## Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information St		taff Assigned Case No.:		
Project Name: 12550 E	Broili WBL	D22-100908		
Project Accessory Dwelling Description:				
Project Address: 12550 Broili E	Dr, Reno NV 89511			
Project Area (acres or square fe	et):768 sqft living are	a with 160sqft covered patio		
Project Location (with point of re	eference to major cross	streets AND area locator):		
North East corn	er of prope	erty		
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:	
162-042-11	1 acre			
Indicate any previous Wash Case No.(s). test trench per		s associated with this applicat	tion:	
Applicant Inf	ormation (attach	additional sheets if necess	sary)	
Property Owner:		Professional Consultant:		
Name: LINDBERG, BRAD & C	CHRISTIN K	Name:		
Address:12550 Broili Dr		Address:		
Reno NV	Zip: 89511		Zip:	
Phone: 775-313-5770 Fax:		Phone: Fax:		
Email:skaylind61@yahoo.com		Email:		
Cell:	Other:	Cell:	Other:	
Contact Person:Sandy Lind		Contact Person:		
Applicant/Developer:		Other Persons to be Contacted:		
Name:Kolbe Custom Builders		Name:Michelle Francis		
Address:PO Box 2468		Address:2959 Vicky Ln		
Gardnerville NV	Zip: 89410	Minden NV	Zip: 89423	
Phone: 775-691-1455	Fax:	Phone: 775-546-3495	Fax:	
Email:JoshKolbeKCB@gmail.	com	Email:michellefrancisrealtor@	gmail.com	
Cell:	Other:	Cell: Other:		
Contact Person: Josh Kolbe		Contact Person: Michelle Francis		
	For Office	e Use Only		
Date Received:	Initial:	Planning Area:		
County Commission District:		Master Plan Designation(s):		
CAB(s):		Regulatory Zoning(s):		

Applicant Name: Bradley Undberg, Christin Undberg

The receipt of this application at the time of submittal does not guarantee the application complex with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan. The applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA

COUNTY OF WASHOE

Bradley Undberg and Christin Undberg

being duly sworn, depose and say that I am the owner' of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief I understand that no assurance or guarantee can be given by members of Planning and Building

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcei Number(s):

Christin Undberg

Chifng)

17550 Broili dr. reno, NV B9511

Subscribed and sworn to before me this 20012 30 March

Notary Public in and for said county and state My commission expires 11/1/2022

signes Therin Address 12550 Broili dr. reno, NV 89511

Printed Name Bradley Undberg

(Notary Stamp)



KRISTIAN LANDING County of Washoe APPT. NO 18-4153-2 Appt. Expires Nov. 1, 2023

"Owner refers to the following (Please mark appropriate tox.)

- W Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Previde copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

## Administrative Review Permit Application for a Detached Accessory Dwelling Supplemental Information

(All required information may be separately attached)

1. What is the size (square footage) of the main dwelling or proposed main dwelling (exclude size of garage)?

# 2652

2. What is the size of the proposed detached accessory dwelling (exclude size of garage)? If a manufactured or modular home is the secondary dwelling, list the age and size of the unit.

# 768

3. How are you planning to integrate the main dwelling and secondary dwelling to provide architectural compatibility of the two structures?

# Similar in design, finishes, and colors

5. How many off-street parking spaces are available? Parking spaces must be shown on site plan. Are any new roadway, driveway, or access improvements be required?

# Parking is provided inside of existing garage

6. What will you do to minimize any potential negative impacts (e.g. increased lighting, removal of existing vegetation, etc.) your project may have on adjacent properties?

Area will be cleaned of all debris, and unpleasant landscape to provide a visually asthetic accessory dwelling site that is hardly visible to surrounding properties.

7. Is the subject property part of an active Home Owners Association (HOA) or Architectural Control Committee?

□ Yes □ No □ If yes, please list the HOA name.
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8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit a detached accessory dwelling on your property?

Yes	🖬 No	If yes, please attach a copy.

9. Only one accessory dwelling unit, whether attached or detached, is allowed per parcel. Is there a guest apartment, mother-in-law unit, next-gen addition with kitchen or any other type of secondary dwelling on the subject property?

Yes If yes, please provide information on the secondary unit.
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10. List who the service providers are for the main dwelling and accessory dwelling:

	Main Dwelling	Accessory Dwelling
Sewer Service	septic	additional septic
Electrical Service	NV Energy	NV Energy
Solid Waste Disposal Service		
Water Service	TMWA	TMWA



# LEGEND

- PROPERTY LINE
- BUILDING SETBACK LINE
- EASEMENT BOUNDARY LINE
- $\stackrel{
  m L}{\sim}$  drainage swale w/ Min 1% slope to drain
- EDGE OF ROADWAY PAVEMENT
- UNDERGROUND POWER, PHONE & CATV
- <sup>3</sup>4 '4 UNDERGROUND PVC GAS LINE
- 4 (SDR-35) SOLID SEWER LINE, SLOPED 2%
- UNDERGROUND 34' PVC WATER LINE

# KEY NOTES

- A. (2) STOP & DRAING @ WATER CONNECTION TO STRUCTURE
   B. 100AMP POWER DISTRIBUTION PANEL
   C. GAS CONNECTION TO STRUCTURE
- SEWER CLEAN OUT SEE DTL B, SHEET 552
- (N) SEPTIC TANK SEE DTL A, SHEET 552 (N) LEACH FIELD - SEE DTL C, SHEET 992
- G. (E) SEPTIC TANK H. (E) 75' LEACH FIELD (E) WATER METER & UTILITY VAULTS
- 34" & PVC WATER LINE K. I' PVC GAS LINE
- L. SLOPE AWAY @ 5% FOR 10 MIN, TYPICAL AT ALL SIDES
- OF STRUCTURE M. (E) 200AMP POWER SERVICE N. (E) GAS METER

# ARCHITECTURAL ABBREVIATIONS

*	Pound OR Number	HC	Hollow Core
4	And	HDR	Header
9	At	HМ	Hollow Metal
ABV	Above	HORIZ	Horizontal
AC	Air Conditioning	HR	Hour
AFCI	Arc Fault Circuit interrupted	HYAC	Heating, Ventilating, And Air Conditioning
AFF	Above Finished Floor	INSUL	Insulated or Insulation
ALUM	Aluminum	INT	Interior
AWN	Awning	LO	Low
BLK'G	Blocking	MAX	Maximum
BLW	Below	MECH	Mechanical
BOT	Bottom	MIN	Minimum/Minute
BSMT	Basement	MTL	Metal
BTU	Between	NO	Number
BYND		NOM	Nominal
	Beyond		
CDX	C-D Exposure I plywood (X means	0/	Over
	exterior glue, or glue that can be wet)	õ	On Center
	Standard plywood	он	Over Hang
CHNL	Channel	<i>0</i> 6B	Orient Strand Board
CJ	Control Joint/Ceiling Joist	oz	Ounce
CLG/CL'G	Ceiling	PLUMB	Plumbing
CLR	Clear	PLY	Plywood
CMU	Concrete Masonry Unit	PNT	Paint or Painted
COL	Column	POC	Point of Connection
CONC	Concrete	PT	Pressure Treated/Pressure Tank
CONT	Continuous	atr	Quantity
CPT	Carpet	RBR	Rubber
CSMNT	Casement	RM	Room
CTYD		SC SC	Solid Core
•	Courtyard	SEC	
DBL	Double Demokratica Demokratica	SEC	Second
DEMO	Demolish or Demolition	•.	Square Foot
DF	Douglas Fir	SH	Single Hung
DH	Double Hung	SHT'G	Sheeting/Sheathing
DIA	Diameter	SIM	Similar
DM	Dimension	SPEC	Specified OR Specification
DN/DWN	Down	SPK	Sprinkler or Speaker
DR	Door	SSTL	Stainless Steel
EA	Each	STEM	Stem Wall
ELEC	Electrical	STL	Steel
EN	Edge Nail	STRUCT	Structure or Structural
EQ	Equal	Tig	Tongue And Groove
	Equivalent	T/D	Telephone/Data
EW	Each Way	TEL	Telephone
EXIST/(E)		toc	Top Of Concrete
EXT	Existing	TOS	
	Exterior		Top Of Steel/Top of Slab
FAU	Forced Air Unit	TP true	Top Plate
FD	Floor Drain or Fire Department	TRANS	Transom
FG	Finish Grade/Fixed Glass	TYP	Typical
FIN	Finish	UNO	Unless Noted Otherwise
FJ	Floor Joist	uon	Unless Otherwise Noted
FLR	Floor	Y	Volt
RND	Foundation	VERT	Vertical
FIG	Footing	W/	With
GA	Gauge	ŵD	Wood
GALV	Galvanized	ШH	Water Heater
GFI	Ground Fault Interrupted	ŴC	Walk in Closet
GUB		wic WP	Weather Proof/Water Proof
	Gypsum Wall Board		
GYP	Gypsum	YR	Year



PROJECT PLANS FOR AN ACCESSORY DWELLING 12550 BROILI DRIVE RENO, NEVADA



SITE PLAN NO SURVEY PROVIDED. THIS SITE PLAN IS PROVIDED SCALE: 1'=20'-0' FOR THE LOCATION OF THE PROJECT FOR CONSTRUCTION PURPOSES ONLY. CONTOURS DIGITIZED FROM WASHOE COUNTY GIS LAYER, THIS IS NOT A GRADING PLAN.

# GENERAL NOTES

- ALL MATERIAL, WORKMANSHIP, TOOLS AND EQUIPMENT SHALL MEET OR EXCEED LOCAL BUILDING DEPARTMENT, CITY, COUNTY STATE AND FEDERAL REQUIREMENTS. THIS INCLUDES THE APPLICABLE SECTIONS OF THE INTERNATIONAL BUILDING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, REGULATIONS RULES & LAWS
- 2. ALL MATERIALS SHALL BE NEW & UNUSED, UNLESS OTHERWISE NOTED
- 3. PURSUANT TO THE REQUIREMENTS OF THE 2018 IRC, SECTION 106.1 AND NEVADA LAW, THE NEVADA REGISTERED ARCHITECT, ENGINEER, RESIDENTIAL DESIGNER, LICENSED CONTRACTOR OR OWNER/BUILDER IS SOLELY RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL GOVERNING CODES, REGULATIONS, ORDINANCES, AND DESIGN DOCUMENT PREPARATION CONVENTIONS & PRACTICES AND SHALL PROVIDE COMPLETE, ACCURATE AND DETAILED DOCUMENTS WHOSE CONTENT CONFORMS TO ALL GOVERNING CODES, REGULATIONS AND ORDINANCES.
- 4. FIGURES AND NOTES SHALL HAVE PRECEDENCE OVER SCALED MEASUREMENTS AND DETAILS OVER GENERAL DRAWINGS.
- 5. DO NOT SCALE DRAWINGS IN FIELD, USE DIMENSIONS AS CALLED FOR
- 6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL STATE AND LOCAL BUILDING CODES & ORDINANCES CURRENTLY IN FORCE
- 1. IF ANY ERRORS OMISSIONS OR DISCREPANCIES ARE NOTED ON THE PLANS, SUBCONTRACTORS AND SUPPLIERS AFFECTED SHALL NOTIFY GENERAL IN WRITING OF SUCH ERRORS OR OMISSIONS PRIOR TO CONSTRUCTION OF AREA IN QUESTION. FAILURE TO COMPLY WITH THE ABOVE SHALL RESULT IN SUBCONTRACTOR/SUPPLIER BEING HELD RESPONSIBLE
- 8. IT IS THE INTENT OF THESE DRAWINGS TO PROVIDE THE GENERAL CONTRACTOR WITH AND OVERALL SCOPE OF THE REQUIREMENTS. FIELD VERIFICATION SHALL BE REQUIRED OF ALL TRADES TO DETERMINE THE EXTENT OF ACTUAL REQUIREMENTS.
- 9. ALL EQUIPMENT, FIXTURES, FINISH MATERIALS AND COLORS, INTERIOR AND EXTERIOR SHALL BE APPROVED BY OWNER
- 10. PROVIDE POSITIVE DRAINAGE AROUND AND AWAY FROM BUILDING. PER IRC 4 LOCAL CODE. CONTRACTOR TO VERIFY DRAINAGE OF SUBSURFACE DRAINS PRIOR TO BACKFILLING.
- II. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT.
- 12. THE BUILDING, BUILDING SITE, AND NEIGHBORING BUILDINGS & PROPERTIES SHALL BE PROTECTED FROM ANY DAMAGE THAT MAY OCCUR DUE TO THE PERFORMANCE OF THIS WORK. ANY DAMAGES THAT OCCUR ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- 13. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PROPER FUNCTION OF PLUMBING, HYAC, AND ELECTRICAL SYSTEMS. THE GENERAL CONTRACTOR SHALL NOTIFY THE DESIGNER WITH ANY PLAN CHANGES REQUIRED FOR DESIGN & FUNCTION OF PLUMBING, HYAC, AND ELECTRICAL SYSTEMS.
- 14. WASHOE COUNTY REQUIRES A BLOWER DOOR TEST, THE AIR BARRIER SHALL BE VERIFIED WITH BUILDING TESTING (BLOWER DOOR TEST) PER IECC R402.4.1.2.
- 15. THERE ARE NO NEIGHBORING WELLS W/IN 150°, OR PONDS, LAGOONS, OR WATER COURSES WITHIN 500' OF THE PROPOSED SEPTIC SYSTEMS, U.O.N.
- 16. THERE IS NO PUBLIC SEWER SYSTEM WITH IN 3,000' OF THIS PARCEL.
- 17. SEPTIC SYSTEM APPROVAL WILL NEED TO BE PROVIDED BY WASHOE COUNTY PRIOR TO THE PERMIT BEING ISSUED

# DESIGN CRITERIA

2018 INTERNATIONAL RESIDENTIAL CODE (IRC) 2017 NATIONAL ELECTRICAL CODE (NEC) 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2018 INTERNATIONAL FIRE CODE (IFC) 2018 NORTHERN NEVADA AMENDMENTS FLOOD ZONE: X-UNSHADED SEISMIC ZONE: D2 (IRC) WIND SPEED: 130 MPH (V<sub>ult</sub>) EXPOSURE: GROUND SNOW LOAD: 40 PSF FLAT ROOF SNOW LOAD: 31 PSF 40 PSF ROOF DEAD LOAD: 24 PSF 18' MINIMUM FROST DEPTH: 1500 PSF MAX SOIL BEARING: MIN ROOF PITCH: 4:12 MAX BUILDING HEIGHT: 35'-0' MIN SOFFIT EAVES (O.H.): 18" (3) OR MORE GABLE ENDS 4 MIN REQUIREMENT: BUILDING OFFSETS RECESSED/ ALCOVE OR SIMILAR FEATURES (2) OFF-STREET COVERED PARKING MIN REQUIREMENT:

SPACES

# SHEET INDEX

- AI SITE & TITLE SHEET A2 EXTERIOR ELEVATIONS
- A3 ARCH, STRUCT, & ELECTRICAL FLOOR PLAN CODE REFERENCE NOTES
- CONSTRUCTION DRAWINGS STRUCTURAL DETAILS
- STRUCTURAL NOTES & SCHEDULES
- S61SEPTIC DESIGN PLANS62SEPTIC DESIGN DETAILS & CALCULATIONS

# PROJECT TEAM

BUILDER/CONTRACTOR: CARTER HILL HOMES BRANDON HILL 1625 US HUY 88, SUITE 102 MINDEN NY 89423 OFFICE: 115-339-9000

SEPTIC DESIGN: WESTEX CONSULTING ENGINEERS BLAKE D. CARTER, PE P O BOX 18871 RENO NV 89511 PH: 775-771-9539

FORM CONSULTING, LLC NATHAN TOLBERT, RD P O BOX 1335 GENOA NY 89411 175-120-4811 Nathan.TNT@Charter.net STRUCTURAL DESIGN: FORM CONSULTING, LLC STEVE GREER, PE P O BOX 1335 GENOA NY 89411

775-232-7871 SRGreerNv@gmail.com

RESIDENTIAL DESIGN:



Know what's **blw. Call** before you dig.

SCALE:

1"=20'-0"







LEFT SIDE VIEW

SCALE: 1/4"=1'-Ø"



RIGHT SIDE VIEW



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

SCALE: 1/4"=1'-Ø'

Date				
Revision	2	$\sqrt{3}$		€
NAT RESI NV	NS L	ET AL Se # SOX	<b>DESI</b> 399- 1335 894	5 11
KOLBE CUISTOM	BUILD ERS INC	)	License Number: 0056862A	Expiration Date: 08/31/2022 Phone Number: (775) 691-1455
KOLBE (	BUULLD		JOSH THOMAS KOLBE, President	95/ RUDDY COURI SPARKS, NV 89441
PROPOSED ACCESSORY DWELLING FOR BRAD & CHRISTIN LINDBERG 12550 BROILI DRIVE, RENO NV 89511	EXTERIOR		ELEVATIONS	LOT 32, WEST RIDGE ESTATES 1 (Sub Map# 681) APN: 162-042-11 LAND SIZE: 43,560 SqFt or ~ 1 Acre
SEAL:	Nation 10 100 100 100 100 100 100 100 100 100	$\left\  \left( E \left( STE_{i} \right)^{2} \right) - R \left( STE_{i} \right)^{2} \right) - R \left( STE_{i} \right)^{2} \right\ $	D EN NE	RERI + YOR
SHEET	:			
SHEET JOB #: CHECP DATE:	4			KCB-32 NT :H, 2022



# ELECTRICAL SYMBOLS

÷	120 VOLT SINGLE OUTLET - DEDICATED USE
•	120 VOLT GFI DUPLEX OUTLET
<b>6</b>	120 VOLT AFCI DUPLEX OUTLET
	120 VOLT QUAD OUTLET
(location)	
<b>WP</b>	WEATHERPROOF GFI OUTLET
<b>9</b> ½	HALF SWITCHED OUTLET
<b>=</b> €)=	240 VOLT OUTLET
€₽-	SINGLE POLE SWITCH
Ş	THREE WAY SWITCH
ę.	FOUR WAY SWITCH
¢,×	SPECIALTY SWITCH: H= HINGE, D= DIMMER
-\$-	CEILING MOUNT LIGHT FIXTURE
-∳-≖	CEILING MOUNT TRACK LIGHTING FIXTURE
ф-	WALL MOUNT LIGHT FIXTURE
-¢	RECESSED CANNISTER LIGHT (DIAMETER)

×	CEILING FAN / LIGHT FIXTURE	
) ) ) )	LED TUBE LIGHT FIXTURE	
$\langle \rangle$	EXHAUST FAN	$\left[ \vec{a} \vec{2} \right]$
<b>-</b>	EXHAUST FAN/LIGHT FIXTURE COMBO	
	TELEPHONE JACK	
-≺‡X	DATA JACK, TYPE PER LABEL (CATHE, HD	MI, ETC)
[tv]	CO-AX TELEVISION JACK	
	PHONE & CO-AX COMBINATION BOX	
-((3)	PHONE & DATA COMBINATION BOX	
(11) XXX	CO-AX & DATA COMBINATION BOX	
≺ŵ	CARBON MONOXIDE DETECTOR	
-	THERMOSTAT CONTROL	
D	AUTOMATIC GARAGE DOOR OPENER	
(SD	SMOKE DETECTOR	
GEN	30 AMP GENERATOR CROSSOVER SWITCH	
	200AMP SERVICE/MAIN DISCONNECT ELECTRIC METER	
	POWER DISTRIBUTION SUB-PANEL	

DATE: MARCH, 2022 SCALE: 1/4"=1'-0"

CI: All work & material shall conform to the 2018 IRC & ALL OTHER LOCAL GOVERNING CODES,

REGULATIONS, & ORDINANCES whether noted, described, or otherwise referred on these plans or not. C2: Basements w/habitable space & every sleeping room shall have @ least one openable emergencu

- escape & rescue opening <u>2018 IRC R310.</u> A. minimum total open area = 5.7 sq.ft. 2018 IRC R310.1.1
- B. minimum clear opening ht. = 24" <u>2018 IRC R310.1.2;</u> C. minimum clear opening width = 20" 2018 IRC R310.1.3;
- D. maximum clear opening ht. above fin. flr. = 44"
- E. emergency escape & rescue openings shall be operational from the inside of the room w/out the use of keys, tools, or special knowledge 2018 IRC 310.1.4. C3: An occupancy separation between the garage & dwelling shall conform to 2018 IRC, SEC. 302, ie; A. Separation
  - From the residence # attics: Not less than 1/2-inch gypsum board or equivalent applied to the garage side From all habitable rooms above the garage: Not less than 5/8-inch Type X gypsum board or equivalent
  - Structure(s) supporting floor/ceiling assemblies used for separation: Not less than 1/2-inch gypsum board or equivalen Garages located less than 3 feet from a dwelling unit on the same lot: Not less than 1/2-inch gypsum board or equivalent applied to the int side of ext walls that are w/in this area
- (2018 IRC, Table R302.6). B. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage & residence shall be equipped w/ self-closing solid wood doors not less than 134 inches in thickness, self-closing solid or honeycomb core steel doors not less than 134 inches
- thick, or self-closing 20-minute fire-rated doors. (2018 IRC R309.6 & Per County Amendment). C. Ducts in the garage & ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material \$ shall have no openings into the garage. (2018 IRC, SEC R302.5.2). D. Other Penetrations: Penetrations through the separation required in sec R302.6 shall be protected as
- required by sec R302.11, Item 4 (2018 IRC, SEC R302.5.3). - When an attic ladder is proposed in the Garage Celling & gypsum board is NOT provided to the bottom of the roof sheeting @ the house/garage wall, secure (1) layer 5/8-inch Type X gypsum board or equivalent to the bottom of the pull down stair.
- C4: Appliances shall not be installed in a location subject to vehicle damage except where protected by approved barriers 2018 IRC, Sec MI307.1
- C5: Guards shall conform to 2018 IRC, SEC. R312 A. Guards shall be located along open-sided walking surfaces, including stairs, ramps & landings, that are located more than 30 inches (T62 mm) measured vertically to the floor or grade blw @ any point w/in 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a quard. (R312.1.1)
- B. Required guards @ open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads. Exceptions:
- I. 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 quard also serves as a handrail on the open sides of stairs, the top of the
- quard shall not be less than 34 inches (864 mm) \$ not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads. (R312.1.2) C. Required guards shall not have openings from the walking surface to the required guard height which
- allow passage of a sphere 4 inches (102 mm) in diameter. Exceptions: I. The triangular openings @ the open side of stair, formed by the riser, tread & 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 which allow passage of a sphere 43/8 inches (III mm) in diameter. (R312.1.3) C6: Enclosed accessible space under stairs shall have walls, under-stair surface \$ any soffits protected on
- the enclosed side w/ 1/2-inch (12.7 mm)gypsum board. 2018 IRC, SEC. R302.7 C7: Stairs & handrails shall conform to 2018 IRC, SEC. R311.7 A. Handrails shall be provided on @ least one side of each continuous run of treads or flight w/ four or
- more risers, \$ shall conform to the requirements of height, continuity, \$ grip-size per SEC 311.7.8 B. Landinas @ Stairways: There shall be a floor or landing @ the top \$ bottom of each stairway. The minimum width perpendicular to the direction of travel shall be no less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided the depth @ the walk line & the total area is not less than that of a quarter circle w/ a radius equal to the required landing width. Where the stairway has a straight run, the minimum depth in the direction of travel shall be not less than 36 inches (914 mm)
- C. max. & min. dimensions of rise & run & max. dimensional tolerance shall conform to SEC. R311.7.5 ie; I. The maximum riser height shall be 7 3/4" max. The greatest riser height w/in any flight of stairs shall not exceed the smallest by more than 3/8" 2. The minimum tread depth shall be 10". The greatest tread depth w/in any flight of stairs shall not exceed the smallest by more than 3/8"
- CB: Landings @ doors shall conform to 2018 IRC, SEC R311.3 There shall be a landing or floor on each side of each ext door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. ext landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent).
- Exception: ext balconies less than 60 square feet (5.6 m2) \$ only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.
- Floor elevations @ the required egress doors: Landings or finished floors @ the required egress door shall not be more than 1 1/2 inches (38 mm) lower than the top of the threshold. Exception: The landing or floor on the ext side shall not be more than 7 3/4 inches (196 mm) blw the top of the threshold provided the door does not swing over the landing or floor. Where ext landings or floors serving the required egress door are not a grade, they shall be provided w/ access to grade by means of a ramp in accordance w/ sec R311.8 or a stairway in accordance w/ sec R311.7.
- Floor elevations for other ext doors: Doors other than the required eqress door shall be provided w/ landings or floors not more than 7 3/4 inches (196 mm) blw the top of the threshold. Exception: A landing is not required where a stairway of two or fewer risers is located on the Storm \$ screen doors.
- Storm & screen doors shall be permitted to swing over all ext stairs & landings. C9: All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided w/ ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated. 2018 IRC, SEC. R303.1
- Exceptions: I. The glazed areas need not be openable where the opening is not required by sec R310 & a
- whole-house mechanical ventilation system is installed in accordance w/ sec M1507. 2. The glazed areas need not be installed in rooms where Exception I above is satisfied # artificial light
- is provided capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room @ a height of 30 inches (762 mm) above the floor level. 3. Use of sunroom a patio covers, as defined in sec R202, shall be permitted for natural ventilation if in
- excess of 40 percent of the ext sunroom walls are open, or are enclosed only by insect screening. CIO: All glass windows & doors shall be dual glazed Cll: Safety glazing shall conform to 2018 IRC, SEC. R308
- A. Glazing in all fixed & operable panels of swinging, sliding & bifold doors. Exceptions:
- I. Glazed openings of a size through which a 3-inch-diameter (76 mm) sphere is unable to pass. 2. Decorative glazing. R308.4.1 B. Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge of
- the glazing is w/in a 24" arc of either vertical edge of the door in a closed position & where the bottom exposed edge of the glazing is less than 60" above the floor or walking surface Exceptions:
- I. Decorative glazing. 2. When there is an intervening wall or other permanent barrier between the door \$ the glazing. 3. Glazing in walls on the latch side of # perpendicular to the plane of the door in a closed position. 4. Where access through the door is to a closet or storage area 3 feet (914 mm) or less in depth.
- Glazing in this application shall comply w/ sec R308.4.3. 5. Glazing that is adjacent to the fixed panel of patio doors. R308.4.2
- C. Glazing in an individual fixed or operable panel that meets all of the following conditions:
- I. The exposed area of an individual pane is larger than 9 square feet (0.836 m2); 2. The bottom edge of the glazing is less than  $1\overline{8}$ " (457 mm) above the floor;
- 3. The top edge of the glazing is more than 36" (914 mm) above the floor; \$
- 4. One or more walking surfaces are w/in 36" (914 mm), measured horizontally \$ in a straight line, of the Exceptions:
- I. Decorative glazing 2. When a horizontal rail is installed on the accessible side(s) of the glazing 34 to 38" (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass \$ be a minimum of 11/2" (38 mm) in cross sectional height.
- 3. Outboard panes in insulating glass units & other multiple glazed panels when the bottom edge of the glass is 25 feet (7620 mm) or more above grade, a roof, walking surfaces or other horizontal [w/in 45 degrees (0.79 rad) of horizontal] surface adjacent to the glass ext. R308.4.3 D. Glazing in guards & railings, including structural baluster panels & nonstructural in-fill panels, regardless of
- area or height above a walking surface R308.4.4 E. Glazing in walls, enclosures or fénces containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers & indoor or outdoor swimming pools where the bottom exposed edge of the glazing is less than 60" (1524 mm) measured vertically above any standing or walking surface. This shall apply to
- single glazing & all panes in multiple glazing. Exception: Glazing that is more than 60" (1524 mm), measured horizontally \$ in a straight line, from the water's edge of a bathtub, hot tub, spa, whirlpool, or swimming pool. R308.4.5 F. Glazing where the bottom exposed edge of the glazing is less than 36" (914 mm) above the plane of the
- adjacent walking surface of stairways, landings between flights of stairs & ramps. Exceptions: I. When a rail is installed on the accessible side(s) of the glazing 34 to 38" (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot
- (730  $\bar{N}/m$ ) without contacting the glass # be a minimum of I-I/2" in cross sectional height. 2. Glazing 36" or more measured horizontally from the walking surface. R308.4.6 G. Glazing adjacent to the landing @ the bottom of a stairway where the glazing is less than 36" above the
- landing \$ w/in 60" horizontally of the bottom tread. Exception: The glazing is protected by a guard complying w/ sec R312 \$ the plane of the glass is more than 18" from the guard. C12: Installation of fireplaces & chimneys shall conform to 2018 IRC, CHAPTER 10 & manufacturer's instructions.
- A. Masonry chimneys shall be constructed, anchored, supported & reinforced as required by IRC Chapter 10 \$ the applicable provisions of Chapters 3, 4 \$ 6. Chimneys shall be structurally sound, durable, smoke-tight & capable of conveying flue gases to the ext safely.
- B. Factory-built fireplaces shall be listed & labeled & shall be installed in accordance w/ the conditions of the listing. Factory-built fireplaces shall be tested in accordance w/ UL 127

- BUILDING CONSTRUCTION & FRAMING NOTES (CONTINUED) CI3: Insulating material(s) shall conform to 2018 IECC Ceiling R-value: Wood Frame Wall R-value: Mass Wall R-value:
- Floor R-value:
- Basement Wall R-value: 15/19
- e the int of the basement wall) Slab R-value, Depth: 10, 2 ft
- Crawlspace Wall R-value: 15/19
- the int of the basement wall) Fenestration U-Factor: 0.32 (The fenestration U-factor column excludes skylights.)
- Skylight U-Factor: 0.55
- verification of compliance using this method. CI4: Fire blocking & draft stops shall conform to 2018 IRC, SEC. R302.11
- I. In concealed spaces of stud walls & partitions, including furred spaces & parallel rows of studs or stagaered studs, as follows:
- I.I. Vertically @ the ceiling & floor levels. 1.2. Horizontally @ intervals not exceeding 10 feet (3048 mm).
- ceilings & cove ceilings.
- stairs shall comply w/ sec R302.7.
- shall not be required to meet the ASTM E 136 requirements. 5. For the fireblocking of chimneys & fireplaces, see sec RI003.19.
- 6. Fireblocking of cornices of a two-family dwelling is required @ the line of dwelling unit separation. CI5: Wall bracing shall conform 2018 IRC, SEC. R602.10
- shall be designed & constructed in accordance w/ sec R301.1. CI6: Ground clearance for ext finishes:
- the ground or less than 2 inches (51 mm) measured vertically from concrete steps, porch slabs, patio
- slabs, & similar horizontal surfaces exposed to the weather

- 2018 IRC, SEC. R703
- material, configuration, & fastening C18: Visually graded lumber material shall be D.F. #2 U. N. O.
- ABOVE BUT IS INSTALLED WITHOUT BUILDING DEP'T APPROVAL SHALL BE REMOVED & REPLACED W/ APPROVED HARDWARE

- PLUMBING NOTES, PER 2018 IRC CODE:
- breaker. <u>2018 IRC sec P2902.4.3</u> P2: Pipe joints shall conform to 2018 IRC, sec P2905.,
- P3: Water heater(s): <u>IRC M2005.1</u>
- Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that
- enclosure is not required. 2018 IRC, M2005.2 combination valve shall: I. Not be directly connected to the drainage system.
- 2. Discharge through an air gap located in the same room as the water heater.
- the outdoors.
- 7. Discharge to a termination point that is readily observable by the building occupants. 8. Not be Trapped.
- 9. Be installed to flow by gravity 10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor. II. Not have a threaded connection @ the end of the piping. 12. Not have valves or tee fittings.
- such use in accordance w/ ASME All 2.4.1. 2018 IRC, Sec. P2803.6.1
- ink on the project site plan drawing prior to hook-up of hot water heater
- P6: Sewer lines shall conform to 2018 IRC, CHAPTER 30 contraction of plastic piping. 2018 IRC, Sec P3002.1
- P7: Gas lines shall conform to 2018 IRC, Chapter 24, bu the appliance. 2018 IRC, Sec G2413.1
- Lavatory faucet: 2.2 gpm @ 60 psi Sink faucet: 2.2 gpm @ 60 psi Shower heads shall be 2.5 gpm @ 80 psi
- P12: Shower compartments shall have @ least 900 square inches (0.6 m2) of int cross-sectional area. Shower
- either the tub, receptor or shower floor. 2018 IRC, P2708.1
- pressure principle backflow prevention assembly. 2018 IRC sec P2902.5.3

- IRC, SECS. R703.3, R703.4 & R703.5.

20 or 13+5h

(The second R-value applies when more than half the insulation is on the int of the wall)

#### (Or insulation sufficient to fill the framing cavity. R-19 is minimum)

("15/19" means R-15 continuous insulated sheathing on the int or ext of the home or R-19 cavity insulation

(R-5 shall be added to the required slab edge R-values for heated slabs)

("15/19" means R-15 continuous insulated sheathing on the int or ext of the home or R-19 cavity insulation

\*Per sec R402.1.4 Total UA alternative. If the total building thermal envelope UA is less than or equal to the total UA resulting from using the U-factors in table R402.1.3 (see Zone 5 values above), the building shall be considered in compliance. See attached ResCheck Compliance report for

In combustible construction, fireblocking shall be provided to cut off all concealed draft openings (both vertical \$ horizontal) \$ to form an effective fire barrier between stories, \$ between a top story \$ the roof space. Fireblocking shall be provided in wood-frame construction in the following locations:

2. @ all interconnections between concealed vertical & horizontal spaces such as occur @ soffits, drop

3. In concealed spaces between stair stringers @ the top & bottom of the run. Enclosed spaces under 4. @ openings around vents, pipes, ducts, cables & wires @ ceiling & floor level, w/ an approved material to resist the free passage of flame & products of combustion. The material filling this annular space

Buildings shall be braced in accordance w/ this sec or, when applicable, sec R602.12. Where a building, or portion thereof, does not comply w/ one or more of the bracing requirements in this sec, those portions

A. Nood & wood based products shall be protected from decay per 2018 IRC, Sec R317.1. I.e.: Wood siding, sheathing & wall framing on the ext of a building having a clearance of less than 6 inches (152 mm) from

B.@ walls w/ ext Plaster (Stucco) provide a minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, w/ a minimum vertical attachment flange of 31/2 inches (89 mm), shall be provided  ${
m @}$  or blw the foundation plate line on ext stud walls in accordance w/

ASTM C926. The weep screed shall be placed not less than 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas # shall be of a type that will allow trapped water to drain to the ext of the building. The weather-resistant barrier shall lap the attachment flange. The ext lath shall cover \$ terminate on the attachment flange of the weep screed. 2018 IRC, SEC RT03.7.2.1 CI7: All wall wood structural panel sheathing shall be span rated in conformance w/ 2018 IRC, SPAN TABLES A. All wood structural panels to be exposed in outdoor applications shall be ext type in conformance w/

B. Unless otherwise specified by Engineer of Record in Shear Wall Schedule, weather resistant sidina attachment & min thickness to comply w/ Table R703.4 for shear wall panel joint member, sheathing

# CI9: Post & column connections (base & cap) shall conform to 2018 IRC, SEC. R317.3, R402.1.1 & R502.9.

C20: Substitution(s) for manufactured framing hardware (Simpson A, H, HD, ST, etc.) may be made when the Contractor provides the Building Dep't (Inspector, Plan Checker, or Building Official) w/ two (2) copies of published data which indicates that the load capacity of the substitution meets or exceeds either the load capacity of the hardware called out on the plans or the actual load on the hardware as identified in the structural analysis # that the substitution hardware has current ICC approval C21: SUBSTITUTION HARDWARE INSTALLED PRIOR TO BUILDING DEP'T APPROVAL MAY BE SUBJECT TO REMOVAL & REPLACEMENT & SUBSTITUTION HARDWARE WHICH DOES NOT MEET REQ'TS DESCRIBED

## C22: Building ext shall be weather protected in conformance w/ 2018 IRC, SEC. R703

A. all stone # masonry veneer shall be installed in conformance w/ 2018 IRC, SEC. 703. B. vinyl siding shall be installed per manufacturer's instructions \$ in conformance w/ TABLE R703.11 C. wood f hardboard. siding shall be installed per manufacturer's instructions f in conformance w/ 2018

### D. ext plaster shall be installed in conformance w/ 2018 IRC, SEC. 703.6

PI: Sillcocks, hose bibbs, wall hydrants \$ other openings w/ a hose connection shall be protected by an atmospheric-type or pressure-type vacuum breaker or a permanently attached hose connection vacuum

General: Water heaters shall be installed in accordance w/ the manufacturer's instructions & the requirements of this code. Water heaters installed in an attic shall comply w/ the requirements of sec MI305.1.3. Gas-fired water heaters shall comply w/ the requirements in Chapter 24. Domestic electric water heaters shall comply w/UL 174. Oiled-fired water heaters shall comply w/UL 732. Thermal solar water heaters shall comply w/ Chapter 23 & UL 174. Solid-fuel-fired water heaters shall comply w/ UL 2523.2018

Anchorage/Strapping: Water heaters shall be anchored against movement & overturning in accordance w/ 2018 IRC, sec MI307.2. 2018 IRC R301.2.2.3.7. Prohibited locations: Fuel-fired water heaters shall not be installed in a room used as a storage closet.

combustion air will not be taken from the living space. Installation of direct-vent water heaters w/in an Relief Valve Drains: The discharge piping serving a pressure-relief valve, temperature relief valve or

3. Not be smaller than the diameter of the outlet of the valve served & shall discharge full size to the air gap. 4. Serve a single relief device \$ shall not connect to piping serving any other relief device or equipment.

5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to 6. Discharge in a manner that does not cause personal injury or structural damage.

13. Be constructed of those materials listed in sec P2904.5 or materials tested, rated & approved for P4: A means for controlling increased pressure caused by thermal expansion shall be installed where required in accordance w/ 2018 IRC, Sections P2903.4.1 & P2903.4.2. When requested by the Building Inspector, General Contractor shall identify the pressure of the existing incoming water supply & record that value in

P5: Water line's shall conform to 2018 IRC, & fixture manufacturer's specifications. The water-distribution & drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sever system, respectively, if available. When either a public water-supply or sever system, or both, are not available, or connection to them is not feasible, an individual water supply or individual (private) sewage-disposal system, or both, shall be provided. 2018 IRC, Sec P2602.1

Drain, waste \$ vent (DWV) piping in buildings shall be as shown in Tables P3002.1(1) \$ P3002.1(2) except that galvanized wrought-iron or galvanized steel pipe shall not be used underground & shall be maintained not less than 6 inches (152 mm) above around. Allowance shall be made for the thermal expansion #

Piping systems shall be of such size \$ so installed as to provide a supply of gas sufficient to meet the maximum demand & supply gas to each appliance inlet (a) not less than the minimum supply pressure required

P8: Individual shower & tub/shower combination valves shall be equipped w/ control valves of the pressure-balance, thermostatic-mixing or combination pressure-balance/thermostatic-mixing valve types w/ a high limit stop in accordance w/ ASSE 1016 or ASME A112.18.1/CSA B125.1. The high limit stop shall be set to limit the water temperature to not greater than 120F (49C). 2018 IRC, Sec P2708.3 P9: Per County Ordinances, all plumbing fixtures must be low-flow/low-volume.

## Water closet fixtures: 1.6 gallons per flushing cycle 2018 IRC, Table P2903.2

PIO: The static water pressure shall be not greater than 80 psi (551 kPa). When main pressure exceeds 80 psi (551 kPa), an approved pressure-reducing valve conforming to ASSE 1003 or CSA B356 shall be installed on the domestic water branch main or riser @ the connection to the water-service pipe. 2018 IRC, P2903.3. PII: Dishwashing Machines Per 2018 IRC, Sec P2717: The combined discharge from a sink, dishwasher, & waste grinder is permitted to discharge through a single 1.5" trap... The dishwasher waste line shall rise & be securely fastened to the underside of the counter before connecting to sink tail piece.

compartments shall be not less than 30 inches (762 mm) in minimum dimension measured from the finished int dimension of the shower compartment, exclusive of fixture valves, shower heads, soap dishes, # safety grab bars or rails. The minimum required area & dimension shall be measured from the finished int dimension @ a height of not less than 70 inches (1778 mm) above the shower drain outlet. Hinged shower doors shall open outward. The wall area above built-in tubs having installed shower heads \$ in shower compartments shall be constructed in accordance w/ sec R702.4. Such walls shall form a water-tight joint w/ each other \$ w/

PI3: The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric vacuum breaker, a pressure vacuum breaker assembly or a reduced pressure principle backflow prevention assembly. Valves shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced

FOUNDATION & FLOOR CONSTRUCTION & FRAMING NOTES

FI: The under-floor space between the bottom of the floor joists \$ the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or ext walls. The minimum net area of ventilation openings shall not be less than I square foot (0.0929 m2) for each 150 square feet (14 m2) of under-floor space area, unless the ground surface is covered by a Class I vapor retarder material. When a Class I vapor retarder material is used, the minimum net area of ventilation openings shall not be less than I square foot (0.0929 m2) for each 1,500 square feet (140 m2) of under-Floor space area. One such ventilating opening shall be w/in 3 feet (914 mm) of each corner of the

building. 2018 IRC, SEC R408.1 F2: Access shall be provided to all under-floor spaces. Access openings through the floor shall be a minimum of 18 inches by 24 inches (457 mm by 610 mm). Openings through a perimeter wall shall be not less than 16 inches by 24 inches (407 mm by 610 mm). When any portion of the through-wall access is blw grade, an areaway not less than 16 inches by 24 inches (407 mm by 610 mm) shall be provided. The bottom of the areaway shall be blw the threshold of the access opening. Through wall access openings shall not be located under a door to the residence. See sec MI305.1.4 for access requirements where

mechanical equipment is located under floors (2018 IRC R408.4). F3: Protection of wood & wood based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance w/ AWPA UI for

the species, product, preservative & end use. Preservatives shall be listed in sec 4 of AWPA UI. (2018 <u>IRC, sec R317.1</u>) I. Wood joists or the bottom of a wood structural floor when closer than 18 inches (457 mm) or wood airders when closer than 12 inches (305 mm) to the exposed around in crawl spaces or unexcavated

- area located w/in the periphery of the building foundation. 2. All wood framing members that rest on concrete or masonry ext foundation walls & are less than 8
- inches (203 mm) from the exposed ground. 3. Sills & sleepers on a concrete or masonry slab that is in direct contact w/ the ground unless
- separated from such slab by an impervious moisture barrier. 4. The ends of wood girders entering ext masonry or concrete walls having clearances of less than 1/2
- inch (12.7 mm) on tops, sides & ends. 5. Wood siding, sheathing & wall framing on the ext of a building having a clearance of less than 6 inches (152 mm) from the ground or less than 2 inches (51 mm) measured vertically from concrete steps, porch
- slabs, patio slabs, *f* similar horizontal surfaces exposed to the weather. 6. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.
- 7. Wood furring strips or other wood framing members attached directly to the int of ext masonry walls or concrete walls blw grade except where an approved vapor retarder is applied between the wall the furring strips or framing members.
- F4: Wood sill plates shall be a minimum of 2-inch by 4-inch (51 mm by 102 mm) nominal lumber. Sill plate anchorage shall be in accordance w/ Sections R403.1.6 & R602.11 (2018 IRC, Sec R404.3). F5: Concrete shall have a minimum specified compressive strength of f'c, as shown in Table R402.2.
- Concrete subject to moderate or severe weathering as indicated in Table R301.2(1) shall be air entrained as specified in Table R402.2. The maximum weight of fly ash, other pozzolans, silica fume, slag or blended cements that is included in concrete mixtures for garage floor slabs \$ for ext porches, carport slabs \$ steps that will be exposed to deicing chemicals shall not exceed the percentages of the total weight of cementitious materials specified in sec 4.2.3 of ACI 318. Materials used to produce concrete & testing thereof shall comply w/ the applicable standards listed in Chapter 3 of ACI 318 or ACI 332. (<u>2018 IRC, Sec R402.2</u>)
- F6: \*\*INCREASES IN COMPRESSIVE STRENGTH ABOVE THOSE USED IN DESIGN SHALL NOT CAUSE IMPLEMENTATION OF THE SPECIAL INSPECTION PROVISIONS OF 2018 IBC
- F7: Wood sole plates @ all ext walls on monolithic slabs, wood sole plates of braced wall panels @ building interiors on monolithic slabs \$ all wood sill plates shall be anchored to the foundation w/ anchor bolts spaced a maximum of 6 feet (1829 mm) on center. Bolts shall be @ least 1/2 inch (12.7 mm) in diameter \$ shall extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. A nut & washer shall be tightened on each anchor bolt. There shall be a minimum of two bolts per plate sec w/ one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate sec. int bearing wall sole plates on monolithic slab foundation that are not part of a braced wall panel shall be positively anchored w/ approved fasteners. Sill plates \$ sole plates shall be protected against decay & termites where required by Sections R317 & R318. Cold-formed steel framing systems shall be fastened to wood sill plates or anchored directly to the foundation as required in sec

R505.3.1 or R603.3.1. (2018 IRC, sec R403.1.6) F8: Floor diagram shall be span rated per 2018 IRC, SEC, R503 & Table R503,2,1,1 & shall be as shown on foundation \$ /or floor framing plan. A. all wood structural panéls exposed in outdoor applications shall be ext type in conformance w/ 2018

IRC, SEC. R803.2.1.1 B. all wood structural panel floor sheathing exposed on the underside shall be bonded w/ ext type glue in conformance w/ 2018 IRC, SEC. R803.2.1.1

F9: Visually graded lumber material shall be DF#2 U.N.O. FIO: Manufactured wood members shall be "LOUISIANA PACIFIC," "Boise-Cascade," or "Weyerhaeuser" - see manufactures specifications FII: Under Floor Finish Conditions: The under-floor grade shall be cleaned of all vegetation \$ organic

material, all wood forms used for placing concrete shall be removed before a building is occupied or used for any purpose. All construction materials shall be removed before a building is occupied or used for any purpose (2018 IRC 408.5). Exposed earth in the crawl space shall be covered w/ a continuous class i vapor retarder (min 6mil black plastic sheeting). Joints of the vapor retarder shall overlap a minimum of 6". (2018 IRC R408.1 & .2).

ROOF CONSTRUCTION & FRAMING NOTES

RI: Attic ventilation shall conform to 2018 IRC, SEC. R806. Opening area may = 1/300th of area of space ventilated provided @ least 40% & not more than 50% of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located no more than 3 feet (914 mm) blw the ridge or highest point of the space, measured vertically, w/ the balance of the required ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts w/ the installation of upper ventilators, installation more than 3 feet (914 mm) blw the ridge or highest point of the space shall be permitted.

R2: Readily accessible 22" min. X 30" min. attic access w/ 30" min. unobstructed headroom in the attic space @ some point above opening shall conform to 2018 IRC, SEC. R807 R3: Roofing shall be installed per manufacturer's instructions & conforming to 2018 IRC, CHAP. 9

Roofs shall be covered w/ materials as set forth in IRC Sections R904 & R905. Class A, B or C roofing shall be installed in areas designated by law as requiring their use or when the edge of the roof is less than 3' from a property line. Classes A, B or C roofing required to be listed shall be tested in accordance w/ UL 790 or ATM É 108.

R4: Manufactured metal plate connected wood trusses shall conform to 2018 IRC, sec R802.10. Design, analyses, & drawings shall be provided by the truss manufacturer w/ analyses & drawings wet stamped & wet signed by a State licensed Professional Architect or Engineer.

R5: Visually graded lumber material shall be DF #2 U.N.O. R6: GLB shall be 24 fF/ V4 (DF-DF)

R7: Manufactured wood members shall be by "TRUSJOIST-MACMILLAN" or "LOUISANNA PACIFIC" - see

manufacturer's published data R8: Roof diaphragm shall be span rated per 2018 IRC, SEC. R803 & shall be per roof framing plan A. all wood structural panels exposed in outdoor applications shall be ext type in conformance w/ 2018 IRC.

<u>SEC. R803.2.1.1</u>

B. all wood structural panel roof sheathing exposed on the underside shall be bonded w/ ext glue in conformance w/ 2018 IRC, SEC. R803.2.1.1

R9: General Contractor shall provide two (2) copies of roof truss design drawings, calculations, & truss layout in conformance w/ 2018 IRC, SEC. R802.10.2. Both copies of this data shall be wet stamped & signed by the State licensed Architect or Engineer responsible for the truss design.

A. when truss design data is a "deferred submittal" (after building permit issuance), the Architect, Engineer, or General Contractor of Record (responsible for the building design) may wet sign, date, & indicate "REVIEWED BY" on the first sheet of both copies of the submittal data, thus indicating that the data has been reviewed & found to be in general conformance w/ the building design

B. ROOF TRUSSES SHALL NOT BE INSTALLED UNTIL SUBMITTAL DATA HAS BEEN APPROVED BY THE BUILDING INSPECTOR (OR BUILDING OFFICIAL OR PLANS EXAMINER) & ONE COPY ATTACHED TO THE PERMIT SET OF PLANS" ON SITE & ONE COPY DELIVERED TO THE BUILDING DEP'T FOR ATTACHMENT TO

THE RECORD SET OF PLANS. RIO: Specifically identified attic storage areas (including open \$ exposed storage areas as in a garage) shall have their structural members (trusses or joists & rafters) designed to support 40#/sq.ft. min. live load &

shall be posted per <u>2018 IRC;</u> A. "... shall have ... designed live loads conspicuously posted ..., using durable metal signs, & it shall be unlawful to remove or deface such notices. the occupant of the building is responsible for keeping the

actual load blw the allowable limits." RII: Specifically identified attic areas intended for equipment support (FAU, AC, etc.) shall have their structural members (trusses or joists & rafters) designed in conformance w/ 2018 IRC, R301.4

RI2: SPECIAL REVIEW & APPROVAL REQ'TS - ROOF TRUSSES Prior to installation of roof trusses, the building Architect/Engineer of record shall indicate his/her review # approval of special truss design for general conformance w/ project design & design intent by wet signing & dating (no professional stamp required) two (2) copies the following special roof truss drawings./calculations: A. special roof trusses which are an integral part of the building's lateral load resisting sustem B. special roof trusses for which a pad footing is indicated on  $\overline{\bullet}$  in the building foundation plan  $\bullet$  calculations

MECHANICAL NOTES, PER 2018 IRC CODE:

MI: Combustion air provisions shall conform to 2018 IRC, CHAPTER 17" Combustion Air" M2: Equipment # appliances having an ignition source shall be elevated such that the source of ignition is not less than 18" (457 mm) above the floor in hazardous locations & public garages, private garages, repair garages, motor fuel-dispensing facilities \$ parking garages. For the purpose of this sec, rooms or spaces that are not part of the living space of a dwelling unit & that communicate directly w/ a private garage through openings shall be considered to be part of the private garage. (2018 IRC, 62408.2) M3: Exhaust ducts for domestic clothes dryers shall conform to the requirements of Sections G2439.5.1 through

G2439.5.7. M4: Ducts shall conform to 2018 IRC Chapter 16. A. flex duct shall be installed, connected, spliced, \$ supported per 2018 IRC, SEC. MI601.4 the

manufacturer's instructions, & The Air Diffusion Council's Flexible Duct Performance & Installation Standard. B. duct insulation shall conform to sec MI601.4 M5: Heating & cooling equipment & appliances shall be located w/ respect to building construction & other

equipment & appliances to permit maintenance, servicing & replacement. Clearances shall be maintained to permit cleaning of heating & cooling surfaces, replacement of filters, blowers, motors, controls & vent connections; lubrication of moving parts; # adjustments. 2018 IRC, Sec MI401.2.

M6: Heating & cooling equipment & appliances shall be sized in accordance w/ ACCA Manual S based on building loads calculated in accordance w/ ACCA Manual J or other approved heating & cooling calculation methodologies. 2018 IRC, Sec MI401.3

MT: General contractor (or owner/builder) shall provide two (2) copies of manufacturer's installation specs \$ data sheets for all fuel burning equipment (fireplaces, wood stoves, heating units, hot water heaters, etc.) w/ Plan Sets Submitted to Building Department for Permit . (Spec's to include ICBO/UL Listing #, Manufacturer, & Model #)

FUEL BURNING EQUIP'T SHALL NOT BE INSTALLED & HOOKED UP UNTIL SUBMITTAL DATA HAS BEEN APPROVED BY THE BUILDING INSPECTOR (OR BUILDING OFFICIAL OR PLANS EXAMINER) & ONE (I) COPY ATTACHED TO THE "PERMIT SET OF PLANS" ON SITE & THE OTHER COPY DELIVERED TO THE BUILDING DEP'T FOR ATTACHMENT TO THE RECORD SET OF PLANS M8: Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an

approved place of disposal. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance. 2018 IRC, Sec M1411.3 M9: Exhaust air from bathrooms & toilet rooms shall not be re-circulated w/in a residence or circulated to another dwelling unit & shall be exhausted directly to the outdoors. Exhaust air from bathrooms, toilet rooms & kitchens shall not discharge into an attic, crawl space or other areas inside the building. MINIMUM MECHANICAL EXHAUST CAPACITY SHALL BE AS FOLLOWS:

Kitchens: Bathrooms-Toilet Rooms:

100 cfm intermittent or 25 cfm continuous 50 cfm intermittent or 20 cfm continuous 2018 IRC, Sec MI505 ELECTRICAL NOTES, PER 2018 IRC:

EI: Dwelling unit receptacle outlets shall conform to 2018 IRC, Chapter 39, ie; A. Receptacles shall be installed so that no point measured horizontally along the floor line of any

wall space is more than 6 feet (1829 mm), from a receptacle outlet. I. Wall space shall include the following:

a. Any space that is 2 feet (610 mm) or more in width, including space measured around corners, \$ that is unbroken along the floor line by doorways & similar openings, fireplaces, & fixed cabinets.

b. The space occupied by fixed panels in ext walls, excluding sliding panels. c. The space created by fixed room dividers such as railings & freestanding bar-type counters. E2: In kitchens pantries, breakfast rooms, dining rooms & similar areas of dwelling units, receptacle outlets for countertop spaces shall be installed in accordance w/ Sections E3901.4.1 through E3901.4.5 le: A receptacle outlet shall be installed @ each wall countertop space 12 inches (305 mm) or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24 inches (610 mm), measured horizontally from a receptacle outlet in that space; @ least one receptacle outlet shall be installed a each island countertop space w/a long dimension of 24 inches (610 mm) or greater & a short dimension of 12 inches (305 mm) or greater; Receptacle outlets shall be located not more than 20 inches (508 mm) above the countertop; etc. E3: Hallways of 10 feet (3048 mm) or more in length shall have @ least one receptacle outlet. The hall

length shall be considered the length measured along the centerline of the hall without passing through a doorway. <u>2018 IRC, Sec E3901.10</u> E4: @ Teast one receptacle outlet that is accessible while standing @ grade level \$ located not more

than 6 feet, 6 inches (1981 mm) above grade, shall be installed outdoors @ the front & back of each dwelling unit having direct access to grade. Balconies, decks, & porches that are accessible from inside of the dwelling unit shall have @ least one receptacle outlet installed w/in the perimeter of the balcony, deck, or porch. The receptacle shall be located not more than 6 feet, 6 inches (1981 mm) above the balcony, deck, or porch surface. 2018 IRC, Sec E3901.7 E5: @ least one wall switch-controlled lighting outlet shall be installed in every habitable room & bathroom. (<u>2018 IRC, Sec E3903.2</u>)

Exceptions: I. In other than kitchens & bathrooms, one or more receptacles controlled by a wall switch shall be considered equivalent to the required lighting outlet. 2. Lighting outlets shall be permitted to be controlled by occupancy sensors that are in addition

to wall switches, or that are located @ a customary wall switch location & equipped w/ a manual override that will allow the sensor to function as a wall switch. @ least one wall-switch-controlled lighting outlet shall be installed in hallways, stairways, attached garages, # detached garages w/ electric power. @ least one wall-switch-controlled lighting outlet shall be installed to provide illumination on the ext side of each outdoor eqress door having grade

level access, including outdoor egress doors for attached garages & detached garages w/ electric power. A vehicle door in a garage shall not be considered as an outdoor egress door. Where one or more lighting outlets are installed for int stairways, there shall be a wall switch @ each floor level # landing level that includes an entryway to control the lighting outlets where the stairway between floor levels has six or more risers. (2018 IRC, Sec E3903.3)

E6: Provide GFCI Protection for Outlets in Garage & Accessory Buildings, Bathroom, Kitchen Counter Tops, Wet Bar Sinks, Basements & Crawl Spaces per 2018 IRC Sec's E3902.1 thru E3902.1 E7: The grounding electrode conductors shall be sized based on the size of the service entrance conductors as required in Table E3603.1 (wrapping around rebar is permitted per local code). 2018 IRC, Sec E3603.4

E8: Location, clearances & types of lights in closets shall conform to 2018 IRC Sec 4003.12. ie; "Incandescent luminaries w/ open or partially enclosed lamps & pendant luminaires or lamp-holders shall be prohibited."

E9: Electrical wiring protection from damage shall conform to 2018 IRC, Sec E3803.3 EIO: Outlet boxes & outlet box sustems used as the sole support of ceiling-suspended fans (paddle) shall be marked by their manufacturer as suitable for this purpose \$ shall not support ceiling-suspended fans (paddle) that weigh more than 70 pounds (31.8 kg). For outlet boxes & outlet box systems designed to support celling-suspended fans (paddle) that weigh more than 35 pounds

(15.9 kg), the required marking shall include the maximum weight to be supported. Where spare, separately switched, ungrounded conductors are provided to a ceiling-mounted outlet box & such box is in a location acceptable for a ceiling-suspended (paddle) fan, the outlet box or outlet box system shall be listed for sole support of a ceiling-suspended (paddle) fan. 2018 IRC, <u>Sec E3905.8</u>

Ell: A 125-volt, single-phase, 15- or 20-ampere-rated receptacle outlet shall be installed @ an accessible location for the servicing of heating, air-conditioning & refrigeration equipment. The receptacle shall be located on the same level \$ w/in 25 feet (7620 mm) of the heating, air-conditioning & refrigeration equipment. The receptacle outlet shall not be connected to the load side of the HVAC equipment disconnecting means. 2018 IRC Sec E3901.12

El2: In attics, under-floor spaces, utility rooms & basements, @ least one lighting outlet shall be installed where these spaces are used for storage or contain equipment requiring servicing. Such lighting outlet shall be controlled by a wall switch or shall have an integral switch. @ least one point of control shall be @ the usual point of entry to these spaces. The lighting outlet shall be provided @

or near the equipment requiring servicing. 2018 IRC E3903.4 EI3: Grounding of ranges, wall mounted ovens, counter mounted cooking units, clothes dryers, \$ other similar equipment shall conform to 2018 Sec E3908.8 El4: A.C. smoke detectors shall conform to 2018 IRC, SEC. R314. detectors shall be installed in the

following locations: A. in each sleeping room

B. outside each separate sleeping area in the immediate vicinity of the bedrooms C. on each additional story of the dwelling, including basements but not including crawl spaces \$ uninhabitable attics. In dwellings or dwelling units w/ split levels & without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story blw the upper

EI5: Cord-connected luminaries, chain-, cable-, or cord-suspended-luminaires, lighting track, pendants, \$ celling-suspended (paddle) fans shall not have any parts located w/in a zone measured 3 feet (914 mm) horizontally \$ 8 feet (2438 mm) vertically from the top of a bathtub rim or shower stall threshold. This zone is all encompassing \$ includes the space directly over the tub or shower. Luminaries w/in the actual outside dimension of the bathtub or shower to a height of 8 feet (2438 mm) vertically from the top of the bathtub rim or shower threshold shall be marked for damp locations & where subject to shower spray, shall be marked for wet locations. 2018 IRC, Sec. E4003.II

El6: Central Heating Equipment Other Than Fixed Electric Space-Heating Equipment Shall Be Supplied By An Individual Branch Circuit. E17: Luminaries installed in wet or damp locations shall be installed so that water cannot enter or accumulate in wiring compartments, lampholders or other electrical parts. All luminaries installed in wet locations shall be marked SUITABLE FOR WET LOCATIONS. All luminaries installed in damp

locations shall be marked SUITABLE FOR WET LOCATIONS or SUITABLE FOR DAMP LOCATIONS. 2018 IRC Sec E4003.9 El8: A minimum of one 20-ampere-rated branch circuit shall be provided for receptacles located in

the laundry area & shall serve only receptacle outlets located in the laundry area. 2018 IRC, Sec. E3703.3 EI9: All branch circuits that supply 125-volt, single phase, 15-&-20 amp outlets installed in bedrooms shall be protected by an arc-fault circuit interrupter listed to provide protection of the entire

branch circuit <u>2005 NEC 210.12</u> E20. A minimum of two 20-ampere-rated branch circuits shall be provided to serve all wall & floor receptacle outlets located in the kitchen, pantry, breakfast area, dining area or similar area of a dwelling. The kitchen countertop receptacles shall be served by a minimum of two 20-ampere-rated branch circuits, either or both of which shall also be permitted to supply other receptacle outlets in the same kitchen, pantry, breakfast & dining area including receptacle outlets for refrigeration appliances. <u>2018 IRC E3707.2</u>

E21: All branch circuits that supply 120-volt, single-phase, 15- \$ 20-ampere outlets installed in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways & similar rooms or areas shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the branch circuit.

Exception: I. Where an outlet branch-circuit type AFCI is installed @ the first outlet to provide protection for the remaining portion of the branch circuit, the portion of the branch circuit between the branch-circuit overcurrent device \$ the first outlet shall be installed w/ metal outlet \$ junction boxes & RMC, IMC, EMT, type MC, or steel armored type AC cables meeting the requirements of sec E 3908.8.

2. Where an outlet branch-circuit type AFCI is installed @ the first outlet to provide protection for the remaining portion of the branch circuit, the portion of the branch circuit between the branch-circuit overcurrent device \$ the first outlet shall be installed w/ metal or nonmetallic conduit or tubing that is encased in not less than 2 inches (51 mm) of concrete.

3. AFCI protection is not required for an individual branch circuit supplying only a fire alarm system where the branch circuit is wired w/ metal outlet \$ junction boxes \$ RMC, IMC, EMT or steel-sheathed armored cable Type AC, or Type MC meeting the requirements of sec E3908.8. E22: Carbon Monoxide Alarms shall be provided per 2018 IRC, sec R315. I.e.: For new construction, an

approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units w/in which fuel-fired appliances are installed \$ in dwelling units that have attached garages. E23: All 125-volt, 15- # 20-ampere receptacles shall be listed tamper-resistant receptacles. Exception:

I. Receptacles located more than 5'-6" above the floor. 2. Receptacles that are part of a luminaire or appliance.

3. A single receptacle for a single appliance or a duplex receptacle for two appliances where such receptacles are located in spaces dedicated for the appliances served \$, under conditions of normal use, the appliances are not easily moved from one place to another. (2018 IRC E4002.14)

E24: Indoor Whirlpool/Jetted Tubs - receptacles that provide power for water-pump motors or other loads directly related to the circulation \$ sanitation system shall be located not less than 6 feet (1829 mm) from the inside walls of indoor spas \$ hot tubs. A minimum of one 125-volt receptacle shall be located between 6 feet (1829 mm) # 10 feet (3048 mm) from the inside walls of indoor spas or hot tubs. [2018 IRC E4203.1.4]. All 125-volt receptacles rated 30 amperes or less & located w/in 10 feet (3048 mm) of the inside walls of spas \$ hot tubs installed indoors, shall be protected by ground-fault circuit-interrupters. (2018 IRC E4203.1.5)

E25: Luminaires & outlets that are installed in the area extending between 5 feet (1524 mm) & 10 feet (3048 mm) from the inside walls of pools & outdoor spas & hot tubs shall be protected by ground-fault circuit-interrupters except where such fixtures & outlets are installed not less than 5 Feet (1524 mm) above the maximum water level \$ are rigidly attached to the structure.



### ROOF STRUCTURAL NOTES:

## I. FRAMING LUMBER:

### 2x6 DF#2 U.N.O.

2. HEADER BEAMS: 6x8 DF#2 OR 4x12 DF#2 U.N.O.

## 3. ROOF SHEATHING:

- 19/32" SPAN RATED (32/16) CDX (OR EQ.) W/ 8D @ 6"-6"-12" UNBLOCKED U.O.N. @ TYP ROOF DIAPHRAGM, 3/4" CCX PLY @ ALL EAVES IF EXPOSED TAILS & /OR OUTRIGGERS. - PROVIDE 2 ROWS 8D @ 6"OC STAGGERED @ ALL "DRAG TRUSSES" SHOWN ON THIS PLAN - PROVIDE ext GRADE PLYWOOD @ ALL EXPOSED-TO-WEATHER LOCATIONS
- 4. TOP PLATE SPLICE: 4'-0" (MIN) W 6 (MIN) - 16D - 2 ROWS PERMISSIBLE

### 5. OPENING JAMBS:

JAMBS @ OPENINGS 6'-O" WIDE OR LESS MAY BE SINGLE 2x4 OR 2x6 DF#2 TRIMMER W SINGLE 2x4 OR 2x6 DF#2 KING STUDS, U.N.O. JAMBS @ OPENINGS WIDER THAN 6'-O" SHALL BE 2-2x4 OR 2x6 DF#2 TRIMMERS W/ SINGLE 2x4 OR 2x6 DF#2 KING STUD, U.N.O.

## 6. int WALL PLATE:

- DTC @ 48"OC U.N.O. -WHERE WALL TP PL. IS PARALLEL TO TRUSS DIRECTION & FALLS BETWEEN TRUSSES, PROVIDE 2x4 DF#2 BLK @ 48"OC U.N.O. BETWEEN TRUSS BOTT. CHORDS & PERPENDICULAR TO int WALL TOP PL.
- 7. TRUSS PERPENDICULAR TO BRG. WALL TOP PL. & BMS:
- HI (HGAIO @ GABLE END TRUSS) U.N.O. -BOTT. FACE OF TRUSS BOTT. CHORD MAY BE "DAPPED" @ METAL DRAG CONNECTORS ON TOP OF WALL PL. OR BEAM

#### 8. DRAG TRUSS PARALLEL TO WALL TOP PL. I6D TOENAILS @ 6"OC @ TRUSS BOTT. CHORD TO WALL TOP PL. U.N.O.

-THE POSITION OF TRUSS TOP PL. VARIES DEPENDING ON DETAIL USED @ FIELD CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE CORRECT POSITION OF TRUSS TO TOP PL. PRIOR TO TRUSS & HARDWARE INSTALLATION.

### 9. TRUSS LAYOUT:

- TRUSS DESIGNER/MANUFACTURER SHALL PROVIDE TRUSS LAYOUT SUCH THAT "DRAG TRUSSES" ARE AS INDICATED ON THE ROOF PLAN (IF APPLICABLE)
- IO. TRUSS DESIGN: THE DESIGN & MANUFACTURE OF METAL PLATE CONNECTED WOOD TRUSSES SHALL COMPLY W/ ANSI/TPI I. THE TRUSS DESIGN DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL. THE PROJECT ENGINEER OF RECORD SHALL REVIEW TRUSS DESIGN \$ LAYOUT DATA & INDICATE SUCH REVIEW BY A SIGNED & DATED LETTER CONFIRMING GENERAL & SATISFACTORY CONFORMANCE w/ THE BUILDING DESIGN & ENGINEERING REQUIREMENTS

#### II. NAILING:

NAILING SHALL CONFORM TO 2018 IBC, TABLE 2304.9.1 U.N.O. EDGE NAILING PER 2018 IRC, TABLE R602.3(1), TYP

### 12. METAL HARDWARE:

- METAL HARDWARE SHALL HAVE THE CURRENT ICC APPROVAL & SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS INCLUDING SIZE, QUALITY & QUANTITY OF FASTENERS.
- 13. ATTIC ACCESS: PROVIDE ACCESS CONFORMING TO 2018 IRC, SEC. R807
- 14. ATTIC VENTILATION: SEE 'ROOF VENT SYMBOLS & CALCS' THIS PAGE

### 15. ROOF COVER:

- PROVIDE MIN 30YR ASPHALT SHINGLES OVER 15# FELT -ROOF COVER TO CONFORM TO MIN WIND & EXPOSURE RATINGS AS SET FORTH BY IRC & LOCAL REQUIREMENTS. -ROOFING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS & CONFORMING TO 2018 IRC. CHAP. 9
- 16. OUTRIGGERS/LOOK OUTS: 2x4 DF#2 @ 48"OC (MAX) @ ALL GABLE ENDS

### 17. ROOF PITCH:

ROOF PITCH TO BE 6:12 UNLESS NOTED OTHERWISE ON ROOF PLAN OR ext ELEVATIONS

### FOUNDATION, FLOOR & WALL STRUCTURAL NOTES

## I. CONCRETE: CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF F'C, AS SHOWN IN TABLE R402.2. CONCRETE SUBJECT TO MODERATE OR SEVERE MEATHERING AS INDICATED IN TABLE R301.2(1) SHALL BE AIR ENTRAINED AS SPECIFIED IN TABLE R4022. THE MAXIMUM WEIGHT OF FLY ASH, OTHER POZZOLANS, SILICA FUME, SLAG OR BLENDED CEMENTS THAT IS INCLUDED IN CONCRETE MIXTURES FOR GARAGE FLOOR SLABG & FOR ext PORCHES, CARPORT SLABG & STEPS THAT WILL BE INCLUZED IN CONCRETE MININEES FOR GARAGE FLOOR SEADS & FOR 6% FOR 5% TO TOTAL, CAN ON SEADS TO TO TOTAL ALL ALL EXPOSED TO DEICING CHEMICALS SHALL NOT EXCEED THE PERCENTAGES OF THE TOTAL WEIGHT OF COMENTITIOUS MATERIALS SPECIFIED IN SEC 4.2.3 OF ACI 318. MATERIALS USED TO PRODUCE CONCRETE & TESTING THEREOF SHALL COMPLY W/ THE APPLICABLE STANDARDS LISTED IN CHAPTER 3 OF ACI 318 OR ACI 332. (2018 IRC, SEC R402.2) -2500PSI (MIN) @ INT. SLABS ON GRADE, FOOTINGS & STEM WALLS U.N.O. -3500PSI (MIN) @ WALKWAYS, PORCHES, FLATWORK, & GARAGE SLAB U.N.O.

- 2. REINFORCED STEEL: GRADE 40 (MIN) U.N.O -CONC, SLAB GLASS FIBER REINFORCING SHALL BE IN ACCORDANCE W/ PCI MNL 128 STANDARD U.N.O.
- 3. ANCHOR BOLTS: GRADE A-301 OR BETTER STEEL 5/8" DIA. W 7" MIN. EMBED & 3" 50, X 1/4" STIL WASHER (2010 IRC, 50C R403.16) @ 48" O.C. U.N.O.
- 4. ext PERIM. & BRG. WALL FOOTING: 16" WIDE X 8" THICK CONC. W/2 #4 CONT. @ BOTT. U.N.O.
- 5. STEM WALL: 8" THICK CONC, W/ #4 VERT. @ 48" O.C. \$ #4 HORIZ. @ 24" O.C. \$ | #4 CONT. @ TOP U.N.O.
- <u>6. Foundation Sill:</u> 2x4 (MIN.) P.T. U.N.O.
- <u>7. HOLD DOWNS:</u> SEE FLOOR PLAN FOR SIZE & LOCATION
- <u>8. PAD FOOTINGS:</u> SEE FOUNDATION PLAN FOR SIZE & LOCATION
- 9. FLOOR JOISTS: 9½" BCI-5000 @ 16"0C (19.2"0C MAX) (OR EQUIV) U.N.O. -MANUFACTURED JOISTS OF EQUAL OR BETTER LOAD CAPACITY THAN THOSE SPECIFIED MAY BE USED U.N.O.
- IO. INT FLOOR SUPPORT: <u>TYPE "A"</u> 4X8 DF#2 GIRDER U.N.O. W4X4 DF#2 POST @ 6'OC (MAX) U.N.O. (4X6 DF#2 @ GIRDER BUTT JOINT) W SIMPSON PB44/46 @ FDN. U.N.O. HALTERNATE POST PAD: 2X4 PT CONT. SILL PLATE W % "DIA. POWDER DRIVEN FASTENERS @ 32\*0C @ STRIP FTG. CONFIGURATION
  -I/2" CDX POST GUSSET @ EACH 4X4 DF#2 POST TO 4X8 DF#2 GIRDER U.N.O.
  -(2) I/2" CDX @ EACH 4X4 DF#2 POST TO 4X8 DF#2 GIRDER BUTT JOINT U.N.O.
- 17PE "B" 2X4 DF#2 STUD @ 16"OC W2-2X4 DF#2 TOP PL. & 2X4 PT SILL PL. W %" DIA. POWDER DRIVEN FASTENERS @ 32"OC II. IN FLOOR FOOTING: TYPE "A" - PAD FTG. CONFIGURATION- 20" DIA. X 8" THICK CONC. W I-#4 E.M. @ BOTTOM U.N.O. TYPE "B" - CONT. STRIP FTG. CONFIGURATION- 12"WIDE X 8"THICK W I-#4 CONT @ BOTTOM U.N.O.
- 12. RIM JOIST OR RIM BLOCKING:
- 2. KIM KOIST OK KIM BLOCKING:: I-¦' (MIN) THICK MANUFACTURED RIM BOARD (LP RIM BOARD, "TIMBERSTRAND" LSL, I-5/16" VERSA-LAM E I.3-I.4, ETC) W/ 8D TOENAIL @ 16"OC U.N.O. -"DAPPING" @ AB ACCEPTABLE -PLYWOOD OR OSB NOT ACCEPTABLE

- 13. FLOOR SHEATHING: 3/\* SPAN RATED, T&G CDX (OR EQUIV.) GLUED & NAILED WIOD @ 6\*-6\*-12\* UNBLOCKED UNO. 14. "STUB POST": PROVIDE 3-2X4 DF#2(MIN,) "STUB POST" BETWEEN BOTT. OF FL. SHEATHING & FND. SILL PLATE @ LOCATION OF POSTS
- SUPPORTED ON WALL SILL PL. U.N.O. <u>15. WALL FRAMING:</u> <u>ext WALL STUDS:</u> -2x6 DF#2(OR EQUIV.) ● 16"OC ● 10' MAIN BUILDING WALL PL. HEIGHT U.N.O.
- -2x4 DF#2(OR EQUIV.) @ 16"OC @ 9'-O" OR LESS MAIN BUILDING WALL PL. HEIGHT U.N.O.
- -2x4 DF#2(OR EQUIV.) @ 16"OC @ 10'-O" OR LESS MAIN BUILDING WALL PL. HEIGHT U.N.O. INT BEARING WALL STUDS: -2x4 DF#2(OR EQUIV.) @ 16"OC @ 10' OR LESS MAIN BUILDING WALL PL. HEIGHT U.N.O.
- INT NON-BEARING PARTITION STUDS: -2x4 DF STUD GRADE(OR EQUIV) @ 16"OC @ 16' OR LESS @ WALL PL. OR TRUSS BOTT. CHORD HT. U.N.O.
- WALL SILL PLATE: -2x MATCHING STUD DIM. DF#2 U.N.O.
- <u>WALL TOP PLATE:</u> -2-2x MATCHING STUD DIM. DF#2 U.N.O.
- HALL BLK'G: -2x MATCHING STUD DIM. DF STUD GRADE (OR EQUIV.) U.N.O.
- <u>16. NAILING:</u> NAILING SHALL CONFORM TO 2018 IRC
- INCLUDING SIZE, QUALITY, & QUANTITY OF FASTENERS
- 18. POST BASE & CAP: APPROPRIATE SIZE PBS BASE & PC OR EPC CAP U.N.O.



17. METAL HARDWARE: METAL HARDWARE SHALL HAVE CURRENT ICC APPROVAL & SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS

ANCHOR BOLT LEGEND

WHEN REQUIRED A.B. SPACING IS LESS THAN 48' O.C. IN A 2 X PL. THE REQUIRED SPACING IN INCHES IS IDENTIFIED INSIDE A SQUARE PLACED ADJACENT TO THE SPECIFIC FOUNDATION WALL LOCATION. WHERE A FDN. PL. MUGT BE 3 X (MIN.) P.T., THE THICKER FDN. PL. IS IDENTIFIED OUTSIDE, BUT CONTIGUOUS TO THE A.B. SPACING SQUARE.

24" <u>EXAMPLES:</u> 48"

FLOOR VENT SYMBOLS & CALCS

# <u>SYMBOLS:</u>

- ADJUSTABLE 16" x 8" PLASTIC RESIN SLIDER FOUND VENT \_\_\_\_ (40 5Q IN x QTY 4 = 160 5Q IN) 1.11 5Q FT

- 8" x 16" x 8" PLASTIC FOUND VENT WITH 1/4" SCREEN (73 SQ IN x QTY (/) = (/) SQ IN) (/) SQ FT

#### VENT CALCULATION TOTAL UNDER-FLOOR AREA:

VENT AREA (1/1500): 0.512 SF -MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN I SQUARE FOOT FOR EACH 1500 SQUARE FEET OF UNDER-FLOOR AREA WHEN CLASS I VAPOR RETARDER IS

768 SF

PROVIDED (MIN 6 MIL VISQUEEN). -ONE SUCH OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING.

VENT NOTES:

- VENTILATION OPENINGS SHALL BE COVERED FOR THEIR HEIGHT & WIDTH W/ ANY OF THE FOLLOWING MATERIALS PROVIDED THAT THE LEAST DIMENSION OF THE COVERING SHALL NOT EXCEED 1/4":
- PERFORATED SHEET METAL PLATES NOT LESS THAN 0.07" THK • EXPANDED SHEET METAL PLATES NOT LESS THAN 0.047" THK · CAST-IRON GRILL OR GRATING.
- EXTRUDED LOAD-BEARING BRICK VENTS.
- HARDWARE CLOTH OF 0.035" WIRE OR HEAVIER. · CORROSION-RESISTANT WIRE MESH, WITH THE LEAST DIMENSION BEING 1/8".



EAVE: (50 SQ IN x QTY 2 = 100 SQ IN) 0.69 SQ FT - I4" x 24" 28-GAUGE GALVANIZED STEEL GABLE VENT (147 SQ IN x QTY (/) = (/) SQ) (/) SQ FT

<u>VENT CALCULATION</u> TOTAL ATTIC AREA

VENT AREA (1/300): 2.56 SF -NOT LESS THAN 40% & NOT MORE THAN 50% OF THE REQ'D VENT AREA IS PROVIDED BY VENT LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTS SHALL BE LOCATED NOT MORE THAN 3' BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY, W/ THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENTILATORS, INSTALLATION MORE THAN 3' BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED.

768 SF

VENT NOTES: -VENTILATION OPENINGS SHALL HAVE A LEAST DIMENSION OF 1/16 INCH MIN & 1/4 INCH MAX.

-VENTILATION OPENINGS HAVING A LEAST DIMENSION LARGER THAN 1/4 INCH SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE CLOTH SCREENING, HARDWARE CLOTH OR SIMILAR MATERIAL WITH OPENINGS HAVING A LEAST DIMENSION OF 1/16 INCH MIN & 1/4 INCH MAX. -OPENINGS IN ROOF FRAMING MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF 2018 IRC SEC R802.7. REQUIRED VENTILATION OPENINGS SHALL OPEN DIRECTLY TO THE OUTSIDE AIR.

-VENTILATORS SHALL BE INSTALLED IN ACCORDANCE W/ MANUFACTURER'S INSTRUCTIONS.



SCALE: NONE



## GENERAL NOTES

ANY MATERIALS, MEANS, METHODS, OR PROCEDURES NOT DEPICTED IN THESE CONSTRUCTION DOCUMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR.

2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR TEMPORARY BRACING AND SHORING OF ITEMS INCLUDING, BUT NOT LIMITED TO, EXCAVATIONS, TRENCHES, FORMS, AND ERECTED STRUCTURES. THE CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED WORK AND NOT THE MEANS, METHODS, OR PROCEDURES.

3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, SAFETY, SECURITY, AND ENVIRONMENTAL CONCERNS. THIS REQUIREMENT IS NOT LIMITED TO EMPLOYEES, SUBCONTRACTORS, WORKING HOURS, OR THE PHYSICAL EXTENTS OF THE WORK.

4. THE OWNER AND CONTRACTOR ACKNOWLEDGE THAT THESE CONSTRUCTION DOCUMENTS INCLUDE CONCEPTS THAT ARE SUBJECT TO THE SITE CONDITIONS. THE SITE CONDITIONS MAY REQUIRE MODIFICATIONS TO THE ACTUAL CONSTRUCTION OF THE PROJECT TO SATISFY THE INTENT OF THE CONCEPTS.

5. THESE DOCUMENTS ARE NOT APPROVED FOR PERMITTING OR CONSTRUCTION WITHOUT A STAMP AND SIGNATURE OF THE ENGINEER IN THE TITLE BLOCK OF EACH SHEET.

6. ANCHOR BOLTS, EMBEDS, AND INSERTS FOR EQUIPMENT SPECIFIED BY OTHERS SHALL BE DESIGNED BY A QUALIFIED ENGINEER WITH SHOP DRAWINGS SUBMITTED FOR REVIEW.

7. BY THE USE OF THESE PLANS, THE USER ACKNOWLEDGES THAT HE/SHE HAS READ AND UNDERSTANDS ALL OF THE INFORMATION INCLUDED HEREIN.

8. REFERENCES IN BRACKETS [...] INDICATE SPECIFIC STANDARDS, CODES, ORDINANCES, REGULATIONS AND AMENDMENTS BY THE AUTHORITIES HAVING JURISDICTION.

9. ALL STANDARDS, CODES, ORDINANCES, REGULATIONS AND AMENDMENTS BY THE AUTHORITIES HAVING JURISDICTION SHALL BE THE LATEST EDITION UNO ALTHOUGH NO GUARANTEE IS MADE THAT REFERENCES IN BRACKETS [...] WILL MATCH THE LATEST EDITION.

- 10. ALL CONSTRUCTION SHALL CONFORM TO:
- **IBC INTERNATIONAL BUILDING CODE** STATE AMENDMENTS TO THE IBC

LOCAL AMENDMENTS TO THE IBC OTHER REQUIREMENTS OF THE AUTHORITIES HAVING

JURISDICTION

11. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND ENGINEER OF ALL ERRORS, OMISSIONS AND/OR CONFLICTS BETWEEN STANDARDS, CODES, ORDINANCES, **REGULATIONS, AMENDMENTS BY THE AUTHORITIES HAVING** JURISDICTION, DRAWINGS, SPECIFICATIONS, CONSTRUCTION DOCUMENTS, AND/OR CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK AFFECTED BY THE ISSUE(S) UNTIL THEY ARE RESOLVED BY THE ARCHITECT AND/OR ENGINEER.

12. THE HIERARCHY OF CONTRACT DOCUMENTS SHALL FOLLOW THE AIA 'GUIDE FOR SUPPLEMENTARY CONDITIONS' AND HIGHER COST CONDITIONS SHOULD GOVERN WHERE CONFLICTS OCCUR.

13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND ENGINEER OF ALL DISCREPANCIES PRIOR TO STARTING WORK.

14. IF A SPECIFIC DETAIL OR SPECIFICATION IS NOT PROVIDED THEN CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK. THE CONTRACTOR SHOULD CLARIFY OMISSIONS WITH THE ARCHITECT AND ENGINEER.

#### 1. THESE ARE PRELIMINARY RECOMMENDATIONS. IF A VALID SOILS REPORT IS AVAILABLE THEN ALL CONSTRUCTION SHALL CONFORM TO THE RECOMMENDATIONS THEREIN. IF A VALID SOILS REPORT IS NOT AVAILABLE THEN A QUALIFIED GEOLOGIST OR SOILS ENGINEER SHOULD MAKE SITE SPECIFIC RECOMMENDATIONS AS TO SETTLEMENT POTENTIAL, EXPANSIVE AND CORROSIVE SOIL POTENTIAL, SLOPE CREEP AND STABILITY, ALLOWABLE FOUNDATION PRESSURE, AND OTHER FACTORS.

2. SEE STRUCTURAL DESIGN PARAMETERS FOR SPECIFIC VALUES USED FOR DESIGN AND ENGINEERING.

3. SOIL SHALL HAVE A MINIMUM ALLOWABLE FOUNDATION PRESSURE OF 1.500 PSF.

4. VERY LOW EXPANSIVE SOIL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION AT OPTIMUM MOISTURE CONDITIONS.

5. EXPANSIVE SOIL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION AT OVER OPTIMUM MOISTURE CONDITIONS.

6. SOIL BENEATH THE STRUCTURE SHALL BE UNIFORMLY MOIST WITH THE SAME STIFFNESS THROUGHOUT.

7. IF A CUT/FILL TRANSITION OCCURS BENEATH THE STRUCTURE THE CUT PORTION SHOULD BE OVEREXCAVATED TO A MINIMUM DEPTH OF 4 FT AND REPLACED WITH COMPACTED FILL. THE STRUCTURE IS NOT DESIGNED FOR VARYING SOIL CONDITIONS AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY SOILS CONDITIONS OR USE A QUALIFIED GEOLOGIST OR SOILS ENGINEER TO MAKE SITE SPECIFIC RECOMMENDATIONS.

8. THE BOTTOM OF EXCAVATIONS SHALL NOT SLOPE TOWARD FOUNDATIONS OF STRUCTURES.

9. EXCAVATIONS AND TRENCHING MAY BE SUBJECT TO CAVING OR SLOUGHING. SHORING OR BACKCUTS AT 2.1 OR 1:1 SLOPES MAY BE REQUIRED. WE DO NOT PROVIDE SAFETY ENGINEERING, CONSULTATION OR REVIEW. SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.

10. FREEZE-THAW CONDITIONS REQUIRE ADDITIONAL MIX DESIGN PARAMETERS INCLUDING BUT NOT LIMITED TO LOWER WATER-CEMENTITIOUS MATERIALS RATIOS AND AIR ENTRAINMENT. [ACI318 4.2]

11. SULFATE-CONTAINING SOIL REQUIRES ADDITIONAL MIX DESIGN PARAMETERS INCLUDING BUT NOT LIMITED TO LOWER WATER-CEMENTITIOUS MATERIALS RATIOS, HIGHER COMPRESSIVE STRENGTHS AND DIFFERENT CEMENT TYPES. [ACI318 4.3]

12. DRAINAGE SHALL BE INSTALLED TO ELIMINATE FLOW OVER SLOPES, GROUND SATURATION AND PONDING WATER.

13. DECKING AND OTHER STRUCTURES BUILT WITHIN 20 FT OR 1/3 OF SLOPE HEIGHT (H/3) WILL MOVE AND TILT TOWARD THE SLOPE. NON-LEVEL STRUCTURES MAY BE AESTHETICALLY UNACCEPTABLE AND EDGES MAY NOT PERFORM AS INTENDED.

14. MOST STRUCTURES SETTLE AND CRACK WITHOUT STRUCTURAL FAILURE; HOWEVER, WATERSHAPES THAT SETTLE, DIFFERENTIALLY SETTLE, TILT, AND/OR CRACK DUE TO SOILS OR SEISMICITY MAY LEAK AND FAILURES MAY RESULT OR PARTIAL OR TOTAL FUNCTIONAL AND ECONOMIC LOSS. WATERSHAPE CONSULTING, INC. DOES NOT WARRANTY, GUARANTEE OR INSURE AGAINST LOSSES DUE TO SOILS AND SEISMICITY.



# TYPICAL HOLDOWN

## SOILS

# FORMS

1.	WATERSHAPES FORMED BY A STABLE WELL-SHAPED
EXC	CAVATION DO NOT REQUIRE FORMS EXCEPT AT THE BOND
BEA	AM FOR BOTH ELEVATION CONTROL AND THE EXPANSION
JOI	NT DETAIL.
2.	EXPANSION JOINTS REQUIRE THAT THE FIRST

CONCRETE SECTION IS FORMED FOR A FLAT, EVEN FINISH. FOR WATERSHAPES, THIS WILL REQUIRE FORMING TO A DEPTH THAT EXCEEDS THE THICKNESS OF THE DECKING AND MONOLITHIC CUTOFF WALL WHICH MAY EXCEED 12" (300MM) EVEN IF THE TOP OF BOND BEAM IS AT GRADE.

3. ALL VERTICAL SURFACES ABOVE FINISHED GRADE SHALL BE FORMED.

4. ALL EXPOSED OUTSIDE CORNERS SHALL BE CHAMFERED 3/4" (20MM) UNO.

5. SEE OTHER PLANS (ARCHITECTURE, LANDSCAPE, WATERSHAPE AND OTHERS) FOR SPECIFIC FORMING DETAILS INCLUDING, BUT NOT LIMITED TO, CLIPS, GROOVES, INSERTS, MOLDINGS, ORNAMENTS, RECESSES, AND REVEALS.

6. FORMS FOR STRAIGHT-WALL WATERSHAPES SHALL BE MINIMUM 1/2" (13MM) PLYWOOD WITH NOMINAL 2 X 4 (40MM X 90MM) AT 16" (400MM) ON CENTER OR EQUAL.

7. FORMS FOR CURVED-WALL WATERSHAPES SHALL BE MINIMUM 1/4" (6MM) PLYWOOD WITH NOMINAL 2 X 4 (40MM X 90MM) AT 16" (400MM) ON CENTER OR EQUAL.

8. DRYWALL AND PEGBOARD ARE NOT ACCEPTABLE FORMING MATERIALS.

9. FORM TOLERANCES SHALL BE ±1/8" (3MM) IN ALL DIRECTIONS AND ELEVATIONS. LASER LEVELS TYPICALLY HAVE POOR ACCURACY THUS WATER LEVELS SHOULD BE USED TO ESTABLISH EDGE WALL FORM ELEVATIONS.

10. FORMS SHALL BE ERECTED BY AN EXPERIENCED CONCRETE FORMING CONTRACTOR.

11. MASONITE MAY BE USED WITH THE SMOOTH SIDE OUT AS A FORM RELEASE.

12. FORM RELEASE CHEMICALS MAY AFFECT THE BONDING OF COPING, TILE, POOL FINISH AND OTHER MATERIALS. CONTRACTOR SHALL REVIEW AND ENSURE COMPATIBILITY.

13. RATE OF CONCRETE PLACEMENT SHALL BE MONITORED AND LIMITED SO THAT THE CAPACITY OF THE FORMING SYSTEM IS NOT EXCEEDED:

PRESSURES ON FORMS			
RATE	PRESSURE OF		
KAIE	VIBRATED CONCRETE		
1 FT/HR (300MM/HR)	330 PSF (15.8 KPA)		
2 FT/HR (600MM/HR)	510 PSF (24.4 KPA)		
3 FT/HR (900MM/HR)	690 PSF (33.0 KPA)		
4 FT/HR (1200MM/HR)	870 PSF (41.7 KPA)		
5 FT/HR (1500MM/HR)	1050 PSF (50.3 KPA)		
6 FT/HR (1800MM/HR)	1230 PSF (58.9 KPA)		
7 FT/HR (2100MM/HR)	1410 PSF (67.5 KPA)		
8 FT/HR (2400MM/HR)	1590 PSF (76.1 KPA)		
9 FT/HR (2700MM/HR)	1770 PSF (84.7 KPA)		
10 FT/HR (3000MM/HR)	1950 PSF (93.4 KPA)		
CARPENTRY BY GASPAR LEWIS			

# REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BAR IN CONFORMANCE WITH ASTM A615/A615M-09:

BAR NOMINAL GRAD	DE Fy, MIN YIELD STRENGTH
#3 3/8" (10 MM) 40	40,000 PSI
#4 1/2" (13 MM) 40	(300 MPA)
#5 5/8" (16 MM)	
#6 3/4" (19 MM)	
#7 7/8" (22MM)	
#8 1" (25MM)	
#9 1-1/8" (29MM) 60	60,000 PSI (420 MPA)
#10 1-1/4" (32MM)	(
#11 1-3/8" (36MM)	
#14 1-3/4" (43MM)	
#18 2-1/4" (57MM)	

# REINFORCING STEEL

2. REINFORCING STEEL SHALL CONFORM WITH IBC CHAPTER 19

FOR CONCRETE AND CHAPTER 21 FOR MASONRY. 3. REINFORCING STEEL SHALL CONFORM WITH ACI 318-08 EXCEPT AS MODIFIED BY IBC SECTION 1908.

4. REINFORCING STEEL SHALL CONFORM WITH THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).

5. LAP SPLICES IN CONCRETE SHALL UTILIZE CONTACT LAPS PER ACI 318.

6. HOOKS, BENDS AND OFFSETS SHALL BE PER ACI 318.

7. HOOPS, TIES AND STIRRUPS SHALL BE PER ACI 318.

8. PLANS SPECIFY MINIMUM REINFORCING STEEL REQUIREMENTS BUT IT IS ACCEPTABLE TO HAVE EXCESS STEEL WHERE DETAILS OVERLAP AS LONG AS CLEARANCES ARE MAINTAINED.

9. CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

REINFORCEMENT COVER		
LOCATION	MINIMUM COVER	
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3" (75MM)	
CONCRETE FORMED AND EXPOSED TO EARTH, WEATHER OR WATER	2" (50MM)	
OTHER LOCATIONS, UNO	1-1/2" (40MM)	
[ACI 318 7.7.1, 7.7.2 AND 7.7.3]		

10. WELDING OR TACK WELDING OF REINFORCING STEEL CURTAINS AT THE INTERSECTIONS IS NOT PERMITTED.

11. WELDING OF REINFORCING STEEL SHALL CONFORM WITH ANSI/AWS D1 4 (D1 4M) AND IS ONLY PERMITTED WHERE SPECIFICALLY SHOWN ON THE PLANS. ALL OTHER WELDING REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEER. SPECIAL INSPECTION, AND APPROVAL FROM THE AUTHORITIES HAVING JURISDICTION.

12. IT IS THE INTENT OF THE STRUCTURAL DESIGN TO ELIMINATE THE USE OF #3 (3/8" (10MM) DIA) REINFORCING STEEL IN WATERSHAPES INCLUDING POOLS AND SPAS. ALTHOUGH ANALYSIS MAY VALIDATE THE USE OF #3 REINFORCING, IT IS NOTED THAT #3 REINFORCING IS SUBJECT TO BENDING DAMAGE WHILE CREWS ARE WALKING ON IT AND THE SPACING OF #3 REINFORCING CAN PREVENT PROPER CLEARANCES TO PLUMBING AND OTHER FITTINGS. #3 REINFORCING STEEL SHALL ONLY BE USED WHERE SPECIFICALLY SHOWN.

13. CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION AND INSTALLATION. THIS IS NOT NECESSARY FOR FIELD INSTALLATION OF WATERSHAPE SHELL REINFORCING.

# MASONRY

1. CONCRETE MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS:

COMPRESSIVE STRENGTH				
DESCRIPTION	fm'			
MASONRY BLOCK	1,500 PSI (10.3 KPA)			
[IBC 1904.2.2]				

2. HOLLOW LOAD BEARING SHALL BE GRADE 'N' TYPE I AND MEDIUM WEIGHT, CONFORMING TO ASTMC90

3. MORTAR SHALL BE TYPE M AND SHALL CONFORM TO IBC SECTION 2103.8 AND ASTM C270. MIN COMPRESSIVE STRENGTH SHALL BE 2500 PSI @ 28 DAYS. MORTAR PROPORTIONS SHALL BE 1 PART PORTLAND CEMENT 1/2 PART HYDRATED LIME AND 3 1/2 TO 4 1/2 PARTS SAND BY VOLUME (SAND SHALL CONFORM TO ASTM C144). MORTAR SHALL MAINTAIN A 2 1/2" TO 3" SLUMP.

4. GROUT SHALL CONFORM TO ASTM C476 AND IBC SECTION 2103.12 AND SHALL HAVE A MINIMUM STRENGTH OF 2000 PSI @ 28 DAYS. GROUT PROPORTIONS FOR FINE GROUT SHALL BE 1 PART PORTLAND CEMENT, 2 1/4 TO 3 PARTS SAND BY VOLUME AND A MAX OF 0.1 PART LINE (SAND SHALL CONFORM TO ASTM C144). GROUT SHALL MAINTAIN A 8" TO 10" SLUMP. COARSE GROUT PROPORTIONS ARE TO BE 1 PART PORTLAND CEMENT, 1 TO 2 PARTS PEA GRAVEL, 2 1/4 TO 3 PARTS SAND AND A MAX OF 0.1 PART LIME.

# CONCRETE

CONCRETE MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS:

# COMPRESSIVE STRENGTH

DESCRIPTION	
CHLORIDE EXPOSURE (SALT, BRACKISH WATER)	
FREEZE/THAW CONDITIONS	
CAISSONS, PIERS, PILES	
GRADE BEAMS	
SHOTCRETE (DRY-MIX GUNITE OR WET-MIX SHOTCRETE)	
CONTINUOUS FOOTINGS IN MODERATE EXPOSURE	
SPREAD PAD FOOTINGS IN MODERATE EXPOSURE	
SLAB ON GRADE IN MODERATE EXPOSURE	
VERTICAL WALLS IN MODERATE EXPOSURE	
	CHLORIDE EXPOSURE (SALT, BRACKISH WATER) FREEZE/THAW CONDITIONS CAISSONS, PIERS, PILES GRADE BEAMS SHOTCRETE (DRY-MIX GUNITE OR WET-MIX SHOTCRETE) CONTINUOUS FOOTINGS IN MODERATE EXPOSURE SPREAD PAD FOOTINGS IN MODERATE EXPOSURE SLAB ON GRADE IN MODERATE EXPOSURE VERTICAL WALLS

### CONCRETE COMPRESSIVE STRENGTHS GREATER THAN 2,500 PSI (17.2 KPA) SHALL HAVE SPECIAL INSPECTION PER IBC SECTION 1704.4.

3. CONCRETE MIX PARAMETERS SHALL BE AS FOLLOWS:

MIX DESIGN PARAMETERS			
RIPTION VALUE			
3/4" (20MM) MAX [IBC 1913.3]			
7 SACK (658 LBS) MIN			
IMP <5"			
NONE			

### 4. NORMAL WEIGHT CONCRETE AGGREGATES SHALL CONFORM TO ASTM C33.

5. LIGHT WEIGHT CONCRETE AGGREGATES SHALL CONFORM TO ASTM C330 LIGHTWEIGHT AGGREGATES FOR STRUCTURAL CONCRETE AND ASTM C567 DENSITY OF STRUCTURAL LIGHTWEIGHT CONCRETE. LIGHT WEIGHT CONCRETE SHALL HAVE A SPECIFIC WEIGHT RANGE OF 110 TO 115 PCF.

6. FINE AGGREGATES (SAND) SHALL BE WELL GRADED.

7. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE | OR TYPE ||. [IBC 1903.1, ACI318 3.2]

8. WATER SHALL BE POTABLE, CLEAN AND FREE OF INURIOUS AMOUNTS OF OILS, ACIDS, ALKALIS, SALTS, CHLORIDE IONS, ORGANIC MATERIALS, OR OTHER SUBSTANCES DELETERIOUS TO CONCRETE OR REINFORCING STEEL.

9. ADMIXTURES SHALL BE APPROVED BY THE ENGINEER PRIOR TO MIXING AND PLACEMENT AND THEY SHALL CONFORM TO ASTM C260 AIR-ENTRAINING ADMIXTURES FOR CONCRETE, ASTM C494 CHEMICAL ADMIXTURES FOR CONCRETE, ASTM C618 COAL FLY ASH AND RAW OR CALCINED NATURAL POZZOLAN FOR USE IN CONCRETE, ASTM C845 EXPANSIVE HYDRAULIC CEMENT, ASTM C989 SLAG CEMENT FOR USE IN CONCRETE AND MORTARS, ASTM C1017 CHEMICAL ADMIXTURES FOR USE IN PRODUCING FLOWING CONCRETE, AND/OR ASTM C1240 SILICA FUME USED IN CEMENTITIOUS MIXTURES, WHICHEVER IS APPLICABLE.

READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN CONFORMANCE WITH ASTM C94 READY-MIXED CONCRETE, ASTM C685 CONCRETE MADE BY VOLUMETRIC BATCHING AND CONTINUOUS MIXING, AND/OR ASTM C109 COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS.

11. BLOCK-OUTS, CONDUITS, DUCTS, NOTCHES, OPENINGS, PIPES, POCKETS, SLEEVES, ETC SHALL NOT BE LOCATED IN OR THROUGH CONCRETE UNLESS SPECIFICALLY SHOWN IN THESE DRAWINGS. IF ANY OF THESE ITEMS ARE LOCATED IN OR THROUGH CONCRETE AND NOT SHOWN IN THESE DRAWINGS THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY. CONCRETE SHALL NOT BE CUT OR CORED FOR ANY OF THESE ITEMS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

12. ANCHOR BOLTS, EMBEDS, INSERTS, BLOCK-OUTS, CONDUITS, DUCTS, NOTCHES, OPENINGS, PIPES, POCKETS, SLEEVES, ETC SHALL BE RIGIDLY FORMED OR SECURED INTO POSITION WITH ALL LOCATIONS VERIFIED BY THE RESPONSIBLE CONTRACTOR(S) PRIOR TO CONCRETE PLACEMENT.

13. NOT USED

14. NOT USED

# fc' AT 28 DAYS

5,000 PSI (34.5 MPA) [ACI 318 4.2.2]	

4,500 PSI (31.0 MPA) [ACI 318 4 2 2] 4,000 PSI (27.6 MPA)

4,000 PSI (27.6 MPA) 4,000 PSI (27.6 MPA) [ACI 318 4 2 2] [ACI 506R 6.3.3.2] 3,000 PSI (20.7 MPA) [IBC 1904.2.2] 3,000 PSI (20.7 MPA)

[IBC 1904.2.2] 3,000 PSI (20.7 MPA) [IBC 1904.2.2] 3,000 PSI (20.7 MPA)

[IBC 1904.2.2]

15. DURING THE CURING PERIODS SPECIFIED HEREIN, SHOTCRETE SHALL BE MAINTAINED ABOVE 40°F (4.4°C) AND IN MOIST CONDITION. IN INITIAL CURING, SHOTCRETE SHALL BE KEPT CONTINUOUSLY MOIST FOR 24 HOURS AFTER PLACEMENT IS COMPLETE. FINAL CURING SHALL CONTINUE FOR SEVEN DAYS AFTER SHOTCRETING, FOR THREE DAYS IF HIGH-EARLY-STRENGTH CEMENT IS USED, OR UNTIL THE SPECIFIED STRENGTH IS OBTAINED. FINAL CURING SHALL CONSIST OF A FOG SPRAY OR AN APPROVED MOISTURE-RETAINING COVER OR MEMBRANE. IN SECTIONS OF A DEPTH IN EXCESS OF 12 INCHES (300MM), FINAL CURING SHALL BE THE SAME AS THAT FOR INITIAL CURING.

CONCRETE

16. ALL SHOTCRETE WORK SHALL BE CONTINUOUSLY INSPECTED DURING PLACING BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE ENFORCEMENT AGENCY. THE SPECIAL SHOTCRETE INSPECTOR SHALL CHECK THE MATERIALS, PLACING EQUIPMENT, DETAILS OF CONSTRUCTION AND CONSTRUCTION PROCEDURE. THE INSPECTOR SHALL FURNISH A VERIFIED REPORT THAT OF HIS OR HER OWN PERSONAL KNOWLEDGE THE WORK COVERED BY THE REPORT HAS BEEN PERFORMED AND MATERIALS USED AND INSTALLED IN EVERY MATERIAL RESPECT IN COMPLIANCE WITH THE DULY APPROVED PLANS AND SPECIFICATIONS.

17. AT LEAST FOUR WEEP-HOLES SHALL BE LOCATED IN THE WATERSHAPE FLOORS FOR DRAINAGE.

18. CONCRETE HYDRATION SHALL INCLUDE THOROUGHLY AND CONTINUALLY WETTING ALL CONCRETE WORK INCLUDING THE DECKING AND SHOTCRETE SHELL WITH A LOW PRESSURE GARDEN HOSE OR IRRIGATION SYSTEM. DO NOT USE GARDEN HOSE JET NOZZLES OR PRESSURE WASHING EQUIPMENT THAT COULD DAMAGE THE CONCRETE. THIS SHALL BE DONE TWICE DAILY MINIMUM OR AS OTHERWISE NEEDED TO KEEP THE CONCRETE MOIST FOR TWO WEEKS MINIMUM.

19. SEE OTHER PLANS (ARCHITECTURE, LANDSCAPE, WATERSHAPE AND OTHERS) REGARDING ADDITIONAL REQUIREMENTS FOR ARCHITECTURAL CAST-IN-PLACE CONCRETE (E.G., COLOR AND FINISH).

# ALUMINUM

1. ALUMINUM SHALL NEVER BE IN ELECTRICALLY CONDUCTIVE CONTACT WITH STEEL REINFORCEMENT OR STRUCTURAL STEEL DUE TO GALVANIC REACTIONS.

2. ALUMINUM SHALL NEVER BE IN CONTACT WITH WET CONCRETE (CURING OR IN SERVICE) UNLESS COATED, WARRANTED BY THE MANUFACTURER FOR THE SPECIFIC INSTALLATION AND APPROVED IN WRITING BY THE ENGINEER.

# STRUCTURAL STEEL

1. AS A MINIMUM. STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 SPECIFICATIONS AND ASTM A-992 SPECIFICATIONS.

2. ALL STEEL TUBES SHALL CONFORM TO ASTM A-500 GRADE B

3. ALL BOLTS SHALL CONFORM TO ASTM A-307.

4. MINIMUM STEEL STRENGTH Fy = 36,000 PSI

WELDING SHALL BE DONE IN AN APPROVED FABRICATING SHOP BY WELDERS QUALIFIED, AS REQUIRED BY THE BUILDING DEPARTMENT. CONFORMING TO THE LATEST A.W.S. SPECIFICATIONS AND STANDARDS.

E-70 T6 OR E70 TGK2 ELECTRODES: ASTM A-572 GRADE 50 STRUCTURAL STEEL

# WOOD

1. ALL WOOD IN DIRECT CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.

# GLASS AND GLAZING

1. ALL GLAZING IN WALLS AND FENCES WITHIN 5' (1,500MM) OF WATER SHALL BE SAFETY GLAZING IN CONFORMANCE WITH IBC 2406.3.9.

S <sup>-</sup> C N\ Exp GE	FO NSU LI TEVE IVIL E / Licen pires: ( P 0 BC ENOA	©	ER R 67 021 5 11
Image:			
PROPOSED ACCESSORY DWELLING FOR BRAD & CHRISTIN LINDBERG 12550 BROILI DRIVE, RENO NV 89511	<b>STRUCTURAL NOTES</b>	& SCHEDULES	LOT 32, WEST RIDGE ESTATES 1 (Sub Map# 681) APN: 162-042-11 LAND SIZE: 43,560 SqFt or ~ 1 Acre
SEAL: O3/07/2022 SHEET: SHEET: SNB SNB СНЕСКЕД ВҮ: КСВ-32 СНЕСКЕД ВҮ: SG DATE: MARCH.2022			



