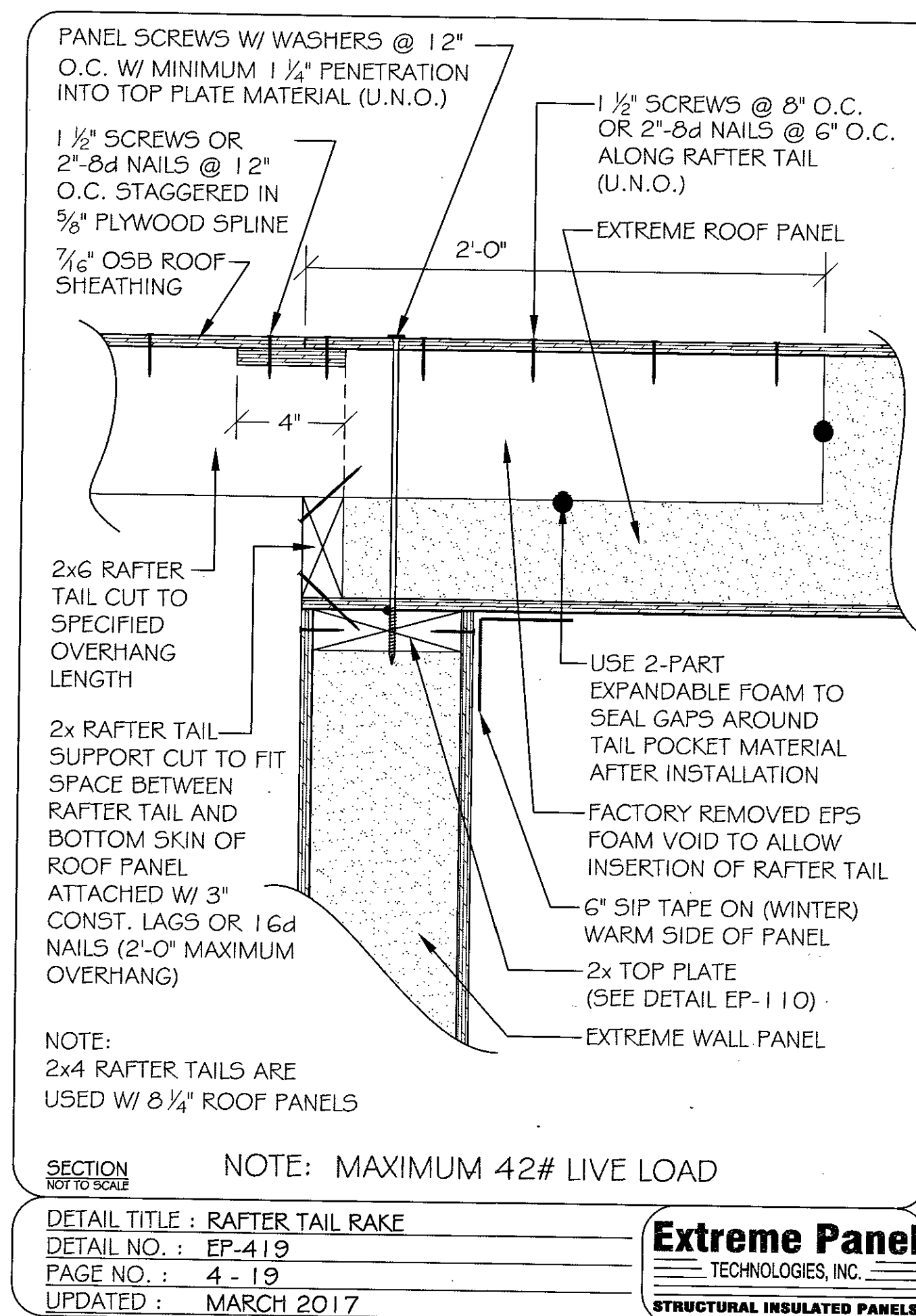
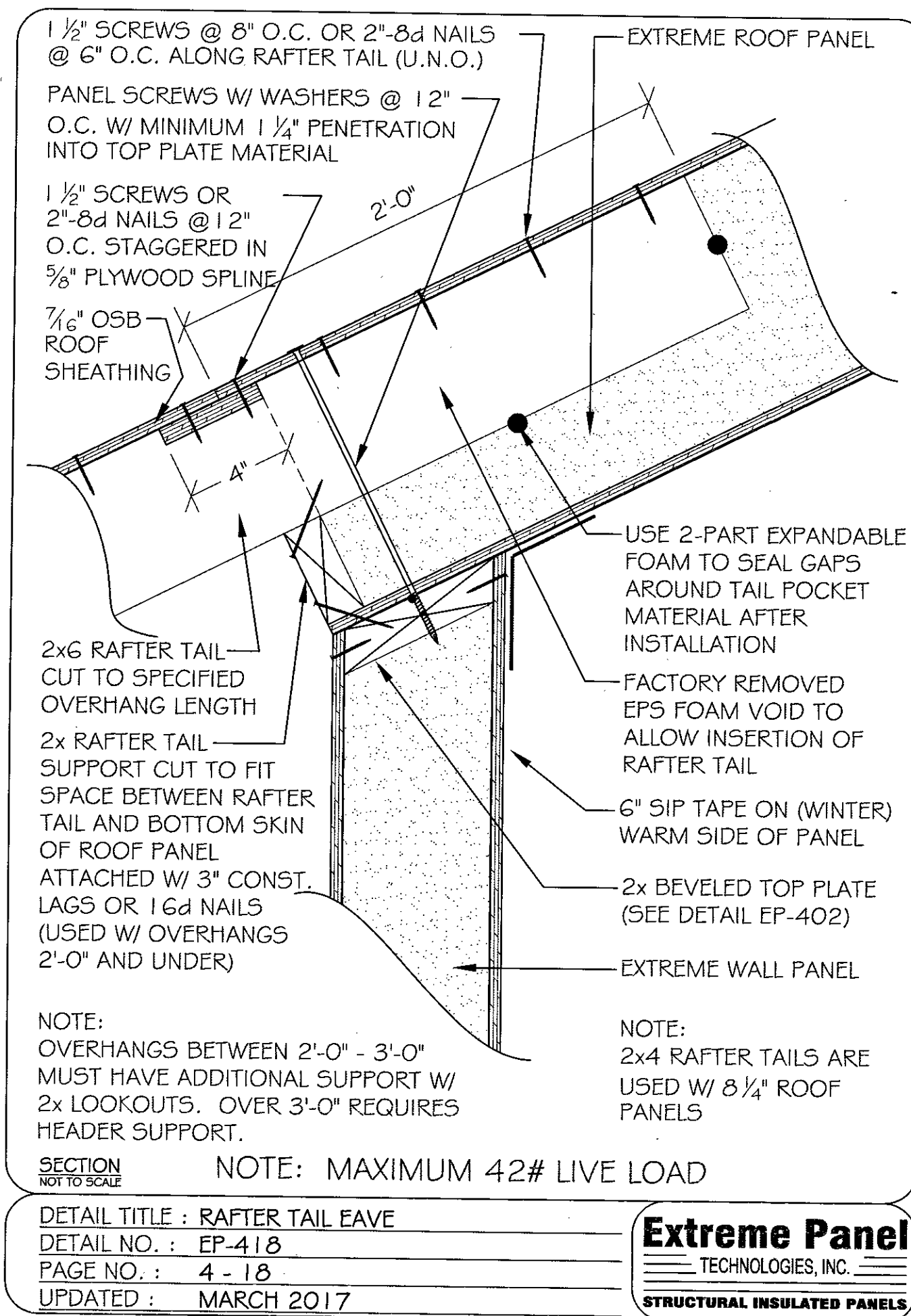
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : TYPICAL WINDOW OPENING
DETAIL NO. : EP-302
PAGE NO. : 3 - 2
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



Extreme SIPs DETAILS

A.9

STANDARD ICF FORMS BASEMENT WALL VERTICAL REINFORCING REQUIREMENTS				
DESIGN HEIGHT OF ICF WALL	BACKFILL HEIGHT ABOVE TOP OF SLAB	VERTICAL REBAR SPACING		
		SAND (30 PSF / FT)	SANDY CLAY (45 PSF / FT)	CLAY (60 PSF / FT)
8'-0"	5'-0"	#4 @ 48"	#4 @ 36"	#5 @ 36"
	6'-0"	#4 @ 36"	#5 @ 36"	#5 @ 36"
	7'-0"	#5 @ 36"	#5 @ 36"	#5 @ 24"
	8'-0"	#5 @ 36"	#5 @ 24"	#4 @ 12"
9'-0"	5'-0"	#4 @ 48"	#4 @ 36"	#5 @ 36"
	6'-0"	#5 @ 36"	#5 @ 36"	#5 @ 36"
	7'-0"	#5 @ 36"	#5 @ 36"	#5 @ 24"
	8'-0"	#5 @ 36"	#5 @ 24"	#4 @ 12"
10'-0"	5'-0"	#4 @ 48"	#4 @ 36"	#5 @ 36"
	6'-0"	#5 @ 36"	#5 @ 36"	#5 @ 36"
	7'-0"	#5 @ 36"	#5 @ 24"	#5 @ 24"
	8'-0"	#5 @ 36"	#4 @ 12"	#5 @ 12"
10'-0"	#4 @ 12"	#5 @ 12"	S.E.R.	

EQUIVALENT VERTICAL REBAR SUBSTITUTION TABLE	
#5 @ 36" = #6 @ 48" = #4 @ 24"	
#5 @ 24" = #4 @ 18" = #6 @ 36"	
#4 @ 12" = #5 @ 18" = #6 @ 24"	
#5 @ 12" = #4 @ 8" = #6 @ 18"	

NOTES:

- WALL HEIGHT IS MEASURED FROM THE TOP OF SLAB (T.O.S.) TO THE TOP OF WALL (T.O.W.). SEE THE DETAILS ON SHEETS S13 AND S14 FOR THE TOP OF WALL LOCATION AT FULL HEIGHT ICF CONDITIONS.
- ALTERNATIVE SUBSTITUTIONS TO THOSE SHOWN IN TABLE MAY BE MADE USING EQUIVALENT AREA OF STEEL. SUBSTITUTED SIZES ARE NOT TO EXCEED 4" ON CENTER. SUBSTITUTED BARS USING TABLE ARE TO HAVE EQUAL YIELD STRENGTH.
- THE VERTICAL REBAR IS TO BE PLACED 1/2" FROM THE INSIDE FACE OF THE CONCRETE PORTION OF THE ICF WALL CENTERED BETWEEN TIES.
- SEE SHEETS S2 AND S3 FOR THE LIMITATIONS OF THE STRUCTURE ASSOCIATED WITH THESE TABLES AS WELL AS GENERAL NOTES.
- MAXIMUM CONCENTRATED VERTICAL LOAD TO BE APPLIED TO THE WALL, SUCH AS FROM GIRDER TRUSSES OR BEAMS, IS 20,000 LBS. THIS LOAD CAPACITY ASSUMES THAT ALL CONCENTRATED LOADS BEAR WITHIN THE CENTER 4" OF THE WALL DIRECTLY OVER A VERTICAL COLUMN OR HORIZONTAL BEAM. THIS LOAD IS THE ACTUAL LOAD APPLIED TO THE WALL, NOT A FACTORED LOAD.
- S.E.R.: SPECIAL ENGINEERING REVIEW IS REQUIRED FOR THESE CONDITIONS.

Rev	Date	FOUNDATION WALL REINFORCEMENT TABLE
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 8 of 25

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NOTES:

- LOADS SHOWN ARE IN ADDITION TO LINTEL SELFWEIGHT.
- HORIZONTAL REINFORCING IS TO BE CENTERED IN WALL & EXTEND A MINIMUM OF 24" PAST THE OPENING AT EACH END HOOK AROUND CORNERS AS REQUIRED.
- ALL WALL OPENINGS ARE TO HAVE A MINIMUM OF 12" OF CONCRETE WALL BETWEEN THEM.
- PLACE A MINIMUM OF (2) #4 OR (1) #6 VERTICAL BARS FULL HEIGHT EACH SIDE OF ALL OPENINGS. CONCRETE BETWEEN ADJACENT OPENINGS IS TO HAVE AT LEAST (3) #4 OR (2) #6 VERTICAL BARS TOTAL. CENTER BARS IN WALL THICKNESS.
- FOR STACKED WINDOW CONDITIONS, LOWER WALL DESIGN HEIGHT IS TO BE 10' MAX. OR DECREASE ALLOWABLE LINTEL LOADS BY 50% TO PREVENT VERTICAL OVERLOAD OF CONCRETE BETWEEN OPENINGS.
- SPECIAL REVIEW IS REQUIRED FOR LINTELS BEYOND THESE LIMITS.
- SEE S2 & S3 FOR FURTHER NOTES AND CONSTRUCTION GUIDELINES.

ALLOWABLE ACTUAL LINTEL LOAD IN PLF
MINIMUM 12" CONCRETE HEIGHT

HORIZONTAL BARS AT BOTTOM OF LINTEL	STANDARD FORM LINTEL SPAN IN FEET				6" FULLY CUT OUT FORM LINTEL SPAN IN FEET			
	4	5	6	7	4	5	6	7
(1) #5	800	500	400	1600	1100	800	600	500
(2) #4 OR (1) #6	4300	2700	1900	4300	2700	1900	1300	1000
	800	500	400	1600	1100	800	600	500
	5500	3500	2500	5500	3500	2400	1700	1300

Lintel Section and Reinforcement Table (12")

Rev	Date	Lintel Section and Reinforcement Table (12")
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 18 of 25

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NOTES:

- LOADS SHOWN ARE IN ADDITION TO LINTEL SELFWEIGHT.
- HORIZONTAL REINFORCING IS TO BE CENTERED IN WALL & EXTEND A MINIMUM OF 24" PAST THE OPENING AT EACH END HOOK AROUND CORNERS AS REQUIRED.
- ALL WALL OPENINGS ARE TO HAVE A MINIMUM OF 24" OF CONCRETE WALL BETWEEN THEM.
- PLACE A MINIMUM OF (2) #4 OR (1) #6 VERTICAL BARS FULL HEIGHT EACH SIDE OF ALL OPENINGS. CONCRETE BETWEEN ADJACENT OPENINGS IS TO HAVE AT LEAST (4) #4 OR (2) #6 VERTICAL BARS TOTAL. CENTER BARS IN WALL THICKNESS.
- ADJACENT 6'-0" WIDE MAX. OPENINGS MAY HAVE A MINIMUM OF 12" OF CONCRETE WALL BETWEEN THEM WITH (3) #4 OR (2) #5 VERTICAL BARS TOTAL.
- FOR STACKED WINDOW CONDITIONS, LOWER WALL DESIGN HEIGHT IS TO BE 10' MAX. OR DECREASE ALLOWABLE LINTEL LOADS BY 50% TO PREVENT VERTICAL OVERLOAD OF CONCRETE BETWEEN OPENINGS.
- SPECIAL REVIEW IS REQUIRED FOR LINTELS BEYOND THESE LIMITS.
- SEE S2 & S3 FOR FURTHER NOTES AND CONSTRUCTION GUIDELINES.

ALLOWABLE ACTUAL LINTEL LOAD IN PLF
MINIMUM 16" CONCRETE HEIGHT

HORIZONTAL BARS AT BOTTOM OF LINTEL	LINTEL SPAN IN FEET							
	4	5	6	7	8	9	10	12
(1) #5	1600	1000	700	500	400	1400	1100	800
(2) #4 OR (1) #6	8600	5700	2500	1800	1400	1000	800	500
(3) #4 OR (2) #5	1600	1000	700	500	400	1400	1100	800
	8600	5700	2500	1800	1400	1000	800	500

Lintel Section and Reinforcement Table (16")

Rev	Date	Lintel Section and Reinforcement Table (16")
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 19 of 25

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FOUNDATION WALL REINFORCEMENT TABLE

Rev	Date	FOUNDATION WALL REINFORCEMENT TABLE
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 6 of 25

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FROST WALLS

Rev	Date	FROST WALLS
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 9 of 25

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FLOOR SYSTEM TYPE, SIZE, & SPACING BY OTHERS

TRUSS / JOIST CONNECTION FOR FULL HEIGHT WALLS

DESIGN HEIGHT (SEE S9)	FASTENER LOCATIONS	BACKFILL TYPE		
		SAND (30 PSF / FT)	SANDY CLAY (45 PSF / FT)	CLAY (60 PSF / FT)
8'-0"	ANCHOR BOLTS	72" O.C.	72" O.C.	48" O.C.
	FLOOR TO SILL	(3) 0.131" x 3" TOP/TOE NAILS	(3) 0.131" x 3" TOP/TOE NAILS	USP LJC OR SIMPSON A35
9'-0"	ANCHOR BOLTS	72" O.C.	48" O.C.	36" O.C.
	FLOOR TO SILL	(3) 0.131" x 3" TOP/TOE NAILS	USP LJC OR SIMPSON A35	USP LJC * OR (2) SIMPSON A35s
10'-0"	ANCHOR BOLTS	72" O.C.	36" O.C.	24" O.C.
	FLOOR TO SILL	(3) 0.131" x 3" TOP/TOE NAILS	USP LJC OR SIMPSON A35	USP LJC * OR (2) SIMPSON A35s

TOP OF ICF WALL CONNECTIONS - BEARING

MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS

Rev	Date	MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION: STANDARD ICF CORPORATION P.O. BOX 99 CROSBY, MN 55441 STANDARD ICF FORMS
		Desired By: Trevor Axner
		Project Number: 09.02242 Drawing Date: 08-28-09 Sheet: 11 of 25

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NOTES:

- LOADS SHOWN ARE IN ADDITION TO LINTEL SELFWEIGHT.
- HORIZONTAL REINFORCING IS TO BE CENTERED IN WALL & EXTEND A MINIMUM OF 24" PAST THE OPENING AT EACH END HOOK AROUND CORNERS AS REQUIRED.
- ALL WALL OPENINGS ARE TO HAVE A MINIMUM OF 24" OF CONCRETE WALL BETWEEN THEM, ELSE USE THE LINTEL TABLES ON SHEET S19.
- PLACE A MINIMUM OF (2) #4 OR (1) #6 VERTICAL BARS FULL HEIGHT EACH SIDE OF ALL OPENINGS. CONCRETE BETWEEN ADJACENT OPENINGS IS TO HAVE AT LEAST (4) #4 OR (2) #6 VERTICAL BARS TOTAL. CENTER BARS IN WALL THICKNESS.
- FOR STACKED WINDOW CONDITIONS, LOWER WALL DESIGN HEIGHT IS TO BE 10' MAX. OR DECREASE ALLOWABLE LINTEL LOADS BY 50% TO PREVENT VERTICAL OVERLOAD OF CONCRETE BETWEEN OPENINGS.
- SPECIAL REVIEW IS REQUIRED FOR LINTELS BEYOND THESE LIMITS.
- SEE S2 & S3 FOR FURTHER NOTES AND CONSTRUCTION GUIDELINES.

ALLOWABLE ACTUAL LINTEL LOAD IN PLF
MINIMUM 24" CONCRETE HEIGHT

HORIZONTAL BARS AT BOTTOM OF LINTEL	LINTEL SPAN IN FEET											
	4	5	6	7	8	9	10	12	14	16	18	
(1) #5	6000	3300	1200	1200	900	700	600	400	400	300	200	
(2) #4 OR (1) #6	6000	4400	3000	2200	1600	1200	1000	800	600	400	300	
(3) #4 OR (2) #5	6000	3300	1800	1200	900	700	600	400	400	300	200	
(4) #4 OR (3) #5	6000	3300	1800	1200	900	700	600	400	400	300	200	
(5) #4 OR (4) #5	6000	3300	1800	1200	900	700	600	400	400	300	200	
(6) #4 OR (5) #5	6000	3300	1800	1200	900	700	600	400	400	300	200	

Lintel Section and Reinforcement Table (24")

Rev	Date	Lintel Section and Reinforcement Table (24")
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
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A.10 ICF DETAILS

ICF MASTER DRAWINGS

STANDARD ICF FORMS

SCOPE OF WORK:

THESE INSULATED CONCRETE FORM (ICF) ABOVE AND BELOW GRADE WALL MASTER DRAWINGS ARE PREPARED AND CERTIFIED BY ULTEIG ENGINEERS IN COMPLIANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE (IRC), AS WELL AS THAT OF THE MINNESOTA STATE BUILDING CODE. THESE DRAWINGS CONTAIN STRUCTURAL INFORMATION FOR USE IN THE CONSTRUCTION OF ICF CONCRETE WALLS FOR TYPICAL RESIDENTIAL CONDITIONS. THIS INFORMATION IS RELEVANT TO THE ICF CONTRACTOR, THE GENERAL CONTRACTOR, AND THE FRAMING CONTRACTOR.

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GENERAL NOTES	S3
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LINTEL SECTION AND REINFORCEMENT TABLE (48" cut out x 16")	S22
LINTEL SECTION AND REINFORCEMENT TABLE (6" cut out x 24")	S23
LINTEL SECTION AND REINFORCEMENT TABLE (6" cut out x 36")	S24
LINTEL EXAMPLE LOAD CALCULATION	S25

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: TREVOR ANMER

Signature: [Signature]

Date: 09-28-09 License Number: 45470

Rev	Date	SCOPE, INDEX, & CERTIFICATION
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION:
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		CROSBY, MN 55441
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		Designed By: <u>Trevor Anmer</u>
		Project Number: <u>09-02242</u>
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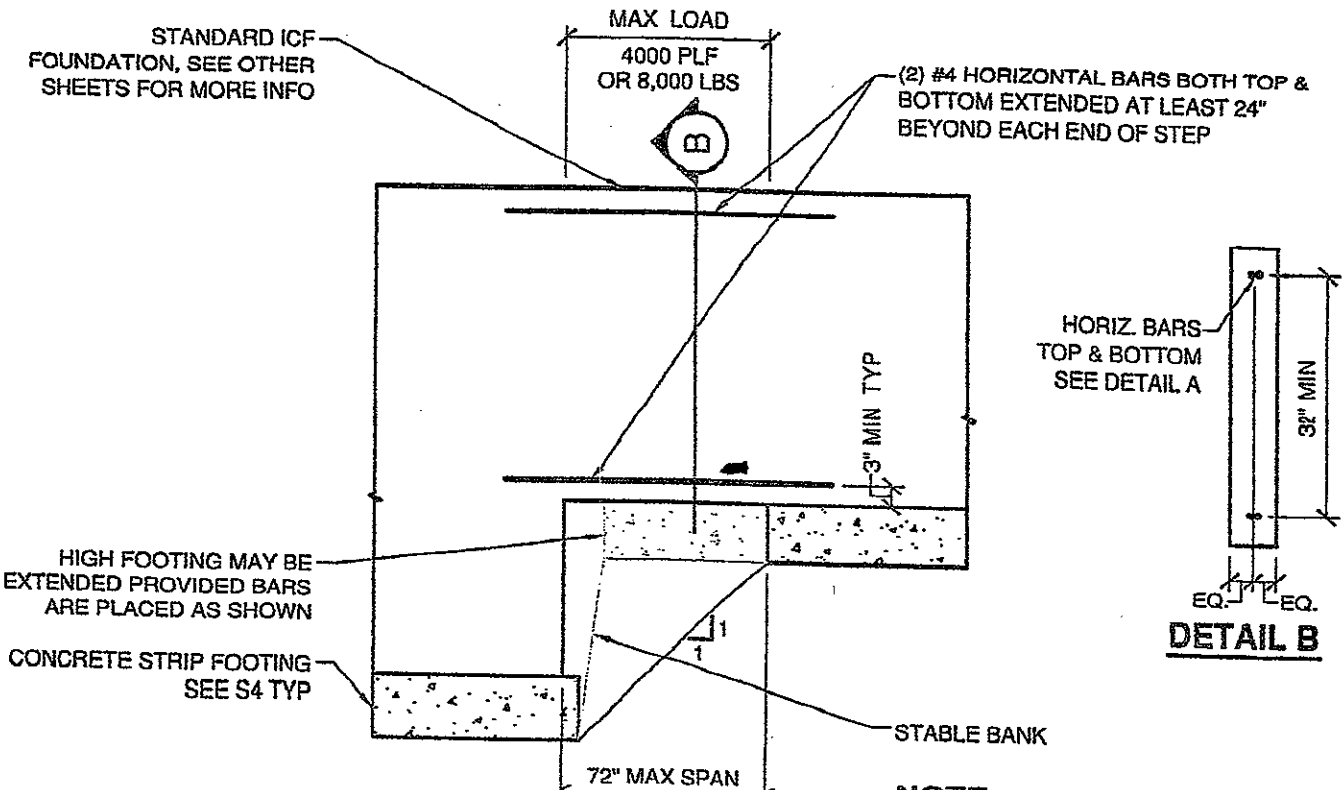
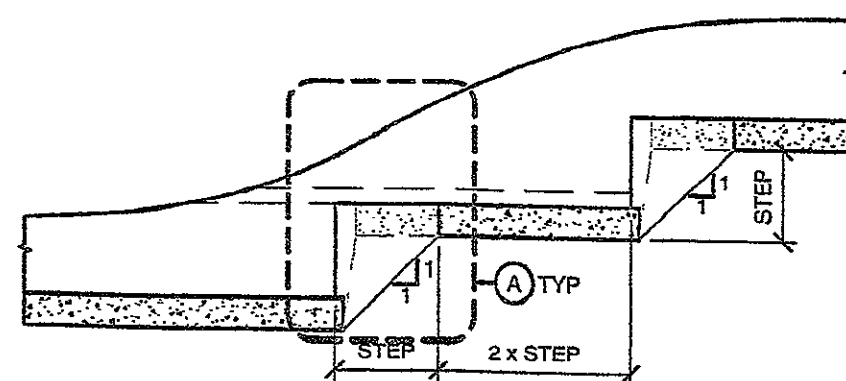
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GENERAL NOTES CONTINUED:

- REINFORCING BARS MAY BE BUNDLED UP TO THREE TO A BUNDLE.
- PROVIDE CODE REQUIRED FROST PROTECTION TO THE BOTTOM OF ALL FOOTINGS. STRIP FOOTINGS MAY BE PLACED AT AN ELEVATION LOWER THAN SHOWN IN THE DETAILS TO PROVIDE ADEQUATE FROST COVER OR ADEQUATE SOIL BEARING, WHEN REQUIRED.
- UNLESS SPECIFICALLY NOTED, DOWELS MAY BE DRILLED AND SNUGLY FIT IN PLACE. DOWELS DO NOT NEED TO BE TIED TO THE VERTICAL STEEL. VERTICAL BARS MAY BE DRILLED AND EMBEDDED 6" INTO THE STRIP FOOTING IN LIEU OF DOWELS.
- PLACE BARS SUCH THAT THEIR FINAL POSITION IS WITHIN 1/2" OF THAT SHOWN IN THE DETAILS. TYING OF BARS IN PLACE IS NOT REQUIRED PROVIDED SUFFICIENT CARE IS TAKEN TO ENSURE THE BARS DO NOT MOVE OUT OF TOLERANCE POSITION AND ALL CLEAR COVER REQUIREMENTS ARE MET.
- PROVIDE MATCHING HOOK BARS FOR ALL HORIZONTAL BARS AT ALL WALL CORNERS AND INTERSECTIONS. LAP ALL HOOKS AND HORIZONTAL BARS PER NOTE 6. HORIZONTAL BARS MAY BE CONTINUOUS AND BENT AROUND CORNERS IN PLACE OF HOOKS.
- THE CONTRACTOR IS TO FOLLOW ALL FLOOR JOIST AND TRUSS MANUFACTURER'S SPECIFICATIONS. INSTALL CONTINUOUS RIM BOARD AND CONNECTORS AS SHOWN IN DETAILS. CENTER OF ANCHOR BOLTS MUST BE 24" FROM EDGE OF SILL PLATE OR CONCRETE WALL. INCREASE SILL PLATE SIZE AND/OR TAPER TOP OF FORM AS NEEDED.
- THE CENTER OF FOOTINGS MAY BE OFFSET UP TO 1" FROM THE CENTER OF THE WALL BEFORE SPECIAL REVIEW IS REQUIRED.
- SLOPE GRADE AWAY FROM FOUNDATIONS A MINIMUM OF 6" WITHIN THE FIRST 10 FEET OR PROVIDE ADEQUATE DRAINS OR SWALES TO ENSURE SUFFICIENT DRAINAGE AWAY FROM THE STRUCTURE.
- SILL PLATES AND LEDGERS DO NOT NEED TO BE TREATED IN ACCORDANCE WITH THE IRC. ULTEIG RECOMMENDS INSTALLING A MEMBRANE BETWEEN THE WOOD AND CONCRETE WALL.
- ADEQUATE SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BOTH MATERIALS AND INSTALLATION OF DRAIN TILE, WATER-PROOFING, CONTROL JOINTS, FLASHING, AND INSULATION ARE TO BE IN ACCORDANCE WITH THE CODE BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- SILL PLATES AND LEDGERS ARE TO BE ANCHORED WITH A MINIMUM OF TWO ANCHORS PER SECTION. ALL SECTIONS ARE TO HAVE AN ANCHOR WITHIN 4" TO 12" OF EACH END. FOR SILL PLATES, AN ANCHOR IS TO BE PLACED AT ALL WALL CORNERS AND INTERSECTIONS ON WALLS MORE THAN TWO FEET IN LENGTH. WALLS TWO FEET OR LESS IN LENGTH REQUIRE A MINIMUM OF ONE SILL ANCHOR. REQUIREMENTS FOR SHEAR WALLS AND BRACED PANELS MAY BE IN EXCESS OF THESE REQUIREMENTS. LOCATE ANCHORS AT VERTICAL COLUMNS.
- ANCHOR BOLTS 1/2" OR LARGER IN DIAMETER ARE NOT REQUIRED TO BE CORROSION PROTECTED IN ACCORDANCE WITH THE IRC.
- ALL PRE-MANUFACTURED FASTENERS AND CONNECTORS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- ASTM A615 GRADE 40 WALL REINFORCEMENT MAY BE USED PROVIDED THE REINFORCEMENT SHOWN IN THE DRAWINGS IS INSTALLED AT 2/3 THE SPACING SHOWN. FOR LINTEL APPLICATIONS USING GRADE 40 REBAR, ALLOWABLE LOADS ARE 2/3 OF THOSE SHOWN IN THE TABLES.

Rev	Date	GENERAL NOTES
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION:
		STANDARD ICF CORPORATION
		P.O. BOX 99
		CROSBY, MN 55441
		STANDARD ICF FORMS
		Designed By: <u>Trevor Anmer</u>
		Project Number: <u>09-02242</u>
		Drawing Date: <u>09-28-09</u>
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NOTE: AS AN ALTERNATIVE, CONTRACTOR MAY INSTALL CONTINUOUS BULKHEAD STEP IN ACCORDANCE W/ THE CODE

Rev	Date	STEP FOOTINGS
		MASTER ICF ABOVE & BELOW GRADE WALL DRAWINGS
		CLIENT INFORMATION:
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DRAWING USE GUIDELINES AND LIMITATIONS:

THE CONTRACTOR IN THE TITLE BLOCK BELOW IS LICENSED BY ULTEIG TO USE THIS PACKET WITHIN THE LIMITATIONS NOTED FOR PROJECTS IN WHICH THE LICENSEE IS DIRECTLY RESPONSIBLE. THE LICENSEE MAY RELEASE THIS PACKET TO ITS SUB-CONTRACTORS AND CLIENTS FOR USE IN THE PROCUREMENT OF BUILDING PERMITS.

THE LICENSEE IS TO INDICATE THE APPLICABLE SITE ADDRESS AND RELEVANT SHEETS ON S1 FOR INCLUSION WITH THE CONSTRUCTION DOCUMENT PACKAGE. THE PACKET IS TO BE ISSUED TO THE APPROPRIATE BUILDING DEPARTMENT IN ACCORDANCE WITH THEIR APPROVED PROCEDURE FOR USE BY THE BUILDING AGENCY DURING PLAN REVIEW AND INSPECTION.

THE FOLLOWING LIMITATIONS APPLY TO THESE DRAWINGS:

- BASEMENT FOUNDATION WALLS TEN FOOT OR LESS IN DESIGN HEIGHT.
- ABOVE GRADE WALLS TWELVE FOOT OR LESS IN DESIGN HEIGHT.
- OVERALL BUILDING HEIGHT NOT EXCEEDING TWO STORIES PLUS THE BASEMENT.
- STRUCTURES OF WOOD FLOOR AND ROOF CONSTRUCTION.

SPECIAL CONSIDERATION AND SITE SPECIFIC DESIGN IS REQUIRED FOR CONDITIONS BEYOND THESE LIMITS.

MATERIALS:

CONCRETE: MIX TO BE DESIGNED AND PROPORTIONED BY THE CONCRETE SUPPLIER
 PC = 3,500 PSI MINIMUM AT 28 DAYS (UNLESS NOTED)
 Fy = 60 KSI (ASTM A615) (UNLESS NOTED)

STEEL:

LOADS:
 LIVE LOAD: 42 PSF ROOF MAX
 LIVE LOAD: 40 PSF FLOOR
 DEAD LOAD: 15 PSF ROOF
 DEAD LOAD: 15 PSF FLOOR
 WIND LOAD: 90 MPH EXPOSURE B

GENERAL NOTES:

- FOR LEDGER CONNECTIONS, ANCHOR SPACING SHOWN IS BASED ON A MAXIMUM FLOOR SPAN OF 20 FOOT CLEAR. IF FLOOR SPANS ARE IN EXCESS OF THIS DISTANCE OR IF ADDITIONAL LOADING SUCH AS LIGHT WEIGHT CONCRETE TOPPING ARE APPLIED, DECREASE LEDGER CONNECTION SPACING (ANCHOR BOLTS OR ICFs) PROPORTIONALLY.
- THESE DETAILS APPLY TO STANDARD ICF FORMS. CONCRETE WALLS ARE 9 1/2" x 9 1/2" VERTICAL COLUMNS @ 12" O.C. 6 1/2" x 6" HORIZONTAL BEAMS @ 16" O.C. AND 3" CONNECTING WEBS.
- WALLS ARE NOT TO BE BACKFILLED UNTIL THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH SUFFICIENT TO SUPPORT ALL DESIGN LOADS.
- PRIOR TO BACKFILLING, FOUNDATION WALLS MUST BE LATERALLY SUPPORTED BY FLOOR CONNECTIONS AT TOP & SLAB AT BOTTOM OR BY ADEQUATE TEMPORARY BRACING.
- HORIZONTAL WALL REINFORCING, UNLESS NOTED, CAN BE PLACED ANYWHERE WITHIN THE WIDTH OF THE WALL, ASSUMING MINIMUM COVER REQUIREMENTS ARE MET. PER ACI 318 CHAPTER 7, MINIMUM CLEAR COVER IS 3".
- SPICES NEED NOT BE TIED PROVIDED BAR CENTERLINES ARE WITHIN 2 INCHES OF EACH OTHER. ALL BAR SPICES SHOULD BE A MINIMUM OF 48 BAR DIAMETERS.

Rev	Date	USE GUIDELINES, MATERIALS & GENERAL NOTES
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MATERIALS:

CONCRETE: 2500 PSI @ 28 DAYS (FOOTINGS ONLY)
 MIX IS TO BE DESIGNED BY THE SUPPLIER

TABLE ONE: FULL HEIGHT ICF WALLS

STRUCTURE HEIGHT	FULL HEIGHT BRICK VENEER	FOOTING SIZE
1 FLOOR SYSTEM + ROOF	NO	20" x 8"
1 FLOOR SYSTEM + ROOF	YES	22" x 8"
2 FLOOR SYSTEMS + ROOF	NO	28" x 10"
2 FLOOR SYSTEMS + ROOF	YES	30" x 10"
NON-BEARING ALL LEVELS	NO	20" x 8"
NON-BEARING ALL LEVELS	YES	22" x 8"

TABLE TWO: BELOW-GRADE ICF WALLS WITH WOOD FRAMING ABOVE

STRUCTURE HEIGHT	FULL HEIGHT BRICK VENEER	FOOTING SIZE
1 FLOOR SYSTEM + ROOF	NO	16" x 8"
1 FLOOR SYSTEM + ROOF	YES	18" x 8"
2 FLOOR SYSTEMS + ROOF	NO	20" x 8"
2 FLOOR SYSTEMS + ROOF	YES	22" x 8"

NOTES:

- A FLOOR SYSTEM PERTAINS TO WOOD TRUSSES, JOISTS, OR LUMBER SPANNING A MAXIMUM OF 20 FEET.
- A ROOF PERTAINS TO WOOD TRUSSES SPANNING A MAXIMUM OF 40 FEET. BONUS ROOMS ARE TO BE CONSIDERED A FLOOR SYSTEM.
- VENEER MAY BE UP TO 22 FEET IN HEIGHT. VENEER MAY BE BRICK OR STONE, BUT NOT EXCEED A MAXIMUM THICKNESS OF 4 INCHES.
- FOOTING SIZES APPLY TO STRUCTURES WITHOUT FULL HEIGHT VENEER MAY STILL HAVE UP TO SIX FEET OF VENEER FOR THE SIZES SHOWN.
- FOOTING SIZES SHOWN ARE LABELED AS WIDTH x DEPTH x CONTINUOUS.
- REFER TO GENERAL NOTES FOR ASSUMED LOADING INFORMATION.
- ALL FOOTING SIZES ARE BASED ON AN ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF. FOR 1500 PSF SOIL, MULTIPLY FOOTING WIDTHS BY 1/2.
- SPANS AND CONDITIONS MAY VARY FROM THESE GUIDELINES. INCREASE OR DECREASE FOOTING WIDTH AS REQUIRED.

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Footers

- Install level footers with a 1/4 inch vertical tolerance and with 16-inch steps as required.
- Install vertical re-bar dowels in footers.

LAYOUT

- Locate corners and mark the wall perimeter with a chalk line.
- Install a 2 x 4 guide board on the footer.

Materials and Tools

- Locate the work area inside wall perimeter.
- Specialized tools are not required.

Handling and Storage

- Proper handling and storage is important.
- Protect from high winds and damage caused by construction site activities.

First Course

- Begin at the corners with forms tongue side up and facing in one direction.
- Glue forms to footer staying tight against the inside of the guide board.
- Work from opposing corners toward the center of wall.

Cut Forms and Splices

- Locate splices in window or door openings to minimize cuts, or in the center of wall.
- Locate cut forms and splices in a vertical, staggered, and reoccurring alignment.
- Splice both sides of the cut form.
- Use 1 x 4 pieces of wood for splices.
- Splice cut forms when the cut ends are located between stud wall tie brackets that are more than 10 inches apart.

Cutting Forms

- Use a carpenter's hand saw, Saws-All, drywall saw, or table saw to cut forms.
- Reinforce forms when a wall tie is cut.
- Use 1/4 inch smaller than measured opening and fill gap before concrete pour.

Gluing Forms

- Glue forms to the footer with a good size bead of foam adhesive.
- Chase top course to course below to prevent floating with a 1/2 inch bead of adhesive.
- There is no need to glue vertical joints.
- To assure quality, glue all horizontal joints.

Additional Courses

- Install additional courses by alternating the direction of each course.
- Install horizontal re-bar as required.

Horizontal Re-bar

- Place re-bar in tandem re-bar saddles.
- Make all re-bar splices with 36 bar diameter overlaps, including at corners.

Vertical Re-bar

- Install re-bar full length, or in places with splices overlapping 36 bar diameters.

External Bracing

- Not required at pre-molded corners.

- Required at all miter cut corners, window and door frames, intersecting walls, gable ends, and bulkheads.

Window and Door Openings

- Build frames with pressure treated 2 x 12s for top and sides, and 2 x 4 on bottom.
- Attach temporary 1 x 4 flanges on all the edges to center the frames in the wall.
- Install temporary diagonal and cross bracing to withstand concrete pressures.
- Install fasteners that will protrude into the wall cavity for concrete attachment.

Bulkheads

- Build with pressure treated 2 x 12s and temporary 1 x 4 wood flanges.
- Brace the bulkheads as required.

45-Degree and Other Custom Corners

- Miter cut straight forms to make 45-degree and other acute or obtuse corners.

Rim Joists and Ledgers

- Attach joists and ledgers with a series of anchor bolts or ledger connectors.
- Do not install structural framing until concrete has had time to cure properly.

Beam Pockets

- Remove a section of foam panel from the side of the wall assembly as required.
- Block out the opening with pieces of wood or foam inserted into the wall cavity that are easy to remove after concrete is cured.

Brick Ledge

- Establish elevations for a brick ledge form.
- Remove sections of foam from between studs and top and bottom of the brick ledge form to allow for the flow of concrete.
- Install re-bar as required.
- Fabricate a wood or metal brick ledge form and attach it to the side of the wall.

Utility, Mechanical, and Service Penetrations

- Install sleeves and chases through the wall for all penetrations.

Scaffolding and Bracing

- Install to keep wall assembly straight, plumb, square, and protect wall during concrete curing, and high winds.
- Provide a safe and adequate work platform.
- Ref: OSHA 29 CFR 1926.450 thru 453.
- Space 2 feet from corners and at 6 feet intervals throughout the wall assembly.

Before Concrete Check List

- Check wall for plumb and straight.
- Check splices and fill gaps and spaces with foam adhesive.
- Check for all required penetrations.
- Have connecting devices and structural pieces in place, or on hand for installation.
- Check scaffolding and bracing for safety.
- Check all window and door frames and all required external bracing.

- Determine the proper ready-mix design.
- Do not order concrete until you are ready.

Concrete Placement

- Place concrete with a concrete pump.
- Reduce hose diameter to 3-inch, add a "dog leg" and an "elephant trunk".
- Have materials on hand to make repairs.
- Place concrete in lifts of 4-feet.
- Concrete strength should not be less than 3000 psi with 28 day moist cure.
- Use concrete with a 6-inch slump.

Concrete Consolidation

- Consolidate concrete by "rodding" with a re-bar, and/or by tapping on the side with a hammer and a wood block as necessary.

After Concrete Placement

- Check the installation of anchor bolts and structural connectors for alignment.
- Check the walls for plumb and straight.

Concrete Curing and Removal of Bracing

- Do not remove bracing until the walls have developed adequate strength and/or have been supported laterally.
- Be aware of environmental factors that affect concrete curing.

Waterproofing

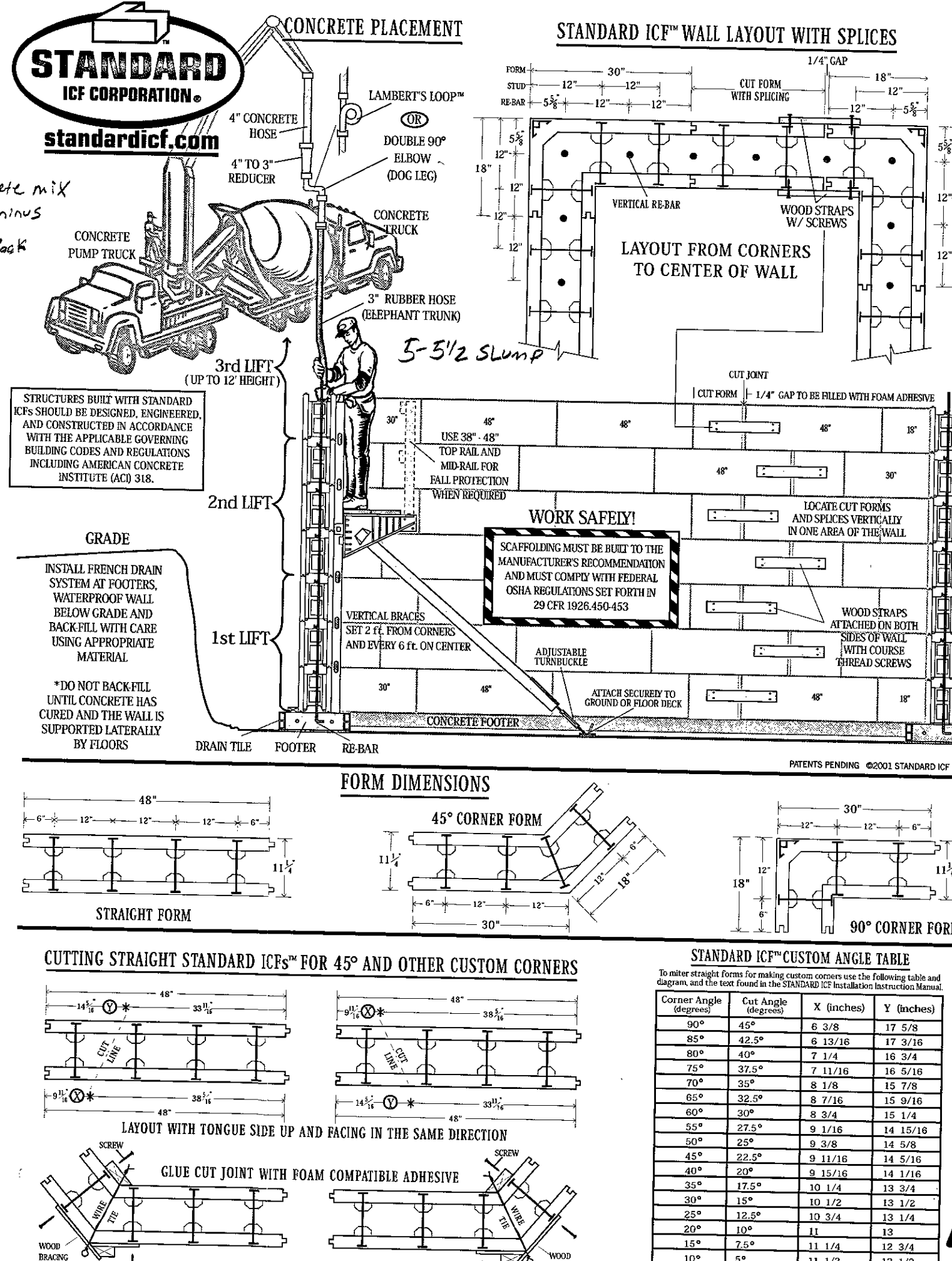
- Apply waterproofing to all below grade walls to keep the water out and protect the integrity of the foam insulation.
- Install a French Drain System at the footer.

Backfilling

- Wait until the concrete has cured properly and the walls are braced laterally by floors.
- Use backfill materials that will permeate water and reduce hydraulic pressure.

Standard ICF Specifications

- Manufactured using modified Type II EPS in accordance with ASTM E84.
- Molded to a net cured weight of 1.5 psi.
- 41L tests results with a flame spread of 10.
- and smoke a development of 300.
- Finished wall has a fire resistance of 3-hours with 5/8-inch drywall.
- Brackets made with recycled HDPE.
- No HFC's or HCFC's are emitted during the manufacturing process.
- The finished product does not off-gas and does not produce fumes, odors, or toxins.
- Calculated R-Value of R-26+. System performance comparison of up to R-50.
- Sound transmission class of STC-50.
- Stud flanges are 1 5/8-inches wide, 12-inches on center measured from corners.
- Nominal 7-inch modified flat wall with a net 6 1/2-inch concrete core.
- Straight forms: 48-inches long, 16-inches high, 1 1/4-inches wide.
- 40" & 45" Corner forms: 48-inches (18x30) long, 16-inches high, 1 1/4-inches wide.
- Surface area of 5.33 sq. ft. per form.
- One cu yd of concrete fills 10.5 straight forms, 13.75 - 90" & 12 - 45" corner forms.



STANDARD ICF WALL LAYOUT WITH SPICES

STANDARD ICF CUSTOM ANGLE TABLE

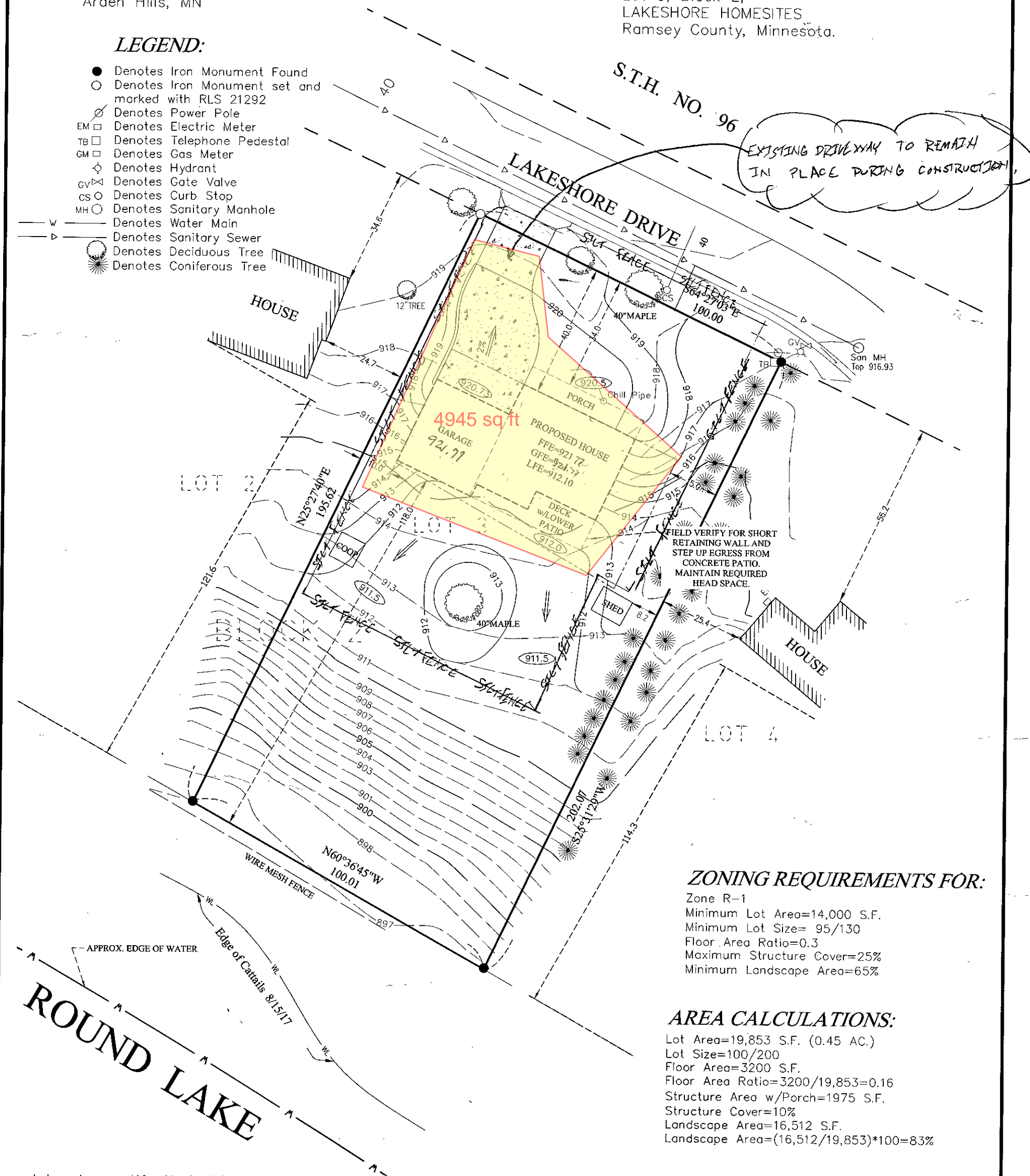
**CERTIFICATE OF SURVEY FOR
BROADVIEW BUILDERS**

PROPERTY ADDRESS
4535 Lakeshore Place
Arden Hills, MN

DESCRIPTION: FROM TAX RECORDS
Lot 3, Block 2,
LAKEHORE HOMESITES
Ramsey County, Minnesota.

LEGEND:

- Denotes Iron Monument Found
- Denotes Iron Monument set and marked with RLS 21292
- ⊗ Denotes Power Pole
- EM □ Denotes Electric Meter
- TS □ Denotes Telephone Pedestal
- GM □ Denotes Gas Meter
- ⊕ Denotes Hydrant
- GV □ Denotes Gate Valve
- CS □ Denotes Curb Stop
- MH □ Denotes Sanitary Manhole
- W — Denotes Water Main
- SS — Denotes Sanitary Sewer
- Denotes Deciduous Tree
- Denotes Coniferous Tree



ZONING REQUIREMENTS FOR:

Zone R-1
Minimum Lot Area=14,000 S.F.
Minimum Lot Size= 95'/130'
Floor Area Ratio=0.3
Maximum Structure Cover=25%
Minimum Landscape Area=65%

AREA CALCULATIONS:

Lot Area=19,853 S.F. (0.45 AC.)
Lot Size=100'/200'
Floor Area=3200 S.F.
Floor Area Ratio=3200/19,853=0.16
Structure Area w/Porch=1975 S.F.
Structure Cover=10%
Landscape Area=16,512 S.F.
Landscape Area=(16,512/19,853)*100=83%

PROPOSED ELEVATIONS:

First Floor Elevation=921.77
Garage Floor Elevation=920.77
Lowest Floor Elevation=912.10

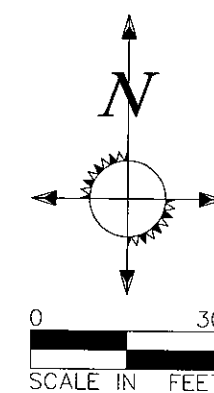
NOTES:

Elevations are on NGVD 29
Benchmark = Top of sanitary manhole 25' +/- east of NE corner of property. Elevation = 916.91 feet
The sanitary sewer elevation at the wye is at elevation 907.51 per City plans
The edge of cattails near the east property line is at elevation 892.0 and appears to be approximately the same as the elevation of the open water on Round Lake. This puts the OHW reported on the DNR Lake Finder website as 890.0 below the current water elevation.

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the state of Minnesota.

Allen Schlipf
Allen Schlipf
DATE _____ LIC. NO. MN 21292

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