

C1 42313

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

FILL IN THIS FORM COMPLETELY PLEASE TYPE

COUNTY NUMBER

ST/CO USE ONLY

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

DATE RECEIVED MM 03 DD 21 YY 16

MM 3 DD 3 YY 16

22 200 26 (TO NEAREST FOOT)

10-15-0197

OWNER Wise Mike WELL SITE ADDRESS 2050 Hall Shop Rd TOWN Clarksville

WELL LOG Not required for driven wells

GROUTING RECORD WELL HAS BEEN GROUTED (Y) (N)

C 3 PUMPING TEST

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

TYPE OF GROUTING MATERIAL (Circle one) CEMENT (CM) BENTONITE CLAY (BC)

HOURS PUMPED (nearest hour) 3

Table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Rows include Fill Dirt, Light Brown Loamy, Dark Brown Loamy, Gray limestone, White, Gray White.

NO. OF BAGS 80 NO. OF POUNDS 720 GALLONS OF WATER 480 DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 165 ft.

PUMPING RATE (gal. per min.) 6.6 METHOD USED TO MEASURE PUMPING RATE 1002

CASING RECORD casing types insert appropriate code below (ST) (CO) (PL) (OT)

WATER LEVEL (distance from land surface) BEFORE PUMPING 35' ft. WHEN PUMPING 58' ft.

MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot) (ST) 06 170

TYPE OF PUMP USED (for test) (A) air (P) piston (T) turbine (C) centrifugal (R) rotary (O) other (describe below) (J) jet (S) submersible

OTHER CASING (if used) diameter inch depth (feet) from to (ST) 10 0 40

PUMP INSTALLED DRILLER INSTALLED PUMP (CIRCLE) (YES) (NO) IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

NUMBER OF UNSUCCESSFUL WELLS: 0

C 2 DEPTH (nearest ft.)

PUMP HORSE POWER 37 41

WELL HYDROFRACTURED (Y) (N)

E A C H S C R E E N 1 HO 170 200

PUMP COLUMN LENGTH (nearest ft.) 43 47

CIRCLE APPROPRIATE LETTER A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED E ELECTRIC LOG OBTAINED P TEST WELL CONVERTED TO PRODUCTION WELL

LAND SURFACE (circle appropriate box and enter casing height) (+) above () below 02 (nearest foot)

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

SLOT SIZE 1 2 3 DIAMETER OF SCREEN (NEAREST INCH) 56 60

LATITUDE 39.1829453 LONGITUDE 76.9334641 (DEFAULT COORD. WGS 84)

DRILLERS LIC. NO. M SD 009 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04.

LIC. NO. D

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q

TELESCOPE CASING LOG INDICATOR OTHER DATA

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

70 72 74 75 76

COUNTY

B 1 38251

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type

STATE PERMIT NUMBER

70 10-15-0197 79 fill in this form completely

Date Received (APA)

OWNER INFORMATION

8 MM DD YY 13

15 Last Name Owner First Name 34

36 Street or RFD 55

57 Town 70 State 72 Zip 76

B 3

LOCATION OF WELL

8 COUNTY 21

23 SUBDIVISION 42

SECTION 44 46 LOT 48 50

52 NEAREST TOWN 71

DRILLER INFORMATION

76 Driller's Name License No. 81

Firm Name

Address

Signature Date

B 4

SOURCES OF DRILLING WATER

1. 2. 3.

11 STREET ADDRESS 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



34 390 37 DISTANCE FROM ROAD ENTER FT OR MI 38 39

TAX MAP: 0041 BLK: 0001 PARCEL 0258

B 2

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 8 5 12

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 500 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
INDUSTRIAL, COMMERCIAL, DEWATERING
PUBLIC WATER SUPPLY WELL
TEST, OBSERVATION, MONITORING
OPEN LOOP GEOTHERMAL
CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Robert Vogel Eng.
Howard COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S
DATE ISSUED 1/6/15 CO SIGNATURE 1/6/17 EXP. DATE

APPROXIMATE DEPTH OF WELL 24 300 28 FEET

APPROXIMATE DIAMETER OF WELL 6 NEAREST INCH

METHOD OF DRILLING (circle one)

- BORED (or Augered) JETTED Jetted & DRIVEN
AIR-ROTARY AIR-PERCussion ROTARY (Hydraulic Rotary)
CABLE REVERSE-ROTARY DRIVE-POINT
other

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- THIS WELL WILL NOT REPLACE AN EXISTING WELL
THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
THIS WELL WILL DEEPEM AN EXISTING WELL

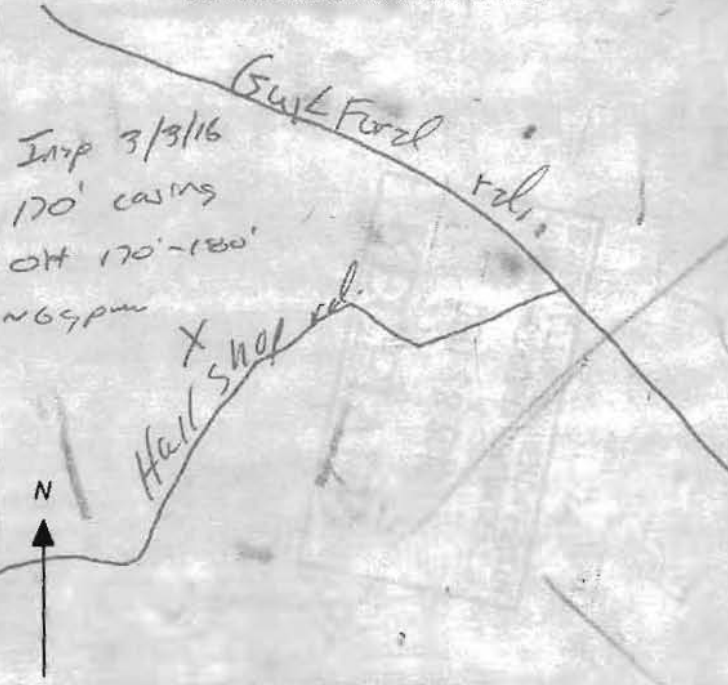
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52

Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER G

PERMIT No. 70 71 72 73 74 75 76 77 78 79 10-15-0197

PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED See attached memo

**HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
WELL & SEPTIC PROGRAM
TEL: (410)313-1771 FAX: (410)313-2648**

Information Form for the Installation of the Well Pump, Pitless Adapter, and Supply Piping

NOTE: The installer is responsible for requesting an inspection prior to 9 am on the day of the desired inspection. No work is to be covered until approved by the Health Department. All installations must comply with the National Standard Plumbing Code (NSPC, as amended locally) and COMAR 26.04.04 (MD Well Construction Regulations). Submission of a complete form is required prior to Use and Occupancy approval.

Company Name: Do-It Plumbing & Heating LLC Telephone #: 270 882 0067
Address: 9455 910 Mill Rd
B. C. Md. 21442

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): Duane G. Hunt License# 21877

*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.

Name of Property Owner: Wise Telephone #: 410-777-7414
Subdivision: N/A Lot #: Well Tag #: HO-15-2187
Site Address: 1205E Mill Shop Rd
Clarksville, Md. 21029

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>Miyata</u>	Make: <u>American Gravity</u>	Two piece watertight cap: <u>yes</u>
Model #: <u>22T72-5P4s-P4-2</u>	Model#: <u>1T320-4P</u>	Screened, vented well cap: <u>yes</u>
Pump Capacity <u>5</u> GPM	Depth: <u>42</u> (36" min)	Cap secured to casing: <u>yes</u>
Well Yield: <u>8</u> GPM	NSF/WSC approved: <u>yes</u>	Conduit min 18" B.G.: <u>yes</u>
Depth of well encountered at time of pump installation: <u>300</u> (feet)		Conduit secured to well cap: <u>yes</u>
If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4		
Torque arrestors, <u>Cable guards</u> , or other acceptable method used- Must circle one		
Safety rope, if used, attached to brass rope adapter or other acceptable method <u>inside of well casing</u> <u>No Rope</u>		

<u>Piping to house</u>	<u>House Connection</u>
Type: <u>Black Poly</u>	PVC sleeve to undisturbed soil at wall penetration: <u>20 ft</u>
PSI: <u>160</u> (160 psi min)	Length of sleeve(s) minimum from foundation: <u>20 ft</u>
Depth of supply line: <u>42"</u> (36" min)	Sleeve sealed properly: <u>yes</u>

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation: [Signature] date: Dec-22-2017

For Health Department Use Only - Not to be completed by Installer

Date Insp. Requested: _____ Date Insp. Approved: _____ Inspector: _____

Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade _____
Two piece cap installed and attached to casing securely _____
Elec. conduit extends at least 18" below grade/attached to cap property _____
Safety rope not outside of well cap/casing _____
Correct well tag attached properly and casing 8" above finished grade _____
Water supply line sleeved adequately at house connection _____
Adequate grout observed below pitless adapter _____

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Company Name: Do-It Plumbing & Heating LLC Telephone #: 270 882 0069
Address: 7955 via mill rd.
E. G. Md. 21443

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:

Name (Print): Duane G. Beck License# 21899

*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.

Name of Property Owner: Wise Telephone #: 410-777-9414
Subdivision: N/A Lot #: _____ Well Tag #: HO-15-2197
Site Address: 12050 Hill Shop Rd.
Clarksville, Md. 21029

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>Meters</u>	Make: <u>American County</u>	Two piece watertight cap: <u>yes</u>
Model #: <u>25F72-5Plus-P4.2</u>	Model #: <u>PTSD0-1F</u>	Screened, vented well cap: <u>yes</u>
Pump Capacity: <u>5</u> GPM	Depth: <u>42</u> (36" min)	Cap secured to casing: <u>yes</u>
Well Yield: <u>8</u> GPM	NSF/WSC approved: <u>yes</u>	Conduit min 18" B.G.: <u>yes</u>
Depth of well encountered at time of pump installation: <u>300</u> (feet)		Conduit secured to well cap: <u>yes</u>
If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4		
Torque arrestors, cable guards, or other acceptable method used- Must circle one		
Safety rope, if used, attached to brass rope adapter or other acceptable method <u>inside of well casing</u> <u>NO ROPE</u>		

<u>Piping to house</u>	<u>House Connection</u>
Type: <u>Black Poly</u>	PVC sleeve to undisturbed soil at wall penetration: <u>20 ft</u>
PSI: <u>✓</u> (160 psi min)	Length of sleeve (5' minimum from foundation): <u>20 ft</u>
Depth of supply line: <u>42</u> (36" min)	Sleeve sealed properly: <u>yes</u>

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation: [Signature] date: Dec-22-2017

For Health Department Use Only - Not to be completed by Installer

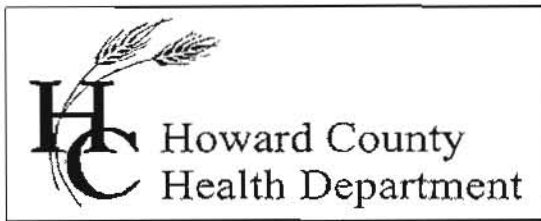
Date Insp. Requested: _____ Date Insp. Approved: _____ Inspector: _____
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade _____
Two piece cap installed and attached to casing securely _____
Elec. conduit extends at least 18" below grade/attached to cap properly _____
Safety rope not outside of well cap/casing _____
Correct well tag attached properly and casing 8" above finished grade _____
Water supply line sleeved adequately at house connection _____
Adequate grout observed below pitless adapter _____

Freemon, Robert

To: jmatta@mcs homes.net
Cc: Wolf, Kevin; Martin, Sharhonda; Cook, Kathleen; DeMarco, Rebecca; Huskins, Thomas; Reger, Linda; Sauerwein, Sandra; Frey, Thomas; Wingo, Judy
Subject: ICOP
Attachments: 12050 Hall Shop Rd..pdf

Hi,
Here is the ICOP for 12050 Hall Shop Road Clarksville, MD 21029. If you have any questions or need anything else let me know.

*Robert "Spencer" Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Bureau of Environmental Health
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
Website: <https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>*



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21046-2147

Main: 410-313-1774 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

INTERIM CERTIFICATE OF POTABILITY

Expiration Date – July 9, 2018

January 9, 2018

Mike & Andi Wise
12050 Hall Shop Rd.
Clarksville, MD 21029

RE: 12050 Hall Shop Rd.
Clarksville, MD 21029
Building Permit: B17002057
Well Permit: HO-15-0197

Dear Homeowner:

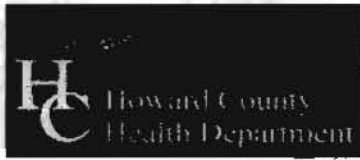
This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on 1/5/2018. Final approval of the well line connection to the dwelling was granted on 11/15/17. The well construction was completed on 3/3/2016. Water samples were collected on 12/26/2017.

The water sample results indicate that the water samples submitted for testing were free of coliform and fecal coliform bacteria at the time of sampling and are bacteriologically safe for drinking.

Gross Alpha and Beta samples were also collected on 3/3/2016. Results showed a Gross Alpha level of $<2.0 \pm 0.0$ pCi/L and Gross Beta level of 4.0 ± 0.0 pCi/L. The Gross Alpha was below the maximum contaminant level (MCL) of 15 pCi/L and the Gross Beta was below the target level of 50pCi/L (roughly equivalent to the annual dose rate of 4 millirems per year). At the time of testing and with respect to these parameters, the well water is safe for all uses.

This certifies that the initial sampling requirements of COMAR 26.04.04 "Well Regulations" have been met for the water supply system installed under well permit HO-15-0197. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will be issued. **Failure to submit an additional sample and obtain a Final Certificate of Potability will result in a Notice of Violation and is punishable as a misdemeanor under the Annotated Code of Maryland, Environment Article, 9-1311, subject to a fine of up to \$500 or imprisonment not to exceed three months.**



Bureau of Environmental Health
 7178 Columbia Gateway Drive, Columbia, MD 21046-2147
 (410) 313-2640 Fax (410) 313-2646
 TDD (410) 313-2323 Toll Free 1-866-313-6300
 website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

TO ALL INTERESTED PARTIES

When submitting a well permit application for a proposed well for new construction, please indicate one of the following:

Well Site Location: _____
 Subdivision/Property Name Lot# Road Name
 _____ 12050 Hall Shop RD

- The well site has been staked by Robert Vogel ENG.
 (professional land surveyor or company employing professional land surveyors)
 on 12-16-15 (date) and does not require a site inspection.
- The well driller, builder or property owner will call the Health Department to schedule a time to meet in the field to verify the proposed well site location.

This sheet, along with two copies of an acceptable well site plan, must be attached to the green well permit application.

Revised 3/11/05

WATER WELL ABANDONMENT-SEALING REPORT FORM

SUBMIT COPIES OF COMPLETED FORM TO:

- * COUNTY ENVIRONMENTAL AGENCY (contact MDE, WMA if address needed)
- * WELL OWNER
- * MDE, WATER MANAGEMENT ADMINISTRATION, WELL PROGRAM

OK
1/15/18 SC

DATE WELL ABANDONED: 1-3-18 (month/day/year)

* PERMIT NUMBER OF ABANDONED WELL (if any) N/A

* PERMIT NUMBER OF REPLACEMENT WELL:

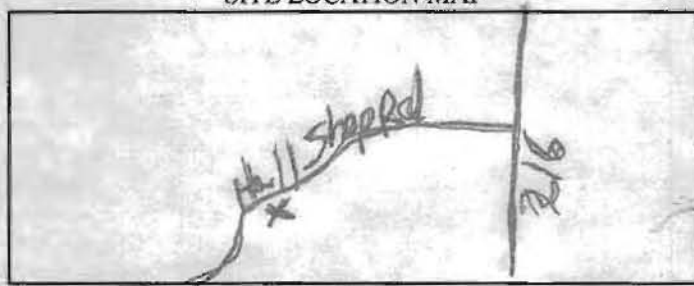
* PERSON ABANDONING WELL: Andrew Houseman WELL DRILLER'S LICENSE NUMBER:

CIRCLE: MWD / MSD / MGD

* OWNER'S NAME: Mike Wise

SITE LOCATION MAP

* WELL LOCATION:
COUNTY: Howard
NEAREST TOWN: Clarksville
TAX MAP 0041 BLOCK 0001 PARCEL 0258
SUBDIVISION:
SECTION: LOT:
STREET ADDRESS: 12050 Hall Shop Rd



LATITUDE 3 9.182498

LONGITUDE 7 6.932068

LOG OF SEALING MATERIAL

* TYPE OF WELL BEING ABANDONED:
 DRILLED JETTED
 BORED HAND DUG
 OTHER (specify)

MATERIAL	FEET	
	FROM	TO
Stone	16	5
Cement	5	0

* USE CODE:
 DOMESTIC MUNICIPAL/PUBLIC
 IRRIGATION INDUSTRIAL
 TEST/OBSERVATION GEOTHERMAL

VOLUME OF MATERIAL USED

Stone 3.5 yds Cement 2 yds

* TYPE OF CASING:
 STEEL PLASTIC
 CONCRETE OTHER (specify)

SIZE OF CASING: 36 INCHES IN DIAMETER

DEPTH OF WELL: 16 FEET DEEP

WAS ANY CASING REMOVED? YES NO
If yes, length removed, in feet:

WAS CASING RIPPED OR PERFORATED? YES NO

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN Andrew Houseman LICENSE# 224

CIRCLE ONE MWD / MSD / MGS DATE 1-3-18

COUNTY

Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.

**HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
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Company Name: Do-It Plumbing Telephone #: _____
Address: _____

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer

License # and name of individual responsible for the field installation:

Name (Print): _____ License# _____

*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.

Name of Property Owner: _____ Telephone #: _____
Subdivision: _____ Lot #: _____ Well Tag #: HO - _____
Site Address: 12090 Hwt Shop Rd.

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: _____	Make: _____	Two piece watertight cap: _____
Model #: _____	Model#: _____	Screened, vented well cap: _____
Pump Capacity _____ GPM	Depth: _____ (36" min)	Cap secured to casing: _____
Well Yield: _____ GPM	NSF/WSC approved: _____	Conduit min 18" B.G.: _____
Depth of well encountered at time of pump installation: _____ (feet)	Conduit secured to well cap: _____	
If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4		
Torque arrestors, Cable guards, or other acceptable method used-- Must circle one		
Safety rope, if used, attached to brass rope adapter or other acceptable method <u>inside of well casing</u>		

<u>Piping to house</u>	<u>House Connection</u>
Type: _____	PVC sleeve to undisturbed soil at wall penetration: _____
PSI: _____ (160 psi min)	Length of sleeve(5' minimum from foundation): _____
Depth of supply line: _____ (36" min)	Sleeve sealed properly: _____

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation _____ date _____

For Health Department Use Only - Not to be completed by Installer

Date Insp. Requested: 11/15/17 Date Insp. Approved: 11/15/17 Inspector: Sc

Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade	<u>✓</u>
Two piece cap installed and attached to casing securely	<u>✓</u>
Elec. conduit extends at least 18" below grade/attached to cap properly	<u>✓</u>
Safety rope not outside of well cap/casing	<u>✓</u>
Correct well tag attached properly and casing 8" above finished grade	<u>✓</u>
Water supply line sleeved adequately at house connection	<u>✓</u>
Adequate grout observed below pitless adapter	<u>✓</u>



Bernard, Dana

From: Bernard, Dana
Sent: Tuesday, November 17, 2015 9:19 AM
To: rvogel@vogeleng.com
Subject: Wize Property

Mr. Vogel,

There are a few items we have to discuss for the Wise property. First, We must discuss the location and what test we will need to approve a building permit for the property. The property is located between two junk yards and we are concerned about VOC's, lead, and heavy metals. We will require samples at the point of yield testing for the new well. And if any are elevated, the well may not be approved as a potable source for water for the new house. Our first step will be to drill a new well and perform these tests. I have spoken to Mr. Wise to confirm the requirements needed. You may want to follow up. We will continue to review the percolation certification plan, however there are some minor changes needed. 1. Remove holes from plan that are labeled not tested. 2. Move septic area further up towards the road, the holes cannot be below holes 1 and 2. We would like to see them up or above the upper holes if possible. You only need an initial system and the 1st replacement if you are using the BAT unit. If you have any questions don't hesitate to give me a call.

Thank you & Have a*")

.....*").....*")
(* Wonderful Day!
Dana Bernard
Dana Bernard, R.E.H.S./L.E.H.S.
Environmental Specialist II
Bureau of Environmental Health
Well and Septic Program
Phone (410) 313-2775
E-mail: DBernard@howardcountymd.gov



State of Maryland
DHMH-Laboratories Administration
Division of Environmental Chemistry
INORGANICS ANALYTICAL LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project NoE16003482 Date Coll. 03/21/2016 Date Received 03/22/2016 Submitted By:K. Wolf

Field ID: KWHOTDS0197
Lab No.: E16003482002

<u>Analyte</u>	<u>Method</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
Total Dissolved Solids	SM 2540C	124	mg/L	03/25/2016

Comments:

Approved by:

Approval date: 04/04/2016

*The following methods are included in our A2LA Scope of Accreditation: EPA150.1, EPA 353.2, EPA 375.2, SM4500F C, SM 4500-CN G & QCM-CN, QCM-CN

This document contains confidential health information that is privileged, confidential and exempt from disclosure under law. If you have received this information in error, please call (410) 767-6190 and arrange for return or destruction.



SEND REPORT TO:

Bert Nixon

State of Maryland
DHMH - Laboratories Administration
Division of Environmental Chemistry
RADIATION LABORATORY
1770 Ashland Avenue
Baltimore, Maryland 21205

Lab No.

E001510 E-8⁰

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Wise Property, 12050 Hall Shop County: Howard

Sample Source: Lab - Field Blank Location: HO-15-0197
(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A _____ Radon-222 Field Blank → Bottle A KWFB 3316
Bottle B _____ Bottle B _____

County 13 Plant No. _____

CHECK (one per Box)

Type	Service	Point of Collection	Testing
Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input type="checkbox"/>	Routine <input checked="" type="checkbox"/>
Stream <input type="checkbox"/>	Private <input checked="" type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input type="checkbox"/>
Other <input type="checkbox"/>	Other <input type="checkbox"/>		Special <input type="checkbox"/>

Submitters Code: _____ Federal Project: _____

Collector: K. Wolf Telephone No.: 410-313-2645

Date Collected: 3-3-16 Time Collected: _____ a.m. 1:30 p.m.

Field pH: 2.0 Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Radon Field Blank

TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/> Gross Alpha	4000	1510	EPA900.0	< 2.0	3/11/16	IJ	3/15/16
<input checked="" type="checkbox"/> Gross Beta	4100	1510	EPA900.0	< 4.0	3/11/16	IJ	3/15/16
<input type="checkbox"/> Radium-226	4020						
<input type="checkbox"/> Radium-228	4030						
<input type="checkbox"/> Total Uranium	4006						
<input type="checkbox"/> Radon-222 (Bottle A)	4004						
<input type="checkbox"/> Radon-222 (Bottle B)	4004						
<input type="checkbox"/> Radon Field Blank A	4004						
<input type="checkbox"/> Radon Field Blank B	4004						
<input type="checkbox"/> Tritium							
<input checked="" type="checkbox"/> Gross α , β Field Blank							

Date Received: 03/08/16 Received By: In Ji

Data Release Signature: Deborah Miller - Duck Date: 3/15/16

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>		
Sample pH < 2.0?	<input checked="" type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>		

Send Report To:

State of Maryland
DHMH - Laboratories Administration
Division of Environmental Chemistry
TRACE METALS LABORATORY
1770 Ashland Avenue
Baltimore, Maryland 21205

E16003250001
Received: 03/08/2016
Metals HOKWTM0197

Do not write above this line

LABORATORY ANALYSIS REQUEST

Please Print

Sample ID No: HOKWTM0197 Site Name: Wise Property County: Howard

Sample Source: Hall Shop Rd (12050) Clarksville Collector: K. Wolf
Street Town or City Name

Date Collected: 3/3/2016 Time Collected: 1:30 a.m. 1:30 p.m. Phone #: 410-313-2648

Sample Preserved By: Field ESRL WMRL Central Lab
Preservative Used: HNO₃ 196 mL pH: 2.0

Sample Type: Drinking Water Landfill Source (Raw Water) Liquid
 Community Stream Distribution (Treated) Solid
Data Category Code Non-Community Sediment Other
 Private

Specify Program: SDWA NPDES CWA RCRA Consumer Products Other

Type of Sample Preparation: Total Metals Total Metals TCLP Dissolved Metals
(field preparation required)

Remarks: Please test for the following Trace metals listed below. Field blank attached... -KWW

✓	Element	Results (ppm)	✓	Element	Results (ppm)
	Antimony (Sb)		✓	Copper (Cu) <u>ppm</u>	
	Arsenic (As)		✓	Lead (Pb) <u>ppm</u>	
	Barium (Ba)			Silver (Ag)	
	Beryllium (Be)			Zinc (Zn)	
✓	Cadmium (Cd) <u>ppm</u>			Aluminum (Al)	
✓	Chromium (Cr) <u>ppm</u>			Iron (Fe)	
✓	Mercury (Hg) <u>ppm</u>			Manganese (Mn)	
✓	Nickel (Ni) <u>ppm</u>			Calcium (Ca)	
	Selenium (Se)			Magnesium (Mg)	
✓	Sodium (Na) <u>ppm</u>			Potassium (K)	
	Thallium (Tl)			Uranium (U)	
				Vanadium (V)	

Lab Supervisor: _____

Date Reported: / /

•Phone: (443) 681-3857 •Fax: (443) 681-4507



State of Maryland
DHMH-Laboratories Administration
Division of Environmental Chemistry
TRACE METALS LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project No: E16003250 Date Coll.: 03/03/2016 Date Received 03/08/2016 Submitted By Wolf

Field ID: HOKWTM0197

Lab No.: E16003250001

<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.7	Sodium	1.88	ppm	03/09/2016
<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.8	Cadmium	<0.0025	ppm	03/14/2016
EPA 200.8	Chromium	<0.010	ppm	03/14/2016
EPA 200.8	Copper	<0.050	ppm	03/14/2016
EPA 200.8	Lead	<0.005	ppm	03/14/2016
EPA 200.8	Nickel	<0.050	ppm	03/14/2016
<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 245.1	Mercury	<0.00050	ppm	03/10/2016

Comments:

Approved by:

Yungsoo Choi

Approval date: 03/17/2016

**The following methods are included in our A2LA Scope of Accreditation: EPA 200.7, EPA 200.8, EPA 245.1.

This document contains confidential health information that is privileged, confidential and exempt from disclosure under law. If you have received this information in error, please call (410) 767-6944 and arrange for return or destruction.



State of Maryland
DHMH-Laboratories Administration
Division of Environmental Chemistry
TRACE METALS LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project No: E16003250 Date Coll.: 03/03/2016 Date Received 03/08/2016 Submitted By Wolf

Field ID: KWFBTM3316
Lab No.: E16003250002

<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.7	Sodium	<1.000	ppm	03/09/2016
<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.8	Nickel	<0.050	ppm	03/14/2016
EPA 200.8	Cadmium	<0.0025	ppm	03/14/2016
EPA 200.8	Chromium	<0.010	ppm	03/14/2016
EPA 200.8	Copper	<0.050	ppm	03/14/2016
EPA 200.8	Lead	<0.005	ppm	03/14/2016
<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 245.1	Mercury	<0.00050	ppm	03/10/2016

Comments:

Approved by:

Yingtao Chen

Approval date: 03/17/2016

**The following methods are included in our A2LA Scope of Accreditation: EPA 200.7, EPA 200.8, EPA 245.1.

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FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. • Westminster, MD 21158 • MD State Certification #133
(410) 848-1014 • (410) 876-4554 • FAX (410) 848-0298

VOLATILE ORGANIC WATER ANALYSIS REPORT

LAB ID # 105974

Location:	12050 Hall Shop Road Clarksville, MD 21029	Work Order #:	68563
Date & Time Collected:	3/3/16 1407	Requested by:	Dave Fogle
Collected by:	J. Fogle 1974JF	Source:	Well
		Site:	Pumped from Well
		Treatment:	None

CONTAMINANT	EPA CONT ID	MCL (PPB)	ACTUAL LEVEL	CONTAMINANT	EPA CONT ID	ACTUAL LEVEL
REGULATED				UNREGULATED		
Benzene	2990	5	ND	Bromobenzene	2993	ND
Carbon Tetrachloride	2982	5	ND	Bromochloromethane	2430	ND
o-Dichlorobenzene	2968	600	ND	Bromomethane	2214	ND
p-Dichlorobenzene	2969	75	ND	n-Butylbenzene	2422	ND
1,2-Dichloroethane	2980	5	ND	Sec-butylbenzene	2428	ND
1, 1-Dichloroethene	2977	7	ND	Tert-butylbenzene	2426	ND
cis-1,2-Dichloroethene	2380	70	ND	Chloroethane	2216	ND
trans-1,2-Dichloroethene	2979	100	ND	o-Chlorotoluene	2965	ND
Dichloromethane	2964	5	ND	p-Chlorotoluene	2966	ND
1,2-Dichloropropane	2983	5	ND	m-Dichlorobenzene	2967	ND
Ethylbenzene	2992	700	ND	1,1-Dichloroethane	2978	ND
Monochlorobenzene	2989	100	ND	1,3-Dichloropropane	2412	ND
Styrene	2996	100	ND	2,2-Dichloropropane	2416	ND
Tetrachloroethene (PCE)	2987	5	ND	1,1-Dichloropropene	2410	ND
Toluene	2991	1000	ND	cis-1,3-Dichloropropene	2413	ND
1,2,4-Trichlorobenzene	2378	70	ND	trans-1,3-Dichloropropene	2413	ND
1,1,1-Trichloroethane	2981	200	ND	Dichlorodifluoromethane	2212	ND
1,1,2-Trichloroethane	2985	5	ND	Hexachlorobutadiene	2246	ND
Trichloroethene (TCE)	2984	5	ND	Isopropylbenzene	2994	ND
Vinyl Chloride	2976	2	ND	p-Isopropyltoluene	2030	ND
Xylenes (Total)	2955	10000	ND	MTBE	2251	1.0
				Naphthalene	2248	ND
TRihalOMETHANES				n-Propylbenzene	2998	ND
Bromodichloromethane	2943		ND	1,1,1,2-Tetrachloroethane	2986	ND
Bromoform	2942		ND	1,1 2,2-Tetrachloroethane	2988	ND
Chloroform	2941		ND	1,2,3-Trichlorobenzene	2420	ND
Dibromochloromethane	2944		ND	Trichlorofluoromethane	2218	ND
				1 2,3-Trichloropropane	2414	ND
ADDITIONAL COMPOUNDS				1,2,4-Trimethylbenzene	2418	ND
TAME			ND	1,3,5-Trimethylbenzene	2424	ND
Chloromethane			ND	m, p-xylene	2995	ND
Dibromomethane			ND	o-xylene	2997	ND

NOTES:

- 1) MCL: Maximum Contaminant Level
- 2) Detection limit: 0.5 PPB
- 3) ND: None Detected
- 4) PPB: Parts Per Billion (micrograms per liter)
- 5) Sub-contracted to Lab #128, method EPA 524.2, Date Analyzed: 3/9/16, Tech: DD

Date Reported: 3/11/16

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #: 119117 Account #: 27405
Reference: Wise Company: CASH ACCOUNT
Location: 12050 Hall Shop Road Requested By: Joe Matta/ MCS Homes/ Wise
Clarksville, MD 21029 Source: Well Water
Date/ Time Collected: 12/26/2017 1150 Site: Pressure Tank
Date/Time Rec'd: 12/26/2017 1515 Treatment: None**
Chlorine ppm: Free: ND Total: ND pH: 6.8
Collected By: J.M. Robbins 5606JR Well #: HO-15-0197

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	12/27/2017 / 0930 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	12/27/2017 / 0930 / CCH
Nitrate	<0.2	mg/L	10	300.0	12/27/2017 / 1853 / WND
Turbidity	2.74	NTU	<10	SM20 2130B	12/27/2017 / 0915 / CRS
Sand	NS	mg/L	5	Visual/Gravimetric	12/27/2017 / 0915 / CRS

OK
KMM

NOTES

- **Sample collected prior to Sediment Filter**
- mg/L = milligrams per liter (also, parts per million)
- MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
- Nitrate Sub-contracted to Reference Lab #192
- NS = None Seen (NS indicates less than 5 mg/L)
- NTU = Nephelometric Turbidity Units
- Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- ND:None Detected
- Visual well check: Sealed, vented cap
- pH & Chlorine level tested on site

Reason for Test : Use & Occupancy
Building Permit # : B17002057

Date Reported: 12/28/2017



State of Maryland
DHMH-Laboratories Administration
Division of Environmental Chemistry
INORGANICS ANALYTICAL LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project NoE16003482 Date Coll. 03/21/2016 Date Received 03/22/2016 Submitted By:K. Wolf

Field ID: KWHOCH0197
Lab No.: E16003482001

<u>Analyte</u>	<u>Method</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
Chloride	SM 4500-Cl E	<10	mg/L	03/31/2016

Comments:

Approved by:

Approval date: 04/04/2016

*The following methods are included in our A2LA Scope of Accreditation: EPA150.1, EPA 353.2, EPA 375.2, SM4500F C, SM 4500-CN G & QCM-CN, QCM-CN

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2001

12368

12034

12040

12050

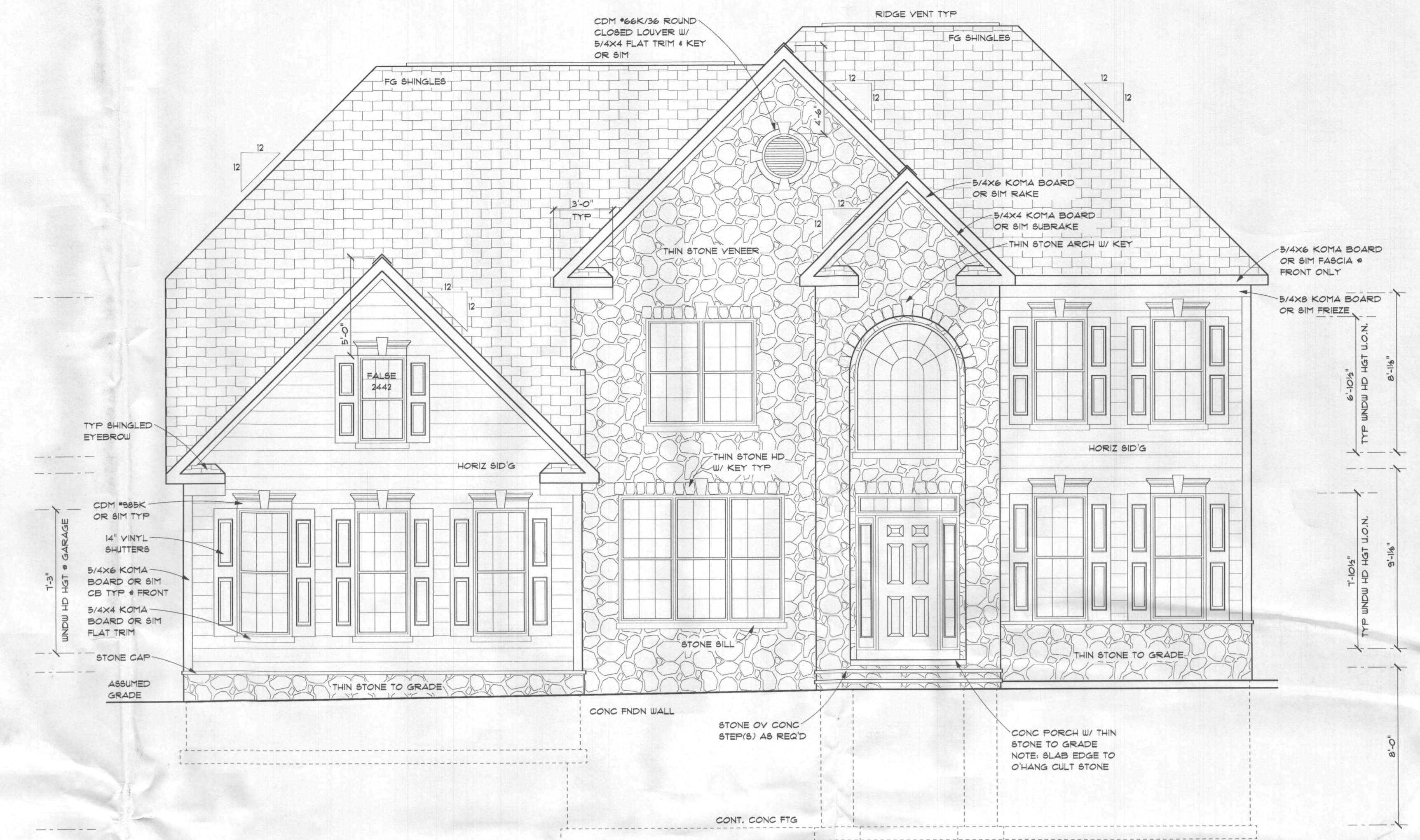
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FRONT ELEVATION

INTERIOR SPRINKLER
 CONCEALED HEADS

NOTES

1.0 GENERAL

1.01 CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE LOCAL AND STATE CODES, ORDINANCES, REGULATIONS AND AMENDMENTS AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONSTRUCTION SHALL COMPLY WITH INTERPRETATIONS OF THE LOCAL BUILDING OFFICIAL. IF THE INTERPRETATION OF THE LOCAL BUILDING OFFICIAL IS AT VARIANCE WITH THESE PLANS OR SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.

1.02 IN THE EVENT OF A DISCREPANCY BETWEEN THE ARCHITECTURAL PLANS OR SPECIFICATIONS AND THE STRUCTURAL DRAWINGS, THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE.

1.03 DESIGN LOADS:

TYPE	LIVE LOAD (PSF)	DEAD LOAD (PSF)
ROOF	30	20
SLEEPING ROOMS	30	15
OTHER LIVING AREAS	40	15
GARAGE FLOORS	50	50
DECKS	40	10
EXTERIOR BALCONIES	60	15

2.01 SITE WORK IS NOT ADDRESSED IN THESE DOCUMENTS. 2000 PSF SOIL BEARING CAPACITY ASSUMED.

3.0 CONCRETE/FOUNDATIONS

3.01 ALL REINFORCED CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE ACI 318, CURRENT EDITION. ALL FLAIN CONCRETE SHALL CONFORM TO ACI 318.1 AND ACI 308R GUIDE TO RESIDENTIAL CAST-IN-PLACE CONCRETE CONSTRUCTION.

3.02 MINIMUM SPECIFIED COMPRESSIVE STRENGTH = 28 DAYS:

LOCATION OF CONCRETE	F _c (PSI)
BASEMENT WALLS AND FOUNDATIONS NOT EXPOSED TO WEATHER	2500
BASEMENT SLABS AND INTERIOR SLABS ON GRADE	2500
BASEMENT WALLS, EXTERIOR FOUNDATION WALLS AND OTHER WORK EXPOSED TO WEATHER	3000
DRIVEWAYS, CURBS, WALKS, PATIOS, PORCHES, STEPS/STAIRS AND UNHEATED GARAGE SLABS EXPOSED TO WEATHER	3500

3.03 THICKNESS AND REINFORCING OF CONCRETE FOUNDATION WALLS SHALL CONFORM TO THE INTERNATIONAL RESIDENTIAL CODE, CURRENT EDITION, TABLE R404.1.2 (1-4), OR WITH SEALED STRUCTURAL DRAWINGS SPECIFIC TO THE SITE SOIL AND GRADE CONDITIONS.

4.0 MASONRY

4.01 ALL MASONRY WORK SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF THE BIA AND NCMA SPECIFICATION FOR CONCRETE MASONRY CONSTRUCTION.

4.02 BRICK VENEER WALLS SHALL HAVE NON-CORROSIVE METAL TIES AT MINIMUM 16" O.C. VERTICALLY AND HORIZONTALLY, AND WEEP HOLES AT 24" O.C. AT BASE FLASHING AND CAVITY INTERRUPTIONS.

5.0 METALS

5.01 FOUNDATION ANCHOR BOLTS SHALL BE PROVIDED AT MAXIMUM 6'-0" O.C. AND 12" FROM THE END OF EACH PLATE SECTION, WITH MINIMUM TWO (2) ANCHORS PER SECTION OF PLATE. ANCHOR STRAPS SPACED TO ACHIEVE EQUIVALENT CAPACITY MAY BE SUBSTITUTED FOR ANCHOR BOLTS.

5.02 ALL METAL ANCHORS, FASTENERS, HANGERS ETC. SHALL BE GALVANIZED. ALL STRUCTURAL STEEL JOIST-PLANGE BEAMS SHALL CONFORM TO ASTM A992 WITH MINIMUM STRENGTH F_y = 50 KSI. ALL STRUCTURAL STEEL CHANNELS, ANGLES, ROOF AND BAR STOCK SHALL CONFORM TO ASTM A36 WITH MINIMUM STRENGTH F_y = 36 KSI.

5.03 ADJUSTABLE STEEL COLUMNS SHALL BE MINIMUM II GAUGE, ASTM A513 OR BETTER, AND SHALL MEET OR EXCEED A18A PUBLISHED ALLOWABLE LOAD CAPACITY. STEEL PIPE COLUMNS SHALL CONFORM TO ASTM A53 GRADE B WITH MINIMUM STRENGTH F_y = 35 KSI. COLUMNS SHALL HAVE A MINIMUM 8"x8"x1/4" BEARING PLATE. SCREW JACK SHALL BE ENCASED IN CONCRETE OR TACK WELDED AFTER INSTALLATION.

6.0 WOOD

6.01 SILL PLATES AND ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE AND ALL EXPOSED EXTERIOR LUMBER, SHALL BE PRESSURE TREATED TO MEET AJP1 STANDARDS.

6.02 MOISTURE CONTENT OF ALL LUMBER SHALL NOT EXCEED 19%.

6.03 WOOD BEAMS, JOISTS, HEADERS AND RAFTERS SHALL BE MINIMUM 5-P-F #1/2 OR EQUAL UNLESS OTHERWISE NOTED.

6.04 LVL MEMBERS SHALL BE 1-3/4" WIDE, DEPTH PER PLANS, GANGED PER MANUFACTURER'S SPECIFICATIONS, WITH THE FOLLOWING MINIMUM PROPERTIES: Fc&D 200 PSI, Fc&T 250 PSI, Fv 285 PSI, E1,300,000 PSI.

6.05 PSL MEMBERS SHALL BE SIZED PER PLANS, WITH THE FOLLOWING MINIMUM PROPERTIES: Fc&D 300 PSI, Fc&T 350 PSI, Fv 280 PSI, E4,000,000 PSI.

6.06 PREFABRICATED FLOOR JOISTS OR FLOOR TRUSSES SHALL BE DESIGNED TO CARRY ALL IMPOSED LIVE AND DEAD LOADS WITH THE LIVE LOAD DEFLECTION NOT TO EXCEED L/480. ALL LAMINATED BEAMS AND BUTT-JOIST JOISTS TO BE DESIGNED/VERIFIED BY PER TYPICAL THROUGHOUT. THE MANUFACTURER SHALL PROVIDE ALL REQUIRED HANGERS, SHEAR PANELS, BLOCKING/ BRACING AND OTHER REQUIRED COMPONENTS. THE MANUFACTURER SHALL ALSO PROVIDE ALL DRAWINGS REQUIRED FOR PERMIT AND ERECTION PURPOSES, SIGNED AND SEALED IF REQUIRED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE JOB IS TO BE BUILT.

7.0 THERMAL AND MOISTURE PROTECTION

7.01 PRE-ENGINEERED TRUSSES SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH TPI RECOMMENDATIONS TO CARRY ALL IMPOSED LIVE AND DEAD LOADS. THE MANUFACTURER SHALL SUPPLY ALL REQUIRED HANGERS, HOLD-DOWN STRIPS, SHEAR PANELS AND OTHER REQUIRED COMPONENTS. THE MANUFACTURER SHALL ALSO PROVIDE ALL DRAWINGS REQUIRED FOR PERMIT AND ERECTION PURPOSES, SIGNED AND SEALED IF REQUIRED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE JOB IS TO BE BUILT.

7.02 JOISTS SHALL BE DOUBLED UNDER PARALLEL WALLS THAT EXCEED ONE-THIRD THE JOIST LENGTH. JOISTS SHALL BE SPACED CLOSER UNDER BATH TUBS, CERAMIC OR MARBLE TILE, POTENTIAL WATER BEDS AND SIMILAR ANTICIPATED LOADING CONDITIONS. JOISTS SHALL NOT BE CUT, NOTCHED OR DRILLED EXCEPT AS PERMITTED BY IRC 2015 R502.8 OR OTHER APPLICABLE CODE.

7.03 HEADERS OVER FRAMED OPENINGS IN BEARING WALLS SHALL BE MINIMUM 2-2X10 UNLESS OTHERWISE NOTED ON DRAWINGS, BUT SHALL IN NO EVENT BE LESS THAN SPECIFIED IN IRC 2015 TABLE R502.5 OR OTHER APPLICABLE CODE.

1.0 THERMAL AND MOISTURE PROTECTION

1.01 1/2" X 3-1/2" MIN COMPRESSIBLE SILL SEAL SHALL BE PROVIDED BENEATH ALL EXTERIOR SILL PLATES.

1.02 PROVIDE FLASHING AS REQUIRED AT ALL WALL PENETRATIONS, ROOF/WALL INTERSECTIONS, CAVITY INTERRUPTIONS, AND THE LIKE.

THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING HVAC UNITS IN FULL COMPLIANCE WITH IRC 2015 M1401.3. A COPY OF THE MANUAL J (OR APPROVED ALTERNATE METHOD) CALCULATIONS AND RESULTS SHALL BE MADE AVAILABLE ON SITE AT THE TIME OF INSPECTION FOR THE INSPECTOR'S REVIEW AND FILES.

THE BUILDER SHALL BE RESPONSIBLE AND LIABLE FOR FULL COMPLIANCE WITH ALL APPLICABLE BUILDING CODES, ORDINANCES, REGULATIONS AND AMENDMENTS, AND ALL OTHER AUTHORITIES HAVING JURISDICTION, WHETHER OR NOT SUCH CODES AND REQUIREMENTS ARE EXPLICITLY DOCUMENTED IN THESE DRAWINGS, INCLUDING BUT NOT LIMITED TO SECTION R602.10 OF THE INTERNATIONAL RESIDENTIAL CODE CURRENTLY IN EFFECT. CONSTRUCTION SHALL COMPLY WITH THE INTERPRETATIONS OF THE LOCAL BUILDING OFFICIAL IF THE INTERPRETATION OF THE LOCAL BUILDING OFFICIAL IS AT VARIANCE WITH THESE PLANS OR SPECIFICATIONS. THE MORE STRINGENT SHALL APPLY. USE OF THESE DRAWINGS TO OBTAIN A BUILDING PERMIT OR TO CONSTRUCT THE HOUSE DOCUMENTED HEREIN SHALL CONSTITUTE ACCEPTANCE OF THESE CONDITIONS BY THE BUILDER.

NOTE: WINDOWS MUST COMPLY W/ IRC 2015 SECTION R312.2 AS LOCALLY AMENDED

IECC 2015 ENERGY CODE COMPLIANCE REQUIREMENTS

THE BUILDING SHALL CONFORM TO THE FOLLOWING MANDATORY REQUIREMENTS PER THE 2015 INTERNATIONAL ENERGY CONSERVATION CODE:

COMPLIANCE CERTIFICATE	A PERMANENT CERTIFICATE APPROVED BY THE LOCAL JURISDICTION DESCRIBING THE R-VALUES, U-FACTORS, AND SHGC OF THE BUILDING COMPONENTS AND BUILDING AIR LEAKAGE TEST RESULTS SHALL BE AFFIXED TO A WALL ABOVE THE FURNACE, IN A UTILITY ROOM, OR ANOTHER LOCATION APPROVED BY THE LOCAL JURISDICTION. PER IECC R401.3 (IRC N101.4).
AIR LEAKAGE	ALL NEW CONSTRUCTION BUILDINGS SHALL BE CONSTRUCTED TO LIMIT THE THERMAL ENVELOPE AIR LEAKAGE TO 3 AIR CHANGES PER HOUR AT 50 PASCALS OF PRESSURE AND TESTED VIA A BLOWER DOOR TEST PER IECC R402.4 (IRC N102.4).
MAXIMUM PENETRATION U-FACTOR AND SHGC	THE MAXIMUM U-FACTOR ALLOWED USING EITHER THE TOTAL UA ALTERNATIVE METHOD PER IECC R402.1.5 (IRC N102.1.5) OR THE SIMULATED PERFORMANCE ALTERNATIVE PER IECC R402.8 (IRC N102.8) SHALL BE 0.48 FOR VERTICAL PENETRATION AND 0.15 FOR SKYLIGHTS PER IECC R402.9 (IRC N102.9).
HVAC CONTROLS	EACH HEATING AND COOLING SYSTEM SHALL HAVE AT LEAST ONE THERMOSTAT PER IECC R403.1 (IRC N103.1). IF THE PRIMARY HEATING SYSTEM IS A FORCED AIR FURNACE, A PROGRAMMABLE THERMOSTAT SHALL BE PROVIDED PER IECC R403.1.1 (IRC N103.1.1).
HEAT PUMP SUPPLEMENTARY HEAT	HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTAL HEAT FROM OPERATING WHEN THE HEAT PUMP COMPRESSOR CAN MEET THE HEATING LOAD PER IECC R403.1.2 (IRC N103.1.2).
DUCT SEALING	ALL DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED PER IRC M1601.4.1. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER A ROUGH-IN OR POSTCONSTRUCTION TEST PER IECC R403.3.3 (IRC N103.3.3) UNLESS DUCTS AND AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.
BUILDING CAVITIES AS DUCTS OR PLENUMS	BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS PER IECC R403.3.5 (IRC N103.3.5).
MECHANICAL SYSTEM PIPING INSULATION	MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 100°F OR BELOW 50°F SHALL BE INSULATED TO R-3 MINIMUM PER IECC R403.4 (IRC N103.4). PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DEGRADATION AND DECAY PER IECC R403.4.1 (IRC N103.4.1).
CIRCULATING HOT WATER SYSTEMS	CIRCULATING HOT WATER SYSTEMS SHALL BE PROVIDED WITH AN AUTOMATIC OR READILY ACCESSIBLE MANUAL SWITCH TO TURN OFF THE CIRCULATING PUMP WHEN THE SYSTEM IS NOT IN USE PER IECC R403.5.1 (IRC N103.5.1).
MECHANICAL VENTILATION	THE BUILDING SHALL BE PROVIDED WITH VENTILATION PER IRC M1501 OR OTHER APPROVED MEANS OF VENTILATION PER IECC R403.6 (IRC N103.6). WHOLE-HOUSE VENTILATION FANS SHALL MEET EFFICIENCY STANDARDS PER IECC TABLE R403.6.1 (IRC TABLE N103.6.1).
EQUIPMENT SIZING	HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL 6 BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES PER IECC R403.7 (IRC N103.7).
SYSTEMS SERVING MULTIPLE DWELLING UNITS	SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL CONFORM TO IECC SECTIONS C403 AND C404.
SNOW MELT SYSTEMS CONTROLS	SNOW AND ICE MELT SYSTEMS SUPPLIED THROUGH ENERGY SERVICE TO THE BUILDING SHALL INCLUDE AUTOMATIC CONTROLS CAPABLE OF SHUTTING OFF THE SYSTEM WHEN THE PAVEMENT TEMPERATURE IS ABOVE 50°F AND NO PRECIPITATION IS FALLING, AND AUTOMATIC OR MANUAL CONTROLS CAPABLE OF SHUTTING OFF THE SYSTEM WHEN THE OUTDOOR TEMPERATURE IS ABOVE 40°F PER IECC R403.9 (IRC N103.9).
POOLS AND INGROUND PERMANENTLY INSTALLED SPA'S	POOLS AND INGROUND SPA HEATERS SHALL HAVE AN ACCESSIBLE ON-OFF SWITCH MOUNTED ON THE OUTSIDE OF THE HEATER THAT ALLOWS SHUT-OFF WITHOUT AFFECTING THE THERMOSTAT SETTING PER IECC R403.10.2 (IRC N103.10.2). GAS-FIRED HEATERS SHALL NOT HAVE CONSTANT BURNING PILOT LIGHTS. HEATERS SHALL HAVE TIME SWITCHES OR OTHER CONTROL METHODS TO AUTOMATICALLY TURN ON AND OFF PER A PRESET SCHEDULE PER IECC R403.10.3 (IRC N103.10.3). HEATED POOLS AND INGROUND SPA'S SHALL BE PROVIDED WITH A VAPOR-RETARDANT COVER PER IECC R403.10.4 (IRC N103.10.4).
LIGHTING EQUIPMENT	A MINIMUM OF 15% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS OR A MINIMUM OF 15% OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY LAMPS PER IECC R404.1 (IRC N104.1).
FUEL GAS LIGHTING EQUIPMENT	FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHT SYSTEMS PER IECC R404.1 (IRC N104.1.1).

THE BUILDING SHALL ALSO CONFORM TO THE FOLLOWING PRESCRIPTIVE REQUIREMENTS:

THE BUILDING CONFORMS TO THE PRESCRIPTIVE REQUIREMENTS DETAILED IN THE CHART BELOW PER IECC R402.1.2 + R402.1.3 (IRC N102.1.2 + N102.1.3). EQUIVALENT U-FACTORS MAY BE SUBSTITUTED FOR REQUIRED R-VALUES PER IECC R402.1.4 (IRC N102.1.4). THE BUILDING SHALL ALSO CONFORM TO THE DETAILED REQUIREMENTS OF IECC R402.2 (IRC N102.2).

COMPONENT	REQUIRED VALUE
CEILING/ROOF	R-49 (COMPRESSED OVER WALL TOP PLATE AT EAVES) OR R-38 (UNCOMPRESSED OVER WALL TOP PLATE AT EAVES)
WALLS	R-20 CAVITY OR R-13 CAVITY PLUS R-5 CONTINUOUS
BASEMENT WALLS	R-10 CONTINUOUS OR R-13 CAVITY
SLAB	R-10, 2' DEPTH
CRAWL SPACE WALLS	R-10 CONTINUOUS OR R-13 CAVITY
FLOORS OVER UNCONDITIONED SPACE	R-19
DUCTS OUTSIDE CONDITIONED SPACE	R-8 FOR SUPPLY DUCTS IN ATTICS R-6 FOR ALL OTHER DUCTS
HOT WATER PIPES	R-3 UNLESS OTHERWISE ALLOWED BY IECC R403.4.2 (IRC N103.4.2)
PENETRATION	U-FACTOR + 0.35 MAX; SHGC + 0.40 MAX
SKYLIGHTS	U-FACTOR + 0.35 MAX; SHGC + 0.40 MAX

STAIR GEOMETRY REQUIREMENTS

INTERIOR STAIRS SHALL CONFORM TO THE FOLLOWING GEOMETRY PER IRC 2015 R311.7.

STRAIGHT:
 RISER HEIGHT 7"3" MAX
 TREAD DEPTH 10" MIN
 NOSING .75" MIN 1.25" MAX
 (NOTE: NOSING MAY BE OMITTED • TREAD DEPTH OF 11" OR GREATER)

UNDER & CURVED:
 RISER HEIGHT 7"3" MAX
 TREAD DEPTH 6" MIN • EDGE 10" MIN • 12" IN FROM EDGE
 NOSING .75" MIN 1.25" MAX

SCALE: 1/4" = 1'-0"
 OR AS NOTED

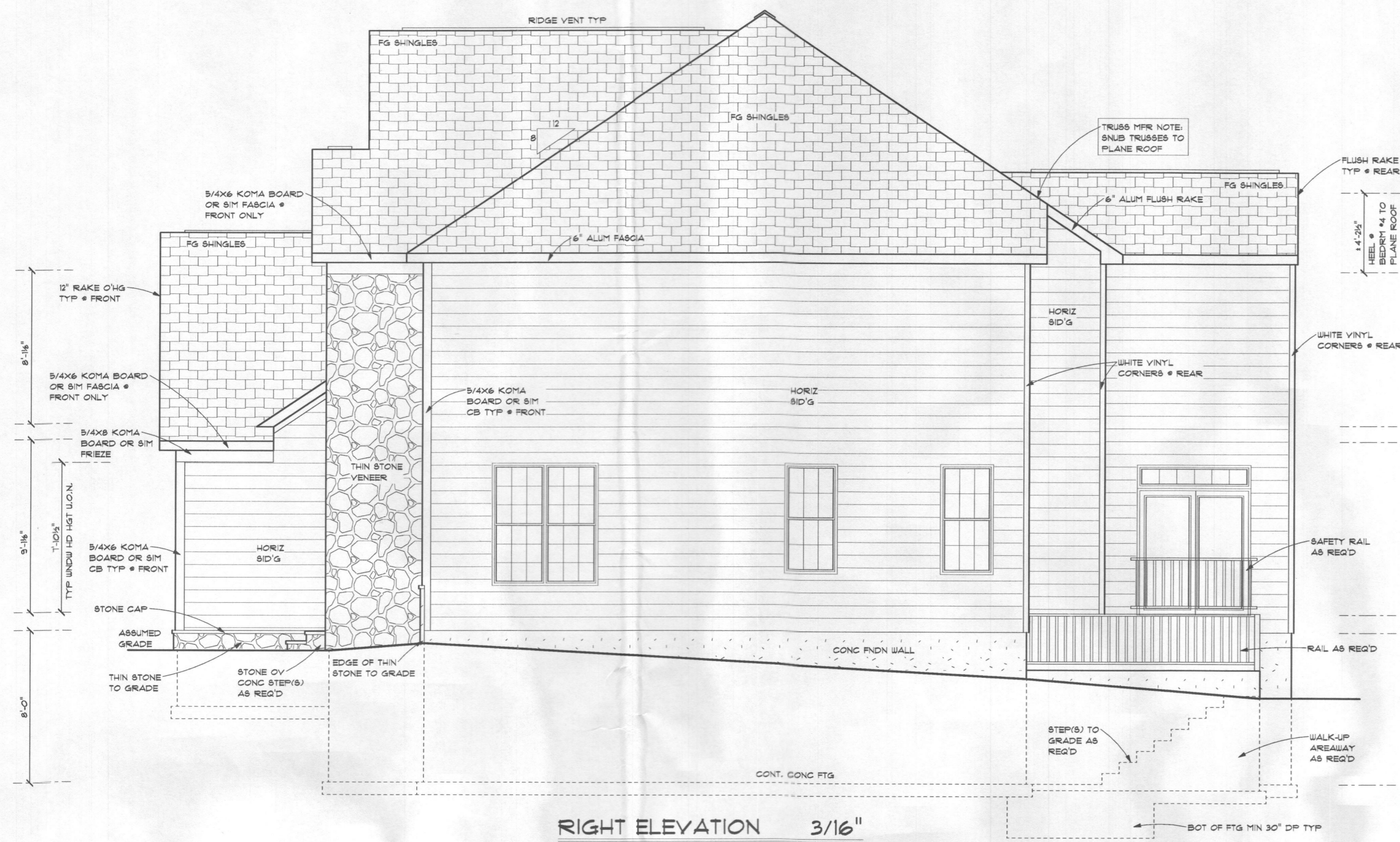
REVISIONS

NO.	DATE	DESCRIPTION
10-05-2016		
01-11-2017		

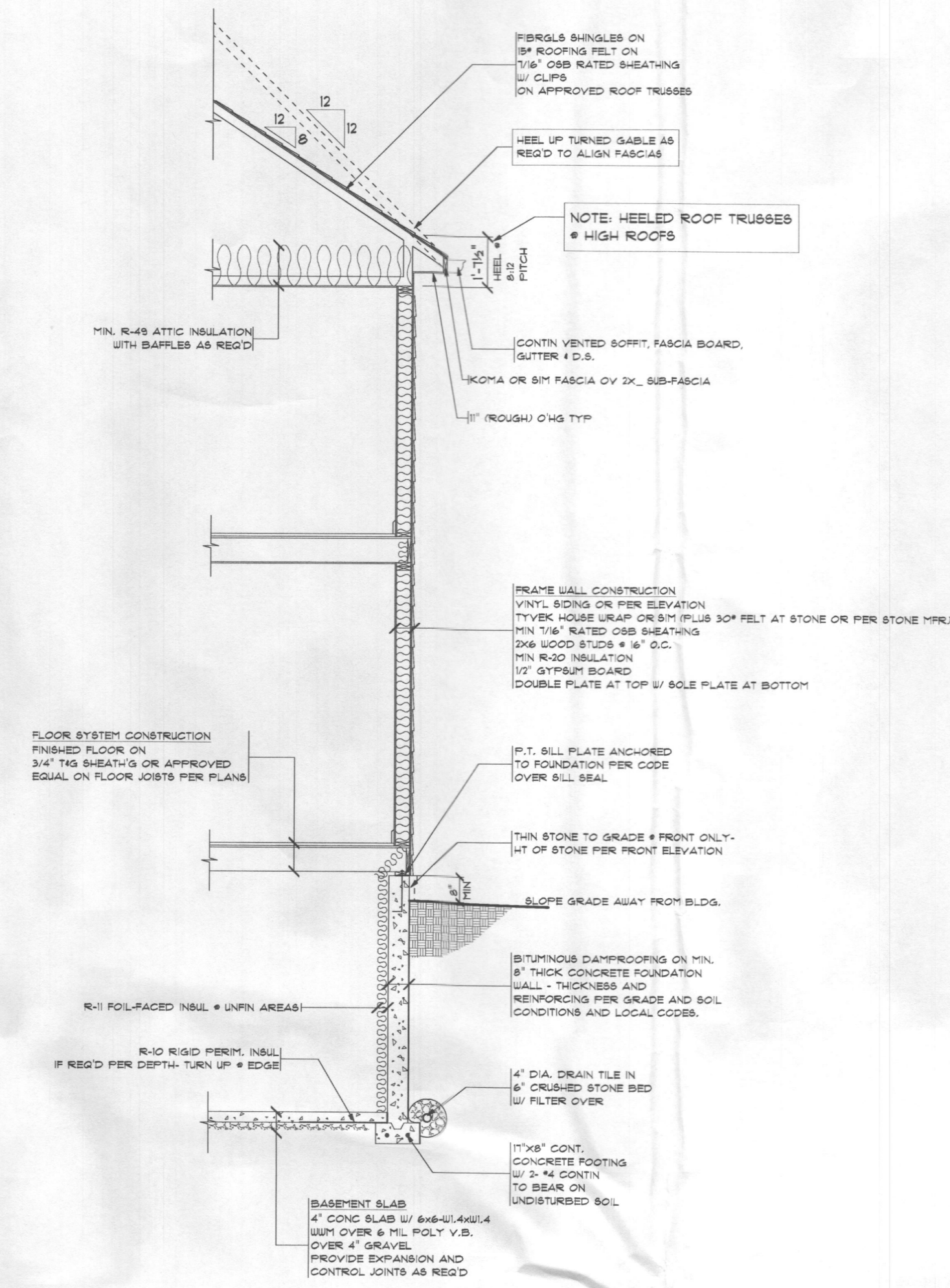
DATE: 04-22-2015

SHEET NO.

A-1



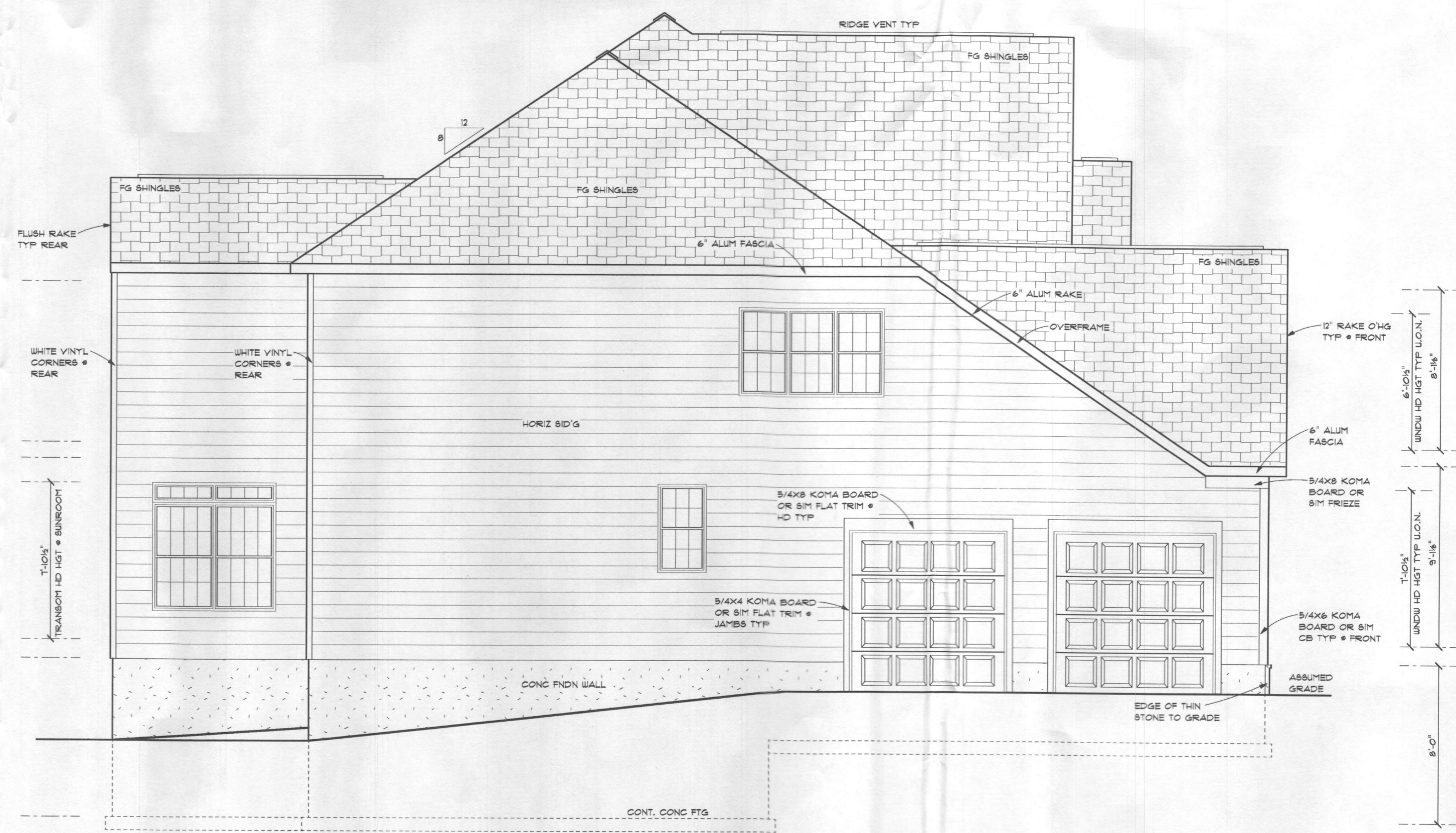
RIGHT ELEVATION 3/16"



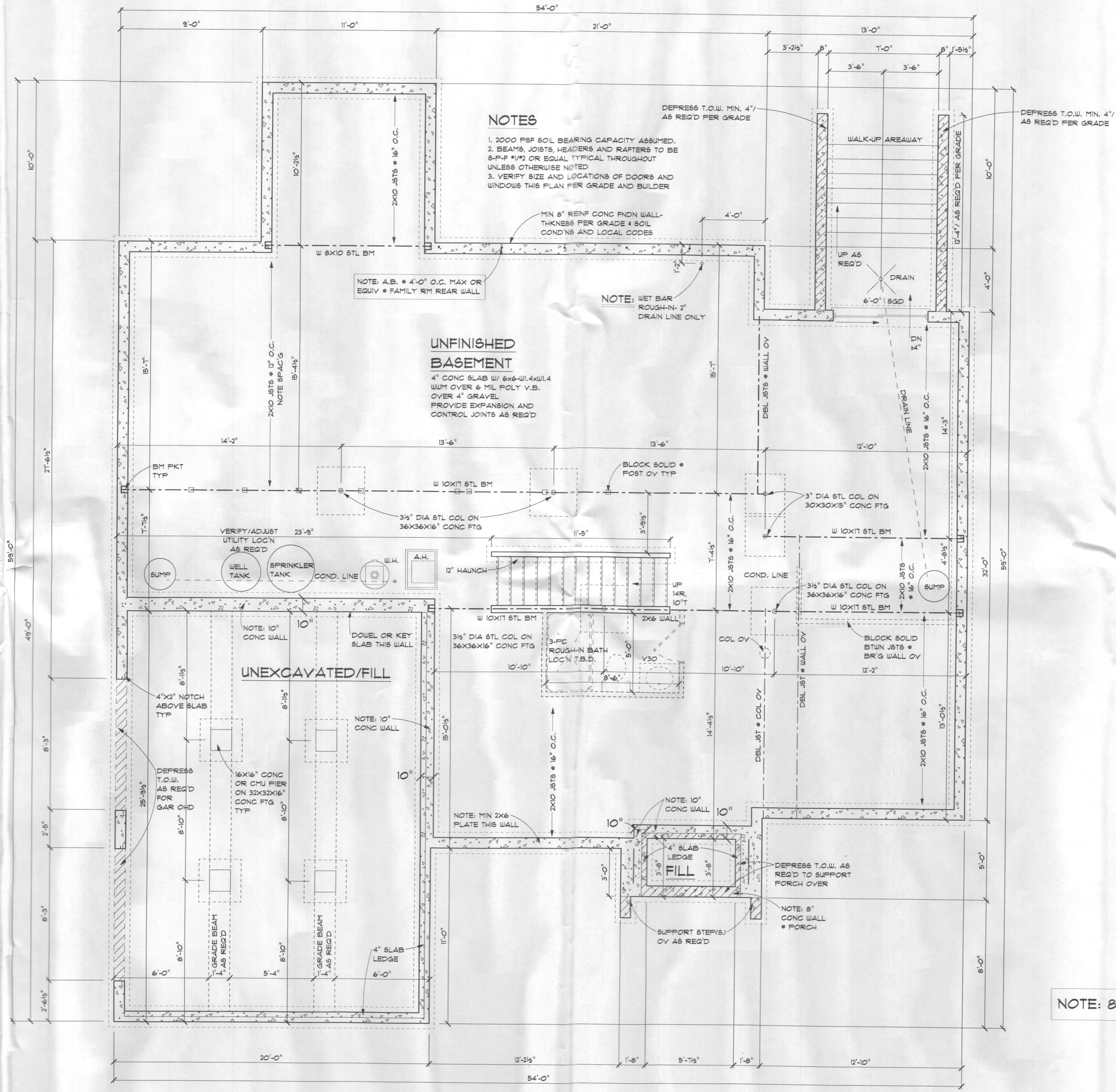
FRAME WALL SECTION
SCALE: N.T.S.



REAR ELEVATION 3/16"

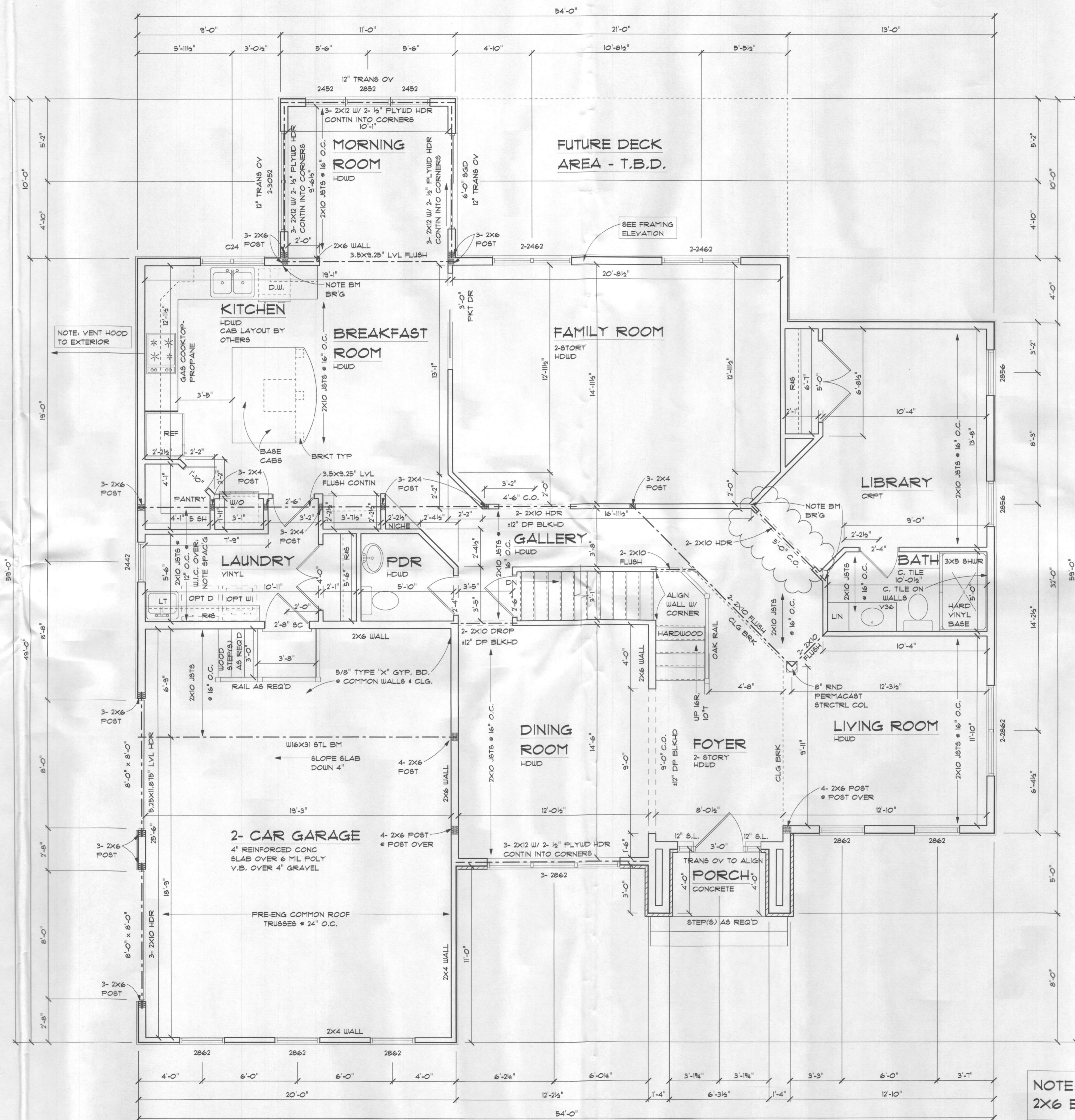


LEFT ELEVATION 3/16"



FOUNDATION PLAN
NOTE 8'-0" FOUNDATION WALL HGT

REVISIONS
10-06-2016
01-11-2017



FIRST FLOOR PLAN

NOTE: 9'-1 1/2" WALL HGT
 2x6 EXTERIOR WALLS U.O.N.
 45 DEG ANGLE WALLS U.O.N.

APPROX. 1784 SF FIRST FLOOR

NOTE: 9' CEILING
 2X6 EXTERIOR WALLS U.O.N.

SCALE: 1/4" = 1'-0"
 OR AS NOTED

REVISIONS
10-05-2016
01-11-2017
06-09-2017

DATE 04-22-2015
 SHEET NO.

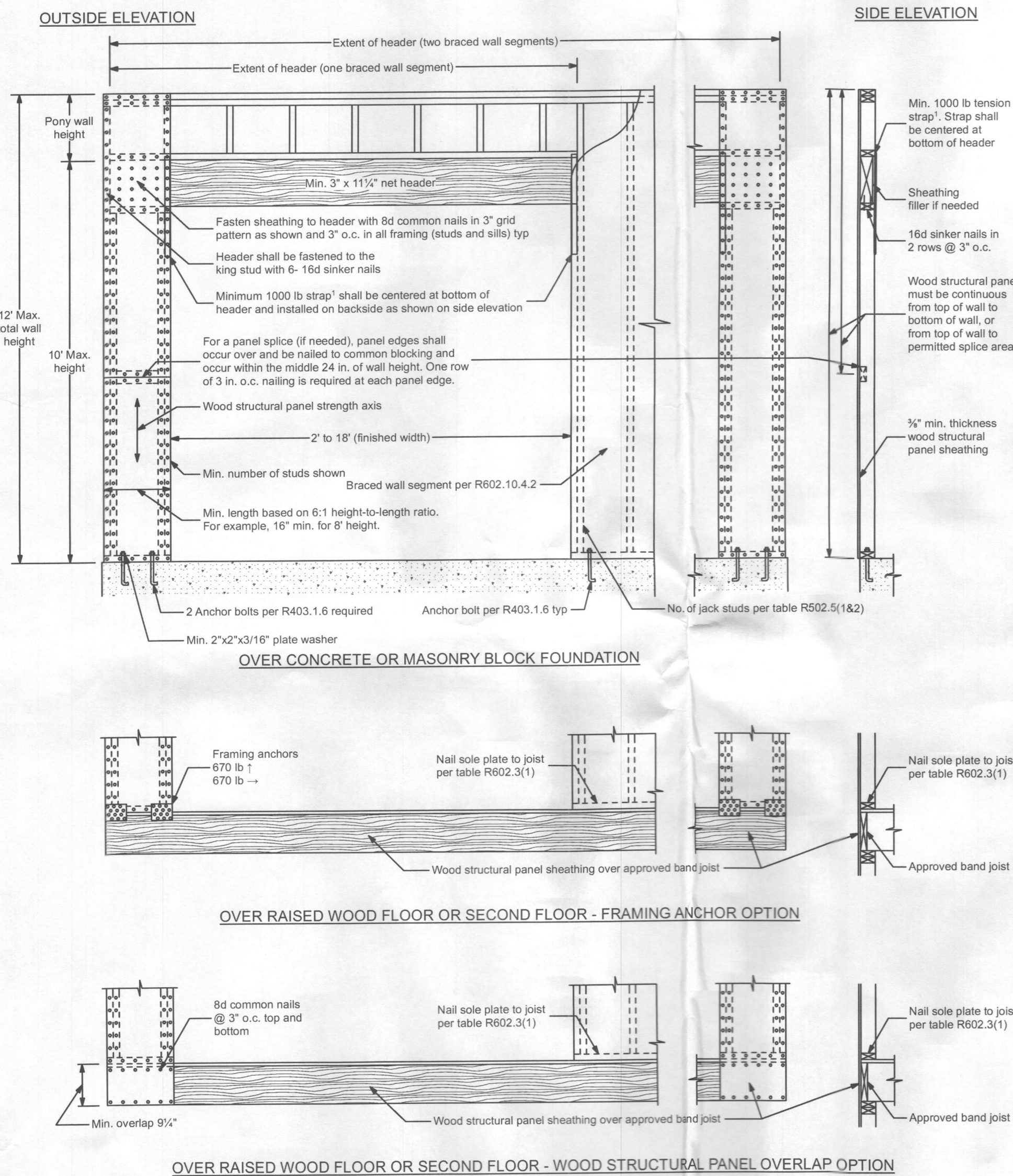
NOTES

Methods WSP & CS-WSP: Min. 7/16" OSB Wood Structural Panel sheathing attached to framing with 6d at 6" o.c. at panel edges and 12" o.c. at intermediate framing members.

Note: At Braced Wall Lines incorporating Continuously Sheathed bracing methods (CS-WSP & CS-PF), all exterior walls along the Braced Wall Line must be fully sheathed with min 7/16" OSB Wood Structural Panel sheathing fastened per IRC 2015 Tables R602.3(1), R602.3(2), and R602.3(3).

Method GB: Min. 1/2" gypsum board applied to each side of framing with adhesive and Type S or W screws @ 7" o.c. at panel edges and 24" o.c. at intermediate framing members or nails per IRC 2015 Table R702.3.5 @ 7" o.c. at panel edges and 16" o.c. at intermediate framing members.

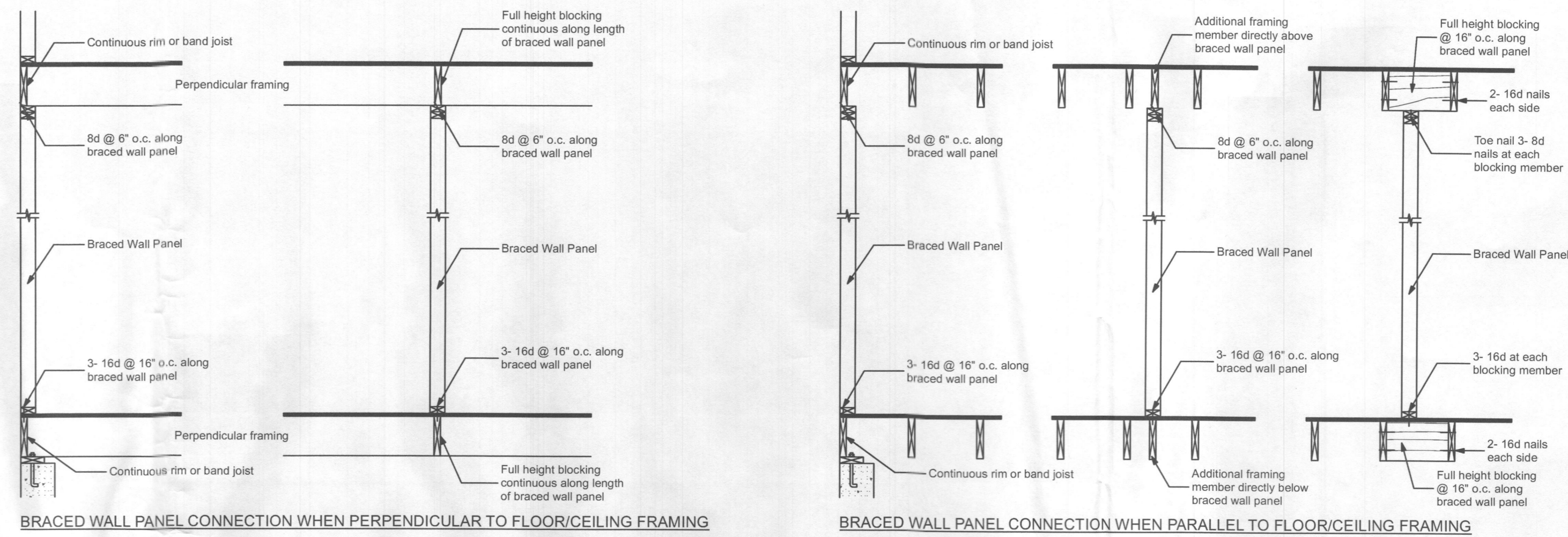
Method LIB: Simpson WB/WBC straps installed in an "X" pattern on one face of wall; fasten with 2- 16d nails at top and bottom plates and 1- 8d nail per stud. 8' tall walls to use either WB106/WB106C installed at 60° from horizontal (4'-8" linear wall length) or WB126/WB126C installed at 45° from horizontal (8'-1" linear wall length); 9' tall walls to use WB126/WB126C installed at 53° from horizontal (6'-10" linear wall length); 10' tall walls to use WB143C installed at 45° from horizontal (10'-1" linear wall length).



1 Tension Strap Capacity Required for Method CS-PF

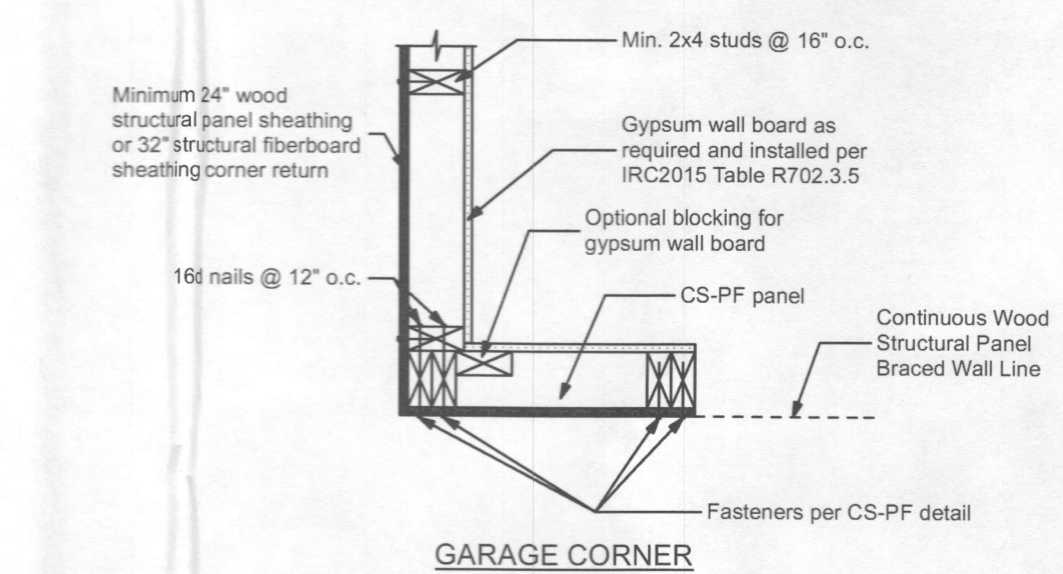
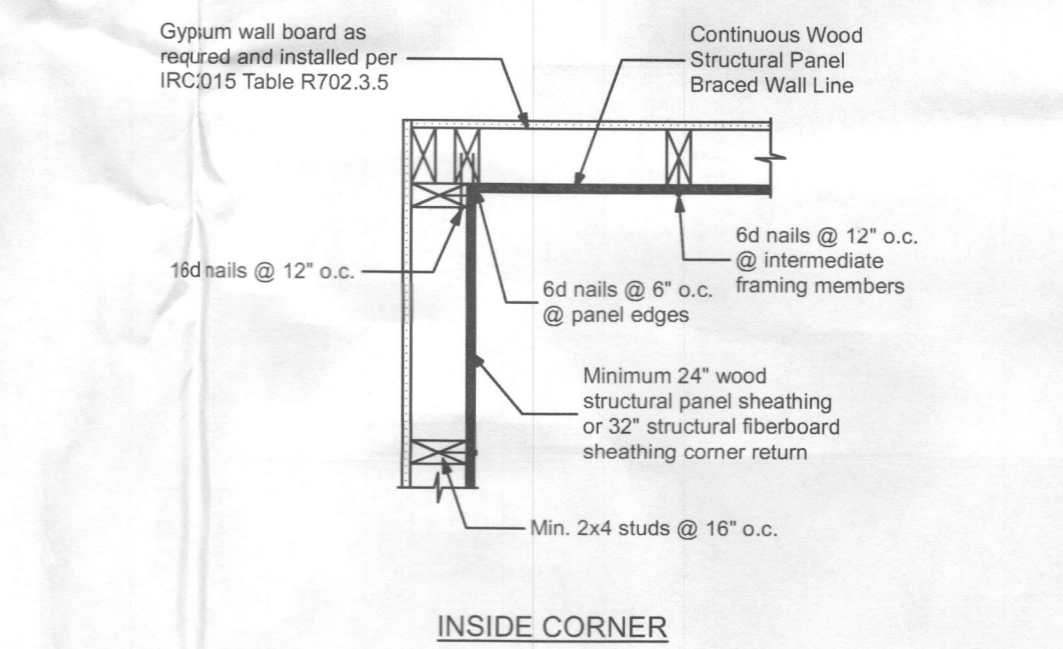
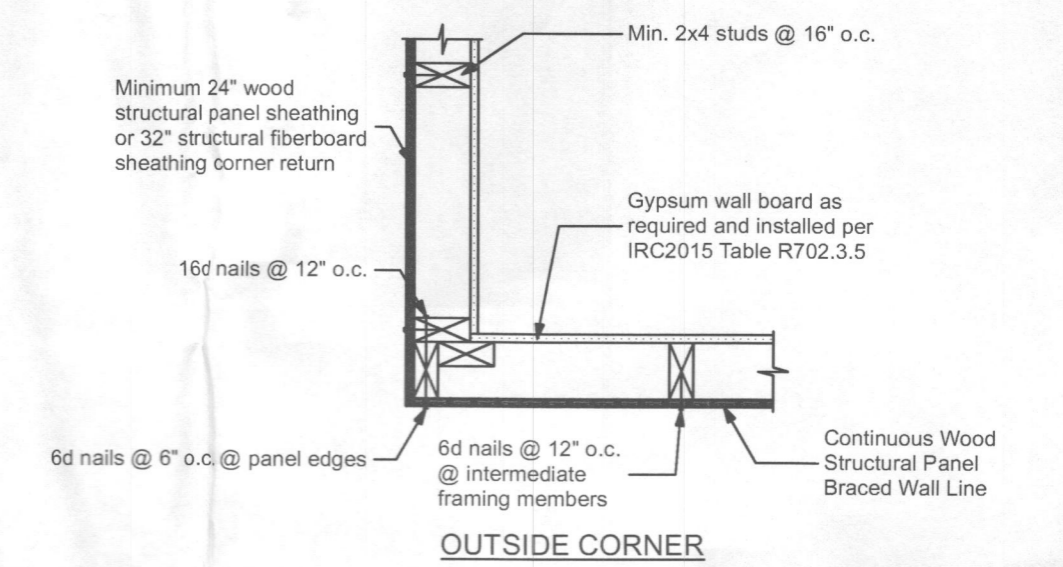
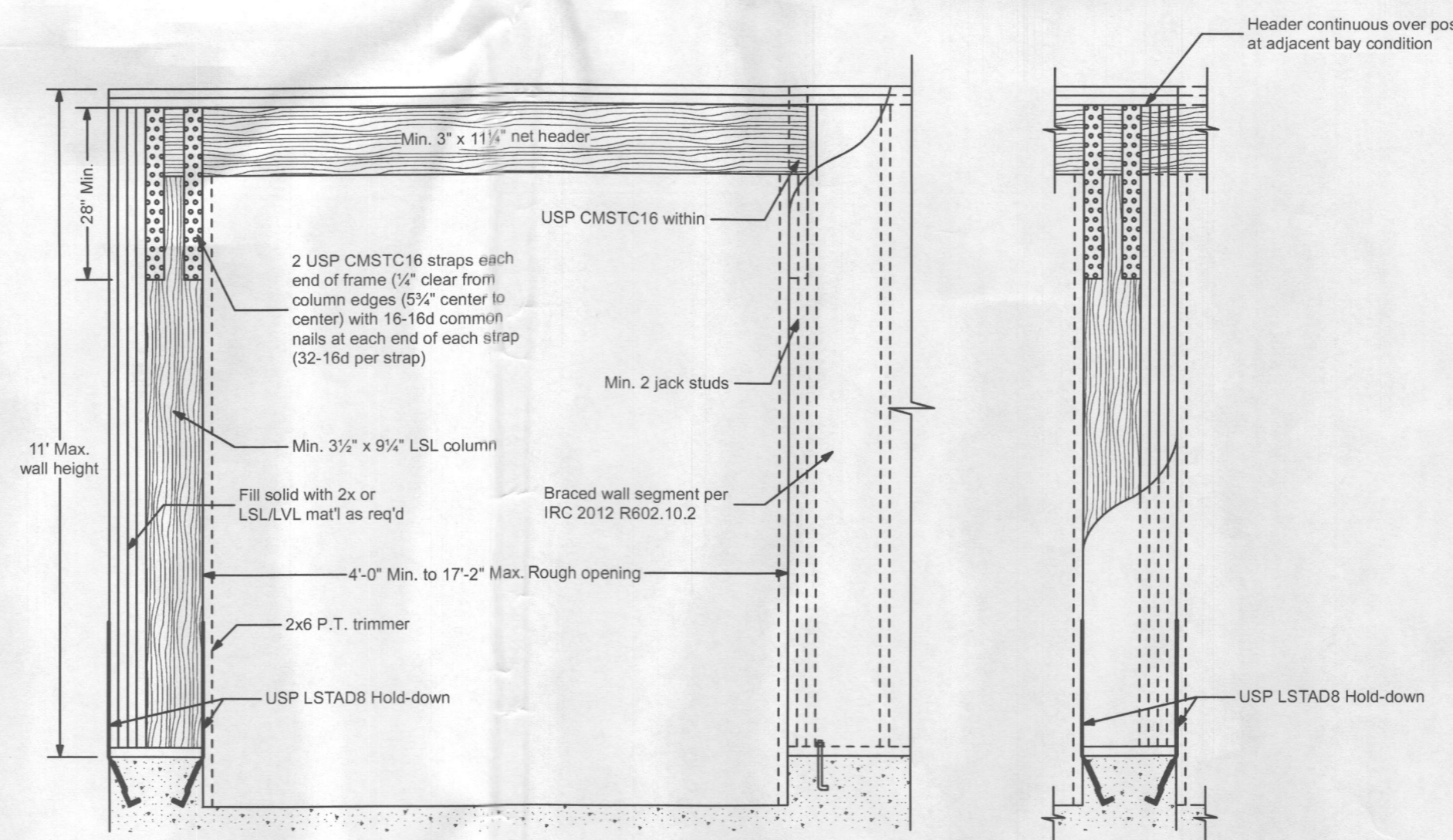
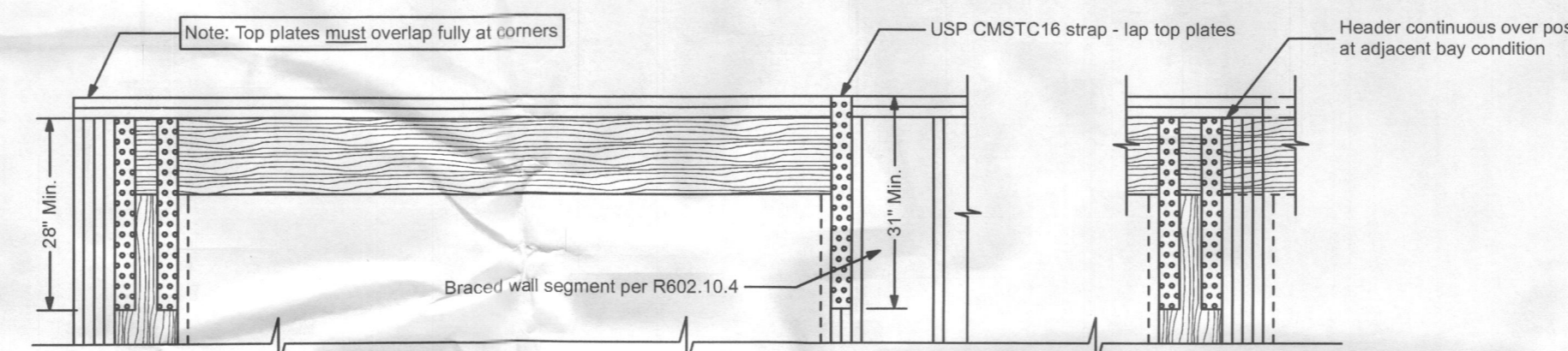
Minimum Wall Stud Framing Nominal Size and Grade	Maximum Pory Wall Height (feet)	Maximum Total Wall Height (feet)	Maximum Opening Width (feet)	Wind Exposure	
				B	C
2x4 No. 2 Grade	0	10	18	1000	1000
			9	1000	1000
			16	1025	2500
			18	1275	2850
	2	10	9	1000	1875
			16	2175	4125
			18	2500	DR
			9	1500	3175
2	12	16	3375	DR	
		18	3975	DR	
		9	2750	DR	
		12	3775	DR	
2x6 Stud Grade	2	12	9	1000	2025
			16	2150	3675
			18	2550	DR
			9	1750	3125
4	12	16	16	2400	DR
			18	3600	DR

Notes: 1. Ultimate Design Wind Speed of 115mph. For other Basic Wind Speeds, see IRC 2015 Table R602.10.6.4
2. DR = Design Required



Braced Wall Panel Connections to Floor and Ceiling Framing

NOT TO SCALE

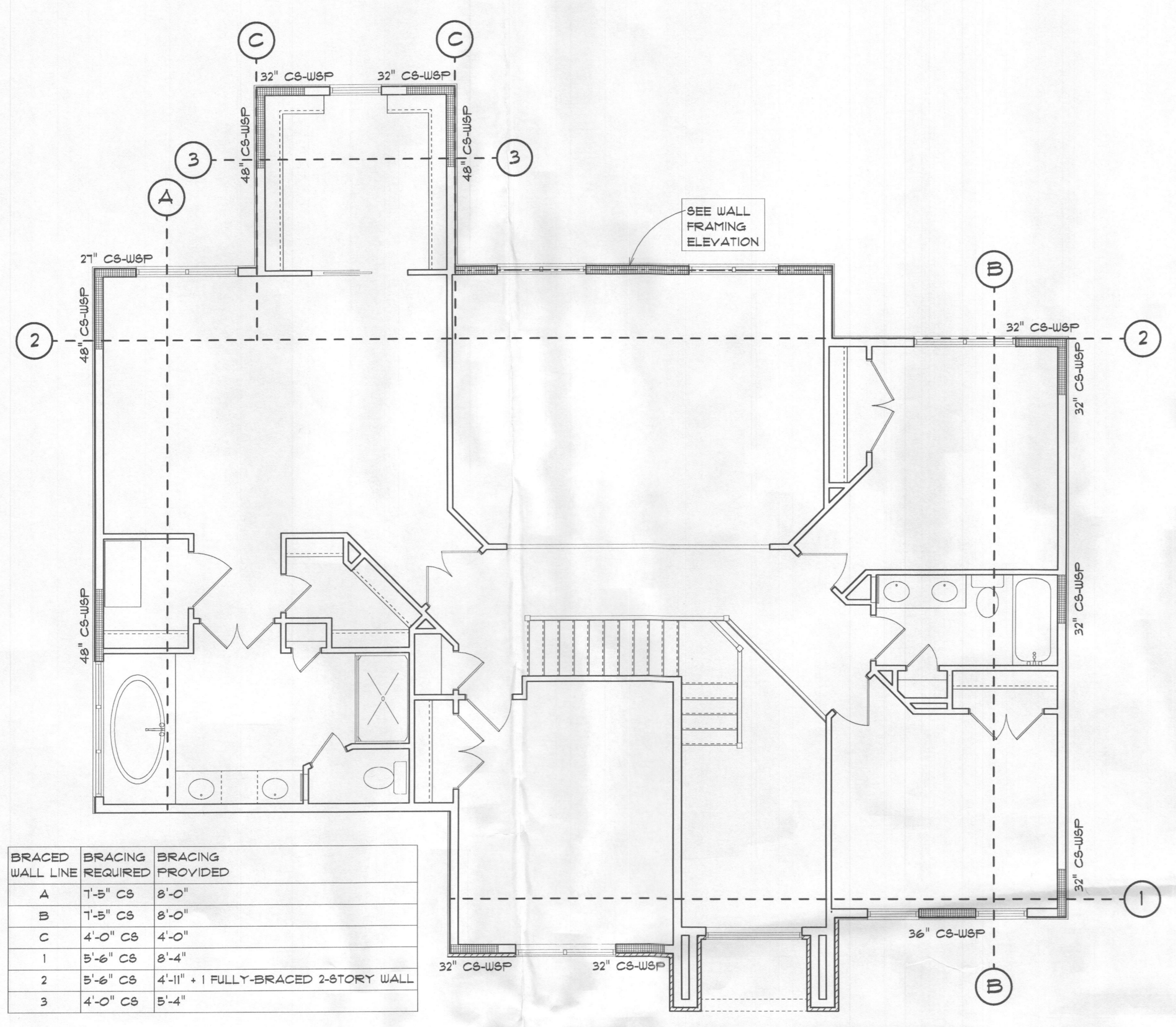


Corner Framing Details

NOT TO SCALE

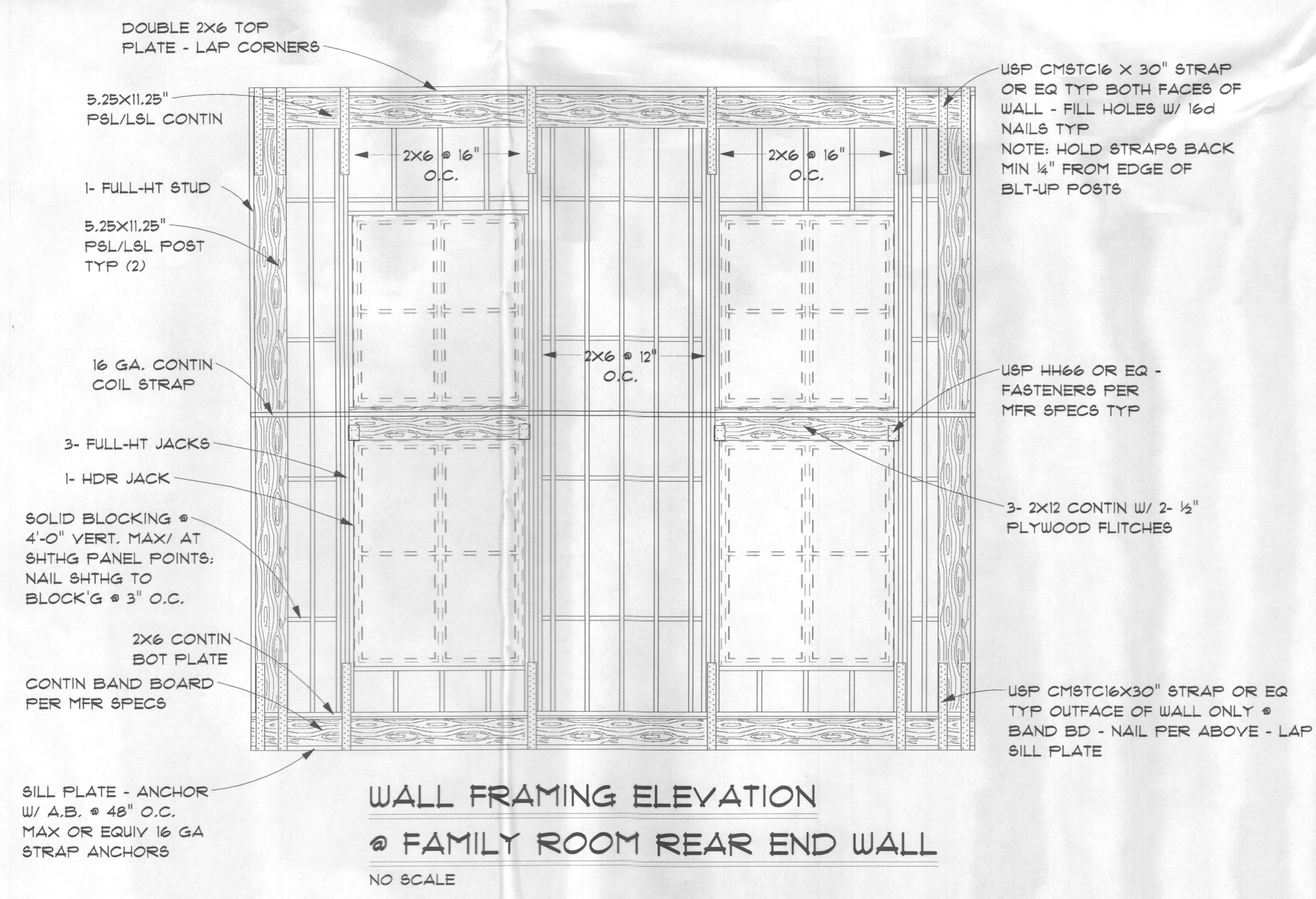
CS-PF Continuous Portal Frame
NOT TO SCALE

EPF Engineered LSL Column Portal Frame
NOT TO SCALE

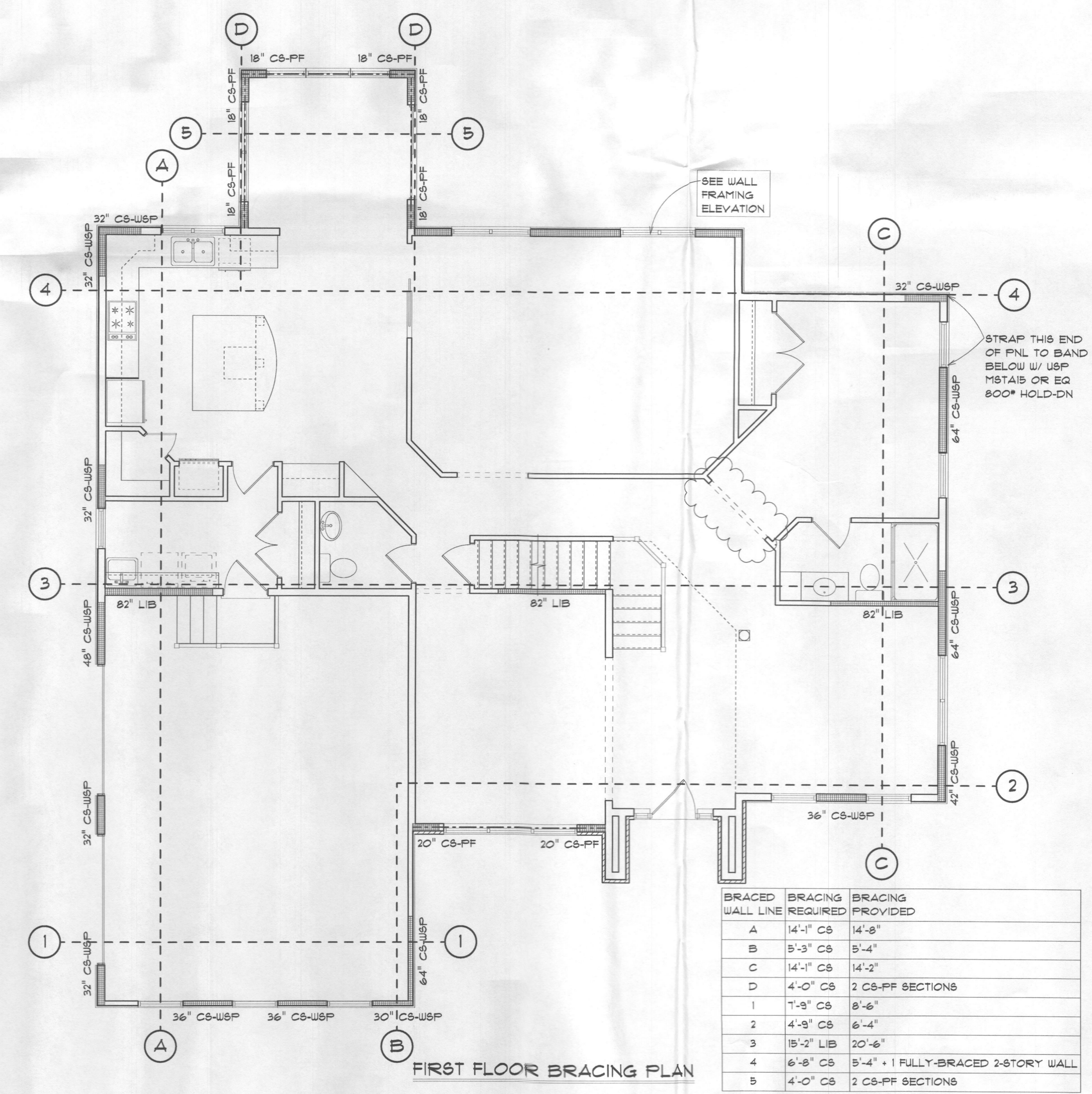


BRACED WALL LINE	BRACING REQUIRED	BRACING PROVIDED
A	1'-5" CB	8'-0"
B	1'-5" CB	8'-0"
C	4'-0" CB	4'-0"
1	5'-6" CB	8'-4"
2	5'-6" CB	4'-11" + 1 FULLY-BRACED 2-STORY WALL
3	4'-0" CB	5'-4"

SECOND FLOOR BRACING PLAN



WALL FRAMING ELEVATION
 @ FAMILY ROOM REAR END WALL
 NO SCALE



BRACED WALL LINE	BRACING REQUIRED	BRACING PROVIDED
A	14'-1" CB	14'-8"
B	5'-3" CB	5'-4"
C	14'-1" CB	14'-2"
D	4'-0" CB	2 CS-PF SECTIONS
1	1'-9" CB	8'-6"
2	4'-9" CB	6'-4"
3	15'-2" LIB	20'-6"
4	6'-8" CB	5'-4" + 1 FULLY-BRACED 2-STORY WALL
5	4'-0" CB	2 CS-PF SECTIONS

FIRST FLOOR BRACING PLAN