

COMMISSION OF ARCHITECTURAL REVIEW APPLICATION FOR CERTIFICATE OF APPROPRIATENESS

RGINI				
PROPERTY (location of the property of the prop	on of work) N 215 St	Date/time rec'd:		
Historic district Union Hill			Application #: Hearing date:	
APPLICANT INFO	RMATION	·		
Name Erne	Chamberlain		Phone 804-921-4307	
Company Wata	ey ventures UC		Email ernie @, george RVA-Co	
Mailing Address 413 N Stafford Ave Richmond, Ut 23228			Applicant Type: □ Owner Agent □ Lessee □ Architect □ Contractor □ Other (please specify):	
OWNER INFORM	IATION (if different from ab	ove)		
Name			Company	
Mailing Address			Phone	
			<u>Email</u>	
PROJECT INFORM	MATION			
Review Type:	Conceptual Review	☐ Final Review	,	
Project Type:	☐ Alteration	☐ Demolition	New Construction	
Project Description	: (attach additional sheets if n	eeded)	(Conceptual Review Required)	
Se	se Attached.			
ACKNOWLEDGE	MENT OF RESPONSIBILIT	Υ		
and may require a nev	w application and CAR approval.	Failure to comply w	A. Revisions to approved work require staff review with the COA may result in project delays or legal tional year, upon written request.	
Requirements: A com and accurate descripti	plete application includes all appoint of existing and proposed con	olicable information ditions. <u>Applicants</u> (requested on checklists to provide a complete proposing major new construction, including ents prior to submitting an application. Owner	

contact information and signature is required. Late or incomplete applications will not be considered.

Zoning Requirements: Prior to Commission review, it is the responsibility of the applicant to determine if zoning approval is required and application materials should be prepared in compliance with zoning.

Signature of Owner



CERTIFICATE OF APPROPRIATENESS

NEW CONSTRUCTION CHECKLIST

Well in advance of the COA application deadline contact staff to discuss your project, and if necessary, to make an appointment to meet with staff for a project consultation in the office or on site.

Complete all applicable sections and submit with the COA application form. Staff can assist you in determining what items are required for your scope of work. An incomplete application may cause delays in processing or may be deferred to the next agenda. Application materials must clearly represent current and proposed conditions. Refer to Standards for New Construction outlined in Section 30.930.7(c) of the City Code, as well as, the Richmond Old and Historic Districts Handbook and Design Review Guidelines.

NEW BUILDING TYPE

PROPERTY ADDRESS: 524 N 21st St, Richmond, VA 23223

NE	EW BUILDING TYPE	DF	RAWINGS (refer to required drawing guidelines)
	single-family residence		floor plans
	multi-family residence		elevations (all sides)
	commercial building		roof plan
	mixed use building		list of windows and doors, including size, material, design
	institutional building		context drawing showing adjacent buildings
	garage		perspective
	accessory structure		site plan
	other		legal plat of survey
WI	RITTEN DESCRIPTION		
	describe new structure including levels, foundation, s	sidin	g, windows, doors, roof and details
	state how the Richmond Old and Historic Districts Hawork, site specific pages and sections of the Guidelin	andi nes	book and Design Review Guidelines informed the proposed that apply
	material description; attach specification sheets if ne	ces	sary
PH	IOTOGRAPHS place on 8 ½ x 11 page, label phot	:0S V	vith description and location (refer to photograph guidelines)

site as seen from street, from front and corners, include neighboring properties

September 16, 2019 Watney Ventures LLC (Ernie Chamberlain) – Owner 524 N 21st St, Richmond, VA 23223

Commission of Architectural Review:

We are very excited about the prospect of getting started with a new multi-family home in the Union Hill neighborhood. The general concept for the home is very similar to other multi-family homes found throughout the neighborhood, including 966 Pink St and 821 N 24th St.

This multi-family home features 2,376 finished square feet with 1,188 squre feet on both floors. Each unit will have 2 bedrooms and 2 full baths, hardwood floors throughout with tile in the bathrooms. Each unit will be equipped with onsite washer/dryer.

Foundation: Per the soil report obtained on 9/6/19 by KBJW, all concrete shall be minimum 3000 psi, only new deformed reinforcing steel shall be used, grade 60 ksi, all reinforcing steel shall be tied and supported with rebar stakes or chairs, all interior pier footings shall be excavated and reinforced as continuous footings, all footings shall bear on undisturbed soil unless fill has been tested, and certified as being capable of supporting the structure planed. Minimum soil bearing pressure shall be 2000 psf. All steel shall have a minimum overlap of 12 inches.

Siding: Smooth Hardie plank boards.

Windows: The preference here would be aluminum clad windows, white in color.

Doors: The front and rear doors are planned to be steel, tempered with 14" transom.

Roof: Pre-engineered wood trusses with white TPO roofing material.

Paint Colors: We're open to suggestions but will use the Richmond Old and Historic Districts Handbook.

Per the Richmond Old and Historic Districts Handbook, page 46:

"New construction should use a building form compatible with that found elsewhere in the historic district. Building form refers to the specific combination of massing, size, symmetry, proportions, projections and roof shapes that lend identity to a building. Form is greatly influenced by the architectural style of a given structure. New residential construction should maintain the existing human scale of nearby historic residential construction in the district."

We believe our proposed multi-family unit meets the above standard and is very much compatible with the surrounding buildings and structures.

Materials Used in Construction of the home include but may not be limited to:

(taken from attached plans)

	BLDG ELEVATION MATERIAL KEYNOTES						
1	PARGED CONCRETE TO GRADE, TYP.	6 WOOD FRAMED PORCH, PAINTED.	11	STEEL DOOR W/TRANSOM AND PAINTED MOULDING SURROUND	16	EPMD ROOFING AT PORCH ROOF	22 1X6 PAINTED RAKE BOARD
2	6" EXPOSURE FIBER CEMENT HORIZONTAL LAP SIDING, PAINT FINISH	7 T&G WOOD DECKING W/ PAINTED BUILT-UP TRIM AT PORCH BAND BOARD.	12	ARCHITECTURAL SHINGLES, TYP	17	BEADED VINYL SOFFIT, TYP	23 PVC BEADED PORCH PANELING
3	FIBER CEMENT SIDING TRIM AT CORNERS	8 6X6 DECORATIVE WOOD PAINTED COLUMN	13	BRICK PIERS, TYP	18	PVC PICTURE FRAME MOULDING, TYP	24 GLASS GILDED HOUSE NUMBERS
	PVC BRACKET BKT12X12GP	9 1X6 PAINTED WOOD TRIM FASCIA	14	WOOD LATTICE BELOW DECK	19	PVC DENTIL MOULDING FYPON MLD354-12	25 ARCHITECTURAL SHINGELS
	WOOD "RICHMOND RAIL" RAILING, PAINT FINISH	10 TWO PANEL WOOD DOOR W/TRANSOM & MOULD	15	DECORATIVE FYPON WINDOW HEADER	20	PVC BRACKET FYPON BKT7X18	26 12"X32" FOUNDATION VENT
		SURROUND			21	VENTS, SEE FOUNDATION PLAN	27 18"X24" GABLE VENT, TYP

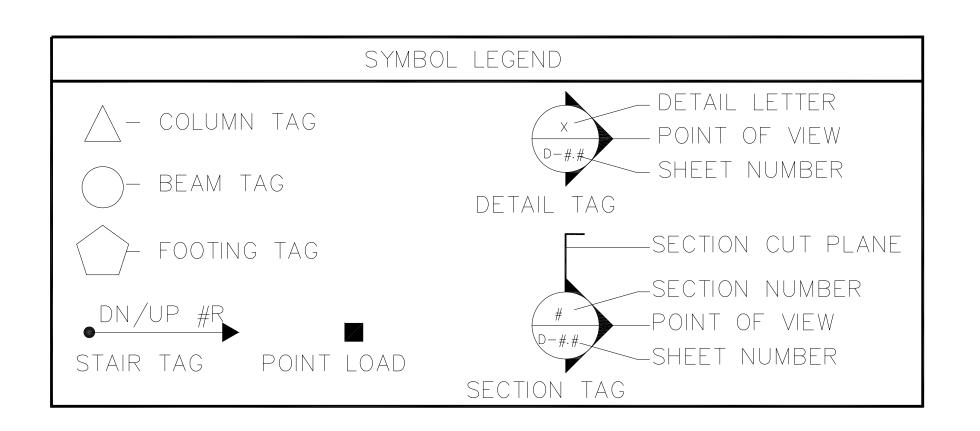
Please let me know what else we can do to improve our proposal and any necessary changes required by the committee.

Thank you,

Ernie & Tawny Chamberlain Watney Ventures LLC

524 N 21ST STREET DEVELOPMENT

NORTH CHURCH HILL CORNER - RICHMOND, VA



SHEET INDEX				
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A-104	SCHEDULES AND FIRE WALL INFORMATION			
A-201	FRONT AND LEFT ELEVATIONS			
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S-001	GENERAL NOTES			
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S-102	ROOF FRAMING PLAN			
S-103	FIRST AND SECOND FLOOR BRACED WALL PLAN			
S-104	SECTIONS AND DETAILS AND BRACED WALL CALCULATIONS			
S-105	TYPICAL SECTIONS AND DETAILS			



P.O. BOX 4481 FAIRFAX, VA 22038 Phone: (703) 675-4592

SQUARE FOOTAGE CALCULATIONS						
ELEVATION:	ITALIANATE					
AREA	FINISHED	AREA	UNFINISHED			
1ST FLOOR	1,188 SF	FRONT PORCH	108 SF			
2ND FLOOR	1,188 SF	REAR PORCH	108 SF			
TOTAL	2,376 SF	TOTAL	216 SF			



BUILDING CODE:

PROJECT SHALL CONFORM TO THE 2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE

CITY OF RICHMOND APPLICABLE DOCUMENTS/PERMITS:

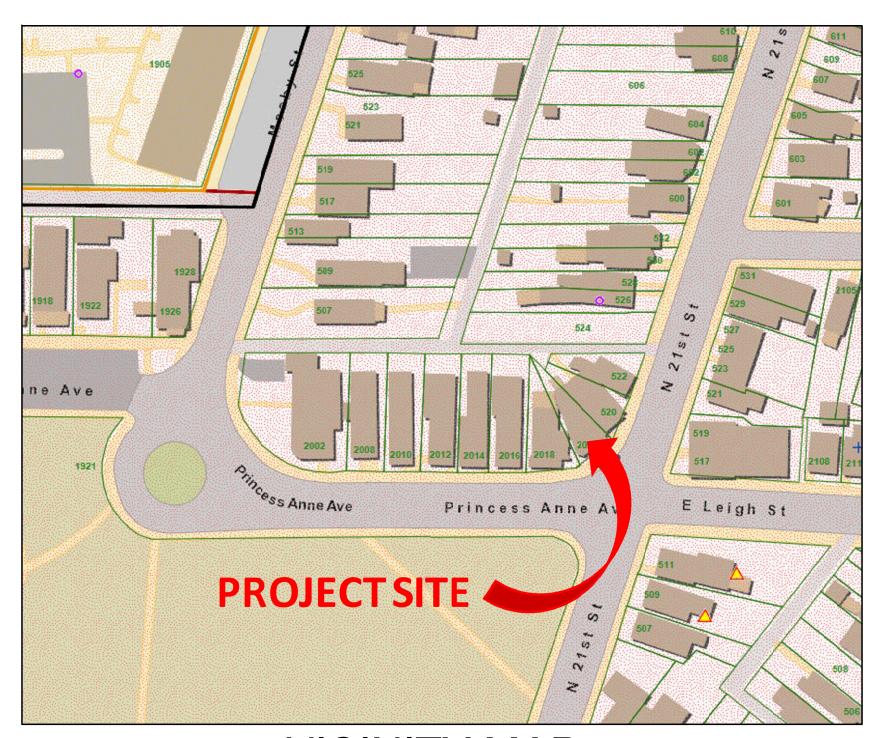
COMMISSION OF ARCHITECTURAL REVIEW PROJECT NUMBER:

RICHMOND CITY ORDINANCE:

ZONED R-63 SETBACKS: **REQUIRED FRONT YARD: 15' DESIGNED FRONT YARD: 26'** REQUIRED SIDE YARD: 3' **DESIGNED SIDE YARDS: 3.5' REQUIRED REAR YARD: 5'** DESIGNED REAR YARD: 57'

DESIGNED HEIGHT: 2 STORIES, 26'±

LOT SIZE & COVERAGE: LOT AREAS: 3,765 S.F. DESIGNED COVERAGE: 1,188 S.F. MAX COVERAGE: 32% **DESIGNED COVERAGE RATIO: 47%**



VICINITY MAP

PENN&CO 42296 BENFOLD SQUARE ASHBURN, VA 20148 (703) 675-4592 PHONE

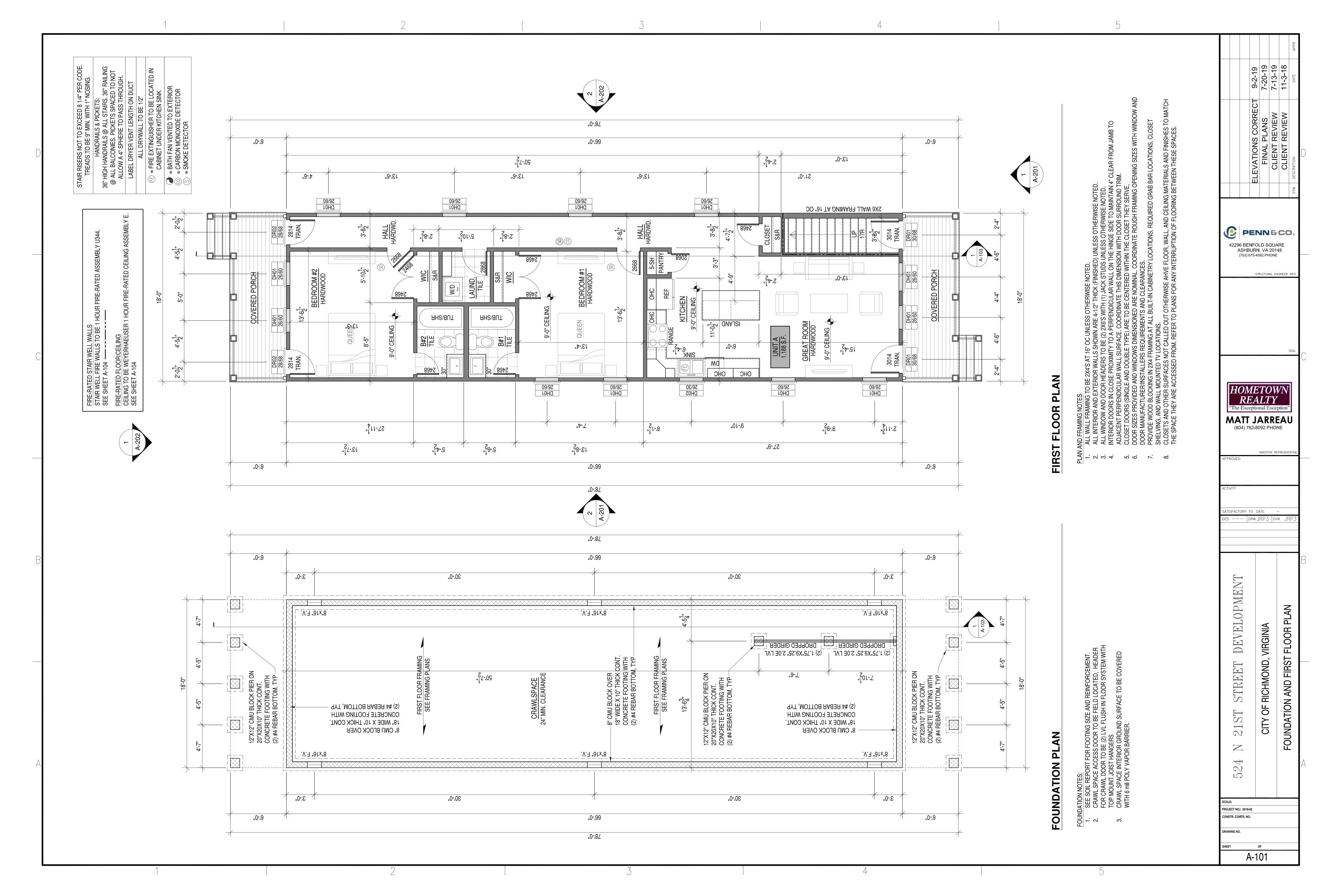


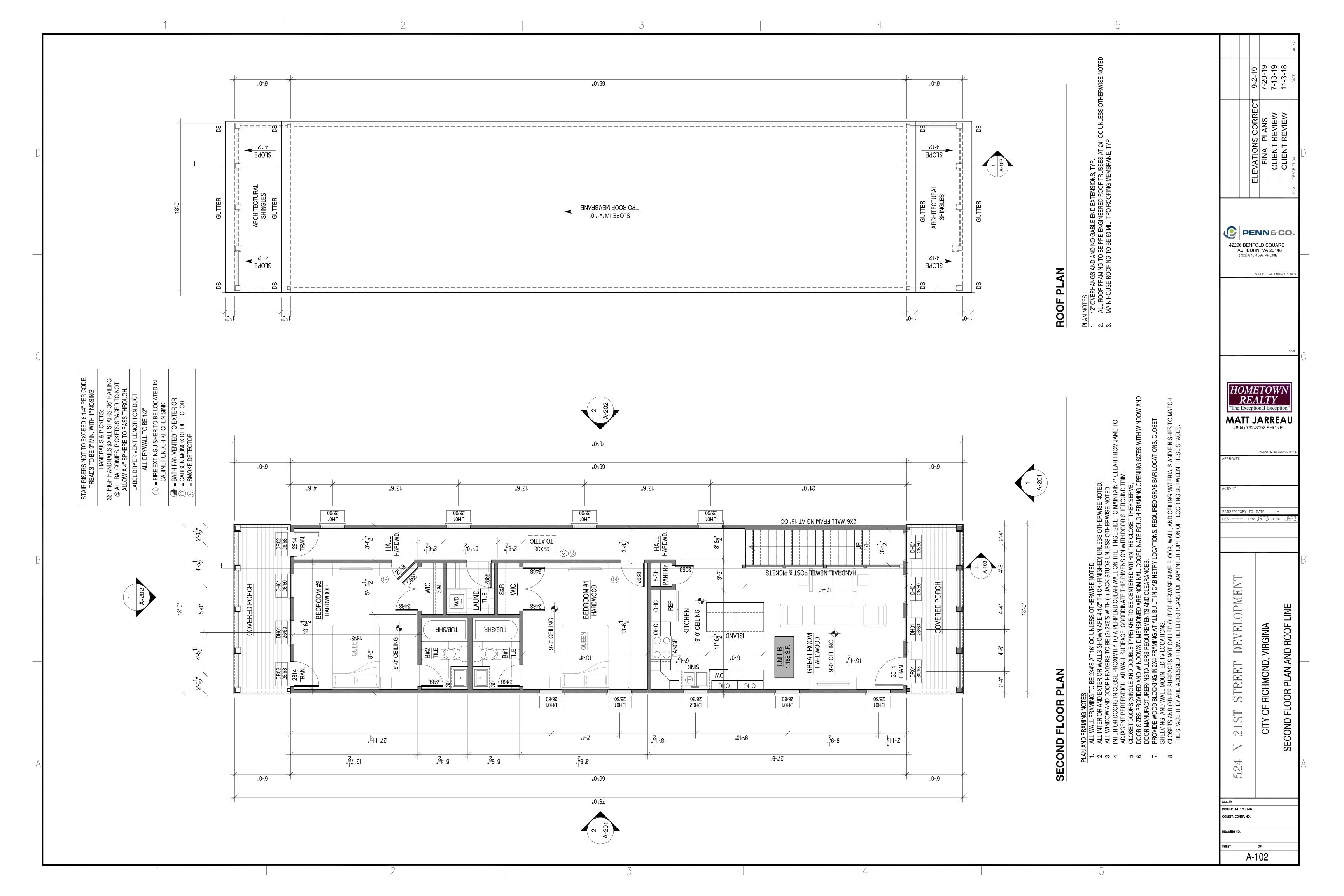
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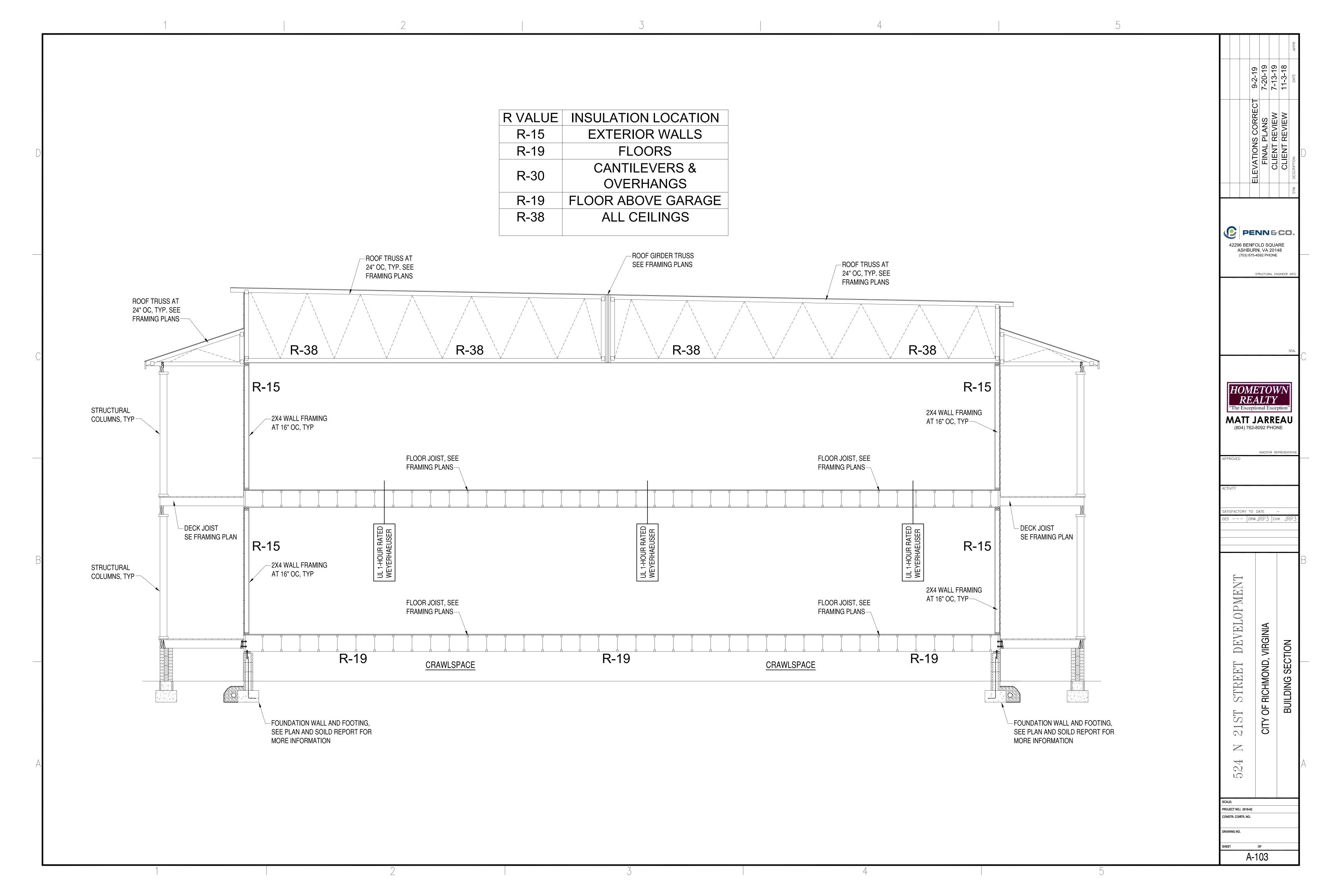
DEVELOPMEN STREET ZIST

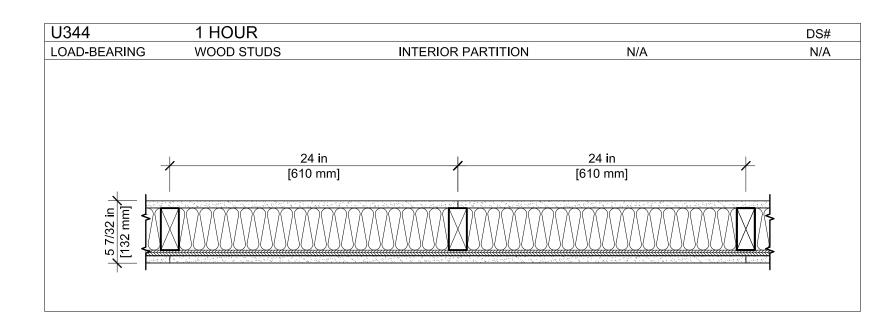
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C-001









EXTERIOR PARTITIONS: WOOD STUD (LOAD-BEARING)

FIRE RATING: 1 HOUR N/A SOUND TEST: N/A SYSTEM THICKNESS: 5-7/32"

ASSEMBLY OPTIONS:

GYPSUM BOARD: 5/8 IN. THICK GYPSUM BOARD APPLIED HORIZONTALLY OR VERTICALLY.

WOOD STUDS: 2 IN. X 4 IN. WOOD STUDS SPACED MAX. 24 IN. O.C.

INSULATION: MIN. 3-1/2 IN. THICK FIBERGLASS FRICTION FIT.

PLYWOOD SHEATHING: MIN. 15/32 IN. THICK PLYWOOD APPLIED VERTICALLY, WITH VERTICAL JOINTS

CENTERED ON STUDS. SHEATHING ATTACHED TO STUDS WITH 6D CEMENT COATED STEEL BOX NAILS SPACED 12 IN. O.C. ALONG INTERIOR STUDS AND

6 IN. O.C. AT PERIMETER.

GYPSUM BOARD: 5/8 IN. THICK GYPSUM BOARD APPLIED HORIZONTALLY OR VERTICALLY.

DOOR SCHEDULE							
MARK	DESCRIPTION	WIDTH	HEIGHT	OPERATION	HARDWARE	NOTES	
DR01	FRONT ENTRY	3'-0"	6'-8"	SEE PLAN	01	STEEL, TEMPERED WITH 14" TRANSOM	
DR02	REAR ENTRY	2'-8"	6'-8"	SEE PLAN	01	STEEL, TEMPERED WITH 14" TRANSOM	

DOOR NOTES:

- 1. GENERAL CONTRACTOR SHALL VERIFY ALL DOOR SCHEDULE INFORMATION PRIOR TO ORDERING DOORS AND FRAMES.
- 2. ALL EXTERIOR DOORS SHALL BE PROVIDED WITH WEATHERSTRIPPING AND THRESHOLD. 3. ALL SWING DOORS SHALL BE PROVIDED WITH HINGE-OR WALL-MOUNTED DOOR STOPS.
- 4. ALL GLASS IN DOORS AND TRANSOMS SHALL BE TEMPERED.

DOOR HARDWARE SETS:

1. (3) HINGES, ENTRY HANDLE LOCK SET, DEAD BOLT.

WINDOW SCHEDULE						
MARK	DESCRIPTION	WIDTH	HEIGHT	HEADER HEIGHT	NOTES	
DH01	DOUBLE HUNG	2'-6"	6'-0"	SEE PLAN	VINYL 2 OVER 2	
DH02	DOUBLE HUNG	2'-6"	3'-0"	SEE PLAN	VINYL 2 OVER 2	

WINDOW NOTES:

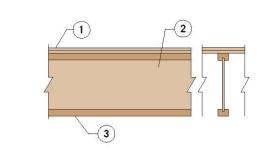
- 1. GENERAL CONTRACTOR SHALL VERIFY ALL WINDOW SCHEDULE INFORMATION PRIOR TO ORDERING WINDOWS AND FRAMES.
- 2. ALL WINDOWS NOMINAL. GENERAL CONTRACTOR TO VERIFY ACTUAL SIZES AND FRAMING REQUIREMENTS WITH WINDOW MANUFACTURER. 3. SECOND FLOOR WINDOWS REQUIRED FOR EMERGENCY EGRESS SHALL MEET THE REQUIREMENTS OF IRC R310.1, GENERALLY 20" MIN.
- CLEAR WIDTH, 24" MIN. CLEAR HEIGHT, AND 5.7 SQUARE FEET NET CLEAR OPENING.
- 4. NO WINDOW GLAZING SHALL BE WITHIN 18" OF FINISH FLOOR.
- 5. SAFETY GLAZING SHALL BE TEMPERED.

ONE-HOUR FLOOR/CEILING, ROOF/CEILING ASSEMBLIES

Lightweight concrete or approved gypsum concrete topping with appropriate sheathing can be substituted for the decking material shown in any of these assemblies.

Assembly E ICC-ES ESR-1153

- 1. Double wood floor or single layer of 48/24 tongue-and-groove span-rated sheathing (Exposure 1)
- 2. TJI® joist 3. An approved ceiling system that will provide a 40-minute

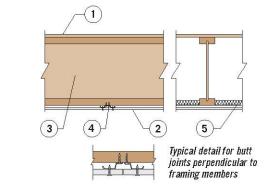


Assembly F

WNR FCA 60-07

ICC-ES ESR-1153

- 1. 48/24 tongue-and-groove, span-rated sheathing (Exposure 1), glued with a subfloor adhesive and nailed
- 2. %" Type C gypsum board
- 3. 11%" deep TJI® 560D joist minimum (minimum flange size for this assembly is 1½" thick x 3½" wide). Joists spaced at 24"
- on-center, maximum. 4. Resilient channel at 16" on-center
- 5. Minimum 1½"-thick (2.5 pcf minimum) mineral wool batts



TWO-HOUR FLOOR/CEILING, ROOF/CEILING ASSEMBLY

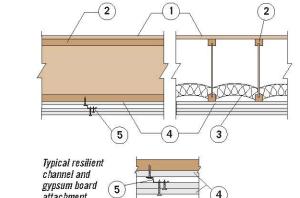
Lightweight concrete or approved gypsum concrete topping with appropriate sheathing can be substituted for the decking material shown in any of these assemblies.

Assembly G

WNR FCA 120-3

ICC-ES ESR-1153

- 1. 48/24 tongue-and-groove, span-rated sheathing (Exposure 1) 2. TJI® joist, 24" on-center maximum
- 3. Optional glass fiber insulation, unfaced batts, 3½" thick in
- plenum, supported by stay wires 12" on-center and centered on joist bottom flanges 4. Three layers of 5/8" Type C gypsum board
- 5. Resilient channels at 16" on-center located between first and second layers of gypsum board



For additional construction information on these assemblies, see ICC-ES reports for the U.S. and Intertek listings for Canada.

Weyerhaeuser Fire-Rated Assemblies and Sprinkler Systems Guide TJ-1500 | October 2018





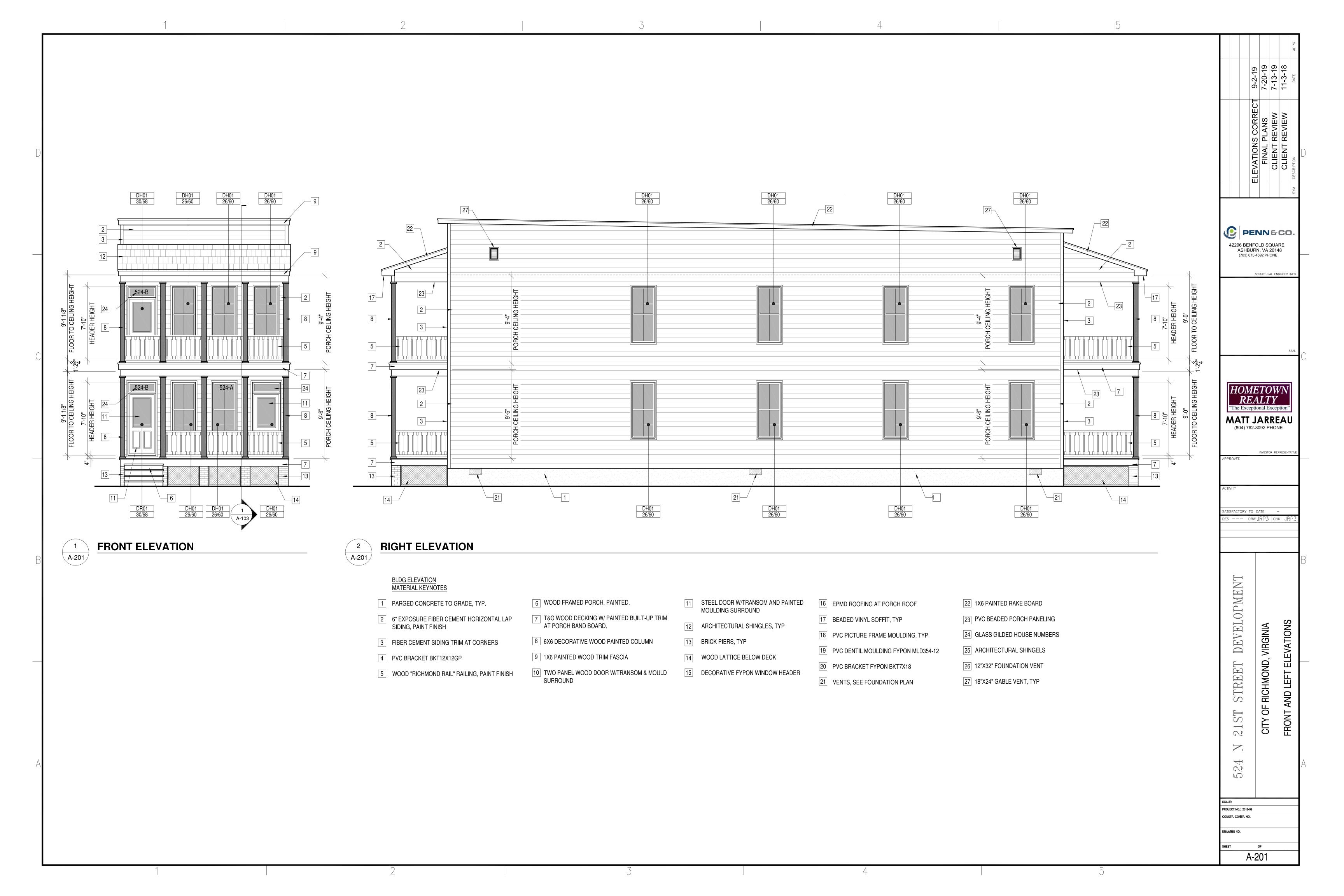
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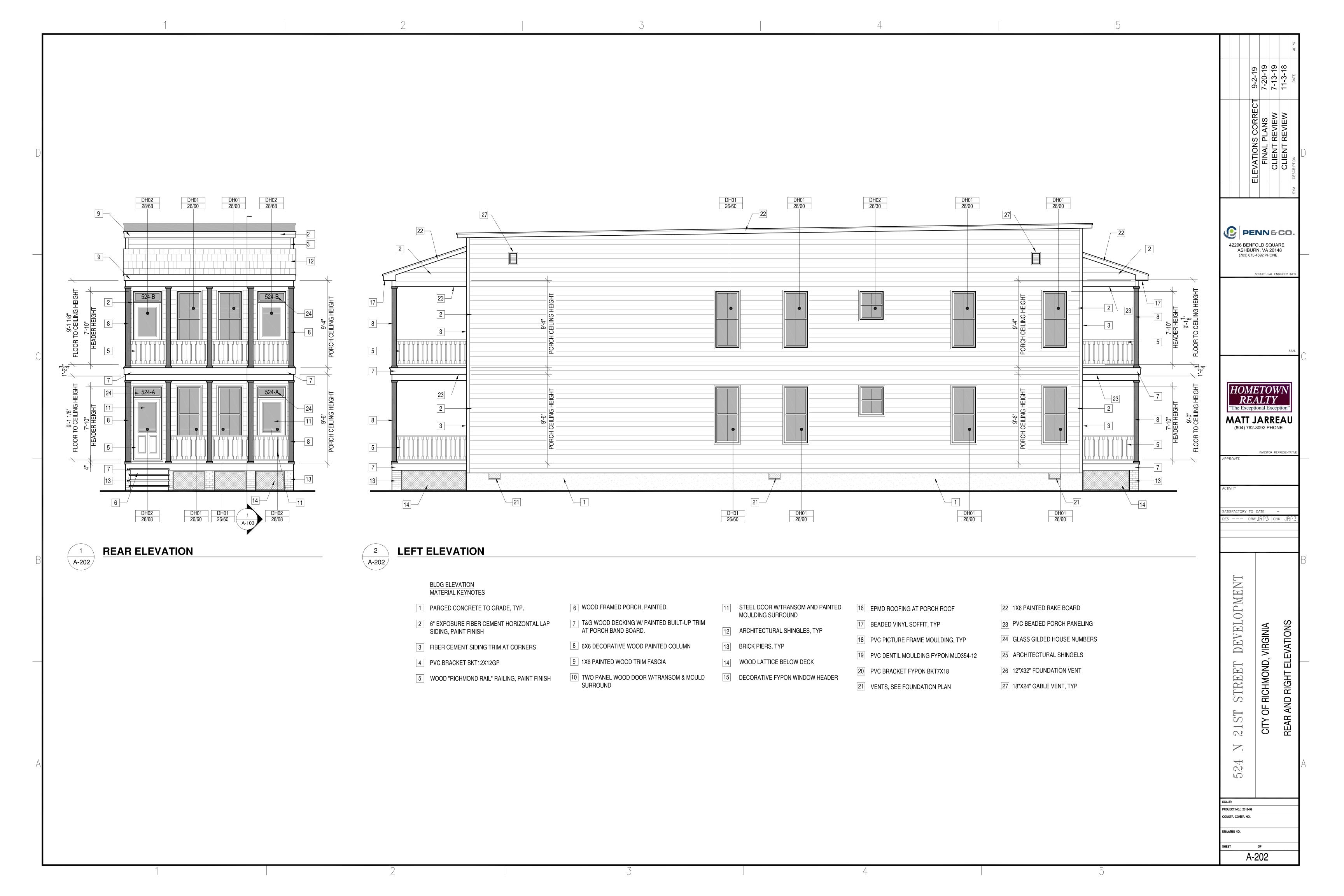
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DEVELOPMEN

7 PROJECT NO.: 2018-02 CONSTR. CONTR. NO.

DRAWING NO. A-104





GENERAL NOTES

- DESIGN BUILD CODE: 2012 VIRGINIA RESIDENTIAL BUILDING CODE THE CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS SHOWN ON THESE DRAWINGS WITH ARCHITECTURAL AND OTHER TRADES DRAWINGS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR OMISSIONS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AND SHORING. AS REQUIRED TO INSURE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR PORTION THEREOF DURING CONSTRUCTION. THE DESIGN PROCEDURES SHALL CONFORM TO ALL GOVERNING CODES AND SAFETY REQUIREMENTS. TEMPORARY BRACING AND SHORING SHALL BE IN CONFORMANCE

	WITH OSHA REGULATIONS.				
4.	DESIGN LOADS:	LIVE	LOADS	DEAD	LOADS
	A. FLOOR	40	PSF	10	PSF
	B. EXTERIOR DECKS	40	PSF	10	PSF
	C. ROOF	20	PSF	10	PSF
	D. SNOW (Pg)	20	PSF		
	SLOPED	16	PSF		

MPH, 3 SECOND GUST (ASD) - 115 MPH (ULTIMATE)

SUBGRADE DESIGN VALUES: THE FOLLOWING SUBSURFACE INFORMATION IS ASSUMED FOR DESIGN PURPOSES. THE CONTRACTOR SHALL ENGAGE A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE ADEQUACY OF THE SUBGRADE ASSUMPTIONS FOR THE PROPOSED CONSTRUCTION.

A. BEARING OF VIRGIN MATERIAL: LEAN CLAY OR BETTER B. BEARING PRESSURE: 1500 PSF

BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE MINIMUM OF 1'-6" BELOW GRADE, ALL FOOTINGS SHALL PROJECT AT LEAST 1'-0" INTO UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED. NO EXCAVATION SHALL BE CLOSER THAT AT A SLOPE OF 2:1 (TWO HORIZONTAL TO ONE VERTICAL) TO A FOOTING. DO NOT PLACE CONCRETE OVER FROZEN SOIL. FOOTINGS SHALL NOT BE FOUNDED ON EXISTING FILL, LOOSE OR WET SOIL. STEP FOOTINGS WITH A RATIO OF 2

CAST-IN-PLACE CONCRETE

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301, ACI 318 AND ACI 302, EDITIONS REFERENCED BY BUILDING CODE.
- REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60.
- REINFORCEMENT SPLICES SHALL BE LAP SPLICES WITH A MINIMUM LAP OF 40 BAR DIAMETERS UNLESS
- CONCRETE COMPRESSIVE STRENGTHS AT 28 DAY CURE = 3000 PSI.
- CAST-IN-PLACE CONCRETE SHALL BE READY-MIX PER ASTM C94. THE MIX SHALL BE PROPORTIONED

A. PORTLAND CEMENT. ASTM C150

HORIZONTAL TO 1 VERTICAL.

- B. AGGREGATES, ASTM C33 WITH .75 INCH MAXIMUM DIAMETER
- C. NO CALCIUM CHLORIDE SHALL BE PERMITTED
- D. AIR ENTRAINMENT, ASTM C260 E. WATER REDUCING ADMIXTURE, ASTM C494
- F. FLYASH, ASTM C618-78 CLASS F, 15% MAXIMUM BY WEIGHT
- G. WATER. CLEAN AND POTABLE
- 6. PROVIDE PROPERLY TIED SPACERS, CHAIRS, BOLSTERS, ETC, AS REQUIRED AND NECESSARY TO ASSEMBLE, PLACE AND SUPPORT ALL REINFORCING IN PLACE. USE WIRE BAR TYPE SUPPORTS COMPLYING WITH CRSI RECOMMENDATIONS. USE PLASTIC TIP LEGS ON ALL EXPOSED SURFACES.
- CONTRACTOR SHALL VERIFY EMBEDDED ITEMS. INCLUDING BUT NOT LIMITED TO ANCHOR BOLTS. BOLT CLUSTERS, WELD PLATES, ETC., BEFORE PLACING CONCRETE NOTIFY ENGINEER OF ANY CONFLICTS WITH REBAR.
- STEP AND SLOPE ALL BALCONIES, WALKWAYS, AND PATIOS AWAY FROM THE BUILDING.
- RESTRICT THE ADDITION OF MIX WATER AT THE JOB SITE. DO NOT ADD WATER WITHOUT THE APPROVAL OF THE GENERAL CONTRACTOR AND DO NOT EXCEED SLUMP LIMITATIONS. USE COLD WATER FROM THE TRUCK TANK AND REMIX TO ACHIEVE CONSISTENCY. THE REPORTS SHALL INDICATE HOW MUCH WATER WAS ADDED AT THE JOB SITE.
- 10. CONCRETE SHALL BE PLACED WITHIN 90 MINUTES IF BATCH TIME.

WOOD

- ALL FOLLOWING DESIGN VALUES ARE IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATIONS (NDS) AND SUPPLEMENT NATIONAL DESIGN SPECIFICATIONS (EDITION REFERENCED BY BUILDING CODE.)
- ALL HEADERS AND BEAMS SHALL BE SPF NO. 2 OR OTHER SPECIES HAVING THE FOLLOWING MINIMUM PROPERTIES: LINI ESS NOTED OTHERWISE

ES. UNLESS NOTED OTHERWISE					
Fb	=	875	PSI		
Fc	=	425	PSI		
Fv	=	70	PSI		

E = 1.400.000 PSIEXTERIOR AND INTERIOR BEARING WALL STUDS SHALL BE SPF NO. 2 OR OTHER SPECIES HAVING THE

FOLLOWING MINIMUM PROPERTIES: UNLESS NOTED OTHERWISE Fb = 875PSI 425 PSI Fc =

E = 1,400,000PSI 4. WALL TOP PLATES AT BEARING LOCATIONS, TO BE SYP #2 MIN OR OTHER SPECIES HAVING THE

FOLLOWING MINIMUM PROPERTIES (UNO) Fb = 1500565 PSI PSI E = 1,600,000PSI

5. ALL LUMBER IN CONTACT WITH MASONRY OR CONCRETE AND EXPOSED TO WEATHER (FOR BALCONY DECK BOARDS, LEDGER, JOISTS, BEAMS, AND SILL PLATES) SHALL BE SOUTHERN PINE PRESSURE TREATED TO .40 LB RETENTION, PER AWPA STANDARDS, HAVING THE FOLLOWING MINIMUM PROPERTIES:

> Fb = 1500 PSI, 1250 PSI, 1200 PSI, 1050 PSI AND 975 PSI FOR 4, 6, 8,10 AND 12 INCH WIDE SECTIONS RESPECTIVELY.

Fc = 565PSI Fv = 90E = 1,600,000

6. LVL (LAMINATED VENEER LUMBER) SHALL BE 1-3/4" WIDE, OF THE DEPTH SPECIFIED ON THE PLANS, AND SHALL BE SECURED TOGETHER AS DIRECTED BY THE MANUFACTURER UNO. THE FOLLOWING MINIMUM PROPERTIES SHALL APPLY.

PSI FOR 12" DEPTH, FOR OTHERS MULTIPLY BY [12/D].136 Fb = 2600PSI PER Fc = 750PSI 285

= 2,000,000 ALL LUMBER SHALL BE SOUND, SEASONED, AND FREE FROM WARP.

- 8. ALL STUDS SHALL BE INSTALLED IN ACCORDANCE WITH AF & PA (AMERICAN FOREST & PAPER ASSOCIATION) REQUIREMENTS. MEMBERS ARE NOT TO BE DRILLED IN EXCESS OF NDS OR LOCAL CODE REQUIREMENTS. WHICHEVER IS MORE STRINGENT, ALL POSTS AND STUDS SHALL STACK CONTINUOUSLY TO SOLID BEARING ON FOUNDATION WALLS OR BEAMS; PROVIDE SOLID BLOCKING AND OR CRIPPLES AS REQUIRED BETWEEN FLOORS.
- STUD BEARING WALLS AND EXTERIOR STUD WALLS SHALL BE CONTINUOUSLY BRIDGED WITH WOOD BLOCKING AT MIDSPAN VERTICAL SPACING BETWEEN FLOORS (AND ROOF) LEVELS. STUDS AND POSTS SHALL BE ONE-PIECE-CONTINUOUS BETWEEN FLOOR LEVELS AND BETWEEN FLOOR LEVEL AND ROOF DIAPHRAGMS. ALL DOUBLE STUDS SHALL BE NAILED TO EACH OTHER AT 8" MAXIMUM SPACING FULL
- 10. MINIMUM GRADES, FOR DIMENSIONED LUMBER, SHALL BE SPF NO. 2 GRADE AS DEFINED BY THE NDS FOR WOOD CONSTRUCTION, NFPA. ALL WOOD MEMBERS SHALL BE MANUFACTURED TO COMPLY WITH PS20 OF "AMERICAN SOFTWOOD LUMBER STANDARDS" AND SHALL HAVE 19% MAXIMUM MOISTURE CONTENT
- 11. ALL MULTIPLE MEMBERS ARE TO BE FASTENED TOGETHER WITH 16d NAILS AT 12" OC 2 ROWS FOR BEAMS 9"-12" DEEP. 3 ROWS FOR BEAMS 14"-18" DEEP (STAGGERED)
- 12. PLYWOOD SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 13. FASTENING OF WOOD FRAMING MEMBERS AND SHEATHING BY BUILDING CODE, SEE STRUCTURAL DETAILS FOR INCREASED FASTENING SCHEDULES WHERE APPLICABLE.
- 14. WALL SHEATHING .50" WOOD STRUCTURAL PANEL EXTERIOR, .50" MIN GYPSOM WALL BOARD INTERIOR. INSTALLATION OF GYPSUM SHEATHING SHALL COMPLY TO IRC.
- 15. WOOD COLUMNS AND POST SHALL BE FRAMED TO TRUE END BEARINGS, AND SHALL BE POSITIVELY ANCHORED TO FOUNDATION WITH APPROVED POST BASES. SUPPORT COLUMN AND POST SECURELY IN POSITION AND PROTECT BASE FROM DETERIORATION. COLUMNS AND POSTS OF TREATED WOOD MAY BE PLACED DIRECTLY ON CONCRETE OR MASONRY. USE TREATED WOOD FOR ALL FLOOR JOIST AND BEAMS, WHICH ARE EXPOSED, OR WITHIN 18" OF THE GROUND, OR IN PERMANENT CONTACT WITH EARTH. ALL EXTERIOR P.T. WOOD SECURED WITH HOT SIPPED GALVANIZED FASTENERS.
- 16. BEAR BEAMS AND GIRDERS AT LEAST 4" ON MASONRY OR CONCRETE, FLOOR, JOISTS, CEILING JOISTS AND ROOF RAFTERS SHALL HAVE 4" MIN BEARING ON WOOD OR WOOD PLATES ON METAL OR MASONRY.
- 17. PROVIDE 2" NOMINAL THICKNESS FULL DEPTH SOLID BLOCKING FOR JOISTS AND RAFTERS AT ENDS AND AT SUPPORTS. OMIT SOLID BLOCKING WHEN JOISTS ARE NAILED TO A CONTINUOUS HEADER. LAP JOISTS FRAMING FROM OPPOSITE SIDES OF A BEAM, GIRDER OR PARTITION AT LEAST 6". SECURE JOISTS FRAMED END TO END WITH METAL STRAPS. USE APPROVED FRAMING ANCHORS TO SUPPORT JOISTS FRAMING INTO THE SIDES OF WOOD OR STEEL BEAMS.
- 18. FLOOR DECKING SHALL BE APA RATED FLOOR SHEATHING. GLUED AND NAILED PER APA RECOMMENDATIONS FOR THE STURDI-FLOOR SYSTEM.

CONCRETE MASONRY

- HOLLOW LOAD BEARING UNITS SHALL CONFORM TO ASTM C90, NORMAL WEIGHT, TYPE 1, GRADE N WITH A MINIMUM 28 DAY NET COMPRESSIVE UNIT STRENGTH OF 1900 PSI. NET AREA COMPRESSIVE MASONRY STRENGTH f'm = 1500 PSI.
- 2. MORTAR SHALL BE TYPE M BELOW GRADE AND IN CONTACT WITH SOIL AND TYPE S AT ALL OTHER LOCATIONS. MORTAR SHALL CONFORM TO ASTM C270 (PROPORTION OR PROPERTY SPECIFICATIONS)
- 3. FILLED CELLS SHALL BE FILLED WITH COARSE GROUT. COARSE GROUT SHALL CONFORM TO ASTM C476, PROPERTIES SHALL INCLUDE: 2500 PSI AT 28 DAY. 3/8" MAX. AGGREGATE, AND 8"-11" SLUMP. FILLED CELLS MAY ALTERNATIVELY BE FILLED WITH A 3000 PSI PEA GRAVEL MIX CONCRETE. THE PEA GRAVEL MIX SHALL BE PROPORTIONED WITH A MAX. AGGREGATE SIZE OF 3/8 INCH DIAMETER TO PROVIDE A MIN. OF 1/2" CLEARANCE, ADDITIONALLY, THE PEA GRAVEL MIX SHALL PROVIDE AN 8" TO 11" SLUMP.
- 4. CODES AND STANDARDS INCLUDE: ACI 530/ASCE 5. "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", ACI 530.1/ASCE 6, "SPECIFICATIONS FOR MASONRY STRUCTURES"
- 5. VERTICAL REINFORCING BARS SHALL BE HELD IN POSITION, WITH BAR POSITIONERS, AT THE TOP AND BOTTOM OF BAR AND AT 8'-0" OC MAX. WITH A MIN CLEARANCE OF 1/2" FROM MASONRY. THE CLEAR DISTANCE BETWEEN BARS SHALL NOT BE LESS THAN ONE BAR DIAMETER, NOR LESS THAN 1". CENTER BARS IN WALLS UNO.
- 6. PROVIDE ACI 90 DEGREE STANDARD HOOKS INTO FOOTINGS AND ROOF TIE BEAM. MAINTAIN VERTICAL REINFORCING SHOWN ON DRAWINGS, ABOVE AND BELOW MASONRY OPENINGS EXCEEDING 10'-0" CLEAR. CONTINUE FOUNDATION DOWELS BELOW ALL MASONRY OPENINGS.
- 7. REINFORCING BARS SHALL BE STRAIGHT EXCEPT FOR BENDS AROUND CORNERS AND WHERE BENDS OR HOOKS ARE DETAILED ON THE PLANS.
- 8. MINIMUM LAP SPLICE SHALL BE 48 BAR DIAMETERS. WIRE TIE LAP SPLICES.
- 9. WHEN FOUNDATION DOWELS DOES NOT LINE UP WITH VERTICAL CORE, IT SHALL NOT BE SLOPED MORE THEN ONE HORIZONTAL IN SIX VERTICAL. DOWELS SHALL BE GROUTED INTO A CORE IN VERTICAL ALIGNMENT, EVEN IF IT IS IN A CELL ADJACENT TO THE VERTICAL WALL REINFORCEMENT.
- 10. HORIZONTAL WALL REINFORCEMENT SHALL BE 9 GA. GALVANIZED LADUR TYPE DUR-O-WAL (OR
- EQUIVALENT) SPACED AT 16" OC MAX., VERTICAL LAP SPLICE 12" MIN. 11. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT MASONRY OPENINGS SUCH AS DOORS AND WINDOWS. CONTINUE JOINT REINFORCING FOR THE FIRST AND SECOND BLOCK COURSE ABOVE AND
- BELOW MASONRY OPENING. EXTEND JOINT REINFORCING A MINIMUM OF TWO FEET BEYOND OPENING. 12. CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY IN EACH GROUT POUR WHEN
- THE POUR HEIGHT EXCEEDS 5'-0". CLEANOUTS SHALL BE SAW-CUT 4"X4". 13. GROUT POUR HEIGHT SHALL NOT EXCEED 24'. PLACE GROUT IN 5' MAXIMUM LIFTS HEIGHTS.
- 14. CONSOLIDATE GROUT POURS AT THE TIME OF PLACEMENT BY MECHANICAL MEANS AND
- RECONSOLIDATE AFTER INITIAL WATER LOSS AND SETTLEMENT.
- 15. PLACE ALL MASONRY IN RUNNING BOND WITH 3/8" MORTAR JOINTS. PROVIDE COMPLETE COVERAGE FACE SHELL MORTAR BEDDING, HORIZONTAL AND VERTICAL. FULLY MORTAR WEBS IN ALL COURSES OR PIERS, COLUMNS, AND PILASTERS AND ADJACENT TO GROUTED CELLS.
- 16. MASONRY CONTROL JOINTS SHALL BE INSTALLED AT LOCATIONS INDICATED ON THE DRAWINGS. ADDITIONALLY, INSTALL MASONRY CONTROL JOINTS SPACE AT 26'-0" OC AT EXTERIOR WALLS, 32'-0" AT INTERIOR WALLS UNO.

MASONRY

- 1. ALL MASONRY SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530/ASCE 5/TMS 402) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1/ASCE 6/TMS 602) FOR THE YEAR REFERENCED IN THE BUILDING CODE NOTED.
- 2. ALL BRICK AND CONCRETE MASONRY AND CONSTRUCTION SHALL COMPLY WITH THE RECOMMENDATIONS OF BRICK INSTITUTE OF AMERICA (BIA) AND THE NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA) AND MINIMUM REQUIREMENTS ESTABLISHED BY NOTED BUILDING CODES.
- 3. GROUT TO FILL CORES SHALL BE ASTM C476, COARSE GROUT (3/8" MAXIMUM AGGREGATE) WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
- 4. CONCRETE MASONRY UNITS (CMU) SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90. ASTM C270 TYPE "S" MORTAR WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI SHALL BE USED
- FOR ALL MASONRY. MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'M)=1500 PSI UNLESS NOTED OTHERWISE.
- 5. WHEN STRUCTURAL REINFORCEMENT IS INCORPORATED IN MASONRY CEMENT MORTAR, THE MAXIMUM AIR CONTENT SHALL BE 18%.
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- DEFORMED BAR ANCHORS (DBA) SHALL CONFORM TO ASTM 496, 75 KSI YIELD STRENGTH.
- 8. ALL MASONRY UNITS SHALL HAVE GALVANIZED HORIZONTAL JOINT REINFORCEMENT AS FOLLOWS: A.A. 9 GA. SIDE AND CROSS RODS (LADDER TYPE) SPACED 16" O.C. VERTICALLY
- LAP JOINT REINFORCING AS SHOWN IN THE TABLE BELOW.

WIRE JOINT REINFORCING SPLICE LENGTH W1.1 (11 GA.) W1.7 (9 GA.) W2.1 (8 GA.) W2.8 (3/16 WIRE) W4.9 (1/4 WIRE)

- 10. ALL CORES WITH REINFORCEMENT SHALL BE FILLED SOLID WITH GROUT. ALL GROUT SHALL BE CONSOLIDATED IN PLACE BY VIBRATION TO INSURE COMPLETE FILLING OF CELLS.
- 11. PLACE REINFORCING BARS BEFORE GROUTING. PLACE GROUTS IN LIFTS NOT EXCEEDING 5 FEET. CONSOLIDATE EACH LIFT BY MECHANICAL VIBRATION. THE NEXT LIFT OF THE POUR MAY BE MADE
- AFTER THE INITIAL WATER LOSS AND RECONSOLIDATION OF THE PRIOR LIFT, WHILE IT IS STILL PLASTIC. 12. PROPERLY SECURE REINFORCING BARS TO MAINTAIN THE POSITIONS INDICATED ON THE DRAWINGS. BARS TO BE LOCATED IN CENTER OF CELLS UNLESS OTHERWISE NOTED.
- 13. MORTAR PROTRUSIONS, EXTENDING INTO CELLS OR CAVITIES TO BE REINFORCED AND FILLED, SHALL BE REMOVED.
- 14. LAY MASONRY UNITS WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. BED WEBS IN MORTAR IN STARTING COURSE OF FOOTING AND IN ALL COURSES OF COLUMN AND PILASTERS, AND WHERE ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE GROUT.
- 15. GROUT ONE (1) COURSE OF MASONRY SOLID UNDER ALL WALL BEARING SLABS.
- 16. PROVIDE 16" OF SOLID MASONRY UNDER WALL BEARING BEAMS AND JOIST GIRDERS UNLESS NOTED
- 17. ALL CORNERS TO BE TIED BY MASONRY BOND.
- 18. GROUT CORES SOLID A MINIMUM OF ONE COURSE BELOW ANY CHANGE IN WALL THICKNESS.
- 19. PROVIDE 8" SOLID MASONRY 24" WIDE MINIMUM UNDER WALL BEARING JOISTS.
- 20. ALL MASONRY WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT A MAXIMUM SPACING OF 25'. COORDINATE WITH LOCATIONS INDICATED ON ARCHITECTURAL DRAWINGS. CONTROL JOINTS SHALL EXTEND THROUGH THE ENTIRE WALL THICKNESS, EXCEPT AT 21. CONTINUOUS BOND BEAMS AT THE ROOF LINE THE MASONRY SHALL BE SCORED ONLY.
- 22. ALL CMU SHALL BE TEMPORARILY BRACED DURING CONSTRUCTION FOR THE GOVERNING BUILDING CODE FOR LATERAL DESIGN LOADS UNTIL PERMANENT RESTRAINTS HAVE BEEN INSTALLED. TEMPORARY BRACING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRS RESULTING FROM IMPROPER OR INSUFFICIENT BRACING.
- 23. THE COLLAR JOINT IN MULTI-WYTHE WALLS BELOW GRADE SHALL BE FULLY GROUTED AS THE WALL IS CONSTRUCTED.
- 24. MISCELLANEOUS STEEL LINTEL SCHEDULE
- A.A. FOR MASONRY WALLS 8" OR THICKER OR MASONRY VENEER AND WOOD STUDS:
 - FOR OPENINGS UP TO 4'-0" USE 3 1/2X3 1/2X5/16 ANGLE. - FOR OPENINGS FROM 4'-0" TO 5'-0" USE 4X3 1/2X5/16 LLV. - FOR OPENINGS FROM 5'-0" TO 6-'0" USE 5X3 1/2X5/16 LLV.
 - FOR OPENINGS FROM 6'-0" TO 7-'0" USE 6X3 1/2X5/16 LLV. - FOR OPENINGS FROM 7'-0" TO 10-0" USE W8X21+5/16" BOTTOM PLATE.
- USE ONE ANGLE FOR EACH 4" WYTHE OF MASONRY.
- ALL LINTELS SHALL HAVE A BEARING AT EACH END OF 1 INCH PER FOOT OF OPENING WITH A MINIMUM OF 6".
- ALL LINTELS SHALL BEAR ON 16" SOLID MASONRY EXTENDING 16" BEYOND END OF LINTEL.
- ALL LINTELS ON THE BUILDING EXTERIOR SHALL BE GALVANIZED.
- ALL LINTELS ARE NOT DESIGNED FOR MASONRY WALLS THAT CARRY FLOOR LOADS.
- PROVIDE (1) #5 IN FULLY GROUTED CELLS (ONE CELL BELOW LINTEL BEARING, AND ONE CELL ADJACENT FULL HEIGHT) AT EACH SIDE OF OPENINGS.
- 25. LAP SPLICES SHALL BE AS FOLLOWS: #5 BAR SIZE = 45" SPLICE LENGTH
 - #6 BAR SIZE = 54" SPLICE LENGTH
- #7 BAR SIZE = 63" SPLICE LENGTH 26. POWER ACTUATED FASTENERS (PAFS) NOT PERMITTED AT MASONRY.
- 27. ALL REINFORCING HOOKS AND BENDS SHALL BE STANDARD ACI TYPE.
- 28. ALL WALL DOWELS SHALL MATCH REINFORCING SIZE AND QTY.

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