Building Permit Application

Howard County Maryland
Department of Inspections, Licenses and Permits
3430 Court House Drive
Permits: 410-313-2455
www.howardcountymd.gov

Date Received: ____________

Permit No.: B19003473

Building Address: 3720 Sharp Road
City: Glenwood State: MD Zip Code: 21738
Suite/Apt. #: ______ SDP/WP/BA #: ______
Subdivision: Prop of Nicolas Sharp
Lot: 10 Tax Map: 21 Parcel: 300

Existing Use: ______
Proposed Use: SFD
Estimated Construction Cost: $ 600 000
Description of Work: Construct new SFD approx 64 x 73' with 3 car garage unfinished basement, four bathrooms, 4 bedrooms, attached garage, ~~[illegible]~~ total [illegible] [illegible] approx, 2 stories
Occupant/Tenant Name: ______
Was tenant space previously occupied? ☐ Yes ☑ No
Contact Name: ______
Address: ______
City: ______ State: ______ Zip Code: ______
Phone: ______ Fax: ______
Email: ______

Property Owner's Name: Stephen + Tina Hochstetler
Address: 21501 Goshen Hunt Lane
City: Gaithersburg State: MD Zip Code: 20882
Phone: 240-[illegible]-[illegible] Fax: ______
Email: ______

Applicant's Name & Mailing Address, (If other than stated herein)
Applicant's Name: Crosen Homes
Address: 3785 Shady Lane
City: Glenwood State: MD Zip Code: 21738
Phone: 443 324 4775 Fax: ______
Email: mike@crosenhomes.com

Contractor Company: Crosen Homes LLC
Contact Person: Mike Crosen
Address: 3785 Shady Lane Ct
City: Glenwood State: MD Zip Code: 21738
License No.: 7683
Phone: 443 324 4775 Fax: ______
Email: ______

Engineer/Architect Company: JB Home Design LLC
Responsible Design Prof.: Jon Butts
Address: 416 Concord Ct
City: Baltimore State: MD Zip Code: 21234
Phone: 410 504 1587 Fax: /
Email: jon@jbhomedesign.com

Commercial Building Characteristics		*Residential Building Characteristics*		
Height:		☑ SF Dwelling ☐ SF Townhouse		
No. of stories:			**Depth** 73	**Width** 64'
Gross area, sq. ft./floor:	7644	1st floor:	2535	73' 64
		2nd floor:	2542	73' 64
Area of construction (sq. ft.):	7644	Basement:	2547	73' 64'
		☐ Finished Basement		
Use group:		☑ Unfinished Basement		
		☐ Crawl Space		
Construction type:		☐ Slab on Grade		
☐ Reinforced Concrete		No. of Bedrooms:	4	
☐ Structural Steel		***Multi-family Dwelling***		
☐ Masonry		No. of efficiency units:		
☐ Wood Frame		No. of 1 BR units:		
☐ State Certified Modular		No. of 2 BR units:		
		No. of 3 BR units:		
		Other Structure:		
		Dimensions:		
➤ **Roadside Tree Project Permit**		Footings:		
☐ Yes ☑ No		Roof:		
Roadside Tree Project Permit #		☐ State Certified Modular		
		☐ Manufactured Home		

Utilities			
Electric:	☑ Yes	☐ No	
Gas:	☑ Yes	☐ No	
Water Supply			
☐ Public			
☑ Private			
Sewage Disposal			
☐ Public			
☑ Private			
Heating System			
☐ Electric	☐ Oil		
☑ Natural Gas	☐ Propane Gas		
☐ Other:			
Sprinkler System:			
☑ Yes	☐ No		
Grading Permit Number:			
Building Shell Permit Number:			

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Mike [signature]
Applicant's Signature

Mike Crosen
Print Name

mike@crosenhomes.com
Email Address

10/11/19
Date

Crosen Homes LLC
Title/Company

Checks Payable to: **DIRECTOR OF FINANCE OF HOWARD COUNTY**
PLEASE WRITE NEATLY & LEGIBLY
-FOR OFFICE USE ONLY-

AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health	10/23/19	H. Oswald

Is Sediment Control approval required for issuance? ☑ Yes ☐ No
☐ CONTINGENCY CONSTRUCTION START

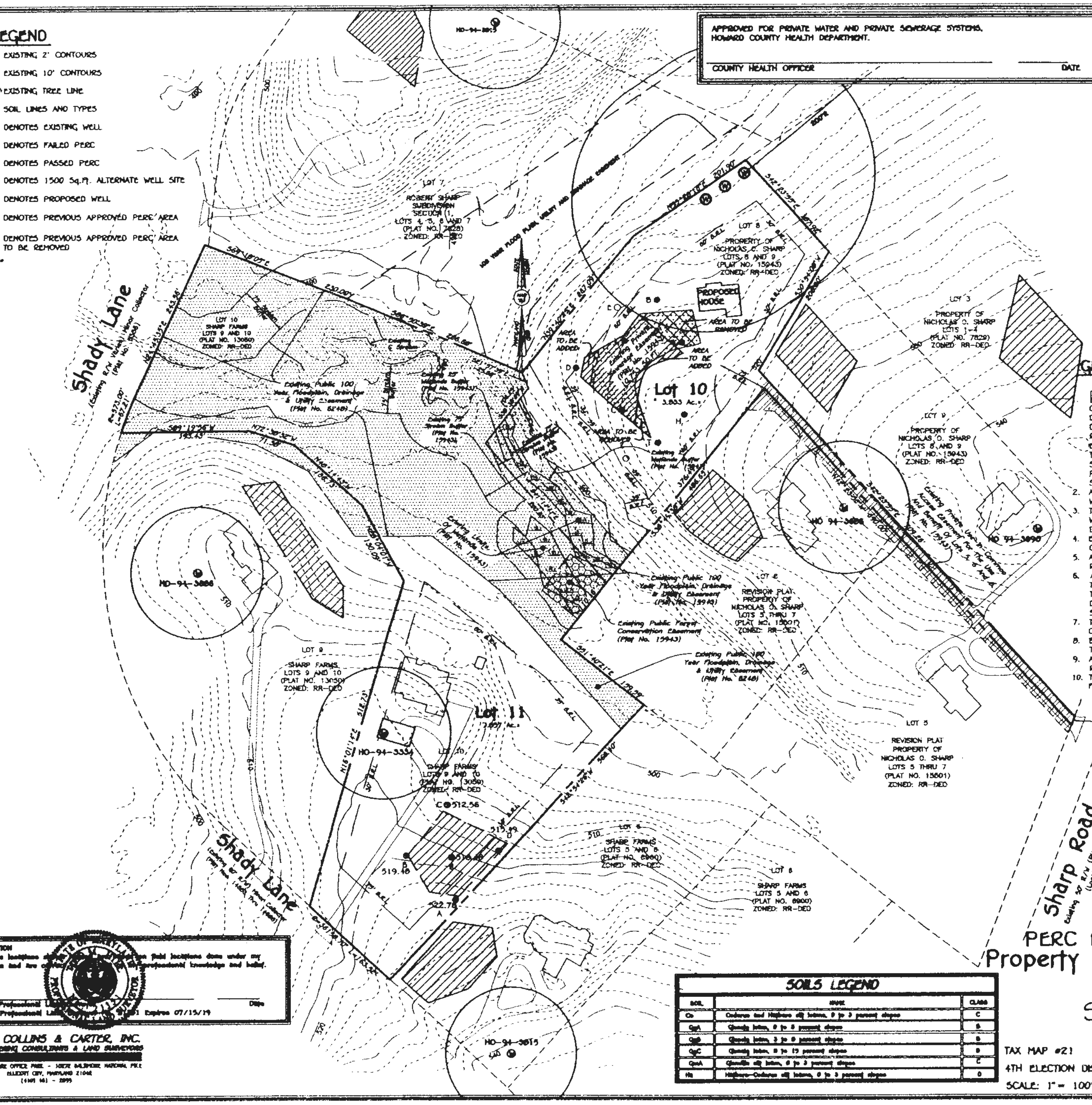
DPZ SETBACK INFORMATION	
Front:	
Rear:	
Side:	
Side St.:	
All minimum setbacks met?	☐ Yes ☐ No
Is Entrance Permit Required?	☐ Yes ☐ No
Historic District?	☐ Yes ☐ No
Lot Coverage for New Town Zone:	
SDP/Red-line approval date:	

Filing Fee	$ 100
Permit Fee	$
Tech Fee	$
Excise Tax	$
PSFS	$
Guaranty Fund	$ 50
Add'l per Fee	$
Total Fees	$
Sub-Total Paid	$
Balance Due	

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering

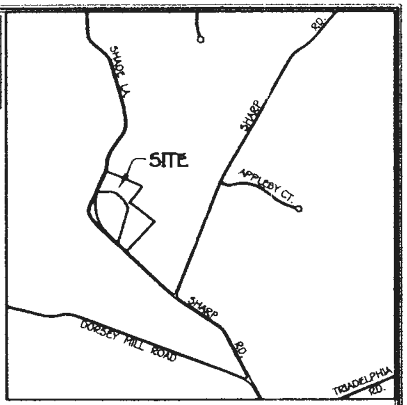
LEGEND

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- DENOTES 1500 Sq.Ft. ALTERNATE WELL SITE
- DENOTES PROPOSED WELL
- DENOTES PREVIOUS APPROVED PERC AREA
- DENOTES PREVIOUS APPROVED PERC AREA TO BE REMOVED



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER   DATE



VICINITY MAP
SCALE : 1" = 1200'

GENERAL NOTES:

1. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT SHALL NOT BE NECESSARY.
2. ADJUSTMENTS TO SEPTIC EASEMENT AREA IS NOT PERMITTED WITHOUT ADDITIONAL TESTING.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
4. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPERTY HAVE BEEN SHOWN FROM ALL REASONABLE EFFORTS.
5. ALL HOUSE SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
6. ALL WELLS SHALL BE DRILLED PRIOR TO FINAL PLAT RECORDATION. IT IS THE DEVELOPERS RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS-UP THE HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT.
7. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL.
8. BOUNDARY OUTLINE BASED ON AVAILABLE DEED OF RECORD WITHOUT THE THE BENEFIT OF A FIELD SURVEY AT THIS TIME.
9. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
10. THE WELL ON LOT 11 HO-94-3334 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

Owner And Developer (Lot 10, Property Of Nicholas O. Sharp)

Nicholas O. Sharp
400 Morgan Station Road
Woodbine, Maryland 21797

Owner And Developer (Lot 11, Sharp Farms)

Donald O. Crosen And
Leslie Sharp Crosen, Trustees
3705 Shady Lane
Glenwood, Maryland 21738

THE PURPOSE OF THIS PLAN IS TO REVISE THE LOT LINES FOR LOTS 10 AND 11 AND ADD TWO ALTERNATE WELL SITES ON LOT 10

PERC CERTIFICATION
I certify that the locations shown are field locations done under my direct supervision and are correct to the best of my professional knowledge and belief.

Signature of Professional Land Surveyor   Date
Todd H. Hill, Professional Land Surveyor ... Expires 07/15/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461-2855

SOILS LEGEND		
SOIL	NAME	CLASS
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C
GgA	Glenelg loam, 0 to 3 percent slopes	B
GgB	Glenelg loam, 3 to 8 percent slopes	B
GgC	Glenelg loam, 8 to 15 percent slopes	B
GmA	Glenville silt loam, 0 to 3 percent slopes	C
Hb	Hatboro-Codorus silt loams, 0 to 3 percent slopes	D

PERC RECERTIFICATION PLAT
Property Of Nicholas O. Sharp
Lot 10 And
Sharp Farms
Lot 11

TAX MAP #21   PARCEL: 198 & 200
4TH ELECTION DISTRICT   HOWARD COUNTY, MARYLAND
SCALE: 1" = 100'   DATE: MARCH 29, 2019

Oswald, Hank

From: Oswald, Hank
Sent: Wednesday, October 23, 2019 10:23 AM
To: 'mike@crosenhomes.com'
Subject: B19003473_3720 Sharp Road
Attachments: Basement Bedroom Memo_2019.pdf

Hello Mr. Crosen:

Building permit # B19003473 (3720 Sharp Road) has been approved by the Health Department. Please see attached basement bedroom memo.

Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

Hank Oswald
Licensed Environmental Health Specialist
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
hoswald@howardcountymd.gov

HOWARD COUNTY
HEALTH DEPARTMENT

HOWARD COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health
8930 Stanford Blvd | Columbia, MD 21045
410.313.2640 - Voice/Relay
410.313.2648 - Fax
1.866.313.6300 - Toll Free

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

MEMORANDUM

TO: **Crosen Homes**

FROM: **Hank Oswald**
Well & Septic Program

RE: **3720 Sharp Road**
Potential Basement Bedroom

DATE: **10/23/2019**

I have reviewed the floor plans in support of Building Permit B19003473 for a new home at 3720 Sharp Road and noted that there is a rough-in for a full bathroom in the unfinished basement. Please note that this makes it very likely for one or more rooms to be considered bedrooms upon conversion of the basement to finished living space.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

(1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned are of a dwelling unit or accessory structure that:

- **(i) Is 90 square feet or greater in size;**
- **(ii) May be used as a private sleeping area; and**
- **(iii) Has at least one window and one interior door.**

(2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and

- **(i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;**
- **(ii) A minimum 4 foot-wide opening, without doors, into another room;**
- **(iii) A half wall (4 foot maximum height) between the room and another room; or**
- **(iv) The room is a first-floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.**

The Health Department strongly recommends sizing the onsite sewage disposal system at least one bedroom larger than the existing 4-bedroom design to accommodate a future finished basement. If you choose to only size for the existing design, any future building permit for a finished basement may be placed on hold until the system is upgraded to accommodate the proposed number of bedrooms. This memo will be retained in the Health Department file for future reference.

HOCHSTETLER RESIDENCE

Health

I. TABLE R301.5 LIVE LOAD MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (IN POUNDS PER SQUARE FOOT) SHALL CONFORM TO THE FOLLOWING:

USE	LIVE LOAD	DEAD LOAD	TOTAL
ROOF TRUSSES	30	10 (top &bottom)	50
RAFTERS	30	10	40
ATTICS WITHOUT STORAGE [b]	10	5	15
ATTICS WITH LIMITED STORAGE [bg]	20	10	30
HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30	10	40
BALCONIES (EXTERIOR) AND DECKS [e]	40	10	50
FIRE ESCAPES	40	10	50
GUARDRAILS AND HANDRAILS [d]	200 [h]		
GUARDRAIL IN-FILL COMPONENTS [f]	50 [h]		
PASSENGER VEHICLE GARAGES [a]	50	50	100
ROOMS OTHER THAN SLEEPING ROOMS	40 [a]	10	50
SLEEPING ROOMS	30	10	40
STAIRS	40 [c]	20	60

ASSUMED SAIL BEARING CAPACITY: 2000 PSF

a. Elevated garage floors shall be capable of supporting a 2,000-pound load applied over a 20-square-inch area.
b. Uninhabitable attics without storage are those where the maximum clear height between joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches high by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.
c. Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greater stresses.
d. A single concentrated load applied in any direction at any point along the top.
e. See Section R502.2.2 for decks attached to exterior walls.
f. Guard in-fill components (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
g. Uninhabitable attics with limited storage are those where the maximum clear height between joists and rafters is 42 inches or greater, or where
there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses.
The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:
1. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is a minimum of 30 inches.
2. The slopes of the joists or truss bottom chords are no greater than 2 inches vertical to 12 units horizontal.
3. Required insulation depth is less than the joist or truss bottom chord member depth.
The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 lb/ft2.
h. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.

ADOPTED CODES

2018 International Building Code
2018 International Residential Code
2018 International Energy Conservation Code
2018 International Mechanical Code
2018 International Plumbing Code
2018 NFPA 101 Life Safety Code
2018 International Property Maintenance Code (Rental Housing)
2017 National Electrical Code with Local Amendments

ENERGY COMPLIANCE: PRESCRIPTIVE APPROACH SEE SHEET A-8A

SQ. FOOTAGE

BASEMENT	0
FIRST FLOOR	2535
SECOND FLOOR	2562
TOTAL	5097
GARAGE	843

CONSTRUCTION SET
OCTOBER 14, 2019

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAMGE FROM			WATER DESIGN TEMP	ICE BARRIER UNDERLAYMENT REQUIRED	FLOOD HAZARD	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	Speed (mph)	Topographic effects	Special wind region	Wind-borne debris zone		Weathering	Frost line depth	Termites					
25	115	NO	NO	NO	A	Severe	30"	Moderate Heavy	20 °	Yes	see flood maps	1500	55°

DRAWING INDEX

JB HOME DESIGN, LLC
9416 CONCORD COURT
BALTIMORE, MARYLAND 21234
OFFICE (410) 599-9587
FAX (410) 663-4069
EMAIL: JON@JBHOMEDESIGN.COM

JB HOME DESIGN, LLC
9416 CONCORD COURT
BALTIMORE, MARYLAND 21234
OFFICE (410) 599-9587
FAX (410) 663-4069
EMAIL: JON@JBHOMEDESIGN.COM

CONTENTS: COVER SHEET
SCALE: 1/4" = 1'-0"
DATE:
DRWN.
PR.JT.NO.
PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE
07/02/19 CONSTRUCTION SET

SHEET NO.
CS

GENERAL

G1. ALL NOTES APPLY TO EACH AND EVERY SUBCONTRACTOR. READ AND REVIEW EACH NOTE CAREFULLY FOR ITS APPLICABILITY TO THE WORK.

G2. BUILDING CODE REFERENCES HEREUNDER AND ON THE PLANS REFER TO THE 2015 INTERNATIONAL RESIDENTIAL CODE (IRC) AND OTHER INTERNATIONAL CODES, AS APPLICABLE, UNLESS OTHERWISE NOTED (U.N.O.)

G3. CONTRACTOR WILL PROVIDE THE GENERAL BUILDING PERMIT ONLY. EACH SUBCONTRACTOR SHALL SECURE ALL OTHER REQUIRED PERMITS PRIOR TO COMMENCING ANY WORK AND SHALL BE SOLELY RESPONSIBLE FOR OBTAINING AND PASSING, WITHOUT DELAY TO CONTRACTOR, ALL INSPECTIONS AND APPROVALS REQUIRED BY LAW OR ANY STORM WATER OR DUST CONTROL REQUIREMENTS AND ANY INSPECTIONS AND APPROVALS REQUIRED BY CONTRACTOR OR ANY AGENT OF CONTRACTOR.

G4. PERFORM ALL WORK IN COMPLIANCE WITH APPLICABLE LAWS, FREE FROM NONCONFORMANCE, IN A FIRST-CLASS, GOOD, AND WORKMANLIKE MANNER ACCORDING TO THE HIGHEST STANDARDS OF SUBCONTRACTOR'S TRADE AND IN STRICT CONFORMANCE WITH SUBCONTRACTOR'S OBLIGATIONS UNDER ITS AGREEMENT.

G5. THE CONTRACT DOCUMENTS OUTLINE SALIENT MINIMUM REQUIREMENTS BUT DO NOT SPECIFY ALL LABOR, MATERIAL, TOOLS EQUIPMENT, UTILITIES, SERVICES AND OTHER ITEMS NECESSARY TO PROPERLY AND FULL EXECUTE THE WORK.

G6. WORK NOT SPECIFICALLY COVERED IN THE CONTRACT DOCUMENTS, BUT WHICH IS REASONABLY INFERABLE FROM OR CUSTOMARILY PERFORMED BY ANY SUBCONTRACTOR OF THE SAME OR SIMILAR TRADE PERFORMING WORK OF THE TYPE SHOWN ON OR INCLUDED IN THE CONTRACT DOCUMENTS, INCLUDING DETAILS OR ITEMS OF THE WORK WHICH ARE NOT SPECIFICALLY COVERED ON OR IN THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND INSTALLED AT NO EXTRA COST.

G7. ALL MATERIAL SUPPLIED SHALL BE NEW, THE BEST OF ITS KIND AND FROM THE SAME MANUFACTURER (AND SAME MANUFACTURING RUN WHERE APPLICABLE). ALL MATERIALS SHALL BE SUITABLE FOR THE USES INTENDED AND CONDITIONS ANTICIPATED. FURNISH, HANDLE AND INSTALL MATERIAL IN ACCORDANCE WITH THE TERMS OF ITS LISTING OR APPROVAL, THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, GUIDELINES AND RECOMMENDATIONS AND APPLICABLE LAWS AND STANDARDS.

G8. SUBCONTRACTOR SHALL PROTECT THE WORK, PROPERTY AND MATERIAL OF OTHER PERSONS BEFORE PROCEEDING WITH ANY WORK AND AT ALL TIMES DURING THE PERFORMANCE OF ITS WORK.

G9. DRAWN DIMENSIONS TAKE PRECEDENCE OVER DRAWN INFORMATION - DO NOT SCALE DIMENSIONS. ALL DIMENSIONS ARE SHOWN TO FACE OF STUDS. ALL EXTERIOR STUD WALLS ARE 5 1/2" WIDE, ALL INTERIOR STUD WALLS ARE 3 1/2" WIDE (U.N.O.).

G10. SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING ANY WORK. BRING ALL ERRORS OR OMISSIONS TO THE IMMEDIATE ATTENTION OF CONTRACTOR BEFORE COMMENCING ANY WORK. SUBCONTRACTOR SHALL BEAR ALL COSTS AND EXPENSES FOR CORRECTING WORK COMMENCED WITHOUT VERIFYING DIMENSIONS OR WITHOUT HAVING A RESOLUTION TO ANY ERROR OR OMISSION.

G11. REMOVE ALL WASTE MATERIAL AND TRASH DAILY. CLEAN THE WORK AREA DAILY. IMMEDIATELY AFTER COMPLETING WORK ON ANY HOME, REMOVE ALL TOOLS, EQUIPMENT AND EXCESS OR NONCONFORMING MATERIAL AND SHALL LEAVE THE HOME IN A BROOM CLEAN, NEAT, SAFE, SECURE AND SANITARY CONDITION.

SAFETY

S1. EVERY SUBCONTRACTOR AND EACH OF ITS AGENTS SHALL COMPLY WITH ALL HEALTH, SAFETY AND ENVIRONMENTAL LAWS, RULES, REGULATIONS AND REQUIREMENTS. EACH SUBCONTRACTOR UNDERSTANDS AND AGREES THAT SUBCONTRACTOR IS SOLELY LIABLE AND SOLELY RESPONSIBLE FOR THE HEALTH AND SAFETY OF ITS AGENTS AND THAT SUBCONTRACTOR POSSESSES THE AUTHORITY, EXPERTISE, CONTROL AND MEANS TO CARRY OUT SUCH RESPONSIBILITY.

S2. CEILING HEIGHTS SHALL COMPLY WITH SECTION R305. WHERE UNFINISHED, CEILING HEIGHTS SHALL ALLOW FOR 1" MINIMUM FOR FINISHES TO COMPLY.

S3. PROVIDE TEMPERED GLASS IN LOCATIONS DESIGNATED AS BEING HAZARDOUS UNDER SECTION R308.4 CONFORMING WITH THE REQUIREMENTS THEREIN.

S4. PROVIDE A SOLID CORE WOOD DOOR NOT LESS THAN 1-3/8" THICKNESS BETWEEN THE GARAGE AND THE RESIDENCE (R302.5.1). PROVIDE AN AUTOMATIC DOOR CLOSER.

S5. PROVIDE 5/8" TYPE "X" GYPSUM WALLBOARD FOR ALL WALLS AND CEILINGS SEPARATING THE GARAGE AND ANY HABITABLE OR USEABLE SPACE, INCLUDING ATTIC SPACE, AND THE STRUCTURE SUPPORTING THE SEPARATION (R302). DUCTWORK IN THE GARAGE OR PENETRATING ANY WALL OR CEILING BETWEEN THE GARAGE AND ANY HABITABLE OR USEABLE SPACE SHALL BE CONSTRUCTED OF NOT LESS THAN 26 GAUGE STEEL.

S6. WINDOW WELLS SHALL BE OF GALVANIZED STEEL OR REINFORCED CONCRETE U.N.O. AND BE OF SUFFICIENT STRENGTH TO RESIST BACKFILL PRESSURES AND SHALL HAVE MINIMUM HORIZONTAL AREA OF 9 S.F. WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 36" (R310). PROVIDE A PERMANENTLY AFFIXED LADDER WHERE WINDOW DEPTH EXCEEDS 44". TOP OF WELL SHALL EXTEND NOT LESS THAN 3" ABOVE FINISHED GRADE AND BOTTOM OF WELL SHALL EXTEND NOT LESS THAN 9" BELOW WINDOW SILL. PROVIDE DRAINAGE BY CONNECTING TO THE BUILDINGS FOUNDATION DRAINAGE SYSTEM OR APPROVED ALTERNATIVE METHOD.

S7. STAIRWAYS, RAMPS EXTERIOR EXIT BALCONIES, HALLWAYS AND DOORS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R311. STAIR TREADS AND RISERS SHALL HAVE MAXIMUM RISER HEIGHT OF 7 3/4" AND MINIMUM TREAD DEPTH OF 10". RISER HEIGHTS AND TREAD DEPTH SHALL NOT VARY MORE THAN 3/8". EACH EXTERIOR DOOR SHALL HAVE A FLOOR OR LANDING ON EACH SIDE. THE LANDING AT ANY EXTERIOR DOOR SHALL NOT BE MORE THAN 7 3/4" BELOW THE TOP OF THE DOOR THRESHOLD PROVIDED THE DOOR DOES NOT SWING OVER THE LANDING.

S8. PROVIDE AN INTERCONNECTED SMOKE DETECTOR SYSTEM, HAVING A SMOKE ALARM IN EACH SLEEPING ROOM, OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL STORY INCLUDING EASEMENTS (R314).

S9. PROVIDE AN INTERCONNECTED CARBON MONOXIDE ("CO") DETECTION SYSTEM, HAVING A CO ALARM WITHIN 10' OF THE ENTRANCE OF EVERY ROOM INTENDED TO BE LAWFULLY USED FOR SLEEPING PURPOSES, TYPICALLY IN A CENTRAL LOCATION SUCH AS A HALLWAY, AND ON EACH FLOOR LEVEL INTENDED TO BE LAWFULLY USED FOR PURPOSES, INCLUDING THE BASEMENT, THAT DOES NOT HAVE A ROOM INTENDED TO BE LAWFULLY USED FOR SLEEPING PURPOSES. CO ALARMS SHALL HAVE PERMANENT CO SENSOR OR REPLACEABLE CO SENSOR WITH END OF LIVE INDICATOR (R315).

S10. PROVIDE A CRAWL SPACE ACCESS OPENING AND PANEL NOT LESS THAN 18"X24" (R408). SEE SECTION M1305.1.4 FOR ACCESS REQUIREMENTS WHERE MECHANICAL EQUIPMENT IS LOCATED UNDER FLOORS.

S11. PROVIDE A MINIMUM OF 3" BETWEEN ANY RECESSED LIGHT, FAN OR ANY OTHER HEAT PRODUCING OR EMANATING DEVICE AND COMBUSTIBLE INSULATION, UNLESS APPROPRIATELY LISTED FOR LESS CLEARANCE.

S12. PROVIDE DRAFTSTOPPING AND FIREBLOCKING PER THE MOST STRINGENT APPLICABLE REQUIREMENTS THEREUNDER THE IRC, THE INTERNATIONAL MECHANICAL CODE (IMC), THE INTERNATIONAL PLUMBING CODE (IPC), THE NATIONAL ELECTRICAL CODE (NEC) AND THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC). FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. FIREBLOCKING SHALL BE SPECIFICALLY PROVIDED AT THE LOCATIONS DESIGNATED IN SECTION R302.11.

S13. PROVIDE AN ATTIC ACCESS OPENING AND PANEL NOT LESS THAN 22" X 30" IN A READILY ACCESSIBLE LOCATION, PREFERABLY A SECONDARY BEDROOM (R807). PROVIDE NOT LESS THAN 30" OF UNOBSTRUCTED HEADROOM ABOVE THE OPENING. PROVIDE GASKET FOR ACCESS PANEL (IECC 402.2.4). REFER TO SECTIONS M1305 AND M1306 FOR MECHANICAL ACCESS AND CLEARANCE REQUIREMENTS.

CONCRETE AND MASONRY

C1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC AND THE IBC.

C2. REFER TO THE STRUCTURAL PLANS FOR STRUCTURAL CONCRETE AND MASONRY REQUIREMENTS.

C3. U.N.O. ON THE STRUCTURAL PLANS OR NOTES, THE MINIMUM SPECIFIED 28 DAY COMPRESSIVE STRENGTH FOR CONCRETE COMPONENTS EXPOSED TO MODERATE OR SEVERE WEATHERING POTENTIAL SHALL BE:

PORCHES, PATIOS, DRIVEWAYS, GARAGE FLOOR SLABS AND WALKWAYS EXPOSED TO THE WEATHER - 3,500 PSI.
BASEMENT WALLS, FOUNDATION WALLS AND OTHER WALLS EXPOSED TO THE WEATHER - 3,000 PSI., AIR ENTRAINED 5 TO 7 PERCENT.
BASEMENT SLABS AND INTERIOR SLABS ON GRADE, EXCEPT GARAGE FLOOR SLABS - 3,000 PSI.
REFER TO STRUCTURAL PLANS AND NOTES FOR STRUCTURAL CONCRETE REQUIREMENTS. (R402)

C4. SLOPE ALL EXTERIOR CONCRETE SURFACES NOT LESS THAN 1/8" AND NOT MORE THAN 1/4" PER FOOT AWAY FROM HOUSE. SLOPE GARAGE FLOORS APPROXIMATELY 4" REAR TO FRONT TO FACILITATE THE MOVEMENT OF LIQUIDS TOWARD THE MAIN VEHICLE ENTRY DOORWAY (R309.1).

C5. FOUNDATION WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R404 AND ACI 318 AND SHALL EXTEND A MINIMUM OF 6" ABOVE GRADE AT ALL POINTS, 4" WHERE MASONRY VENEER IS USED.

C6. BASEMENT CONCRETE FLOORS SHALL BE PLACED OVER A MINIMUM 6-MIL POLYETHYLENE VAPOR RETARDER COMPLYING WITH ASTM E 1745, WITH JOINTS LAPPED NOT LESS THAN 12" OVER PREPARED 4" THICK BASE COURSE PER SECTION R506.2

C7. CONCRETE FLOORS AND FOUNDATIONS SHALL BE MADE LEVEL WITHIN 1/2" IN 20' BUT NO MORE THAN 1" ACROSS THE FULL WIDTH OR LENGTH U.N.O. OR SPECIFICALLY DESIGNED FOR DRAINAGE.

C8. MASONRY AND STONE VENEER (INCLUDING MANUFACTURED) MATERIAL AND INSTALLATION SHALL COMPLY WITH SECTION 703.7, THE MASONRY OR STONE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, THE MASONRY OR STONE MANUFACTURER'S WRITTEN CODE EVALUATION/APPROVAL DOCUMENTS AND THE REQUIREMENTS SET FORTH BY THE BRICK INDUSTRY ASSOCIATION FOR BRICK.

C9. PROVIDE A MINIMUM 6" BY 4" BY 5/16" GALVANIZED STEEL ANGLE TO SUPPORT EXTERIOR MASONRY VENEERS U.N.O. ON THE STRUCTURAL PLANS (R703).

C10. ATTACH EXTERIOR MASONRY VENEER WITH GALVANIZED TIES, SPACED NOT MORE THAN 24" ON CENTER HORIZONTALLY AND VERTICALLY AND SHALL SUPPORT NO MORE THAN 2.67 S.F. OF WALL AREA (R703.7), PROVIDE FLASHING AND WEEPHOLES AS SHOWN IN FIGURE R703.7.

C11. MINIMUM SOIL CAPACITY IS ASSUMED TO BE 2000 PSF AT ALL WALL AND PIER FOOTINGS. IT IS THE OWNER'S RESPONSIBILITY TO VERIFY BEARING CAPACITY AND TO NOTIFY THE DESIGNER IF THE CAPACITY IS LESS THAN 2000 PSF.

WOOD, METAL AND PLASTIC

W1. COMPLY W/ APPLICABLE REQUIREMENTS SET FORTH IN THE IRC AND THE IBC.

W2. WOOD MEMBERS AND PRODUCTS SHALL BE IDENTIFIED BY GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED AGENCY.

W3. REFER TO THE STRUCTURAL PLANS FOR STRUCTURAL FRAMING AND SHEATHING REQUIREMENTS.

W4. FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED OR FIRE-RETARDANT TREATED WOOD SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL UNLESS OTHERWISE PERMITTED UNDER SECTION R317.3.

W5. DO NOT CUT, SPLICE, NOTCH, OR OTHERWISE ALTER ANY SAWN LUMBER IN EXCESS OF THE LIMITATIONS SET FORTH IN SECTIONS R502, R602 AND R802 WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

W6. DO NOT CUT, SPLICE, NOTCH, OR OTHERWISE ALTER ANY ENGINEERED WOOD PRODUCT OR TRUSS WITHOUT THE WRITTEN APPROVAL OF THE MANUFACTURER OR ENGINEER OF RECORD, UNLESS THE EFFECTS OF ANY SUCH PENETRATION IS CONSIDERED IN ITS DESIGN BY THE MANUFACTURER OR ENGINEER OF RECORD (R502 AND R802).

W7. ENDS OF EACH JOIST, SEAM, OR GIRDER SHALL BEAR NOT LESS THAN 1 1/2" ON WOOD OR METAL AND 3" ON CONCRETE (R502 AND R802).

W8. TRUSS SHOP DRAWINGS SHALL COMPLY WITH SECTIONS 502 AND 802 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND ENGINEER OF RECORD AND APPROVED BY BOTH PRIOR TO INSTALLATION. BRACE TRUSSES IN ACCORDANCE WITH TPI/HIB U.N.O. ON THE SHOP DRAWINGS. TRUSS TO WALL AND TRUSS TIE DOWN CONNECTIONS SHALL COMPLY WITH R802. ALL PERMANENT AND TEMPORARY BRACING LOCATIONS SHALL BE PREMARKED BY THE TRUSS MANUFACTURER.

W9. WHERE FOUNDATION CRIPPLE WALLS EXCEED 4' IN HEIGHT, FRAME SUCH WALLS WITH STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY (R602).

W10. PROVIDE BACKING AND BLOCKING FOR RAILINGS AT STAIR OPENINGS AND ALONG WALLS WHERE RAILS MAY ATTACH, INCLUDING EXTERIOR RAILINGS, FOR BATHROOM ACCESSORIES, SHOWER DOORS, CLOSET ITEMS, SHELVING, HARDWARE AND OTHER ACCESSORIES, AT OR ALONG COVERED PORCH AND PATIO SOFFITS AND CANTILEVERED FLOORS AND ELSEWHERE AS REQUIRED OR DIRECTED. PROVIDE 3" MINIMUM OF BACKING AROUND DOOR AND WINDOW OPENINGS. PROVIDE DRYWALL BACKING ALONG ALL TUBS AND TUB DECKS, SHOWER PANS, AND SHOWER SEATS AND ELSEWHERE AS REQUIRED OR DIRECTED.

W11. SHEATH AND SEAL THE UNDERSIDE OF ALL CANTILEVERED FLOOR AREAS WITH EXTERIOR EXPOSURE RATED SHEATHING. WHERE WOOD SIDING, SHEATHING OR FRAMING IS WITHIN 6" OF GRADE, EACH SHALL BE PROTECTED AGAINST DECAY (R317). INSULATE CANTILEVERED FLOOR AREAS BEFORE CLOSING IN OR PROVIDE OPENING SUFFICIENT TO INSULATE AFTER THE FACT.

W12. FLOORS SHALL BE MADE LEVEL WITHIN 1/4" IN 20' BUT NO MORE THAN 1/2" ACROSS THE FULL WIDTH OR LENGTH.

W13. WOOD, HARDBOARD, FIBER CEMENT AND VINYL SIDING MATERIAL AND INSTALLATION SHALL COMPLY WITH SECTION 703.3 OR 703.10 AS APPLICABLE, THE SIDING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, THE SIDING MANUFACTURER'S WRITTEN CODE EVALUATION/APPROVAL DOCUMENTS AND APPLICABLE RECOMMENDATIONS SET FORTH THE REQUIREMENTS SET FORTH BY THE AMERICAN HARDBOARD ASSOCIATION OR THE VINYL SIDING INSTITUTE FOR HARDBOARD. PAINT AND/OR SEAL ALL WOOD AND HARDBOARD EDGES.

W14. FINISH CARPENTRY, MILLWORK AND CABINETRY INSTALLATION SHALL COMPLY WITH THE MILLWORK MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND APPLICABLE ARCHITECTURAL.

THERMAL AND MOISTURE PROTECTION

T1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC, THE IECC, AND THE IMC.

T2. DURABLY SEAL THE BUILDING THERMAL ENVELOPE TO LIMIT INFILTRATION. SEAL ALL JOINTS, SEAMS, AND PENETRATIONS WITH DURABLE CAULKS, SEALANTS OR GASKETS, WEATHERSTRIPS, AIR BARRIERS, FILMS AND/ OR SELF-ADHESIVE FLASHING, EACH AS APPROPRIATE TO THE APPLICABLE CONDITION. THESE INCLUDE JOINTS, SEAMS AND PENETRATIONS THROUGH, BETWEEN, AROUND OR ALONG CONDITIONED AND UNCONDITIONED SPACES WITHIN THE HOUSE, INCLUDING, AT A MINIMUM, GARAGE AND CONDITIONED SPACE, TUBS AND SHOWERS, ATTIC AND CRAWL SPACE ACCESSES, WINDOW AND POOR ASSEMBLIES, AND THEIR RESPECTIVE JAMBS AND FRAMING, RECESSED LIGHTS, PLUMBING, HVAC AND ELECTRICAL PENETRATIONS, CHASES, DROPPED CEILINGS, KNEE WALLS, RIMBOARD, SILL PLATES, BLOCKINGS AND OTHER SOURCES OF INFILTRATION. (N1102.4 AND IECC 402). REFER TO THERMAL BY-PASS PLANS. VERIFY AIR SEALING THROUGH POST ROUGH-IN TEST OR THROUGH VISUAL INSPECTION (N1102.4 AND IECC 402.4).

T3. A PERMANENT CERTIFICATE SHALL BE COMPLETED AND POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL. THIS CERTIFICATE SHOULD NOT COVER OR OBSTRUCT CIRCUIT DIRECTORY AND SHALL LIST THE PREDOMINANT INSULATION R-VALUES OF THE VARIOUS COMPONENTS INSTALLED IN THE HOME. THIS CERTIFICATE SHOULD ALSO LIST THE U-FACTORS AND SOLAR HEAT GAIN COEFFICIENT OF FENESTRATION (IECC 401).

T4. FURNISH AND INSTALL THE FOLLOWING MINIMUM INSULATION THERMAL RESISTANCE AS SET FORTH BELOW. INSTALL IN ACCORDANCE WITH THE INSULATION MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND THE RECOMMENDATIONS SET FORTH BY THE NORTH AMERICAN INSULATION MANUFACTURER'S ASSOCIATION.

A. R-20	2X6 EXTERIOR WALLS AND RIM BOARDS
B. R-49	ROOF AREAS
C. R-49	CATHEDRAL ROOF AND BAY WINDOW CEILINGS
D. R-19	CANTILEVERS AND FLOORS OF LIVING AREAS OVER UNHEATED SPACES
E. R-10/13	BASEMENT AND CRAWL SPACE WALLS
F. R-10	FROST WALL AND WALKOUT (A MIN. OF 24" XPS)
G. 0.35	MAXIMUM U-FACTOR. LOW-E WINDOWS

T5. FOR BASEMENT WALLS, WHEN OF CAST-IN-PLACE CONCRETE, THE APPLICATION OF ANY VAPOR RETARDER WITH OR OVER INSULATION SHALL BE DELAYED UNTIL THE WALL HAS CURED AND DRIED. VAPOR RETARDERS USED WITH INSULATION IN SUCH WALLS SHALL BE A CLASS III.

T6. INSULATE ALL SUPPLY DUCTS IN UNCONDITIONED SPACES WITH A MINIMUM R-8. INSULATE ALL OTHER DUCTS WITH A MINIMUM R-6. INSULATING DUCTS COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE IS NOT REQUIRED (IECC 403).

T7. ANY WATER OR WASTE PIPE INSTALLED IN AN EXTERIOR WALL, ATTIC, OR CRAWL SPACE SHALL BE PROTECTED FROM FREEZING BY INSULATION OR HEAT OR BOTH (P2603). PIPE INSULATION IN ANY ATTIC OR CRAWL SPACE SHALL BE PIPE INSULATION.

T8. BATHROOMS, WATER CLOSET COMPARTMENTS, LAUNDRY ROOMS AND OTHER SIMILAR ROOMS NOT HAVING OPERABLE WINDOWS SHALL BE PROVIDED WITH A MECHANICAL FAN HAVING A VENTILATION RATE IN ACCORDANCE WITH M1507. EXHAUST DIRECTLY TO THE OUTSIDE. RECIRCULATING FANS ARE PROHIBITED. (R303)

T9. DAMP PROOF FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE HABITABLE SPACE AND CRAWL SPACE WALLS. IN AREAS WHERE A HIGH WATER TABLE OR OTHER SEVERE SOIL-WATER CONDITIONS EXIST, ALL SUCH WALLS SHALL BE WATERPROOFED (R406). DAMPPROOF ALL FOUNDATION WALLS THAT ENCLOSE ANY CRAWL SPACES. REFER TO THE PROJECT SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

T10. FULLY COVER THE GROUND SURFACE OF CRAWL SPACES AND UNDER FLOOR SPACES WITH A 10-MIL MINIMUM, CLASS I VAPOR RETARDER COMPLYING WITH ASTM E 1745, WITH JOINTS LAPPED NOT LESS THAN 12" AND SEALED (SHEATHING TAPE OR EQUAL) (R408). SEAL AROUND SUMP PITS, COLUMNS, PLUMBING AND OTHER PENETRATIONS. EXTEND UP THE WALL NOT LESS THAN 12" AND ATTACH CONTINUOUSLY.

T11. CRAWL SPACES AND UNDER FLOOR AREAS SHALL BE SUPPLIED WITH A CONDITIONED AIR AND/ OR CONTINUOUS MECHANICAL VENTILATION AS SHOWN ON THE FLANS (R408.3). THE GROUND SURFACE SHALL BE COVERED AS NOTED UNDER T10 AND THE WALLS INSULATED AS NOTED UNDER T4.

T12. FULLY REMOVE AND/OR CLEAN ALL DEBRIS, WASTE, VEGETATION AND OTHER MATERIAL FROM BENEATH ANY AT GRADE BELOW GRADE FLOOR AREA OR CRAWL SPACE (R408).

T13. PROVIDE WEATHER-RESISTANT SHEATHING PAPER BENEATH STUCCO, CULTURED STONE, SIDING AND MASONRY AS SET FORTH IN TABLE R703.4. SHEATHING PAPER SHALL BE SINGLE PLY ASPHALT-SATURATED KRAFT GRADE D BREATHER TYPE PAPER, HAVING A 60 MINUTE WATER RESISTANCE RATING UNDER ASTM D 779. PROVIDE 2 LAYERS BEHIND STUCCO AND CULTURED STONE AND 1 LAYER BEHIND SIDING AND MASONRY. APPROVED HOUSEWRAP MAY BE SUBSTITUTED FOR 1 LAYER ONLY AND SHALL HAVE SHEATHING PAPER PLACED OVER IT WHEN UNDER STUCCO OR MANUFACTURED STONE.

T14. INSTALL EXTERIOR WINDOWS AND DOORS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, GUIDELINES AND RECOMMENDATIONS AND ASTM E 2112. PROVIDE PAN FLASHING FOR ALL EXTERIOR DOORS.

T15. PROVIDE DURABLE WEATHER STRIPPING FOR ALL EXTERIOR DOORS AND WINDOWS.

T16. PROVIDE FLASHING IN SUCH MANNER AS TO PREVENT ENTRY OF WATER INTO THE WALL ASSEMBLY, WALL CAVITY OR ROOF ASSEMBLY, AND PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS. FLASH AND SEAL ALL EXTERIOR WINDOWS, DOORS, OPENINGS, PENETRATIONS AND JOINTS SO AS TO PREVENT MOISTURE FROM PASSING THROUGH, BEYOND OR AROUND AND TO MAKE SUCH LEAKPROOF. PROVIDE MANUFACTURED FLASHINGS AT ALL PENETRATIONS. ALL MEMBRANES, BARRIERS, PAPERS, FELTS AND FLASHINGS SHALL BE LAPPED IN A SHEDDING MANNER. PROVIDE FLASHING AS SPECIFICALLY DENOTED IN SECTIONS R703, R903 AND R905.

T17. ROOF ASSEMBLIES SHALL COMPLY WITH THE REQUIREMENTS SET FORTH IN CHAPTER 9. ROOF COVERING MATERIALS AND INSTALLATION SHALL COMPLY WITH THE ROOFING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, THE ROOF COVERING MANUFACTURER'S WRITTEN CODE EVALUATION/APPROVAL DOCUMENTS AND RECOMMENDATIONS AND THE REQUIREMENTS SET FORTH BY THE NATIONAL ROOFING CONTRACTORS ASSOCIATION, THE ASPHALT ROOFING MANUFACTURER'S ASSOCIATION, AND THE ROOF TILE INSTITUTE FOR EACH APPLICABLE COVERING. UNDERLAYMENT SHALL COMPLY WITH SECTION 905 AND WHEN OF ASPHALT SATURATED OR SBS MODIFIED FELT SHALL BE REINFORCED POLYESTER OR FIBERGLASS.

T18. PROVIDE ROOF FLASHING PER SECTION R905 PER TYPE OF COVERING. FOR TILE ROOFS, ROOF VALLEY AND SIDEWALL FLASHINGS SHALL BE DOUBLE RAISED RIBBED. PROVIDE DRIP EDGES AT ROOF EAVES AND RAKES FOR ALL COMPOSITION ROOF COVERINGS AND WHERE REQUIRED OR RECOMMENDED FOR TILE ROOFS BY THE ROOF COVERING MANUFACTURER. PROVIDE KICK-OUT DIVERTER FLASHING AT ALL EAVE TO SIDE WALL JUNCTURES. FLASHING TO DIVERT WATER OFF THE FACE OF ANY SIDE WALL 4" MINIMUM.
T19. PROVIDE ATTIC VENTILATION PER SECTION R806 (CONFIRM MANUFACTURER'S NET FREE AREA). SOFFIT, EAVE, AND CORNICE VENTS SHALL BE PROVIDED WITH A MANUFACTURED WEATHERPROOF INSULATION BARRIER (NONORGANIC) DESIGNED TO PROVIDE A MINIMUM OF 1" FREE SPACE BETWEEN INSULATION BARRIER AND UNDERSIDE OF SHEATHING.

T20. PROVIDE GUTTERS AND DOWN SPOUTS AT ALL LOCATIONS NECESSARY TO PREVENT PREMATURE POINT OR LOCAL WEARING OF ROOFING AND TO EVENLY DISTRIBUTE AND DISCHARGE WATER AWAY FROM THE FOUNDATION. PROVIDE 5' DOWNSPOUT EXTENSIONS AT ALL DISCHARGE POINTS UNLESS LIMITED BY PROPERTY BOUNDARIES, IN WHICH CASE NOT LESS THAN 4'.

T21. SEE TABLE R401.1.1 (SHEET A-8B) FOR INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT.

FINISHES

F1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC.

F2. REFER TO THE STRUCTURAL PLANS FOR LOCATIONS WHERE GYPSUM BOARD MAY BE USED AS A STRUCTURAL COMPONENT OF ANY LATERAL FORCE RESISTING SYSTEM.

F3. GYPSUM BOARD MATERIAL AND INSTALLATION SHALL COMPLY WITH SECTION R702.3.1 ASTM C 630 AND THE GYPSUM ASSOCIATIONS GA-216 RECOMMENDED SPECIFICATION FOR THE APPLICATION AND FINISHING OF GYPSUM BOARD, EACH AS APPLICABLE. FINISH GYPSUM WALLBOARD TO LEVEL 3 FOR AREAS TO RECEIVE HEAVY OR KNOCK DOWN TEXTURES AND LEVEL 4 FOR ALL OTHER AREAS PER GA-214, LEVELS OF GYPSUM BOARD FINISH, IN ALL HABITABLE AREAS U.N.O.

F4. ALL TUE AND SHOWER AREAS ARE TO RECEIVE MOISTURE-AND MOLD-RESISTANT GYPSUM BACKER INTENDED FOR MOISTURE PRONE AREAS COMPLYING WITH ASTM C 630 AND D 3273. GYPSUM BOARD UTILIZED AS A BASE BACKER FOR ADHESIVE APPLICATION OF TILE OR OTHER NONABSORBENT FINISH MATERIAL SHALL ALSO CONFORM TO ATM C1178 (R702.4.2). THOROUGHLY SEAL ALL PENETRATIONS.

F5. EXTERIOR SEALANTS SHALL COMPLY WITH ASTM C 920, TYPE S, GRADE NS, CLASS 25: SINGLE-COMPONENT, GOOD UV LIGHT RESISTANCE AND LONG-LIFE EXPECTANCY, NON-SHRINK, AND PAINTABLE.
F6. PAINT MATERIAL AND APPLICATION SHALL COMPLY WITH THE PAINT MANUFACTURER'S WRITTEN APPLICATION INSTRUCTIONS AND RECOMMENDATIONS AND THE RECOMMENDATIONS SET FORTH BY THE AMERICAN HARDBOARD ASSOCIATION, THE GYPSUM ASSOCIATION AND THE PAINTING AND DECORATING CONTRACTORS OF AMERICA.
F7. CARPET MATERIAL AND INSTALLATION SHALL COMPLY WITH THE CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND THE RECOMMENDATIONS SET FORTH BY THE CARPET AND RUG INSTITUTE, APPLICABLE.

F8. RESILIENT FLOOR MATERIAL AND INSTALLATION SHALL COMPLY WITH THE RESILIENT FLOOR COVERING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND THE REQUIREMENTS SET FORTH BY THE RESILIENT FLOOR COVERING INSTITUTE.

F9. TILE MATERIAL AND INSTALLATION SHALL COMPLY WITH SECTION 702.4, THE TILE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS AND THE RECOMMENDATIONS SET FORTH BY THE CERAMIC TILE INSTITUTE OF AMERICA, THE TILE COUNCIL OF NORTH AMERICA, AND/OR THE MARBLE INSTITUTE OF AMERICA, FOR EACH APPLICABLE MATERIAL.

F10. STUCCO AND/OR PLASTER SYSTEMS MATERIAL AND INSTALLATION SHALL COMPLY WITH SECTION 703.6 THE STUCCO MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS, THE STUCCO MANUFACTURER'S WRITTEN CODE EVALUATION/APPROVAL DOCUMENTS AND THE RECOMMENDATIONS SET FORTH BY THE PORTLAND CEMENT ASSOCIATION, THE STUCCO MANUFACTURERS ASSOCIATION AND THE NORTHWEST WALL AND CEILING BUREAU.

MECHANICAL

M1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC, THE IMC, AND THE IFGC.

M2. ALL MATERIAL SHALL BE PROPERLY LISTED AND LABELED (M1303). MANUFACTURER'S INSTALLATIONS INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES. PROVIDE MAINTENANCE INSTRUCTIONS TO ALL MATERIAL AND SYSTEMS THAT REQUIRE PREVENTATIVE MAINTENANCE AND PLACE IN A CLEAR PLASTIC SLEEVE AFFIX TO THE APPLICABLE ITEM.

M3. PROVIDE LEVEL WORKING SPACE IN FRONT OF THE CONTROL SIDE OF ANY APPLIANCE OF NOT LESS THAN 30" IN WIDTH OR DEPTH. MAINTAIN MINIMUM WORKING SPACE OF 3" ON ALL SIDES, BACK AND TOP OF ANY APPLIANCE. APPLIANCES IN ATTICS AND IN CRAWL SPACES OR UNDER FLOOR AREAS MUST MEET ADDITIONAL PASSAGEWAY AND CLEARANCE REQUIREMENTS (M1305).

M4. APPLIANCES LOCATED IN ATTICS AND IN CRAWL SPACES OR UNDER FLOOR AREAS SHALL BE PROVIDED WITH AN OPENING AND A CLEAR AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE BUT NOT LESS THAN 30" HIGH AND 22" WIDE WITH 24" WIDE CONTINUOUS SOLID FLOORING RAISED SUCH THAT PREVENTS DAMAGING OR COMPRESSING INSULATION AND/OR LEVEL GRADE FOR NOT MORE THAN 20' IN LENGTH. PROVIDE RAISED SOLID FLOORING AND/OR LEVEL SERVICE SPACE OF NOT LESS THAN 30" IN WIDTH OR DEPTH ALONG ALL SIDES WHERE ACCESS IS REQUIRED (M1305, N11023.2.3 AND IECC 402.2.3).

M5. EQUIPMENT AND APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18" ABOVE THE FLOOR IN HAZARDOUS LOCATIONS AND GARAGES. (M1307, G2404 AND G2408). ELEVATION OF THE IGNITION SOURCE IS NOT REQUIRED FOR APPLIANCES LISTED AS FLAMMABLE VAPOR RESISTANT AND FOR INSTALLATION WITHOUT ELEVATION.

M6. UNLESS OTHERWISE PREDETERMINED ON ANY MECHANICAL PLAN, SUBCONTRACTOR SHALL SIZE ALL HEATING AND COOLING EQUIPMENT IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR THE ASHRAE HANDBOOK OF FUNDAMENTALS (M1401 AND IECC 403).

M7. UNLESS OTHERWISE PREDETERMINED ON ANY MECHANICAL PLAN, SUBCONTRACTOR SHALL SIZE, FABRICATE, AND LAYOUT DUCT SYSTEMS IN ACCORDANCE WITH ACCA MANUAL D AND FABRICATE IN ACCORDANCE WITH CHAPTER 16 AND THE INTERNATIONAL MECHANICAL CODE. UNDER NO CIRCUMSTANCE SHALL STUD WALL CAVITIES OR SPACES AND JOIST SPACE PLENUMS BE USED FOR SUPPLY OR RETURN AIR.

M8. SEAL ALL FIELD-MADE DUCT JOINTS, SEAMS, FLANGES, CONNECTIONS, AND THE LIKE WITH WELDS, GASKETS, OR MASTICS ONLY. SEAL ALL FACTORY-MADE DUCT IN ACCORDANCE WITH DUCT MANUFACTURER'S RECOMMENDATIONS. VERIFY DUCT TIGHTNESS THROUGH POST-CONSTRUCTION OR ROUGH-IN TEST. (M1601, N1103.2, AND IECC 403.2).

M9. PROVIDE ROOF FLASHING PER SECTION R905 PER TYPE OF COVERING. FOR TILE ROOFS, ROOF VALLEY AND SIDEWALL FLASHING SHALL BE DOUBLE RAISED RIBBED. PROVIDE DRIP EDGES AT ROOF EAVES AND RAKES FOR ALL COMPOSITION ROOF COVERINGS AND WHERE REQUIRED OR RECOMMENDED FOR TILE ROOFS BY THE ROOF COVERING MANUFACTURER. PROVIDE KICK-OUT DIVERTER FLASHING AT ALL EAVE TO SIDE WALL JUNCTURES. FLASHING TO DIVERT WATER OFF THE FACE OF ANY SIDE WALL 4" MINIMUM.

M10. GAS-FIRED APPLIANCES SHALL RECEIVE COMBUSTION AIR AND SHALL BE VENTED IN ACCORDANCE WITH CHAPTER 24. COMBUSTION AIR OPENINGS SHALL BE UNOBSTRUCTED FOR NOT LESS THAN 6" (M1402), OR IN ACCORDANCE WITH CITY AMENDMENTS.

M11. CLOTHES DRYER EXHAUST DUCTS SHALL NOT EXCEED 25' IN LENGTH, WITH REDUCTIONS IN LENGTH AS SET FORTH IN SECTIONS M1502 AND G2435, AND SHALL TERMINATE ON THE OUTSIDE WITH BACKDRAFT DAMPER. DO NOT VENT VERTICALLY THROUGH THE ATTIC SPACE OR ROOF. DO NOT CONNECT EXHAUST DUCTS WITH SCREWS OR OTHER FASTENERS WHICH EXTEND INTO THE DUCT.

M12. PROVIDE COMBUSTION, VENTILATION, AND DILUTION AIR IN ACCORDANCE WITH SECTION G2407.

M13. FUEL GAS PIPING IS PROHIBITED FROM BEING INSTALLED BENEATH ANY HOME OR THROUGH OR BENEATH ANY FOUNDATION UNLESS ENCASED IN A PROTECTIVE SLEEVE DESIGNED TO WITHSTAND THE LOADS (G2415).

M14. WHERE VENTS PASS THROUGH INSULATED ASSEMBLIES, PROVIDE AN INSULATION SHIELD OF NOT LESS THAN 20 GAUGE SHEET METAL FOR CLEARANCE AS SPECIFIED BY VENT MANUFACTURER. TERMINATE SHIELD AT LEAST 2" ABOVE INSULATION AND SECURE (G2426).

M15. UNINSULATED SINGLE-WALL METAL PIPE SHALL NOT BE USED FOR VENTING GAS APPLIANCES (G2421).

PLUMBING

P1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC, THE IPC, AND THE IFGC.

P2. TEST PIPING AND PLUMBING FOR POTENTIAL LEAKAGE IN ACCORDANCE WITH SECTIONS G2417 AND P2503, AND IN ACCORDANCE WITH CITY AMENDMENTS.

P3. PROTECT PIPING WITH SHIELD PLATES WHERE PIPING IS LESS THAN 1.5" FROM THE NEAREST EDGE OF ANY WOOD MEMBER (P2603).

P4. PIPING PASSING THROUGH OR UNDER FOOTINGS OR FOUNDATION WALLS SHALL BE PROVIDED WITH A RELIEVING ARCH, OR PROVIDE A PIPE SLEEVE BUILT IN THE FOUNDATION WALL 2 PIPE SIZES GREATER THAN THE PIPE PASSING THROUGH THE WALL (P2603). FULLY AND PERMANENTLY SEAL ANY PENETRATIONS THROUGH THE FOUNDATION WALL.

P5. PROVIDE ADEQUATE VALVES AND DEVICES, TO INCLUDE SERVICE, RELIEF, CHECK, PRESSURE-REDUCING, BACKFLOW PREVENTION, THERMAL AND FLOW CONTROL, TRAPPING, ETC., AS REQUIRED OR OTHERWISE NECESSARY OR RECOMMENDED.

P6. THE WATER SERVICE AND WATER DISTRIBUTION SYSTEMS SHALL BE DESIGNED AND PIPE SIZES SHALL BE SELECTED SUCH THAT UNDER CONDITIONS OF PEAK DEMAND, THE CAPACITIES AT THE POINT OF OUTLET DISCHARGE SHALL NOT BE LESS THAN SHOWN IN TABLE P2903.1.

P7. WATER SERVICE MAINS, BRANCH MAINS AND RISERS SHALL BE DETERMINED ACCORDING TO WATER SUPPLY DEMAND, AVAILABLE WATER PRESSURE AND FRICTION LOSS DUE TO THE WATER METER AND DEVELOPED LENGTH OF PIPE, INCLUDING EQUIVALENT LENGTH OF FITTINGS (P2503).

P8. THE MAXIMUM LENGTH OF INDIVIDUAL DISTRIBUTION LINES SHALL BE 60' (P2503).

P9. WATER SERVICE PIPING IS PROHIBITED IN CONTAMINATED OR CORROSIVE SOILS WITHOUT USE OF APPROVED ALTERNATE MATERIALS OR METHODS (P2905). SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SECURING WRITTEN APPROVAL FROM THE BUILDING OFFICIAL AS TO ACCEPTABILITY OF MATERIALS OR METHODS PRIOR TO COMMENCING ANY WORK. REFER TO THE PROJECT SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

P10. EXTEND UNDERGROUND DRAINAGE CLEAN OUTS VERTICALLY PLUMB TO OR WITHIN 3" ABOVE FINISHED GRADE. PROVIDE ADEQUATE ACCESSIBILITY PER SECTION P3005.

ELECTRICAL

E1. COMPLY WITH APPLICABLE REQUIREMENTS SET FORTH IN THE IRC, AND THE NEC.

E2. THE GROUNDING ELECTRODE SYSTEM SHALL BE COMPRISED OF CONCRETE-ENCASED ELECTRODES OR GROUNDING RINGS ONLY (E3608). FOR POST-TENSIONED SLABS ON GRADE, A BARE COPPER CONDUCTOR NOT SMALLER THAN NO. 4 OF AT LEAST 20' IN LENGTH SHALL BE PLACED NEAR THE BOTTOM OF THE SLAB BUT ENCASED BY AT LEAST 2" OF CONCRETE. GAS PIPING SHALL NOT BE USED AS A GROUNDING ELECTRODE (G2410). THE WATER DISTRIBUTION SYSTEM SHALL NOT BE USED AS A GROUNDING ELECTRODE.

E3. DETERMINE THE MINIMUM NUMBER OF BRANCH CIRCUITS FROM THE TOTAL COMPUTED LOAD AND THE SIZE OR RATING OF THE CIRCUITS USED (E3703). PROVIDE NOT LESS THAN 4 ADDITIONAL OR SPARE BRANCH CIRCUITS TO ALLOW FOR FUTURE EXPANSION BY OTHERS.

E4. CLEARLY, LEGIBLY, AND PERMANENTLY MARK AND FULLY IDENTIFY ALL PANEL BOARD CIRCUITS ON A CIRCUIT DIRECTORY. SEE ALSO NOTE T1. AVOID ABBREVIATIONS NOT COMMONLY KNOWN OR NOT SPECIFIC TO PURPOSE OR USE. PROVIDE ADEQUATE OVERCURRENT PROTECTION (E3706).

E5. PROVIDE ROOM CONVENIENCE RECEPTACLES AS SHOWN ON THE PLANS SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6', MEASURE HORIZONTALLY, FROM AN OUTLET IN THAT SPACE (E3901).

E6. PROVIDE COUNTERTOP RECEPTACLES AS SHOWN ON THE PLANS AND SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 2', MEASURE HORIZONTALLY, FROM AN OUTLET IN THAT SPACE (E3901).

E7. PROVIDE ARC FAULT INTERRUPTERS (AFCI) WHERE REQUIRED (E3902 AND NEC210).

E8. PROVIDE AT LEAST ONE LIGHTING OUTLET IN ANY ATTIC, CRAWL SPACE, UNDER-FLOOR SPACE, UTILITY ROOM, AND BASEMENT AT OR NEAR ANY EQUIPMENT POTENTIALLY REQUIRING SERVICING OR OTHERWISE NEAR THE CENTER OF THE SPACE, WITH AT LEAST ONE POINT OF CONTROL AT THE USUAL POINT OF ENTRY TO THESE SPACES (E3903 AND M1305).

E9. IN DAMP OR WET LOCATIONS, PLACE OR EQUIP BOXES, CONDUIT BODIES, AND FITTINGS SO AS TO PREVENT MOISTURE FROM ENTERING OR ACCUMULATING WITHIN. DAMP LOCATIONS INCLUDE PARTIALLY PROTECTED LOCATIONS UNDER OPEN ROOF, CANOPY, OR SIMILAR LOCATIONS AND INTERIOR LOCATIONS SUBJECT TO MODERATE DEGREES OF MOISTURE. FOR PURPOSES OF ALL ELECTRICAL REQUIREMENTS ONLY, ANY AT GRADE OR BELOW- GRADE CRAWL SPACE SHALL BE DEEMED A DAMP LOCATION. BOXES, CONDUIT BODIES, AND FITTINGS INSTALLED IN WET LOCATIONS SHALL BE LISTED FOR USE IN WET LOCATIONS. WET LOCATIONS INCLUDE LOCATIONS EXPOSED TO THE WEATHER AND UNPROTECTED BY ROOF, CANOPY, OR SIMILAR COVERING (E3905).

E10. SET OUTLET BOXES FLUSH WITH THE GYPSUM WALLBOARD SURFACE AND LEAVE NO SPACE GREATER THAN 1/8" AROUND THE EDGE OF ANY BOX (E3906). SEAL ALL GAPS AROUND ANY BOX.

E11. IN DAMP OR WET LOCATIONS, PLACE OR EQUIP SURFACE TYPE CABINETS AND PANELBOARDS SO AS TO PREVENT MOISTURE FROM ENTERING OR ACCUMULATING WITHIN AND PROVIDE AN AIRSPACE NOT LESS THAN 1/4" BETWEEN THE ENCLOSURE AND THE WALL OR SUPPORTING SURFACE. CABINETS INSTALLED IN WET LOCATIONS SHALL BE WEATHERPROOF (E3907).

E12. ENCLOSE ALL SWITCHES AND CIRCUIT BREAKERS LOCATED IN A WET LOCATION OR OUTSIDE A BUILDING IN A WEATHERPROOF ENCLOSURE OR CABINET (E4001).

E13. ANY RECEPTACLE INSTALLED OUTDOORS IN A LOCATION PROTECTED FROM WEATHER OR IN OTHER DAMP LOCATIONS SHALL HAVE AN ENCLOSURE FOR THE RECEPTACLE THAT IS WEATHERPROOF WHEN THE RECEPTACLE COVER IS CLOSED. WHERE INSTALLED IN A WET LOCATION AND WHERE MAY BE IN UNATTENDED USE, THE RECEPTACLE SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHILE IN USE (E4002).

E14. FIXTURES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SO THAT WATER CANNOT ENTER OR ACCUMULATE AND SHALL BE SO MARKED AS SUITABLE FOR WET OR DAMP LOCATIONS, AS APPLICABLE (E4002).

E15. RECESSED LIGHTING FIXTURES INSTALLED IN THE BUILDING ENVELOPE SHALL COMPLY WITH SECTION N1102.

E16. PROVIDE HIGH EFFICACY LAMPS FOR A MINIMUM OF 50% OF PERMANENTLY INSTALLED LIGHT FIXTURES (IECC SECTION 404).

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CONTENTS: CONSTRUCTION NOTES
SCALE: 1/4" = 1'-0" DATE: DRWN. PRJT.NO.
PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE
07/02/19 CONSTRUCTION SET

SHEET NO.
CN

FRONT ELEVATION

SCALE: 1/4"=1'-0"

RIGHT SIDE ELEVATION

SCALE: 1/4"=1'-0"

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CONTENTS: FRONT AND RIGHT SIDE ELEVATIONS

SCALE: 1/4" = 1'-0" | DATE: | DRWN. | PR.JT.NO.

PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE: 07/02/08 CONSTRUCTION SET

SHEET NO. A-1A

REAR ELEVATION

SCALE: 1/4"=1'-0"

LEFT SIDE ELEVATION

SCALE: 1/4"=1'-0"

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REAR AND LEFT SIDE ELEVATIONS

CONTENTS

SCALE: 1/4" = 1'-0"

DATE:

DRWN.

PR.JT.NO.

HOCHSTETLER RESIDENCE

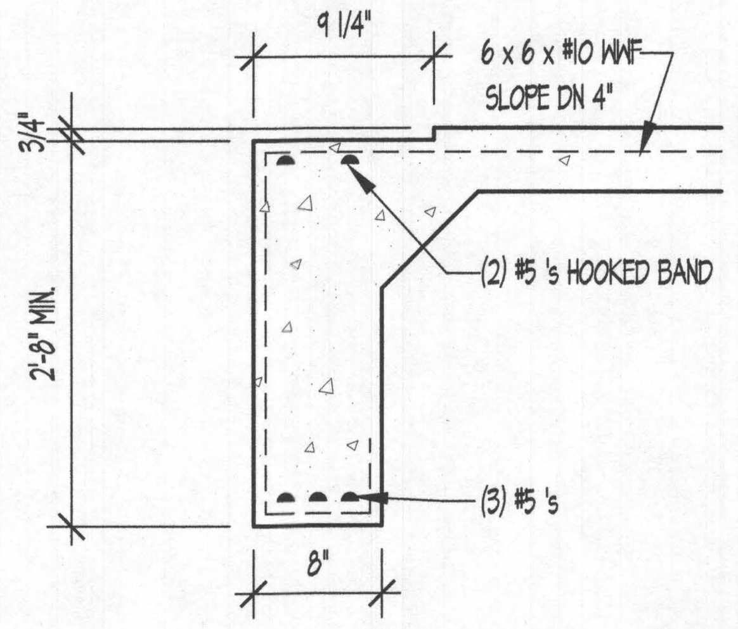
PROJECT TITLE:

ISSUE

07/09/11 CONSTRUCTION SET

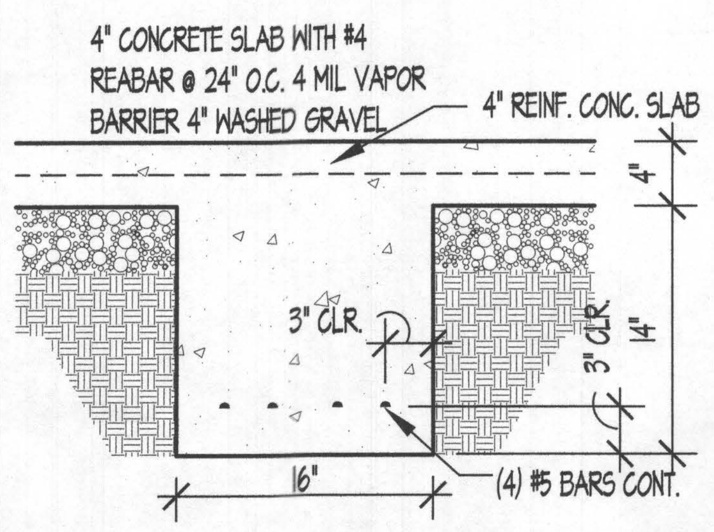
SHEET NO.

A-1B



1. GRADE BEAM @ GAR. DOOR

SCALE: 1"=1'-0"



2. GRADE BEAM DETAIL

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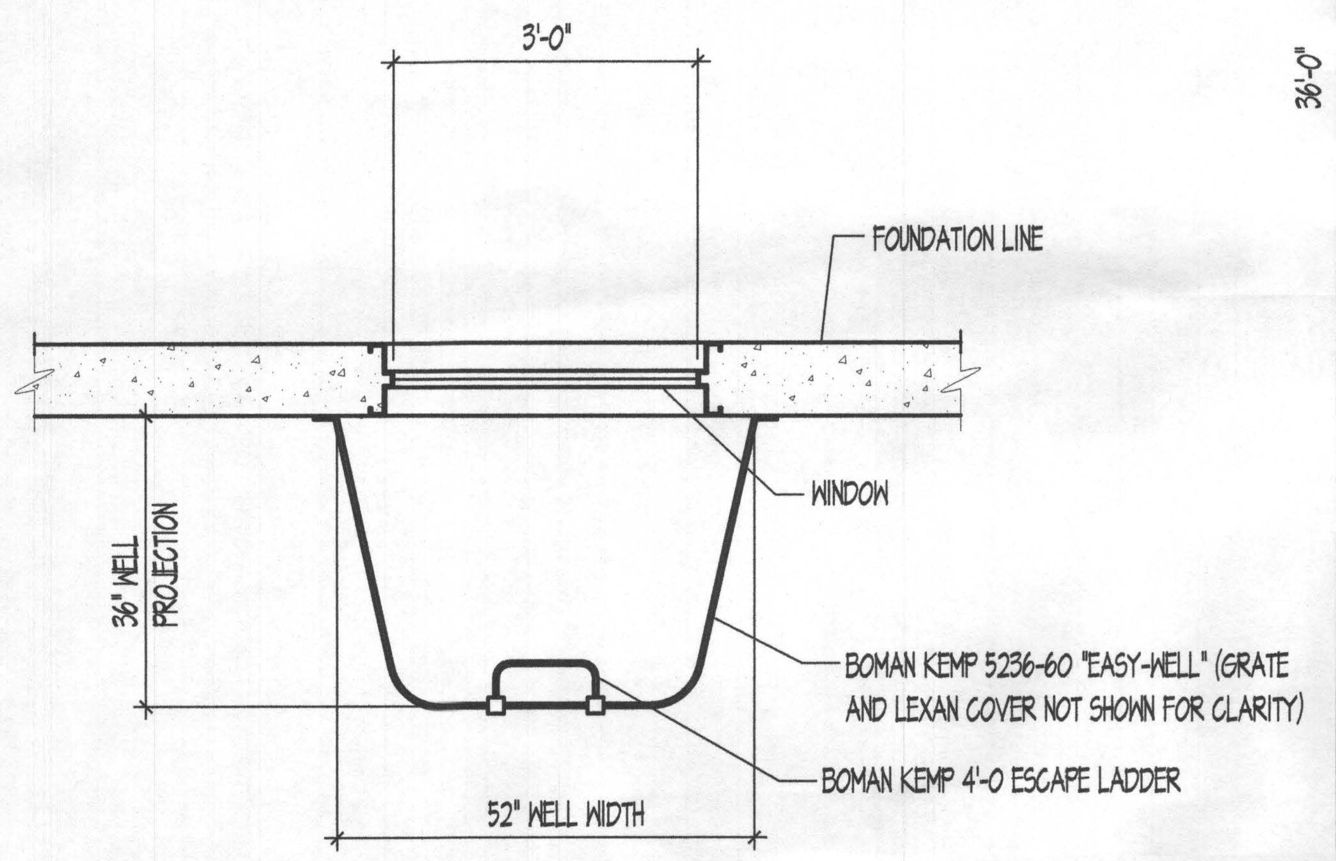
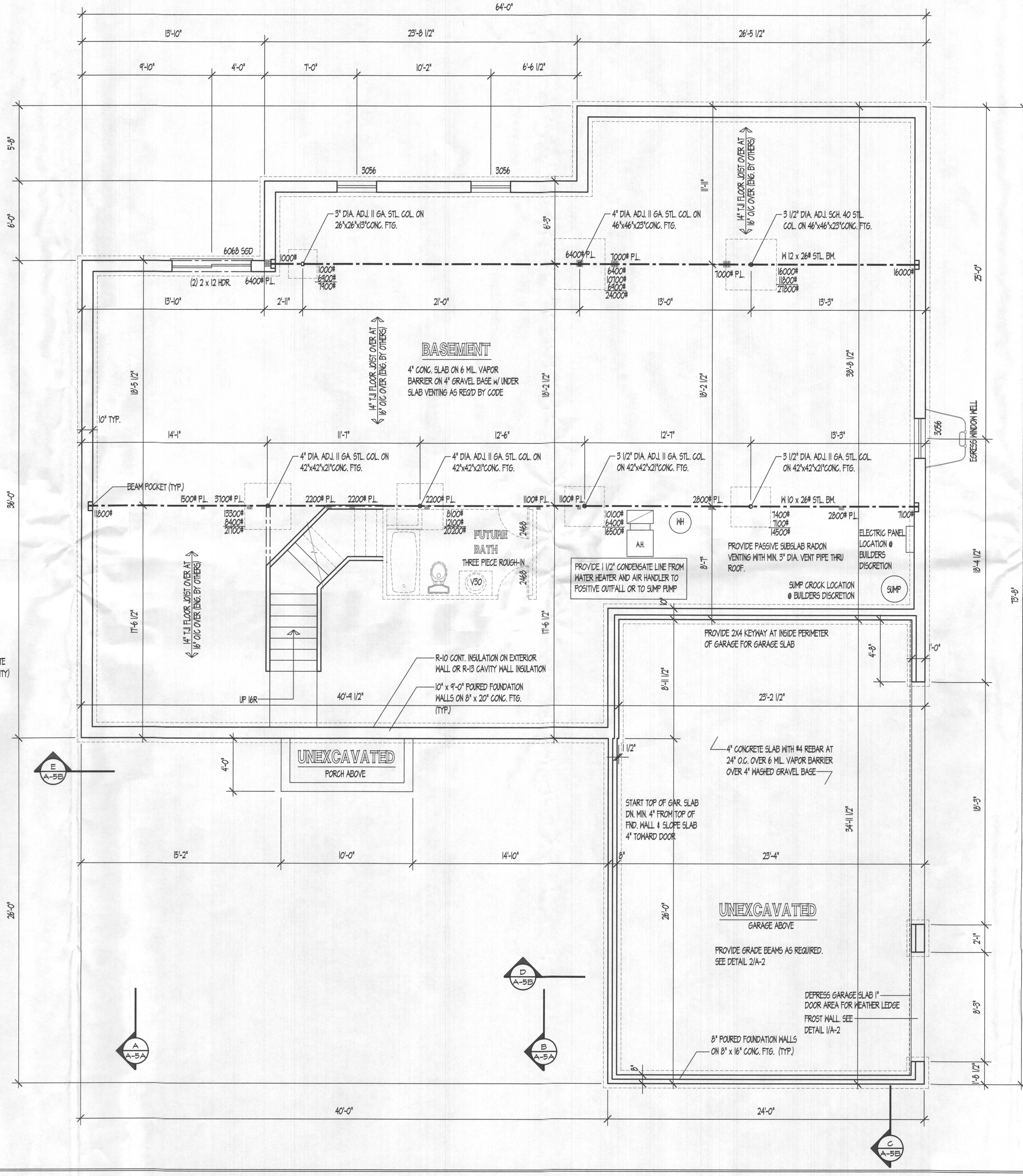


3. EGRESS WINDOW WELL

SCALE: 1/2"=1'-0"



Sprinkler Note:

1. RESIDENTIAL SPRINKLER SYSTEM TO BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN NFPA-13D.

2. SYSTEMS THAT ARE SUPPLIED BY WELL WATER SHALL HAVE A 300 GALLON STORAGE WATER TANK AND WATER PUMP LOCATED IN THE BASEMENT.

FOUNDATION PLAN

SCALE: 1/4"=1'-0"

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CONTENTS: FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

DATE:

DRWN.

PRJT.NO.

PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE	
07/02/19	CONSTRUCTION SET

SHEET NO.

A-2

STAIR NOTES:

R311.7.1 Width
Stairways shall be not less than 36 inches (914 mm) in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4 1/2 inches (114 mm) on either side of the stairway and the clear width of the stairway at and below the handrail height, including treads and landings, shall be not less than 31 1/2 inches (787 mm) where a handrail is installed on one side and 27 inches (648 mm) where handrails are provided on both sides.

Exception: The width of spiral stairways shall be in accordance with Section R311.7.10.1.

R311.7.2 Headroom
The headroom in stairways shall be not less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Exceptions:
1. Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom not more than 4 3/4 inches (121 mm).
2. The headroom for spiral stairways shall be in accordance with Section R311.7.10.1.

R311.7.3 Vertical rise
A flight of stairs shall not have a vertical rise larger than 147 inches (3734 mm) between floor levels or landings.

R311.7.4 Walkline
The walkline across winder treads shall be concentric to the curved direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

R311.7.5 Stair treads and risers
Stair treads and risers shall meet the requirements of this section. For the purposes of this section, dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.

R311.7.5.1 Risers
The riser height shall be not more than 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted provided that the openings located more than 30 inches (762 mm), as measured vertically to the floor or grade below do not permit the passage of a 4-inch-diameter (102 mm) sphere.

Exceptions:
1. The opening between adjacent treads is not limited on spiral stairways.
2. The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.

R311.7.5.2 Treads
The tread depth shall be not less than 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.5.2.1 Winder treads
Winder treads shall have a tread depth of not less than 10 inches (254 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a tread depth of not less than 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than 3/8 inch (9.5 mm). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within 3/8 inch (9.5 mm) of the rectangular tread depth.

Exception: The tread depth at spiral stairways shall be in accordance with Section R311.7.10.1.

R311.7.5.3 Nosings
The radius of curvature at the nosing shall be not greater than 9/16 inch (14 mm). A nosing projection not less than 3/4 inch (19 mm) and not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosings shall not exceed 1/2 inch (12.7 mm).

Exception: A nosing projection is not required where the tread depth is not less than 11 inches (279 mm).

R311.7.5.4 Exterior plastic composite stair treads
Plastic composite exterior stair treads shall comply with the provisions of this section and Section R507.3.

R311.7.6 Landings for stairways
There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided that the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.

R311.7.7 Stairway walking surface
The walking surface of treads and landings of stairways shall be sloped not steeper than one unit vertical in 48 inches horizontal (2-percent slope).

R311.7.8 Handrails
Handrails shall be provided on not less than one side of each continuous run of treads or flight with four or more risers.

R311.7.8.1 Height
Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

Exceptions:
1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. Where handrail fittings or bendings are used to provide continuous transition between flights, transitions at winder treads, the transition from handrail to guard, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed 38 inches (956 mm).

R311.7.8.2 Continuity
Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 1/2 inches (38 mm) between the wall and the handrails.

Exceptions:
1. Handrails shall be permitted to be interrupted by a newel post at the turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

R311.7.8.3 Grip-size
Required handrails shall be of one of the following types or provide equivalent graspability.

1. Type I. Handrails with a circular cross section shall have an outside diameter of not less than 1 1/4 inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than 6 1/4 inches (160 mm) with a cross section of dimension of not more than 2 1/4 inches (57 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).

2. Type II. Handrails with a perimeter greater than 6 1/4 inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of not less than 5/16 inch (8 mm) within 7/8 inch (22mm) below the widest portion of the profile. This required depth shall continue for not less than 1/8 inch (10 mm) to a level that is not less than 1 3/4 inches (45 mm) below the tallest portion of the profile. The width of the handrail above the recess shall be not less than 1 1/4 inches (32 mm) and not more than 2 3/4 inches (70 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).

R311.7.8.4 Exterior plastic composite handrails
Plastic composite exterior handrails shall comply with the requirements of Section 507.3

R507.3, R311.7.9 Illumination
Stairways shall be provided with illumination in accordance with Section R303.7.

R311.7.10 Special stairways
Spiral stairways and bulkhead enclosure stairways shall comply with the requirements of Section R311.7 except as specified in Sections R311.7.10.1 and R311.7.10.2.

R311.7.10.1 Spiral stairways
Spiral stairways are permitted, provided that the clear width at and below the handrail is not less than 26 inches (660 mm) and the walkline radius is not greater than 24 1/2 inches (622 mm). Each tread shall have a depth of not less than 6 3/4 inches (171 mm) at the walkline. All treads shall be identical, and the rise shall be not more than 9 1/2 inches (241 mm). Headroom shall be not less than 6 feet 6 inches (1982 mm).

R311.7.10.2 Bulkhead enclosure stairways
Stairways serving bulkhead enclosures, not part of the required building egress, providing access from the outside grade level to the basement shall be exempt from the requirements of Sections R311.3 and R311.7 where the height from the basement finished floor level to grade adjacent to the stairway is not more than 8 feet (2438 mm) and the grade level opening to the stairway is covered by a bulkhead enclosure with hinged doors or other approved means.

GUARD NOTES:

R312.1 Guards
Guards shall be provided in accordance with Sections R312.1.1 through R312.1.4.

R312.1.1 Where required
Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

R312.1.2 Height
Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) in height as measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads.

Exceptions:
1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. Where the top of the guard serves as a handrail on the open sides of stairs, the top of the guard shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) as measured vertically from a line connecting the leading edges of the treads. R312.1.3

Opening limitations
Required guards shall not have openings from the walking surface to the required guard height that allow passage of a sphere 4 inches (102 mm) in diameter.

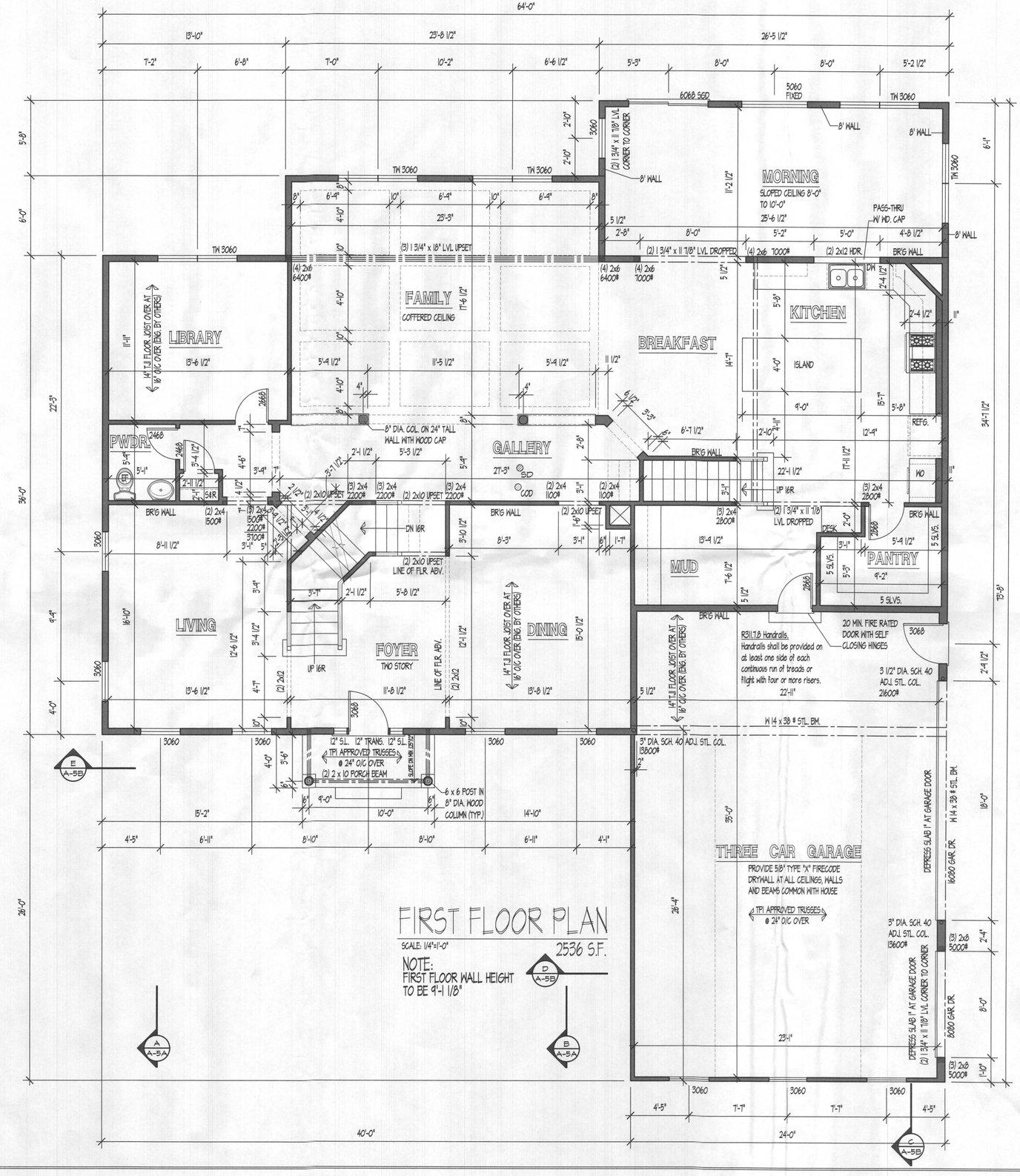
Exceptions:
1. The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. Guards on the open side of stairs shall not have openings that allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

R312.1.4 Exterior plastic composite guards
Plastic composite exterior guards shall comply with the requirements of Section R317.4.

R312.2 Window fall protection
Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.

R312.2.1 Window sills
In dwelling units, where the top of the sill of an operable window opening is located less than 24 inches (610 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the following:
1. Operable windows with openings that will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening where the opening is in its largest opened position.
2. Operable windows that are provided with window fall prevention devices that comply with ASTM F 2090.
3. Operable windows that are provided with window opening control devices that comply with Section R312.2.2.

R312.2.2 Window opening control devices
Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit to less than the area required by Section R310.2.1.



FIRST FLOOR PLAN

SCALE: 1/4"=1'-0" 2536 S.F.

NOTE:
FIRST FLOOR WALL HEIGHT TO BE 9'-1 1/8"

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CONTENTS
SCALE: 1/4" = 1'-0"
DATE:
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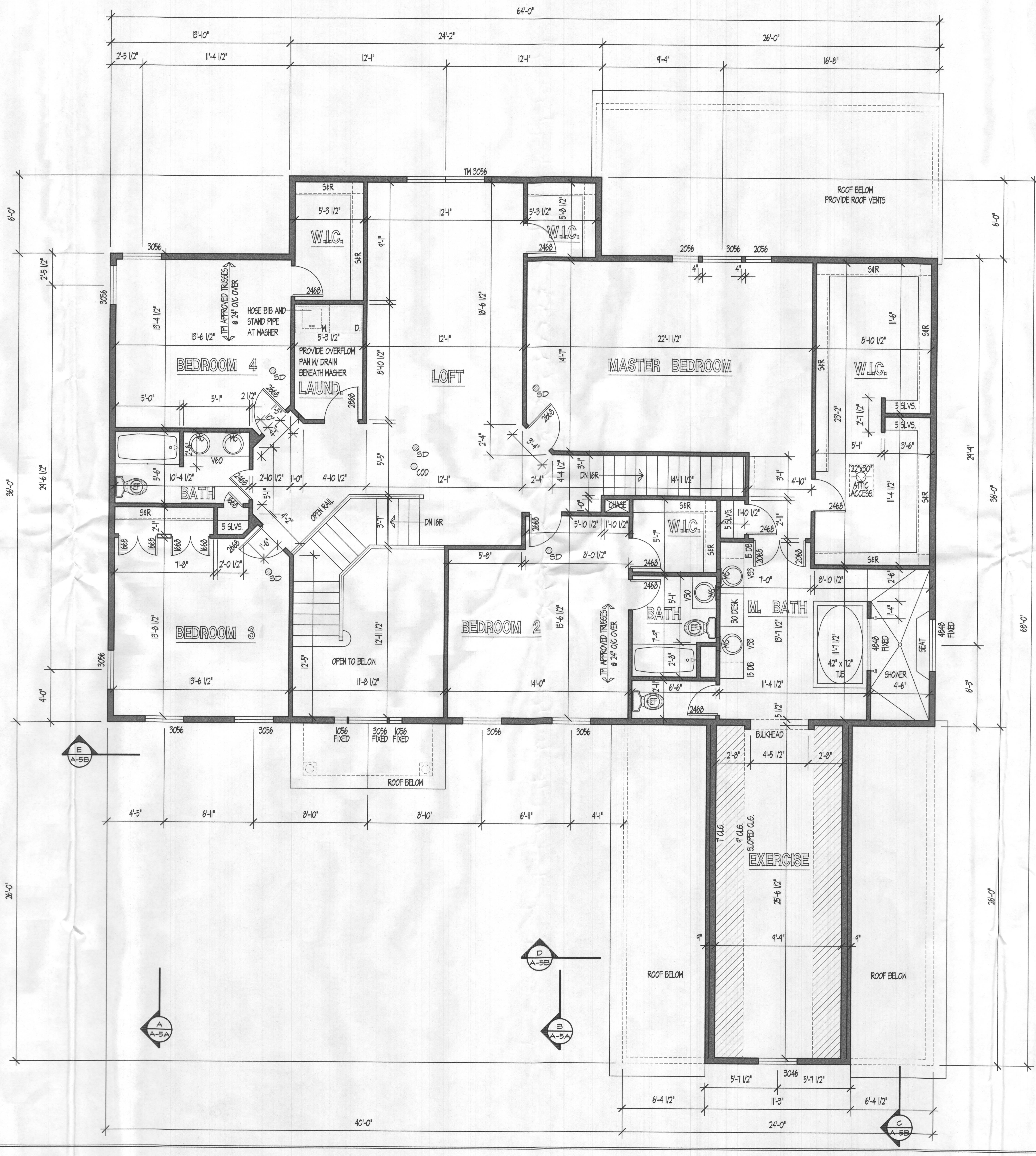
FIRST FLOOR PLAN

HOCHSTETLER RESIDENCE

PROJECT TITLE:

ISSUE
07/26/19 CONSTRUCTION SET

SHEET NO.
A-3



NOTE:
SECOND FLOOR WALL HEIGHT TO BE 9'-1 1/8"

SECOND FLOOR PLAN

SCALE: 1/4"=1'-0"

2562 S.F.

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ISSUE: 07/02/19 CONSTRUCTION SET

CONTENTS: SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0" DATE: DRWN.: PR.JT.NO.:

PROJECT TITLE: HOCHSTETLER RESIDENCE

SHEET NO. A-4

TABLE R602.10.4
INTERMITTENT BRACING METHODS

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA	
				Fasteners	Spacing
LIB	Let-in-bracing	1 x 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Wood: 2-8d common nails or 3-8d (2 1/2" long X .113 dia.) nails	Wood: per stud and top and bottom plates
				Metal strap: per manufacturer	Metal: per manufaturer
DWB	Diagonal wood boards	3/4" (1" nominal) for maximum 24" stud spacing		2-8d (2 1/2" long X .113 dia.) nails or 2- 1 3/4" long staples	Per stud
WSP	Wood structural panel (See Section R604)	3/8"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener
BV-WSP (e)	Wood structural panels with stone or masonry veneer (See section R602.10.6.5)	7/16""	See figure R602.10.6.5	8d (2 1/2" long X .113 dia.) common nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts
SFP	Structural fiberboard sheathing	1/2" or 25/32" for maximum 16" stud spacing		1 1/2" long x .12" dia. (for 1/2" thick sheathing) 1 3/4" long x .12" dia. (for 23/32" sheathing) galvanized roofing nails or 8d common (2 1/2" long x .131" dia.) nails	3" edges 6" field
GB	Gypsum board	1/2"		Nails or screws per Table R602.3(1) for exterior locations	For all braced wall panel locations: 7" edges (including top and bottom plates) 7" field
				Nails or screws per Table R702.3.5 for interior locations	
PBS	Particleboard sheathing (see Section R605)	3/8" or 1/2" for maximum 16" stud spacing		For 3/8" 6d common (2" long X .113 dia.) nails For 1/2" 8d common (2 1/2" long X .113 dia.) nails	3" edges 6" field
PCP	Portland cement plaster	See Section R703.6 For maximum 16" stud spacing		1 1/2" long, 11 gage, 7/16" dia. head nails or 7/8" long, 16 gage staples	6" o.c. on all framing members
HPS	Hardboard panel siding	7/16" For maximum 16" stud spacing		.092" dia., .225" dia. nails with length to accommodate 1 1/2" penetration into studs	4" edges 8" field
AWB	Alternate braced wall	See Section R602.10.3.2		See section R602.10.6.1	See section R602.10.6.1
PFH	Intermittent portal frame	See Section R602.10.3.3		See section R602.10.6.2	See section R602.10.6.2
PFG	Intermittent portal frame at garage	See Section R602.10.3.4		See section R602.10.6.3	See section R602.10.6.3

TABLE R602.10.4
CONTINUOUS SHEATHING METHODS

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA	
				Fasteners	Spacing
CS-WSP	Wood structural panel	3/8"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener
CS-G (b,c)	Wood structural panel adjacent to garage openings and supporting roof load only	3/8"		See method CS-WSP	See method CS-WSP
CS-PF	portal frame	7/16"		See Section R602.10.6.4	See Section R602.10.6.4
CS-SFP (d)	Structural fiberboard	1/2" or 25/32" for maximum 16" stud spacing		1 1/2" long x .12" dia. (for 1/2" thick sheathing) 1 3/4" long x .12" dia. (for 23/32" sheathing) galvanized roofing nails or 8d common (2 1/2" long x .131" dia.) nails	3" edges 6" field

a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D0, D1 and D2.
b. Applies to panels next to garage door opening when supporting gable end wall or roof load only. May only be used on one wall of the garage. In Seismic Design Categories D0, D1 and D2, roof covering dead load may not exceed 3 psf.
c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R502.5(1). A full height clear opening shall not be permitted adjacent to a Method CS-G panel.
d. Method CS-SFB does not apply in Seismic Design Categories D0, D1 and D2 and in areas where the wind speed exceeds 100 mph.
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D0 through D2 only.

R602.10.1 Braced wall lines. For the purpose of determining the amount and location of bracing required in each story level of a building, braced wall lines shall be designated as straight lines in the building plan placed in accordance with this section.

R602.10.1.1 Length of a braced wall line. The length of a braced wall line shall be the distance between its ends. The end of a braced wall line shall be the intersection with a perpendicular braced wall line, an angled braced wall line as permitted in Section R602.10.1.4 or an exterior wall as shown in Figure R602.10.1.1.

R602.10.1.2 Offsets along a braced wall line. All exterior walls parallel to a braced wall line shall be offset not more than 4 feet (1219 mm) from the designated braced wall line location as shown Figure R602.10.1.1. Interior walls used as bracing shall be offset not more than 4 feet (1219 mm) from a braced wall line through the interior of the building as shown in Figure R602.10.1.1.

R602.10.1.3 Spacing of braced wall lines. The spacing between parallel braced wall lines shall be in accordance with Table R602.10.1.3. Intermediate braced wall lines through the interior of the building shall be permitted.

R602.10.1.4 Angled walls. Any portion of a wall along a braced wall line shall be permitted to angle out of plane for a maximum diagonal length of 8 feet (2438 mm). Where the angled wall occurs at a corner, the length of the braced wall line shall be measured from the projected corner as shown in Figure R602.10.1.4. Where the diagonal length is greater than 8 feet (2438 mm), it shall be considered a separate braced wall line and shall be braced in accordance with Section R602.10.1.

R602.10.2 Braced wall panels. Braced wall panels shall be full-height sections of wall that shall have no vertical or horizontal offsets. Braced wall panels shall be constructed and placed along a braced wall line in accordance with this section and the bracing methods specified in Section R602.10.4.

R602.10.2.1 Braced wall panel uplift load path. The bracing lengths in Table R602.10.3(1) apply only when uplift loads are resisted in accordance with Section R602.3.5.

R602.10.2.2 Locations of braced wall panels. A braced wall panel shall begin within 10 feet (3810 mm) from each end of a braced wall line as determined in Section R602.10.1.1. The distance between adjacent edges of braced wall panels along a braced wall line shall be no greater than 20 feet (6096 mm) as shown in Figure R602.10.2.2.

R602.10.2.3 Minimum number of braced wall panels. Braced wall lines with a length of 16 feet (4877 mm) or less shall have a minimum of two braced wall panels of any length or one braced wall panel equal to 48 inches (1219 mm) or more. Braced wall lines greater than 16 feet (4877 mm) shall have a minimum of two braced wall panels.

R602.10.3 Required length of bracing. The required length of bracing along each braced wall line shall be determined as follows.
1. All buildings in Seismic Design Categories A and B shall use Table R602.10.3(1) and the applicable adjustment factors in Table R602.10.3(2).
2. Detached buildings in Seismic Design Category C shall use Table R602.10.3(1) and the applicable adjustment factors in Table R602.10.3(2).
3. Townhouses in Seismic Design Category C shall use the greater value determined from Table R602.10.3(1) or R602.10.3(3) and the applicable adjustment factors in Table R602.10.3(2) or R602.10.3(4) respectively.
4. All buildings in Seismic Design Categories D0, D1 and D2 shall use the greater value determined from Table R602.10.3(1) or R602.10.3(3) and the applicable adjustment factors in Table R602.10.3(2) or R602.10.3(4) respectively. Only braced wall panels parallel to the braced wall line shall contribute toward the required length of bracing of that braced wall line. Braced wall panels along an angled wall meeting the minimum length requirements of Tables R602.10.5 and R602.10.5.2 shall be permitted to contribute its projected length toward the minimum required length of bracing for the braced wall line as shown in Figure R602.10.1.4. Any braced wall panel on an angled wall at the end of a braced wall line shall contribute its projected length for only one of the braced wall lines at the projected corner. Exception: The length of wall bracing for dwellings in Seismic Design Categories D0, D1 and D2 with stone or masonry veneer installed per Section R703.7 and exceeding the first-story height shall be in accordance with Section R602.10.6.5.

R602.10.4 Construction methods for braced wall panels. Intermittent and continuously sheathed braced wall panels shall be constructed in accordance with this section and the methods listed in Table R602.10.4.

R602.10.4.1 Mixing methods. Mixing of bracing methods shall be permitted as follows:
1. Mixing intermittent bracing and continuous sheathing methods from story to story shall be permitted.

2. Mixing intermittent bracing methods from braced wall line to braced wall line within a story shall be permitted. Within Seismic Design Categories A, B and C or in regions where the basic wind speed is less than or equal to 100 mph (45 m/s), mixing of intermittent bracing and continuous sheathing methods from braced wall line to braced wall line within a story shall be permitted.

3. Mixing intermittent bracing methods along a braced wall line shall be permitted in Seismic Design Categories A and B, and detached dwellings in Seismic Design Category C provided the length of required bracing in accordance with Table R602.10.3(1) or R602.10.3(3) is the highest value of all intermittent bracing methods used.

4. Mixing of continuous sheathing methods CSWSP, CS-G and CS-PF along a braced wall line shall be permitted.

5. In Seismic Design Categories A and B, and for detached one- and two-family dwellings in Seismic Design Category C, mixing of intermittent bracing methods along the interior portion of a braced wall line with continuous sheathing methods CS-WSP, CS-G and CS-PF along the exterior portion of the same braced wall line shall be permitted. The length of required bracing shall be the highest value of all intermittent bracing methods used in accordance with Table R602.10.3(1) or R602.10.3(3) as adjusted by Tables R602.10.3(2) and R602.10.3(4), respectively. The requirements of Section R602.10.7 shall apply to each end of the continuously sheathed portion of the braced wall line.

R602.10.4.2 Continuous sheathing methods. Continuous sheathing methods require structural panel sheathing to be used on all sheathable surfaces on one side of a braced wall line including areas above and below openings and gable end walls and shall meet the requirements of Section R602.10.7.

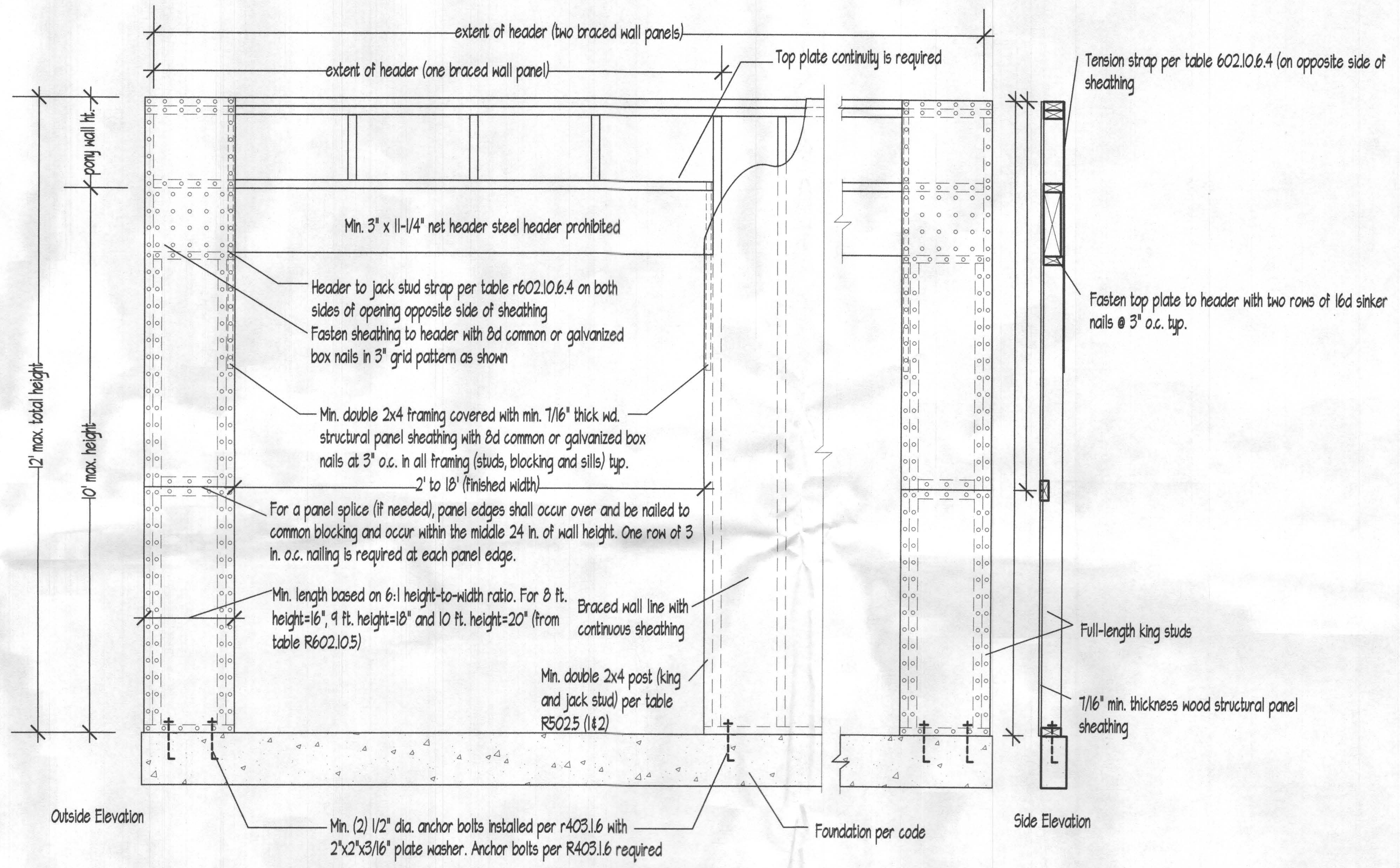
R602.10.6.4 Method CS-PF: Continuously sheathed portal frame. Continuously sheathed portal frame braced wall panels shall be constructed in accordance with Figure R602.10.6.4 and Table R602.10.6.4. The number of continuously sheathed portal frame panels in a single braced wall line shall not exceed four.

R602.10.7 Ends of braced wall lines with continuous sheathing. Each end of a braced wall line with continuous sheathing shall have one of the conditions shown in Figure R602.10.7.

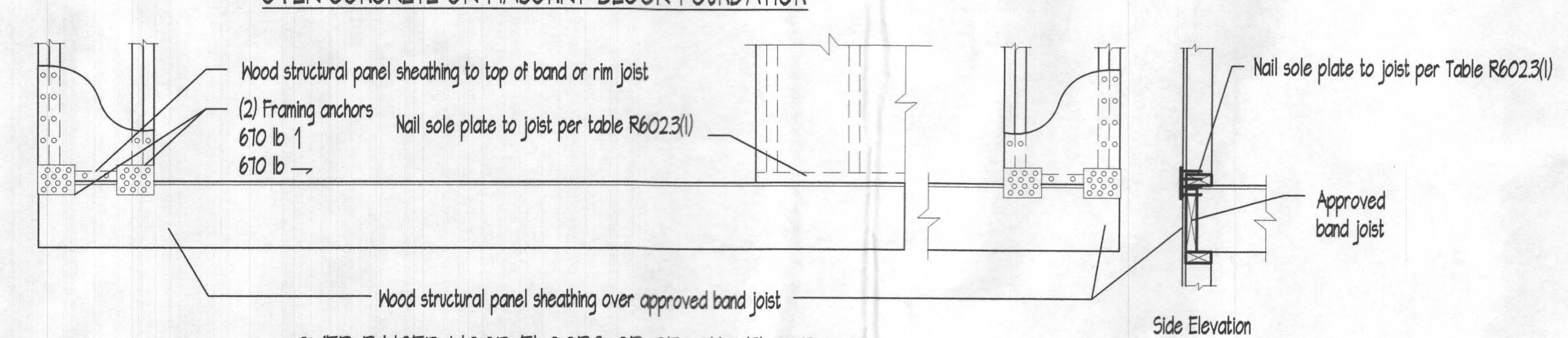
R602.10.8 Braced wall panel connections. Braced wall panels shall be connected to floor framing or foundations as follows:
1. Where joists are perpendicular to a braced wall panel above or below, a rim joist, band joist or blocking shall be provided along the entire length of the braced wall panel in accordance with Figure R602.10.8(1). Fastening of top and bottom wall plates to framing, rim joist, band joist and/or blocking shall be in accordance with Table R602.3(1).

2. Where joists are parallel to a braced wall panel above or below, a rim joist, end joist or other parallel framing member shall be provided directly above and below the braced wall panel in accordance with Figure R602.10.8(2). Where a parallel framing member cannot be located directly above and below the panel, full-depth blocking at 16-inch (406 mm) spacing shall be provided between the parallel framing members to each side of the braced wall panel in accordance with Figure R602.10.8(2). Fastening of blocking and wall plates shall be in accordance with Table R602.3(1) and Figure R602.10.8(2).

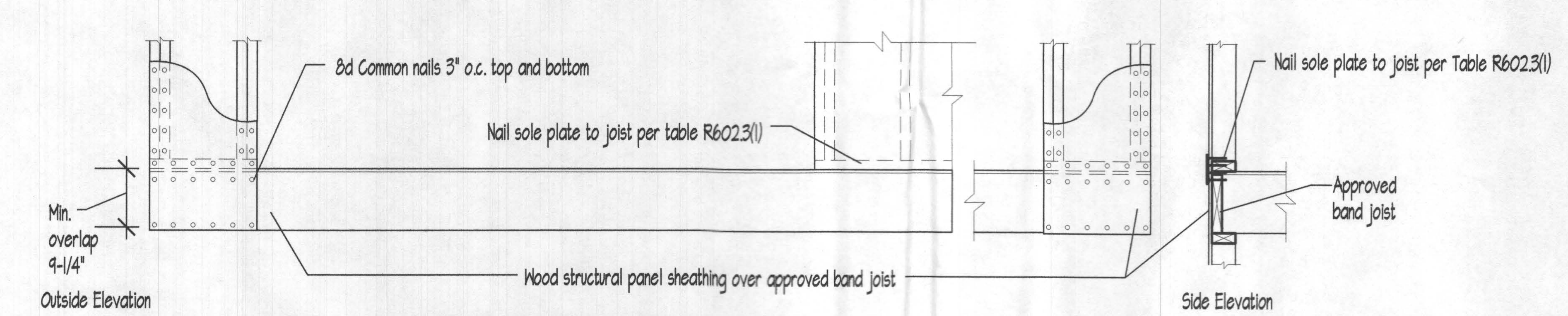
3. Connections of braced wall panels to concrete or masonry shall be in accordance with Section R403.1.6.



OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOORS OR SECOND FLOOR - FRAMING ANCHOR OPTION



OVER RAISED WOOD FLOORS OR SECOND FLOOR - WOOD STRUCTURAL PANEL OVERLAP OPTION

1 METHOD CS-PF:CONT. PORTAL FRAME PANEL CONSTRUCTION PER IRC 2018 figure R602.10.6.4.

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CONTENTS APA NARROW WALL DETAILS
SCALE: 1/4" = 1'-0" DATE: DRWN. PRJT.NO.
PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE
07/02/19 CONSTRUCTION SET

SHEET NO. A-8A

TABLE R602.10.5
LENGTH REQUIREMENTS FOR BRACED WALL PANELS WITH CONTINUOUS SHEATHING

METHOD	ADJACENT CLEAR OPENING HEIGHT	WALL HEIGHT 8'	9'	10'	11'	12'
CS-WSP CS-SFB	64"	24"	27"	30"	33"	36"
	68"	26"	27"	30"	33"	36"
	72"	28"	27"	30"	33"	36"
	76"	30"	29"	30"	33"	36"
	80"	32"	30"	30"	33"	36"
	84"	35"	32"	32"	33"	36"
	88"	38"	35"	33"	33"	36"
	92"	43"	37"	35"	35"	36"
	96"	48"	41"	38"	36"	36"
	100"		44"	40"	38"	38"
	104"		44"	43"	40"	39"
	108"		54"	46"	43"	41"
	112"			50"	45"	43"
	116"			54"	48"	45"
	120"			60"	52"	48"
	124"				56"	51"
	128"				61"	54"
	132"				66"	58"
	136"					62"
	140"					66"
	144"					72"
CS-G	<120"	24"	27"	30"	33"	36"
CS-PF	<120"	16"	18"	20"	22"	24"

TABLE R602.10.3 (1)
BRACING REQUIREMENTS BASED ON WIND SPEED

EXPOSURE CATAGORY B, 30 FT MEAN ROOF HEIGHT, 10 FT EAVE TO RIDGE HEIGHT 10 FT WALL HEIGHT 2 BRACED WALL LINES			MINIMUM TOTAL LENGTH (feet) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINES			
BASIC WIND SPEED (mph)	STORY LOCATION	BRACED WALL LINE SPACING (feet)	METHOD LIB	METHOD GB (double sided)	METHODS DWB, WSP,SFB,PCP,HPS DWB,PBS,CS-SFB	CONTINUOUS SHEATHING
< 115 MPH		10	3.5	3.5	2.0	2.0
		20	7.0	7.0	4.0	3.5
		30	9.5	9.5	5.5	5.0
		40	12.5	12.5	7.5	6.0
		50	15.5	15.5	9.0	7.5
		60	18.5	18.5	10.5	9.0
		10	7.0	7.0	4.0	3.5
		20	13.0	13.0	7.5	6.5
		30	18.5	18.5	10.5	9.0
		40	24.0	34.0	14.0	12.0
		50	29.5	29.5	17.0	14.5
		60	35.0	35.0	20.0	17.0
		10	NP	10.5	6.0	5.0
		20	NP	19.0	11.0	9.5
		30	NP	27.5	15.5	13.5
		40	NP	35.5	20.5	17.5
		50	NP	44.0	25.0	21.5
		60	NP	52.0	30.0	25.5

TABLE R602.10.3 (2)
WIND ADJUSTMENT FACTORS TO THE REQUIRED LENGTH OF WALL BRACING

ITEM NUMBER	ADJUSTMENT BASED ON	STORY/SUPPORTING	CONDITION	ADJUSTMENT FACTOR MULTIPLY BY LENGTH IN TABLE R602.10.3(1)	APPLICABLE METHODS
1	EXPOSURE CATEGORY	ONE STORY STRUCTURE	B	1.00	ALL METHODS
			C	1.20	
			D	1.50	
		TWO STORY STRUCTURE	B	1.00	
			C	1.30	
			D	1.60	
		THREE STORY STRUCTURE	B	1.00	
			C	1.40	
			D	1.70	
2	ROOF EAVE-TO-RIDGE HEIGHT	ROOF ONLY	≤5 FEET	.70	
			10 FEET	1.00	
			15 FEET	1.30	
			20 FEET	1.60	
		ROOF + 1 FLOOR	≤5 FEET	.85	
			10 FEET	1.00	
			15 FEET	1.15	
			20 FEET	1.30	
		ROOF + 2 FLOORS	≤5 FEET	.90	
			10 FEET	1.00	
			15 FEET	1.10	
			20 FEET	NOT PERMITTED	
3	WALL HEIGHT ADJUSTMENT	ANY STORY	8 FEET	.90	
			9 FEET	.95	
			10 FEET	1.00	
			11 FEET	1.05	
			12 FEET	1.10	
4	NUMBER OF BRACED WALL LINES	ANY STORY	2	1.00	
			3	1.30	
			4	1.45	
			>5	1.60	
5	ADDITIONAL 800# HOLD DOWN DEVICE	TOP STORY ONLY	Fastened to the end studs of each braced wall panel and to the foundation or framing below	.80	DWB, WSP, SFB, PBS, PCP, HPS
6	INT. GYPSUM BOARD FINISH (OR EQUAL)	ANY STORY	Omitted from inside face of braced wall panels	1.40	DWB, WSP, SFB, PBS, PCP, HPS, CS-WSP, CS-G, CS-SFB
7	GYPSUM BOARD FASTENING	ANY STORY	4" o.c. at panel edges, including top and bottom plates, and all horizontal joints blocked	.70	GB

2018 IRC/2018 IECC BUILDING THERMAL ENVELOPE R402/N1102

R402.1 General (Prescriptive). The building thermal envelope shall meet the requirements of Sections R402.1.1 through R402.1.5.

R402.2 Specific insulation requirements (Prescriptive). In addition to the requirements of Section R402.1, insulation shall meet the specific requirements of Sections R402.2.1 through R402.2.13.

R402.3 Fenestration (Prescriptive). In addition to the requirements of Section R402, fenestration shall comply with Sections R402.3.1 through R402.3.5.

R402.4 Air leakage (Mandatory). The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.5.

R402.5 Maximum fenestration U-factor and SHGC (Mandatory). The area-weighted average maximum fenestration U-factor permitted using tradeoffs from Section R402.1.4 or R405 shall be 0.48 in Climate Zones 4 and 5 and 0.40 in Climate Zones 6 through 8 for vertical fenestration, and 0.75 in Climate Zones 4 through 8 for skylights. The area-weighted average maximum fenestration SHGC permitted using tradeoffs from Section R405 in Climate Zones 1 through 3 shall be 0.50.

2018 IRC/2018 IECC SYSTEMS R403/N1103

All system requirements shall meet the requirements of Sections R403.1 through R403.12

2018 IRC/2018 IECC ELECTRICAL POWER AND LIGHTING SYSTEMS R404/N1104

All electrical power and lighting systems requirements shall meet the requirements of Sections R404.1

2018 IRC/2018 IECC SIMULATED PERFORMANCE ALTERNATIVE R405/N1105

simulated performance alternative requirements shall meet the requirements of Sections R405.1 through R405.6

2018 IRC/2018 IECC ENERGY RATING INDEX COMPLIANCE ALT. R406/N1106

All energy rating index compliance alternative requirements shall meet the requirements of Sections R406.1 through R406.6

2018 IRC/2018 IECC EXISTING BUILDING-GENERAL R501/N1107

All existing buildings-general requirements shall meet the requirements of Sections R501.1 through R501.6

2018 IRC/2018 IECC ADDITIONS R502/N1108

All additions requirements shall meet the requirements of Sections R502.1

2018 IRC/2018 IECC ALTERATIONS R503/N1109

All alterations requirements shall meet the requirements of Sections R503.1 through R503.2

2018 IRC/2018 IECC REPAIRS R504/N1110

All repairs requirements shall meet the requirements of Sections R504.1 through R504.2

2018 IRC/2018 IECC CHANGE OF OCCUPANCY OR USE R505/N1111

All change of occupancy or use requirements shall meet the requirements of Sections R505.1 through R505.2

2018 IRC/IECC TABLE R402.1.2/N1102.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR (b)	SKYLIGHT U-FACTOR	GLAZED FENISTRATION SHGC (b,e)	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE (i)	FLOOR R-VALUE	BASEMENT WALL R-VALUE (c)	SLAB R-VALUE & DEPTH (d)	CRAWL SPACE[b] WALL R-VALUE (c)
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 OR 13+5 (h)	8/13	19	5/13 (f)	0	5/13
4 EXCEPT MARINE	0.32	0.55	0.40	49	20 OR 13+5 (h)	8/13	19	10/13	10, 2FT.	10/13
5 AND MARINE 4	0.30	0.55	NR	49	20 OR 13+5 (h)	13/17	30 (g)	15/19	10, 2 FT.	15/19
6	0.30	0.55	NR	49	20+5 OR 13+10 (h)	15/20	30 (g)	15/19	10, 4 FT.	15/19
7 & 8	0.30	0.55	NR	49	20+5 OR 13+10 (h)	19/21	38 (g)	15/19	10, 4 FT.	15/19

For SI: 1 foot = 304.8 mm.
a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.
c. 10/13 means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall. 15/19 shall be permitted to be met with R-19 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
d. R-5 shall be provided under the full slab areas of a heated slab in addition to the required slab edge insulation R-value for slabs. The slab edge insulation for heated slabs shall not be required to extend below the slab.
e. There are no SHGC requirements in the Marine Zone.
f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.0 and Table N1101.0.
g. Alternatively, insulation sufficient to fill the framing cavity and providing not less than an R-value of R-19.
h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, 13+5 means R-13 cavity insulation plus R-5 continuous insulation.
i. Mass walls shall be in accordance with Section N1102.2.5. The second R-value applies where more than half of the insulation is on the interior of the wall.

IRC 2018/IECC2018 TABLE R402.1.4/N1102.1.4 EQUIVALENT U-FACTORS

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR (b)	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL R-VALUE (C)
1	0.50	0.75	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.030	0.060	0.098	0.047	0.091 (c)	0.136
4 EXCEPT MARINE	0.32	0.55	0.026	0.060	0.098	0.047	0.059	0.065
5 AND MARINE 4	0.30	0.55	0.026	0.060	0.082	0.033	0.050	0.055
6	0.30	0.55	0.026	0.045	0.060	0.033	0.050	0.055
7 & 8	0.30	0.55	0.026	0.045	0.057	0.028	0.050	0.055

NOTES

a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.
b. Mass walls shall be in accordance with Section N1102.2.5. When more than half the insulation is on the interior, the mass wall U-factors shall not exceed 0.17 in Zone 1, 0.14 in Zone 2, 0.12 in Zone 3, 0.087 in Zone 4 except Marine, 0.065 in Zone 5 and Marine 4, and 0.057 in Zones 6 through 8.
c. In warm-humid locations as defined by Figure N1101.7 and Table N1101.7, the basement wall U-factor shall not exceed 0.360

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CONTENTS: WALL BRACING/IECC NOTES AND CHARTS
SCALE: 1/4" = 1'-0" DATE: BROWN PRJT.NO.
PROJECT TITLE: HOCHSTETLER RESIDENCE

ISSUE
01/2021 CONSTRUCTION SET

SHEET NO.
A-8B