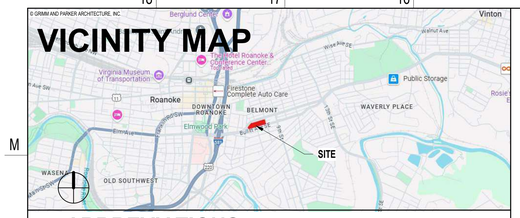
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VICINITY MAP



ROANOKE GATEWAY
ROANOKE, VA 24022
PHASE 2 - 4% - BUILDINGS 2 & 3



CONSTRUCTABILITY REVIEW
06/30/2026

THIS SET IS FOR PHASE 2 ONLY, INCLUDING BUILDING 2 ON LOT B AND BUILDING 3 ON LOT C.

ANY MENTION OF PHASE 1, BUILDING 1, LOT A, OR 9% LIHTC IS FOR REFERENCE ONLY.

SEE SHEET A-002-4 - GENERAL NOTES & UNIT MIX FOR UNIT MIX CHART

DESIGN TEAM

ROANOKE GATEWAY II, LP	OWNER	318 SIXTH STREET ANNAPOLIS, MD 21403	(410) 269-1222
HOMES FOR AMERICA, INC.	DEVELOPER	318 SIXTH STREET ANNAPOLIS, MD 21403	(410) 269-1222
GRIMM AND PARKER ARCHITECTURE, INC.	ARCHITECT	123 EAST MAIN ST. 2ND FLOOR CHARLOTTESVILLE, VA 22902	(434) 296-5353
WESTWOOD PROFESSIONAL SERVICES	CIVIL ENGINEER	1208 CORPORATE CIRCLE ROANOKE, VA 24018	(540) 772-9580
HARKINS BUILDERS, INC.	GENERAL CONTRACTOR	10490 LITTLE PATUXENT PKWY, SUITE 400, COLUMBIA, MD 21044	(410) 750-2600
MEI ENGINEERING	MEP ENGINEER	1592 CF POURS DRIVE HARRISONBURG, VA 22802	(540) 432-6272
CATES ENGINEERING, LTD.	STRUCTURAL ENGINEER	13575 HEATHCOTE BLVD, SUITE 170 GAINESVILLE, VA 20155	(571) 261-9280
LORAX PARTNERSHIPS, LLC.	SUSTAINABILITY CONSULTANT	808 ST. PAUL STREET BALTIMORE, MD 21202	(443) 449-6319

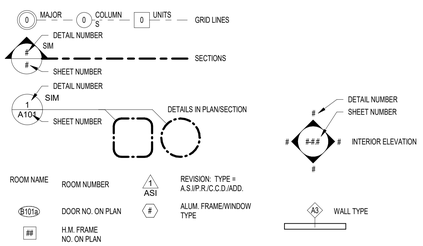
ABBREVIATIONS

Above finished floor	AFF	Footing	FTG	Project	PROJ
Acoustic	ACST	Foundation	FDN	Property	PROP
Acoustic Panel Ceiling	APC	Furnish(ed), furniture	FURN	Public Address	PA
Addendum	ADD	Furring	FURR	Quality control	QC
Alternate	ALT	Gage (gauge)	GA	Quality	QUAL
Aluminum	AL	Galvanize(d)	GALV	Quantity	QTY
Angle	L	Galvanized iron	GALVI	Quarry Tile	QT
Approximate	APPROX	Glazed Wall Tile	GWT	Radius	RAD
Architecture, architectural	ARCH	Grab Bar	GB	Rain Leader	RL
Asbestos	ASB	Grade	GR	Received	RCVD
Asphalt	ASPH	Gravel	GVL	Receptacle	RCPT
Assistant	ASST	Gypsum Wallboard	GWB	Receptionist	RECPT
Association	ASSN	Gypsum	GYP	Recess(ed)	REC
Automatic	AUTO	Handicapped	HC	Refer, reference	REF
Average	AVG	Hardware	HDW	Refrigerate, refrigerator	REFR
Base plate	BP	Heating ventilating and air conditioning	HVAC	Reinforce	REINF
Basement	BSMT			Reinforced concrete	RC
Beam	BM	Height	HGT	Remove	RMV
Bearing	BRG	High Point	HPT	Repair	RPR
Bedroom	BR	High Performance	HP	Required	REQD
Benchmark	BM	High Performance Coating	HPC	Revise, revision	REV
Board	BD	Hollow Metal	HM	Right hand	RH
Boiler	BLR	Horizontal	HORIZ	Road	RD
Bottom	BOT	Include(d), inclusive	INCL	Roof Drain	RD
Brick	BRK	Incorporated	INC	Roof	RF
Building line	BL	Information	INFO	Roofing	RFG
Building	BLDG	Inside diameter	ID	Room	RM
Built-up-roof	BUR	Install(ed), installation	INSTL	Rubber tile floor	RTF
Cabinet	CAB	Insulation	INSUL	Rubber	RBR
Carpet	CPT	Interior	INT	Schedule	SCHED
Catalog	CAT	Janitor	JAN	Schematic	SCHEM
Ceiling height	CH	Joint	JT	Section	SECT
Ceiling	CLG	Joist	J, JST	Service	SVCE
Center	CTR	Junction box	JB	"Sheet, sheeting"	SHT
Centerline	CL	Knock down	KD	Shower	SH
Ceramic Tile	CT	Laboratory	LAB	Siding	SDG
Ceramic	CER	Lavatory	LAV	Similar	SIM
Chalkboard	CB	Left Hand	LH	Slope	SL
Clear	CLR	Left	L	Sound-transmission class	STC
Closet	CLO	Length	LG	South	S
Coated	CTD	Level	LVL	Speaker	SPKR
Cold rolled	CR	Light	LT	Specification	SPEC
Column	COL	Machine	MACH	Sprinkler	SPR
Company	CO	Maintenance	MAINT	Square	SQ
Composition	COMP	Manager	MGR	Stainless steel	SS
Concrete Masonry Unit	CMU	Manual	MNL	Standard	STD
Concrete	CONC	Manufacturing	MFG	Standpipe	SP
Construction joint	CJ	Markerboard	MB	Steel	STL
Construction	CONSTR	Masonry opening	MO	Storage	STOR
"Continue, Continuous"	CONT	Masonry	MSNRY	Structural Glazed Facing Tile	SGFT
Corridor	CORR	Master bedroom	MBR	Structural, structure	STRUCT
Countersink	CSK	Material	MATL	Substitute	SUBST
Cubic	CU	Maximum	MAX	Surface	SURF
Curve(d)	CRV	Mechanical	MECH	Suspend(ed)	SUSP
Dampproofing	DP	Membrane	MEMB	Switch	SW
Degree	DEG	Men	M	Symmetrical	SYM
Department(al)	DEPT	Metal	MET, MTL	System	SYS
Detail	DET	Mezzanine	MEZZ	Tackboard	TB
Diagonal	DIAG	Minimum	MIN	Tackstrip	TS
Diameter	DIA	Mirror	MIR	Telephone	TEL
Dimension	DIM	Miscellaneous	MISC	Television	TV
Dishwasher	DW	Mounted	MTD	Temporary	TEMP
Dispenser	DISP	Mounting	MTG	Terrazzo	TER
Door	DR	Necessary	NEC	Thick	THK
Double	DBL	Noise-reduction coefficient	NRC	Through	THRU
Double-hung	DH	Nominal	NOM	Toilet	T
Down	DN	Non Combustible	NC, NONCOM	Tongue and groove	T&G
Downspout	DS	North	N	Top and bottom	T&B
Drain	DR	Not in Contract	NIC	Top chord	TC
Drawing	DWG	Not to scale	NTS	Top of Masonry Parapet	TMP
Each	EA	Not available	NA	Top of Bearing	TOFB
East	E	Number	NO	Top of Steel	T.O.S.
Electric Water Cooler	EWC	Office	OFF	Topping	TOPG
"Electric, electrical"	ELEC	On center	OC	Total	TOT
Elevation	EL	Opening	OPNG	Transformer	XFMR
Elevator	ELEV	Opposite	OPP	Transom	TR
Engineer	ENGR	Outside diameter	OD	Transparent	TRANS
Entrance	ENTR	Overall	OA	Tread	TRD
Equal	EQ	Overhead	OVHD	Threshold	THRESH
Equipment	EQUIP	Page	P	Typical	TYP
Exhaust	EXH	Painted	PTD	Underground	UG
Existing	EXIST	Pair	PR	Underwriters Laboratories	UL
Expansion joint	EXP JT	Panel	PNL	Unfinished	UNF
Exposed	EXP	Partition	PTN	Unit Ventilator	UV
Exterior	EXT	Percent	PCT	Unless Otherwise Noted	UON
Fabricate	FAB	Perforate(d)	PERF	Urinal	UR
Face of Stud	F. OF S.	Permanent	PERM	US Gypsum Company	USG
Fan Coil Unit	FCU	Perpendicular	PERP	Vertical	VERT
Fiberglass-reinforced plastics	FRP	Piece	PC	Vestibule	VEST. V
Finish	FIN	Plastic Laminate	PLAM	Vinyl Reducing Strip	VRS
Finished Floor	FF	Plastic Laminate	PLAS.LAM	Vinyl Composite Tile	VCT
Fire Extinguisher	FE	Plate	PL	Vinyl asbestos tile	VAT
Fire Extinguisher & Cabinet	FEC	Plumbing	PLMB	Wardrobe	WARD
Fire Retardant Treated	FRT	Plywood	PLYWD	Water closet	WC
Fireproof	FPRF	Point	PT	Waterproof	WP
Fixture	FXTR	Polyvinyl chloride	PVC	Weight	WT
Flange	FLG	Precast	PRCST	Welded	WLD
Flashing	FL	Prefabricated	PREFAB	Welded Wire Mesh	WWM
Floor	FL	Preliminary	PRELIM	With	W/
Floor drain	FD	Preparation, prepare	PREP	Without	W/O
Flooring	FLG	Program	PRGM	Women	W
Fluorescent	FLUOR	Projection Screen	PS	Wood	WD
				Wrought Iron	WI

SYMBOLS OF MATERIALS

- EARTH
- GRAVEL
- CONCRETE
- CONCRETE MASONRY UNITS
- SOLID CONCRETE MASONRY UNITS
- BRICK
- WOOD-FINISHED
- WOOD ROUGH
- PLYWOOD / ORIENTED STRAND BOARD (OSB)
- GYPSUM BOARD
- STEEL - LARGE SCALE
- ALL METALS - SMALL SCALE
- CAST STONE
- GLASS - LARGE SCALE
- BATT INSULATION
- RIGID INSULATION - XPS
- RIGID INSULATION - EPS
- RIGID INSULATION - POLYISO
- CERAMIC TILE
- CARPET
- SPRAY APPLIED FOAM INSULATION (OPEN OR CLOSED CELL)
- MINERAL WOOL INSULATION
- LOOSE FILL BLOWN-IN INSULATION

DRAWING KEY



LIST OF DRAWINGS - PHASE 2

GENERAL	
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A-002-4	BUILDING 2 AND 3 GENERAL NOTES & UNIT MIX - 4%
A-003-4	BUILDING 2 AND 3 CODE STUDY REVIEW - 4%
A-004-4	BUILDING 2 CODE STUDY DIAGRAMS
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A-006-4	BUILDING 3 CODE STUDY DIAGRAMS
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C2	NOTES
C3	EXISTING CONDITIONS & DEMOLITION PLAN
C4	LAYOUT PLAN
C5	UTILITY PLAN
C6	GRADING PLAN
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C7.2	E.S.C. PLAN PHASE 2
C7.3	E.S.C. NOTES
C7.4	E.S.C. DETAILS
C8.1	UTILITY PROFILES
C8.2	UTILITY DETAILS
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A-011	THERMAL BYPASS AND ADVANCED WALL FRAMING - ENERGY STAR GUIDELINES
A-012	COMMON AREA ACCESSIBILITY - ANSI + UFAS + UD
A-013	UNIT ACCESSIBILITY- ANSI A + UFAS + UD
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A-015	UNIVERSAL DESIGN CHECKLIST
A-016	VH MDCR
A-021	ARCHITECTURAL SITE PLAN - PHASE 2
A-022	ARCHITECTURAL SITE DETAILS
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3A-033	BUILDING 3 RETAINING WALL PLANS, SECTIONS & DETAILS
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2A-102	BUILDING 2 OVERALL PLANS
2A-103	BUILDING 2 PARTIAL FIRST FLOOR PLANS
2A-104	BUILDING 2 PARTIAL SECOND FLOOR PLANS
2A-105	BUILDING 2 PARTIAL THIRD FLOOR PLANS
2A-106	BUILDING 2 PARTIAL FOURTH FLOOR PLANS
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A-307	FINISH SCHEDULES
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2A-404	BUILDING 2 WALL SECTIONS
2A-405	BUILDING 2 WALL SECTIONS
2A-406	BUILDING 2 WALL SECTIONS
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3A-402	BUILDING 3 WALL SECTIONS
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A-509	KITCHEN PLANS, ELEVATIONS, AND DETAILS
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A-601	TYPICAL COMMON INTERIOR ELEVATIONS AND DETAILS
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A-703	UNIT REFLECTED CEILING PLANS
A-704	UNIT REFLECTED CEILING PLANS
A-705	UNIT REFLECTED CEILING PLANS
A-706	UNIT REFLECTED CEILING PLANS
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2A-711	BUILDING 2 COMMON REFLECTED CEILING PLANS
2A-712	BUILDING 2 COMMON REFLECTED CEILING PLANS
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S-203	TYPICAL MASONRY WALL DETAILS
2S-301	BUILDING 2 SECOND FLOOR FOUNDATION / FRAMING PLAN
2S-302	BUILDING 2 THIRD FLOOR FRAMING PLAN
2S-303	BUILDING 2 FOURTH FLOOR / LOW ROOF FRAMING PLAN
2S-304	BUILDING 2 ROOF FRAMING PLAN
2S-305	BUILDING 2 SHEAR WALL LAYOUT PLAN
3S-301	BUILDING 3 SECOND FLOOR FOUNDATION / FRAMING PLAN
3S-302	BUILDING 3 THIRD FLOOR FRAMING PLAN
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3E-004	LIGHTING SCHEDULE & DIAGRAM
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E-505	UNIT 2E, 2F
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E-509	UNIT 3E, 3F
E-510	UNIT 3G, 3H

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G+P GRIMM AND PARKER

GP #22424.00

BUILDING 2 AND 3 TITLE SHEET - 4%

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #:
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-000-4

06/30/2026
CONSTRUCTABILITY REVIEW

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ROANOKE GATEWAY FOUR

Updated: 05/06/2026

UNIT TYPES	1 BED / 1 BATH		2 BED / 2 BATH					2 BED/ 1.5 BATH			3 BED / 2 BATH				TOTAL	UNIT GSF** TOTAL	FLOOR GROSS*** (EXCLUDING UNHEATED)
	1A	1A-HC	2A	2A-HC	2D	2E	2F	2B	2B-HC	2C	3B	3B-HC	3F	3G			
NET RENTABLE SQUARE FOOTAGE*	656	656	975	975	958	950	929	973	973	953	1,265	1,265	1,162	1,260			
GROSS UNIT SQUARE FOOTAGE**	703	703	1,033	1,033	1,026	1,018	994	1,031	1,031	1,012	1,338	1,338	1,231	1,335			
UNIT GSF W/ PRORATED COMMON AREA	838	839	1,168	1,169	1,161	1,154	1,130	1,167	1,167	1,148	1,474	1,474	1,367	1,471			
ROLL-IN SHOWER		Y		Y					Y			Y					
UNIVERSAL DESIGN		Y		Y					Y			Y					
BUILDING 2																	
FIRST FLOOR	2	0	1	0	0	0	2	0	0	1	1	0	0	0	7	6,777	10,264
SECOND FLOOR	0	2	2	2	0	0	2	0	2	0	1	2	1	0	14	14,833	18,089
THIRD FLOOR	3	0	6	0	0	0	2	2	0	0	3	0	1	0	17	17,602	18,409
FOURTH FLOOR	3	0	5	0	0	0	0	2	0	0	2	0	0	0	12	12,012	11,816
													BUILDING 2 TOTAL		50	51,224	58,578
BUILDING 3																	
FIRST FLOOR	0	0	0	1	1	1	0	0	0	0	0	0	0	1	4	4,412	6,467
SECOND FLOOR	2	0	2	0	2	2	0	0	0	0	0	0	0	2	10	10,230	10,884
THIRD FLOOR	2	0	2	0	2	2	0	0	0	0	0	0	0	2	10	10,230	10,884
FOURTH FLOOR	2	0	2	0	2	2	0	0	0	0	0	0	0	2	10	10,230	10,884
													BUILDING 3 TOTAL		34	35,102	39,119
													PHASE 2 - 4% TOTAL		84	86,326	97,697
TOTAL UNITS BY TYPE	14	2	20	3	7	7	6	4	2	1	7	2	2	7	84		
TOTAL UNIT GSF	9,842	1,406	20,660	3,099	7,182	7,126	5,964	4,124	2,062	1,012	9,366	2,676	2,462	9,345	86,326		
TOTAL UNIT NET* RENTAL SF	9,184	1,312	19,500	2,925	6,706	6,650	5,574	3,892	1,946	953	8,855	2,530	2,324	8,820	81,171		
TOTAL UNIT GSF W/ PRORATED COMMON AREA	11,732	1,677	23,360	3,506	8,127	8,075	6,777	4,666	2,333	1,148	10,318	2,948	2,734	10,297	97,697		
PERCENTAGE OF UNITS BY TYPE	16.67%	2.38%	23.81%	3.57%	8.33%	8.33%	7.14%	4.76%	2.38%	1.19%	8.33%	2.38%	2.38%	8.33%	100%		
AVERAGE UNIT GSF** BY BEDROOM COUNT	703		1025								1325				1027.7	OVERALL AVERAGE UNIT GSF**	
AVERAGE UNIT NSF* BY BEDROOM COUNT	656		963								1252				966.3	OVERALL AVERAGE UNIT NSF*	
AVERAGE UNIT GSF W/ PRORATED COMMON AREA BY BEDROOM COUNT	838		1160								1461				1163.1	OVERALL AVERAGE UNIT GSF W PRORATED COMMON SPACE	
TOTAL UNITS BY BEDROOM COUNT	16		50								18				84		
PERCENTAGE BY BEDROOM COUNT	19.05%		59.52%								21.43%				100%		

RESIDENTIAL EFFICIENCY****	88.4%	
TOTAL ACCESSIBLE UNITS (NOTE 1)	9	10.71%
TOTAL VHI UNITS (NOTE 2)	3	3.57%
TOTAL UNIVERSAL DESIGN UNITS	9	10.71%
TOTAL NUMBER OF BEDROOMS	170	

BUILDING 2 UNHEATED SPACE TABULATION	GSF
FIRST FLOOR UNHEATED CORRIDOR	1,707
SECOND FLOOR UNHEATED CORRIDOR	2,090
THIRD FLOOR UNHEATED CORRIDOR	1,778
FOURTH FLOOR UNHEATED CORRIDOR	1,615
TOTAL UNHEATED AREA	7,190

BUILDING 3 UNHEATED SPACE TABULATION	GSF
FIRST FLOOR UNHEATED CORRIDOR	1,340
SECOND FLOOR UNHEATED CORRIDOR	1,059
THIRD FLOOR UNHEATED CORRIDOR	1,059
FOURTH FLOOR UNHEATED CORRIDOR	1,059
TOTAL UNHEATED AREA	4,517

BUILDING 2 TOTAL GROSS FLOOR AREA INCLUDING UNHEATED SPACES	65,768
BUILDING 3 TOTAL GROSS FLOOR AREA INCLUDING UNHEATED SPACES	43,636
RG-4% TOTAL GROSS FLOOR AREA INCLUDING UNHEATED SPACES	109,404

LEGEND:
* = NET RENTABLE SQUARE FOOTAGE = INSIDE FACE OF DRYWALL ON EXTERIOR WALLS, CORRIDOR WALLS, AND PARTY WALLS.
** = GROSS UNIT SQUARE FOOTAGE = EXTERIOR FACE OF STUD ON EXTERIOR WALLS, AND CORRIDOR WALLS, AND CENTERLINE OF PARTY WALLS.
*** = GROSS FLOOR AREA INCLUDES ALL PERIMETER OF ENCLOSED SPACES TAKEN FROM THE FACE OF STUD AT EACH FLOOR
**** = EQUALS TOTAL UNIT GSF** DIVIDED BY RESIDENTIAL FLOOR GSF.***

NOTES:
1. "HC" UNITS ARE DESIGNED TO FOLLOW UFAS, ANSI TYPE A 2017, AND UNIVERSAL DESIGN
2. VHI UNITS ON THE PROJECT SHALL BE UNIT NUMBERS 2-106, 2-301, AND 3-204

GENERAL NOTES

GENERAL:
1. THE GENERAL NOTES ARE NOT INTENDED TO REPLACE THE SPECIFICATIONS. SEE SPECIFICATION MANUAL REQUIREMENTS IN ADDITION TO THESE GENERAL NOTES.
2. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES AND SEQUENCES. ALL APPLICABLE SAFETY REGULATIONS ARE TO BE FOLLOWED STRICTLY.
3. ITEMS AND CONDITIONS DETAILED, NOTED OR OTHERWISE IDENTIFIED ON ONE OF THE SECTIONS OR DETAILS ARE APPLICABLE AND BINDING TO ALL OTHER SECTIONS AND DETAILS FOR IDENTICAL OR SIMILAR CONDITIONS.
4. ALL CONSTRUCTION AND WORK SHOWN ON THE COMPLETE SET OF DRAWINGS IS ASSUMED TO BE NEW AND FURNISHED AND INSTALLED BY THE CONTRACTOR, U.O.N.
5. THE DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. NO DRAWING SHALL HAVE PRECEDENCE ONE OVER THE OTHER, NOR SHALL DRAWINGS OR SPECIFICATIONS HAVE PRECEDENCE ONE OVER THE OTHER. IN THE EVENT OF A CONFLICT IN THE DOCUMENTS, THE CONTRACTOR SHALL SEEK THE INTERPRETATION OF THE ARCHITECT. THE CONTRACTOR SHALL NOT PROCEED WITH WORK UNTIL SUCH INTERPRETATION IS OBTAINED. IF THE CONTRACTOR PROCEEDS WITHOUT CLARIFICATION, THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE AND REPLACE ANY WORK NOT IN CONFORMANCE WITH THE ARCHITECT'S DIRECTION WITHOUT ADDITIONAL COST TO THE OWNER. IN THE EVENT OF A CONFLICT IN THE DRAWINGS OR SPECIFICATIONS, BIDDERS SHALL SEEK CLARIFICATION FROM THE ARCHITECT. RESOLUTIONS TO SUCH CONFLICTS WILL BE ISSUED THROUGH ADDENDA TO THE BID DOCUMENTS. IF CLARIFICATION FROM THE ARCHITECT IS NOT RECEIVED THROUGH AN ADDENDUM PRIOR TO THE RECEIPT OF BIDS, THE BIDDER SHALL ASSUME THE MORE COSTLY REQUIREMENT APPLIES, AND THE AWARDED CONTRACTOR SHALL SEEK CLARIFICATION FROM THE ARCHITECT PRIOR TO EXECUTION OF THE WORK.
6. BRING CONFLICTS BETWEEN WRITTEN INFORMATION AND DRAWN LINES TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION.
7. IF A CONFLICT EXISTS BETWEEN DRAWINGS OF DIFFERENT SCALES, CONSULT THE ARCHITECT FOR CLARIFICATION.
8. SECTIONS INDICATED ARE INTENDED TO SHOW THE SPECIFIC CONSTRUCTION WHERE REFERENCED AS WELL AS ESTABLISH THE GENERAL CONSTRUCTION DETAILS FOR SECTIONS THROUGHOUT THE PROJECT WHICH DO NOT HAVE SPECIFIC SECTIONS DRAWN. THE MOST SIMILAR SECTIONS SHALL BE ADAPTED TO ANY SECTIONS NOT DETAILED. ANY SPECIFIC QUESTIONS CONCERNING CONSTRUCTION NOT ADEQUATELY COVERED BY THE ABOVE SHALL BE DIRECTED TO THE ARCHITECT.
9. TYPICAL DETAILS THROUGHOUT THE DRAWING SET SHALL APPLY FOR ALL APPLICABLE CONDITIONS EVEN IF NOT SPECIFICALLY SHOWN OR REFERENCED.
10. MATERIALS AND WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. GC TO VERIFY THAT SUBSTITUTIONS COMPLY WITH APPLICABLE CODES AND REGULATIONS.

DIMENSIONS:
1. VERIFY DIMENSIONS, GRADE, BOUNDARIES, AND EXISTING SITE CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION. REPORT ANY DISCREPANCIES BETWEEN DOCUMENTS AND ACTUAL CONDITIONS TO THE ARCHITECT.
2. IN THE ABSENCE OF A WRITTEN DIMENSION, OR IN CASE OF DOUBT AS TO THE PROPER MEASUREMENT, CONSULT THE ARCHITECT FOR CLARIFICATION. DO NOT SCALE DIMENSIONS FROM THE DRAWINGS. CONTRACTOR SHALL CONSULT THE ARCHITECT FOR NECESSARY DIMENSIONS NOT SHOWN ON DRAWINGS.
3. ALL DIMENSIONS SHOWN ARE DIMENSIONED TO FACE OF STUD U.O.N. SEE WALL TYPES SHEET FOR WALL CONSTRUCTION AND MATERIAL THICKNESS.
4. RESIDENTIAL GRID LINES ARE TO CENTERLINE OF STUDS AT DEMISING WALL, U.O.N.

FRAMING:
1. ALL FRAMING, STRUCTURAL COLUMNS AND BEAMS ARE TO BE CONCEALED WITHIN PROPOSSED WALLS AND CEILINGS, U.O.N.
2. WALLS SHALL EXTEND TO THE PLYWOOD/OSB SHEET OF THE ROOF OR RATED FLOOR ASSEMBLY ABOVE, U.O.N.
3. PROVIDE SOLID WOOD BLOCKING BEHIND GYPSUM BOARD AT STUD WALLS FOR ATTACHMENTS OF BATHROOM ACCESSORIES, STAIR RAILINGS, SPECIAL TRIM DETAILS, EQUIPMENT, FIXTURES, SIGNAGE, AND OTHER WALL MOUNTED ITEMS. GC TO COORDINATE WITH SPECIFIC MANUFACTURERS RECOMMENDATIONS.
4. REFER TO REFLECTED CEILING PLANS FOR BULKHEAD SIZES AND LOCATIONS.

EXTERIOR WALLS:
1. ALL EXTERIOR CAVITY WALLS ARE TO HAVE THRU-WALL FLASHING AT THE BOTTOM OF THE CAVITY WITH CAVITY VENTS TO THE OUTSIDE. ALL FLASHING BUILT INTO WALLS SHALL BE LAPPED AND SEALED. REFER TO FLASHING DETAILS INDICATED.
2. REFER TO BUILDING ELEVATIONS AND ELEVATION DETAILS FOR MASONRY PATTERNS.
3. REFER TO PLANS AND ELEVATIONS FOR LOCATIONS OF CONTROL JOINTS AND EXPANSION JOINTS IN EXTERIOR MASONRY WALLS. IF A CONFLICT EXISTS BETWEEN JOINT LOCATIONS SHOWN ON THE ELEVATIONS AND PLANS, CONSULT THE ARCHITECT FOR CLARIFICATION PRIOR TO CONSTRUCTION.
4. ALL APPURTENANCES BUILT INTO OR THROUGH WALLS, INCLUDING DOORS, DUCTS, WINDOWS, LOUVERS, GRILLES, MECHANICAL WORK, ETC. SHALL FIT TIGHT AND BE THOROUGHLY SEALED AROUND PERIMETERS. WORK AT EXTERIOR WALLS SHALL BE FLASHED OR OTHERWISE WATERPROOF SEALED.

FINISHES AND CASEWORK:
1. SEE INTERIOR ELEVATIONS AND MILLWORK DETAILS FOR CASEWORK, CABINETS, HANDRAILS, CHAIR RAILS, CASES AND SIMILAR ITEMS.
2. FIELD CHECK ROUGH AND /OR FINISHED DIMENSIONS FOR ACCURATE FITTING OF CABINETS, COUNTERS, DOORS, WINDOWS, FIXTURES, SHELVING, GATES AND OTHER INSTALLATIONS PRIOR TO SHOP OR FACTORY FABRICATION. PROVIDE FILLER STRIPS, SCRIBE STRIPS, BASES, CLOSURE FINISHES AND TRIM FOR COMPLETE INSTALLATION.
3. IF THE FINISHES OF AN AREA OR SPACE ARE NOT CLEARLY DEFINED OR INDICATED, PROVIDE THE SAME MATERIALS AND FINISHES AS SCHEDULED OR DETAILED FOR AREAS OF SIMILAR USE ELSEWHERE IN THE BUILDING.
4. INCLUDE PROJECTIONS, BEAM ENCLOSURES, RECESSES, BULKHEADS, PILASTERS AND SIMILAR ENCLOSURES AS PART OF WALL AND CEILING FINISHES AS SCHEDULED.
5. PROVIDE APPROPRIATE TRANSITION STRIPS AT CHANGES IN FLOOR MATERIAL.
6. PROVIDE CONTROL JOINTS IN DRYWALL WHERE SPAN IS GREATER THAN 30FT. SEE INTERIOR ELEVATIONS. IN 2-STORY SPACES (OR HIGHER) PROVIDE HORIZONTAL CONTROL JOINTS AT EACH FLOOR LEVEL, AT BOTH TOP AND BOTTOM OF TRUSS ELEVATION.

FIRE PROTECTION AND FIRE RATED CONSTRUCTION:
1. PROVIDE FIRESTOPPING AT ALL HORIZONTAL AND VERTICAL PENETRATIONS OF RATED ASSEMBLIES, AS SPECIFIED AND REQUIRED BY APPLICABLE CODES AND REGULATIONS.
2. PROVIDE SIDE-WALL SPRINKLERS THROUGHOUT TOP FLOOR, FED UP THROUGH WALLS FROM PIPING IN FLOOR BELOW. NO SPRINKLER PIPING SHALL BE INSTALLED IN ATTICS, OR OTHER UNCONDITIONED SPACES.
3. BULKHEADS SHOWN REPRESENT MINIMUM REQUIREMENTS FOR DUCTWORK AND PLUMBING AND MAY NOT REPRESENT ALL BULKHEADS REQUIRED FOR SPRINKLER PIPING. SIZE OF BULKHEAD SHOULD BE COORDINATED TO INCLUDE SPRINKLER PIPING. ANY CHANGE TO BULKHEADS REQUIRED SHALL BE PROPOSED TO ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION.
4. ALL RATED FLOOR/CEILING AND WALL ASSEMBLIES SHALL BE CONSTRUCTED CONTINUOUS, TERMINATING AT OTHER RATED CONSTRUCTION, BEFORE FRAMING IS INSTALLED FOR BULKHEADS, DROPPED CEILINGS, FURRED WALLS, OR OTHER BUILD-OUT ELEMENTS.
5. PROVIDE ACCESS PANELS WHERE INDICATED ON DRAWINGS AND WHERE REQUIRED FOR ACCESS TO AND MAINTENANCE OF OPERABLE DEVICES OR ELEMENTS THAT REQUIRE PERIODIC MAINTENANCE OR REPLACEMENT. PROVIDE PANELS WITH FIRE RATINGS GREATER THAN OR EQUAL TO THE ASSEMBLIES IN WHICH THEY ARE MOUNTED.

COORDINATION REQUIREMENTS:
1. EACH CONTRACTOR SHALL REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND BE RESPONSIBLE FOR WORK PERTAINING TO THEIR PARTICULAR TRADE. ALL CONTRACTORS SHALL COORDINATE THE WORK OF ALL TRADES AND FIELD CHECK AGAINST ANY CONFLICTS BETWEEN DRAWINGS. REPORT CONFLICTS TO THE ARCHITECT FOR CLARIFICATION. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUBCONTRACTORS WITH ARCHITECTURAL INFORMATION WITHIN CONSTRUCTION DOCUMENTS THAT COMPLEMENTS THE WORK OF EACH DIVISION
2. SEE STRUCTURAL DRAWINGS FOR STRUCTURAL BEAMS AND COLUMNS.
3. REFER TO PLUMBING, HVAC AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DESCRIPTIONS OF ACCESS PANELS, LOUVER OPENINGS, VENTILATORS, GRILLES, VALVE CABINETS, FIRE DAMPERS OR OTHER APPURTENANCES AFFECTING WALLS, CEILINGS OR FLOORS. PROVIDE NECESSARY LINTELS, SUPPORT AND ANCHORAGE. SEE STRUCTURAL NOTES FOR LINTEL REQUIREMENTS.
4. REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR LOCATIONS AND TYPES OF PADS TO BE PROVIDED BELOW OR AROUND EQUIPMENT.
5. MOUNT ELECTRIC SWITCHES, THERMOSTATS, AND OTHER ELECTRONIC CONTROLS LOCATED IN THE SAME VICINITY AT THE SAME HEIGHT ABOVE FINISHED FLOOR IN A UNIFORM, ORDERLY FASHION U.O.N. THE MOUNTING HEIGHT OF SUCH DEVICES SHALL BE 48" A.F.F. TO TOP OF BOX. ALL ELECTRICAL OUTLETS, TELEPHONE & DATA OUTLETS TO BE MOUNTED AT 15" A.F.F. TO BOTTOM OF BOX, U.O.N. ELECTRICAL BREAKER BOX IN UNITS SHALL BE MOUNTED AT 48" A.F.F. TO TOP BREAKER SWITCH. SEE ELECTRICAL DRAWINGS AND ARCHITECTURAL PLANS FOR OTHER HIGH OR LOW MOUNTINGS. ALL APARTMENT UNIT LOAD CENTERS TO HAVE FACTORY FINISHED WHITE COVERS
6. LOCATE RADON VENT PIPES AS INDICATED PER DETAILS AND RADON ZONE REQUIREMENTS.

SITE:
1. CONCRETE FLOORS AT EXTERIOR LOCATIONS SHALL BE BROOM FINISH, U.O.N
2. GRADE THE EXTERIOR SITE IN THE WAY THAT PROVIDES POSITIVE DRAINAGE AWAY FROM THE BUILDING EXTERIOR WALLS.
3. PROVIDE EXTERIOR GRADE MINIMUM 8' BELOW ALL SLAB-ON-GRADE CONDITIONS, EXCEPT IN THE AREA NEAR THE BUILDING ENTRANCE DOORS, U.O.N.
4. PROVIDE EXPANSION JOINTS WITH COMPRESSIBLE FILLER MATERIAL WHERE PAVING ABUTS VERTICAL CONSTRUCTION
5. PROVIDE CONTROL JOINTS IN EXTERIOR CONCRETE AT 5' O.C. MAX IN BOTH DIRECTIONS U.O.N.

STRUCTURAL & MEP NARRATIVE

STRUCTURAL SUMMARY:
1. ROOF IS PRE-ENGINEERED WOOD TRUSSES SLOPED TOP CHORD, T&G PLYWOOD SHEATHING AND HURRICANE CLIPS AT EACH TRUSS.
2. WALL STRUCTURE IS 2x6 BEARING WALLS ON ALL FLOORS.
3. FLOOR STRUCTURE IS PRE-ENGINEERED WOOD TRUSSES WITH T&G PLYWOOD SHEATHING (GLUED & SCREWED) WITH 3/4" GYPSUM CONCRETE UNDERLAYMENT THROUGHOUT AND ADDITIONAL SOUND MAT AT HARD SURFACES.
4. FIRST FLOOR SLAB IS 4" CONCRETE WITH WIRE MESH OVER GRAVEL WITH 15 MIL VAPOR BARRIER.
5. FOUNDATIONS ARE CONCRETE BLOCK ON SPREAD FOOTINGS WITH OPTION FOR TURN DOWN SLAB/FOOTING.

MECHANICAL/PLUMBING SUMMARY:
1. RISERS AND BRANCH SANITARY LINES TO BE PVC OR CAST IRON PER LOCAL WATER AUTHORITY STANDARDS. APPROPRIATE U.L. LISTED RATED PENETRATION ASSEMBLIES TO BE USED WITH EACH PIPE TYPE.
2. WATER SUPPLY WILL BE COPPER PIPING OR CPVC.
3. SPRINKLER PIPING WILL BE PLASTIC WHERE CONCEALED. STANDPIPES AND TRUNKLINES WILL BE STEEL.
4. BATH TUBS WILL BE STEEL, TOILETS CERAMIC, KITCHEN SINKS STAINLESS STEEL, AND BATHROOM SINKS CULTURED MARBLE OR CERAMIC. ALL PLUMBING FIXTURES WILL BE "WATER SENSE" LABELED PRODUCTS.
5. ENERGY EFFICIENT ELECTRIC HEAT PUMP WATER HEATERS WILL BE USED IN EACH APARTMENT UNIT.
6. APARTMENT UNITS TO BE HEATED AND AIR CONDITIONED WITH ENERGY STAR SPLIT-SYSTEM HEAT PUMPS (16 SEER MIN). ALL ROOMS ARE DUCTED. ALL SUPPLY DUCT WORK SHALL BE FULLY INSULATED.
7. NFPA 13 SPRINKLER SYSTEM THROUGHOUT.

ELECTRICAL SUMMARY:
1. EACH APARTMENT WILL BE INDIVIDUALLY SUB-METERED.
2. CABLE TV OUTLETS WILL BE PROVIDED IN APARTMENT LIVING ROOMS, BEDROOMS, AND COMMUNITY GATHERING SPACES.
3. CAT 5e OUTLETS WILL BE PROVIDED AT ALL APPARTMENT LIVING ROOMS AND BEDROOMS AND WIFI WILL BE PROVIDED IN COMMON AREAS FOR INTERNET ACCESS.
4. CARD ACCESS TO 1ST / 2ND FLOOR ENTRANCE VESTIBULES WILL BE COMPUTER MONITORED.
5. SPRINKLER SYSTEM WILL BE ELECTRONICALLY MONITORED WITH CENTRAL FIRE CONTROL. POWER AND ANNUNCIATOR PANEL WILL BE LOCATED AT THE 1ST FLOOR FRONT ENTRANCE VESTIBULE. THERE IS AN AUTOMATIC PHONE CALLER THAT WILL BE IN OPERATION 24 HRS/DAY.
6. ALL APARTMENTS AND COMMON AREAS TO HAVE ENERGY STAR LABELED APPLIANCES WHERE APPLICABLE.
7. INTERCOM TO BE PROVIDED AT MAIN ENTRANCES ON BULLIT AVE AND ON PRIVATE ALLEY. INTERCOM SYSTEM ASSUMED TO TIE TO CELL PHONES.

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BUILDING 2 AND 3 GENERAL NOTES & UNIT MIX - 4%

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IP
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-002-4

06/30/2026
CONSTRUCTABILITY REVIEW

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CODE STUDY REVIEW - 4% - VA - 2021 VCC

PROJECT INFORMATION

PROJECT NAME:	ROANOKE GATEWAY
LOCATION:	#704 BULLITT AVE, ROANOKE, VA
NUMBER OF FLOORS:	4 STORIES
USE GROUP:	R-2 RESIDENTIAL, S-2 LOW HAZARD STORAGE, S-1 MODERATE-HAZARD STORAGE
TYPE OF CONSTRUCTION:	TYPE VA, COMBUSTIBLE
SPRINKLER SYSTEM:	NFPA 13, VCC 903.3.1.1 FULLY SPRINKLERED
BUILDING HEIGHT:	**BUILDING 2: ~39.0' FROM AVERAGE GRADE TO HIGHEST ROOF** **BUILDING 3: ~37.92' FROM AVERAGE GRADE TO HIGHEST ROOF**

APPLICABLE CODES

BUILDING CODE:	2021 VIRGINIA CONSTRUCTION CODE, 2021 VA UNIFORM STATEWIDE BUILDING CODE
ELECTRICAL CODE:	2020 NATIONAL ELECTRICAL CODE
MECHANICAL CODE:	2021 VIRGINIA MECHANICAL CODE
PLUMBING CODE:	2021 VIRGINIA PLUMBING CODE, COUNTY CODE - CHAPTER 65, 67.1, 109.1
ENERGY CODE:	2021 VIRGINIA ENERGY CONSERVATION CODE, ERI COMPLIANCE
GAS CODE:	2021 VIRGINIA FUEL GAS CODE, COUNTY CODE - CHAPTER 65
FIRE CODE:	2021 VIRGINIA STATEWIDE FIRE PREVENTION CODE
SUSTAINABILITY:	ZERO ENERGY READY HOMES, ENTERPRISE GREEN COMMUNITIES, ENERGY STAR MULTIFAMILY NC
ACCESSIBILITY CODES:	2017 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1), ADAAG, UFAS, UNIVERSAL DESIGN

VCC CHAPTER 3 - USE & OCCUPANCY CLASSIFICATION

USE GROUP:	
SECTION 303.1:	**ASSEMBLY GROUP A [COMMUNITY ROOM] (BUILDING 1 ONLY)**
SECTION 304:	**BUSINESS GROUP B [LEASING OFFICE, WORK ROOM] (BUILDING 1 & 2 ONLY)**
SECTION 310.4:	**RESIDENTIAL GROUP R-2 [APARTMENT HOUSE] (BUILDING 1, 2, & 3)**
SECTION 311.2:	**MODERATE-HAZARD STORAGE, GROUP S-1 (BUILDING 3 ONLY)**
SECTION 311.1:	**LOW HAZARD STORAGE, GROUP S-2 (BUILDING 2 & 3 ONLY)**

VCC CHAPTER 4 - SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION 420: GROUPS I-1 ,R-1, R-2, R-3 AND R-4
SECTION 420.2 SEPARATION WALLS. WALLS SEPARATING DWELLING UNITS IN THE SAME BUILDING, WALLS SEPARATING SLEEPING UNITS IN THE SAME BUILDING AND WALLS SEPARATING DWELLING OR SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN THE SAME BUILDING SHALL BE CONSTRUCTED AS FIRE PARTITIONS IN ACCORDANCE WITH SECTION 708.

SECTION 420.3 HORIZONTAL SEPARATION. FLOOR ASSEMBLIES SEPARATING DWELLING UNITS IN THE SAME BUILDINGS, FLOOR ASSEMBLIES SEPARATING SLEEPING UNITS IN THE SAME BUILDING AND FLOOR ASSEMBLIES SEPARATING DWELLING OR SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN THE SAME BUILDING SHALL BE CONSTRUCTED AS HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH SECTION 711.

SECTION 420.4 AUTOMATIC SPRINKLER SYSTEM. GROUP R OCCUPANCIES SHALL BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.2.8. QUICK-RESPONSE OR RESIDENTIAL AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 903.3.2. **NOTE: NFPA 13 SYSTEM COMPLYING WITH 903.3.1.1 PROVIDED.**

SECTION 420.5 FIRE ALARM SYSTEMS AND SMOKE ALARMS. FIRE ALARM SYSTEMS AND SMOKE ALARMS SHALL BE PROVIDED IN GROUP R OCCUPANCIES IN ACCORDANCE WITH SECTIONS 907.2.6, 907.2.8 AND 907.2.9. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS SHALL BE PROVIDED IN GROUP R IN ACCORDANCE WITH SECTION 907.2.11.

VCC CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

SECTION 502: BUILDING ADDRESS
SECTION 502.1 ADDRESS IDENTIFICATION. NEW BUILDINGS SHALL BE PROVIDED WITH APPROVED ADDRESS IDENTIFICATION. THE ADDRESS IDENTIFICATION SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. ADDRESS IDENTIFICATION CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS. NUMBERS SHALL NOT BE SPELLED OUT. EACH CHARACTER SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 1/2 INCH. WHERE REQUIRED BY THE FIRE CODE OFFICIAL, ADDRESS IDENTIFICATION SHALL BE PROVIDED IN ADDITIONAL APPROVED LOCATIONS TO FACILITATE EMERGENCY RESPONSE. WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER APPROVED SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE.

SECTION 504: BUILDING HEIGHT AND NUMBER OF STORIES
SECTION 504.3 HEIGHT IN FEET. THE MAXIMUM HEIGHT, IN FEET, OF A BUILDING SHALL NOT EXCEED THE LIMITS SPECIFIED IN TABLE 504.3.

TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SPRINKLERED	VA CONSTRUCTION
B	S	70' ALLOWED **(10' PROVIDED)**
S-1	S	70' ALLOWED **(10' PROVIDED)**
S-2	S	70' ALLOWED **(10' PROVIDED)**
R	S	60' ALLOWED **(45' PROVIDED)**

SECTION 504.4 NUMBER OF STORIES. THE MAXIMUM NUMBER OF STORIES ABOVE GRADE PLANE OF A BUILDING SHALL NOT EXCEED THE LIMITS SPECIFIED IN TABLE 504.4.

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SPRINKLERED	VA CONSTRUCTION
B	S	4 STORIES ALLOWED **(1 PROVIDED)**
S-1	S	4 STORIES ALLOWED **(1 PROVIDED)**
S-2	S	4 STORIES ALLOWED **(1 PROVIDED)**
R-2	S	4 STORIES ALLOWED **(4 PROVIDED)**

SECTION 506: BUILDING AREA
SECTION 506.2 ALLOWABLE AREA DETERMINATION. THE ALLOWABLE AREA OF A BUILDING SHALL BE DETERMINED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTIONS 506.2.1, 506.2.2 AND SECTION 506.3.

TABLE 506.2 ALLOWABLE AREA FACTOR IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SPRINKLERED	VA CONSTRUCTION
B	SM	54,000 **(BUILDING 2 ONLY; 1,095 SF PROVIDED IN MEETING/FLEX OFFICE, WELLNESS, AND MAINTENANCE OFFICE)**
S-1	SM	42,000 **(BUILDING 3 ONLY; 141 SF PROVIDED IN GAS STORAGE ROOM)**
S-2	SM	63,000 **(2,202 SF PROVIDED IN BUILDING 2 FIRST AND SECOND FLOORS; 998 SF PROVIDED IN BUILDING 3 FIRST FLOOR)**
R-2	SM	36,000 **(SEE CALCULATIONS BELOW)**

EQUATION 5-1: ALLOWABLE AREA = [TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 + TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 FOR A NONSPRINKLERED BUILDING * AREA FACTOR INCREASE DUE TO FRONTAGE PER SECTION 506.3)]

EQUATION 5-1 (USING ALLOWABLE AREA FACTOR OF 12,000 SF AND AREA FACTOR INCREASE OF .75 AS CALCULATED WITH TABLE 506.3.3 BELOW): ALLOWABLE AREA = [36,000 + (12,000* .75)] = 45,000 SF ALLOWED FOR EACH STORY.

EQUATION 5-2: ALLOWABLE AREA = [TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 + TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 FOR A NONSPRINKLERED BUILDING * AREA FACTOR INCREASE DUE TO FRONTAGE PER SECTION 506.3)] * ACTUAL NUMBER OF BUILDING STORIES ABOVE GRADE PLANE, NOT TO EXCEED 4 FOR BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.2.
NO SINGLE-OCCUPANCY BUILDING SHALL EXCEED THE ALLOWABLE AREA AS DETERMINED BY EQUATION 5-2 USING THE VALUE OF SA=3.

EQUATION 5-2 (USING ALLOWABLE AREA FACTOR OF 12,000 SF AND AREA FACTOR INCREASE OF .75 AS CALCULATED WITH TABLE 506.3.3 BELOW): ALLOWABLE AREA = [36,000 + (12,000* .75)] * 3 = 135,000 SF TOTAL ALLOWABLE AREA.

SECTION 506.2.2 MIXED- OCCUPANCY BUILDINGS. THE ALLOWABLE AREA OF EACH STORY OF A MIXED-OCCUPANCY BUILDING SHALL BE DETERMINED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 508.3.2 FOR NONSEPARATED OCCUPANCIES. FOR BUILDINGS WITH MORE THAN THREE STORIES ABOVE GRADE PLANE, THE TOTAL BUILDING AREA SHALL BE SUCH THAT THE AGGREGATE SUM OF THE RATIOS OF THE ACTUAL AREA OF EACH STORY DIVIDED BY THE ALLOWABLE AREA OF SUCH STORIES, DETERMINED IN ACCORDANCE WITH EQUATION 5-3 BASED ON THE APPLICABLE PROVISIONS OF SECTION 508.1, SHALL NOT EXCEED THREE.

EQUATION 5-3: ALLOWABLE AREA = [TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 + TABULAR ALLOWABLE AREA FACTOR FROM TABLE 506.2 FOR A NONSPRINKLERED BUILDING * AREA FACTOR INCREASE DUE TO FRONTAGE PER SECTION 506.3)] * ACTUAL NUMBER OF BUILDING STORIES ABOVE GRADE PLANE, NOT TO EXCEED 4 FOR BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.2.
EQUATION 5-3 (USING ALLOWABLE AREA FACTOR OF 12,000 SF AND AREA FACTOR INCREASE OF .75 AS CALCULATED WITH TABLE 506.3.3 BELOW): ALLOWABLE AREA = [36,000 + (12,000* .75)] = 45,000 SF ALLOWED FOR EACH STORY.

BUILDING 2:
ACTUAL AREA OF FIRST STORY = 10,600 SF **(COMPLIES)**
ACTUAL AREA OF SECOND STORY = 19,506 SF **(COMPLIES)**
ACTUAL AREA OF THIRD STORY = 19,761 SF **(COMPLIES)**
ACTUAL AREA OF FOURTH STORY = 16,096 SF **(COMPLIES)**

BUILDING 2 = 10,600 + 19,506 + 19,761+ 16,096 = 65,963 / 36,000 = 1.83; <3 **(BUILDING 2 COMPLIES)**

BUILDING 3:
ACTUAL AREA OF FIRST STORY = 7,732 SF **(COMPLIES)**
ACTUAL AREA OF SECOND STORY = 11,652 SF **(COMPLIES)**
ACTUAL AREA OF THIRD STORY = 11,652 SF **(COMPLIES)**
ACTUAL AREA OF FOURTH STORY = 11,652 SF **(COMPLIES)**

BUILDING 3 = 7,732 + 11,652 + 11,652 + 11,652 = 42,688 / 36,000 = 1.19; <3 **(BUILDING 3 COMPLIES)**
SECTION 506.3 FRONTAGE INCREASE. EVERY BUILDING SHALL ADJOIN OR HAVE ACCESS TO A PUBLIC WAY TO RECEIVE AN AREA FACTOR INCREASE BASED ON FRONTAGE. AREA FACTOR INCREASE SHALL BE DETERMINED IN ACCORDANCE WITH SECTIONS 506.3.1 THROUGH 506.3.3.

SECTION 506.3.1 MINIMUM PERCENTAGE OF PERIMETER. TO QUALIFY FOR AN AREA FACTOR INCREASE BASED ON BUILDING FRONTAGE, A BUILDING SHALL HAVE NOT LESS THAN 25 PERCENT OF ITS PERIMETER ON A PUBLIC WAY OR OPEN SPACE. SUCH OPEN SPACE SHALL BE EITHER ON THE SAME LOT OR DEDICATED FOR PUBLIC USE AND SHALL BE ACCESSED FROM A STREET OR APPROVED FIRE LANE.

TABLE 506.3.3 FRONTAGE INCREASE FACTOR. PERCENTAGE OF BUILDING PERIMETER = 75-100% : OPEN SPACE 30'-0" OR GREATER. *THEREFORE, FRONTAGE INCREASE FACTOR = 0.75.* APPLIES FOR ALL BUILDINGS.

SECTION 508: MIXED USE AND OCCUPANCY
SECTION 508.2 ACCESSORY OCCUPANCIES. ACCESSORY OCCUPANCIES ARE THOSE OCCUPANCIES THAT ARE ANCILLARY TO THE MAIN OCCUPANCY OF THE BUILDING OR PORTION THEREOF. ACCESSORY OCCUPANCIES SHALL COMPLY WITH THE PROVISIONS OF SECTIONS 508.2.1 THROUGH 508.2.4.

SECTION 508.2.1 OCCUPANCY CLASSIFICATION. ACCESSORY OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. *REFERENCE SHEETS 2A-003, 2A-004, 3A-003 FOR ACCESSORY OCCUPANCY SF CALCULATIONS.*

SECTION 508.2.2 ALLOWABLE BUILDING HEIGHT. THE ALLOWABLE BUILDING HEIGHT AND NUMBER OF STORIES OF THE BUILDING CONTAINING ACCESSORY OCCUPANCIES SHALL BE IN ACCORDANCE WITH SECTION 504 FOR THE MAIN OCCUPANCY OF THE BUILDING. **ENTIRE BUILDING IS WITHIN ALLOWABLE BUILDING HEIGHT AND NUMBER OF STORIES FOR R-2.**

SECTION 508.2.3 ALLOWABLE BUILDING AREA. THE ALLOWABLE AREA OF THE BUILDING SHALL BE BASED ON THE APPLICABLE PROVISIONS OF SECTION 506 FOR THE MAIN OCCUPANCY OF THE BUILDING. AGGREGATE ACCESSORY OCCUPANCIES SHALL NOT OCCUPY MORE THAN 10 PERCENT OF THE FLOOR AREA OF THE STORY IN WHICH THEY ARE LOCATED AND SHALL NOT EXCEED THE TABULAR VALUES FOR NONSPRINKLERED BUILDINGS IN TABLE 506.2 FOR EACH SUCH ACCESSORY OCCUPANCY.

SECTION 508.2.4 SEPARATION OF OCCUPANCIES. NO SEPARATION IS REQUIRED BETWEEN ACCESSORY OCCUPANCIES AND THE MAIN OCCUPANCY. EXCEPTIONS: 2. GROUP I-1, R-1, R-2 AND R-3 DWELLING UNITS AND SLEEPING UNITS SHALL BE SEPARATED FROM OTHER DWELLING OR SLEEPING UNITS AND FROM ACCESSORY OCCUPANCIES CONTIGUOUS TO THEM IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 420.

SECTION 508.3 NONSEPARATED OCCUPANCIES. BUILDINGS OR PORTIONS OF BUILDINGS THAT COMPLY WITH THE PROVISIONS OF THIS SECTION SHALL BE CONSIDERED AS NONSEPARATED OCCUPANCIES. **B OCCUPANCIES ARE CONSIDERED AS NONSEPARATED OCCUPANCIES.**

SECTION 508.3.1 OCCUPANCY CLASSIFICATION. NONSEPARATED OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. THE REQUIREMENTS OF THIS CODE SHALL APPLY TO EACH PORTION OF THE BUILDING BASED ON THE OCCUPANCY CLASSIFICATION OF THAT SPACE. IN ADDITION, THE MOST RESTRICTIVE PROVISIONS OF CHAPTER 9 THAT APPLY TO THE NONSEPARATED OCCUPANCIES SHALL APPLY TO THE TOTAL NONSEPARATED OCCUPANCY AREA.

SECTION 508.3.2 ALLOWABLE BUILDING AREA AND HEIGHT. THE ALLOWABLE BUILDING AREA AND HEIGHT OF THE BUILDING OR PORTION THEREOF SHALL BE BASED ON THE MOST RESTRICTIVE ALLOWANCES FOR THE OCCUPANCY GROUPS UNDER CONSIDERATION FOR THE TYPE OF CONSTRUCTION OF THE BUILDING IN ACCORDANCE WITH SECTION 503.1. **NONSEPARATED PORTION OF BUILDING COMPLIES WITH BUILDING AREA, HEIGHT, AND NUMBER OF STORIES FOR B OCCUPANCY.**

SECTION 508.3.3 SEPARATION. NO SEPARATION IS REQUIRED BETWEEN NONSEPARATED OCCUPANCIES.
EXCEPTIONS: 2. GROUP I-1, R-1, R-2 AND R-3 DWELLING UNITS AND SLEEPING UNITS SHALL BE SEPARATED FROM OTHER DWELLING OR SLEEPING UNITS AND FROM ACCESSORY OCCUPANCIES CONTIGUOUS TO THEM IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 420.

SECTION 508.4 SEPARATED OCCUPANCIES. BUILDINGS OR PORTIONS OF BUILDINGS THAT COMPLY WITH THE PROVISIONS OF THIS SECTION SHALL BE CONSIDERED AS SEPARATED OCCUPANCIES.

SECTION 508.4.1 OCCUPANCY CLASSIFICATION. SEPARATED OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. EACH SEPARATED SPACE SHALL COMPLY WITH THIS CODE BASED ON THE OCCUPANCY CLASSIFICATION OF THAT PORTION OF THE BUILDING.

SECTION 508.4.2 ALLOWABLE BUILDING AREA. IN EACH STORY, THE BUILDING AREA SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL BUILDING AREA OF EACH SEPARATED OCCUPANCY DIVIDED BY THE ALLOWABLE BUILDING AREA OF EACH SEPARATED OCCUPANCY SHALL NOT EXCEED 1.

SECTION 508.4.3 ALLOWABLE BUILDING HEIGHT. EACH SEPARATED OCCUPANCY SHALL COMPLY WITH THE BUILDING HEIGHT LIMITATIONS BASED ON THE TYPE OF CONSTRUCTION OF THE BUILDING IN ACCORDANCE WITH SECTION 503.1. **ALL OCCUPANCIES COMPLY WITH BUILDING HEIGHT FOR ALL OCCUPANCIES.**

SECTION 508.4.4 SEPARATION - INDIVIDUAL OCCUPANCIES SHALL BE SEPARATED FROM ADJACENT OCCUPANCIES IN ACCORDANCE WITH TABLE 508.4.

SECTION 508.4.4.1 CONSTRCUTION. REQUIRED SEPARATIONS SHALL BE FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH, SO AS TO COMPLETELY SEPARATE ADJACENT OCCUPANCIES.

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	REQUIRED SEPARATION OR PROTECTION
BUSINESS-RESIDENTIAL	1 **(1-HR SEPARATION PROVIDED)**
ASSEMBLY-RESIDENTIAL	1 **(1-HR SEPARATION PROVIDED)**
STORAGE-RESIDENTIAL	1 **(1-HR SEPARATION PROVIDED)**

VCC CHAPTER 6 - TYPES OF CONSTRUCTION

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE VA
PRIMARY STRUCTURAL FRAME	1
BEARING WALLS, EXTERIOR	1
BEARING WALLS, INTERIOR	1
NONBEARING WALLS AND PARTITIONS, EXTERIOR	1 PER TABLE 602
NONBEARING WALLS AND PARTITIONS, INTERIOR	0
FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS	1
ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS	1

TABLE 602 FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE

FIRE SEPARATION DISTANCE (FEET)	TYPE OF CONSTRUCTION	A, B, R OCCUPANCY
< 5	VA	1
5 TO 10	VA	1
10 TO 30	VA	1
> 30	VA	1

VCC CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES

SECTION 704.2: COLUMN PROTECTION
WHERE COLUMNS ARE REQUIRED TO HAVE PROTECTION TO ACHIEVE A FIRE-RESISTANCE RATING, THE ENTIRE COLUMN SHALL BE PROVIDED INDIVIDUAL ENCASEMENT PROTECTION BY PROTECTING IT ON ALL SIDES FOR THE FULL COLUMN HEIGHT, INCLUDING CONNECTIONS TO OTHER STRUCTURAL MEMBERS, WITH MATERIALS HAVING THE REQUIRED FIRE-RESISTANCE RATING. WHERE THE COLUMN EXTENDS THROUGH A CEILING, THE ENCASEMENT PROTECTION SHALL BE CONTINUOUS FROM THE TOP OF THE FOUNDATION OR FLOOR/CEILING ASSEMBLY BELOW THROUGH THE CEILING SPACE TO THE TOP OF THE COLUMN.

SECTION 705.5 FIRE-RESISTANCE RATINGS
EXTERIOR WALLS SHALL BE FIRE-RESISTANCE RATED IN ACCORDANCE WITH TABLE 601, BASED ON TYPE OF CONSTRUCTION, AND TABLE 705.5, BASED ON THE FIRE SEPARATION DISTANCE. THE REQUIRED FIRE-RESISTANCE RATING OF EXTERIOR WALLS WITH A FIRE SEPARATION DISTANCE OF GREATER THAN 10 FT SHALL BE RATED FOR EXPOSURE TO FIRE FROM THE INSIDE. THE REQUIRED FIRE-RESISTANCE RATING OF EXTERIOR WALLS WITH A FIRE SEPARATION DISTANCE OF LESS THAN OR EQUAL TO 10 FEET SHALL BE RATED FOR EXPOSURE TO FIRE FROM BOTH SIDES. **EXTERIOR WALLS FACING OUTSIDE THE BUILDING ARE RATED FOR FIRE FROM ONE SIDE ONLY. BUILDINGS ARE ALL GREATER THAN 10 FT. FOR FIRE SEPARATION DISTANCE. EXTERIOR WALLS IN THE CORRIDOR WILL BE RATED FOR FIRE FROM BOTH SIDES.**

SECTION 705.8 OPENINGS
SECTION 705.8.1 ALLOWABLE AREA OF OPENINGS. THE MAXIMUM AREA OF UNPROTECTED AND PROTECTED OPENINGS PERMITTED IN AN EXTERIOR WALL IN ANY STORY OF A BUILDING SHALL NOT EXCEED THE PERCENTAGES SPECIFIED IN TABLE 705.8. **ALL BUILDINGS HAVE FIRE SEPARATION DISTANCE >30', NO LIMIT ON THE NUMBER OF UNPROTECTED OPENINGS PER TABLE 705.8.**

SECTION 707.5 FIRE BARRIERS CONTINUITY
FIRE BARRIERS SHALL EXTEND FROM THE TOP OF THE FOUNDATION OR FLOOR/CEILING ASSEMBLY BELOW TO THE UNDERSIDE OF THE FLOOR OR ROOF SHEATHING, SLAB OR DECK ABOVE AND SHALL BE SECURELY ATTACHED THERETO. SUCH FIRE BARRIERS SHALL BE CONTINUOUS THOUGH CONCEALED SPACE, SUCH AS THE SPACE ABOVE A SUSPENDED CEILING.

SECTION 707.6 OPENINGS
OPENINGS IN A FIRE BARRIER SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 716. OPENINGS SHALL BE LIMITED TO A MAXIMUM AGGREGATE WIDTH OF 25 PERCENT OF THE LENGTH OF THE WALL, AND THE MAXIMUM AREA OF ANY SINGLE OPENING SHALL NOT EXCEED 156 SQUARE FEET.

SECTION 708.1 FIRE PARTITIONS GENERAL
THE FOLLOWING WALL ASSEMBLIES SHALL COMPLY WITH THIS SECTION.
1. SEPARATION WALLS AS REQUIRED BY SECTION 420.2 FOR GROUPS I-1, R-1, R-2 AND R-3.
3. CORRIDOR WALLS AS REQUIRED BY SECTION 1020.1.

SECTION 708.3 FIRE-RESISTANCE RATTING
FIRE PARTITIONS SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 1 HOUR.

SECTION 708.4 CONTINUITY
FIRE PARTITIONS SHALL EXTEND FROM THE TOP OF THE FOUNDATION OR FLOOR/CEILING ASSEMBLY BELOW TO THE UNDERSIDE OF THE FLOOR OR ROOF SHEATHING, SLAB OR DECK ABOVE OR TO THE UNDERSIDE OF A FLOOR/CEILING OR ROOF/CEILING ASSEMBLY HAVING A FIRE-RESISTANCE RATING THAT IS NOT LESS THAN THE FIRE-RESISTANCE RATING OF THE FIRE PARTITION.
EXCEPTIONS:
2. FIRE PARTITIONS SERVING AS A CORRIDOR WALL SHALL NOT BE REQUIRED TO EXTEND ABOVE THE LOWER MEMBRANE OF A CORRIDOR CEILING PROVIDED THAT THE CEILING MEMBRANE IS EQUIVALENT TO CORRIDOR WALL MEMBRANE, AND EITHER OF THE FOLLOWING CONDITIONS IS MET:
2.2 THE BUILDING IS EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED THROUGHOUT IN ACCORDANCE WITH SECTION 903.1.1, INCLUDING AUTOMATIC SPRINKLERS INSTALLED IN THE SPACE BETWEEN THE TOP OF THE FIRE PARTITION AND UNDERSIDE OF THE FLOOR OR ROOF SHEATHING, DECK OR SLAB ABOVE.
3. FIRE PARTITIONS SERVING AS A CORRIDOR WALL SHALL BE PERMITTED TO TERMINATE AT THE UPPER MEMBRANE OF THE CORRIDOR CEILING ASSEMBLY WHERE THE CORRIDOR CEILING IS CONSTRUCTED AS REQUIRED FOR THE CORRIDOR WALL.
4. FIRE PARTITIONS SEPARATING TENANT SPACES IN A COVERED OR OPEN MALL BUILDING COMPLYING WITH SECTION 402.4.2.1 SHALL NOT BE REQUIRED TO EXTEND ABOVE THE UNDERSIDE OF A CEILING. SUCH CEILING SHALL NOT BE REQUIRED TO BE PART OF A FIRE-RESISTANCE-RATED ASSEMBLY, AND THE ATTIC OR SPACE ABOVE THE CEILING AT TENANT SEPARATION WALLS SHALL NOT BE REQUIRED TO BE SUBDIVIDED BY FIRE PARTITIONS.

SECTION 711.2.4.3 DWELLING AND SLEEPING UNITS
HORIZONTAL ASSEMBLIES SERVING AS DWELLING OR SLEEPING UNIT SEPARATIONS IN ACCORDANCE WITH SECTION 420.3 SHALL BE NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION. **1-HOUR RATED FLOOR/CEILING ASSMBLIES PROVIDED BETWEEN UNITS.**

SECTION 713.4 SHAFT ENCLSOURES FIRE-RESISTANCE RATING
SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN 4 STORIES. THE NUMBER OF STORIES CONNECTED BY THE SHAFT ENCLOSURE SHALL INCLUDE ANY BASEMENTS BUT NOT ANY MEZZANINES. SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED, BUT NEED NOT EXCEED 2 HOURS. SHAFT ENCLOSURES SHALL MEET THE REQUIREMENTS OF SECTION 703.2.1. REFRIGERANT SHAFTS SHALL BE 1-HR SINCE THEY ARE CONNECTING 3-STORIES ONLY.

SECTION 713.11 ENCLOSURE AT THE BOTTOM
SHAFTS THAT DO NO EXTEND TO THE BOTTOM OF THE BUILDING OR STRUCTURE SHALL COMPLY WITH ONE OF THE FOLLOWING:
2. THEY SHALL TERMINATE IN A ROOM HAVING A USE RELATED TO THE PURPOSE OF THE SHAFT. THE ROOM SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING BY FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH. THE FIRE-RESISTANCE RATING AND OPENING PROTECTIVES SHALL NOT BE LESS THAN THE PROTECTION REQUIRED FOR THE SHAFT ENCLOSURE. **2-HR RATED COMPACTOR ROOM PROVIDED AT BOTTOM OF TRASH CHUTE SHAFT. OTHER SHAFT TERMINATES AT SLAB ON GRADE.**
EXCEPTIONS:
2. A SHAFT ENCLOSURE CONTAINING A WASTE OR LINEN CHUTE SHALL NOT BE USED FOR ANY OTHER PURPOSE AND SHALL DISCHARGE IN A ROOM PROTECTED IN ACCORDANCE WITH SECTION 713.13.4.

SECTION 713.13 WASTE, RECYCLING, AND LINEN CHUTES AND INCINERATOR ROOMS
WASTE, RECYCLING, AND LINEN CHUTES SHALL COMPLY WITH THE PROVISIONS OF NFPA 82, CHAPTER 5 AND SHALL MEET THE REQUIREMENTS OF SECTIONS 713.13.1 THROUGH 713.13.6.
SECTION 713.13.1 WASTE, RECYCLING, AND LINEN CHUTE. A SHAFT ENCLOSURE CONTAINING A RECYCLING, OR WASTE OR LINEN CHUTE SHALL NOT BE USED FOR ANY OTHER PURPOSE AND SHALL BE ENCLOSED IN ACCORDANCE WITH SECTION 713.4. OPENINGS INTO THE SHAFT, FROM ACCESS ROOMS AND DISCHARGE ROOMS, SHALL BE PROTECTED IN ACCORDANCE WITH THIS SECTION AND SECTION 716. OPENINGS INTO CHUTES SHALL NOT BE LOCATED IN CORRIDORS. DOORS INTO CHUTES SHALL BE SELF-CLOSING. DISCHARGE DOORS SHALL BE SELF- OR AUTOMATIC-CLOSING UPON THE ACTUATION OF A SMOKE DETECTOR IN ACCORDANCE WITH SECTION 716.5.9.3, EXCEPT THAT HEAT-ACTIVATED CLOSING DEVICES SHALL BE PERMITTED BETWEEN THE SHAFT AND THE DISCHARGE ROOM.

SECTION 713.13.3 CHUTE ACCESS ROOMS. ACCESS OPENINGS FOR WASTE, RECYCLING, OR LINEN CHUTE SHALL BE LOCATED IN ROOMS OR COMPARTMENTS ENCLOSED BY NOT LESS THAN 1-HOUR FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH. OPENINGS INTO THE ACCESS ROOMS SHALL BE PROTECTED BY OPENING PROTECTIVES HAVING A FIRE PROTECTION RATING OF NOT LESS THAN 3/4 HOUR. DOORS SHALL BE SELF- OR AUTOMATIC CLOSING UPON THE DETECTION OF SMOKE IN ACCORDANCE WITH SECTION 716.5.9.3.

SECTION 713.13.4 CHUTE DISCHARGE ROOM. WASTE, RECYCLING, OR LINEN CHUTES SHALL DISCHARGE INTO AN ENCLOSED ROOM SEPARATED BY FIRE BARRIERS WITH A FIRE-RESISTANCE RATING NOT LESS THAN THE REQUIRED FIRE RATING OF THE SHAFT ENCLOSURE AND CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH. OPENINGS INTO THE DISCHARGE ROOM FROM THE REMAINDER OF THE BUILDING SHALL BE PROTECTED BY OPENING PROTECTIVES HAVING A FIRE PROTECTION RATING EQUAL TO THE PROTECTION REQUIRED FOR THE SHAFT ENCLOSURE. DOORS SHALL BE SELF- OR AUTOMATIC-CLOSING UPON THE DETECTION OF SMOKE IN ACCORDANCE WITH SECTION 716.5.9.3. WASTE CHUTES SHALL NOT TERMINATE IN AN INCINERATOR ROOM. WASTE AND LINEN ROOMS THAT ARE NOT PROVIDED WITH CHUTES NEED ONLY COMPLY WITH TABLE 509.

SECTION 713.13.6 AUTOMATIC SPRINKLER SYSTEM. AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 903.2.11.2.

SECTION 716 OPENING PROTECTIVES
716.1 GENERAL. OPENING PROTECTIVES REQUIRED BY OTHER SECTIONS OF THIS CODE SHALL COMPLY WITH THE PROVISIONS OF THIS SECTION AND SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 80.

TABLE 716.1 (2) OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING	MIN. FIRE DOOR RATING (HRS)
ENCLOSURES FOR INT. EXIT STAIRWAYS	2	1.5
EXTERIOR WALLS	1	3/4
OTHER FIRE BARRIERS	1	3/4

SECTION 716.3.4 FIRE-PROTECTION-RATED GLAZING
GLAZING IN FIRE WINDOW ASSEMBLIES SHALL BE FIRE PROTECTION RATED IN ACCORDANCE WITH THIS SECTION AND TABLE 716.1. FIRE-PROTECTION-RATED GLAZING IN FIRE WINDOW ASSEMBLIES SHALL TESTED IN ACCORDANCE WITH AND SHALL MEET THE ACCEPTANCE CRITERIA OF NFPA 257 OR UL 9. OPENINGS IN NONFIRE-RESISTANCE-RATED EXTERIOR WALL ASSEMBLIES THAT REQUIRE PROTECTION IN ACCORDANCE WITH SECTION 705.3,705.8,705.8.5 OR 705.8.6 SHALL HAVE A FIRE PROTECTION RATING OF NOT LESS THAN 3/4 HOUR. FIRE-PROTECTION-RATED GLAZING IN 1/2-HOUR FIRE-RESISTANCE-RATED PARTITIONS IS PERMITTED TO HAVE A 20-MINUTE FIRE PROTECTION RATING. **SEE SUBSEQUENT A-300 SERIES SHEETS FOR INFORMATION ON FIRE WINDOW ASSEMBLIES.**

SECTION 716.5 FIRE DOOR AND SHUTTER ASSEMBLIES
APPROVED FIRE DOOR AND FIRE SHUTTER ASSEMBLIES SHALL BE CONSTRUCTED OF ANY MATERIAL OR ASSEMBLY OF COMPONENT MATERIALS THAT CONFORMS TO THE TEST REQUIREMENTS OF SECTION 716.5.1, 716.5.2, 716.5.3 AND THE FIRE PROTECTION RATING INDICATED IN TABLE 716.5. FIRE DOOR FRAMES WITH TRANSOM LIGHTS, SIDELIGHTS, OR BOTH SHALL BE PERMITTED IN ACCORDANCE WITH SECTION 716.5.6. FIRE DOOR ASSEMBLIES AND SHUTTERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION AND NFPA 80.

TABLE 716.5 OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING	MIN. FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING
FIRE WALLS	2 HOURS	1-1/2 HOURS
ENCLOSURES FOR INTERIOR EXIT STAIRWAYS	2 HOURS	1-1/2 HOURS
OTHER FIRE BARRIERS	1 HOUR	3/4 HOURS
FIRE PARTITIONS:		
CORRIDOR WALLS	0.5 HOURS	1/3 HOURS

SECTION 718.3 DRAFTSTOPPING IN FLOORS
DRAFTSTOPPING SHALL BE INSTALLED TO SUBDIVIDE FLOOR/CEILING ASSEMBLIES WHERE REQUIRED BY SECTION 708.4.2. IN OTHER THAN GROUP R OCCUPANCIES, DRAFTSTOPPING SHALL BE INSTALLED TO SUBDIVIDE COMBUSTIBLE FLOOR/CEILING ASSEMBLIES SO THAT HORIZONTAL FLOOR AREAS DO NOT EXCEED 1,000 SQUARE FEET (93 M2).

EXCEPTION:BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1.

SECTION 718.4 DRAFTSTOPPING IN ATTICS
IN COMBUSTIBLE CONSTRUCTION, DRAFTSTOPPING SHALL BE INSTALLED TO SUBDIVIDE ATTIC SPACES AND CONCEALED ROOF SPACES IN THE LOCATIONS PRESCRIBED IN SECTIONS 718.4.2 AND 718.4.3.

SECTION 718.4.2 GROUPS R-1 AND R-2. DRAFTSTOPPING SHALL BE PROVIDED IN ATTICS, MANSARDS, OVERHANGS OR OTHER CONCEALED ROOF SPACES OF GROUP R-2 BUILDINGS WITH THREE OR MORE DWELLING UNITS AND IN ALL GROUP R-1 BUILDINGS. DRAFTSTOPPING SHALL BE INSTALLED ABOVE, AND IN LINE WITH, SLEEPING UNIT AND DWELLING UNIT SEPARATION WALLS THAT DO NO EXTEND TO THE UNDERSIDE OF THE ROOF SHEATHING ABOVE.

VCC CHAPTER 8 - INTERIOR FINISHES

SECTION 803.13 INTERIOR FINISH REQUIREMENTS BASED ON OCCUPANCY
INTERIOR WALL AND CEILING FINISH SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN THAT SPECIFIED IN TABLE 803.13 FOR THE GROUP AND LOCATION DESIGNATED.

TABLE 803.11 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY

GROUP	INTERIOR EXIT STAIRWAYS	CORRIDORS	ROOMS AND ENCLOSED SPACES
B	B (SPINKLERED)	C (SPINKLERED)	C (SPINKLERED)
R-2	C (SPINKLERED)	C (SPINKLERED)	C (SPINKLERED)
S	C (SPINKLERED)	C (SPINKLERED)	C (SPINKLERED)

SECTION 804.4.2 INTERIOR FLOOR FINISH REQUIREMENTS - MINIMUM CRITICAL RADIANT FLUX. IN ALL OCCCUPANCIES, INTERIOR FLOOR FINISH AND FLOOR COVERING MATERIALS IN ENCLOSURES FOR STAIRWAYS AND RAMPS, EXIT PASSAGEWAYS, CORRIDORS AND ROOMS OR SPACES NOT SEPARATED FROM CORRIDORS BY PARTITIONS EXTENDING FROM THE FLOOR TO THE UNDERSIDE OF THE CEILING SHALL WITHSTAND A MINIMUM CRITICAL RADIANT FLUX. THE MINIMUM CRITICAL RADIAN FLUX SHALL BE NOT LESS THAN CLASS I IN GROUPS I-1, I-2 AND I-3 AND NOT LESS THAN CLASS II IN GROUPS A, B, E, H, I-4, M, R-1, R-2 AND S.
EXCEPTION. WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, CLASS II MATERIALS ARE PERMITTED IN ANY AREA WHERE CLASS I MATERIALS ARE REQUIRED, AND MATERIALS COMPLYING WITH DOC FF-1 "PILL TEST" (CPSC 16 CFR PART 1630) OR WITH ASTM D2859 ARE PERMITTED IN ANY AREA WHERE CLASS II MATERIALS ARE REQUIRED.

VCC CHAPTER 9 - FIRE PROTECTION SYSTEMS
SECTION 903.2.11.2 RUBBISH AND LINEN CHUTES. AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED AT THE TOP OF RUBBISH AND LINEN CHUTES AND IN THEIR TERMINAL ROOMS. CHUTES SHALL HAVE ADDITIONAL SPRINKLER HEADS INSTALLED AT ALTERNATE FLOORS AND AT THE LOWEST INTAKE.

SECTION 903.3.1.1 NFPA 13 SPRINKLER SYSTEMS. WHERE THE PROVISIONS OF THIS CODE REQUIRE THAT A BUILDING OR PORTION THEREOF BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH THIS SECTION, SPRINKLERS SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 EXCEPT AS PROVIDED IN SECTIONS 903.1.1.1 AND 903.1.1.2. **ALL BUILDINGS TO HAVE NFPA 13 SPRINKLER SYSTEM THROUGHOUT.**

SECTION 903.3.2 QUICK-RESPONSE AND RESIDENTIAL SPRINKLERS. WHERE AUTOMATIC SPRINKLER SYSTEMS ARE REQUIRED, QUICK RESPONSE OR RESIDENTIAL AUTOMATIC SPRINKLERS SHALL BE INSTALLED IN ALL OF THE FOLLOWING AREAS IN ACCORDANCE WITH SECTION 903.3.1 AND THEIR LISTINGS:
3. DWELLING UNITS AND SLEEPING UNITS IN GROUP I-1 AND R OCCUPANCIES
4. LIGHT-HAZARD OCCUPANICES AS DEFINED IN NFPA 13.

SECTION 905.3.1 HEIGHT. CLASS III STANDPIPE SYSTEMS SHALL BE INSTALLED THROUGHOUT BUILDINGS WHERE FOUR OR MORE STORIES ARE ABOVE OR BELOW GRADE PLANE, THE FLOOR LEVEL OF THE HIGHEST STORY IS LOCATED MORE THAN 30 FEET (9144 MM) ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, OR WHERE THE FLOOR LEVEL OF THE LOWEST STORY IS LOCATED MORE THAN 30 FEET (9144 MM) BELOW THE HIGHEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.
EXCEPTIONS:
1.CLASS I STANDPIPES ARE ALLOWED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2.
2.CLASS I MANUAL WET STANDPIPES ARE ALLOWED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1 OR SECTION 903.3.2 AND WHERE THE HIGHEST FLOOR IS LOCATED NOT MORE THAN 150 FEET (45 720 MM) ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.
3.CLASS I MANUAL STANDPIPES ARE ALLOWED IN OPEN PARKING GARAGES WHERE THE HIGHEST FLOOR IS LOCATED NOT MORE THAN 150 FEET (45,720 MM) ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.
4.CLASS I MANUAL DRY STANDPIPES ARE ALLOWED IN OPEN PARKING GARAGES THAT ARE SUBJECT TO FREEZING TEMPERATURES, PROVIDED THAT THE HOSE CONNECTIONS ARE LOCATED AS REQUIRED FOR CLASS II STANDPIPES IN ACCORDANCE WITH SECTION 905.5.
5.CLASS I STANDPIPES ARE ALLOWED IN BASEMENTS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.
6.IN DETERMINING THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, IT SHALL NOT BE REQUIRED TO CONSIDER EITHER OF THE FOLLOWING:
6.1.RECESSED LOADING DOCKS FOR FOUR VEHICLES OR LESS.
6.2.CONDITIONS WHERE TOPOGRAPHY MAKES ACCESS FROM THE FIRE DEPARTMENT VEHICLE TO THE BUILDING IMPRACTICAL OR IMPOSSIBLE.

SECTION 905.4 LOCATION OF CLASS I STANDPIPE HOSE CONNECTIONS
CLASS I STANDPIPE HOSE CONNECTIONS SHALL BE PROVIDED IN ALL OF THE FOLLOWING LOCATIONS:
1. IN EVERY REQUIRED INTERIOR EXIT STAIRWAY, A HOSE CONNECTION SHALL BE PROVIDED FOR EACH STORY ABOVE AND BELOW GRADE. HOSE CONNECTIONS SHALL BE LOCATED AT AN INTERMEDIATE LANDING BETWEEN STORIES, UNLESS OTHERWISE APPROVED BY THE FIRE CODE OFFICIAL.
2. ON EACH SIDE OF THE WALL ADJACENT TO THE EXIT OPENING OF A HORIZONTAL EXIT.
5. WHERE THE ROOF HAS A SLOPE LESS THAN FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33.3-PERCENT SLOPE), A HOSE CONNECTION SHALL BE LOCATED TO SERVE THE ROOF OR AT THE HIGHEST LANDING OF AN INTERIOR EXIT STAIRWAY WITH ACCESS TO THE ROOF PROVIDED IN ACCORDANCE WITH SECTION 1011.12.

SECTION 905.4.1 PROTECTION. RISERS AND LATERALS OF CLASS I STANDPIPE SYSTEMS NOT LCOATED WITH AN INTERIOR EXIT STAIRWAY SHALL BE PROTECTED BY A DEGREE OF FIRE RESISTANCE EQUAL TO THAT REQUIRED FOR VERTICAL ENCLOSURES IN THE BUILDING IN WHICH THEY ARE LOCATED.EXCEPTION: IN BUILDINGS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM, LATERALS THAT ARE NOT LOCATED WITHIN AN INTERIOR EXIT STAIRWAY ARE NOT REQUIRED TO BE ENCLOSED WITHIN FIRE-RESISTANCE-RATED CONSTRUCTION. **EXCEPTION APPLIES. STANDPIPE RISERS NEAR FIRE WALL ARE LOCATED WITHIN 2-HR RATED SHAFTS.**

SECTION 906.3 FIRE EXTINGUISHER SIZE AND DISTRIBUTION
THE SIZE AND DISTRIBUTION OF PORTABLE FIRE EXTINGUISHERS SHALL BE IN ACCORDANCE WITH SECTIONS 906.3.1 THROUGH 906.3.4
SECTION 906.3.1 CLASS A FIRE HAZARDS. THE MINIMUM SIZES AND DISTRIBTUION OF PORTABLE FIRE EXTINGUISHERS FOR OCCUPANCIES THAT INVOLVE PRIMARILY CLASS A FIRE HAZARDS SHALL COMPLY WITH TABLE 906.3(1).
TABLE 906.3(1) FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS

	LIGHT (LOW) HAZARD OCCUPANCY
MIN. RATED SINGLE EXTINGUISHER	2-A
MAX. FLOOR AREA PER UNIT OF A	3,000 SF
MAX. FLOOR AREA FOR EXTINGUISHER	11,250 SF
MAX. DISTANCE OF TRAVEL TO EXTINGUISHER	75 FT

SECTION 906.9.1 EXTINGUISHERS WEIGHTING 40 POUNDS OR LESS. PORTABLE FIRE EXTINGUISHERS HAVING A GROSS WEIGHT NOT EXCEEDING 40 POUNDS SHALL BE INSTALLED SO THAT THEIR TOPS ARE NOT MORE THAN 5 FEET ABOVE THE FLOOR.

SECTION 907.2. WHERE REQUIRED - NEW BUILDINGS AND STRUCTURES
AN APPROVED FIRE ALARM SYSTEM INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND NFPA 72 SHALL BE PROVIDED IN NEW BUILDINGS AND STRUCTURES IN ACCORDANCE WITH SECTIONS 907.2.1 THROUGH 907.2.23 AND PROVIDE OCCUPANT NOTIFICATION IN ACCORDANCE WITH SECTION 907.5, UNLESS OTHER REQUIREMENTS ARE PROVIDED BY ANOTHER SECTION OF THIS CODE.
NOT FEWER THAN ONE MANUAL FIRE ALARM BOX SHALLBE PROVIDED IN AN APPROVED LOCATION TO INITIATE A FIRE ALARM SIGNAL FOR FIRE ALARM SYSTEMS EMPLOYING AUTOMATIC FIRE DETECTORS OR WATERFLOW DETECTION DEVICES. WHERE OTHER SECTIONS OF THIS CODE ALLOW ELIMINATION OF FIRE ALARM BOXES DUE TO SPRINKLERS, A SINGLE FIRE ALARM BOX SHALL BE INSTALLED.
EXCEPTIONS:
2. THE MANUAL FIRE ALARM BOX IS NOT REQUIRED FOR GROUP R-2 OCCUPANCIES UNLESS REQUIRED BY THE FIRE CODE OFFICIAL TO PROVIDE A MEANS FOR FIRE WATCH PERSONNEL TO INITIATE AN ALARM DURING A SPRINKLER SYSTEM IMPAIRMENT EVENT. WHERE PROVIDED, THE MANUAL FIRE ALARM BOX SHALL NOT BE LOCATED IN AN AREA THAT IS ACCESSIBLE TO THE PUBLIC.

SECTION 907.2.9 GROUP R-2. FIRE ALARM SYSTEMS AND SMOKE ALARMS SHALL BE INSTALLED IN GROUP R-2 OCCUPANCIES AS REQUIRED IN SECTIONS 907.2.9.1 THROUGH 907.2.9.3.

SECTION 907.2.9.1 MANUAL FIRE ALARM SYSTEM. A MANUAL FIRE ALARM SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5 SHALL BE INSTALLED IN GROUP R-2 OCCUPANCIES WHERE ANY OF THE FOLLOWING CONDITIONS APPLY:
1. ANY DWELLING UNIT OR SLEEPING UNIT IS LOCATED THREE OR MORE STORIES ABOVE THE LOWEST LEVEL OF EXIT DISCHARGE.
EXCEPTIONS:
2. MANUAL FIRE ALARM BOXES ARE NOT REQUIRED WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND THE OCCUPANT NOTIFICATION APPLIANCES WILL AUTOMATICALLY ACTIVATE THROUGHOUT THE NOTIFICATION ZONES UPON A SPRINKLER WATER FLOW. **EXCEPTION APPLIES - MANUAL FIRE ALARM SYSTEM NOT REQUIRED.**

SECTION 907.2.11.2 GROUPS R-2, R-3, R-4 AND I-1. SINGLE- OR MULTIPLE-STATION SMOKE ALARMS SHALL BE INSTALLED AND MAINTAINED IN GROUPS R-2, R-3, R-4 AND I-1 REGARDLESS OF OCCUPANT LOAD AT ALL OF THE FOLLOWING LOCATIONS.
1. ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDAITE VICINITY OF BEDROOMS.
2. IN EACH ROOM USED FOR SLEEPING PURPOSES.
3. IN EACH STORY WITHIN A DWELLING UNIT.

SECTION 907.2.11.5 INTERCONNECTION. WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT OR SLEEPING UNIT IN GROUP R OR I-1 OCCUPANCIES, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. PHYSICAL INTERCONNECTION OF SMOKE ALARMS SHALL NOT BE REQUIRED WHERE LISTED WIRELESS ALARMS ARE INSTALLED AND ALL ALARMS SOUND UPON ACTIVATION OF ONE ALARM. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.

SECTION 907.2.11.6 POWER SOURCE.
IN NEW CONSTRUCTION, REQUIRED SMOKE ALARMS RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE ALARMS WITH INTEGRAL STROBES THAT ARE NOT EQUIPPED WITH BATTERY BACKUP SHALL BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM IN ACCORDANCE WITH SECTION 2702. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT PROTECTION.

VCC CHAPTER 10 - MEANS OF EGRESS
SECTION 1003.2 CEILING HEIGHT
THE MEANS OF EGRESS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET 6 INCHES.
EXCEPTIONS:
4. STAIR HEADROOM IN ACCORDANCE WITH SECTION 1011.3.
5. DOOR HEIGHT IN ACCORDANCE WITH SECTION 1010.1.1.

SECTION 1003.3 PROTRUDING OBJECTS
PROTRUDING OBJECTS ON CIRCULATION PATHS SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 1003.1 THROUGH 1003.3.4.

SECTION 1003.3.1 HEADROOM. PROTRUDING OBJECTS ARE PERMITTED TO EXTEND BELOW THE MINIMUM CEILING HEIGHT REQUIRED BY SECTION 1003.2 WHERE A MINIMUM HEADROOM OF 80 INCHES IS PROVIDED OVER ANY WALKING SURFACE, INCLUDING WALKS, CORRIDORS, AISLES AND PASSAGEWAYS. NOT MORE THAN 50 PERCENT OF THE CEILING AREA OF A MEANS OF EGRESS SHALL BE REDUCED IN HEIGHT BY PROTRUDING OBJECTS.
EXCEPTON: DOOR CLOSERS AND STOPS SHALL NOT REDUCE HEADROOM TO LESS THAN 78 INCHES.
A BARRIER SHALL BE PROVIDED WHERE THE VERTICAL CLEARANCE IS LESS THAN 80 INCHES HIGH. THE LEADING EDGE OF SUCH BARRIER SHALL BE LOCATED 27 INCHES MAXIMUM ABOVE THE FLOOR.

SECTION 1003.3.3 HORIZONTAL PROJECTIONS. OBJECTS WITH LEADING EDGES MORE THAN 27 INCHES AND NOT MORE THAN 80 INCHES ABOVE THE FLOOR SHALL NOT PROJECT HORIZONTALLY MORE THAN 4 INCHES INTO THE CIRCULATION PATH.
EXCEPTION: HANDRAILS ARE PERMITTED TO PROTRUDE 4-1/2 INCHES FROM THE WALL.

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR
ASSEMBLY W/O FIXED SEATS - UNCONCENTRATED	15 NET
BUSINESS AREAS	150 GROSS
EXERCISE ROOMS	50 GROSS
RESIDENTIAL	200 GROSS

SECTION 1004.7OUTDOOR AREAS.
YARDS, PATIOS, OCCUPIED ROOFS,COURTS AND SIMILAR OUTDOOR AREAS ACCESSIBLE TO AND USABLE BY THE BUILDING OCCUPANTS SHALL BE PROVIDED WITH MEANS OF EGRESS AS REQUIRED BY THIS CHAPTER. THE OCCUPANT LOAD OF SUCH OUTDOOR AREAS SHALL BE ASSIGNED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH THE ANTICIPATED USE. WHERE OUTDOOR AREAS ARE TO BE USED BY PERSONS IN ADDITION TO THE OCCUPANTS OF THE BUILDING, AND THE PATH OF EGRESS TRAVEL FROM THE OUTDOOR AREAS PASSES THROUGH THE BUILDING,MEANS OF EGRESS REQUIREMENTS FOR THE BUILDING SHALL BE BASED ON THE SUM OF THE OCCUPANT LOADS OF THE BUILDING PLUS THE OUTDOOR AREAS.

EXCEPTIONS:
1.OUTDOOR AREAS USED EXCLUSIVELY FOR SERVICE OF THE BUILDING NEED ONLY HAVE ONE MEANS OF EGRESS.
2.BOTH OUTDOOR AREAS ASSOCIATED WITH GROUP R-3 AND INDIVIDUAL DWELLING UNITS OF GROUP R-2.

SECTION 1005.3.1 STAIRWAYS. THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.3 INCH PER OCCUPANT. WHERE STAIRWAYS SERVE MORE THAN ONE STORY, ONLY THE OCCUPANT LOAD OF EACH STORY CONSIDERED INDIVIDUALLY SHALL BE USED IN CALCULATING THE REQUIRED CAPACITY OF THE STAIRWAYS SERVING THAT STORY.

SECTION 1005.3.2 OTHER EGRESS COMPONENTS. THE CAPACITY, IN INCHES OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH PER OCCUPANT. **SEE SUBSEQUENT 2A-000 AND 3A-000 SERIES SHEETS FOR EGRESS SIZING CALCULATIONS.**

SECTION 1006.2.1 EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL DISTANCE. TWO EXITS OR EXIT ACCESS DOORWAYS FROM ANY SPACE SHALL BE PROVIDED WHERE THE DESIGN OCCUPANT LOAD OR THE COMMON PATH OF EGRESS TRAVEL DISTANCE EXCEEDS THE VALUES LISTED IN TABLE 1006.2.1.
EXCEPTIONS:
1. IN GROUP R-2 AND R-3 OCCUPANCIES, ONE MEANS OF EGRESS IS PERMITTED WITHIN AND FROM INDIVIDUAL DWELLING UNITS WITH A MAXIMUM OCCUPANT LOAD OF 20 WHERE THE DWELLING UNIT IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903..3.1.2 AND THE COMMON PATH OF EGRESS TRAVEL DOES NOT EXCEED 125 FEET. **SEE ATTACHED DIAGRAMS SHOWING THE COMMON PATH OF EGRESS TRAVEL DOES NOT EXCEED 125 FT.**

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAX. OCCUPANT LOAD OF SPACE	MAX. COMMON PATH OF EGRESS TRAVEL DISTANCE (FT) (SPRINKLERED)
B	50	100 FEET
R-2	10	125 FEET
S	29	100 FEET

SEE ATTACHED DIAGRAMS FOR NUMBER OF EXITS AND THEIR LOCATIONS.

TABLE 1006.3.1 MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY

OCCUPANCY LOAD PER STORY	MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY
1-500	2 **(2 PROVIDED FOR EACH STORY)**

SECTION 1007.1.1 TWO EXITS OR EXIT ACCESS DOORWAYS. WHERE TWO EXITS, EXIT ACCESS DOORWAYS, EXIT ACCESS STAIRWAYS OR RAMPS, OR ANY COMBINATION THEREOF, ARE REQURED FROM ANY PORTION OF THE EXIT ACCESS, THEY SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE-HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN THEM.
EXCEPTIONS:
2. WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE OF THE EXIT DOORS OR EXIT ACCESS DOORWAYS SHALL NOT BE LESS THAN ONE-FOURTH OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED. **SEE SUBSEQUENT 2A-000 AND 3A-000 SERIES SHEETS FOR DIMENSIONS.**

SECTION 1009.2.1 ELEVATORS REQUIRED. IN BUILDINGS WHERE A REQUIRED ACCESSIBLE FLOOR OR OCCUPIED ROOF IS FOUR OR MORE STORIES ABOVE OR BELOW A LEVEL OF EXIT DISCHARGE, NOT LESS THAN ONE REQUIRED ACCESSIBLE MEANS OF EGRESS SHALL BE AN ELEVATOR COMPLYING WITH SECTION 1009.4.
EXCEPTIONS:
1. IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE ELEVATOR SHALL NOT BE REQUIRED ON FLOORS PROVIDED WITH A HORIZONTAL EXIT AND LOCATED AT OR ABOVE THE LEVELS OF EXIT DISCHARGE. **ELEVATOR NOT REQUIRED AS ACCESSIBLE MEANS OF EGRESS.**

SECTION 1009.3 STAIRWAYS
IN ORDER TO BE CONSIDERED PART OF AN ACCESSIBLE MEANS OF EGRESS, A STAIRWAY BETWEEN STORIES SHALL HAVE A CLEAR WIDTH OF 48 INCHES MINIMUM BETWEEN HANDRAILS AND SHALL EITHER INCORPORATE AN AREA OF REFUGE WITHIN AN ENLARGED FLOOR-LEVEL LANDING OR SHALL BE ACCESSED FROM AN AREA OF REFUGE COMPLYING WITH SECTION 1009.6.
EXCEPTIONS:
2. THE CLEAR WIDTH OF 48 INCHES BETWEEN HANDRAILS IS NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2.
8. AREAS OF REFUGE ARE NOT REQUIRED AT STAIRWAYS IN GROUP R-2 OCCUPANCIES. **AREA OF REFUGE NOT PROVIDED.**

SECTION 1010.1.1 SIZE OF DOORS. THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A MINIMUM CLEAR WIDTH OF **32 INCHES. 32 INCH CLEAR OPENINGS PROVIDED FOR EGRESS DOORS.**

SECTION 1010.1.5 LANDINGS AT DOORS. LANDINGS SHALL HAVE A WIDTH NOT LESS THAN THE WIDTH OF THE STAIRWAY OR THE DOOR, WHICHEVER IS GREATER. DOORS IN THE FULLY OPEN POSITION SHALL NOT REDUCE A REQUIRED DIMENSION BY MORE THAN 7 INCHES. WHERE A LANDING SERVES AN OCCUPANT LOAD OF 50 OR MORE, OTHER DOORS, GATES, OR TURNSTILES IN ANY POSITION SHALL NOT REDUCE THE LANDING TO LESS THAN ONE-HALF ITS REQUIRED WIDTH NOR PREVENT A DOOR, GATE, OR TURNSTILE FROM OPENING TO LESS THAN ONE-HALF OF THE REQUIRED LANDING WIDTH. LANDINGS SHALL HAVE A LENGTH MEASURED IN THE DIRECTION OF TRAVEL OF NOT LESS THAN 44 INCHES.

SECTION 1011.12 STAIRWAY TO ROOF
IN BUILDINGS FOUR OR MORE STORIES ABOVE GRADE PLANE, ONE STAIRWAY SHALL EXTEND TO THE ROOF SURFACE UNLESS THE ROOF HAS A SLOPE STEEPER THAN FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL.
EXCEPTION: OTHER THAN WHERE REQUIRED BY SECTION 1011.12.1, IN BUILDINGS WITHOUT AN OCCUPIED ROOF ACCESS TO THE ROOF FROM THE TOP STORY SHALL BE PERMITTED TO BE BY AN ALTERNATING TREAD DEVICE, A SHIPS LADDER OR A PERMANENT LADDER. **ALTERNATING TREAD DEVICE FROM TOP STORY TO ROOF PROVIDED AT EACH BUILDING.**

SECTION 1011.14 ALTERNATING TREAD DEVICES
ALTERNATING TREAD DEVICES ARE LIMITED TO AN ELEMENT OF A MEANS OF EGRESS IN BUILDINGS OF GROUPS F, H AND S FROM A MEZZANINE NOT MORE THAN 250 SQUARE FEET IN AN AREA AND THAT SERVES NOT MORE THAN FIVE OCCUPANTS; IN BUILDINGS OF GROUP I-3 FROM A GUARD TOWER, OBSERVATION STATION OR CONTROL ROOM NOT MORE THAN 250 SQUARE FEET IN AREA AND FOR ACCESS TO UNOCCUPIED ROOFS. **ALTERNATING TREAD DEVICE PROVIDES ACCESS TO UNOCCUPIED ROOF AT EACH BUILDING.**

SECTION 1015.8 WINDOW OPENINGS
WINDOWS IN GROUPS R-2 AND R-3 BUILDINGS INCLUDING DWELLING UNITS WHERE THE TOP OF THE SILL OF AN OPERABLE WINDOW IS LCOATED LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR AND MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR OTHER SURFACE BELOW ON THE EXTERIOR OF THE BUILDING SHALL COMPLY WITH ONE OF THE FOLLOWING:
2. OPERABLE WINDOWS WHERE THE OPENINGS WILL NOT ALLOW A 4-INCH DIAMETER SPHERE TO PASS THROUGH THE OPENING WHEN THE WINDOW IS IN ITS LARGEST OPENED POSITION.

SECTION 1015.8.1 WINDOW OPENING CONTROL DEVICES. WINDOW OPENING CONTROL DEVICES SHALL COMPLY WITH ASTM F2090. THE WINDOW OPENING CONTROL DEVICE, AFTER OPERATION TO RELEASE THE CONTROL DEVICE ALLOWING THE WINDOW TO FULLY OPEN, SHALL NOT REDUCE THE MINIMUM NET CLEAR OPENING AREA OF THE WINDOW UNIT TO LESS THAN THE AREA REQUIRED BY SECTION 1030.2

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY	WITH SPRINKLER SYSTEM
A, R	250 FEET
B	300 FEET

SEE SUBSEQUENT 2A-000 AND 3A-000 SERIES SHEETS FOR EXIT ACCESS TRAVEL DISTANCE.

TABLE 1020.1 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (WITH SPRINKLER SYSTEM)
R	GREATER THAN 10	0.5 **(0.5 PROVIDED)**

TABLE 1020.2 MINIMUM CORRIDOR WIDTH

OCCUPANCY	MINIMUM WIDTH
ANY FACILITIES NOT LISTED BELOW	44 INCHES
WITH AN OCCUPANT LOAD OF LESS THAN 50	36 INCHES
WITHIN A DWELLING UNIT	36 INCHES

SECTION 1020.5 DEAD ENDS
WHERE MORE THAN ONE EXIT OR EXIT ACCESS DOORWAY IS REQUIRED, THE EXIT ACCESS SHALL BE ARRANGED SUCH THAT THERE ARE NO DEAD ENDS IN CORRIDORS MORE THAN 20 FEET IN LENGTH.
EXCEPTIONS:
2. IN OCCUPANCIES IN GROUPS B, E, F, I-1, M R-1, R-2, R-4, S AND U, WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE LENGTH OF THE DEAD-END CORRIDORS SHALL NOT EXCEED 50 FEET.
SEE SUBSEQUENT 2A-000 AND 3A-000 SERIES SHEETS FOR DEAD END CORRIDOR LENGTHS.

VCC CHAPTER 11 - ACCESSIBILITY

SECTION 1104.1 SITE ARRIVAL POINTS
AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE SITE SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING, ACCESSIBLE PASSENGER LOADING ZONES, AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCE SERVED.

SECTION 1104.2 WITHIN A SITE
AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITES, ACCESSIBLE ELEMENTS AND ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.

SECTION 1104.3 CONNECTED SPACES
WHEN A BUILDING OR PORTION OF A BUILDING IS REQUIRED TO BE ACCESSIBLE, AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED TO EACH PORTION OF THE BUILDING, TO ACCESSIBLE BUILDING ENTRANCES CONNECTING ACCESSIBLE PEDESTRIAN WALKWAYS AND TO THE PUBLIC WAY.

SECTION 1104.4 MULTISTORY BUILDINGS AND FACILITIES
AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT EACH ACCESSIBLE STORY AND MEZZANINE IN MULTILEVEL BUILDINGS AND FACILITIES.

SECTION 1105.1 PUBLIC ENTRANCES
IN ADDITION TO ACCESSIBLE ENTRANCES REQUIRED BY SECTIONS 1105.1.1 THROUGH 1105.1.7, AT LEAST 60 PERCENT OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.
EXCEPTIONS:
1. AN ACCESSIBLE ENTRANCE IS NOT REQUIRED TO AREAS NOT REQUIRED TO BE ACCESSIBLE.
2. LOADING AND SERVICE ENTRANCES THAT ARE NOT THE ONLY ENTRANCE TO A TENANT SPACE.

SECTION 1105.1.7 DWELLING UNITS AND SLEEPING UNITS. AT LEAST ONE ACCESSIBLE ENTRANCE SHALL BE PROVIDED TO EACH DWELLING UNIT AND SLEEPING UNIT IN A FACILITY. **PROVIDED FOR ALL UNITS IN PROJECT.**

SECTION 1106.1 REQUIRED
WHERE PARKING IS PROVIDED, ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN COMPLIANCE WITH TABLES 1106.1(1) AND 1106.1(2), AS APPLICABLE, EXCEPT AS REQUIRED BY SECTIONS 1106.2 THROUGH 1106.4. WHERE MORE THAN ONE PARKING FACILITY IS PROVIDED ON A SITE, THE NUMBER OF PARKING SPACES REQUIRED TO BE ACCESSIBLE SHALL BE CALCULATED SEPARATELY FOR EACH PARKING FACILITY.

TABLE 1106.1(1) ACCESSIBLE PARKING SPACES FOR GROUPS A, B, E, M, R-1, R-2 AND I

TOTAL PARKING SPACES PROVIDED	REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES
76-100 **(72 PROVIDED)**	4 **(5 PROVIDED)**

SECTION 1106.2 GROUPS -1, R-1, R-2, R-3, AND R-4.
ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN GROUP I-1, R-1, R-2, R-3 AND R-4 OCCUPANCIES IN ACCORDANCE WITH ITEMS 1 THROUGH 4 AS APPLICABLE.
1. IN GROUP R-2, R-3 AND R-4 OCCUPANCIES THAT ARE REQUIRED TO HAVE ACCESSIBLE, TYPE A OR TYPE B DWELLING UNITS OR SLEEPING UNITS, AT LEAST 2 PERCENT, BUT NOT LESS THAN ONE, OF EACH TYPE OF PARKING SPACE PROVIDED SHALL BE ACCESSIBLE. **5/72 = 7%**

SECTION 1106.5 VAN SPACES
FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, AT LEAST ONE SHALL BE A VAN-ACCESSIBLE PARKING SPACE.
2 VAN SPACES PROVIDED.

SECTION 1106.6 LOCATION
ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE. IN PARKING FACILITIES THAT DO NOT SERVE A PARTICULAR BUILDING, ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ROUTE TO AN ACCESSIBLE PEDESTRIAN ENTRANCE TO THE PARKING FACILITY. WHERE BUILDINGS HAVE MULTIPLE ACCESSIBLE ENTRANCES WITH ADJACENT PARKING, ACCESSIBLE PARKING SPACES SHALL BE DISPERSED AND LOCATED NEAR THE ACCESSIBLE ENTRANCES.

SECTION 1107.3 ACCESSIBLE SPACES
ROOMS AND SPACES AVAILABLE TO THE GENERAL PUBLIC OR AVAILABLE FOR USE BY RESIDENTS AND SERVING ACCESSIBLE UNITS, TYPE A UNITS OR TYPE B UNITS SHALL BE ACCESSIBLE. ACCESSIBLE SPACES SHALL INCLUDE TOILET AND BATHING ROOMS, KITCHEN, LIVING AND DINING AREAS AND ANY EXTERIOR SPACES, INCLUDING PATIOS, TERRACES AND BALCONIES.

SECTION 1107.4 ACCESSIBLE ROUTE
AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDING OR FACILITY ENTRANCES WITH THE PRIMARY ENTRANCE OF EACH ACCESSIBLE UNIT, TYPE A UNIT, AND TYPE B UNIT WITHIN THE BUILDING OR FACILITY AND WITH THOSE EXTERIOR AND INTERIOR SPACES AND FACILITIES THAT SERVE THE UNITS.

SECTION 1107.6.2.2.1 TYPE A UNITS. IN GROUP R-2 OCCUPANCIES CONTAINING MORE THAN 20 DWELLING UNITS OR SLEEPING UNITS, AT LEAST 2 PERCENT BUT NOT LESS THAN ONE OF THE UNITS SHALL BE A TYPE A UNIT. ALL GROUP R-2 UNITS ON A SITE SHALL BE CONSIDERED TO DETERMINE THE TOTAL NUMBER OF UNITS AND THE REQUIRED NUMBER OF TYPE A UNITS. TYPE A UNITS SHALL BE DISPERSED AMONG THE VARIOUS CLASSES OF UNITS. **10.47% PROVIDED.**

SECTION 1107.6.2.2.2 TYPE B UNITS. WHERE THERE ARE FOUR OR MORE DWELLING UNITS OR SLEEPING UNITS INTENDED TO BE OCCUPIED AS A RESIDENCE IN A SINGLE STRUCTURE, EVERY DWELLING UNIT AND SLEEPING UNIT INTENDED TO BE OCCUPIED AS A RESIDENCE SHALL BE A TYPE B UNIT.

SECTION 1109.5.1 MINIMUM NUMBER. NO FEWER THAN TWO DRINKING FOUNTAINS SHALL BE PROVIDED. ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR PEOPLE WHO USE A WHEELCHAIR AND ONE DRINKING FOUNTAIN SHALL COMPLY WITH THE REQUIREMENTS FOR STANDING PERSONS. **TWO PROVIDED.**

VCC CHAPTER 12 - INTERIOR ENVIRONMENT

SECTION 1203.5 NATURAL VENTILATION
NATURAL VENTILATION OF AN OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, LOUVERS OR OTHER OPENINGS TO THE OUTDOORS. THE OPERATING MECHANISM FOR SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS SO THAT THE OPENINGS ARE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS.

SECTION 1203.5.5 INSECT SCREENS IN GROUP R OCCUPANCIES. EVERY DOOR, WIDNOW AND OTHER OUTSIDE OPENING REQUIRED FOR NATURAL VENTILATION PURPOSES WHICH SERVES A STRUCTURE CLASSIFIED AS A RESIDENTIAL GROUP SHALL BE SUPPLIED WITH APPROVED TIGHTLY FITTED SCREENS OF NOT LESS THAN 16 MESH PER INCH AND EVERY SCREEN DOOR USED FOR INSECT CONTROL SHALL HAVE A SELF-CLOSING DEVICE.

SECTION 1207.2 AIR-BORNE SOUND
WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SEPARATING DWELLING UNITS AND SLEEPING UNITS FROM EACH OTHER OR FROM PUBLIC OR SERVICE AREAS SHALL HAVE A SOUND TRANSMISSION CLASS OF NOT LESS THAN 50, OR NOT LESS THAN 45 IF FIELD-TESTED, FOR AIR-BORNE NOISE WHEN TESTED IN ACCORDANCE WITH ASTM E90. **50 STC PROVIDED.**

SECTION 1207.3 STRUCTURE-BORNE SOUND
FLOOR/CEILING ASSEMBLIES BETWEEN DWELLING UNITS AND SLEEPING UNITS OR BETWEEN A DWELLING UNIT OR SLEEPING UNIT AND A PUBLIC OR SERVICE AREA WITHIN THE STRUCTURE SHALL HAVE AN IMPACT INSULATION CLASS RATING OF NOT LESS THAN 50, OR NOT LESS THAN 45 IF FIELD TESTED, WHEN TESTED IN ACCORDANCE WITH ASTM E492. **50 STC PROVIDED.**

VCC CHAPTER 24 - GLASS AND GLAZING

SECTION 2406.1 HUMAN IMPACT LOADS.
INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS, IN HAZRADOUS LOCATIONS AS DEFINED IN SECTION 2406.4 SHALL COMPLY WITH SECTIONS 2406.1.1 THROUGH 2406.1.4.

SECTION 2406.1.1 IMPACT TEST. EXCEPT AS PROVIDED IN SECTIONS 2406.1.2 THROUGH 2406.1.4, ALL GLAZING SHALL PASS THE IMAPCT TEST REQUIREMENTS OF SECTION 2406.2.

SECTION 2406.2 IMPACT TEST. WHERE REQUIRED BY OTHER SECTIONS OF THIS CODE, GLAZING SHALL BE TESTED IN ACCORDANCE WITH CPSC 16 CFR PART 1201. GLAZING SHALL COMPLY WITH THE TEST CRITERIA FOR CATEGORY II.

SECTION 2406.4 HAZARDOUS LOCATIONS.
THE LOCATIONS SPECIFIED IN SECTIONS 2406.1 THROUGH 2406.7 SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS REQUIRING SAFETY GLAZING MATERIALS.

SECTION 2406.4.6 GLAZING ADJACENT TO STAIRWAYS AND RAMPS. GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED A HAZARDOUS LOCATION. **SAFETY GLAZING PROVIDED AT WINDOW TYPE F1 IN STAIR TOWERS.**

SECTION 2406.4.7 GLAZING ADJACENT TO THE BOTTOM STAIRWAY LANDING. GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 60 INCHES ABOVE THE LANDING AND WITHIN A 60-INCH HORIZONTAL ARC THAT IS LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING SHALL BE CONSIDERED A HAZARDOUS LOCATION. **SAFETY GLAZING PROVIDED AT WINDOW TYPE F1 IN STAIR TOWERS.**

VCC CHAPTER 29 - PLUMBING SYSTEMS

SECTION 2902: MINIMUM PLUMBING FACILITIES
SECTION 2902.1 MINIMUM NUMBER OF FIXTURES. PLUMBING FIXTURES SHALL BE PROVIDED IN THE MINIMUM NUMBER AS SHOWN IN TABLE 403.1 OF THE VIRGINIA PLUMBING CODEBASED ON THE ACTUAL USE OF THE BUILDING OR SPACE.

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

OCCUPANCY	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAINS	OTHER
B	1 PER 25	1 PER 40	1 PER 100	1 SERVICE SINK
R-2	1 PER UNIT	PER UNIT	-	*

*NOTE: R-2 REQUIRES 1 BATHTUB/SHOWER PER UNIT, 1 KITCHEN SINK PER UNIT AND 1 AUTOMATIC CLOTHES WASHER CONNECTION PER UNIT. **PROVIDED IN ALL UNITS.**

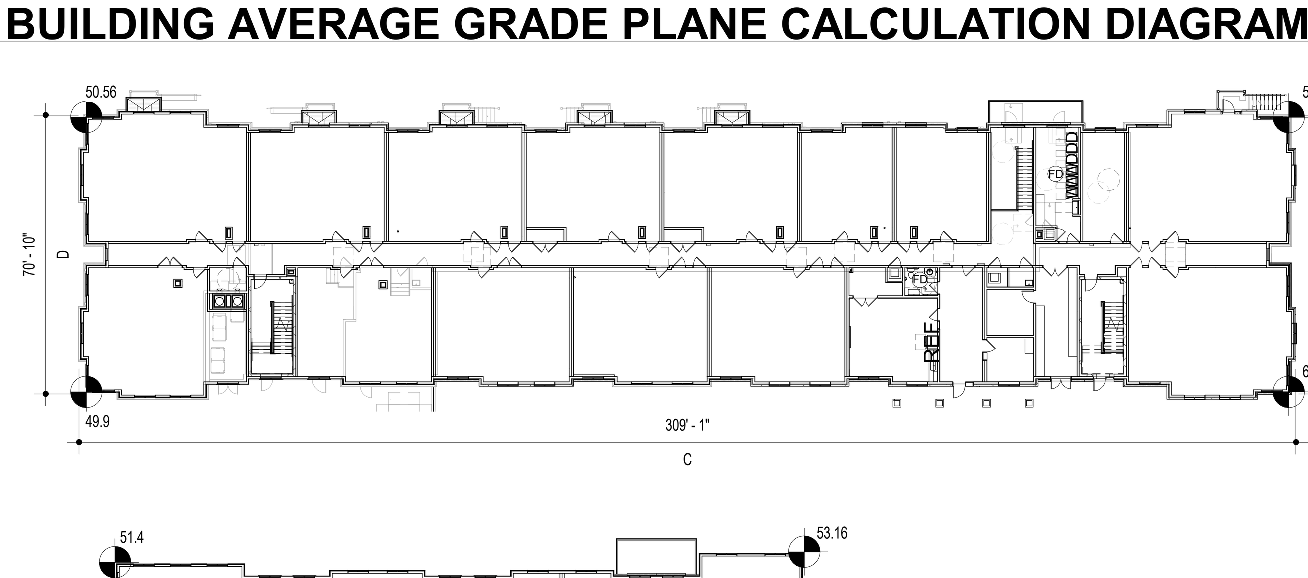
PLUMBING CALCULATIONS - WATER CLOSETS - SINGLE-USER
BUSINESS: 1 WATER CLOSET PER 25 OCCUPANTS = 9/25 = 0.36 WATER CLOSETS REQUIRED
TOTAL WATER CLOSETS REQUIRED = 0.36 **(1 PROVIDED)**

PLUMBING CALCULATIONS - LAVATORIES - SINGLE-USER
BUSINESS: 1 LAVATORY PER 40 OCCUPANTS = 9/40 = 0.225 LAVATORIES REQUIRED
TOTAL LAVATORIES REQUIRED = 0.225 = **(1 PROVIDED)**

PLUMBING CALCULATIONS - DRINKING FOUNTAINS
BUSINESS: 1 DRINKING FOUNTAIN PER 100 OCCUPANTS = 18/100 = .18 DRINKING FOUNTAINS REQUIRED
TOTAL DRINKING FOUNTAINS REQUIRED = ..302+.18 = .482 **(1 PROVIDED)**

OTHER:
1 SERVICE SINK REQUIRED **(BUILDING 2: 2 SERVICE SINKS PROVIDED IN JANITOR'S CLOSETS; BUILDING 3: 1 SERVICE SINK PROVIDED IN JANITOR'S CLOSET)**

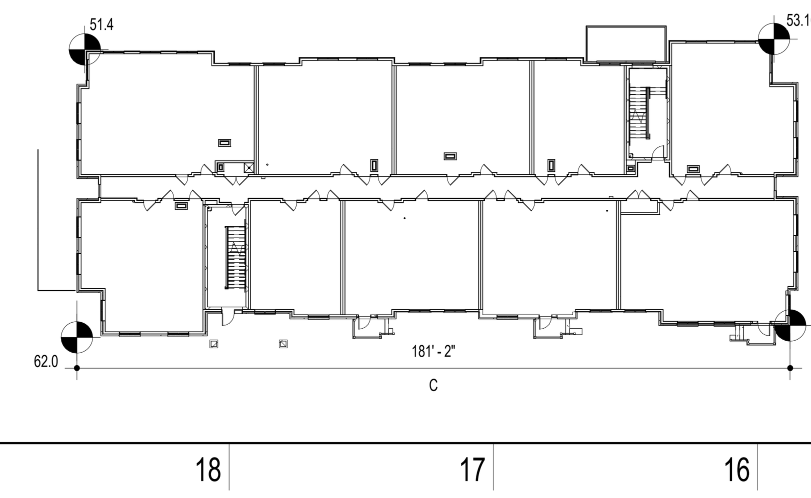
BUILDING AVERAGE GRADE PLANE CALCULATION DIAGRAM



BUILDING 2

SIDE	AVG. GRADE	LENGTH	PERIMETER
A	53.03	309.08'	16,390.51
B	58.07	70.83'	4,113.09
C	55.27	309.08	17,082.85
D	50.23	70.83'	3,557.79

TOTAL LENGTH: 759.82
TOTAL PERIMETER: 41,114.24
AVG. GRADE PLANE: 54.11



BUILDING 3

SIDE	AVG. GRADE	LENGTH	PERIMETER
A	52.28	175.04'	9,151.09
B	58.03	72.83'	4,226.32
C	62.45	181.17'	11,314.07
D	56.7	72.83'	4,129.46

TOTAL LENGTH: 501.87'
TOTAL PERIMETER: 28820.94
AVG. GRADE PLANE: 57.43'

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BUILDING 2 AND 3 CODE STUDY REVIEW - 4%

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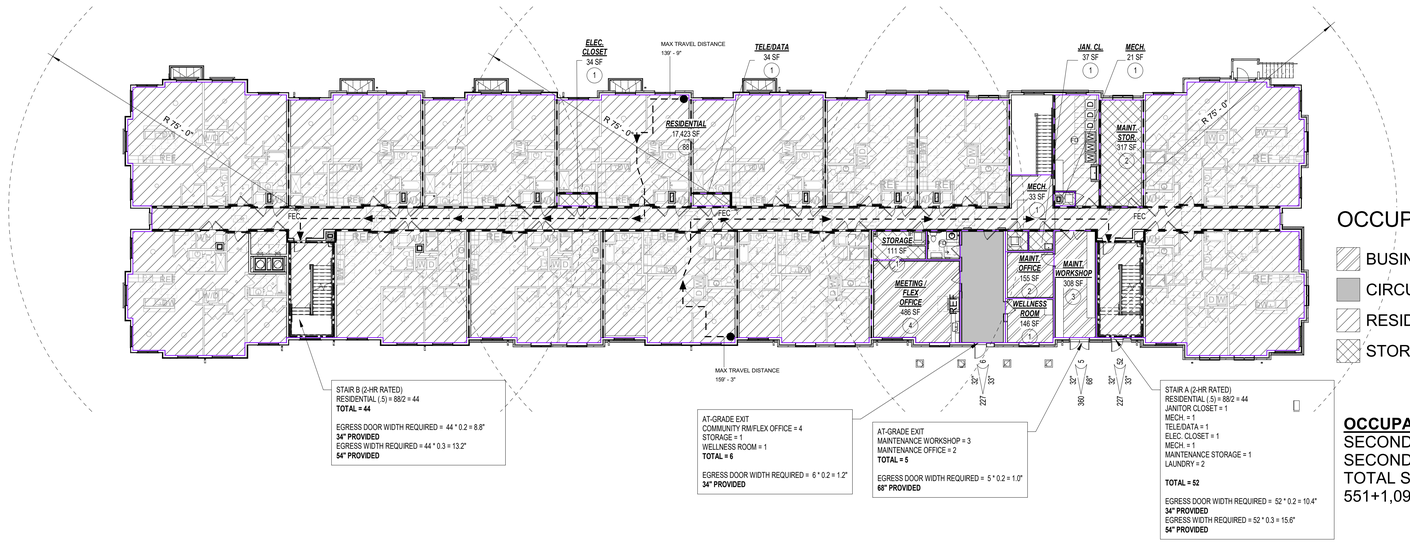
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G13 B2 - SECOND FLOOR
1/16" = 1'-0"

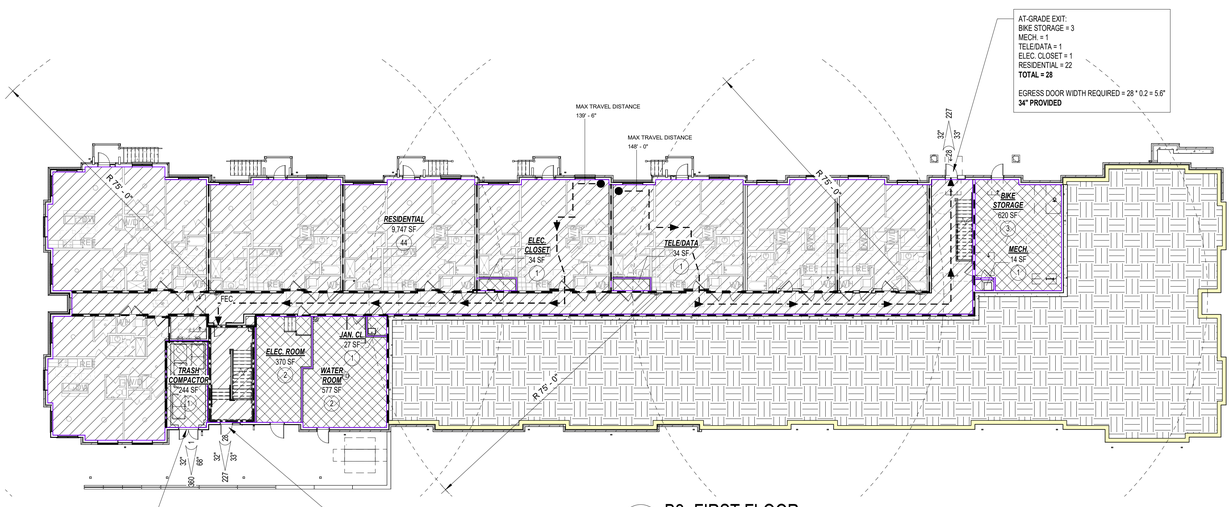
OCCUPANCY LEGEND

- BUSINESS AREAS
- CIRCULATION
- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANCY CALCULATION
SECOND FLOOR STORAGE SF: 551
SECOND FLOOR BUSINESS SF: 1,095
TOTAL SECOND FLOOR SF: 19,438
551+1,095= 1,646/19,506= 8.4%; <10%

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 2 - SECOND FLOOR

AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
BUSINESS AREAS				
MAINT. OFFICE	155 SF	150 SF	GROSS	2
MAINT. WORKSHOP	308 SF	150 SF	GROSS	3
MEETING / FLEX OFFICE	486 SF	150 SF	GROSS	4
WELLNESS ROOM	146 SF	150 SF	GROSS	1
				9
RESIDENTIAL				
RESIDENTIAL	17,423 SF	200 SF	GROSS	88
				88
STORAGE / MECH UNOCCUPIED				
ELEC. CLOSET	34 SF	300 SF	GROSS	1
JAN. CL.	37 SF	300 SF	GROSS	1
MAINT. STOR.	317 SF	300 SF	GROSS	2
MECH.	21 SF	300 SF	GROSS	1
MECH.	33 SF	300 SF	GROSS	1
STORAGE	111 SF	300 SF	GROSS	1
TELE/DATA	34 SF	300 SF	GROSS	1
				5
Grand total				102



B13 B2- FIRST FLOOR
1/16" = 1'-0"

OCCUPANCY LEGEND

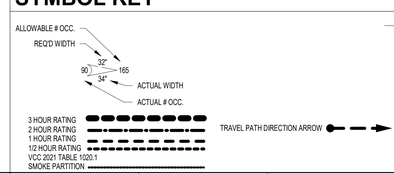
- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANCY CALCULATION
FIRST FLOOR STORAGE SF: 1,651
TOTAL FIRST FLOOR SF: 10,600
1,651/10,600= 15.5%; >10%
NOTE THAT COMPACTOR ROOM IS SEPARATED BY 2-HR RATED CONSTRUCTION AND NOT CONSIDERED AN ACCESSORY SPACE

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 2 - FIRST FLOOR

AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
RESIDENTIAL				
RESIDENTIAL	9,747 SF	200 SF	GROSS	49
				49
STORAGE / MECH UNOCCUPIED				
BIKE STORAGE	620 SF	300 SF	GROSS	3
ELEC. CLOSET	34 SF	300 SF	GROSS	1
ELEC. ROOM	370 SF	300 SF	GROSS	2
JAN. CL.	27 SF	300 SF	GROSS	1
MECH.	14 SF	300 SF	GROSS	1
TELE/DATA	34 SF	300 SF	GROSS	1
TRASH COMPACTOR	244 SF	300 SF	GROSS	1
WATER ROOM	577 SF	300 SF	GROSS	2
				10
Grand total				60

SYMBOL KEY



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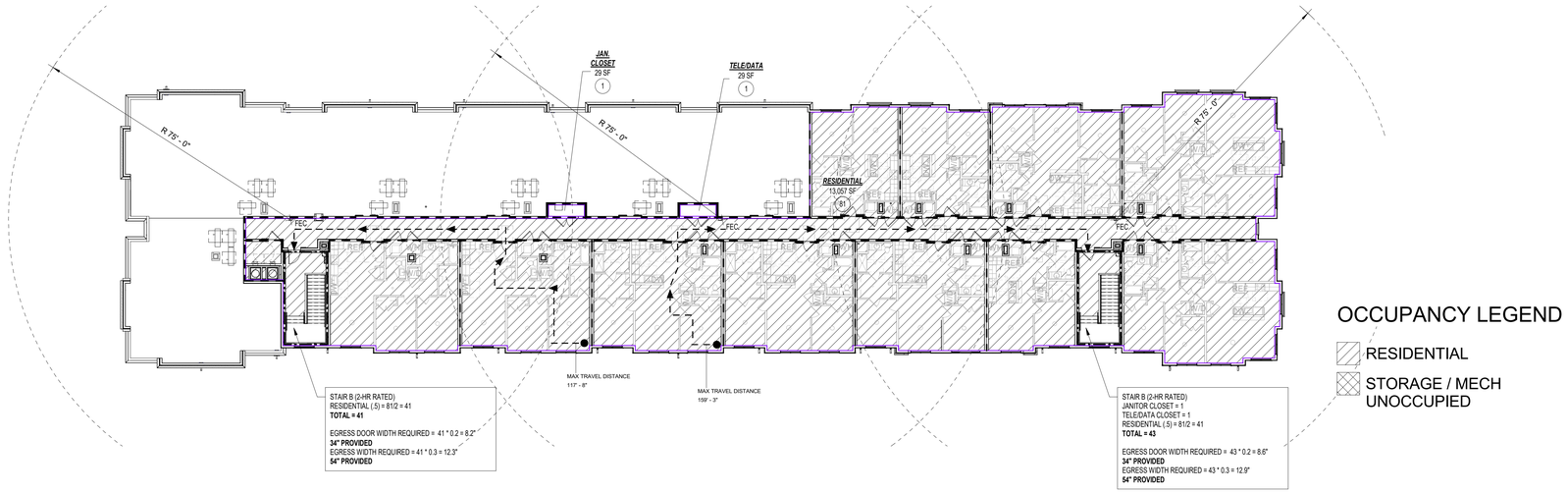
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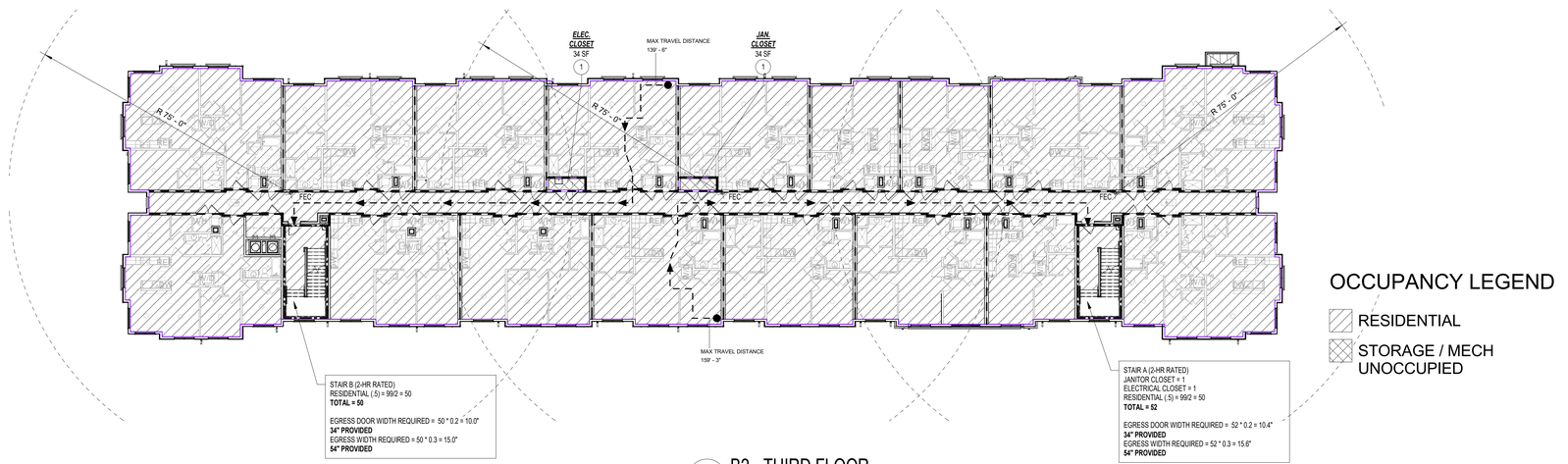


G13 B2 - FOURTH FLOOR
1/16" = 1'-0"

OCCUPANCY LEGEND

- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 2 - FOURTH FLOOR				
AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
RESIDENTIAL				
RESIDENTIAL	13,057 SF	200 SF	GROSS	66
				66
STORAGE / MECH UNOCCUPIED				
JAN. CLOSET	29 SF	300 SF	GROSS	1
TELE/DATA	29 SF	300 SF	GROSS	1
				1
Grand total				67



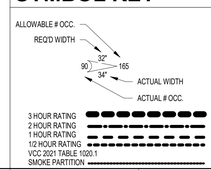
B13 B2 - THIRD FLOOR
1/16" = 1'-0"

OCCUPANCY LEGEND

- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 2 - THIRD FLOOR				
AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
RESIDENTIAL				
RESIDENTIAL	19,695 SF	200 SF	GROSS	99
				99
STORAGE / MECH UNOCCUPIED				
ELEC. CLOSET	34 SF	300 SF	GROSS	1
JAN. CLOSET	34 SF	300 SF	GROSS	1
				1
Grand total				100

SYMBOL KEY



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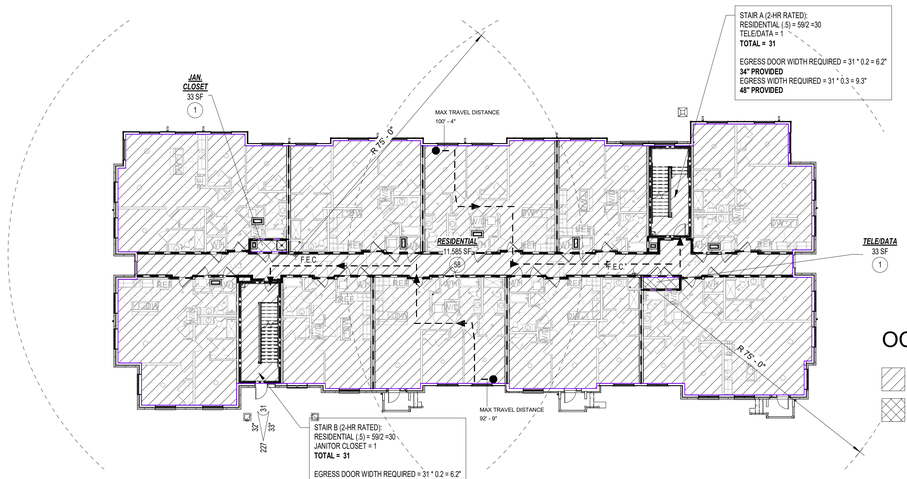
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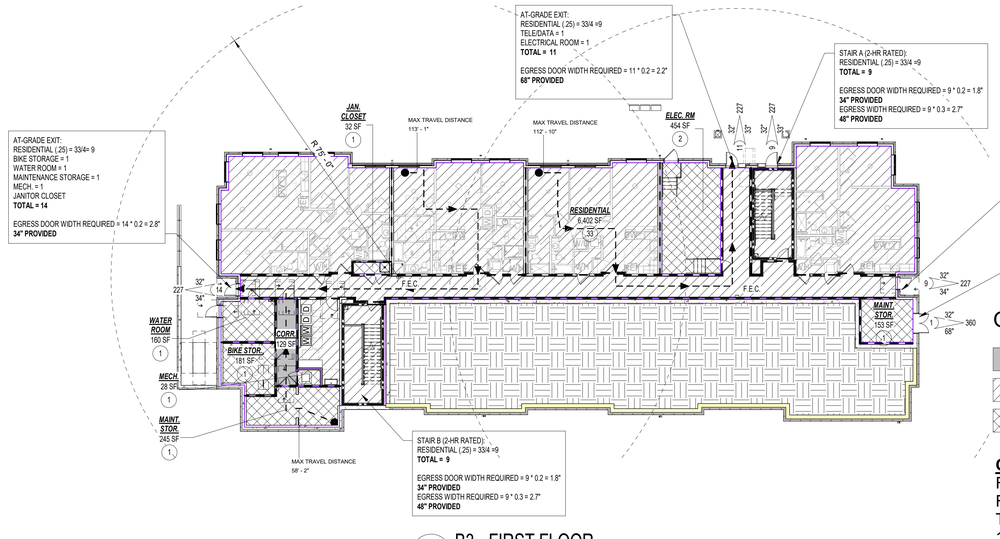


F12 B3 - SECOND-FOURTH FLOOR
1/16" = 1'-0"

OCCUPANCY LEGEND

- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 3 - SECOND-FOURTH FLOOR				
AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
RESIDENTIAL				
RESIDENTIAL	11,585 SF	200 SF	GROSS	58
				58
STORAGE / MECH UNOCCUPIED				
JAN. CLOSET	33 SF	300 SF	GROSS	1
TELE/DATA	33 SF	300 SF	GROSS	1
				1
Grand total				60



B12 B3 - FIRST FLOOR
1/16" = 1'-0"

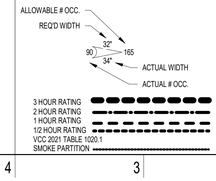
OCCUPANCY LEGEND

- CIRCULATION
- RESIDENTIAL
- STORAGE / MECH UNOCCUPIED

OCCUPANCY CALCULATION
FIRST FLOOR S-1 SF: 141
FIRST FLOOR S-2 SF: 998
TOTAL FIRST FLOOR SF: 7,732
1,139 / 7,732 = 14.7%; >10%

OCCUPANT LOAD CALCULATIONS (AREAS) BUILDING 3 - FIRST FLOOR				
AREA NAME	AREA (SF)	AREA PER OCCUPANT (SF)	GROSS OR NET	OCCUPANCY LOAD
RESIDENTIAL				
RESIDENTIAL	6,402 SF	200 SF	GROSS	33
				33
STORAGE / MECH UNOCCUPIED				
BIKE STOR.	181 SF	300 SF	GROSS	1
ELEC. RM	Not Enclosed	300 SF	GROSS	
ELEC. RM	454 SF	300 SF	GROSS	2
JAN. CLOSET	32 SF	300 SF	GROSS	1
MAINT. STOR.	153 SF	300 SF	GROSS	1
MAINT. STOR.	245 SF	300 SF	GROSS	1
MECH.	28 SF	300 SF	GROSS	1
WATER ROOM	160 SF	300 SF	GROSS	1
				8
Grand total				40

SYMBOL KEY



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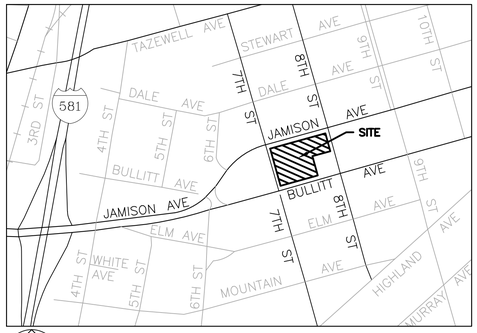
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ROANOKE GATEWAY PHASE 2

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CITY OF ROANOKE, VIRGINIA



VICINITY MAP
NTS

LEGEND

348	EX. INTRMDT. CONTOUR
345	EX. INDEX CONTOUR
+ 35.55	EX. SPOT ELEVATION
8" WL	EX. WATER LINE
8" SAN	EX. SANITARY SEWER
IR STM	EX. STORM PIPE
	EX. EDGE OF PAVEMENT
	EX. BUILDING
	EX. CONCRETE
	EX. PAVEMENT
	EX. GRAVEL
	PAVEMENT REPLACEMENT
	EX. POWER POLE
SS	EX. SANITARY SEWER MANHOLE
STM	EX. STORM SEWER MANHOLE
CO	CLEANOUT
	EX. LIGHT POLE
	WATER LINE REDUCER
T	EX. TELEPHONE
G	EX. GAS LINE
OHU	EX. OVERHEAD CABLE
X	EX. FENCE
	EX. TREE LINE
	ADJOINING PROPERTY LINE
	EXISTING ROAD MONUMENTS

	PROP. INTRMDT. CONTOUR
1320	PROP. INDEX CONTOUR
35.55 / 35.05	PROP. SPOT ELEVATION
8" WL	PROP. WATER LINE
8" SAN	PROP. SANITARY SEWER
	PROP. STORM PIPE
	PROP. EDGE OF PAVEMENT
	PROP. BUILDING
	PROP. CONCRETE
	PROP. ASPHALT PAVEMENT (STANDARD/HEAVY DUTY)
	PROP. GRAVEL
	PROP. PAVERS
	PROP. POWER POLE
	PROP. MANHOLE
	SIGN
WM	WATER METER
	PROP. GATE VALVE
	BLOW-OFF VALVE
	BENCHMARK
G	PROP. GAS LINE
OHU	PROP. OVERHEAD CABLE
P	PROP. UNDERGRND POWER LINE
X	PROP. FENCE
	PROP. TREE LINE
	SITE PROPERTY LINE
	INLET PROTECTION

ABBREVIATIONS

AHFH	ARROW HEAD TOP OF FIRE HYDRANT	EVCS	END VERT. CURVE STA.	RR	RAILROAD
APPROX	APPROXIMATE	EW	ENDWALL	RYS	REAR YARD SETBACK
ASPH	ASPHALT	EXIST	EXISTING	SAN	SANITARY
BC	BACK OF CURB	FDN	FOUNDATION	SBL	SOUTH BOUND LANE
BIT	BITUMINOUS	FF	FINISHED FLOOR	SD	STORM DRAIN
BLDG	BUILDING	FG	FINISH GRADE	SECT	SECTION
BLK	BLOCK	GBE	GRADE BREAK ELEVATION	SE	SLOPE EASEMENT
BM	BENCHMARK	GBS	GRADE BREAK STATION	SS	SANITARY SEWER
BS	BOTTOM OF BOTTOM STEP	HOA	HOMEOWNERS ASSOCIATION	SSD	STOPPING SIGHT DISTANCE
BVCE	BEGIN VERT. CURVE ELEV.	HPT	HIGH POINT	SSE	SANITARY SEWER EASEMENT
BVCS	BEGIN VERT. CURVE STA.	HSD	HEADLIGHT SIGHT DISTANCE	STA	STATION
BW	BOTTOM OF WALL	INTX	INTERSECTION	STD	STANDARD
CB	CINDER BLOCK	INV	INVERT	STO	STORAGE
C&G	CURB & GUTTER	IP	IRON PIN	SYS	SIDE YARD SETBACK
CMP	CORRUGATED METAL PIPE	LT	LEFT	TBM	TEMPORARY BENCHMARK
CONC	CONCRETE	LVC	LENGTH OF VERTICAL CURVE	TBR	TO BE REMOVED
COR	CORNER	MH	MANHOLE	TC	TOP OF CURB
DBL	DOUBLE	MIN	MINIMUM	TEL	TELEPHONE
DEFL	DEFLECTION	MBL	MINIMUM BUILDING LINE	TRANS	TRANSFORMER
DI	DROP INLET	MON	MONUMENT	TS	TOP OF TOP STEP
DIA	DIAMETER	NBL	NORTH BOUND LANE	TW	TOP OF WALL
DE	DRAINAGE EASEMENT	PROP	PROPOSED	TYP	TYPICAL
ELEC	ELECTRIC	PUE	PUBLIC UTILITY EASEMENT	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
ELEV	ELEVATION	PVMT	PAVEMENT	VERT	VERTICAL
ENTR	ENTRANCE	R	RADIUS	WBL	WEST BOUND LANE
EP	EDGE OF PAVEMENT	RT	RIGHT	YD	YARD
EVCE	END VERT. CURVE ELEV.	R.O.W.	RIGHT OF WAY		
		REQD	REQUIRED		

ENGINEERS NOTES

WESTWOOD PROFESSIONAL SERVICES, INC. ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE DEVELOPER.

WESTWOOD PROFESSIONAL SERVICES, INC. WILL NOT BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE PLANS OR WILL NOT BE RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.

SOURCE OF TOPOGRAPHIC MAPPING IS FIELD SURVEY PERFORMED BY WESTWOOD PROFESSIONAL SERVICES, INC., DATED DECEMBER 2025

SHEET INDEX

C1	COVER	C8.1	UTILITY PROFILES
C2	NOTES	C8.2	SWM DETAILS
C3	EXISTING CONDITIONS & DEMOLITION PLAN	C9.1	SITE DETAILS 1
C4	LAYOUT PLAN	C9.2	SITE DETAILS 2
C5	UTILITY PLAN	C10.1	WVWA DETAILS 1
C6	GRADING PLAN	C10.2	WVWA DETAILS 2
C7.1	E.S.C. PLAN PHASE 1	C11	MAINTENANCE OF TRAFFIC
C7.2	E.S.C. PLAN PHASE 2	C12	LANDSCAPE PLAN
C7.3	E.S.C. NOTES		
C7.4	E.S.C. DETAILS		

WESTERN VIRGINIA WATER AUTHORITY NOTES:

GENERAL NOTES:
A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE WESTERN VIRGINIA WATER AUTHORITY TO BE HELD AT LEAST ONE (1) DAY PRIOR TO ANY CONSTRUCTION OF THE APPROVED WATER AND SANITARY SEWER FACILITIES.

ALL WATER AND SANITARY SEWER CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION.

UTILITY CONTRACTOR SHALL COMPLETE ALL PRESSURE TESTING AND DISINFECTION IN ACCORDANCE WITH WVWA AND VIRGINIA DEPARTMENT OF HEALTH REQUIREMENTS. TESTING AND DISINFECTION SHALL BE COORDINATED WITH WVWA INSPECTOR.

A MINIMUM COVER OF THREE (3) FEET IS REQUIRED OVER PROPOSED LINES.

ALL SANITARY SEWER AND WATER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING VALVE VAULTS, MANHOLES, ETC. AFTER PAVING AND ADJUSTING TO FINAL GRADE IF NECESSARY.

ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THE EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS.

ALL TRENCHES IN EXISTING OR FUTURE HIGHWAY RIGHT-OF-WAYS SHALL BE COMPACTED ACCORDING TO CITY OF ROANOKE STANDARDS.

LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL REFER TO THE WESTERN VIRGINIA WATER AUTHORITY STANDARD WATER AND SEWER REGULATIONS FOR CONSTRUCTION DETAILS AND INSTALLATION METHODS AS REQUIRED TO COMPLETE THE PROPOSED UTILITY FACILITIES AS INDICATED BY THESE DRAWINGS.

FIELD CORRECTIONS SHALL BE APPROVED BY THE WVWA ENGINEERING DIVISION PRIOR TO SUCH CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE THE WESTERN VIRGINIA WATER AUTHORITY WITH CORRECT AS-BUILT PLANS PRIOR TO SUBSTANTIAL COMPLETION OF ANY NEW PUBLIC EXTENSIONS.

WATER NOTES
WATER MAINS SHALL BE MINIMUM CLASS 350 DUCTILE IRON IN ACCORDANCE TO AWWA C151 OR DR-14 PVC IN ACCORDANCE WITH AWWA C-900.

WATER LATERALS FROM THE METER TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.

THE CONSTRUCTION OF THE PROPOSED PUBLIC WATER MAIN AND ALL COMMERCIAL SERVICES SHALL BE IN COMPLIANCE WITH THE CURRENT WESTERN VIRGINIA WATER AUTHORITY REGULATIONS. REFER TO THESE REGULATIONS FOR COMPLETE DETAILS AND INSTALLATION METHODS.

SEWER NOTES:
THE LATERALS AND REQUIRED FITTINGS LOCATED WITHIN A PUBLIC RIGHT-OF-WAY OR PUBLIC EASEMENT SHALL BE OF THE SAME TYPE OF MATERIAL AS THE MAINLINE SEWER PIPE.

THE CONSTRUCTION OF THE PROPOSED PUBLIC SEWER MAIN AND ALL RESIDENTIAL SERVICES SHALL BE IN COMPLIANCE WITH THE CURRENT WESTERN VIRGINIA WATER AUTHORITY REGULATIONS. REFER TO THESE REGULATIONS FOR COMPLETE DETAILS AND INSTALLATION METHODS.

ALL SANITARY SEWER PIPING SHALL BE PVC (POLYVINYL CHLORIDE) MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION 3034-77 (SDR 26) UNLESS OTHERWISE NOTED ON THE PLANS/PROFILES.

ALL MANHOLE FRAMES AND COVERS SHALL BE WATERTIGHT AND ALL COVERS SHALL BE BOLT-DOWN MANHOLE COVERS (SEE DETAIL S-05 AND S-06) WHERE APPLICABLE.

COMPREHENSIVE SITE PLAN #: CP26-00XX

CITY OF ROANOKE APPROVAL BLOCK

SITE & ZONING SUMMARY:

OWNER: GATEWAY PROJECT LLC

OWNER ADDRESS: PO BOX 11525
ROANOKE, VA 24022

SITE ADDRESS: 704 BULLITT AVE SE
ROANOKE, VA 24013

SITE PARCEL INFORMATION:

EXISTING PARCELS TO BE COMBINED INTO PROPOSED PARCEL B:
T.M.#: 4013101, ±0.12 AC.
T.M.#: 4013102, ±0.12 AC.
T.M.#: 4013103, ±0.09 AC.
T.M.#: 4013104, ±0.09 AC.
T.M.#: 4013105, ±0.09 AC.
T.M.#: 4013106, ±0.09 AC.
T.M.#: 4013107, ±0.12 AC.
T.M.#: 4013108, ±0.12 AC.
T.M.#: 4013109, ±0.12 AC.
T.M.#: 4013110, ±0.12 AC.
T.M.#: 4013111, ±0.12 AC.
PROPOSED PARCEL B COMBINED ACREAGE: ±1.1938 AC.

EXISTING PARCELS TO BE COMBINED INTO PROPOSED PARCEL C:
T.M.#: 4013112, ±0.09 AC.
T.M.#: 4013113, ±0.09 AC.
T.M.#: 4013114, ±0.09 AC.
T.M.#: 4013115, ±0.09 AC.
T.M.#: 4013116, ±0.09 AC.
T.M.#: 4013117, ±0.09 AC.
T.M.#: 4013118, ±0.09 AC.
T.M.#: 4013119, ±0.09 AC.
T.M.#: 4013120, ±0.09 AC.
PROPOSED PARCEL C COMBINED ACREAGE: ±0.8058 AC.

TOTAL COMBINED ACREAGE: ±1.9996 AC.

EXISTING ZONING: RMF(c): RESIDENTIAL CONDITIONAL (ORD#43151-021825)

ORD#43151-021825 PROFFERED CONDITIONS:
1. THE PROPERTY WILL BE DEVELOPED IN SUBSTANTIAL CONFORMITY WITH THE DEVELOPMENT PLAN PREPARED BY BALZER AND ASSOCIATES, INC., DATED JANUARY 17, 2025, A COPY OF WHICH IS ATTACHED TO THIS APPLICATION AS EXHIBIT A, SUBJECT TO ANY CHANGES THAT MAY BE REQUIRED BY THE CITY DURING COMPREHENSIVE DEVELOPMENT PLAN REVIEW.
2. ARCHITECTURAL REQUIREMENTS FOR THE PROPOSED BUILDING DESIGN SHALL BE IN SUBSTANTIAL CONFORMANCE WITH THE PERSPECTIVE RENDERING DRAWING TITLED "GATEWAY PROJECT-EXHIBIT C" PREPARED BY GRIMM AND PARKER AND DATED JANUARY 17, 2025. THE ARCHITECTURAL STYLE, COMPONENTS INCLUDING FORM, WALLS, OFFSETS, WINDOWS, ENTRIES, AND DOORS SHALL BE A SIMILAR STYLE FOR ALL THREE (3) PROPOSED MULTIFAMILY RESIDENTIAL BUILDINGS.

DISTURBED AREA: ±2.25 AC.

ZONING REQUIREMENTS (RMF):

MINIMUM LOT AREA PER DWELLING:	1,000 SF
MINIMUM LOT AREA:	15,000 SF
MINIMUM FRONTAGE:	50'
SETBACKS:	
FRONT:	10' MINIMUM
SIDE:	15' MINIMUM
REAR:	5' MINIMUM
MAXIMUM BUILDING HEIGHT:	45'
MAXIMUM IMPERVIOUS SURFACE:	70%
PARCEL B PROVIDED:	70%
PARCEL C PROVIDED:	70%
MINIMUM TREE CANOPY COVERAGE:	10%
PARCEL B PROVIDED:	11%
PARCEL C PROVIDED:	16%
MINIMUM PARKING REQ. APPLIES:	NO
FRONT YARD REQ. FOR INFILL:	NO

PARKING SUMMARY:

STANDARD SPACES:	45
UNIVERSAL DESIGN/ADA (UD):	6
UNIVERSAL DESIGN/ADA FUTURE (FUT. UD):	4
UNIVERSAL DESIGN/ADA EV (UD/EVSC):	1
ELECTRIC VEHICLE INSTALLED (EVSC):	6
ELECTRIC VEHICLE FUTURE (EVC):	6
TOTAL:	68

CITY OF ROANOKE & UTILITY CONTACTS:

CITY OF ROANOKE DEVELOPMENT REVIEW COORDINATOR – ADRIAN GILBERT (540) 853-5796

ROANOKE GAS COMPANY – WAYLON SPENCER (540) 793-5104

VERIZON – WILLARD DIETZ (540) 265-7510

AMERICAN ELECTRIC POWER – KEITH FREEMAN (540) 427-3643

WESTERN VIRGINIA WATER AUTHORITY – AARON SHEARER (540) 283-2941

ROANOKE CITY TRAFFIC ENGINEER – IAN COFFEY (540) 853-2686

DIG WITH C.A.R.E. KEEP VIRGINIA SAFE Call Miss Utility @ 811

Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
COVER
704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C1

CP26-00XX

Last Saved by: SStrobl
Last Saved: 6/30/2026 11:14 AM
Plotted: Jun 30, 2026 - 11:14 AM
Drawing: N:\0070930.01\06 CAD\DWG\Site Design\Design\R0070930.01 BASE 2026-06-30

FIRE NOTES

FIRE DEPARTMENT CONNECTIONS SHALL BE IDENTIFIED BY AN APPROVED SIGN MOUNTED ON THE STREET FRONT, ON THE SIDE OF THE BUILDING, OR DIRECTLY ADJACENT TO A FREESTANDING FIRE DEPARTMENT CONNECTION. FIRE DEPARTMENT CONNECTION SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPENDIX A (CALL THIS OFFICE IF YOU NEED THE APPENDIX A DESIGN) AND SHALL: BE RED IN COLOR AND BE AT LEAST 18 INCHES BY 24 INCHES IN SIZE. HAVE "FDC" IN WHITE RETROFLECTIVE LETTERS NO LESS THAN SIX INCHES IN HEIGHT. SIGNAGE MUST INDICATE THE BUILDING OR PORTION THEREOF SERVED BY THE FIRE DEPARTMENT CONNECTION WHEN THE FIRE DEPARTMENT CONNECTION IS REMOTELY LOCATED, THE BUILDING IS SERVED BY MULTIPLE FIRE DEPARTMENT CONNECTIONS, OR WHEN REQUIRED BY THE FIRE MARSHAL. THIS INFORMATION SHALL BE PROVIDED IN WHITE RETROREFLECTIVE LETTERS NO LESS THAN TWO INCHES IN HEIGHT. ADDITIONAL SIGNAGE MAY BE REQUIRED WHEN THE FIRE DEPARTMENT CONNECTION IS NOT VISIBLE TO APPROACHING FIRE APPARATUS ON THE ADDRESS SIDE OF THE BUILDING OR WHEN OTHERWISE REQUIRED BY THE FIRE MARSHAL. THIS SIGNAGE WILL BE CONSTRUCTED SIMILARLY TO THE SIGNAGE DESCRIBED ABOVE AND IN APPENDIX A, WITH THE ADDITION OF AN ARROW INDICATING THE LOCATION OF THE FIRE DEPARTMENT CONNECTION IN RELATION TO THE ADDRESS SIDE OF THE BUILDING.

FIRE DEPARTMENT KEY BOXES SHALL BE REQUIRED WHENEVER: (PLEASE SEE WWW.KNOXBOX.COM)
- A PROPOSED BUILDING WILL NOT HAVE A FIRE ALARM SYSTEM OR FIRE SPRINKLER SYSTEM;
- A PROPOSED BUILDING WILL NOT HAVE AN ELEVATOR;

KEY BOXES: SIZE, LOCATION, AND INSTALLATION

THE PROVISIONS OF THIS SECTION ARE A MINIMUM REQUIREMENT THAT MAY BE SUPERSEDED DURING THE COMPREHENSIVE PLANNING PROCESS. IN SOME CASES, THE FIRE MARSHAL OR HIS/HER DESIGNEE MAY ACCEPT PERFORMANCE–BASED ALTERNATIVES OR REQUIRE A GREATER LEVEL OF BUILDING ACCESS FOR LIFESAVING OR FIREFIGHTING PURPOSES.

- THE SIZE OF THE REQUIRED KEY BOX IS DEPENDENT ON BUILDING SIZE AND/OR CONFIGURATION:
  - LESS THAN SEVEN STORIES, LESS THAN 50,000 SQ FT: KNOX 3200 SERIES
  - LESS THAN SEVEN STORIES, GREATER THAN 50,000 SQ FT: KNOX 4400 SERIES
  - HIGH–RISE BUILDING: KNOX 4400 SERIES
- ALL KEY BOXES SHALL BE OF THE HINGED TYPE; "LIFT–OFF" LIDS ARE NOT PERMITTED.
- KEY BOXES SHALL BE LOCATED AT THE MAIN ENTRANCE TO THE BUILDING OR OTHER LOCATION APPROVED BY THE FIRE MARSHAL OR HIS/HER DESIGNEE. KEY BOXES ARE PREFERRED TO BE AT A HEIGHT OF SIX (6) FEET ABOVE FINISHED GRADE, BUT MUST BE NO LOWER THAN FIVE (5) FEET OR NO HIGHER THAN SIX (6) FEET ABOVE FINISHED GRADE. ALL MEASUREMENTS SHALL BE TO THE CENTERLINE OF THE BOX.

KEY BOXES: CONTENTS

EACH KEY SET MUST INCLUDE:
- KEYS TO PROVIDE ACCESS TO ALL PORTIONS OF THE BUILDING
- ONE (1) ELECTRICAL PANEL KEY
- IF THE BUILDING IS EQUIPPED WITH A FIRE ALARM SYSTEM: ONE (1) FIRE ALARM KEY
- IF THE BUILDING IS EQUIPPED WITH AN ELEVATOR: ONE (1) ELEVATOR KEY

THE FOLLOWING NUMBER OF KEY SETS SHALL BE REQUIRED BASED ON THE BUILDING SIZE AND/OR CONFIGURATION:
- SINGLE STORY, LESS THAN 50,000 SQ FT: ONE SET
- SINGLE STORY, GREATER THAN 50,000 SQ FT: THREE SETS
- TWO TO SIX STORIES, LESS THAN 50,000 SQ FT: TWO SETS
- TWO TO SIX STORIES, GREATER THAN 50,000 SQ FT: THREE SETS
- HIGH–RISE BUILDING/GREATER THAN SEVEN STORIES: FIVE SETS

THE FIRE MARSHAL OR HIS/HER DESIGNEE MAY REQUIRE A DIFFERENT NUMBER OF KEY SETS DEPENDENT ON THE BUILDING SIZE, CONFIGURATION, OR TO PROVIDE A GREATER LEVEL OF BUILDING ACCESS FOR LIFESAVING OR FIREFIGHTING PURPOSES.

ELEVATOR KNOX BOXES: LOCATION AND INSTALLATION

THE PROVISIONS OF THIS SECTION ARE A MINIMUM REQUIREMENT THAT MAY BE SUPERSEDED DURING THE COMPREHENSIVE PLANNING PROCESS. IN SOME CASES, THE FIRE MARSHAL OR HIS/HER DESIGNEE MAY ACCEPT PERFORMANCE–BASED ALTERNATIVES OR REQUIRE A GREATER LEVEL OF BUILDING ACCESS FOR LIFESAVING OR FIREFIGHTING PURPOSES. BUILDINGS EQUIPPED WITH ELEVATORS ARE REQUIRED TO BE EQUIPPED WITH A KNOX 1404 SERIES ELEVATOR BOX. THE ELEVATOR BOX SHALL BE LOCATED IN THE PRIMARY ELEVATOR LOBBY OR OTHER LOCATION APPROVED BY THE FIRE MARSHAL OR HIS/HER DESIGNEE.

ELEVATOR BOXES: CONTENTS
- AN ELEVATOR BOX SET SHALL BE DEFINED AS THE FOLLOWING:
- ONE (1) ELEVATOR DOOR DROP KEY
- ONE (1) KEY SET AS DESCRIBED IN KEY BOXES: CONTENTS, ABOVE

THE FOLLOWING NUMBER OF ELEVATOR BOX SETS SHALL BE REQUIRED BASED ON THE BUILDING SIZE AND/OR CONFIGURATION:
- LOW–RISE BUILDING/SIX STORIES OR LESS: ONE SET
- HIGH–RISE BUILDING/SEVEN STORIES OR GREATER: TWO SETS

GENERAL NOTES

PROVIDE NEW MATERIALS AND WORKMANSHIP IN CONFORMANCE WITH ALL APPLICABLE CODES, STATE AND FEDERAL LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND OTHER CRITERIA WHICH WOULD NORMALLY APPLY TO WORK OF THIS NATURE. NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A CONFLICT IN CODES, ORDINANCES, STANDARDS, OR OTHER CRITERIA. APPLICABLE CODES AND STANDARDS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, THE FOLLOWING:

a. BOCA – BASIC CODES
b. CITY OF ROANOKE
c. VDOT – VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS
d. VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND HANDBOOK
e. OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
f. ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS
g. WVWA – WESTERN VIRGINIA WATER AUTHORITY

MAINTAIN A SET OF APPROVED PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION.

OBTAIN EACH REQUIRED PERMIT PRIOR TO COMMENCING THAT PART OF THE WORK. PAY REQUIRED FEES.

NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON THE PLANS.

COMPLY WITH LOCAL ORDINANCES FOR BURNING OF WASTE. TRANSPORT WASTE MATERIALS AND UNSUITABLE MATERIALS FROM OWNER'S PROPERTY.

A PRECONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO COMMENCING WORK. AS A MINIMUM, THE CONTRACTOR, OWNER'S AGENT, AND CITY'S AGENT MUST ATTEND.

VERIFY THE LOCATION AND ELEVATION OF EACH EXISTING UNDERGROUND UTILITY IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK. CONTACT ENGINEER IMMEDIATELY IF THERE APPEARS TO BE A CONFLICT, UPON DISCOVERY OF A UTILITY WHICH IS NOT SHOWN, AND UPON DISCOVERY OF A LOCATION OR ELEVATION WHICH DIFFERS FROM THAT SHOWN. TO LOCATE UTILITIES, CALL "MISS UTILITY", 1–800–552–7001. UTILITY LOCATIONS SHOWN ARE THE RESULT OF A COMBINATION OF FIELD LOCATION AND EXISTING INFORMATION. LOCATIONS ARE APPROXIMATE.

REPAIR ALL DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, CAUSED AS A RESULT OF CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO OWNER.

NOTIFY OWNERS OF UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF EXCAVATION.

ANY SITE DEVELOPMENT OUTSIDE THE SCOPE OF THIS PLAN WILL REQUIRE ADDITIONAL PLAN REVIEW AND APPROVAL

ANY SIGNAGE PROPOSED FOR THIS DEVELOPMENT SHALL COMPLY WITH THE APPLICABLE REGULATIONS OF THE CITY OF ROANOKE ZONING ORDINANCE, SPECIFICALLY SEC. 36.2–660. A SEPARATE SIGN PERMIT AND APPROVAL WILL BE REQUIRED.

ANY NEW ALIGNMENTS, CHANGES IN GRADES, ALTERNATIVE PIPE SIZES OR MANHOLES WILL REQUIRE A NEW SET OF PLANS STAMPED BY THE CONSULTING ENGINEER. COUNTY ENGINEER WILL REVIEW PLANS WITHIN THREE DAYS OF SUBMITTAL. PLAN SHEETS CAN BE 8.5 X 11 IF THE INFORMATION IS LEGIBLE.

NO CONSTRUCTION/FIELD CHANGES WITHOUT APPROVAL OF THE CONSULTING ENGINEER AND THE CITY OF ROANOKE.

CONSTRUCTION SITE PLAN GENERAL NOTES
CONSTRUCTION METHODS

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, AND LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE. ANY WORK WITHIN R.O.W. SHALL ADHERE TO THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.
2. THE LOCATION OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION WORK AND NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS DIFFER FROM PLANS.
3. THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-552-7001 OR 811 PRIOR TO ANY CONSTRUCTION WORK IN THIS AREA.

HANDICAPPED ACCESSIBILITY / ADA COMPLIANCE

1. THE MAXIMUM ALLOWABLE CROSS SLOPE ACROSS ACCESSIBLE PARKING SPACES AND ACCESSIBLE AISLES IS 2%. NO SLOPE IN ANY DIRECTION SHALL EXCEED 2% WITHIN ADA PARKING SPACES OR AISLES.
2. THE MAXIMUM ALLOWABLE LONGITUDINAL SLOPE ALONG ACCESSIBLE AISLES IS 5%.
3. THE CONTRACTOR SHALL VERIFY SLOPES AND GRADES FOR ALL ACCESSIBLE PARKING SPACES AND ACCESS AISLES AFTER STAKING IS COMPLETE AND BOTH BEFORE AND AFTER INSTALLATION.
4. ANY SLOPE DISCREPANCIES DETECTED BY THE SURVEYOR AND/OR CONTRACTOR SHALL BE REPORTED TO THE ENGINEER PRIOR TO INSTALLATION.
5. UNLESS SPECIFICALLY NOTED ON THE SITE PLAN, DETECTABLE WARNINGS STRIPS ARE REQUIRED AT ALL CURB RAMPS AND FLUSH CURB TRANSITIONS TO PARKING LOTS.
6. HAND RAILS ARE REQUIRED FOR ANY ACCESSIBLE SITE PEDESTRIAN RAMPS WITH LONGITUDINAL SLOPES THAT EXCEED 5% AND / OR 6-INCHES IN RISE.
7. SITE HAND RAILS SHALL BE PER VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE. HANDRAILS REQUIRED TO MEET 2021 VIRGINIA CONSTRUCTION CODE SECTION 1015. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
8. SITE HAND RAILS SHALL BE INSTALLED ON BOTH SIDES OF THE SITE SIDEWALKS WHERE HAND RAILS ARE REQUIRED. COORDINATE WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
9. PER VDOT STANDARDS, THE MAXIMUM PERMISSIBLE CURB RAMP SLOPE IS 12:1.
10. WHEEL STOPS FOR ACCESSIBLE PARKING SPACES SHALL BE INSTALLED 3' OFF THE FACE OF CURB.
11. GUTTER PAN INSTALLED IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% SLOPE.
12. NO VERTICAL TRANSITIONS IN ADA ACCESSIBLE ROUTES SHALL EXCEED 1/4".

CURB AND GUTTER

1. THE CONTRACTOR SHALL USE A MINIMUM OF THREE (3) RUNNING CONSTRUCTION STAKES TO AVOID HARD BREAK LINES IN THE CURB - UNLESS SPECIFICALLY CALLED FOR ON THE PLANS.
2. THE MINIMUM LONGITUDINAL SLOPE FOR GUTTER PAN IS 0.5%, UNLESS OTHERWISE NOTED ON PLANS.
3. ALL CURB AND GUTTER SHOWN ON THE PLANS SHALL BE VDOT CG-6, CG-2, OR CG-7, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL PUBLIC CURB AND GUTTER SHALL BE CITY OF ROANOKE STANDARD GUTTER SECTIONS, SEE DETAILS WITHIN THE PLAN SET.

UNDERGROUND UTILITIES

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LINE AND GRADE FOR ALL DRY UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRY UTILITY LINES AND GRADES AGAINST ALL PROPOSED UTILITIES SHOWN ON THE PLANS. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING TELEPHONE, CABLE, FIBER OPTIC, AND ELECTRICAL SERVICES TO THE PROJECT. CONTACT UTILITY PROVIDERS AS SOON AS POSSIBLE TO BEGIN COORDINATION.
4. THE CONTRACTOR SHALL REVIEW SITE AND BUILDING DRAWINGS TO VERIFY COORDINATION OF UTILITY INVERTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.

SIDEWALKS AND SITE STAIRS

1. ALL SITE STAIRS SHALL BE FURNISHED WITH VDOT HR-1 ON BOTH SIDES OF THE STAIRS AND COORDINATED WITH THE ARCHITECTURAL PLANS.
2. ALL SITE STAIRS SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT / ADA / ANSI STANDARDS AND SPECIFICATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE AND COORDINATED WITH THE ARCHITECTURAL PLANS. HANDRAILS REQUIRED TO MEET 2021 VIRGINIA CONSTRUCTION CODE SECTION 1015.
3. SIDEWALKS SHALL BE INSTALLED WITH A MAXIMUM 2% CROSS-SLOPE
4. SIDEWALKS SHALL BE BROOM FINISHED, UNLESS NOTED OTHERWISE ON THE PLANS.
5. SIDEWALKS SHALL BE 5-FEET IN WIDTH, UNLESS NOTED OTHERWISE ON THE PLANS.

ROOF DRAINS AND DOWN SPOUTS

1. ALL DOWN SPOUTS SHALL BE FURNISHED WITH A DOWNSPOUT/ROOFDRAIN TRANSITION BOOT. STUBBING OF DOWNSPOUT INTO ROOF DRAIN LATERAL WITHOUT A SUITABLE BOOT TRANSITION IS NOT PERMITTED.
2. ALL ROOF DRAIN LATERALS SHALL BE INSTALLED IN ACCORDANCE WITH THE PREVAILING LOCAL JURISDICTIONAL PLUMBING CODE OR THE INTERNATIONAL PLUMBING CODE, WHICHEVER IS MORE STRINGENT.
3. MINIMUM ALLOWABLE SLOPE FOR 4-INCH ROOF DRAIN LATERAL IS 2.08%.
4. MINIMUM ALLOWABLE SLOPE FOR 6-INCH ROOF DRAIN LATERAL IS 1.04%.

ROOF DRAIN LATERALS SHALL BE PER THE ARCHITECTURAL PLANS.

TELEPHONE, FIBER OPTIC, CABLE, AND GAS LINE SERVICES

1. CONTRACTOR SHALL HAVE 'MISS UTILITY' MARK EXISTING UTILITY LINES PRIOR TO START OF CONSTRUCTION AND AS NECESSARY THROUGHOUT CONSTRUCTION.
2. CONTRACTOR SHALL REVIEW PLANS TO VERIFY EXISTING LOCATIONS MARKED IN THE FIELD MATCH THOSE SHOWN ON THE PLANS.
3. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY POTENTIAL DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTOR SHALL POT-HOLE EXISTING UTILITIES AT CRITICAL CROSSING LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND PROVIDE ENGINEER WITH LINE AND GRADE INFORMATION.

BUILDING DOORS AND GRADES

1. A MINIMUM 5'X5' PAD SHALL BE INSTALLED AT ALL BUILDING DOOR LOCATIONS (MAXIMUM 2% SLOPE IN ANY DIRECTION). COMPLY WITH ADA DOOR CLEARANCE REQUIREMENTS FOR PAD POSITIONING OUTSIDE OF THE DOOR. THIS SHALL BE COORDINATED DIRECTLY WITH THE ARCHITECTURAL PLANS PRIOR TO INSTALLATION.
2. FINISHED GRADE SHALL BE 6-INCHES BELOW FINISHED FLOOR ELEVATION ALONG ALL BUILDING WALLS, IN AREAS WHERE PERVIOUS SURFACES ARE PROVIDED, UNLESS OTHERWISE NOTED. FINISHED GRADE FOR AREAS TO BE MULCHED SHALL BE AT TOP OF MULCH. FINSHED GRADE FOR AREAS TO RECEIVE SOD SHALL BE TO TOP OF SOD.
3. ALL PERVIOUS SURFACES SHALL BE INSTALLED WITH A MINIMUM OF 2% SLOPE AWAY FROM THE BUILDING (FOR A MINIMUM OF 10-FEET), TO PROVIDE FOR POSITIVE DRAINAGE.
4. CONTRACTOR SHALL COORDINATE LOCATION OF WEEP HOLES ALONG ALL BUILDING AND RETAINING WALLS AND VERIFY REQUIRED SEPARATION BETWEEN WEEP HOLES AND FINISHED GRADES.
5. CONTRACTOR SHALL REVIEW GRADING ALONG BUILDINGS WITH STOREFRONTS TO VERIFY REQUIRED SEPARATION AS PROVIDED.

GENERAL UTILITY NOTES

1. SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF THE CITY OF ROANOKE, THE WESTERN VIRGINIA WATER AUTHORITY, AND/OR THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.

2. OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WESTERN VIRGINIA WATER AUTHORITY AND/OR CITY OF ROANOKE CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.

3. ALL WORK SHALL BE SUBJECT TO INSPECTION BY WESTERN VIRGINIA WATER AUTHORITY AND/OR CITY OF ROANOKE. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.

4. SITE SHALL BE TO SUBGRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.

5. USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.

6. MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE, SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.

7. MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.

8. MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE–TO–EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF AWWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.

9. SEWER AND WATER TAPS SHALL BE LOCATED BY THE CONTRACTOR, PERFORMED BY THE CONTRACTOR/DEVELOPER AND INSPECTED BY THE WESTERN VIRGINIA WATER AUTHORITY.

10. LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.

11. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS WHERE UTILITIES ENTER THE BUILDING.

12. PRIOR TO COMMENCING WITH ANY UNDERGROUND PIPE CONSTRUCTION OR GRADING (EXCAVATION), THE GENERAL CONTRACTOR SHALL CALL MISS UTILITY OF VIRGINIA (TOLL FREE 1–800–552–7001) AT LEAST 48 HOURS PRIOR TO COMMENCING. THE G.C. IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF NOT CONTACTING MISS UTILITY AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER/DEVELOPER.

13. EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF FIELD SURVEYS, AND AVAILABLE RECORDS AND PREVIOUSLY APPROVED PLANS. LOCATIONS ARE APPROXIMATE. GENERAL CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF: 1) ANY LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. 2) IF THERE APPEARS TO BE ANY CONFLICT. UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. G.C. SHALL CALL "MISS UTILITY" OF VIRGINIA AND/OR CITY OF ROANOKE AND/OR WESTERN VIRGINIA WATER AUTHORITY.

14. PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACKFILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D–698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB–1 TRENCH FOR STORM SEWER AND UB–1 FOR SANITARY SEWER AND WATER.

15. PLACE BACKFILL FOR ALL WATER AND SEWER UTILITIES IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS, AND THE FOLLOWING CRITERIA: 1) BACKFILL NO TRENCH UNTIL INSPECTED BY WESTERN VIRGINIA WATER AUTHORITY. MATERIALS USED FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TOP OF THE PIPE SHALL BE CRUSHER RUN, OR APPROVED EQUAL MATERIAL. THOROUGHLY AND CAREFULLY COMPACT THE BACKFILL MATERIAL. 2) COMPACT BACKFILL BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO ENSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. IF THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACKFILLING, REMOVE IT AND USE AN ACCEPTABLE MATERIAL FOR BACKFILLING THE TRENCH.

16. IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINAL GRADE PRIOR TO BEGINNING CONSTRUCTION.

17. MINIMUM COVER OVER ALL WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.

18. THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.

19. CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET.

STANDARD CITY OF ROANOKE CONSTRUCTION PROCEDURE REQUIREMENTS

NOTICE TO ALL LANDOWNERS, DEVELOPERS, AND CONTRACTORS: FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS, OR THE ISSUANCE OF A STOP WORK ORDER.

RIGHT–OF–WAY EXCAVATION PERMIT: PRIOR TO THE COMMENCEMENT OF ANY DIGGING, ALTERATION, OR CONSTRUCTION WITHIN THE PUBLIC RIGHT–OF–WAY (STREETS, ALLEYS, PUBLIC EASEMENTS), A RIGHT–OF–WAY EXCAVATION PERMIT SHALL BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR FROM THE CITY OF ROANOKE.

LAND DISTURBANCE PERMIT: AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR ANY BORROW/FILL SITES ASSOCIATED WITH THE PROJECT MUST BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT

PLANS AND PERMITS: A COPY OF THE PLANS AS APPROVED BY THE CITY OF ROANOKE (SIGNED BY THE PROPER CITY OFFICIALS) AND ALL PERMITS ISSUED BY THE CITY SHALL BE MADE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES OF ONGOING CONSTRUCTION.

LOCATION OF UTILITIES: THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

CONSTRUCTION ENTRANCE: THE CONTRACTOR SHALL INSTALL AN ADEQUATE CONSTRUCTION ENTRANCE FOR ALL CONSTRUCTION RELATED EGRESS FROM THE SITE. SIZE AND COMPOSITION OF THE CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON THE PLANS.

STREETS TO REMAIN CLEAN: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE PUBLIC STREET ADJACENT TO THE CONSTRUCTION ENTRANCE REMAINS FREE OF MUD, DIRT, DUST, AND/OR ANY TYPE OF CONSTRUCTION MATERIALS OR LITTER AT ALL TIMES.

BARRICADES/DITCHES: THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND ENSURE THAT ALL BARRICADES PROPER AND NECESSARY FOR THE SAFETY OF THE PUBLIC ARE IN PLACE.

SEWER AND PAVEMENT REPLACEMENT: CONSTRUCTION OF SANITARY SEWERS AND THE REPLACEMENT OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE AND THE WESTERN VIRGINIA WATER AUTHORITY.

APPROVED PLANS/CONSTRUCTION CHANGES: ANY CHANGE OR VARIATION FROM CONSTRUCTION DESIGN AS SHOWN ON THE OFFICIALLY APPROVED PLANS SHALL BE APPROVED BY THE EROSION AND SEDIMENT CONTROL AGENT PRIOR TO SAID CHANGES OR VARIATION IN CONSTRUCTION BEING MADE.

FINAL ACCEPTANCE/CITY: THE OWNER OR DEVELOPER SHALL FURNISH THE CITY OF ROANOKE'S PLANNING BUILDING AND DEVELOPMENT DEPARTMENT WITH A FIELD SURVEYED FINAL CORRECT SET OF AS–BUILT PLANS OF THE NEWLY CONSTRUCTED STORM DRAIN AND/OR STORMWATER MANAGEMENT FACILITIES PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS–BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, US SURVEY FEET, DATUM NA 83, IN THE FORM OF 1 PAPER COPY AND 1 DIGITAL AUTOCAD FILE.

SITE CONSTRUCTION NOTES

ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT–OF–WAY SHALL BE IN ACCORDANCE WITH CURRENT CITY OF ROANOKE STANDARDS AND SPECIFICATIONS.

A RIGHT–OF–WAY EXCAVATION PERMIT MUST BE OBTAINED FROM THE CITY OF ROANOKE PRIOR TO BEGINNING ANY CONSTRUCTION WITHIN THE EXISTING CITY MAINTAINED RIGHT–OF–WAY (INCLUDING ACCESS).

THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OR PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATER LINES, ETC., PRIOR TO CONSTRUCTION. CONTACT THE CONSULTING ENGINEER IF ANY DISCREPANCIES ARE FOUND.

UPON THE DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL IMMEDIATELY CONTACT A GEOTECHNICAL ENGINEER AND/OR THE CITY OF ROANOKE. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE GEOTECHNICAL ENGINEER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT VDOT SPECIFICATIONS.

ALL STORM SEWER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF ROANOKE AND VDOT STANDARDS AND SPECIFICATIONS.

ALL ENTRANCES ARE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF ROANOKE STANDARDS.

CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1–800–552–7001. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND/OR PROPOSED RIGHT–OF–WAY REQUIRED BY THE DEVELOPMENT.

CASING SLEEVES OR CONDUIT MAY BE PROVIDED AS REQUIRED FOR THE LIGHT POLES.

THE INSTALLATION OF SANITARY SEWER, STORM SEWER, WATERLINES, AND GAS MAINS (INCLUDING SERVICE LATERALS AND/OR SLEEVES) AND OTHER UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO PLACEMENT OF AGGREGATE BASE COURSE.

A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT A RATE OF 0.30 GALLONS PER SQUARE YARD (REC–250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.

THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS (LATEST EDITION).

ALL VEGETATION AND ORGANIC MATERIAL IS TO BE REMOVED FROM THE RIGHT–OF–WAY LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.

G.C. SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OF ROANOKE PRIOR TO ANY CONSTRUCTION WITHIN THE RIGHT–OF–WAY.

GRADING NOTES

G.C. SHALL REEFER TO GEOTECHNICAL REPORT PROVIDED BY ECS MID–ATLANTIC, LLC DATED APRIL 2026 FOR THE SITE AND FOLLOW ALL RECOMMENDATIONS. IF THERE ARE ANY DISCREPANCIES BETWEEN THE REPORT AND THESE NOTES, THE REPORT SHALL GOVERN.

REFER TO BUILDING PLANS FOR SUBGRADE AND UTILITY TRENCHES WITHIN 5' OF THE BUILDING ENVELOPE.

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

EXCAVATION FOR STRUCTURES:
a. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1'
b. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
c. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
d. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
e. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM EXCAVATION WITH CONTROLLED FILL.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB–1 FOR STORM DRAINAGE PIPING.

PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°).

BACKFILLING:
a. COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45° ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
b. BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP–PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.

FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.

PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS:
a. ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTING AS NECESSARY.
b. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" FOR HAND TAMPERS.
c. PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
d. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR).

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL, DISK THE ENTIRE TOPSOILED AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

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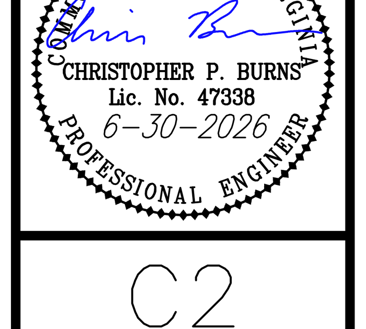
NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

NOTES

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01



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CP26–00XX

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DEMOLITION NOTES:

DEMOLITION SHALL INCLUDE, UNLESS OTHERWISE NOTED ON THE DRAWINGS, REMOVAL OF EXISTING OBJECTS OR IMPROVEMENTS, WHETHER INDICATED ON THE DRAWINGS OR NOT, THAT WOULD IN THE OPINION OF THE OWNER, PREVENT OR INTERFERE WITH THE PROCESS OR COMPLETION OF THE PROPOSED WORK.

PERMITS, FEES AND LICENSES SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR, INCLUDING DISPOSAL CHARGES AS REQUIRED.

WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITIES IN DEMOLITION OF EXISTING PAVEMENT, CURBS AND GUTTERS, DRAINAGE STRUCTURES AND UTILITIES AS MAY BE REQUIRED.

ALL EXISTING UTILITIES TO ANY BUILDINGS SHOWN TO BE RAZED SHALL BE DISCONNECTED AND PLUGGED OR CAPPED AS REQUIRED BY THE CITY OF ROANOKE.

CONTRACTOR SHALL SAW-CUT ALL JOINTS WHERE EXISTING CURBING, PAVEMENT AND SIDEWALK IS TO BE DEMOLISHED AND NEW CONSTRUCTION JOINS THE EXISTING.

CONTRACTOR SHALL COMPLETELY FILL BELOW GRADE AREAS AND VOIDS FROM DEMOLITION USING APPROVED SELECT FILL MATERIAL.

ALL EXISTING CURBING, CONCRETE, SIDEWALK, ENTRANCES, ASPHALT, BRICK, AND ANY STRUCTURES THAT ARE DEMOLISHED SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR, ALL DEBRIS, ETC. SHALL NOT BE USED AS FILL MATERIAL ON THE SITE.

CONTRACTOR SHALL PROVIDE THE FOLLOWING PROTECTIONS AT THE JOB SITE:

MAKE ARRANGEMENTS, BEFORE INITIATING DEMOLITION, FOR RELOCATING, DISCONNECTING, REROUTING, ABANDONING, OR SIMILAR ACTION AS MAY BE REQUIRED RELATIVE TO THE UTILITIES AND OTHER UNDERGROUND PIPING, TO PERMIT WORK TO PROCEED WITHOUT ANY DELAY. ARRANGEMENTS SHALL BE MADE IN ACCORDANCE WITH REGULATIONS OF AUTHORITIES OF UTILITIES MENTIONED. SUCH AS OVERHEAD AND UNDERGROUND POWER AND TELEPHONE LINES AND EQUIPMENT, GAS PIPING, STORM SEWERS, SANITARY SEWERS, OR WATER PIPING. CONTRACTOR SHALL NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS, SUCH AS ICE, FLOODING AND/OR POLLUTION.

ENSURE SAFE PASSAGE OF PERSONS AROUND ALL AREAS OF DEMOLITION.

CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJUST BUILDINGS, STRUCTURES, OTHER FACILITIES, OR INJURY TO PERSONS.

PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO THE OWNER.

MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. PREVENT INTERRUPTION OF EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICED DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO GOVERNING AUTHORITIES.

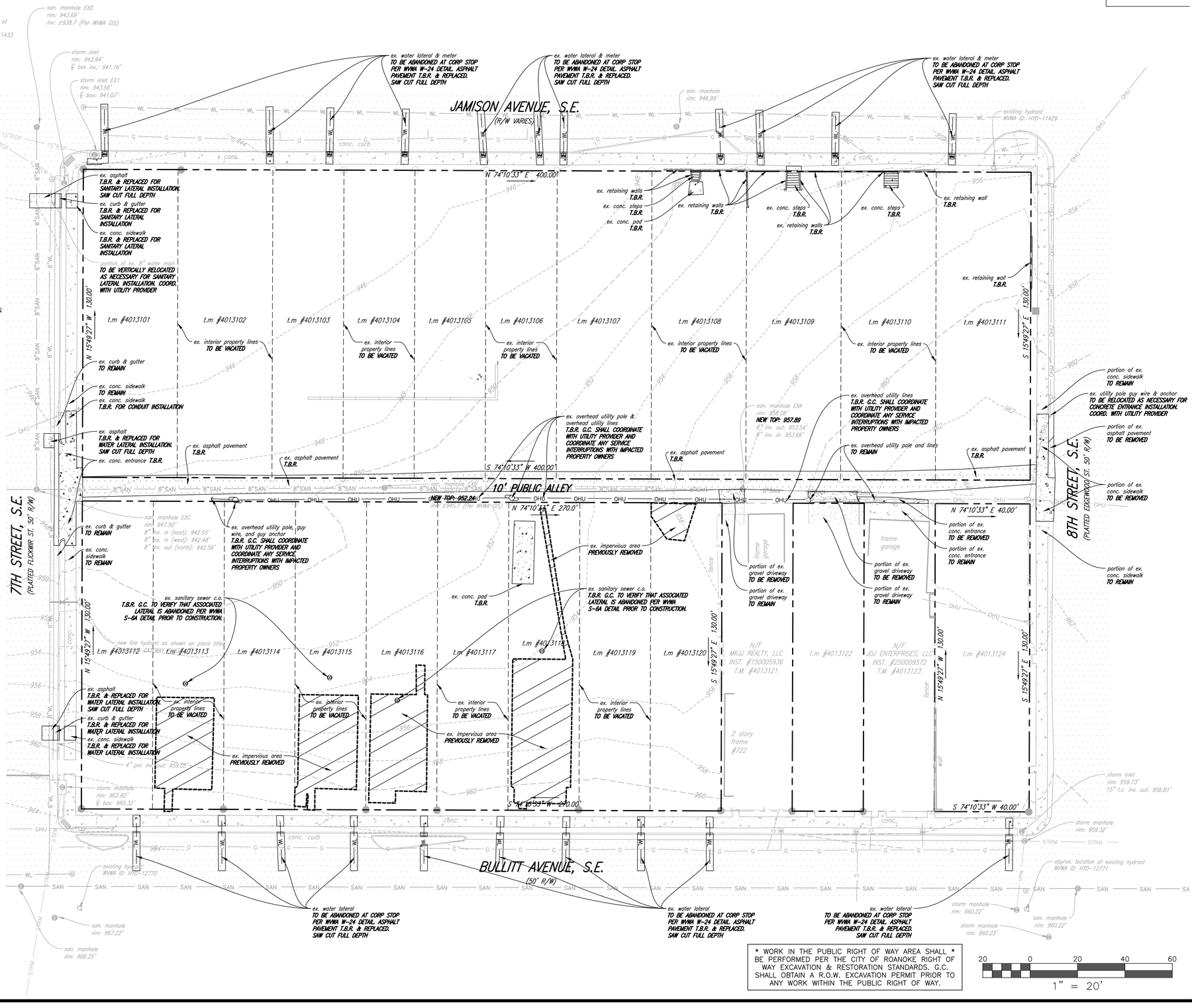
USE WATER SPRINKLING AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN AIR TO LOWEST PRACTICAL LEVEL.

COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.

COORDINATE ALL INTERRUPTIONS TO ACCESS AND UTILITY SERVICES WITH AFFECTED PROPERTY OWNER(S) PRIOR TO THE INTERRUPTION.

KEY:

- PREVIOUSLY EXISTING IMPERVIOUS AREA
- PORTION OF PUBLIC UTILITY EASEMENT TO BE VACATED
- EXISTING ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- EXISTING CONCRETE
- EXISTING CONCRETE TO BE REMOVED



* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

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1" = 20'

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
EXISTING CONDITIONS & DEMOLITION PLAN

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: 1" = 20'
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

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CP26-00XX

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GENERAL SITE NOTES:

1. G.C. TO CONFIRM THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION OF PROPOSED IMPROVEMENTS.

2. NO CONSTRUCTION/FIELD CHANGES WITHOUT THE APPROVAL OF THE OWNER/DEVELOPER, CONSULTING ENGINEER, W.V.W.A., AND CITY OF ROANOKE.

3. GENERAL CONTRACTOR TO FIELD VERIFY PAVEMENT TIE IN LOCATIONS/ELEVATIONS AND ENSURE THAT POSITIVE DRAINAGE AWAY FROM THE PROPOSED BUILDINGS IS MAINTAINED THROUGHOUT THE SITE.

4. ANY PAVEMENT TO REMAIN THAT IS DISTURBED OR DESTROYED DURING THE CONSTRUCTION PROCESS SHALL BE REPAIRED/REPLACED AS NECESSARY TO PRE-CONSTRUCTION CONDITIONS AT NO COST TO THE OWNER.

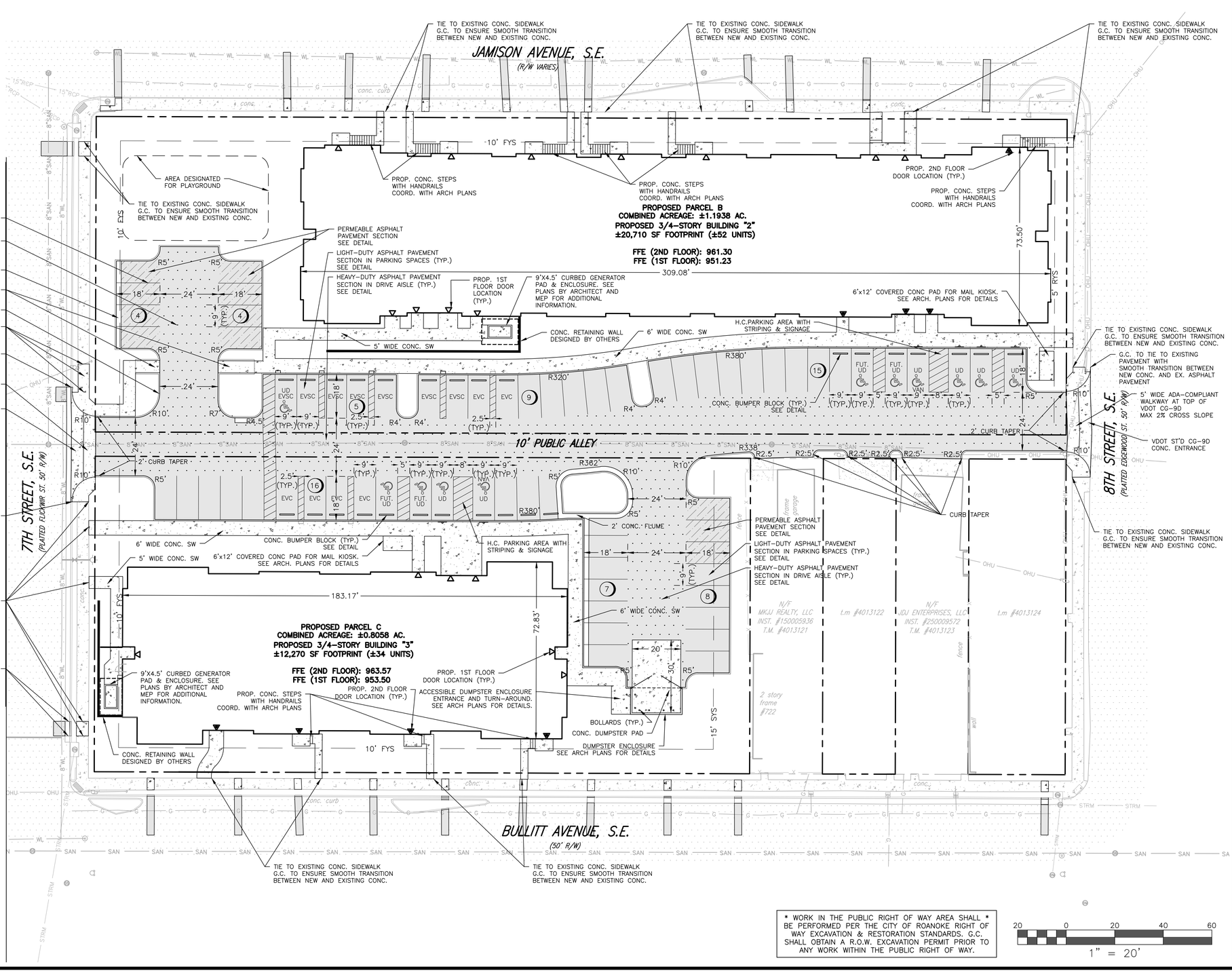
5. ALL BUILDING DIMENSIONS AND UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.

6. G.C. TO PROVIDE ALL REQUIRED CONDUIT FOR EXTERIOR LIGHTING, ELECTRICAL, TELEPHONE, AND COMMUNICATIONS.

7. ALL UTILITIES TO BE INSTALLED UNDERGROUND PER SECTION 36.2-610. WATER & SEWER CONNECTIONS SHALL CONFORM TO WVWA UTILITY STANDARDS AND INTERNATIONAL BUILDING CODE.

8. G.C. SHALL COORDINATE CONCRETE FINISHING AROUND THE PROPOSED DOOR LOCATIONS WITH THE ARCHITECTURAL PLANS.

9. THE SITE CONTRACTOR MUST COORDINATE THE TIMING AND INSTALLATION OF ALL UTILITIES AND MAKE ALL NECESSARY SCHEDULE ARRANGEMENTS WITH AEP, ROANOKE GAS, AND OTHER PROVIDERS FOR TEMPORARY OR PERMANENT UTILITIES PER THE PROJECT SCHEDULE.



KEY:

- EXISTING GRAVEL
- EXISTING ASPHALT PAVEMENT
- PROPOSED LIGHT-DUTY ASPHALT PAVEMENT
- PROPOSED HEAVY-DUTY ASPHALT PAVEMENT
- PROPOSED PERMEABLE ASPHALT PAVEMENT
- EXISTING CONCRETE
- PROPOSED CONCRETE

* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

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1" = 20'

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

LAYOUT PLAN

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: 1" = 20'
DRAFTER: LDS
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COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

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FIRE FLOW SUMMARY:

EXISTING FLOW DATA PER TEST PERFORMED BY
THE WVWA ON 12/18/2025

HYD-11429
STATIC: 74 PSI
FLOW: 167.8 GPM @ 2 PSI RESIDUAL
CALCULATED FLOW: 144 GPM @20 PSI RESIDUAL

HYD-11433
STATIC: 79 PSI
FLOW: 1210 GPM @ 65 PSI RESIDUAL
CALCULATED FLOW: 2631 GPM @20 PSI RESIDUAL

HYD-12770
STATIC: 69 PSI
FLOW: 1125.6 GPM @ 54 PSI RESIDUAL
CALCULATED FLOW: 2133 GPM @20 PSI RESIDUAL

HYD-12771
STATIC: 72 PSI
FLOW: 992.7 GPM @ 48 PSI RESIDUAL
CALCULATED FLOW: 1507 GPM @20 PSI RESIDUAL

CONDUIT NOTES:

1. FOR BOTH BUILDINGS "2" AND "3", G.C. SHALL PROVIDE (2) 4" PVC SCHEDULE 40 CONDUITS BETWEEN THE EXISTING UTILITY SERVICE AND PROPOSED SERVICE IN BUILDING. G.C. TO COORDINATE DIRECTLY WITH VERIZON/T.E.C./ETC.

2. FOR BOTH BUILDINGS "2" AND "3", G.C. SHALL PROVIDE (3) 4" PVC SCHEDULE 40 CONDUITS BETWEEN THE EXISTING UTILITY SERVICE AND PROPOSED TRANSFORMER & BUILDING. G.C. TO COORDINATE DIRECTLY WITH AEP.

3. FOR BOTH BUILDINGS "2" AND "3", G.C. SHALL PROVIDE PVC SCHEDULE 40 CONDUIT AS REQUIRED FROM BUILDING TO PROVIDE POWER TO PROPOSED ELECTRICAL CHARGING STATIONS PER MANUFACTURER.

TIE TO EXISTING 8" SANITARY SEWER PER WVWA S-6 DETAIL WITH NEW 48" SAMPLING MH AT THE PROPERTY LINE. SAWCUT AND ASPHALT PAVEMENT REPLACEMENT FOR UTILITY INSTALLATION G.C TO CONFIRM EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. ENSURE SMOOTH TRANSITION BETWEEN NEW AND EXISTING ASPHALT PAVEMENT.

CURB AND GUTTER AND SIDEWALK REPLACEMENT FOR SANITARY SEWER INSTALLATION. G.C. TO ENSURE SMOOTH TRANSITION BETWEEN NEW AND EXISTING

UTILITY PROVIDER TO PROVIDE OVERHEAD SERVICE CONNECTION TO SPECIFIED EXISTING UTILITY POLE LOCATION. TRANSITION FROM OVERHEAD TO UNDERGROUND POWER AT THIS POLE. G.C. TO COORDINATE DIRECTLY WITH AEP.

PROP. TRANSFORMER PAD WITH 6' TALL SCREEN FENCING. COORD. ROUTING WITH MEP & AEP

TIE TO EXISTING 8" WATER MAIN WITH 8"x6" TAPPING SLEEVE & 6" GATE VALVE PER WVWA W-21 DETAIL. G.C. SHALL CONFIRM EXACT SIZE, MATERIAL, LOCATION, AND ELEVATION OF EX. WATERLINE PRIOR TO ANY CONSTRUCTION. COORD. WITH WVWA FOR TAP.

20' WIDE PUBLIC WATER EASEMENT

SAWCUT AND PAVEMENT REPLACEMENT PER CITY OF ROANOKE ROW EXCAVATION AND RESTORATION STANDARDS FOR WATERLINE INSTALLATION, G.C. TO ENSURE SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT

WATER METER AND FIRE SERVICE VAULT PER WVWA W-7 DETAIL WITH 6" FIRE LINE, 2" DOMESTIC LINE AND 2" METER PIV TO BE PROVIDED ON 6" FIRE LINE BEHIND PROPERTY LINE. VAULT LID SHALL BE FLUSH WITH FINISHED GRADE

PROP. TRANSFORMER PAD WITH 6' TALL SCREEN FENCING. COORD. ROUTING WITH MEP & AEP

TIE CANOPY DRAINS TO 8" ROOF DRAIN TRUNKLINE WITH 106 LF OF 6" SCH. 40 PVC AT MIN 1.04% SLOPE WITH CLEANOUTS AT BENDS.

12" NYLOPLAST CATCH BASIN INLET TOP=953.10 INV.=951.10

WATER METER AND FIRE SERVICE VAULT PER WVWA W-7 DETAIL WITH 6" FIRE LINE, 2" DOMESTIC LINE AND 2" METER PIV TO BE PROVIDED ON 6" FIRE LINE BEHIND PROPERTY LINE. VAULT LID SHALL BE FLUSH WITH FINISHED GRADE

CURB AND GUTTER AND SIDEWALK REPLACEMENT FOR WATERLINE INSTALLATION. G.C. TO ENSURE SMOOTH TRANSITION BETWEEN NEW AND EXISTING CONCRETE

TIE TO EXISTING 8" WATER MAIN WITH 8"x6" TAPPING SLEEVE & 6" GATE VALVE PER WVWA W-21 DETAIL. G.C. SHALL CONFIRM EXACT SIZE, MATERIAL, LOCATION, AND ELEVATION OF EX. WATERLINE PRIOR TO ANY CONSTRUCTION. COORD. WITH WVWA FOR TAP.

SAWCUT AND PAVEMENT REPLACEMENT PER CITY OF ROANOKE ROW EXCAVATION AND RESTORATION STANDARDS FOR WATERLINE INSTALLATION, G.C. TO ENSURE SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT

14' WIDE PUBLIC WATER EASEMENT
6" PRIVATE FIRE LINE
2" PRIVATE DOMESTIC W.L.

JAMISON AVENUE, S.E.
(R/W VARIES)

BULLITT AVENUE, S.E.
(50' R/W)

7TH STREET, S.E.
(PLATTED FLOWMIR ST. 50' R/W)

8TH STREET, S.E.
(PLATTED EDGEWOOD ST. 50' R/W)

10' PUBLIC ALLEY

PROPOSED 3/4-STORY BUILDING "2"
±20,710 SF FOOTPRINT (±52 UNITS)
FFE (2ND FLOOR): 961.30
FFE (1ST FLOOR): 951.23

PROPOSED 3/4-STORY BUILDING "3"
±12,270 SF FOOTPRINT (±34 UNITS)
FFE (2ND FLOOR): 963.57
FFE (1ST FLOOR): 953.50

UNDERGROUND SWM FACILITY

6" STORM CLEANOUT TOP=944.75 INV.=941.30
6" STORM CLEANOUT TOP=946.85 INV.=942.20
6" STORM CLEANOUT TOP=947.50 INV.=943.10
6" STORM CLEANOUT TOP=949.40 INV.=946.00
6" STORM CLEANOUT TOP=956.20 INV.=948.00
TIE CANOPY DRAINS TO STR. EX1 WITH 370 LF OF 6" SCH. 40 PVC AT MIN 1.04% SLOPE WITH CLEANOUTS AT BENDS.
EV CHARGING STATION LOCATION (TYP.) G.C. TO PROVIDE ALL REQUIRED CONDUIT AND MATERIALS FROM BUILDING. COORD. WITH MEP PLANS. COORD. CHARGING BOLLARD WITH OWNER/DEVELOPER & MEP.
REMOTE FDC WITH KNOX LOCKING CAPS. COORD. WITH MEP PLANS
12" NYLOPLAST CATCH BASIN INLET TOP=949.00 INV.=944.55
TIE ROOF DRAINS TO STR. 5 WITH 107 LF OF 8" SCH. 40 PVC AT MIN 1.04% SLOPE WITH CLEANOUTS AT BENDS. TOP=949.15 INV.=945.35
BALL DRIP AND CHECK VALVE TO PREVENT FREEZING
8" STORM CLEANOUT TOP=949.75 INV.=944.00
COORD. EXACT UTILITY TIE IN LOCATIONS WITH ARCH & MEP PLANS (TYP.)
(3) 4" PVC CONDUIT G.C. TO PROVIDE ALL CONDUIT FOR UNDERGROUND ELECTRICAL ROUTING INTO BUILDING. COORD. EXACT ELECTRICAL TIE IN LOCATION WITH ARCH & MEP PLANS
TIE CANOPY DRAINS TO STR. 3 WITH 167 LF OF 6" SCH. 40 PVC AT MIN 2.08% SLOPE WITH CLEANOUTS AT BENDS.
12" NYLOPLAST CATCH BASIN INLET TOP=959.95 INV.=957.00
6" STORM CLEANOUT TOP=959.10
12" NYLOPLAST CATCH BASIN INLET TOP=949.00 INV.=945.40 INV.=952.00
12" NYLOPLAST CATCH BASIN INLET TOP=949.00 INV.=945.20
6" CHECK VALVE
6" PRIVATE FIRE LINE
2" PRIVATE DOMESTIC W.L.
PROP. 5' WIDE PUBLIC SANITARY SEWER EASEMENT
PROP. PRIVATE FIRE HYDRANT ASSEMBLY
NEW TOP: 957.89
NEW TOP: 952.24
PROP. 5' WIDE PUBLIC SANITARY SEWER ,EASEMENT
PROP. 5' WIDE PUBLIC SANITARY SEWER EASEMENT
PROP. 5' WIDE PUBLIC SANITARY SEWER EASEMENT
SCH. 40 PVC C.O. WITH TRAFFIC BEARING LID SEE DETAIL SHEET C9.2 TOP=954.30 INV.=951.30
20 LF OF PERFORATED 6" SCH. 40 PVC WRAPPED IN FILTER FABRIC AT MIN 0.50% SLOPE. SEE DETAIL SHEET C9.2
SCH. 40 PVC C.O. WITH TRAFFIC BEARING LID SEE DETAIL SHEET C9.2 TOP=954.20 INV.=952.20
TIE 6" PERFORATED UNDERDRAIN TO STR. 1 WITH 47 LF OF 6" SCH. 40 PVC AT MIN 2.08% SLOPE WITH CLEANOUTS AT BENDS.
6" STORM CLEANOUT TOP=951.40 INV.=949.55
TIE ROOF DRAINS TO STR. 5 WITH 59 LF OF 8" SCH. 40 PVC AT MIN 1.04% SLOPE WITH CLEANOUTS AT BENDS. TOP=951.90 INV.=949.00
new fire hydrant as shown on plans titled "ROANOKE GATEWAY PHASE 1"
FUTURE EV CHARGING STATION LOCATION (TYP.) G.C. TO PROVIDE ALL REQUIRED CONDUIT AND MATERIALS FROM BUILDING. COORD. WITH MEP PLANS.
COORD. EXACT UTILITY TIE IN LOCATIONS WITH ARCH & MEP PLANS (TYP.)
(3) 4" PVC CONDUIT G.C. TO PROVIDE ALL CONDUIT FOR UNDERGROUND ELECTRICAL ROUTING INTO BUILDING. COORD. EXACT ELECTRICAL TIE IN LOCATION WITH ARCH & MEP PLANS
6" STORM CLEANOUT TOP=953.40 INV.=949.40
12" NYLOPLAST CATCH BASIN INLET TOP=952.20 INV.=948.50
TIE CANOPY DRAINS TO STR. 1 WITH 64 LF OF 6" SCH. 40 PVC AT MIN 2.08% SLOPE WITH CLEANOUTS AT BENDS.
8" STORM CLEANOUT TOP=953.50 INV.=949.50
6" STORM CLEANOUT TOP=961.00 INV.=952.50
FDC WITH REQUIRED BUILDING MOUNTED SIGNAGE, FDC REQUIRED TO HAVE A KNOX BOX LOCKING CAP INSTALLED WITH 5" STORZ COUPLINGS AND A 30° ELBOW. COORD. WITH ARCH AND MEP PLANS G.C. SHALL PROVIDE KNOX BOX IN APPROVED LOCATION.
TIE 12" NYLOPLAST CATCH BASIN INLET TO STR. 1 WITH 99 LF OF 8" SCH. 40 PVC AT MIN 2.08% SLOPE WITH CLEANOUTS AT BENDS. TOP=952.80 INV.=950.00
6" STORM CLEANOUT TOP=963.05 INV.=960.00
6" STORM CLEANOUT TOP=962.80 INV.=958.50

N/F MKJU REALTY, LLC INST. #150005936 T.M. #4013121
t.m #4013122
N/F JDJ ENTERPRISES, LLC INST. #250009572 T.M. #4013123
t.m #4013124

existing hydrant WVWA ID: 10D-11429
existing hydrant WVWA ID: HYD-11433
existing hydrant WVWA ID: HYD-12770
approx. location of existing hydrant WVWA ID: HYD-12771
san. manhole EX0 rim: 943.69' inv: ±938.7 (Per WVWA GIS)
storm inlet rim: 943.94' E box inv.: 941.16'
storm inlet EX1 rim: 943.56' E box: 941.07'
storm manhole rim: 943.54'
san. manhole rim: 946.99'
san. manhole EX4 rim: 953.54' 8" inv. out: 953.44' 8" inv. in: 953.66'
san. manhole rim: 947.50' 8" inv. in (east): 942.25' 8" inv. in (west): 942.48' 8" inv. out (south): 941.56'
storm manhole rim: 962.82' E box: 960.32'
4" pvc inv. out: 959.05'
storm inlet rim: 959.73' 15" t.c. inv. out: 956.81'
storm manhole rim: 959.32'
storm manhole rim: 960.22'
san. manhole rim: 960.22'
storm manhole rim: 960.23'
san. manhole rim: 967.22'
san. manhole rim: 966.25'

* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

20 0 20 40 60
1" = 20'

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

UTILITY PLAN

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: 1" = 20'
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C5

CP26-00XX

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SITE GRADING NOTES:

1. NO CONSTRUCTION/FIELD CHANGES WITHOUT THE APPROVAL OF THE OWNER/DEVELOPER, CONSULTING ENGINEER, AND THE CITY OF ROANOKE.

2. ANY NEW ALIGNMENTS, CHANGES IN GRADES, OR ESC MEASURES WILL REQUIRE A NEW SET OF PLANS STAMPED BY THE CONSULTING ENGINEER.

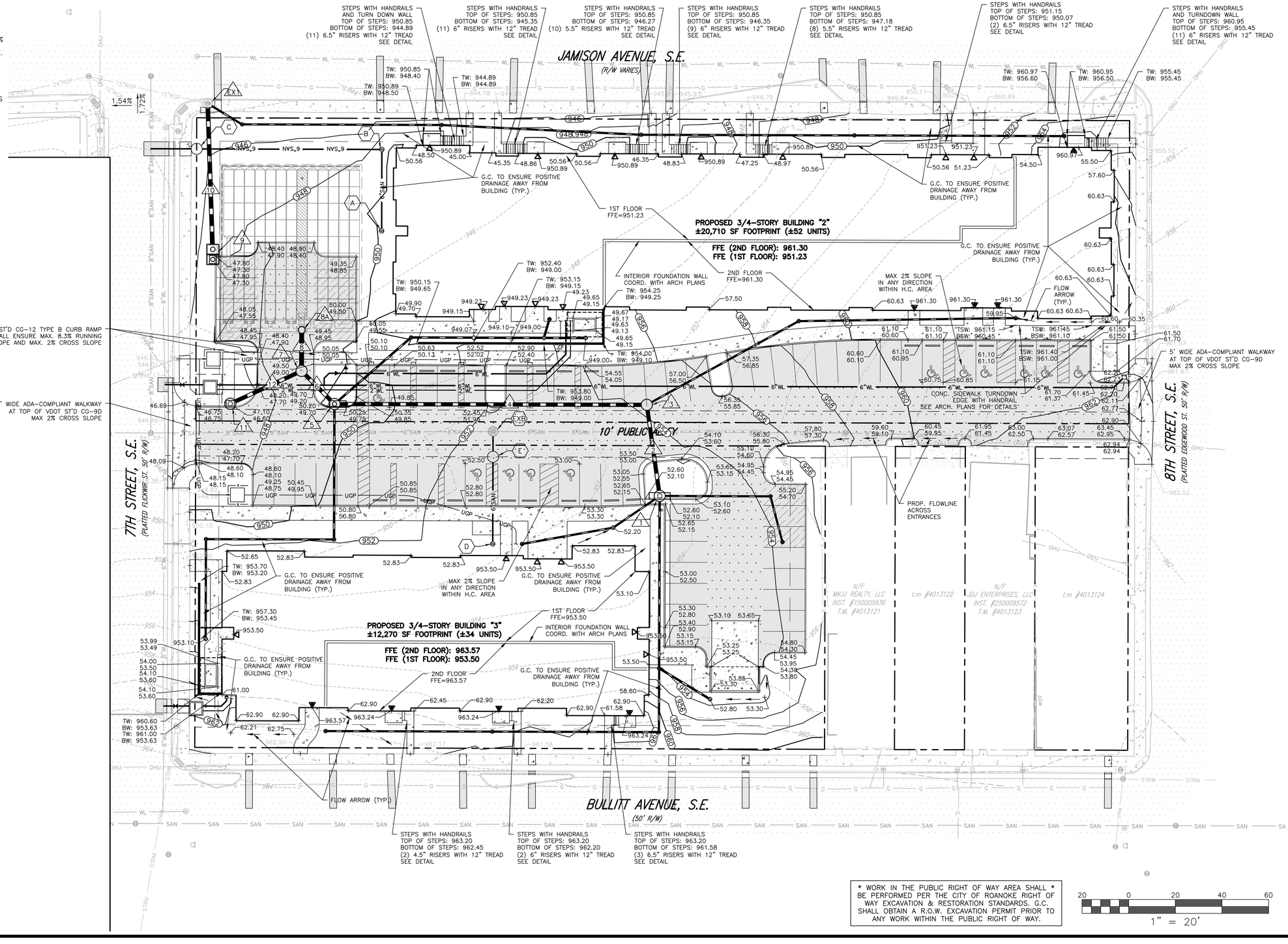
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES WITH EXISTING UTILITIES ARE LOCATED DURING THE GRADING PROCESS FOR THE SITE PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

4. ALL STANDARD PARKING LOT STRIPING SHALL BE PAINTED WITH 4" WIDE WHITE TRAFFIC PAINT (2 COATS MINIMUM).

5. ALL COMPACTION SHALL MEET OR EXCEED 95% STANDARD PROCTOR OR AS OUTLINED IN THE APPLICABLE GEOTECHNICAL REPORT IF AVAILABLE.

6. PROPOSED CONCRETE SIDEWALKS SHALL HAVE A MAX. 2% CROSS SLOPE TOWARDS THE PUBLIC ROADWAYS.

7. G.C. SHALL BE RESPONSIBLE FOR CONFIRMING THE PAVEMENT TIE IN LOCATIONS AND ELEVATIONS PRIOR TO ANY CONSTRUCTION TO CONFIRM EXISTING CONDITIONS. G.C. SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY QUESTIONS/CONCERNS OR DISCREPANCIES FOUND ON-SITE.



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1" = 20'

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

GRADING PLAN

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: 1" = 20'
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB

PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C6

CP26-00XX

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E.S.C. CONSTRUCTION SEQUENCE I:

1. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PROVIDED ON-SITE AND ALL REGULATIONS, INSPECTIONS, AND PROCEDURES FOLLOWED FOR THE ENTIRE DURATION OF THE PROJECT. SEE SWPPP DOCUMENT FOR SITE SPECIFIC REQUIREMENTS AND INSPECTIONS.

2. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS THE FIRST STEP OF CONSTRUCTION. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. G.C. SHALL PAY SPECIAL ATTENTION TO ENSURE SEDIMENT LADEN RUNOFF IS NOT DIRECTED TOWARDS THE ADJACENT PUBLIC RIGHTS-OF-WAY.

   *NOTE: G.C. SHALL ENSURE NO MUD 'TRACKING' FROM THE SITE INTO THE PUBLIC RIGHT-OF-WAY.

3. SILT FENCE, INLET PROTECTION, AND ROCK FILTER OUTLETS TO BE INSTALLED AS SHOWN PRIOR TO ANY LAND DISTURBANCE WITH SELECTIVE DEMOLITION AS NECESSARY TO ALLOW EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED. THE SILT FENCE, INLET PROTECTION, AND ROCK FILTER OUTLETS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND SHALL BE CHECKED AFTER EACH MEASURABLE RAIN EVENT AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL HANDBOOK.

   *NOTE: THE R.L.D. ASSIGNED TO THE PROJECT SHALL ENSURE ALL REGULATIONS ARE FOLLOWED AND DOCUMENTED THROUGHOUT THE ENTIRE PROJECT TO PREVENT THE EXCESSIVE BUILD-UP OF SEDIMENT. ALL BUILT SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.

4. SEDIMENT TRAP, DIVERSIONS, AND STORMWATER CONVEYANCE CHANNEL SHALL BE CONSTRUCTED AS SHOWN. THE DIVERSIONS SHALL BE INSTALLED WITH POSITIVE DRAINAGE TO DIRECT SEDIMENT LADEN RUNOFF TO THE SEDIMENT TRAP. STORMWATER CONVEYANCE CHANNEL TO BE STABILIZED IMMEDIATELY FOLLOWING INSTALLATION.

5. FULL DEMOLITION OPERATIONS SHALL OCCUR AT THIS TIME FOR THE EXISTING IMPROVEMENTS THAT ARE TO BE REMOVED.

6. MAJOR GRADING OPERATIONS SHALL COMMENCE ONCE THE CONSTRUCTION ENTRANCE, SILT FENCE, ROCK FILTER OUTLET, INLET PROTECTION, SEDIMENT TRAP, DIVERSIONS, AND STORMWATER CONVEYANCE CHANNEL ARE INSTALLED.

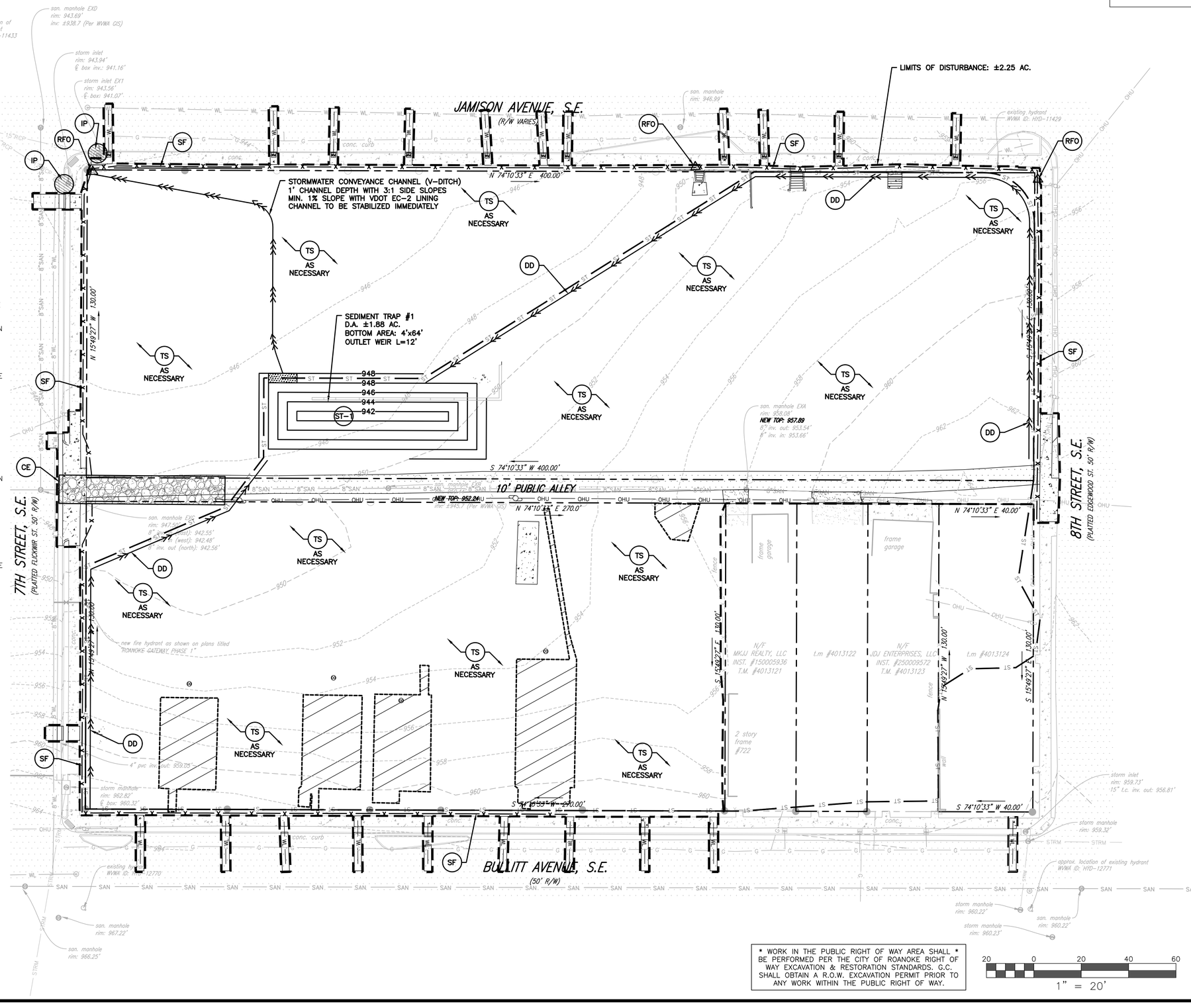
7. SEE SHEET C7.2 FOR PHASE 2 OF THE E.S.C. PLAN.

8. G.C. SHALL ENSURE THAT THE LIMITS OF DISTURBANCE ARE STRICTLY ADHERED TO DURING THE PROJECT.

9. NO DEVIATIONS TO THE PLANS SHALL TAKE PLACE UNLESS PRIOR APPROVAL FROM THE OWNER, PROJECT ENGINEER, AND THE APPROPRIATE REVIEW AGENCIES.

ESC LEGEND

C-PCM-04	SILT FENCE	SF
C-ECM-04	TEMPORARY DIVERSION DIKE	DD
C-ECM-09	STORMWATER CONVEYANCE CHANNEL	SCC
C-SCM-03	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
C-SCM-04	INLET PROTECTION	IP
C-SCM-08	ROCK FILTER OUTLET	RFO
C-SCM-11	TEMPORARY SEDIMENT TRAP	ST
C-SCM-13	CONCRETE WASHOUT PIT	CW
C-SSM-05	SOIL STABILIZATION BLANKETS AND MATTING	B/M
C-SSM-09	TEMPORARY SEEDING	TS
C-SSM-10	PERMANENT SEEDING	PS
C-SSM-11	MULCHING	MU



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1" = 20'

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
E.S.C. PLAN PHASE 1

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: 1" = 20'
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C7.1

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E.S.C. CONSTRUCTION SEQUENCE II:

1. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PROVIDED ON-SITE AND ALL REGULATIONS, INSPECTIONS, AND PROCEDURES FOLLOWED FOR THE ENTIRE DURATION OF THE PROJECT. SEE SWPPP DOCUMENT FOR SITE SPECIFIC REQUIREMENTS AND INSPECTIONS.

2. THE CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, AND ROCK FILTER OUTLETS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND SHALL BE CHECKED AFTER EACH MEASURABLE RAIN EVENT AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL HANDBOOK.

3. BUILDING CONSTRUCTION MAY BEGIN ONCE THE BUILDING PAD REACHES SUBGRADE AND ALL PERMITS HAVE BEEN OBTAINED. THE CONCRETE WASHOUT SHALL BE UTILIZED IN ACCORDANCE WITH D.E.Q. REGULATIONS.

4. PROPOSED STORM SEWER AND THE UNDERGROUND STORM WATER MANAGEMENT FACILITY SHALL BE INSTALLED AT THIS TIME. ALL PROPOSED INLETS SHALL BE PROTECTED FROM SEDIMENT WITH INLET PROTECTION AS SOON AS INSTALLATION OF EACH STRUCTURE IS COMPLETE. DIVERSIONS TO BE INSTALLED UPSTREAM OF SWM FACILITY TO DIRECT RUNOFF AROUND FACILITY DURING INSTALLATION. G.C. SHALL ENSURE SEDIMENT LADEN RUNOFF IS NOT CONVEYED THROUGH THE STORM SEWER SYSTEM. G.C. SHALL ENSURE THAT THE UNDERGROUND FACILITY IS PROTECTED FROM SEDIMENT AT ALL TIMES

5. ALL OTHER UTILITIES FOR THE SITE SHALL BE INSTALLED AT THIS TIME AND AREAS TEMPORARILY OR PERMANENTLY SEEDED AFTER COMPLETION OF INSTALLATION.

6. AFTER PROPOSED DRAINAGE DIVIDES ARE ESTABLISHED AND STORMWATER IS DIRECTED TO THE NEW INLETS, THE SEDIMENT TRAP, TEMPORARY DIVERSION DIKES, AND STORMWATER CONVEYANCE CHANNEL CAN BE REMOVED. CITY OF ROANOKE INSPECTION AND APPROVAL IS REQUIRED PRIOR TO THE REMOVAL OF THE SEDIMENT TRAP AND DIVERSION DIKES.

7. PAVEMENT, CURBING, AND LANDSCAPING, ETC. SHALL BE INSTALLED AT THIS TIME. THE CONCRETE WASHOUT SHALL BE UTILIZED IN ACCORDANCE WITH D.E.Q. REGULATIONS. RIGHT-OF-WAY DIVERSION TO BE REMOVED PRIOR TO PAVING OPERATIONS.

8. PERMANENT SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS AT FINAL GRADE. BLANKET MATTING SHALL BE APPLIED TO ANY SLOPES 3:1 OR GREATER.

9. AFTER FINAL SITE STABILIZATION AND CITY OF ROANOKE APPROVAL, CONSTRUCTION ENTRANCE, SILT FENCE, ROCK FILTER OUTLETS, AND INLET PROTECTION MAY BE REMOVED.

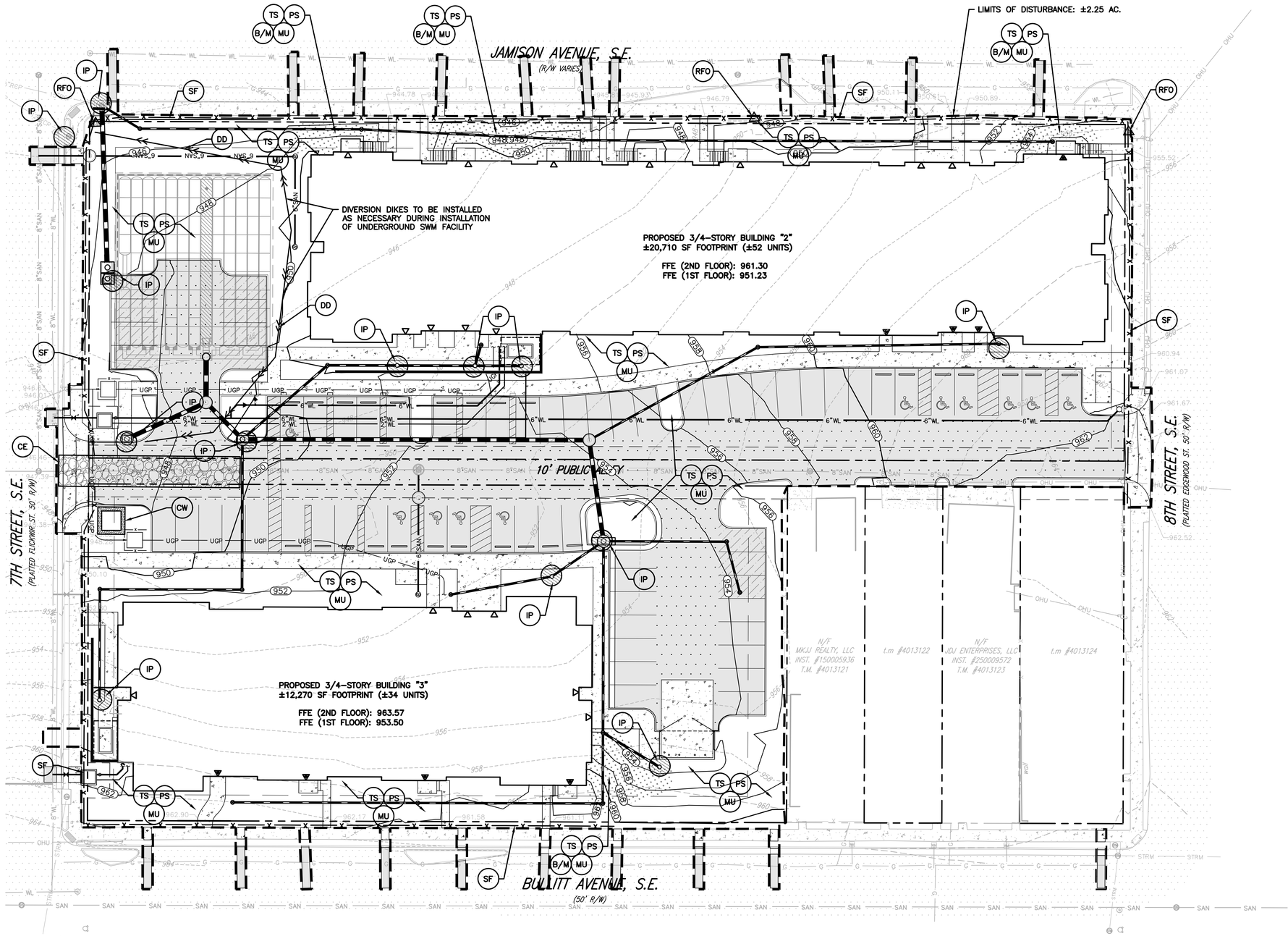
   *NOTE: CITY OF ROANOKE INSPECTION AND APPROVAL IS REQUIRED PRIOR TO THE REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES.

10. G.C. SHALL ENSURE THAT THE LIMITS OF DISTURBANCE ARE STRICTLY ADHERED TO DURING THE PROJECT.

11. NO DEVIATIONS TO THE PLANS SHALL TAKE PLACE UNLESS PRIOR APPROVAL FROM THE OWNER, PROJECT ENGINEER, AND THE APPROPRIATE REVIEW AGENCIES.

ESC LEGEND

C-PCM-04	SILT FENCE	SF
C-ECM-04	TEMPORARY DIVERSION DIKE	DD
C-ECM-09	STORMWATER CONVEYANCE CHANNEL	SCC
C-SCM-03	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

E.S.C. PLAN PHASE 2

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
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COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
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PROFESSIONAL ENGINEER

C7.2

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GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, AND 9VAC25-875 VIRGINIA EROSION AND STORMWATER REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE- CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO ISSUANCE OF A LAND DISTURBANCE PERMIT BY THE CITY OF ROANOKE, THE OWNER SHALL PROVIDE DOCUMENTATION OF AN EXISTING LAND DISTURBING PERMIT(S) THAT WOULD BE ASSOCIATED OR REQUIRED FOR ANY OFF-SITE BORROW OR WASTE AREAS; WHETHER LOCATED WITHIN THE CITY LIMITS OR NOT.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE. FOR RECEIVING WATERWAYS MEETING IMPAIRMENT REQUIREMENTS IN THE 2024 CONSTRUCTION GENERAL PERMIT (CGP), DEWATERING DISCHARGES SHALL BE CONTROLLED AND DOCUMENTED USING THE TURBIDITY BENCHMARK OPTIONS DESCRIBED IN THE 2024 CGP.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUN-OFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10: ALL ASPHALT AREAS WILL BE STABILIZED WITH BASE STONE WITHIN 30 DAYS OF FINAL GRADING.

ES-11: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

ES-12: THE LOCAL APPROVING AUTHORITY AND OTHER INTERESTED AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS USED FOR THE OVERALL EFFECTIVENESS OF THE EROSION CONTROL PROGRAM. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN MAY BE AMENDED BY THE APPROVING AUTHORITY OF ON SITE INSPECTION INDICATED THAT THE APPROVED CONTROL MEASURES ARE NOT EFFECTIVE IN CONTROLLING EROSION AND SEDIMENTATION OR IF BECAUSE OF CHANGED CIRCUMSTANCES, THE APPROVED PLAN CANNOT BE CARRIED OUT.

ES-13: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.

ES-14: ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE CONSTRUCTION ENTRANCES.

ES-15: FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANOKE COUNTY.

BAL-1: ALL ASPHALT AREAS WILL BE STABILIZED WITH BASE STONE WITHIN 30 DAYS OF FINAL GRADING.

BAL-2: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

BAL-3: THE LOCAL APPROVING AUTHORITY AND OTHER INTERESTED AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS USED FOR THE OVERALL EFFECTIVENESS OF THE EROSION CONTROL PROGRAM. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN MAY BE AMMENDED BY THE APPROVING AUTHORITY OF ON SITE INSPECTION INDICATED THAT THE APPROVED CONTROL MEASURES ARE NOT EFFECTIVE IN CONTROLLING EROSION AND SEDIMENTATION OR IF BECAUSE OF CHANGED CIRCUMSTANCES, THE APPROVED PLAN CANNOT BE CARRIED OUT.

BAL-4: ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS, SPECIFICATIONS AND DETAILS OF THE LATEST EDITION OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK (THE HANDBOOK) BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED SO THAT SEDIMENT CARRYING RUNOFF FROM THE SITE WILL NOT ENTER STORM DRAINAGE FACILITIES OR ADJOINING PROPERTIES AND RIGHTS-OF-WAY.

BAL-5: ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE CONSTRUCTION ENTRANCES.

TYPE A

15 OCTOBER TO 1 FEBRUARY
K-31 FESCUE @ 5 LB / 1000 SF
BORZY WINTER RYE @ 1/2 LB / 1000 SF

1 FEBRUARY TO 1 JUNE
K-31 FESCUE @ 5 LB / 1000 SF
ANNUAL RYE @ 1/2 LB / 1000 SF

1 JUNE TO 1 SEPTEMBER
K-31 FESCUE @ 5 LB / 1000 SF
GERMAN MILLET @ 1/2 LB / 1000 SF

1 SEPTEMBER TO 15 OCTOBER
K-31 FESCUE @ 5 LB / 1000 SF
ANNUAL RYE @ 1/2 LB / 1000 SF

TYPE B (SLOPES 3:1 OR STEEPER)

15 MARCH TO 1 MAY
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF

15 AUGUST TO 1 OCTOBER
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF

140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

FERTILIZER: 5-20-10 @ 25 LB / 1000 SF
38-0-0 @ 7 LB / 1000 SF

MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING:
INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

(PS) **PERMANENT SEEDING MIXTURE**

DEFINITION - THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING SITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS.

LIMING REQUIREMENTS FOR TEMPORARY SITES

pH TEST	RECOMMENDED APPLICATION OF AGRICULTURAL LIMESTONE
BELOW 4.2	3 TONS PER ACRE
4.2 TO 5.2	2 TONS PER ACRE
5.2 TO 6	1 TON PER ACRE

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIAL
" QUICK REFERENCE FOR ALL REGIONS"

PLANTING DATES	SPECIES	RATE (LBS/ACRE)
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS & WINTER RYE	50 - 100
FEB. 16 - APR. 30	ANNUAL RYEGRASS	60 - 100
MAY 1 - AUG. 31	GERMAN MILLET	50

(TS) **TEMPORARY SEEDING**

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJECT IS FOR THE CONSTRUCTION OF TWO PROPOSED MULTIFAMILY RESIDENTIAL APARTMENT BUILDINGS AND ASSOCIATED PARKING AND UTILITY IMPROVEMENTS. THE SITE IS LOCATED ALONG BULLITT AVENUE SE IN THE CITY OF ROANOKE, VIRGINIA. THE PROPERTY IS CURRENTLY OWNED BY GATEWAY PROJECT, LLC. THE APPROXIMATE DISTURBED AREA FOR THIS PROJECT IS **±2.25 ACRES**.

EXISTING SITE CONDITIONS: THE SITE IS CURRENTLY CONSISTS OF MANAGED TURF WITH A GRAVEL DRIVE AND MISCELLANEOUS CONCRETE PADS, STEPS, AND RETAINING WALLS.

ADJACENT PROPERTY: THE LIMITS OF CONSTRUCTION ARE BOUNDED ON THE EAST BY THE PUBLIC RIGHT-OF-WAY OF 8TH STREET SE AND SINGLE FAMILY RESIDENTIAL PROPERTY ZONED RM-2, TO THE WEST BY THE PUBLIC RIGHT-OF-WAY OF 7TH STREET SE, TO THE NORTH BY THE PUBLIC RIGHT-OF-WAY OF JAMISON AVENUE SE, AND TO THE SOUTH BY THE PUBLIC RIGHT-OF-WAY OF BULLITT AVENUE SE AND SINGLE FAMILY RESIDENTIAL PROPERTY ZONED RM-2.

OFF-SITE AREAS: G.C. SHALL NOTIFY THE CITY OF ROANOKE OF THE LOCATION OF ANY OFF-SITE FILL OR BORROW AREAS PRIOR TO ANY MATERIAL BEING TRANSPORTED TO OR FROM THE SITE. ANY OFF-SITE MATERIAL SHALL COME FROM A PERMITTED SITE.

SOILS: A SUBSURFACE INVESTIGATION HAS NOT BEEN PROVIDED. SOIL INFORMATION IS AVAILABLE ON THE RESIDUAL SOILS THAT IS SUGGESTED IN THE "SOIL SURVEY OF ROANOKE COUNTY AND THE CITIES OF ROANOKE AND SALEM, VIRGINIA" AS PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. THIS SURVEY IDENTIFIES THE ORIGINAL SOIL MATERIALS DESCRIBED BELOW:
- SOIL GROUP 6C - CHISWELL-LITZ-URBAN LAND COMPLEX (2 TO 15 PERCENT SLOPES) CLASSIFIED AS HSG-D SOILS.

CRITICAL EROSION AREAS: CRITICAL AREAS ARE ANTICIPATED FOR ALL STEEP SLOPES ON SITE AND AREAS ADJACENT TO PUBLIC ROADS. SPECIAL ATTENTION SHALL BE PAID TO THESE LOCATIONS TO ENSURE SEDIMENT LADEN RUNOFF IS NOT TRANSPORTED INTO THE ADJACENT RIGHTS-OF-WAY OR ADJACENT PROPERTIES.

EROSION AND SEDIMENT CONTROL MEASURES:
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION" (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

EROSION CONTROL MEASURES (C-ECM):

TEMPORARY DIVERSION DIKE, DD (C-ECM-04): A TEMPORARY RIDGE OF COMPACTED SOIL CONSTRUCTED TO CONVEY CLEAN STORMWATER RUNOFF THROUGH OR AROUND A DISTURBED LAND AREA. IN MOST CASES, TEMPORARY DIVERSION DIKES COLLECTING SEDIMENT-LADEN WATER WORK AS CONVEYANCE IN CONJUNCTION WITH OTHER EROSION AND SEDIMENT CONTROL DEVICES.

STORMWATER CONVEYANCE CHANNEL, SCC (C-ECM-09): A WATERWAY SHAPED, SIZED, AND LINED WITH APPROPRIATE VEGETATION OR STRUCTURAL MATERIAL SUCH THAT THE CHANNEL SAFELY CONVEYS STORMWATER RUNOFF WITHIN OR AWAY FROM A DEVELOPING AREA.

SEDIMENT CONTROL MEASURES (C-SCM):

TEMPORARY STONE CONSTRUCTION ENTRANCE, CE (C-SCM-03): A PAD WITH A FABRIC FILTER LINER UNDERNEATH THE STONE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE. THERE ARE SEVERAL TYPES OF TRACK-OUT CONTROLS THAT MINIMIZE THE AMOUNT OF SEDIMENT, SUCH AS DIRT OR MUD, LEAVING OR BEING TRACKED OUT FROM THE CONSTRUCTION SITE ATTACHED TO VEHICLES.

INLET PROTECTION, IP (C-SCM-04): A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.

ROCK FILTER OUTLET, RFO (C-SCM-08): A BERM CONSTRUCTED OF RIPRAP AND STONE AGGREGATE WHERE UNANTICIPATED CONCENTRATED FLOW TO A PERIMETER CONTROL (E.G., SILT FENCE OR STRAW BALE BARRIER) HAS CAUSED THE PERIMETER CONTROL TO FAIL.

TEMPORARY SEDIMENT TRAP, ST (C-SCM-11): A TEMPORARY PONDING AREA FORMED BY CONSTRUCTING AN EARTHEN EMBANKMENT WITH A STONE OUTLET TO DETAIN SEDIMENT-LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

CONCRETE WASHOUT PIT, CW (C-SCM-13): A TEMPORARY EXCAVATED OR ABOVE-GROUND LINED CONSTRUCTED PIT OR A PREFABRICATED OR FABRICATED CONTAINER IN WHICH CONCRETE TRUCK MIXERS AND EQUIPMENT CAN BE WASHED AFTER THEIR LOADS HAVE BEEN DISCHARGED TO PREVENT HIGHLY ALKALINE RUNOFF FROM ENTERING STORM DRAINAGE SYSTEMS OR LEACHING INTO SOIL.

SURFACE STABILIZATION MEASURES (C-SSM):

TEMPORARY SEEDING, TS (C-SSM-09): THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS.

PERMANENT SEEDING, PS (C-SSM-10): THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED.

MULCHING, MU (C-SSM-11): THE APPLICATION OF A PROTECTIVE BLANKET OF STRAW OR OTHER PLANT RESIDUES/MATERIALS TO THE SOIL SURFACE DURING THE ESTABLISHMENT OF TEMPORARY AND PERMANENT SEEDING.

SOIL STABILIZATION BLANKETS AND MATTING, B/M (C-SSM-05): A PROTECTIVE BLANKET ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL, OR SHORELINE.

PERIMETER CONTROL MEASURES (C-PCM):

SILT FENCE, SF (C-PCM-04): A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC ENTRENCHED AND STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS. USE WIRE REINFORCEMENT FOR REINFORCED SILT FENCE USING STANDARD-STRENGTH FILTER FABRIC WITH A MINIMUM OF 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

MANAGEMENT STRATEGIES:
A) CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
B) SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING.
C) THE LOCAL PROGRAM ADMINISTRATOR RESERVES THE RIGHT TO ADD TO, DELETE OR OTHERWISE CHANGE THE EROSION CONTROL MEASURES AS DEEMED NECESSARY DUE TO ACTUAL FIELD CONDITIONS BY WRITTEN NOTIFICATION TO THE CONTRACTOR.
D) ALL FILL AND CUT SLOPES SHALL BE SEEDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE.
E) ONLY AFTER INSPECTION AND APPROVAL FROM THE LOCAL PROGRAM ADMINISTRATOR MAY ITEMS BE REMOVED FOLLOWING THE STABILIZATION OF THE CONTRIBUTING AREAS.

INSPECTIONS:
THE GENERAL CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND THE AREA OF CONSTRUCTION VEHICLE ACCESS AT LEAST EVERY FIVE (5) CALENDAR DAYS, AND WITHIN 24 HOURS OF THE END OF A STORM EVENT PRODUCING 1/2" OR GREATER OF PRECIPITATION. WHERE AREAS HAVE BEEN FINALLY OR TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (SITE IS COVERED WITH SNOW, ICE, OR FROZEN GROUND EXISTS) SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.
A) INSPECT DISTURBED AREAS AND AREAS OF MATERIALS STORAGE THAT ARE EXPOSED TO PRECIPITATION FOR EVIDENCE OF, OR THE POTENTIAL FOR SEDIMENT ENTERING THE STORM DRAIN SYSTEM. INSPECT E&S CONTROLS IN ACCORDANCE WITH REQUIREMENTS STATED HEREIN, AND INSPECT POINTS OF STORM DRAIN DISCHARGE FOR EXCESSIVE SEDIMENTATION. CORRECT SITE CONTROLS AS REQUIRED TO REDUCE SEDIMENTATION OF STORM DRAINS, CULVERTS, AND RECEIVING CHANNELS.
B) IF CONTROLS OR SEDIMENT PREVENTION AREAS ARE FOUND TO BE IN NEED OF REPAIR OR MODIFICATION, THE GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES AS REQUIRED. ANY ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES SHALL BE RECORDED AS FIELD REVISIONS TO THESE PLANS. IN THE EVENT THAT ADDITIONAL CONTROLS ARE FOUND TO BE REQUIRED, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE CONTROLS BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICAL, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICAL.
C) A REPORT SUMMARIZING THE SCOPE OF INSPECTIONS, NAME OF INSPECTOR, INSPECTOR'S QUALIFICATIONS, DATES OF INSPECTIONS, MAJOR OBSERVATIONS PERTAINING TO THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS A PART OF THESE PLANS. MAJOR OBSERVATIONS OF THESE REPORTS SHALL INCLUDE: THE LOCATIONS OF EXCESSIVE SEDIMENTATION FROM THE SITE; LOCATIONS OF CONTROLS IN NEED OF REPAIR; LOCATIONS OF FAILED OR INADEQUATE CONTROLS; AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED.

STORMWATER MANAGEMENT:
STORMWATER QUANTITY REQUIREMENTS FOR THIS DEVELOPMENT WILL BE MET BY DETAINING A PORTION OF THE RUNOFF FROM THE SITE IN A PROPOSED UNDERGROUND DETENTION FACILITY. THE ENERGY BALANCE EQUATION IS BEING UTILIZED FOR THIS DEVELOPMENT TO PROVIDE CONFORMANCE WITH LOCAL AND STATE REGULATIONS RELATED TO CHANNEL PROTECTION REQUIREMENTS. THE 1-YEAR STORM HAS BEEN ANALYZED AND DETAINED UTILIZING THE UNDERGROUND STORMWATER MANAGEMENT FACILITY TO ENSURE THE DEVELOPMENT CONFORMS TO CURRENT STANDARDS. FLOOD PROTECTION REQUIREMENTS WILL BE MET BY PROVIDING A REDUCTION IN THE POST-DEVELOPMENT 10-YEAR PEAK FLOW RATE WHEN COMPARED TO THE PRE-DEVELOPMENT 10-YEAR PEAK FLOW RATE.

STORMWATER QUALITY REQUIREMENTS WILL BE MET THROUGH THE INSTALLATION OF THE ON-SITE STORMTECH SYSTEM (**0.61 LBS/YR**) AND THE PURCHASE OF OFF-SITE NUTRIENT CREDITS (**0.35 LBS/YR**).

MINIMUM STANDARDS

No.	CRITERIA, TECHNIQUE OR METHOD	PRACTICES PROVIDED
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.	TS PS MU B/M FOR ALL DENUDED AREAS
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	TS PS FOR PROVIDED STOCKPILES
3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	TS PS MU B/M FOR ALL DENUDED AREAS
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	SF IP DD RFO ST FOR ALL DRAINAGE DIVIDES
5	STABILIZATION METHODS SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	TS PS MU FOR ALL EARTHEN STRUCTURES
6	SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	ST
7	CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.	TS PS MU B/M FOR ALL ERODING SLOPES
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	*NO CONCENTRATED RUNOFF SHALL BE CONVEYED DOWN THE STEEP SLOPES ON-SITE*
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	*SHOULD SEEPS OCCUR IN ANY EXISTING OR NEW CUT OR FILL SLOPE, THE CONTRACTOR SHALL FIRST INSURE THAT THERE ARE NOT AREAS OF PONDED WATER AT THE TOPS OF THE SLOPES, AND THEN SHALL CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER FOR ON-SITE EVALUATION OF THE AREAS OF SEEPAGE.*
10	ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	IP
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	NOT APPLICABLE
12	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	NOT APPLICABLE
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.	NOT APPLICABLE
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL CHAPTERS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. THE BEDS AND BANKS OF ANY WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE
15	THE BEDS AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: 1)NO MORE THAN 500 LINEAR FEET OF ANY TRENCH MAY BE OPENED AT ONE TIME. 2)EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. 3)EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. 4)MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. 5)RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE CHAPTERS. 6)APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	UTILIZE FOR SANITARY, STORM SEWER, & WATERLINE INSTALLATION
17	WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.	CE
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	TS PS MU B/M
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS & CRITERIA A: CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED. B: ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER: 1. THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION OR 2. (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF THE TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS; AND (b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF THE 10-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A 2-YEAR STORM TO DEMONSTRATE THAT STORWMATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THE STORMWATER WILL BE CONTAINED WITHIN THE PIPE SYSTEM C: IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: 1. IMPROVE THE CHANNEL TO A CONDITION WHERE A 10-YEAR STORM WILL NOT OVERTOP THE BANKS AND A 2-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR 2. IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE 10-YEAR STORM IS CONTAINED WITHIN THE APPURTANCES; OR 3. DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A 10-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR 4. PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION. D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE. G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. J. IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPERATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS. K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL, AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE. L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014 THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO; i. DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; ii. DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND iii. REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO TH EPEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO 10.1-562 OR 10.1-570 OF THE ACT. M. FOR PLANS APPROVED ON OR AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF 10.1-561 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (10.1-603.2 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 4VAC50-60-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS. N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 4VAC50-60-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19.	SEE SWM CALCULATIONS

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
E.S.C. NOTES
704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

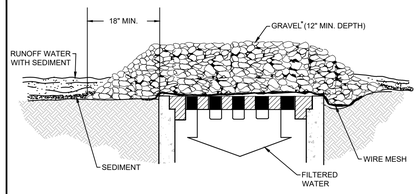
DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
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Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C7.3

CP26-00XX

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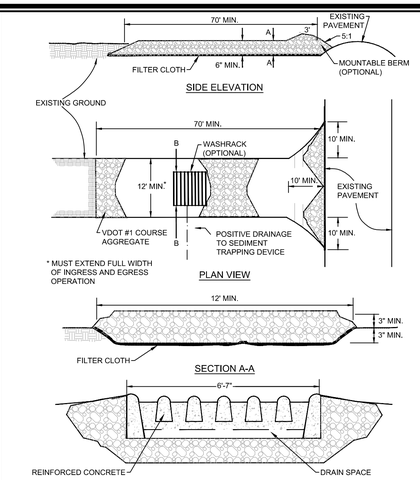
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

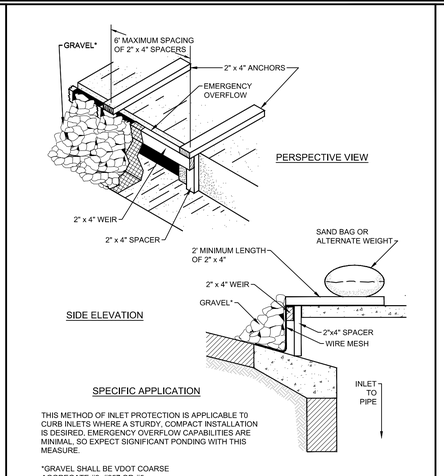
GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-2



STONE CONSTRUCTION ENTRANCE

v1.1 SOURCE: VA. DSWC, MD ESC STDS C-SCM-03-1



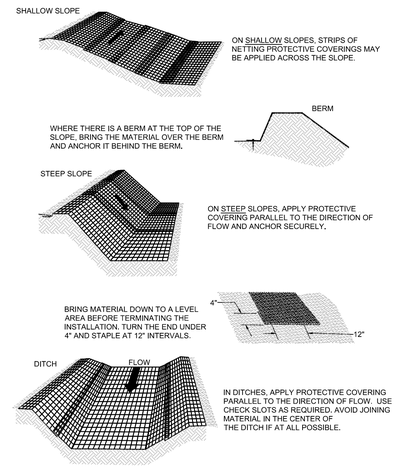
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE T0 CURB INLETS WHERE A STURDY, COMPACT INSTALLATION IS DESIRED, EMERGENCY OVERFLOW CAPABILITIES ARE MINIMAL, SO EXPECT SIGNIFICANT PONDING WITH THIS MEASURE.

*GRAVEL SHALL BE VDOT COARSE AGGREGATE #3, #357 OR #5

CURB INLET PROTECTION WITH 2-INCH X 4-INCH WOODEN WEIR

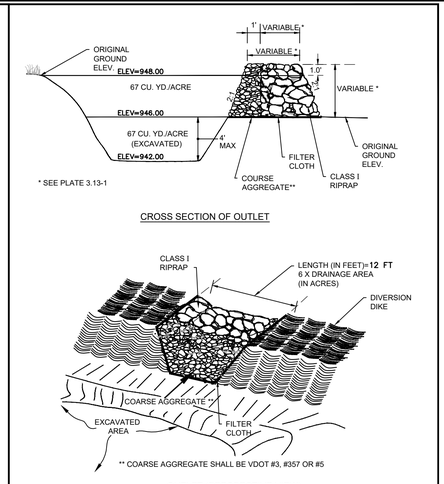
v1.1 SOURCE: USDA NRCS C-SCM-04-6



TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)

SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE

v1.1 C-SSM-05-1



TEMPORARY SEDIMENT TRAP

v1.1 SOURCE: VA. DSWC C-SCM-11-2

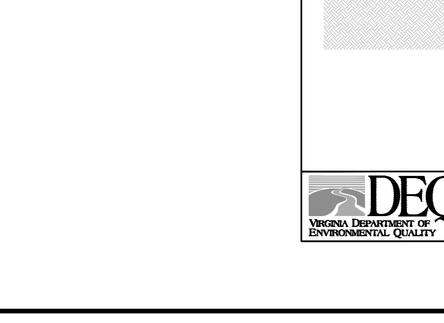
TYPICAL WATERWAY SECTIONS

v1.1 C-ECM-09-1

CONSTRUCTION OF SILT FENCE WITHOUT WIRE SUPPORT

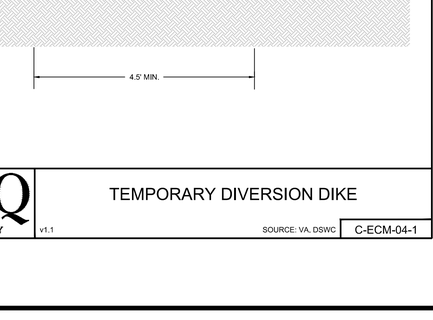
SOURCE: ADAPTED FROM STRAW & FAB. BARRIERS, SHERWOOD & WYANT

v1.1 C-PCM-04-2B



ROCK FILTER OUTLET DETAIL

v1.1 SOURCE: PA DEP C-SCM-08-1

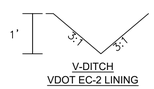


TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA

v1.1 SOURCE: VDOT ROAD & BRIDGE STDS. C-SSM-05-2

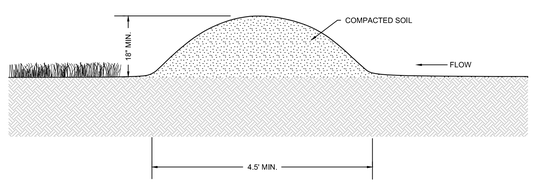
SEDIMENT TRAP SUMMARY TABLE

DRAINAGE AREA ID	ST-1
TOTAL DRAINAGE AREA SIZE	1.88 AC
BOTTOM/TOP LENGTH	64LF/88LF
BOTTOM/TOP WIDTH	4LF/28LF
DEPTH	6'
BERM HEIGHT	1'
WEIR LENGTH	12 LF
WEIR HEIGHT	1'
STORAGE REQUIRED (CY)	126 WET - 126 DRY
STORAGE PROVIDED (CY)	131 WET - 149 DRY



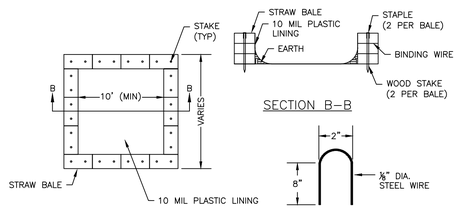
SCC DETAIL

N.T.S.



TEMPORARY DIVERSION DIKE

v1.1 SOURCE: VA. DSWC C-ECM-04-1



CONCRETE WASHOUT PIT DETAIL

NTS

GENERAL NOTES:

1. ACTUAL SIZE TO BE DETERMINED IN FIELD. A MINIMUM OF 10' WIDE BY 10' LONG AND SIZED TO CONTAIN ALL LIQUID AND SOLID WASTE. A MINIMUM OF 12" FREEBOARD SHALL BE INCLUDED.

2. THE CONCRETE WASHOUT SHALL NOT BE PLACED WITHIN 50' OF STORM DRAINS.

3. EXCESS AND SLUMP TEST SOLIDS SHALL BE PLACED ON PLASTIC LINER UNTIL HARDENED.CONTRACTOR MAY CONSIDER INSTALLING WIRE OR REBAR HOOD FOR LATER PICKUP REMOVAL.

4. INSPECTORS SHALL USE THE WASHOUT FACILITY OR PLASTIC FOR CLEANING OF THEIR TOOLS.

MAINTENANCE NOTES:

1. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75% CAPACITY. THE FACILITY SHALL BE CLEANED OUT OR CHANGED WHEN 75% FULL.

2. INSPECT LINERS DAILY TO ENSURE THAT LINERS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. LINERS SHALL BE REPLACED IF THERE ARE HOLES OR TEARS OBSERVED.

3. CONCRETE WASTE SHALL BE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN. THE HARDENED CONCRETE SHALL BE BROKEN UP AND DISPOSED OF OFFSITE PER APPLICABLE VA, DEQ RULES AND REGULATIONS. LIQUIDS SHALL NOT BE DISCHARGED DIRECTLY INTO WATERWAYS, STORM DRAINS, SWALES, OR DIRECTLY ONTO THE GROUND.

4. REMOVE LIQUIDS OR COVER STRUCTURE BEFORE PREDICTED STORMS TO PREVENT OVERFLOWS.

5. INSTALL A NEW PLASTIC LINER AFTER EVERY CLEANING.

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

E.S.C. DETAILS

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
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PROJECT NO.
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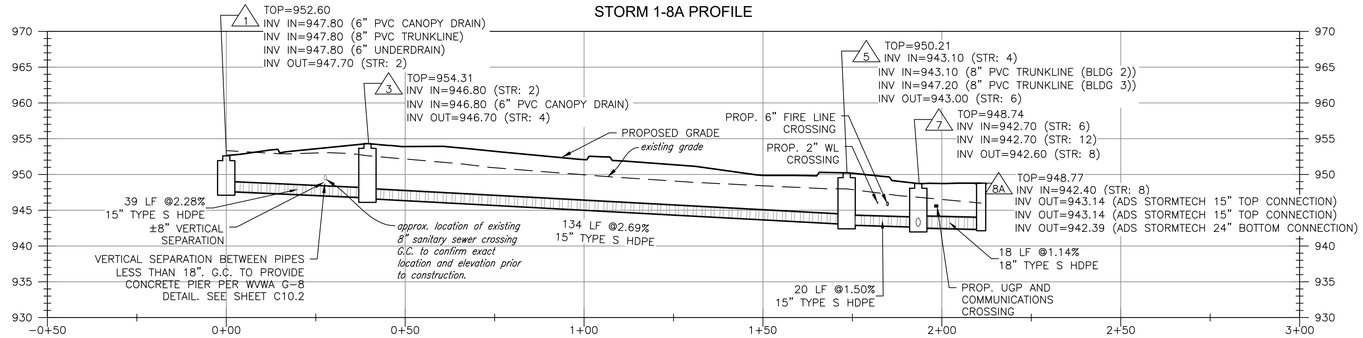
COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C7.4

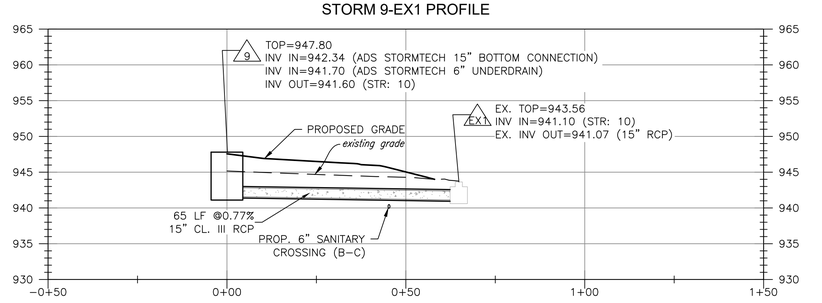
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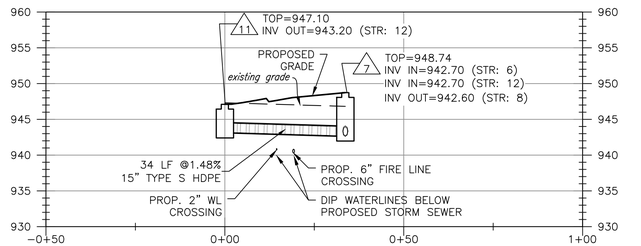
STORM 1-8A PROFILE



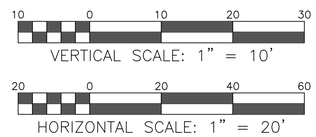
STORM 9-EX1 PROFILE



STORM 11-7 PROFILE



NOTES:
1. VDOT STD IS−1 INLET SHAPING SHALL BE PROVIDED IN ALL PROPOSED STRUCTURES.
2. NON−SHRINK GROUT SHALL BE USED FOR ALL STORM SEWER PIPE CONNECTIONS.
3. EXCAVATE TRANCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB−1 DETAIL FOR STORM DRAINAGE PIPING.



SANITARY SEWER SCHEDULE:

BLDG.2 A — 11 LF OF PRIVATE 6" SDR−26 PVC AT 1.04% MIN. COORD. BUILDING TIE IN LOCATION AND ELEVATION WITH MEP PLANS.

A — PRIVATE S.S. CO
TOP= 950.13
INV. IN= 943.50 (BLDG.2−A)
INV. OUT= 943.50 (A−B)

A B — 35 LF OF PRIVATE 6" SDR−26 PVC AT 5.73%

B — PRIVATE S.S. CO
TOP= 949.00
INV. IN= 941.50 (A−B)
INV. OUT= 941.50 (B−C)

B C — 79 LF OF PRIVATE 6" SDR−26 PVC AT 2.08%

C — PUBLIC 48" SAMPLING MH
TOP= 944.45
INV. IN= 939.85 (B−C)
INV. OUT= 939.75 (C−EX)

C EX — 20 LF OF PUBLIC 6" SDR−26 PVC AT 1.27%
TIE TO EX. 8" PUBLIC S.S. MAIN PER WVWA S−6 DETAIL
APPROX. INV. @ TIE IN= ±939.50
G.C. SHALL CONFIRM EXACT LOCATION, ELEVATION, PIPE SIZE & MATERIAL PRIOR TO CONSTRUCTION.

BLDG.3 D — 5 LF OF PRIVATE 6" SDR−26 PVC AT 1.04% MIN. COORD. BUILDING TIE IN LOCATION AND ELEVATION WITH MEP PLANS.

D — PRIVATE S.S. CO
TOP= 953.35
INV. IN= 948.00 (BLDG.3−D)
INV. OUT= 948.00 (D−E)

D E — 37 LF OF PRIVATE 6" SDR−26 PVC AT 2.41%

E — PUBLIC 48" SAMPLING MH
TOP= 952.54
INV. IN= 947.10 (D−E)
INV. OUT= 947.00 (E−EXB)

E EXB — 11 LF OF PRIVATE 6" SDR−26 PVC AT 4.59%

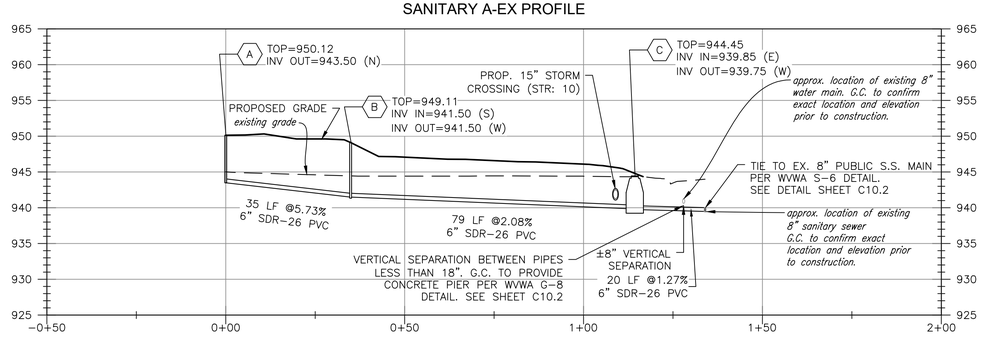
EXB — EX. PUBLIC 48" S.S. MH
EX. TOP= 950.44
NEW TOP= 952.24
NEW INV. IN= 946.50 (E−EXB)
APPROX EX. INV.= ±945.70
G.C. SHALL CONFIRM EXACT LOCATION, ELEVATION, PIPE SIZE & MATERIAL PRIOR TO CONSTRUCTION.

NOTES:
1. G.C. SHALL CONFIRM & COORDINATE ALL BUILDING TIE−IN LOCATIONS AND ELEVATIONS WITH M.E.P. AND ARCHITECTURAL DRAWINGS PRIOR TO ANY CONSTRUCTION.
2. G.C. TO CONFIRM ALL TIE−IN LOCATIONS AND ELEVATIONS TO EXISTING LINES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
3. G.C. SHALL CORE DRILL EXISTING MANHOLE AND PROVIDE FLEXIBLE BOOT CONNECTION FOR PROPOSED TIE IN.
4. G.C. SHALL ENSURE MIN. 1.04% SLOPE FOR 6" SANITARY LATERAL AND MIN. 2.08% SLOPE FOR 4" SANITARY LATERAL
5. ALL CLEANOUT TOPS WITHIN PAVEMENT OR HARDSCAPE SHALL HAVE TRAFFIC BEARING LIDS.
6. ALL SANITARY STRUCTURES AND PIPES UPSTREAM OF PUBLIC S.S. SAMPLING MANHOLES "C" & "E" TO BE PRIVATE.

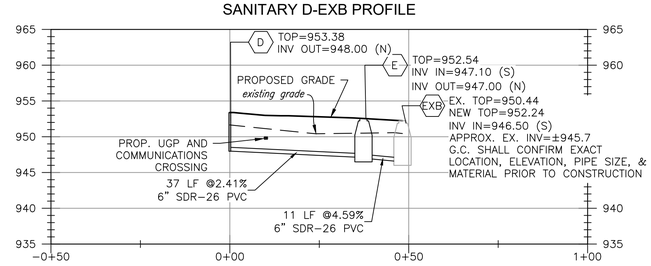
STORM SCHEDULE

STR#	TYPE	NOSE	TOP ELEV.	HEIGHT	LENGTH	DIAMETER	MATERIAL	SLOPE	INV. IN	INV. OUT	COMMENTS
1	DI-3C	TYPE B	952.60	4.90	8.00						IS-1, ST-1
2					39.47	15"	HDPE (TYPE S)	2.28%	947.70	946.80	
3	48" MH-2		954.34	7.64							IS-1, ST-1
4					133.92	15"	HDPE (TYPE S)	2.69%	946.70	943.10	
5	DI-3B	TYPE B	950.21	7.21	6.00						IS-1, ST-1
6					20.01	15"	HDPE (TYPE S)	1.50%	943.00	942.70	
7	48" MH-2		948.79	6.19							IS-1, ST-1
8					17.57	18"	HDPE (TYPE S)	1.14%	942.60	942.40	
8A	30" NYLOPLAST DRAIN BASIN		948.70	6.30							
9	SEE DETAIL SHEET 8.2	TYPE B	947.80	6.20	2.50						SEE DETAIL SHEET 8.2
10					64.79	15"	CL. III RCP	0.77%	941.60	941.10	
11	DI-3A	TYPE B	947.10	3.90	2.50						IS-1
12					33.67	15"	HDPE (TYPE S)	1.48%	943.20	942.70	

SANITARY A-EX PROFILE



SANITARY D-EXB PROFILE



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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

UTILITY PROFILES

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
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COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

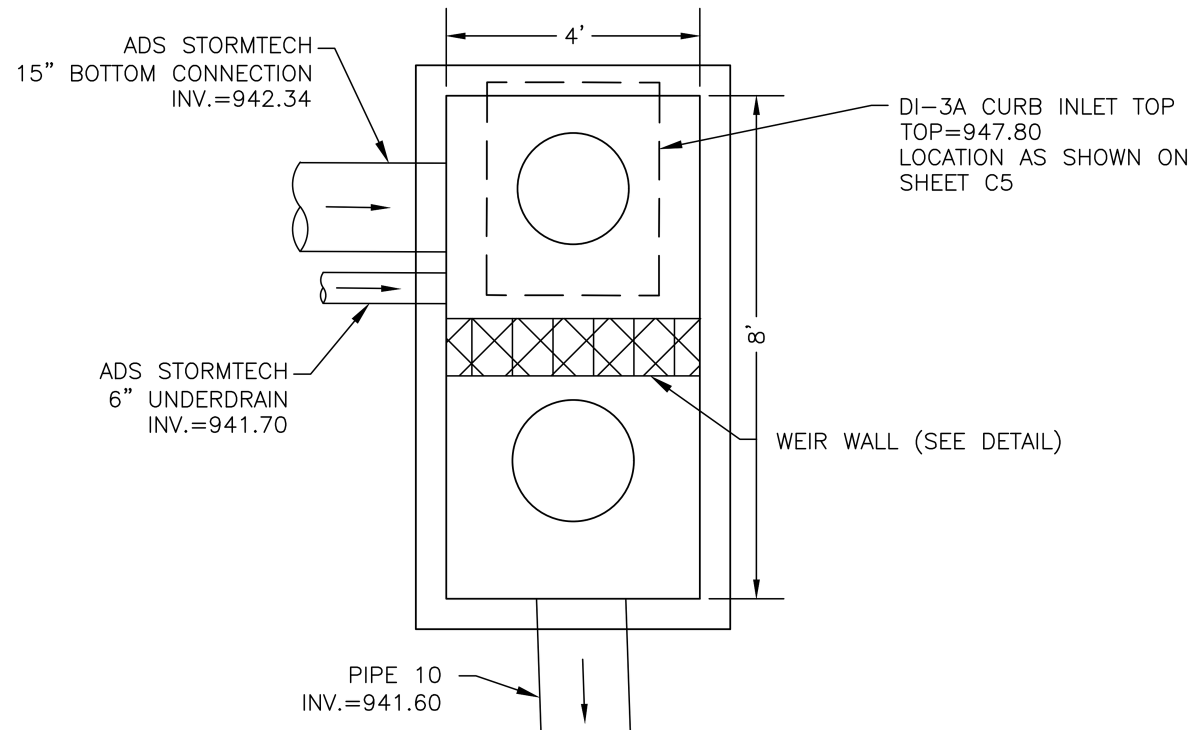
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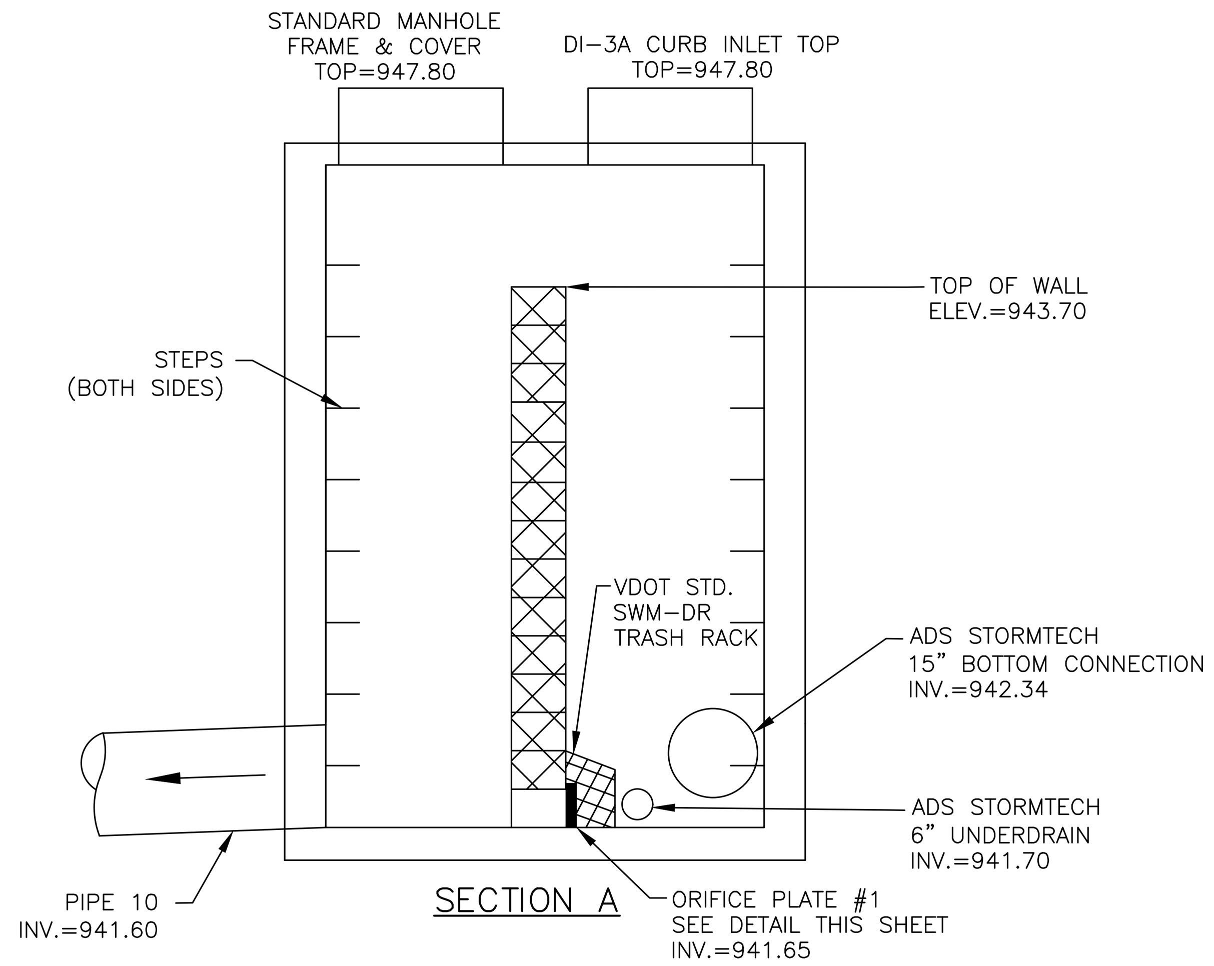
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STRUCTURE #9 DETAILS

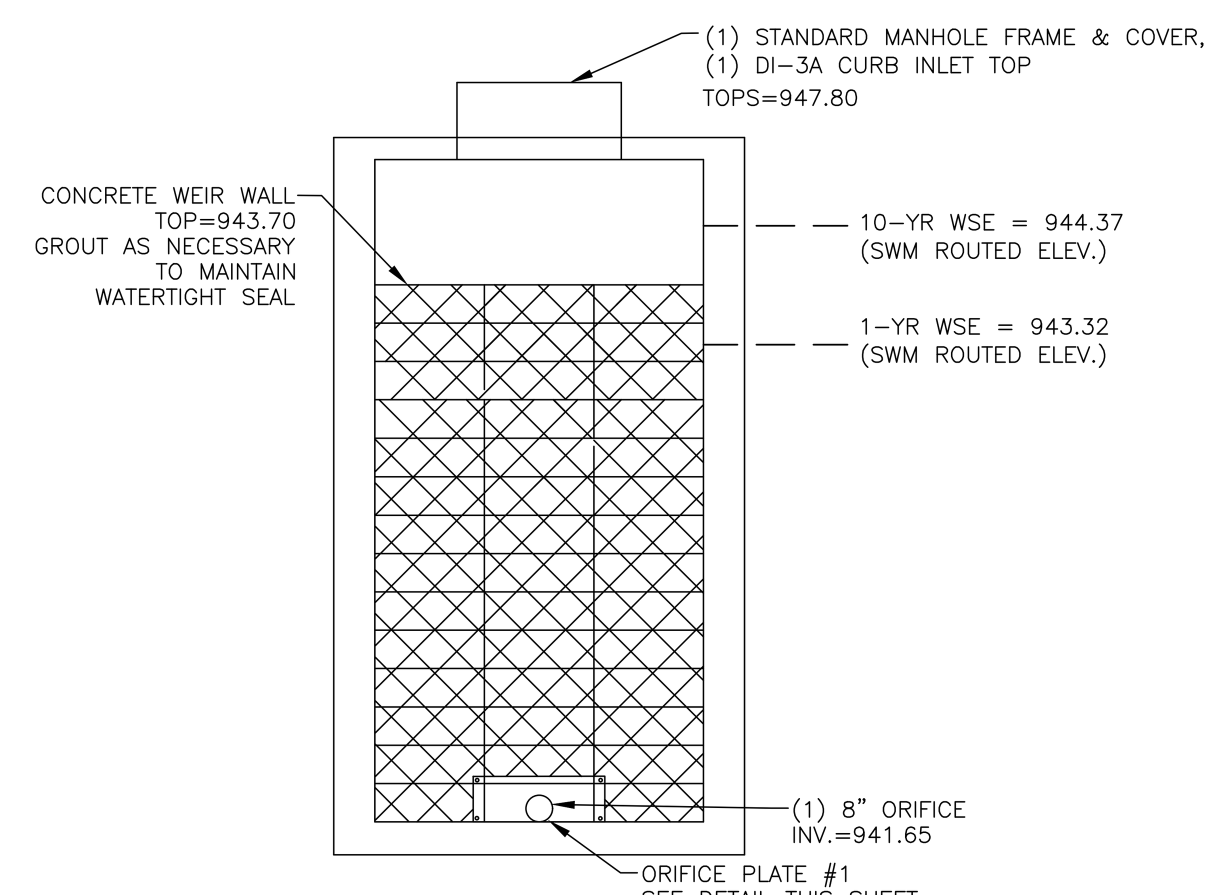
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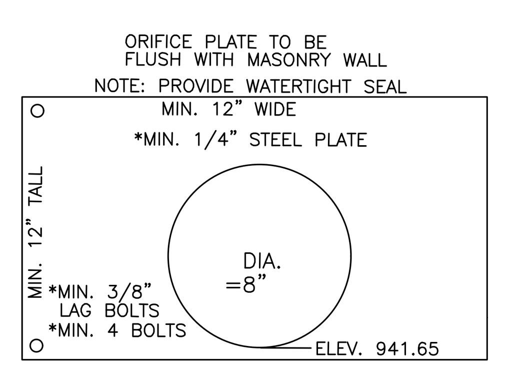
STRUCTURE #9 PLAN VIEW



SECTION A



SECTION B



ORIFICE PLATE DETAIL

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PROJECT INFORMATION

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ADS SALES REP	DAVID CAMDEN 434-238-4751 DAVID.CAMDEN@ADSPIPE.COM
PROJECT NO.	S526029

ADS Advanced Drainage Systems, Inc.

ADS SiteAssist™ FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

ROANOKE GATEWAY PHASE 2

ROANOKE, VA, USA

SC-800 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-800.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

1. STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT ADS WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

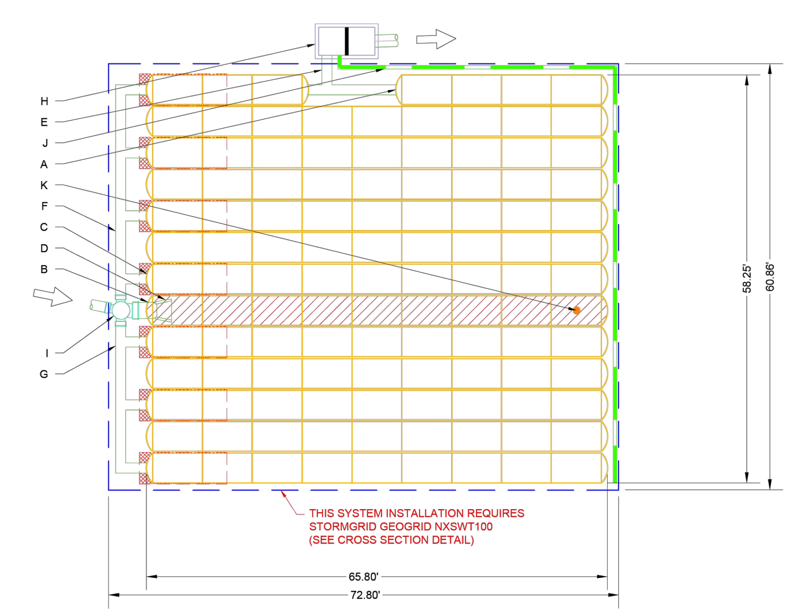
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PROPOSED LAYOUT	
115	STORMTECH SC-800 CHAMBERS
28	STORMTECH SC-800 END CAPS
6	STONE ABOVE (in)
12	STONE BELOW (in)
40	% STONE VOID
10,195	INSTALLED SYSTEM VOLUME ABOVE INVERT 941.70 (CF) (PERIMETER STONE INCLUDED)
2.3	ISOLATOR ROW TREATMENT RATE (CFS)
4,430	SYSTEM AREA (ft²)
267	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS	
952.95	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
946.70	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
946.20	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
946.20	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
946.20	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
945.45	TOP OF STONE
944.95	TOP OF SC-800 CHAMBER
943.14	15" TOP MANIFOLD/CONNECTION INVERT
942.39	24" ISOLATOR ROW PLUS CONNECTION INVERT
942.34	15" BOTTOM MANIFOLD/CONNECTION INVERT
942.20	BOTTOM OF SC-800 CHAMBER
941.70	UNDERDRAIN INVERT
941.20	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PRE-CORED END CAP	A	15" BOTTOM PARTIAL CUT END CAP, PART#: SC800EPE15BPC / TYP OF ALL 15" BOTTOM CONNECTIONS	0.00	
PREFABRICATED EZ END CAP	B	24" BOTTOM PREFABRICATED EZ END CAP, PART#: SC800ECEZ / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	C	15" TOP PRE-CORED END CAP, PART#: SC800EPE15TPC / TYP OF ALL 15" TOP CONNECTIONS		
FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC80024RAMP		
MANIFOLD	E	15" x 15" BOTTOM MANIFOLD, ADS N-12	1.70"	
MANIFOLD	F	15" x 15" TOP MANIFOLD, ADS N-12	11.30"	
MANIFOLD	G	15" x 15" TOP MANIFOLD, ADS N-12	11.30"	
CONCRETE STRUCTURE	H	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.7 CFS OUT
NYLOPLAST (INLET W/ ISO PLUS ROW)	I	30" DIAMETER (24.00" SUMP MIN)		17.9 CFS IN
UNDERDRAIN	J	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		
INSPECTION PORT	K	4" SEE DETAIL		



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE MODULE COVER REQUIREMENTS ARE MET.

ROANOKE GATEWAY PHASE 2 — ROANOKE, VA, USA — DATE: 05/12/2026 — DRAWN: DL — PROJECT #: S526029 — CHECKED: XXX

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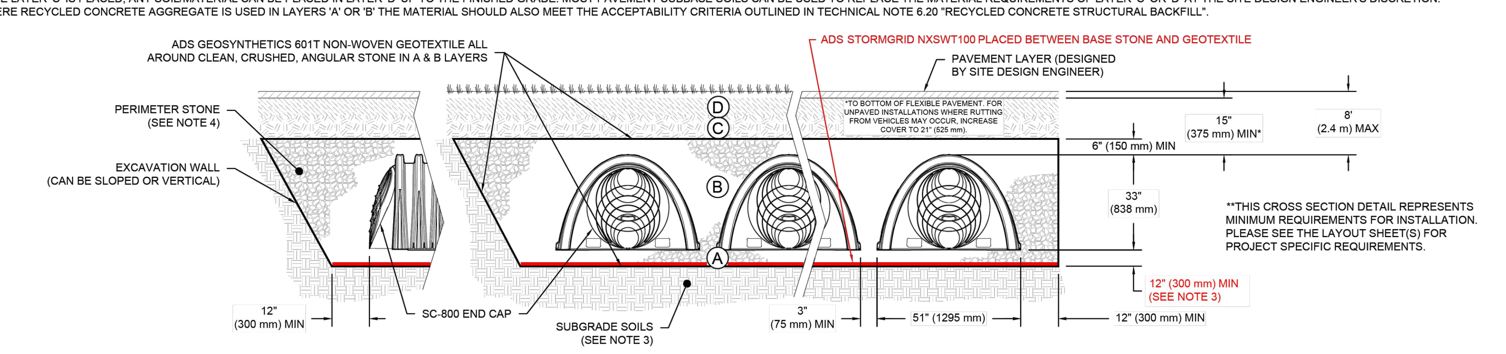
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 2 OF 6

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



ROANOKE GATEWAY PHASE 2 SPECIFIC CROSS SECTION

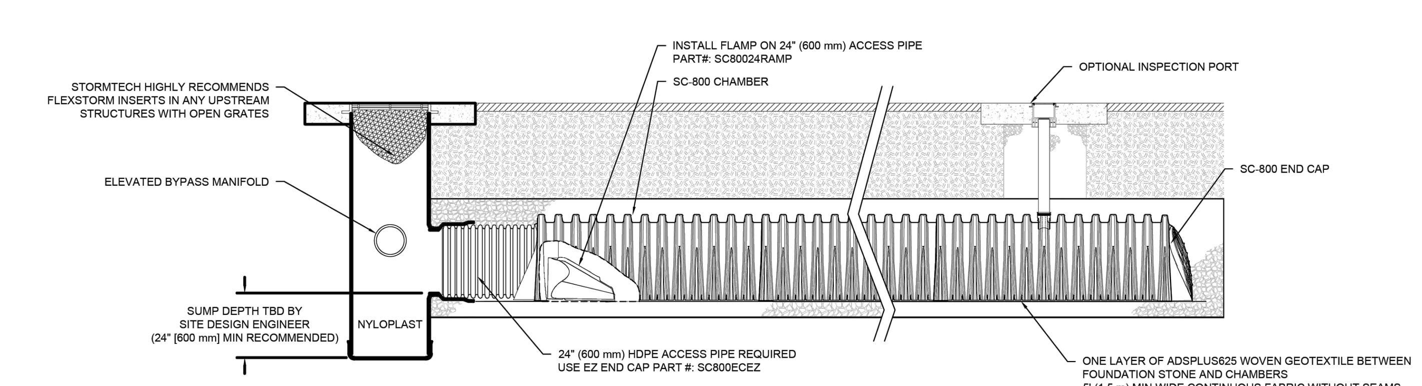
NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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SHEET 3 OF 6



SC-800 ISOLATOR ROW PLUS DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

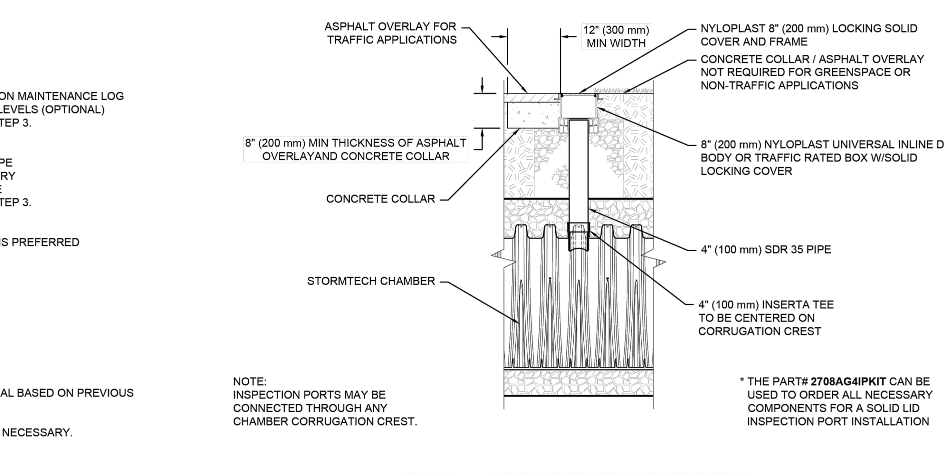
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



4" (100 mm) PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

NTS

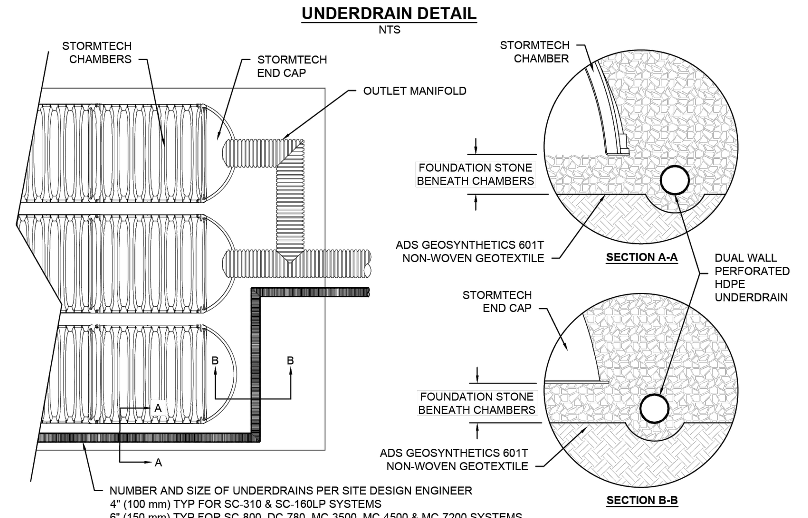
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SHEET 4 OF 6

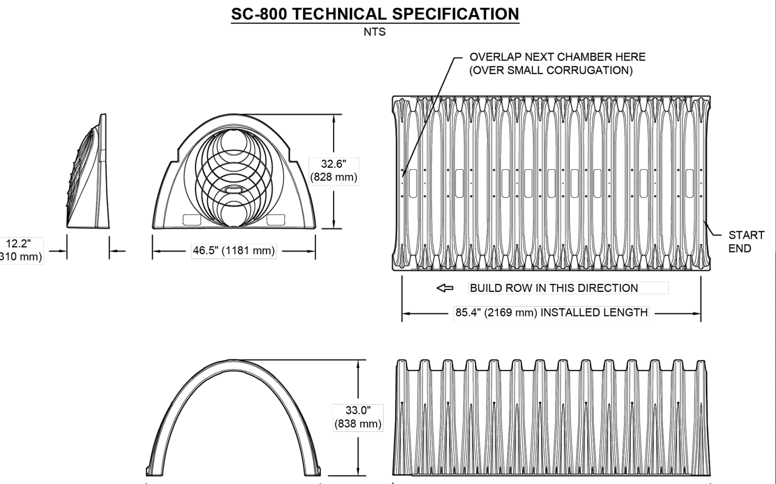
UNDERDRAIN DETAIL

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SC-800 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET	(1.43 m³)
MINIMUM INSTALLED STORAGE*	78.4 CUBIC FEET	(2.22 m³)
WEIGHT	81.8 lbs.	(37.1 kg)

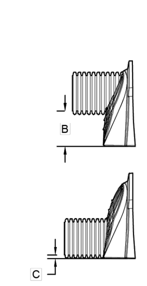
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	(0.09 m³)
MINIMUM INSTALLED STORAGE**	14.7 CUBIC FEET	(0.42 m³)
WEIGHT	15.7 lbs.	(7.1 kg)

* ASSUMES 6" (150 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS, 3" (75 mm) BETWEEN CHAMBERS
**ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (150 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC		---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC		---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC		---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC		---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC		---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC		---	2.0" (51 mm)
SC800EPE24BPC	24" (600 mm)	---	2.3" (58 mm)
SC800EPE	NONE	SOLID END CAP	



NOTE: ALL DIMENSIONS ARE NOMINAL

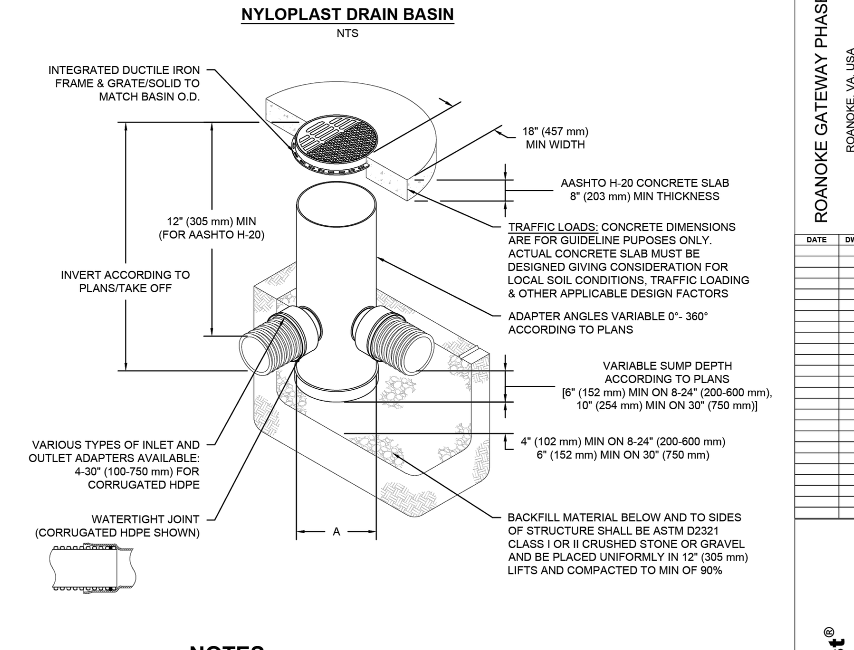
ROANOKE GATEWAY PHASE 2 — ROANOKE, VA, USA — DATE: 05/12/2026 — DRAWN: DL — PROJECT #: S526029 — CHECKED: XXX

StormTech® Chamber System — ADS — WWW.ADSPIPE.COM

SHEET 5 OF 6

NYLOPLAST DRAIN BASIN

NTS



NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

ROANOKE GATEWAY PHASE 2 — ROANOKE, VA, USA — DATE: 05/12/2026 — DRAWN: DL — PROJECT #: S526029 — CHECKED: XXX

Nyloplast® — ADS — WWW.ADSPIPE.COM

SHEET 6 OF 6

Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

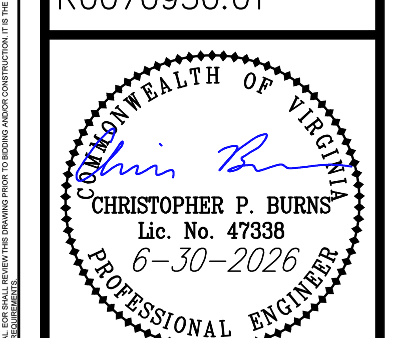
NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

SWM DETAILS

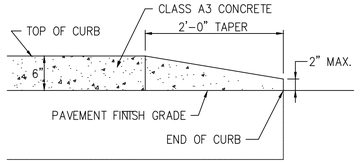
704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO. R0070930.01



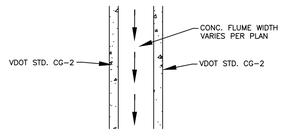
C8.2

CP26-00XX



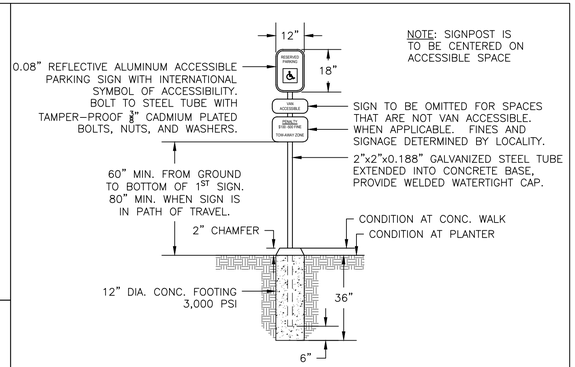
CURB TAPER DETAIL

NO SCALE



CONCRETE FLUME DETAIL

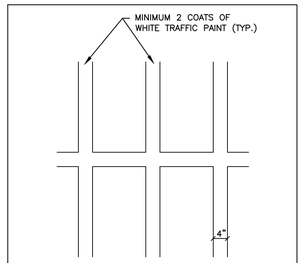
NO SCALE



NOTE: SIGNPOST IS TO BE CENTERED ON ACCESSIBLE SPACE

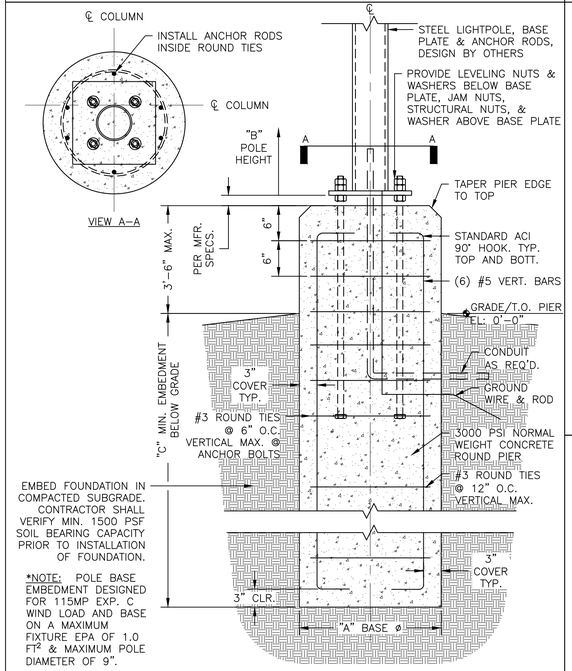
ACCESSIBLE SIGNPOST DETAIL

N.T.S.



PAVEMENT STRIPING DETAIL

N.T.S.



*NOTE: POLE BASE EMBEDMENT DESIGNED FOR 115MP EXP. C WIND LOAD AND BASE ON A MAXIMUM FIXTURE EPA OF 1.0 FT² & MAXIMUM POLE DIAMETER OF 9".

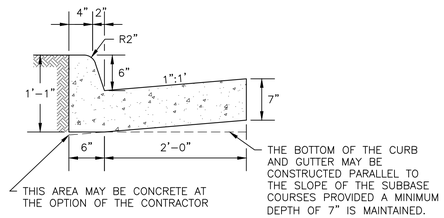
LIGHT POLE BASE EMBEDMENT "C" SCHEDULE*

"A" BASE DIA.	"B" LIGHT POLE HEIGHT								
	14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"	26'-0"	28'-0"	30'-0"
18"	4'-6"	4'-9"	5'-3"	5'-6"	5'-9"	6'-0"	6'-3"	6'-6"	6'-9"
24"	4'-0"	4'-6"	4'-9"	5'-0"	5'-0"	5'-3"	5'-6"	5'-9"	6'-0"
30"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-0"	5'-3"	5'-3"	5'-6"

EXPOSED POLE BASE DETAIL

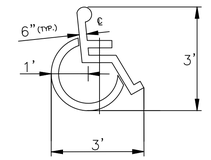
N.T.S.

NOTES:
1. CONCRETE IS TO BE CLASS A3 CAST IN PLACE.
2. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.



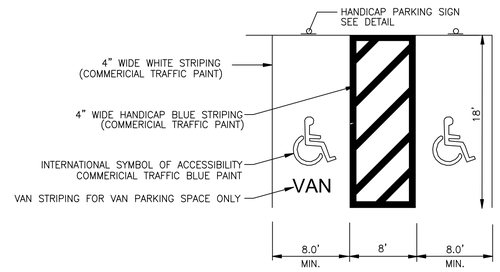
CG-6 (WET) DETAIL

N.T.S.



ACCESSIBLE PARKING SYMBOL

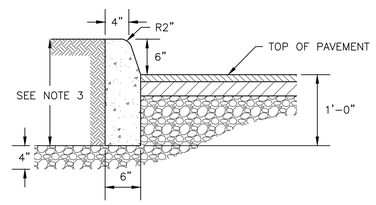
LOCATE AT EDGE OF PARKING SPACE NEXT TO DRIVE AISLE UNLESS ACCOMPANIED BY "VAN" LETTERING



H.C. STALL STRIPING DETAIL

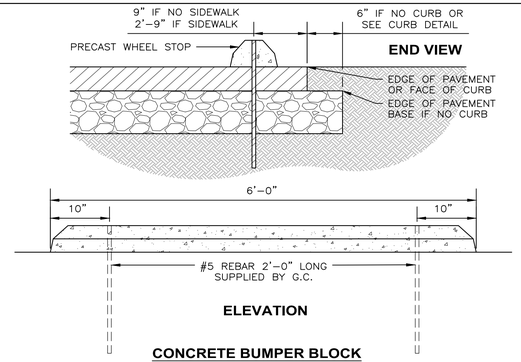
N.T.S.

NOTES:
1. CONCRETE IS TO BE CLASS A3 CAST IN PLACE.
2. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF THE CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.



CG-2 DETAIL

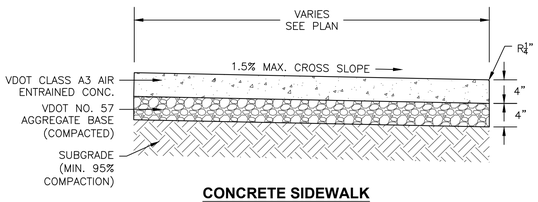
N.T.S.



CONCRETE BUMPER BLOCK

N.T.S.

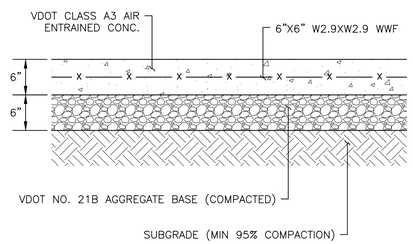
NOTES:
1. G.C. SHALL BE RESPONSIBLE FOR OBTAINING ADEQUATE COMPACTION OF SUBGRADE PRIOR TO CONCRETE CONSTRUCTION.
2. ½" PREFORMED EXPANSION JOINT FILLER WHERE ADJACENT TO BUILDING.
3. SCORING EVERY 6', EXPANSION JOINTS EVERY 25' O.C.
4. FINISH – TROWELED EDGES, BROOM FINISH.
5. MAXIMUM LONGITUDINAL SLOPE IS 4.5% WHEN WITHIN A PUBLIC RIGHT-OF-WAY AND PARALLEL TO THE ROAD, LONGITUDINAL SLOPE IS TO FOLLOW ROAD GRADES. REFER TO RAMP DETAIL WHEN IN RAMP CONDITION.



CONCRETE SIDEWALK

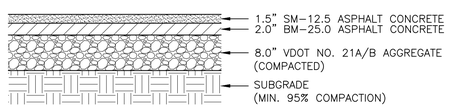
N.T.S.

NOTES:
1. G.C. SHALL BE RESPONSIBLE FOR OBTAINING ADEQUATE COMPACTION OF SUBGRADE PRIOR TO PAVEMENT CONSTRUCTION.
2. WWF SHALL BE PLACED IN TOP HALF OF SLAB DEPTH.
3. CRACK CONTROL JOINT SPACING 18' O.C. (¼TH SLAB DEPTH).
4. ½" PREFORMED EXPANSION JOINT FILLER WHERE ADJACENT TO BUILDING.
5. STONE TO BE PLACED IN LIFTS OF NO MORE THAN 4".



CONCRETE PAVEMENT SECTION

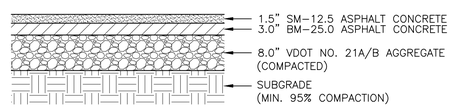
N.T.S.



NOTES:
1. G.C. TO ENSURE SOIL SUBGRADE IS COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY PRIOR TO STONE/ASPHALT PLACEMENT.
2. STONE BASE MUST BE PLACED IN LIFTS OF NO MORE THAN 4" EACH.
3. A TACK COAT SHALL BE APPLIED BETWEEN ASPHALT PAVEMENT LAYERS.
4. PAVEMENT SECTION IS BASED ON THE CALIFORNIA BEARING RATIO (CBR) & RESILIENCY FACTOR (RF) PROVIDED IN THE GEOTECH REPORT AND MUST BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO STONE/ASPHALT PLACEMENT.

LIGHT DUTY ASPHALT PAVEMENT SECTION

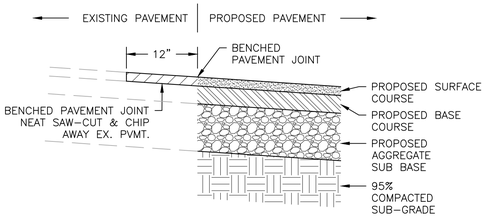
N.T.S.



NOTES:
1. G.C. TO ENSURE SOIL SUBGRADE IS COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY PRIOR TO STONE/ASPHALT PLACEMENT.
2. STONE BASE MUST BE PLACED IN LIFTS OF NO MORE THAN 4" EACH.
3. A TACK COAT SHALL BE APPLIED BETWEEN ASPHALT PAVEMENT LAYERS.
4. PAVEMENT SECTION IS BASED ON THE CALIFORNIA BEARING RATIO (CBR) & RESILIENCY FACTOR (RF) PROVIDED IN THE GEOTECH REPORT AND MUST BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO STONE/ASPHALT PLACEMENT.

HEAVY DUTY ASPHALT PAVEMENT SECTION

N.T.S.



NOTES:
1. G.C. TO ENSURE SOIL SUBGRADE IS COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY PRIOR TO STONE/ASPHALT PLACEMENT.
2. STONE BASE MUST BE PLACED IN LIFTS OF NO MORE THAN 4" EACH.
3. A TACK COAT SHALL BE APPLIED BETWEEN ASPHALT PAVEMENT LAYERS.

PAVEMENT JOINT DETAIL

N.T.S.

Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

SITE DETAILS 1

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB

PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C9.1

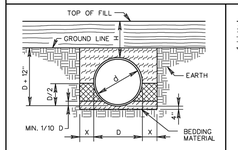
CP26-00XX

Last Saved by SStirtzl
Last Saved: 6/30/2026 11:44 AM
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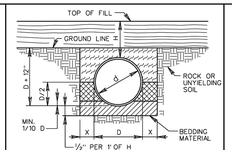
2016 ROAD & BRIDGE STANDARDS

PB-1

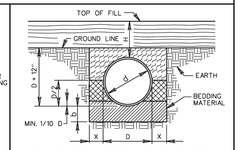
NO PROJECTION OF PIPE ABOVE GROUND LINE



NORMAL EARTH FOUNDATION

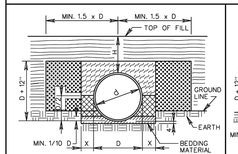


ROCK FOUNDATION

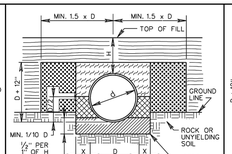


FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

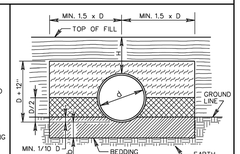
PIPE PROJECTION ABOVE GROUND LINE



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

BEDDING MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

CLASS I BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

FOR PLASTIC PIPE CLASS I BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

FOR ALL OTHER PIPE REGULAR BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

EMBANKMENT

REGULAR BACKFILL MATERIAL IN ACCORDANCE WITH SECTION 302 OF THE ROAD AND BRIDGE SPECIFICATIONS.

NOTES:

FOR GENERAL NOTES ON PIPE BEDDING, SEE INSTALLATION OF PIPE CULVERTS AND STORM SEWERS GENERAL NOTES ON SHEET 107.00.

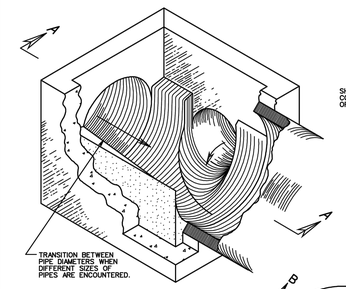
CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE 25 AND 26 MAY BE USED IN PLACE OF CLASS I BACKFILL.

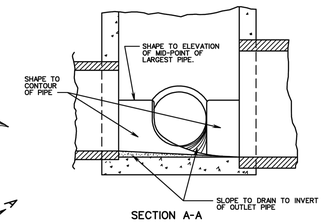
VDOT ROAD AND BRIDGE STANDARDS		INSTALL. OF PIPE CULVERTS AND STORM SEWERS CIRC. PIPE BEDDING AND BACKFILL - METHOD "A" VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 1 OF 4	REVISION DATE		302
107.01	07/12		303

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

IS-1





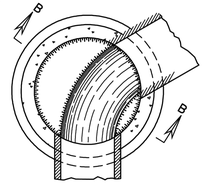
SECTION A-A

METHOD OF TREATMENT IN DROP INLETS

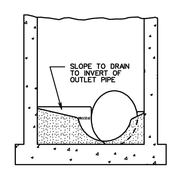
NOTES:
SHAPING OF MANHOLE AND INLET INVERTS IN ACCORDANCE WITH THIS DRAWING IS TO APPLY TO THOSE STRUCTURES SPECIFIED ON PLANS OR WHERE INVERT OF PIPE IS ABOVE INVERT OF STRUCTURE.

MANHOLE OR DROP INLET IS TO BE FORMED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STANDARD OR SPECIAL DRAWING. THE CONCRETE SHAPING AS DETAILED HEREON IS TO CONSIST OF A PORTLAND CEMENT CONCRETE MIX CONFORMING TO CLASS A3 OR CLASS S1 EXCEPT THAT 25% OF COARSE AGGREGATE MAY BE UP TO 4" IN DIAMETER AND CONSIST OF STONE, BROKEN BRICK, BROKEN CONCRETE OR BROKEN CONCRETE BLOCK. THE SURFACE SHALL BE LEFT SMOOTH BY MEANS OF HAND TROWELLING. NONE OF THE COARSE AGGREGATE SHALL REMAIN EXPOSED.

DETAILS OF INVERT SHAPING AS SHOWN HEREON ARE FOR EXAMPLE PURPOSES ONLY. EACH MANHOLE OR DROP INLET IS TO BE SHAPED INDIVIDUALLY TO BEST FIT THE PARTICULAR INLET AND OUTLET CONFIGURATION AND FLOW LINES.



PLAN

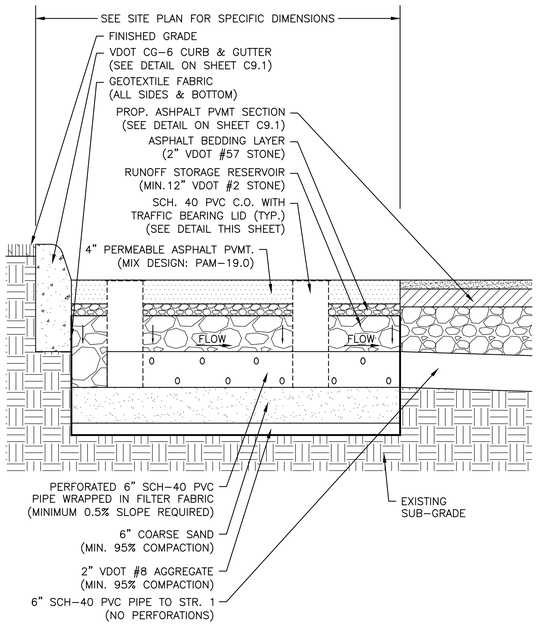


SECTION B-B

METHOD OF TREATMENT IN MANHOLES

VDOT ROAD AND BRIDGE STANDARDS		STANDARD METHOD OF SHAPING MANHOLE & INLET INVERTS VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 1 OF 1	REVISION DATE		302
106.08			

2016 ROAD & BRIDGE STANDARDS

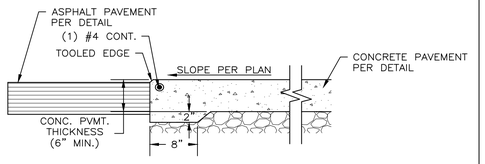


PERMEABLE PAVEMENT SECTION

NOT TO SCALE

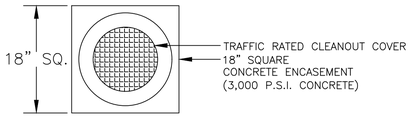
NOTE:
1. ALL PIPE INSTALLATION AND COMPACTION SHALL FOLLOW THE NATIONAL READY MIXED CONCRETE ASSOCIATION (NRMCA) SPECIFICATIONS FOR INSTALLATION.

2. ALL OTHER PIPE BEDDING ON-SITE SHALL BE COMPACTED TO MEET CITY OF ROANOKE EXCAVATION STANDARDS, LATEST EDITION.

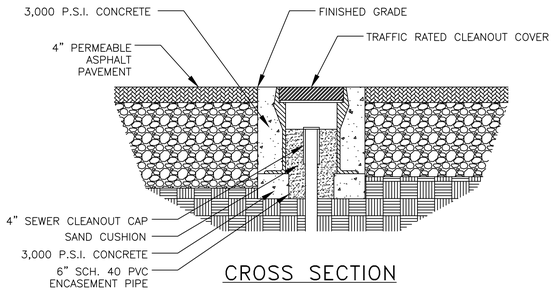


DUMPSTER APRON

N.T.S.



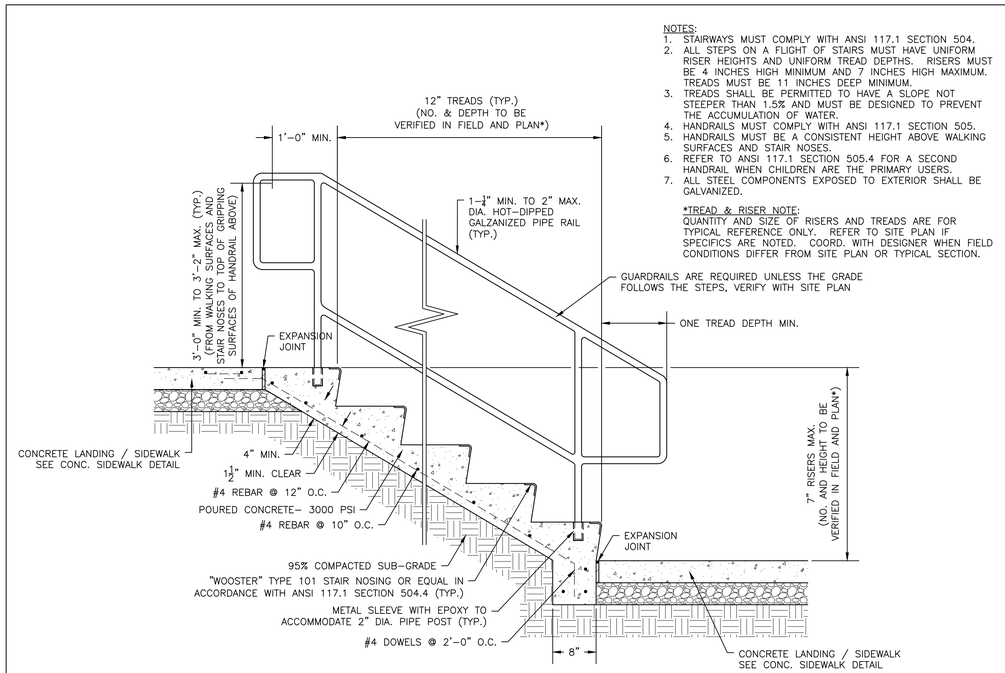
TOP VIEW



CROSS SECTION

TRAFFIC RATED CLEANOUT

NO SCALE



TYPICAL SECTION AT CONCRETE STEPS

N.T.S.

Westwood
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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

SITE DETAILS 2

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

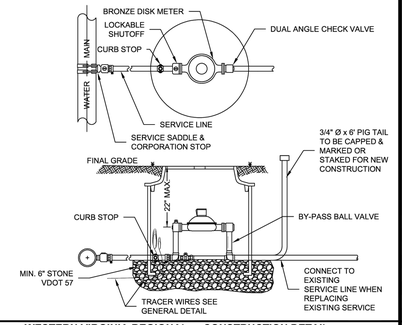
COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C9.2

CP26-00XX

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Last Saved: 6/30/2026 11:44 AM
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Drawing: N:\0070930.01\16 CAD\2WGS\Site Design\R0070930.01 BASE 2026-06-30

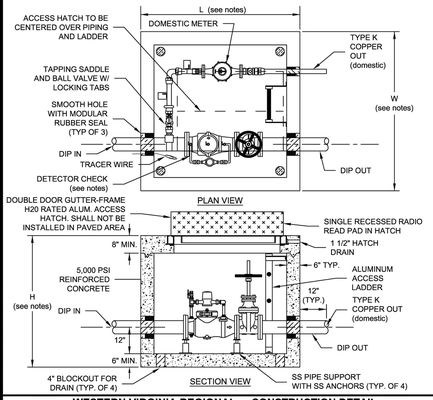
1. ALL METERS ARE TO BE PROVIDED AND INSTALLED BY PARTICIPATING UTILITY AT OWNER/DEVELOPER'S EXPENSE. METER BOX, SERVICE, AND SETTER TO BE FURNISHED AND INSTALLED BY OWNER/DEVELOPER IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS SHOWN BELOW.
2. SADDLES SHALL BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION AND SHALL BE SPECIFICALLY SIZED FOR THE TYPE OF PIPE.
3. METER BOXES SHALL BE PLASTIC BOX, CORRUGATED HDPE BOX, OR APPROVED EQUAL. MINIMUM METER BOX & LID DIAMETERS SHALL BE 20" AND 30".
4. COPPER METER SETTER TO BE WITH ANGLE DUAL CHECK VALVE AND BYPASS HAVING LOCKABLE SHUTOFF VALVE.
5. SERVICES REQUIRING METERS LARGER THAN 2-INCH. SEE STANDARD DETAIL W-7.
6. ALL METERS SHALL INCLUDE A 2" SETTER AND SHALL INCLUDE BUSHING FOR SMALLER METER IF NECESSARY.
7. CENTER METER IN METER BOX.
8. DO NOT OVERFILL WITH #57 STONE.
9. PROVIDE 2" RECESSED HOLE IN LID/COVER TO ACCOMMODATE METER RADIO READ PAD.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

COMMERCIAL WATER SERVICE
NON TRAFFIC BEARING LOCATION
(LINE PRESSURE UNDER 120 PSI)
METER SIZES 5/8" - 2"
09/2024 — **W-4**

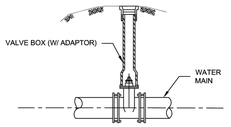
1. FOR 6" FIRE LINE, EXTERIOR VAULT DIMENSIONS SHALL BE (L x W x H) 6' X 6' X 5' WITH DOMESTIC TAP MADE INSIDE VAULT AS SHOWN BELOW.
2. FOR 8" FIRE LINE EXTERIOR VAULT DIMENSIONS SHALL BE (L X W X H) 6' X 6' X 6' WITH DOMESTIC TAP MADE OUTSIDE VAULT. BALL VALVE WITH LOCKING TABS SHALL BE PROVIDED INSIDE VAULT TO ALLOW FOR ISOLATION OF DOMESTIC METER. FOR LINES GREATER THAN 8", VAULTS TO BE APPROVED ON A CASE BY CASE BASIS.
3. SINGLE DETECTOR CHECK VALVE SHALL INCLUDE FLANGED END CONNECTIONS, BYPASS ASSEMBLY, AND ONE OS&Y GATE VALVE.
4. BYPASS ASSEMBLY SHALL INCLUDE 2 BALL VALVES TO ISOLATE METER.
5. DOMESTIC SHALL BE TYPE K COPPER WITH GRIP JOINT FITTINGS, BALL VALVE AT TAPPING SADDLE (WITH LOCKING TABS) AND CHECK VALVE ON OUTLET.
6. DOMESTIC METER AND BYPASS METER TO BE SUPPLIED BY OWNER AND INSTALLED BY VENDOR.
7. PLAIN END WITH ADAPTER FLANGE OR FLANGED BY PLAIN END PIPING REQUIRED FOR INLET AND OUTLET PIPING.
8. VAULT TO BE INSTALLED ON MIN. 6" COMPACTED VDOT #57 STONE WITH FILTER FABRIC PLACED BETWEEN STONE BEDDING AND SUBGRADE.
9. THIS CONFIGURATION IS NOT ALLOWED IN THE CITY OF SALEM.
10. ALL METERS 2" AND SMALLER SHALL INCLUDE A 2" SETTER, WITH ADAPTERS FOR SMALLER METERS PROVIDED AS REQUIRED.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

TYPICAL COMMERCIAL METER VAULT / FIRE SERVICE VAULT
(SUBMIT ACTUAL DESIGN TO PARTICIPATING UTILITY FOR APPROVAL)
(LINE PRESSURE UNDER 120 PSI)
09/2024 — **W-7**

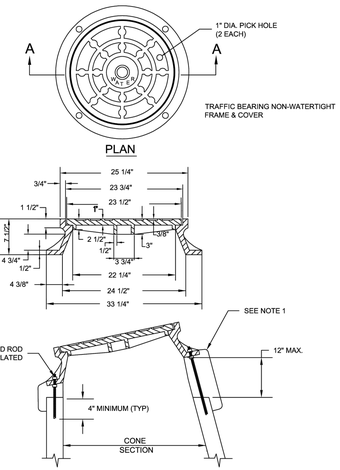
1. CAST IRON "SCREW TYPE" VALVE BOXES ARE REQUIRED FOR ALL PIPE LESS THAN 12" AND DEPTHS LESS THAN 5' TO TOP OF PIPE.
2. CAST IRON LID TO BE MARKED "WATER".



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

SCREW TYPE
VALVE BOX
09/2024 — **W-9A**

1. CONCRETE ADJUSTMENT RINGS SHALL MEET H20 LOADING. MAXIMUM 12" ADJUSTMENT.
2. USE MODERATELY STIFF NON SHRINK GROUT.
3. MIX IS TO BE FORCED INTO ALL GROOVES AND UNDER FLANGE OF FRAME AND LEFT AT OR ABOVE TOP OF FLANGE.
4. DO NOT BACKFILL AROUND FRAME AND COVER, FOR 48 HOURS AFTER CONCRETE IS PLACED. THE USE OF HIGH EARLY STRENGTH CEMENT WOULD REDUCE TIME TO (24 HRS.)
5. RESTRICT TRAFFIC LOAD FOR A MINIMUM OF 24 HOURS.
6. METAL GRADE RINGS BETWEEN FRAME AND LID ARE NOT ALLOWED.

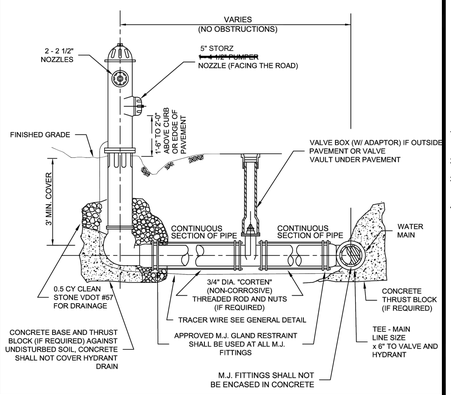


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

VAULT FRAME
AND COVER
09/2024 — **W-16**

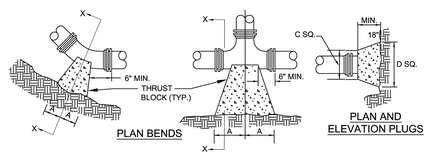
*NOTE: G.C. SHALL SUBMIT SHOP DRAWINGS FOR WATER VAULT(S) TO ENGINEER AND THE WWA FOR APPROVAL PRIOR TO ORDERING.

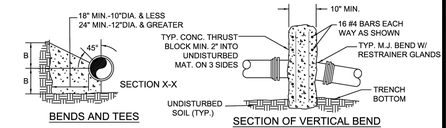
1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT. PRIVATE HYDRANTS SHALL ALSO BE PAINTED SILVER WITH AN OIL-BASED PAINT UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL FIRE MARSHALL.
2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. FROM EDGE OF PAVEMENT WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE. OTHER LOCATIONS ARE ALLOWABLE WITH APPROVAL OF PARTICIPATING UTILITY.
3. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
4. WATERPROOF BAGS OR OUT OF SERVICE RINGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
5. HYDRANT ASSEMBLIES SHALL RESTRAINED WITH APPROVED M.J. GLAND RESTRAINTS. HIGH PRESSURE (OVER 150 PSI) ALSO REQUIRES CONCRETE THRUST BLOCKS & RODS AS SHOWN BELOW.
6. IF DURING CONSTRUCTION THE SEASONAL WATER LEVEL IS NOTED TO BE ABOVE THE DRAIN OUTLETS OF THE PROPOSED HYDRANT, THE PARTICIPATING UTILITY WILL BE NOTIFIED IMMEDIATELY SO THAT THE HYDRANT CAN BE RELOCATED TO A SUITABLE LOCATION, OMITTED, OR THE DRAIN HOLE PLUGGED.
7. SEE TRACER WIRE DETAIL FOR TRACER WIRE INSTALLATION DETAILS REGARDING FIRE HYDRANTS.
8. WHERE HYDRANT LATERAL(S) IS APPROVED BY THE PARTICIPATING UTILITY TO BE LONGER IN LENGTH, MAKING THE CONTINUOUS SECTION OF PIPE ON EACH SIDE OF THE GATE VALVE UNFEASIBLE, RESTRAINED PIPE JOINTS SHALL BE INSTALLED BETWEEN THE TEE AND GATE VALVE.
9. INSTALL GATE VALVE AT MAIN TEE HOWEVER KEEP VALVE OUT OF PAVEMENT IF POSSIBLE.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

FIRE HYDRANT
ASSEMBLY
09/2024 — **W-17**





NOTES

1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4° BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WITH PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX CONCRETE.
5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.
6. REFER TO "MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS" DETAIL FOR WHEN THRUST BLOCKS ARE REQUIRED TO BE USED.
7. WHEN THRUST BLOCK IS REQUIRED BUT NOT FEASIBLE TO CONSTRUCT, THRUST COLLAR SHALL BE USED. SEE "THRUST COLLAR" DETAIL.

PRESSURE = 200psi
BEARING = 2000psf
FACTOR OF SAFETY = 1.5

PIPE SIZE	90° BEND		45° BEND		22 ½° BEND		11 ¼° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

THRUST BLOCK
REQUIREMENTS
09/2024 — **W-18**

PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 ½° BEND	11 ¼° BEND	VALVE/ PLUG (NOTE 5)	TEE BRANCH (NOTE 6)	REDUCER (NOTE 7)	45° VERT.	22 ½° VERT.	11 ¼° VERT.
6"	D.I.	33'	14'	7'	3'	50'	34'	26'	14'	7'	3'
8"	D.I.	43'	18'	9'	5'	65'	49'	28'	18'	9'	5'
10"	D.I.	51'	21'	11'	5'	78'	62'	26'	21'	11'	5'
12"	D.I.	60'	25'	12'	6'	91'	75'	27'	25'	12'	6'
16"	D.I.	76'	32'	15'	8'	117'	100'	50'	32'	15'	8'
18"	D.I.	83'	35'	17'	9'	129'	112'	27'	35'	17'	9'
20"	D.I.	90'	38'	18'	9'	141'	124'	26'	38'	18'	9'
24"	D.I.	105'	44'	21'	11'	164'	147'	49'	44'	21'	11'

PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 ½° BEND	11 ¼° BEND	VALVE/ PLUG (NOTE 5)	TEE BRANCH (NOTE 6)	REDUCER (NOTE 7)	45° VERT.	22 ½° VERT.	11 ¼° VERT.
6"	PVC	43'	18'	9'	5'	78'	53'	40'	18'	9'	5'
8"	PVC	56'	23'	12'	6'	102'	77'	43'	23'	12'	6'
10"	PVC	66'	28'	14'	7'	122'	96'	41'	28'	14'	7'
12"	PVC	78'	32'	16'	8'	143'	118'	42'	32'	16'	8'
16"	PVC	99'	41'	20'	10'	184'	158'	42'	41'	20'	10'
18"	PVC	108'	45'	22'	11'	202'	176'	42'	45'	22'	11'
20"	PVC	118'	49'	24'	12'	222'	195'	41'	49'	24'	12'
24"	PVC	136'	57'	27'	14'	258'	231'	76'	57'	27'	14'

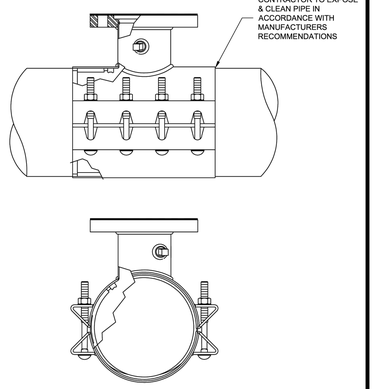
1. BASED ON TEST PRESSURE OF 200 PSI. IF HIGHER PRESSURE IS USED/REQUIRED, THE LENGTHS ABOVE SHALL BE ADJUSTED.
2. BASED ON GRANULAR BEDDING AND SAFETY FACTOR OF 1.5.
3. REFER TO EBAA RESTRAINT LENGTH CALCULATOR, www.ncp.ebaa.com/calculator.php
4. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING AND DOCUMENTED BY THE INSPECTOR FOR THE LENGTH SHOWN UNLESS OTHER WISE INDICATED.
5. RESTRAINED LENGTH SHOWN REFERS TO ANY DESIGNED OR POTENTIAL LINE STOP, INCLUDING ALL GATE VALVES.
6. RESTRAINED LENGTH SHOWN REFERS TO THE BRANCH LINE ONLY. THE CONTINUOUS PIPE LENGTH OF THE MAIN SHALL BE A MINIMUM OF 10' ON EACH SIDE OF THE TEE.
7. RESTRAINED LENGTH SHOWN FOR REDUCERS IS BASED ON REDUCING PIPE DIAMETER TO ONE SIZE SMALLER THAT PIPE LISTED (ANY OTHER DIAMETER REDUCTION WILL REQUIRE ADDITIONAL CALCULATIONS BEFORE INSTALLATION). RESTRAINED LENGTH SHOWN IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
8. 12" AND SMALLER DIAMETER: IF UNDER 150 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 150 PSI WORKING PRESSURE, BOTH THRUST BLOCK(S) AND RESTRAINED JOINT(S) SHALL BE USED.

   LARGER THAN 12" DIAMETER: IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK(S) AND RESTRAINED JOINT(S) SHALL BE USED (UNLESS OTHERWISE APPROVED BY THE PARTICIPATING UTILITY).
9. FOR RESTRAINED JOINT PIPING REQUIREMENTS AT FITTING R.J. PVC AND R.J. DIP MAY BE USED INTERCHANGEABLY WITH APPROVAL FROM PARTICIPATING UTILITY. CONTRACTOR MUST PLAN ACCORDINGLY FOR THE DIFFERENCE IN PVC AND DIP BELL AND SPIGOT DIMENSIONS.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

MINIMUM THRUST RESTRAINT
OF PIPE JOINTS
DESIGN LENGTHS
09/2024 — **W-19**

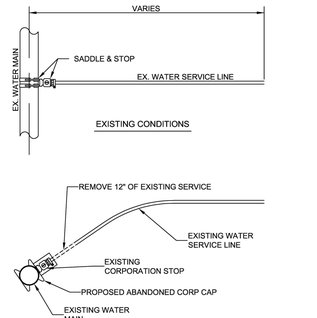
1. TAPPING SLEEVE SHALL BE RATED AT 100 PSI OVER WORKING PRESSURE AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE RESILIENT SEATED GATE VALVE. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTER.
4. SIZE-ON-SIZE TAPPING NOT ALLOWED UNLESS APPROVED BY PARTICIPATING UTILITY.
5. IF PRESSURE IS GREATER THAN 150 PSI, USE DUCTILE IRON TAPING SLEEVE WITH FULL FACE GASKET.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

TAPPING SLEEVE
AND VALVE
09/2024 — **W-21**

1. EXCAVATE THE WATER SERVICE LINE ALL THE WAY TO THE MAIN WATER LINE AT CORPORATION STOP. TURN OFF THE CORPORATION STOP AND REMOVE A MINIMUM OF 12" OF THE WATER SERVICE LINE.
2. INSTALL AN ABANDONED CORP CAP (SEE APPROVED PRODUCT LIST) ON THE MAIN TO ENCAPSULATE THE CORPORATION STOP. BACK FILL.
3. UNDER EXTREME CIRCUMSTANCES AND WITH APPROVAL OF THE PARTICIPATING UTILITY THE SERVICE LINE MAY BE ABANDONED BY TURNING SERVICE OFF AT METER SETTER AND BURYING THE METER SETTER.
4. CUT / REMOVE TRACER WIRE THAT FOLLOWS SERVICE LINE.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

WATER SERVICE ABANDONMENT DETAIL
09/2024 — **W-24**

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NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
WVWA DETAILS 1
704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB

PROJECT NO.
R0070930.01

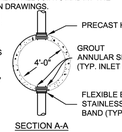
COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

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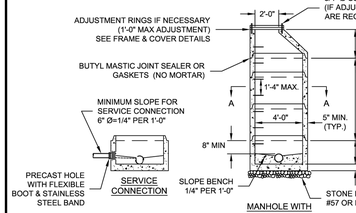
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1. WHEN USED AS SAMPLING MANHOLE FLOW SHALL PASS STRAIGHT THROUGH, i.e., 180°.
2. STEPS SHALL BE VERTICALLY ALIGNED. FIRST STEP SHALL BE WITHIN 24" OF COVER, BOTTOM STEP SHALL BE WITHIN 24" OF BOTTOM OF MANHOLE.
3. FRAME AND COVER SHALL BE PROPERLY ALIGNED WITH THE 2 FOOT OPENING OF THE MANHOLE STRUCTURE AND BOLTED IN PLACE.
4. FLAT TOP MANHOLES MAY ONLY BE SUBSTITUTED WITH THE PERMISSION OF THE PARTICIPATING UTILITY. FLAT TOP MANHOLES ARE PREFERRED IN AND AROUND STREAM OR STEEP SLOPES DUE TO ACCESSIBILITY ISSUES.
5. FLEXIBLE JOINT MANHOLE CONNECTION SHALL BE USED AT ALL PIPE TO MANHOLE CONNECTIONS.
6. GROUT ANNULAR SPACE BETWEEN PIPE AND PRECAST MANHOLE ON INSIDE OF MANHOLE. DO NOT GROUT BOOTS.
7. WHEN REPLACING AN EXISTING MANHOLE OR INSTALLING A NEW PRECAST MANHOLE ON AN EXISTING SEWER, A MINIMUM OF SIX FEET (6') OF EXISTING PIPE SHALL BE REMOVED AND REPLACED WITH NEW MATERIAL ON INLET AND OUTLET OF MANHOLE.
8. MANHOLES WHERE THE INVERT IS LOWER THAN THE NORMAL GROUNDWATER ELEVATION (I.E., ALONG CREEKS, RIVERS, LOW-LYING AREAS, ETC.) SHALL HAVE A FULL EXTERIOR COATING AND JOINT WRAP APPLIED IN ADDITION TO JOINT SEALANT. SEE NOTES 9 & 10.
9. EXTERIOR VERTICAL WALL SURFACES SHALL BE FACTORY COATED, WHERE INDICATED IN THE DESIGN DRAWINGS.
10. MANHOLES SHALL UTILIZE AN EXTERNAL FRAME AND JOINT SEAL AT ALL JOINTS AND AT THE FRAME/CHIMNEY INTERFACE, WHERE INDICATED IN THE DESIGN DRAWINGS.
11. FOR PIPE LARGER THAN 15 INCHES IN DIAMETER, THE MINIMUM INSIDE DIAMETER OF THE MANHOLE SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BASED ON PIPE SIZE AND ANGLE BETWEEN INLET AND OUTLET PIPING.
12. A BEND WITHIN 36" OF MANHOLE MAY BE USED ON STEEP LINES TO ENTER OR EXIT A MANHOLE WITH PARTICIPATING UTILITY APPROVAL.
13. MANHOLE BASES THAT ARE REQUIRED TO BE GREATER THAN 4' DIAMETER MAY TRANSITION TO 4' AFTER 6' VERTICAL DEPTH.
14. INSIDE DROP MANHOLE REQUIRED WHEN DISTANCE FROM INCOMING PIPE INVERT TO MANHOLE BOTTOM EXCEEDS 24".



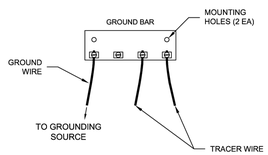
SECTION A-A



MANHOLE WITH PRECAST INVERT

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
4' STANDARD MANHOLE FOR PIPE 15" OR SMALLER (FOR DEPTHS UP TO 15 FEET) 09/2024	S-1

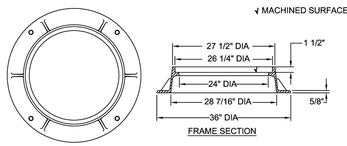
1. TRACER WIRE SHALL BE INSTALLED ON ALL NEW WATER AND SEWER PIPE INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO, DUCTILE IRON PIPE, PVC PIPE, AND POLYETHYLENE PIPE, INCLUDING SERVICE LINES. TRACER WIRE IS NOT REQUIRED FOR GRAVITY SEWER MAINS BETWEEN MANHOLES. TRACER WIRE WILL BE REQUIRED FOR SEWER LATERALS BETWEEN THE MAIN AND THE CLEANOUT AT THE PROPERTY LINE.
2. TRACER WIRE SHALL BE 14 GAUGE SOLID COPPER ELECTRICAL WIRE WITH A MINIMUM OF 45 MIL POLYETHYLENE COATING. THHN WIRE IS NOT ACCEPTABLE.
3. TRACER WIRE SHALL BE INSTALLED ALONG THE TOP OF THE PIPE AT 3:00 OR 9:00 O'CLOCK POSITION.
4. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT LOCATIONS SUCH AS VALVES, WATER VAULTS, AIR VALVES, AND TRACER WIRE ACCESS BOXES IF NECESSARY.
5. TRACER WIRE SHALL BE INSTALLED WITH WATER AND SEWER PIPE INSTALLED BY ALL METHODS INCLUDING OPEN TRENCHING, DIRECTIONAL BORING, JACK AND BORE, OR PIPE BURSTING.
6. SPLICING OF TRACER WIRE SHALL BE MINIMIZED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING CONTINUITY AT ALL SPLICE LOCATIONS. IT IS THE INTENT OF THIS SPECIFICATION THAT THE SPLICE BE WATERPROOF, CORROSION-PROOF, AND UNABLE TO COME APART.
7. TRACER WIRE USED FOR DIRECTIONAL BORING, PIPE BURSTING, AND JACK AND BORING SHALL BE ATTACHED DIRECTLY TO THE PIPE. THREE STRANDS OF TRACER WIRE SHALL BE USED IN THIS APPLICATION. TRACER WIRE USED FOR BORING SHALL BE STRONGER THAN TYPICAL TRACER WIRE. SEE APPROVED PRODUCT LIST FOR SPECIFICATIONS. TRACER ACCESS BOXES SHALL BE INSTALLED AT EACH END OF ALL BORING/PIPE BURSTING OPERATIONS.
8. RECORD DRAWING SHALL SHOW TRACER WIRE ACCESS POINT LOCATIONS AND SPLICE LOCATIONS.
9. TRACER WIRE SHALL BE ON STANCARDS POINT EVERY 500'. THIS MAY REQUIRE TRACER WIRE ACCESS BOXES IF OTHER ACCESS POINTS ARE NOT AVAILABLE. TRACER ACCESS BOXES SHALL BE USED IN LAWNS/SIDEWALKS/STREETS. IN FIELDS, USE AN ABOVE GROUND STATION THAT IS A HIGHLY VISIBLE POST.
10. LOCATION TRACER WIRE WILL BE TESTED BY THE PARTICIPATING UTILITY AS PART OF THE FINAL ACCEPTANCE. CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT THE TRACER WIRE CAN BE LOCATED.
11. A GROUND ROD WILL BE REQUIRE AT ALL TRACER WIRE ACCESS POINTS. THIS MAY INCLUDE VALVE BOXES OR TRACER WIRE ACCESS BOXES OR POSTS. THE GROUND ROD SHALL BE COPPER COATED STEEL WITH A MINIMUM DIAMETER OF5/8" AND SHALL BE BURIED A MINIMUM OF FOUR (4) FEET INTO THE GROUND. THE GROUND WIRE CONNECTED TO THE GROUND ROD SHALL BE #6 AWG COPPER WIRE AND SHALL BE OF ADEQUATE LENGTH TO EXTEND A MINIMUM OF FIVE (5) FEET BEYOND THE TOP OF THE ACCESS POINT.
12. TRACER WIRE SHALL BE GREEN FOR SEWER AND BLUE FOR WATER.



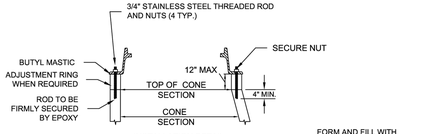
WHEN USING CONCRETE VAULT

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
TRACER WIRE 09/2024	G-4

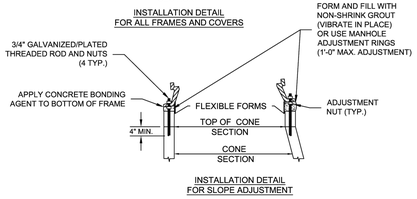
1. CONCRETE ADJUSTMENT RINGS SHALL MEET H-20 LOAD RATING AND UTILIZE BUTYL MASTIC JOINT SEALANT BETWEEN EACH RING AND FRAME AN COVER TO FORM A WATERTIGHT JOINT.
2. FRAME HEIGHT SHALL BE 4" FOR MANHOLES WITHIN OR ADJACENT TO STREAMS AND 7" IN ALL OTHER LOCATIONS.
3. 12" MAXIMUM ADJUSTMENT USING CONCRETE GRADE RING.
4. METAL GRADE RINGS BETWEEN FRAME AND LID ARE NOT ALLOWED.



FRAME SECTION



INSTALLATION DETAIL FOR ALL FRAMES AND COVERS

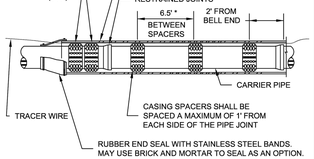


INSTALLATION DETAIL FOR SLOPE ADJUSTMENT

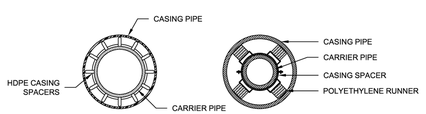
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
MANHOLE FRAME 09/2024	S-4

1. SPACERS SHALL BE HDPE. STAINLESS STEEL SPACERS MAY BE USED IF IN COMPLIANCE WITH THE FOLLOWING CRITERIA:
   - INTERIOR SURFACES OF THE CIRCULAR STAINLESS STEEL BAND SHALL BE LINED WITH EPDM OR NEOPRENE MATERIAL.
   - ABRASION RESISTANT RUNNERS/SKIDS SHALL BE POLYMER MATERIAL WITH EACH END BEVELED TO FACILITATE EASE OF INSTALLATION INTO CASING PIPE.
2. SPACERS SHALL BE SPACED 6 1/2" ON CARRIER PIPE.
3. CARRIER PIPE SHALL BE DUCTILE OR HDPE IN ACCORDANCE WITH REGIONAL STANDARDS.
4. IF HDPE CARRIER PIPE IS USED AND PRECISE GRADES ARE NOT REQUIRED THROUGH CASING, SPACERS MAY BE OMITTED.
5. CASING PIPE TO BE STEEL IN ACCORDANCE WITH VDOT STANDARD DETAIL EP-1 OR HDPE AS SPECIFIED IN THE STANDARDS IF APPROVED BY THE PARTICIPATING UTILITY.
6. CONCRETE CASING PIPE WILL NOT BE ALLOWED.
7. DIAMETER OF CASING PIPE SHALL BE AS SHOWN IN THE TABLE BELOW UNLESS OTHERWISE SPECIFIED BY THE PARTICIPATING UTILITY. WHERE SPACERS ARE NOT REQUIRED, CASING PIPE SHALL BE MINIMUM DIAMETER TO ADEQUATELY INSTALL AND PASS CARRIER PIPE THROUGH AND TO MINIMIZE VOID SPACE BETWEEN CARRIER AND CASING PIPES.
8. ATTACH TRACER WIRE TO CARRIER PIPE.

CASING PIPE SIZE CHART	
CARRIER PIPE (NOMINAL DIAMETER)	CASING PIPE (DIAMETER)
6"	12"
8"	16"
10"	24"
12"	24"
14"	24"
16"	30"
18"	30"
24"	42"
30"	42"

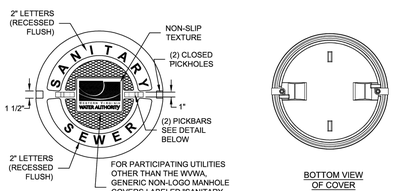


* ADDITIONAL SPACING ALLOWED AS RECOMMENDED BY PIPE MANUFACTURER.

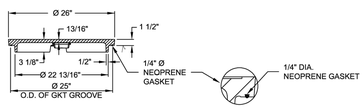


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
PIPE SUPPORT IN CASING PIPE 09/2024	G-6

1. MANHOLE COVERS FOR THE CITY OF SALEM WILL NOT INCLUDE THE WVWA LOGO. COVERS SHALL HAVE "SANITARY SEWER" ONLY.

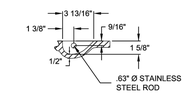


BOTTOM VIEW OF COVER



SECTION VIEW

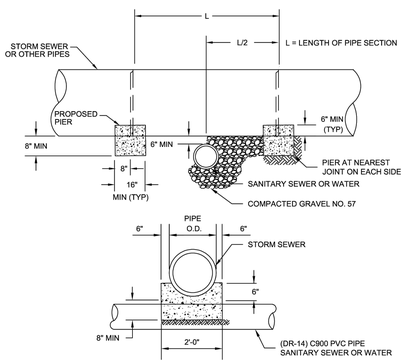
MACHINED SURFACE



PICKBAR DETAIL

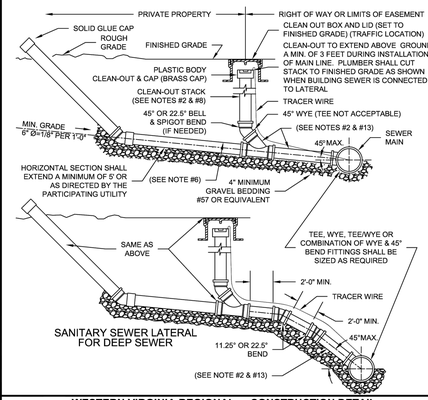
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
STANDARD MANHOLE COVERS 09/2024	S-5

1. PIER REQUIRED WHEN STORM DRAIN OR OTHER PIPES CROSSES OVER THE OTHER UTILITY WITH A VERTICAL CLEARANCE OF LESS THAN 18".
2. PIER TO BE BUILT ON UNDISTURBED EARTH.
3. CONCRETE TO BE READY MIX, CLASS A3.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
CONCRETE PIER 09/2024	G-8

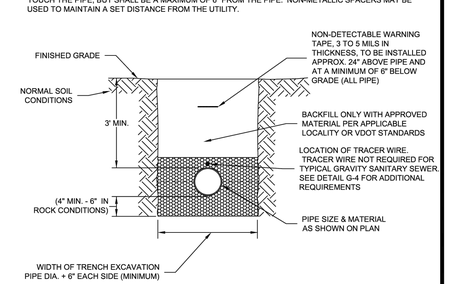
1. TRAFFIC BEARING BOX AND LID REQUIRED IN TRAFFIC AREAS.
2. SEWER LATERAL FITTINGS SHALL BE OF SAME SDR RATING AS THE SEWER MAIN.
3. ALL PIPES SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEANOUT STACK WYE. (EXCEPT FOR DEEP SEWER, AS SHOWN BELOW).
5. ALL MAIN LINE TAPS ON ACTIVE MAINS SHALL BE PERFORMED BY PARTICIPATING UTILITY.
6. PIPING ON PRIVATE SIDE OF CLEANOUT TO BE INSTALLED PER GOVERNING JURISDICTION REQUIREMENTS.
7. MINIMUM LATERAL SIZE: 6" MINIMUM FOR ALL SERVICES.
8. SEWER CLEANOUTS SHALL BE SAME SIZE AS SEWER LATERAL.
9. MINIMUM COVER FOR ALL SEWER LATERALS SHALL BE THREE (3') FEET.
10. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE (IN ACCORDANCE WITH THIS DETAIL) WHEN MAINTENANCE OCCURS.
11. LOWEST SERVED FINISHED FLOOR ELEVATION SHALL BE A MINIMUM OF THREE FEET (3') ABOVE THE TOP OF THE MAIN AT THE POINT WHERE THE SERVICE LATERAL CONNECTS TO THE MAIN.
12. WHEN CONNECTING TO EXISTING LATERAL USE FLEXIBLE COUPLING.
13. CONNECTIONS TO THE MAIN MAY BE MADE WITH A 6" BRANCH TEE OR WYE.
14. ATTEMPT TO AVOID DRIVEWAYS AND SIDEWALKS FOR CLEANOUT LOCATIONS.



SANITARY SEWER LATERAL FOR DEEP SEWER

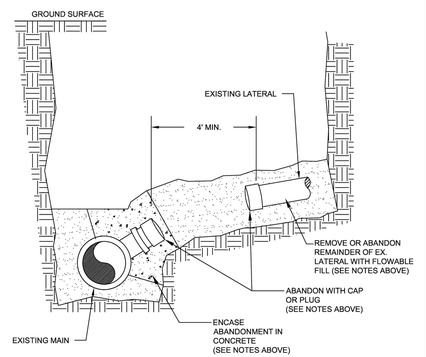
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
SANITARY SEWER LATERAL 09/2024	S-6

1. BEDDING AND HAUNCHING MATERIAL; USE #57'S OR #68'S.
2. INITIAL BACKFILL MATERIAL; USE ANY CRUSHED STONE, TYPICALLY 21A'S (CRUSHER RUN)
3. FINAL BACKFILL MATERIAL IN PAVEMENT; USE ANY CRUSHED STONE, TYPICALLY 21A'S (CRUSHER RUN)
4. PVC WATER PIPE, AS A MINIMUM, SHALL BE BEDDED AND HAUNCHED UP TO THE SPRING LINE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
5. PVC SEWER PIPE, AS A MINIMUM, SHALL BE BEDDED, HAUNCHED, AND INITIAL BACKFILL TO 6" ABOVE PIPE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
6. DIP SEWER PIPE, SHALL BE BEDDED AND HAUNCHED UP TO THE SPRING LINE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
7. DIP WATER PIPE DOES NOT REQUIRE ANY BEDDING OR SPECIAL BACKFILL EXCEPT IN PAVED AREAS WHERE IT SHALL BE BEDDED AND BACKFILLED WITH ANY TYPE OF CRUSHED STONE.
8. IN ALL CASES, PROVIDE AT LEAST 6" OF CLEARANCE FROM LEDGE ROCK, BOULDERS, LARGE STONES AND BACKFILL SHALL BE FREE OF LARGE STONES PERISHABLE MATERIAL, FROZEN CLODS, STICKY MASSES OF CLAY, AND OTHER UNSUITABLE MATTER
9. ALL EXCAVATIONS SHALL COMPLY WITH OSHA PART 1926 - SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, SUBPART P - EXCAVATIONS, AND THE OSHA TECHNICAL MANUAL, SECTION V CONSTRUCTION OPERATIONS, CHAPTER 2, EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING.
10. THE TRACER WIRE SHALL BE PLACED ALONG THE UPPER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.



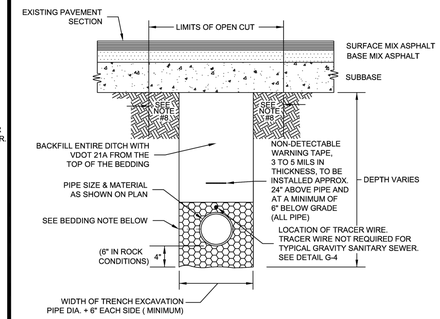
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS 09/2024	G-11

NOTES:
1. FOR VCP, CONCRETE, OR CI LATERALS, ABANDONED BY CUTTING THE PIPE NEAR THE WYE OR TEE AND INSTALLING A EXTERNAL GRIPPER PLUG WITH CONCRETE ENCASEMENT INCLUDING THE WYE OR TEE AS DIRECTED BY THE AUTHORITY.
2. IF CONNECTION TO MAIN IS NOT WITH A WYE OR TEE (E.G., BREAK IN), AN APPROPRIATELY SIZED SADDLE WITH SHIELD AND SST BANDS MUST BE INSTALLED OVER OPENING. PLUG SADDLE WITH AN APPROVED PLUG IN COORDINATION WITH THE AUTHORITY.
3. ANY REMAINING EXISTING LATERAL IN THE PUBLIC ROW SHALL BE EITHER REMOVED AND CAPPED OR ABANDONED BY FILLING WITH A FLOWABLE FILL. FLOWABLE FILL SHALL BE CONCRETE, SLURRY OR APPROVED EQUAL.
4. IF LATERAL IS PVC AND APPEARS TO BE IN GOOD CONDITION, LATERAL MUST BE INSPECTED BY THE AUTHORITY USING CCTV TO CONFIRM LATERAL CONDITION, INCLUDING CONNECTION TO MAIN. IS SUITABLE FOR ABANDONMENT WITHOUT REQUIRING ADDITIONAL WORK. IF ACCEPTABLE, THE LATERAL CAN BE TERMINATED WITH A GLUED PVC CAP WITH MINIMUM SEPARATION AND ENCASEMENT AS SHOWN IN DETAIL.
5. IF LATERAL CONNECTION TO MAIN IS DEEP (GREATER THAN OR EQUAL TO 12'), LATERAL MUST BE INSPECTED BY THE AUTHORITY USING CCTV TO CONFIRM LATERAL CONDITION, INCLUDING CONNECTION TO MAIN, IS SUITABLE FOR ABANDONMENT WITHOUT REQUIRING ADDITIONAL WORK. IF ACCEPTABLE, THE LATERAL CAN BE TERMINATED WITH APPROPRIATELY SIZED EXTERNAL GRIPPER PLUG, ENCASED IN CONCRETE AT A POINT AGREEABLE TO THE AUTHORITY.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
SANITARY LATERAL ABANDONMENT AT EXISTING MAIN 09/2024	S-6A

1. BEDDING AND HAUNCHING MATERIAL; USE #57'S OR #68'S.
2. INITIAL BACKFILL MATERIAL; USE ANY CRUSHED STONE, TYPICALLY 21A'S (CRUSHER RUN)
3. FINAL BACKFILL MATERIAL IN PAVEMENT; USE ANY CRUSHED STONE, TYPICALLY 21A'S (CRUSHER RUN)
4. PVC WATER PIPE, AS A MINIMUM, SHALL BE BEDDED AND HAUNCHED UP TO THE SPRING LINE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
5. PVC SEWER PIPE, AS A MINIMUM, SHALL BE BEDDED, HAUNCHED, AND INITIAL BACKFILL TO 6" ABOVE PIPE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
6. DIP SEWER PIPE, SHALL BE BEDDED AND HAUNCHED UP TO THE SPRING LINE FOR INSTALLATION IN PAVED OR OUTSIDE OF PAVED AREAS.
7. DIP WATER PIPE DOES NOT REQUIRE ANY BEDDING OR SPECIAL BACKFILL EXCEPT IN PAVED AREAS WHERE IT SHALL BE BEDDED AND BACKFILLED WITH ANY TYPE OF CRUSHED STONE.
8. IN ALL CASES, PROVIDE AT LEAST 6" OF CLEARANCE FROM LEDGE ROCK, BOULDERS, LARGE STONES AND BACKFILL SHALL BE FREE OF LARGE STONES PERISHABLE MATERIAL, FROZEN CLODS, STICKY MASSES OF CLAY, AND OTHER UNSUITABLE MATTER
9. IN VDOT ROW, THE CONTRACTOR SHALL REPLACE THE PAVEMENT AS REQUIRED AND SPECIFIED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS, LATEST EDITION.
10. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.
11. BENCH CUT ON EACH SIDE OF PAVEMENT SHALL BE IN ACCORDANCE WITH VDOT OR APPLICABLE LOCALITY'S SPECIFICATIONS.
12. ALL EXCAVATIONS SHALL COMPLY WITH OSHA PART 1926 - SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, SUBPART P - EXCAVATIONS, AND THE OSHA TECHNICAL MANUAL, SECTION V CONSTRUCTION OPERATIONS, CHAPTER 2, EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING.
13. THE TRACER WIRE SHALL BE PLACED ALONG THE UPPER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL	
BEDDING AND BACKFILL UNDER PAVEMENT AND IN RIGHT-OF-WAY 09/2024	G-12

Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2

WVWA DETAILS 2

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB

PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C10.2

CP26-00XX

Last Saved By: CSilvaz
Last Saved: 6/30/2026 11:44 AM
Plot Date/Time: 6/30/2026 11:52 PM
Drawing: N:\0070930.01\06 CAD\DWG\Site Design\R0070930.01 BASE 2026-06-30

Notes for Shoulder Work with Minor Encroachment (Less than 40 mph) (Figure TTC-5.0) *(MUTCD TA-6)*

Guidance:

1. [Paragraph Deleted]

1a. If the closure operation is on a Limited Access highway, the minimum lane width is 11 feet. The minimum lane width is 10 feet for all other roads.

2. [Paragraph Deleted]

Option:

3-11. [Paragraphs Deleted]

11a. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

Standard:

12-14. [Paragraphs Deleted]

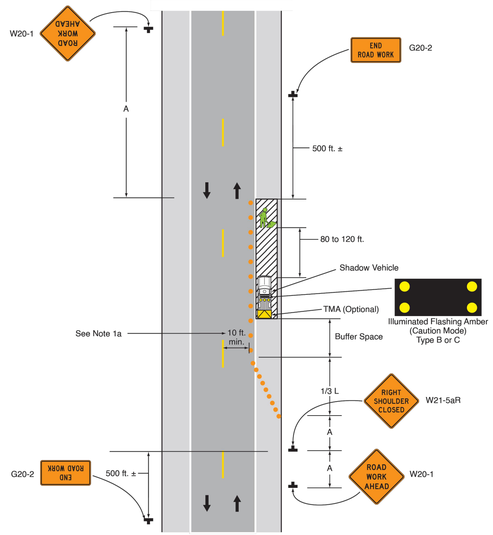
15. See Table 6P-V5 for taper lengths and Table 6P-V8 for channelizing device spacing.

16. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

17. The buffer space length shall be as shown in Table 6P-V4 for the speed limit.

18. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

Shoulder Work with Minor Encroachment (40 mph or Less)
Figure TTC-5.0 *(MUTCD TA-6)*



Note: See Table 6P-2 for the meanings of the symbols used in this figure.
See Table 6P-V3 for sign spacing requirements ("A").
See Tables 6P-V5 through 6P-V7 for taper length requirements.
See Table 6P-V8 for channelizing device spacing requirements.

Notes for Stationary Lane Closure on a Divided Highway (Figure TTC-16.0) *(MUTCD TA-33B)*

Standard:

1. [Paragraph Deleted]

1a. On divided highways having a median wider than 8 feet, right and left sign assemblies shall be required.

2. [Paragraph Deleted]

Guidance:

3. [Paragraph Deleted]

3a. When closing a lane, a PCMS should be used in advance of the first warning sign if all of the left side signs cannot be installed.

3b. Care should be exercised when establishing the limits of the work zone to ensure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6P-V4. For Limited Access highways a minimum of 1,000 feet is desired.

3c. All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

Option:

4. [Paragraph Deleted]

5. [Paragraph Deleted]

Support:

6. [Paragraph Deleted]

Standard:

6a. See Table 6P-V5 for taper lengths.

6b. See Table 6P-V8 for channelizing device spacing.

7. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).

8. The buffer space length shall be as shown in Table 6P-V4 for the posted speed limit.

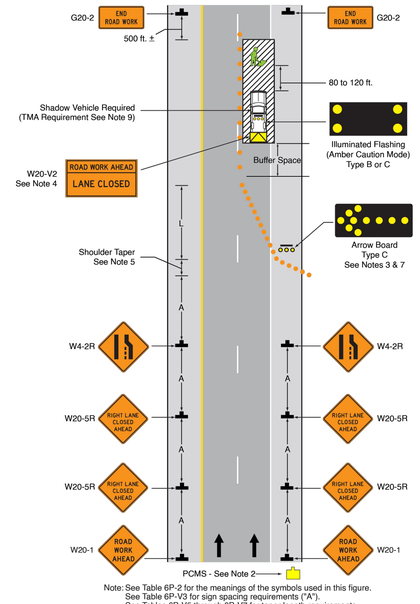
9. A shadow vehicle with either a Type B or C arrow board operating in the caution mode shall be parked 80 to 120 feet in advance of the first work crew. When the posted speed limit is 45 mph or greater, a TMA shall be used.

10. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights but can be used to supplement the amber rotating, flashing, or oscillating lights.

11. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

Stationary Lane Closure on a Divided Highway
Figure TTC-16.0 *(MUTCD TA-33B)*

Known Error (VDOT) *Known Error (FHWA)*



Note: See Table 6P-2 for the meanings of the symbols used in this figure.
See Table 6P-V3 for sign spacing requirements ("A").
See Tables 6P-V5 through 6P-V7 for taper length requirements.
See Table 6P-V8 for channelizing device spacing requirements.

GENERAL NOTES:

1: PROJECT CATEGORY (MINIMUM TMP REQUIREMENTS):
- A: THIS WILL BE A CATEGORY 1 PROJECT (MINIMAL LEVEL OF CONSTRUCTION)
  - i. THIS WILL BE PERMITTED WORK.
  - ii. THIS PROJECT WILL INVOLVE TRAFFIC CONTROL DEVICES TO ENSURE SAFE TRAVEL AROUND THE WORK ZONES.

2: SIGNS AND OTHER TRAFFIC CONTROL MEASURES ARE SHOWN GRAPHICALLY FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT SHOWN IN ACTUAL LOCATIONS. G.C. SHALL BE RESPONSIBLE FOR ENSURING THAT ALL SIGNAGE IS PLACED THE CORRECT DISTANCE BEFORE OR AFTER THE WORK ZONE AS SHOWN IN THE WORK AREA PROTECTION MANUAL (LATEST ADDITION) AND AS DICTATED BY THE SPECIFIC SITE. ALL SIGN LOCATIONS SHALL BE COORDINATED WITH THE CITY OF ROANOKE.

3: THIS MAINTENANCE OF TRAFFIC PLAN IS INTENDED TO PROVIDE A BASIC OVERVIEW OF THE TYPES OF TRAFFIC CONTROL MEASURES NECESSARY FOR THE WORK ZONES ON THIS PROJECT. THIS PLAN IS NOT INTENDED TO SHOW EVERY FEATURE OF THE TRAFFIC CONTROL PLAN. THE G.C. SHALL PROVIDE THE CITY OF ROANOKE WITH A COMPLETE MAINTENANCE OF TRAFFIC PLAN PRIOR TO COMMENCEMENT OF WORK WITHIN THE EXISTING RIGHT-OF-WAY AND THE G.C. SHALL ULTIMATELY BE RESPONSIBLE FOR ENSURING SAFE TRAVEL AROUND ALL WORK AREAS.

TRAFFIC CONTROL NARRATIVE:

G.C. SHALL COORDINATE ALL TRAFFIC CONTROL AND CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY WITH THE CITY OF ROANOKE. A DETAILED MAINTENANCE OF TRAFFIC PLAN SHALL BE SUBMITTED BY THE CONTRACTOR.

WORK HOUR RESTRICTIONS FOR LANE CLOSURES AND FLAGGING OPERATIONS ARE TYPICALLY LIMITED TO 8AM-4PM MONDAY THROUGH FRIDAY FOR STREETS ADJACENT TO THE PROJECT. THE CITY TRAFFIC ENGINEER MUST APPROVE ANY DEVIATION FROM THE ABOVE TIME OF DAY OR DAY OF WEEK OPERATIONS.

NO DETOURS ARE PERMITTED

TRAFFIC CONTROL NOTES:

1: WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL.

2: G.C. SHALL CONTACT THE CITY OF ROANOKE REPRESENTATIVE IN WRITING WITH A WORK SCHEDULE 2 WEEKS BEFORE STARTING WORK. THE CITY REPRESENTATIVE WILL DETERMINE IF POLICE PATROL IS NECESSARY FOR TRAFFIC CONTROL.

3: THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION WITH THE CITY OF ROANOKE.

4: SIGN SPACING MAY BE ADJUSTED TO FIT FIELD CONDITIONS WITH CITY OF ROANOKE APPROVAL.

5: ALL PAVEMENT MARKINGS CONFLICTING WITH TRAFFIC PATTERNS SHALL BE ERADICATED AND RE-STRIPED AS NECESSARY.

6: WHEN WORK IS NOT BEING PERFORMED, THE CLEAR ZONE OF THE ROADWAY SHALL BE FREE OF STORED MATERIALS AND PARKED EQUIPMENT.

7: ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE MUTCD (LATEST EDITION), THE VIRGINIA WORK AREA PROTECTION MANUAL (LATEST EDITION), AND AS DIRECTED BY THE CITY OF ROANOKE AND SHALL COMPLY WITH ALL REGULATIONS PROVIDED IN THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS.

8: THE POSTED SPEED LIMIT ON THE APPLICABLE SECTIONS OF JAMISON AVENUE AND BULLITT AVENUE IS 25 MPH. THE POSTED SPEED LIMIT ON ALL OTHER ADJACENT STREETS IS 25 MPH. ALL TAPER LENGTHS, BUFFER LENGTHS, AND CHANNELIZING SHALL BE BASED ON THESE SPEEDS.

9: A CITY OF ROANOKE RIGHT OF WAY EXCAVATION PERMIT WILL BE REQUIRED PRIOR TO ANY CONSTRUCTION WITHIN THE CITY OF ROANOKE RIGHT OF WAY.

10: SAFE ACCESS TO ALL EXISTING PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES.

11: CHANNELIZING DEVICES SUCH AS CONES OR BARRELS SHALL BE UTILIZED WHERE REQUIRED AND FOLLOW THE WORK AREA PROTECTION MANUAL.

12: G.C. SHALL MAINTAIN ALL EXISTING ROADWAY SIGNAGE DURING ALL PHASES OF THIS PROJECT.

LOCAL EMERGENCY RESPONSE AGENCY CONTACT LIST (911)

CITY OF ROANOKE EMERGENCY SERVICES – (540) 853-2327

CITY CHIEF OF POLICE OFFICE – (540) 853-2212

CITY FIRE MARSHAL – (540) 853-2795

CITY TRAFFIC ENGINEER (IAN COFFEY) – (540) 853-2686

VIRGINIA STATE POLICE (DIV. 6 – SALEM) – (540) 375-9500

Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
MAINTENANCE OF TRAFFIC

704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

DATE: 6/30/2026
SCALE: N/A
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO. R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6-30-2026
PROFESSIONAL ENGINEER

C11

CP26-00XX

Last Saved by: CSilvizi
Last Saved: 6/30/2026 11:44 AM
Plot Date/Time: 6/30/2026 11:52:27 AM
Drawing: N:\0070930.01\06 CAD\DWG\Site Design\R0070930.01 BASE 2026-06-30

SITE LANDSCAPE SUMMARY:

REQUIRED LANDSCAPE CANOPY COVERAGE FOR SITE:
– (10%–RMF ZONING) –
PARCEL B: SITE AREA: ±52,000 SF
CANOPY REQUIRED: 5,200 SF
CANOPY PROVIDED: 6,008 SF
PARCEL C: SITE AREA: ±35,100 SF
CANOPY REQUIRED: 3,510 SF
CANOPY PROVIDED: 5,486 SF

STREET TREES: (PER SECTION 31.1–400)
MINIMUM NUMBER OF STREET TREES REQUIRED SHALL BE CALCULATED BY DIVIDING THE BLOCK LENGTH, MINUS 20' OF SIGHT DISTANCE REQUIRED AT EACH CORNER OF THE BLOCK, BY 40. ANY FRACTIONAL REMAINDER MAY BE ROUNDED DOWN TO A WHOLE NUMBER.

JAMISON AVENUE SE:

REQUIRED: 1 TREE FROM APPROVED STREET TREE LIST PER 40'
9 LARGE DECIDUOUS TREES REQUIRED OR
12 SMALL DECIDUOUS TREES REQUIRED (PER 30')
(380 LF OF APPLICABLE PUBLIC ROAD FRONTAGE ON JAMISON AVENUE SE)

PROVIDED: 9 LARGE DECIDUOUS TREES

7TH STREET SE:

REQUIRED: 1 TREE FROM APPROVED STREET TREE LIST PER 40'
6 LARGE DECIDUOUS TREES REQUIRED OR
8 SMALL DECIDUOUS TREES REQUIRED (PER 30')
(240 LF OF APPLICABLE PUBLIC ROAD FRONTAGE ON SEVENTH STREET SE)

PROVIDED: 6 LARGE DECIDUOUS TREES

8TH STREET SE:

REQUIRED: 1 TREE FROM APPROVED STREET TREE LIST PER 40'
3 LARGE DECIDUOUS TREES REQUIRED OR
4 SMALL DECIDUOUS TREES REQUIRED (PER 30')
(110 LF OF APPLICABLE PUBLIC ROAD FRONTAGE ON SEVENTH STREET SE)

PROVIDED: 3 LARGE DECIDUOUS TREES

BULLITT AVENUE SE:

REQUIRED: 1 TREE FROM APPROVED STREET TREE LIST PER 40'
6 LARGE DECIDUOUS TREES REQUIRED OR
8 SMALL DECIDUOUS TREES REQUIRED (PER 30')
(250 LF OF APPLICABLE PUBLIC ROAD FRONTAGE ON BULLITT AVENUE SE)

PROVIDED: 6 LARGE DECIDUOUS TREES

PARKING AREA LANDSCAPING: (PER SECTION 36.2–649)

OVERALL PARKING AREA TREE CANOPY
REQUIRED: 20 YR. TREE CANOPY = 20% OF THE TOTAL SQUARE FOOTAGE OF THE PARKING AREA.

(±25,000 S.F. – PARKING AREA)

TOTAL PARKING AREA CANOPY REQUIRED: ±5,000 S.F.
TOTAL PARKING AREA CANOPY PROVIDED: ±5,172 S.F.

SHRUB PLANTINGS ALONG PARKING AREAS ADJACENT TO PUBLIC ROW (PER SECTION 36.2–648 TABLE 647–1)

*NOTE: MINIMUM SHRUB HEIGHT 18" AT PLANTING

JAMISON AVENUE SE:
REQUIRED: 1 SHRUB PER 3' OF PARKING LOT FRONTAGE (60 LF)
(20 SHRUBS REQUIRED)

PROVIDED: 22 SHRUBS

7TH STREET SE:
REQUIRED: 1 SHRUB PER 3' OF PARKING LOT FRONTAGE (54 LF)
(18 SHRUBS REQUIRED)

PROVIDED: 21 SHRUBS

8TH STREET SE:
REQUIRED: 1 SHRUB PER 3' OF PARKING LOT FRONTAGE (18 LF)
(6 SHRUBS REQUIRED)

PROVIDED: 6 SHRUBS

BULLITT AVENUE SE:
REQUIRED: 1 SHRUB PER 3' OF PARKING LOT FRONTAGE (60 LF)
(20 SHRUBS REQUIRED)

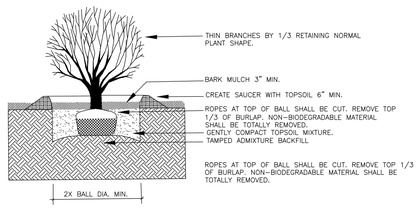
PROVIDED: 25 SHRUBS

*NOTE: ALL AREAS NOT TO RECEIVE HARDSCAPE SHALL HAVE A MINIMUM SOIL DEPTH OF 2', AND SHALL INCLUDE SURFACE LANDSCAPING, MULCH, GRASS, OR OTHER VEGETATIVE GROUND COVER.

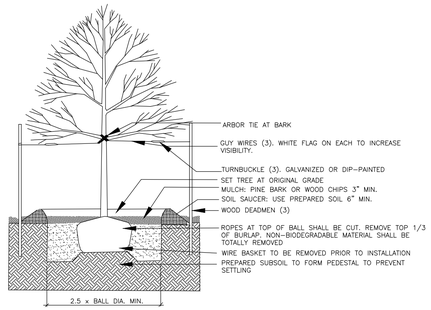
G.C. SHALL ENSURE NO PLANTINGS OR OTHER OBSTRUCTIONS WITHIN 4' OF ANY FIRE HYDRANT.

SHADING KEY
MULCH

20 0 20 40 60
1" = 20'



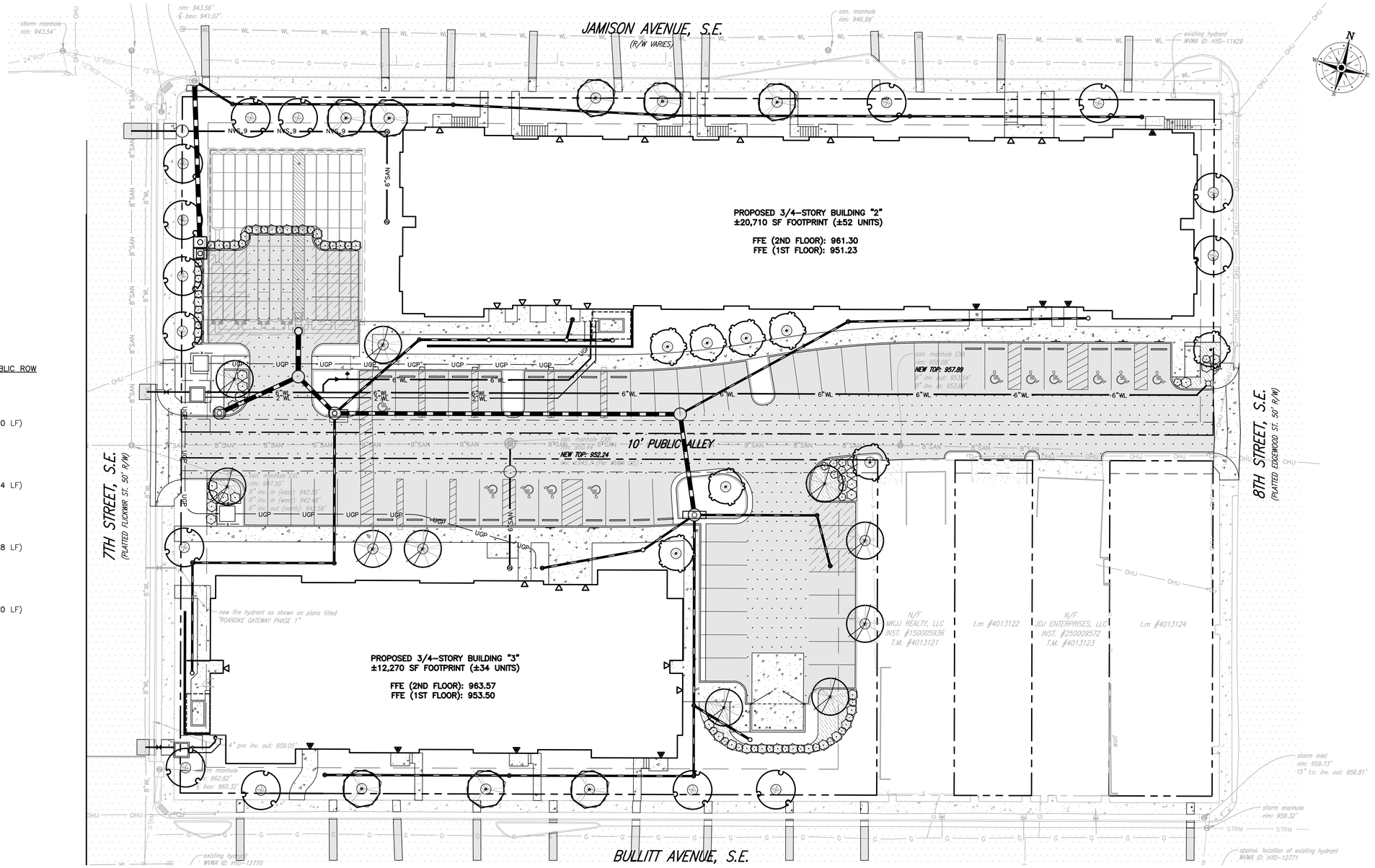
SHRUB PLANTING DETAIL
NO SCALE



DEC. TREE PLANTING DETAIL
NO SCALE

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	ROOTS	CALIPER	HEIGHT	20-YR CANOPY	CANOPY	PARCEL B CANOPY	PARCEL C CANOPY	TOTAL CANOPY
TREES											
	AR	8	Acer rubrum / Red Maple	5 gal	2.00" CAL. MIN.		314 SF/TREE	314	5 TREES 1,570 SF	3 TREES 942 SF	2,512
	QP	15	Quercus phellos / Willow Oak	B & B	2.00" CAL. MIN.		254 SF/TREE	254	10 TREES 2,540 SF	5 TREES 1,270 SF	3,810
	TA	10	Tilia americana / American Linden	5 gal	2.00" CAL. MIN.		314 SF/TREE	314	2 TREES 628 SF	8 TREES 2,512 SF	3,140
	UP	8	Ulmus parvifolia / Lacebark Elm	5 gal	2.00" CAL. MIN.		254 SF/TREE	254	5 TREES 1,270 SF	3 TREES 762 SF	2,032
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT	SPREAD					
SHRUBS									6,008 SF	5,486 SF	11,494 SF
	IS	46	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	3 gal	18" MIN.						
	NP	40	Nandina domestica 'Firepower' / Firepower Heavenly Bamboo	3 gal	18" MIN.						



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Westwood
Westwood Professional Services, Inc.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018
T: 540.772.9580
F: 540.426.3435
westwoodps.com

NO.	REVISIONS	DATE

ROANOKE GATEWAY PHASE 2
LANDSCAPE PLAN
704 BULLITT AVENUE SE
CITY OF ROANOKE, VA

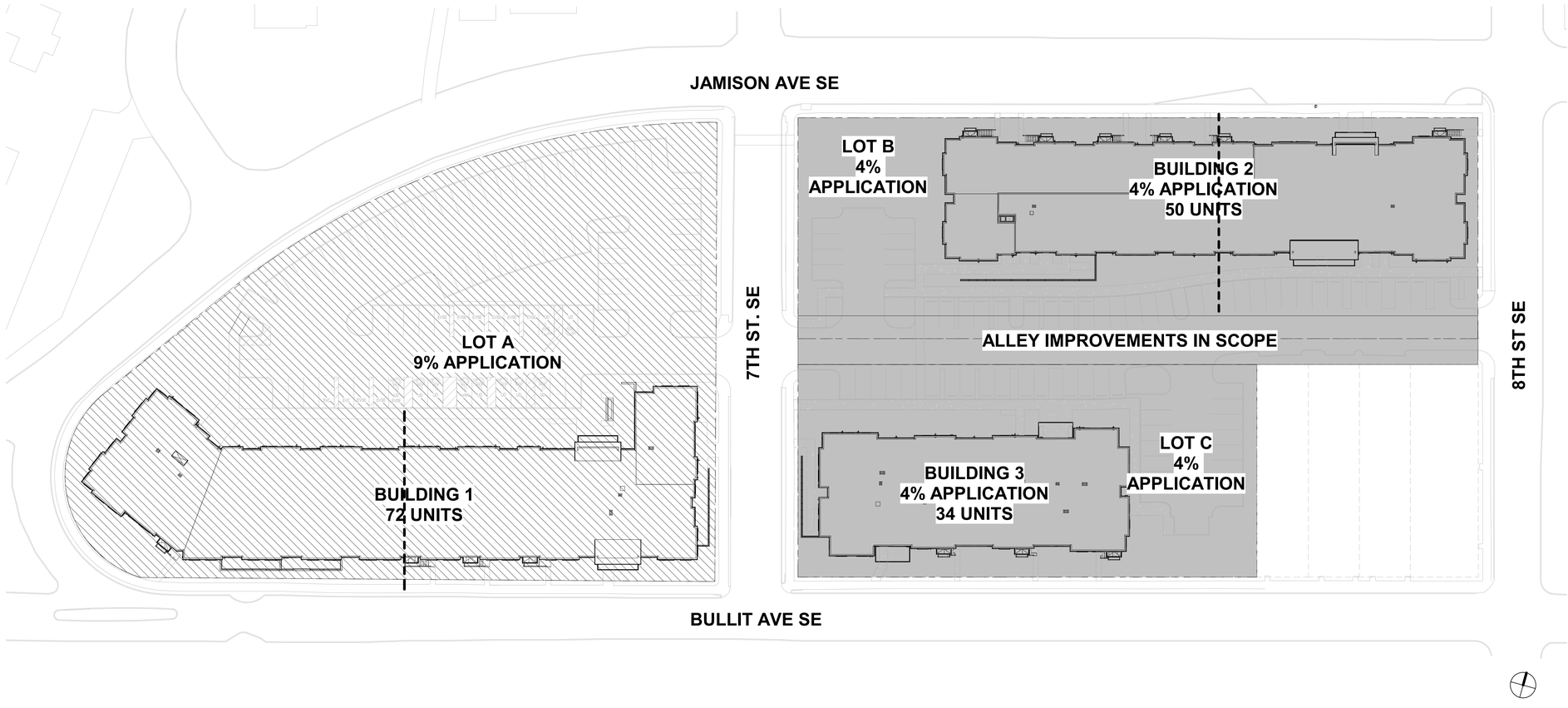
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SCALE: 1" = 20'
DRAFTER: LDS
DESIGNER: LDS
CHECKED: CPB
PROJECT NO.
R0070930.01

COMMONWEALTH OF VIRGINIA
CHRISTOPHER P. BURNS
Lic. No. 47338
6–30–2026
PROFESSIONAL ENGINEER

C12

CP26–00XX

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A4 TAX CREDIT SITE DIAGRAM
1" = 30'-0"

BOTH 4% AND 9% APPLICATION AREAS SHOWN FOR CONTEXT ONLY

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
www.grimmandparker.com

GRIMM AND PARKER

GP #22424.00

TAX CREDIT SPLIT DIAGRAM

ROANOKE GATEWAY
ROANOKE, VA 24022

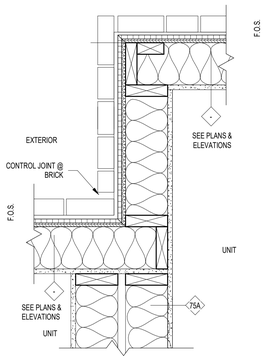
DATE	SUBMISSION / REVISION / IR
03/12/2025	VH 9% SUBMISSION
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-010

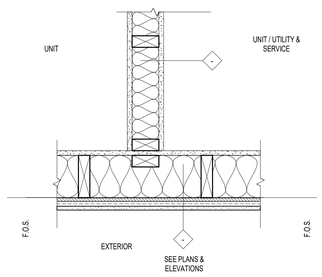
06/30/2026
CONSTRUCTABILITY REVIEW

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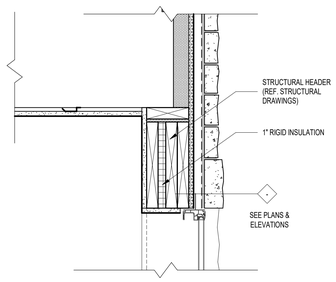
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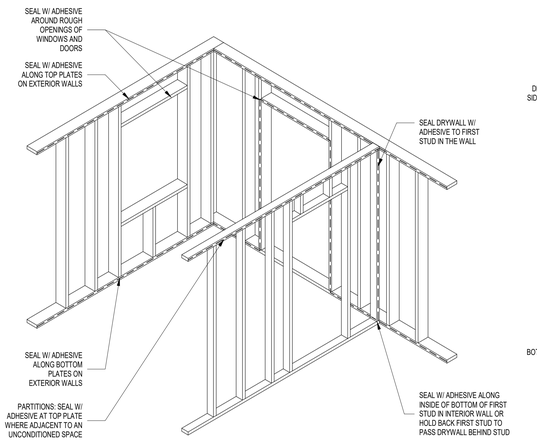
K18 UNIT SEPARATION AT EXT CORNER
1 1/2" = 1'-0"



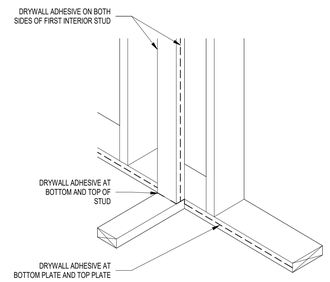
K15 UNIT/ UTILITY RM SEPARATION @ EXT WALL
1 1/2" = 1'-0"



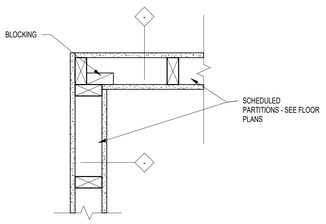
K12 INSULATED HEADER AT EXT WALL
1 1/2" = 1'-0"



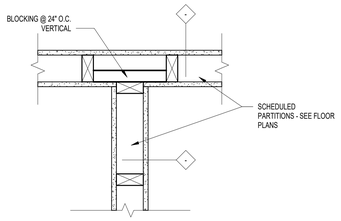
J9 SEALING PERIMETER OF DRYWALL ASSEMBLIES
NTS



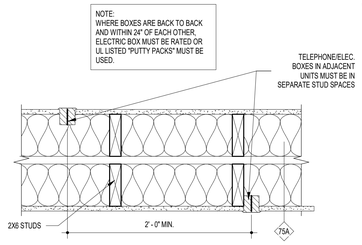
J5 AIR SEALING AT PARTITION
NTS



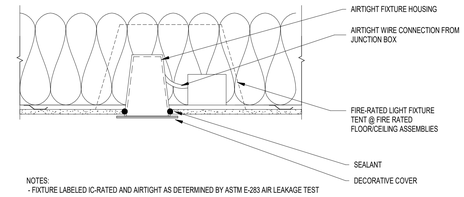
H18 UNIT INT PARTITION CORNER
1 1/2" = 1'-0"



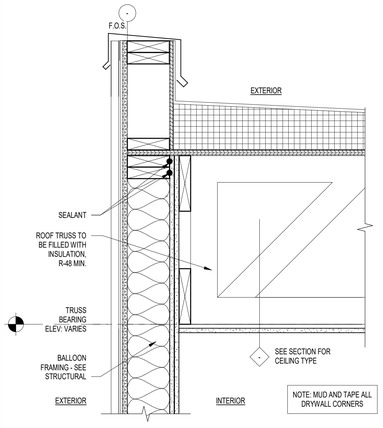
H15 UNIT INT PARTITION INTERSECTION
1 1/2" = 1'-0"



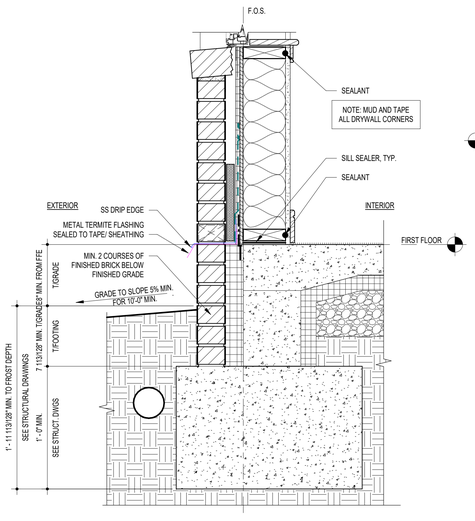
H12 ELEC BOXES AT DEMISING WALLS
1 1/2" = 1'-0"



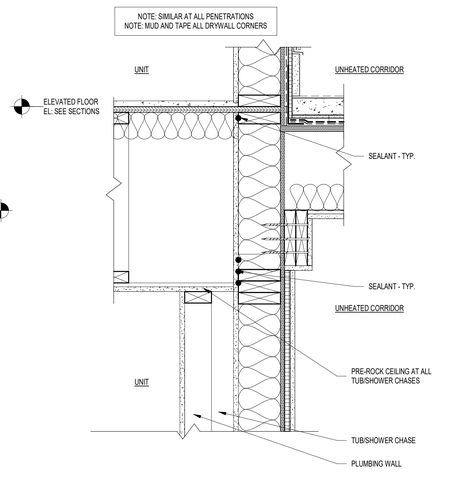
G8 RECESSED FIXTURE IN INSULATED CEILING
NTS



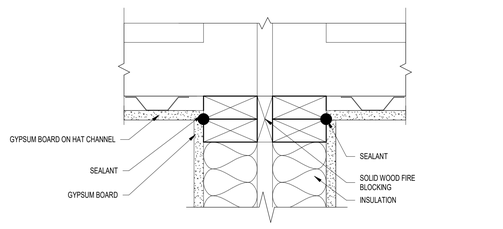
D18 AIR SEALING DIAGRAM - FLAT ROOF
1 1/2" = 1'-0"



D15 AIR SEALING DIAGRAM - FOUNDATION
1 1/2" = 1'-0"

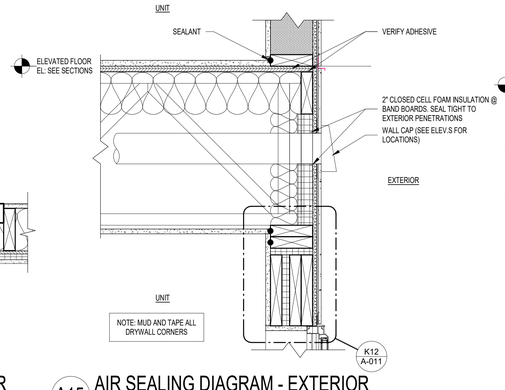


D11 AIR SEALING DIAGRAM - BATHROOM CAVITY
1 1/2" = 1'-0"

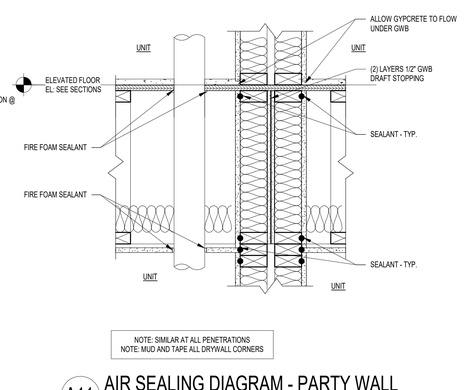


E8 AIR SEALING DIAGRAM - UNIT SEPARATION WALL @ ATTIC
3" = 1'-0"

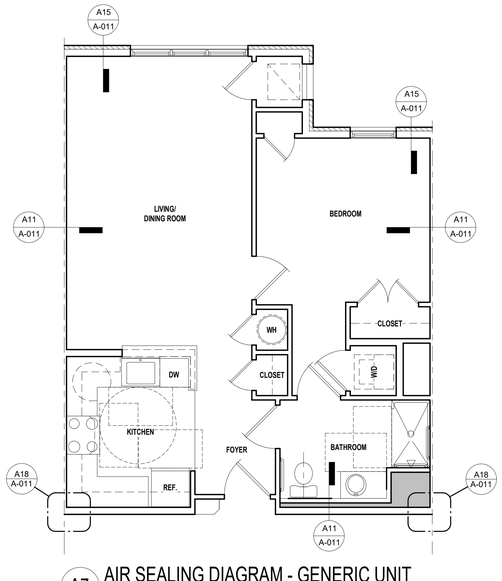
A18 AIR SEALING DIAGRAM - PARTY WALL AT CORRIDOR
1 1/2" = 1'-0"



A15 AIR SEALING DIAGRAM - EXTERIOR
1 1/2" = 1'-0"



A11 AIR SEALING DIAGRAM - PARTY WALL
1 1/2" = 1'-0"



A7 AIR SEALING DIAGRAM - GENERIC UNIT
1/4" = 1'-0"

THERMAL BYPASS GENERAL NOTES

PROJECT SHALL COMPLETE AND COMPLY WITH THE **ENERGY STAR QUALIFIED HOMES** THERMAL BYPASS CHECKLIST FOR ALL NEW CONSTRUCTION OF PUBLIC AND COMMON USE FACILITIES AND SPACES. THE THERMAL BYPASS CHECKLIST MUST BE COMPLETED BY A CERTIFIED HOME ENERGY RATER IN ORDER FOR A HOME TO BE QUALIFIED AS **ENERGY STAR.** STATE, LOCAL, AND REGIONAL CODES, AS WELL AS REGIONAL ENERGY STAR PROGRAM REQUIREMENTS, SUPERSEDE THE ITEMS SPECIFIED IN THE CHECKLIST. DIAGRAMS ON THIS SHEET ARE INTENDED ONLY TO ILLUSTRATE TYPICAL AIR SEALING AND FRAMING CONDITIONS.

I. OVERALL AIR BARRIER AND THERMAL BARRIER ALIGNMENT

A. OVERALL ALIGNMENT THROUGHOUT THE PROJECT:
1. INSULATION IS INSTALLED IN FULL CONTACT WITH THE AIR BARRIER TO PROVIDE CONTINUOUS ALIGNMENT OF THE INSULATION WITH THE AIR BARRIER.

B. ATTIC EAVE BAFFLES WHERE VENTS / LEAKAGE EXIST:
1. SOLID BAFFLES ARE PROVIDED AT FRAMING BAYS TO AVOID WIND WASHING OF ATTIC INSULATION.

C. SLAB EDGE INSULATION (A MAXIMUM OF 25% OF THE SLAB EDGE MAY BE UNINSULATED IN CLIMATE ZONES 4 AND 5.)

II. WALLS ADJOINING EXTERIOR WALLS OR UNCONDITIONED SPACES

A. GENERAL:
1. CONTINUOUS TOP AND BOTTOM PLATES ARE INSTALLED WITH AN AIR BARRIER ON THE UNCONDITIONED SIDE OF INSULATED WALLS, INCLUDING EXPOSED EDGES OF INSULATION AT JOISTS AND RAFTERS.
2. INSULATION IS COMPLETELY ALIGNED WITH INTERIOR WALL FINISH AND THE AIR BARRIER ON THE UNCONDITIONED SIDE.

B. SHOWER / TUB AT EXTERIOR WALL:
1. EXTERIOR WALLS HAVE BEEN ENCLOSED ON ALL SIX SIDES.
2. EXTERIOR WALLS HAVE BEEN FULLY INSULATED.

C. WALL BEHIND FIREPLACE:
1. AIR BARRIER IS FULLY ALIGNED WITH INSULATED FRAMING IN FRAMED SHAFT BEHIND FIREPLACE AND ANY GAPS ARE FULLY SEALED WITH CAULK, FOAM OR TAPE.

D. INSULATED ATTIC SLOPES / WALLS:
1. FULLY INSULATED WALL ALIGNED WITH AIR BARRIER AT BOTH INTERIOR AND EXTERIOR.
2. CONTINUOUS TOP AND BOTTOM PLATES OR SEALED BLOCKING.

E. ATTIC KNEE WALLS
1. FULLY INSULATED WALL ALIGNED WITH AIR BARRIER AT BOTH INTERIOR AND EXTERIOR.
2. CONTINUOUS TOP AND BOTTOM PLATES OR SEALED BLOCKING.

F. WALL ADJOINING PORCH ROOF
1. AIR BARRIER IS INSTALLED AT THE INTERSECTION OF THE PORCH ROOF AND EXTERIOR WALL.

G. STAIRCASE WALLS
1. AIR BARRIER IS FULLY ALIGNED WITH INSULATED FRAMING AND ANY GAPS ARE FULLY SEALED WITH CAULK OR FOAM.

III. FLOORS BETWEEN CONDITIONED AND EXTERIOR SPACES

A. INSULATED FLOOR ABOVE UNCONDITIONED AREA
1. AIR BARRIER IS INSTALLED AT ANY EXPOSED EDGES OF INSULATION.
2. INSULATION IS INSTALLED TO MAINTAIN PERMENANT CONTACT WITH THE UNDERSIDE OF THE SUBFLOORING.

B. CANTILEVERED FLOOR
1. AIR BARRIER SPANS CANTILEAVER AND ANY EXPOSED EDGES OF INSULATION.
2. FLOOR FRAMING IS COMPLETLY FILLED WITH INSULATION OR INSULATION IS INSTALLED TO MAINTAIN PERMENANT CONTACT WITH THE SUBFLOOR DECKING.

IV. SHAFTS

A. DUCT SHAFTS
1. OPENINGS TO UNCONDITIONED SPACE ARE SEALED WITH SOLID BLOCKING AND ANY REMAINING GAPS ARE SEALED WITH CAULK OR FOAM.

B. PIPING SHAFT / PENETRATIONS
1. OPENINGS TO UNCONDITIONED SPACE ARE SEALED WITH SOLID BLOCKING AND ANY REMAINING GAPS ARE SEALED WITH CAULK OR FOAM.

C. FLUE SHAFT
1. OPENING AROUND FLUE IS FULLY SEALED WITH FLASHING AND ANY REMAINING GAPS ARE SEALED WITH FIRE-RATED CAULK.
2. COMBUSTION CLEARANCE BETWEEN THE FLUE AND COMBUSTABLE MATERIALS (E.G. OSB) ARE PROPERLY CLOSED WITH UL - APPROVED METAL COLLARS.

V. ATTIC / CEILING INTERFACE

A. ATTIC ACCESS PANEL
1. PANEL IS FULLY GASKETED FOR AN AIR TIGHT FIT..
2. PANEL IS COVERED WITH INSULATION THAT IS ATTACHED AND FITS SNUGLY IN THE FRAMED OPENING.

B. ATTIC DROP DOWN STAIR
1. STAIR IS FULLY GASKETED FOR AN AIR TIGHT FIT.
2. STAIR IS COVERED WITH INSULATION THAT IS ATTACHED AND FITS SNUGLY IN THE FRAMED OPENING.

C. DROPPED CEILING / SOFFIT
1. AIR BARRIER IS FULLY ALIGNED WITH INSULATED FRAMING AND ANY GAPS ARE FULLY SEALED WITH CAULK, FOAM OR TAPE.

D. RECESSED LIGHT FIXTURES
1. RECESSED LIGHTING FIXTURES TO UNCONDITIONED ATTICS SHALL BE AIR-TIGHT IC-RATED (ICAT) AND SEALED TO DRYWALL WITH GASKET, CAULK OR FOAM

VI. COMMON WALLS BETWEEN DWELLING UNITS

A. COMMON WALL BETWEEN DWELLING UNITS:
1. AIR BARRIER IS INSTALLED TO SEAL THE GAP BETWEEN A GYPSUM SHAFT WALL (I.E. COMMON WALL) AND THE STRUCTURAL FRAMING BETWEEN UNITS.

ADVANCED FRAMING GENERAL NOTES

THIS PROJECT SHALL IMPLEMENT A NUMBER OF ADVANCED FRAMING TECHNIQUES AS OUTLINED BY THE DEPARTMENT OF ENERGY'S OFFICE OF BUILDING TECHNOLOGY. THE INTENT IS TO IMPROVE THE ENERGY EFFICIENCY OF THE STRUCTURE AS WELL AS REDUCE THE AMOUNT OF LUMBER AND WASTE GENERATED DURING CONSTRUCTION. THE DETAILS SHOWN ON THE DRAWINGS INCORPORATE THESE ADVANCED FRAMING TECHNIQUES TO IMPROVE THE ENERGY EFFICIENCY OF THE PROJECT.

I. ADVANCED FRAMING ARRANGEMENT DETAILS

A. EXTERIOR FRAMING
1. UNIT SEPARATION AT EXTERIOR CORNER (SEE K18 / A-005)
2. UNIT SEPARATION AT EXTERIOR WALL (SEE K15 / A-005)
3. INSULATED HEADER AT EXTERIOR WALL (SEE K12 / A-005)

B. INTERIOR FRAMING
1. UNIT INTERIOR PARTITION CORNER (SEE H18 / A-005)
2. UNIT INTERIOR PARTITION INTERSECTION (SEE H15 / A-005)
3. ELECTICAL BOXES AT DEMISING WALLS (SEE H12 / A-005)

PROJECT SPECIFIC NOTES

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GRIMM AND PARKER

GP #22424.00

THERMAL BYPASS AND ADVANCED WALL FRAMING - ENERGY STAR GUIDELINES
ROANOKE GATEWAY
ROANOKE, VA 24022

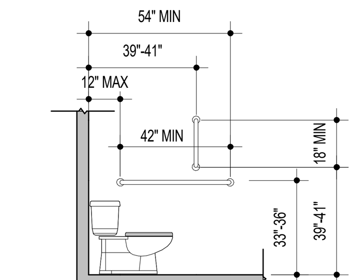
DATE	SUBMISSION / REVISION / IR
03/12/2025	VH 9% SUBMISSION
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-011
06/30/2026
CONSTRUCTABILITY REVIEW

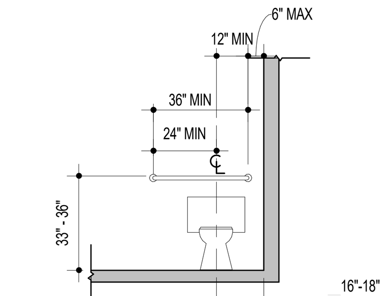
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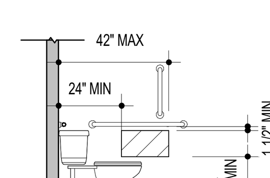
BATHROOMS



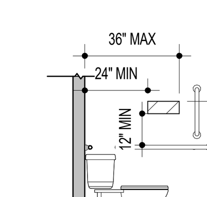
SIDE WALL GRAB BAR FOR WATER CLOSET
ANSI-FIG 604.5.1
1/4" = 1'-0"



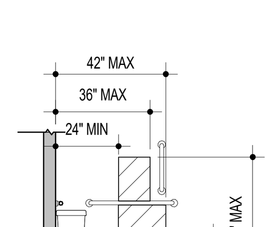
REAR WALL GRAB BAR FOR WATER CLOSET
ANSI-FIG 604.5.2
1/4" = 1'-0"



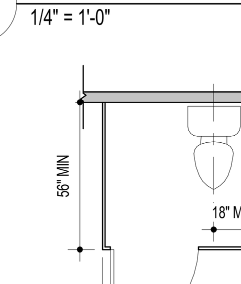
(A) PROTRUDING DISPENSER BELOW GRAB BAR
ANSI-FIG 604.7.1 A
1/4" = 1'-0"



(B) PROTRUDING DISPENSER ABOVE GRAB BAR
ANSI-FIG 604.7.1 B
1/4" = 1'-0"



(C) RECESSED DISPENSER
ANSI-FIG 604.7.1 C
1/4" = 1'-0"



WALL HUNG WATER CLOSET - ADULT
ANSI-FIG 604.9.2
1/4" = 1'-0"

- **COVERED ROOMS:** NOTES IN THIS BOX APPLY TO AT LEAST ONE COMPLETE BATHROOM AND ALL BATH FIXTURES IN THAT BATHROOM.

- **DOOR SWING:** DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE OF ANY FIXTURE *PER ANSI 603.2.2*

- **TURNING RADIUS:** PER *UD SEC. 5.1*, PROVIDE A FULL 60" UNENCUMBERED TURNING RADIUS IN COVERED BATHROOMS. ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT.)***

- **GRAB BAR REINFORCEMENT:** BLOCKING MUST BE SUITABLE TO CARRY A MIN. 250 LBS. LOAD. MOLDED SHOWER SURROUNDS SHALL HAVE INTEGRAL PLYWOOD BACKING, OR REINFORCING IS REQUIRED FULLY BETWEEN SURROUND AND WALL BLOCK AT GRAB BAR AND SEAT LOCATIONS PER *UD SEC. 5.5* **(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).**
REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTIONS 604.5, 607.4, 608.3, 608.2.1.3, 608.2.2.3 AND 608.2.3.2*. **SEE IMAGES 604.5.1 & 604.5.2**

- **CONTROLS:** PER *UD SEC. 3.5*, ALL PLUMBING FIXTURES SHALL BE LEVER TYPE. PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4* AND *UD SEC 3.5.*

- **DISPENSERS:** WHEN BELOW THE GRAB BAR, THE DISPENSER SHALL BE 24" MIN AND 42" MAX FROM THE REAR WALL. THE DISPENSER OUTLET SHALL BE 18" MIN A.F.F. PER *ANSI SEC. 604.7*. **SEE FIG. 604.7**

LAVATORIES AND BATHROOM ACCESSORIES
- **ROLL-UNDER VANITY:** COVERED BATHROOMS SHALL HAVE A ROLL UNDER COMPLYING WITH *ANSI SEC. 606*

- **LAVATORY COUNTER HEIGHT:** THE LAVATORY SHALL BE 34" MAX AFF MEASURED TO THE HIGHER OF THE SINK RIM OR COUNTER SURFACE PER *ANSI SECTION 606.3.*

- **CONTROLS:** PLUMBING FIXTURE CONTROLS AND SHUT-OFFS ARE REQUIRED TO COMPLY WITH *ANSI SECTION 309.*

- **MIRROR:** MIRRORS ABOVE ACCESSIBLE LAVATORIES SHALL HAVE THE BOTTOM EDGE OF THE REFLECTING SURFACE 40" MAXIMUM ABOVE THE FLOOR PER *ANSI SEC. 603.3.*

- **COAT HOOKS AND SHELVES:** COAT HOOKS SHALL BE LOCATED WITHIN ONE OF THE REACH RANGES SPECIFIED IN ANSI 308. SHELVES SHALL BE 40" MIN AND 48" MAX ABOVE THE FLOOR.

- **DIAPER CHNAGING TABLES:** DIAPER CHANGEING TABLES SHALL COMPLY WITH ANSI SECTION 309 & 902.

- **BATHROOM LIGHTING / ELECTRICAL:** WITHIN BATHROOMS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLES ARE PERMITTED TO BE LOCATED OVER CABINETS WITH 46" MAX HIGH COUNTERTOPS UP TO 26" DEEP PER *UD SEC. 3.2.*

SHOWER STALLS
- **% OF ROLL-IN SHOWERS:** PER *UD SEC. 5.2*, AT LEAST HALF OF ALL QUALIFYING UNITS WITH TWO OR MORE FULL BATHROOMS SHALL HAVE ONE ROLL-IN SHOWER.

- **ROLL-IN SHOWER DIMENSIONS:** ALL ROLL-IN SHOWERS SHALL HAVE A LEVEL CHANGE NO GREATER THAN 1/2". ROLL-IN SHOWERS SHALL HAVE A CLEAR DIMENSION OF 60" MIN. IN WIDTH AND 36" MIN. IN DEPTH PER *UD SEC. 5.2.*

- **SEAT REINFORCEMENT:** REINFORCEMENT FOR THE FUTURE INSTALLATION OF A SEAT SHALL BE PROVIDED COMPLYING WITH *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND *ANSI SECTIONS 608.3, 608.2.1.3, 608.2.2.3, & 608.2.3.2.*

- **CONTROLS:** PLUMBING FIXTURE CONTROL AND SHUT-OFFS ARE REQUIRED TO COMPLY WITH *ANSI SECTION 309.*
ALL SHOWERS SHALL CONTAIN BOTH A HANDHELD AND FIXED SHOWER HEAD. HANDHELD SHOWER CONTROLS SHALL BE LOCATED ON THE REAR WALL 38" - 48" FROM THE FLOOR, AND 27" MAX FROM THE END WALL. HANDHELD SHOWERS SHALL HAVE A MIN. 60" HOSE, A SLIDE BAR ATTACHMENT, AND A LOCKING MECHANISM, AND SHOULD BE 27" MAX FROM THE END WALL. THE FIXED SHOWER HEAD SHALL BE INSTALLED AT THE STANDARD HEIGHT AND LOCATION. A DIVERTER SHALL BE INSTALLED TO DIRECT THE FLOW OF WATER TO EITHER THE HANDHELD OR THE FIXED SHOWER HEAD, OR PROVIDE SEPARATE CONTROLS, PER *UD SEC. 5.3.* **SEE FIGURE 5.3**

- **GRAB BAR REINFORCEMENT:** BLOCKING SHALL BE PROVIDED FOR THE INSTALLATION OF GRAB BARS ON THE BACK WALLS BEGINNING AT THE EDGE OF THE SEAT, AND ON THE END WALL OPPOSITE THE SEAT PER *ANSI SEC. 608.3.2.* **SEE IMAGE 608.3.2.**

BATHTUBS
- **CLEAR FLOOR SPACE:** PER *ANSI SECTION 607.2*, A 30" MIN DEEP CLEARANCE EXTENDING THE LENGTH OF THE BATHTUB IS REQUIRED.

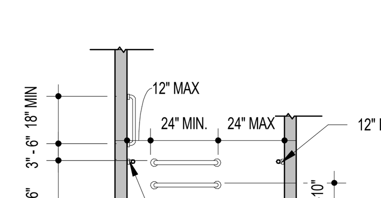
- **GRAB BAR REINFORCEMENT:** BLOCKING SHALL BE PROVIDED ON WALLS AROUND TOILET, TUB, AND SHOWER FOR NEW OR FUTURE GRAB BARS AND SHOWER SEAT PER *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND PER ANSI SEC. 607.4. **SEE IMAGES 607.4.2 (A) & 607.4.2 (B)**

WATER CLOSETS & TOILET COMPARTMENTS
- **WATER CLOSET LOCATION:** THE WATER CLOSET SHALL BE LOCATED WITH A WALL OR PARTITION TO THE REAR AND TO ONE SIDE. THE CENTERLINE SHALL BE 16" MIN AND 18" MAX FROM THE SIDE WALL OR PARTITION. WATER CLOSETS LOACTED IN AMBULATORY ACCESSIBLE COMPARTMENTS SPECIFIED IN ANSI 604.10 SHALL HAVE THE CENTERLINE 17" MIN AND 19" MAX FROM THE SIDE WALL OR PARTITION. **SEE FIGURE 604.2**
- **CLEAR FLOOR SPACE:**
· **CLEARANCE WIDTH:** CLEARANCE AROUND A WATER CLOSET SHALL BE 60" MIN IN WIDTH, MEASURED PERPENDICULAR FROM THE SIDE WALL PER ANSI 604.3.1
·**CLEARANCE DEPTH:** CLEARANCE AROUND THE WATER CLOSET SHALL BE 56" MIN IN DEPTH, MEASRED PERPENDICULAR FROM THE REAR WALL PER ANSI 604.3.2
·**CLEARANCE OVERLAP:** THE REQUIRED CLEARANCE AROUND THE WATER CLOSET, SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET, ASSOCIATED GRAB BARS, PAPER DISPENSES, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE REQUIRED AT OTHER FIXTURES, AND THE TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE AS PER *ANSI SECTION 604.3.3*

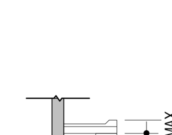
HEIGHT: THE HEIGHT OF WATER CLOSET SEATS SHALL BE 17" MIN AND 19" MAX ABOVE THE FLOOR, MEASURED TO THE TOP OF THE SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION.

- **CONTROLS:** FLUSH CONTROLS SHALL BE HAND-OPERATED OR AUTOMATIC. HAND-OPERATED FLUSH CONTROLS SHALL COMPLY WITH *ANSI SECTION 309.*

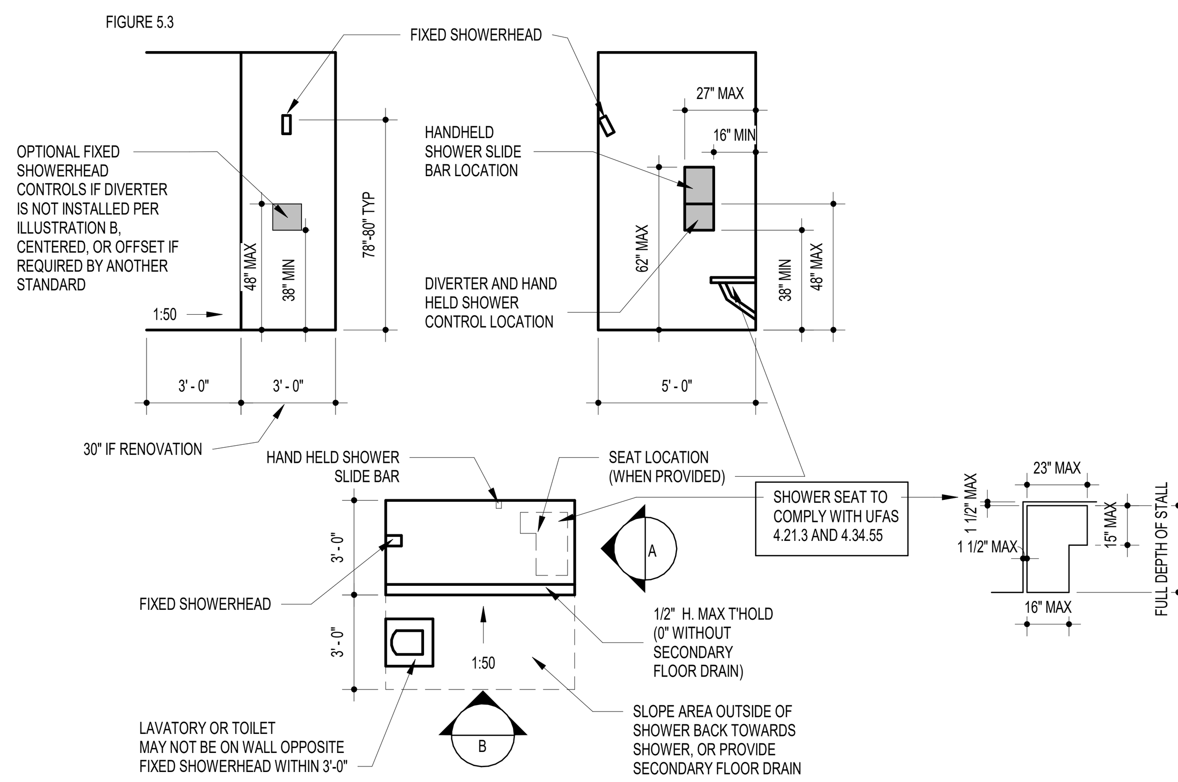
- **GRAB BAR REINFORCEMENT:** BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND *ANSI SECTION 604.5* WITH THE FOLLOWING EXCEPTIONS: **SEE IMAGES 604.5.1 & 604.5.2**
1. **POWDER ROOM**: IN A ROOM WITH ONLY A LAVATORY AND WATER CLOSET, REINFORCEMENT IS NOT REQUIRED IF IT IS NOT THE ONLY AVAILABLE WATER CLOSET ON THAT LEVEL OF THE UNIT.
2. **VERTICAL GRAB BAR:** REINFORCEMENT FOR A SIDE WALL VERTICAL GRAB BAR IS NOT REQUIRED.
3. **REAR GRAB BAR:** REINFORCEMENT FOR A 24" LONG REAR GRAB BAR CENTERED ON THE WATER CLOSET IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 36" REAR GRAB BAR.
4. **SIDE GRAB BAR:** REINFORCEMENT FOR A 24" LONG SIDE GRAB BAR LOCATED 12" MAX FROM THE REAR WALL IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 42" SIDE GRAB BAR.



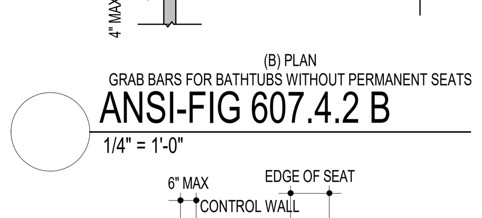
(A) ELEVATION
GRAB BARS FOR BATHTUBS WITHOUT PERMANENT SEATS
ANSI-FIG 607.4.2 A
1/4" = 1'-0"



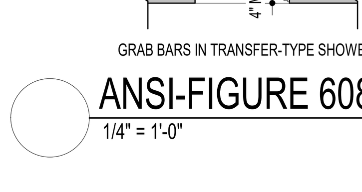
BABY CHANGING STATION MOUNTING HEIGHT



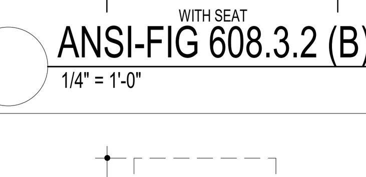
UD-FIGURE 5.3
1/4" = 1'-0"



(B) PLAN
GRAB BARS FOR BATHTUBS WITHOUT PERMANENT SEATS
ANSI-FIG 607.4.2 B
1/4" = 1'-0"

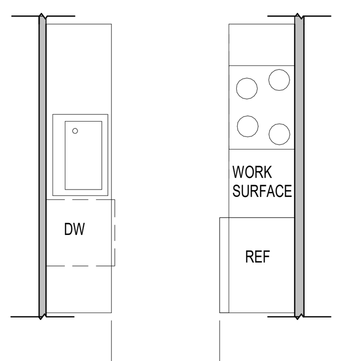


GRAB BARS IN TRANSFER-TYPE SHOWERS
ANSI-FIGURE 608.3.1
1/4" = 1'-0"

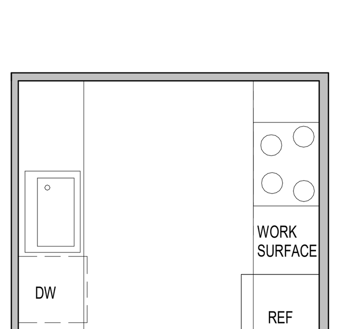


WITH SEAT
ANSI-FIG 608.3.2 (B)
1/4" = 1'-0"

KITCHEN



PASS-THROUGH KITCHEN CLEARANCE
ANSI-FIG 804.2.1
1/4" = 1'-0"



U-SHAPED KITCHEN CLEARANCE
ANSI-FIG 804.2.2
1/4" = 1'-0"

- **MINIMUM CLEARANCE:** CLEARANCE BETWEEN ALL OPPOSING CABINETS, COUNTERTOPS, APPLIANCES AND WALLS WITHIN KITCHEN WORK AREA SHALL BE 40" MIN. AND 60" MIN. FOR U-SHAPED KITCHENS PER *ANSI SEC. 804.2.1, 804.2.2* KITCHENS MUST HAVE A MINIMUM CLEAR FLOOR SPACE CENTERED ON ALL APPLIANCES. THE MIN. CLEAR FLOOR SPACE MAY BE POSITIONED FOR FORWARD OR PARALLEL APPROACH PER *UD SEC. 4.1*
- **PASS-THROUGH KITCENS:** WHERE COUNTERS, APPLIANCES, OR CABINETS ARE ON TWO OPPOSING SIDES, OR WHERE COUNTERS, APPLOIANCES OR CABINETS ARE OPPOSITE A PARALLEL WALL, CLEARANCE BETWEEN ALL OPPOSING ELEMENTS SHALL BE 40" MIN. PASS THORUGH KITCHENS SHALL HAVE TWO ENTRIES *PER ANSI 804.2.1.*
- **U-SHAPED KITCHENS:** IN KITCHENS ENCLOSED ON THREEC ONTIGUOUS SIDES, CLEARANCE BETWEEN ALL OPPOSING ELEMENTS WITHIN THE KITCHEN WORK AREAS SHALL BE 60" MIN.
- **TURNING DIAMETER:** PROVIDE AN UNENCUMBERED 60" TURNING DIAMETER PER *UD SEC. 4.1* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).***

WORK SURFACE: AT LEAST ONE WORK SURFACE SHALL BE PROVIDED IN ACCORDANCE WITH ANSI 902.
- **MULTI-HEIGHT SURFACES:** ALL UNITS SHALL HAVE AT LEAST ONE SURFACE AT 30" ABOVE THE FINISHED FLOOR. THE SURFACE MUST BE A MINIMUM OF 24" WIDE X 20" DEEP, AND CANNOT BE PORTABLE PER *UD SEC. 4.5.*
-**CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE, SHALL BE PROVIDED, COMPLYING WITH *ANSI SECTION 306.* **SEE IMAGES 306.2 & 306.3**

SINK
THE SINK SHALL COMPLY WITH ANSI SECTION 606. EACH QUALIFYING UNIT SHALL HAVE A REAR DRAIN SINK WITH DRAIN PIPES CONCEALED BEHIND A REMOVABLE 30" WIDE CONCEALMENT PANEL OR REMOVABLE SINK BASE PER *UD SEC. 4.4.*
- **CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE. THE UNDERSIDE OF THE SINK SHALL BE CONFIGURED TO PREVENT BURNS, ABRASIONS OR ELECTRICAL SHOCK.

DISHWASHER
- **CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, SHALL BE PROVIDED
- **APPLIANCE DOOR CLEARANCE:** THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR AREA FOR THE DISHWASHER.

COOKTOP
- **CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE, IS PERMITTED IN LIEU OF PARALLEL APPROACH MEETING THE REQUIREMENTS OF *ANSI SECTION 306.* THE UNDERSIDE OF THE COOKTOP SHALL BE CONFIGURED TO PREVENT BURNS, ABRASIONS OR ELECTRICAL SHOCK.
-**CONTROLS:** THE LOCATION OF THE CONTROLS SHALL NOT REQUIRE REACHING ACROSS THE BURNER PER *ANSI SECTION 804.5.4.4* AND *UD SEC. 4.2.*
- **APPLIANCE DOOR CLEARANCE:** THE OVEN DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR AREA FOR THE OVEN.

REFRIGERATOR / FREEZER
REFRIGERATORS SHALL BE SIDE-BY-SIDE TYPE PER *UD SEC. 4.3.*
- **CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, SHALL BE PROVIDED PER *ANSI SECTION 804.5.6.* THE CENTERLINE OF THE CLEAR FLOOR SPACE MAY BE OFFSET 24" MAX FROM THE CENTERLINE OF THE APPLIANCE.
- **ACCESSIBLE SHELVES:** AT LEAST 50% OF THE FREEZER COMPARTMENT SHELVES, INCLUDING THE BOTTOM OF THE FREEZER, SHALL BE 54" MAX. ABOVE THE FLOOR PER *ANSI SEC. 804.5.6*

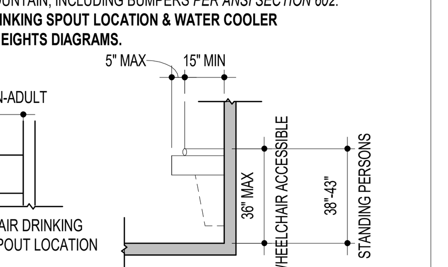
CABINETRY:
ALL CABINETS, DRAWERS, AND SHELF AREAS SHALL COMPLY WITH *UFAS SEC. 4.25.* ALL CABINETRY SHALL HAVE D TYPE PULL HANDLES OR TOUCH LATCHES PER *UD SEC. 4.6.*
KITCHENS IN ALL QUALIFYING UNITS SHALL HAVE A PANTRY STYLE CABINET OR CLOSET PER *UD SEC. 4.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).***

WATER COOLERS

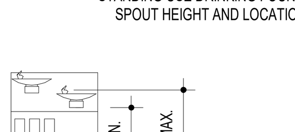
DRINKING FOUNTAINS
ACCESSIBLE DRINKING FOUNTAINS SHALL COMPLY WITH *ANSI SECTIONS 602 & 307 & UFAS 4.15.*
CLEAR FLOOR SPACE. A CLEAR FLOOR SPACE COMPLYING WITH ANSI SECTION 305, POSITIONED FOR A FORWARD APPROACH TO THE DRINKING FOUNTAIN, SHALL BE PROVIDED. KNEE AND TOE SPACE COMPLYING WITH *ANSI SECTION 306* SHALL BE PROVIDED. THE CLEAR FLOOR SPACE SHALL BE CENTERED ON THE DRINKING FOUNTAIN. THE CLEARANCE MUST BE PRROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.
WALL AND POST MOUNTED CANTILEVERED UNITS SHALL HAVE A CLEAR KNEE SPACE BETWEEN THE BOTTOM OF THE APRON AND THE FLOOR OR GROUND AT LEAST 27" HIGH, 30" WIDE, AND 17" - 19" DEEP **SEE UFAS FIGURE 4.15.5.27**. SUCH UNITS SHALL ALSO HAVE A CLEAR FLOOR SPACE TO ALLOW A PERSON IN A WHEELCHAIR TO APPROACH THE UNIT FACING FORWARD *PER UFAS 4.15.5.*

SPOUT OUTLET HEIGHT. SPOUT OUTLETS OF WHEELCHAIR ACCESSIBLE DRINKING FOUNTAINS SHALL BE 36" MAXIMUM ABOVE THE FLOOR *PER ANSI 602.4 & UFAS 4.15.2.* SPOUT OUTLETS OF DRINKING FOUNTAINS FOR STANDING PERSONS SHALL BE 38" MINIMUM AND 43" MAXIMUM ABOVE THE FLOOR *PER ANSI 602.4.*

SPOUT LOCATION. THE SPOUT SHALL BE LOCATED 15" MINIMUM FROM THE VERTICAL SUPPORT AND 5" MAXIMUM FROM THE FRONT EDGE OF THE DRINKING FOUNTAIN, INCLUDING BUMPERS. WHERE ONLY A PARALLEL APPROACH IS PROVIDED, THE SPOUT SHALL BE LOCATED 3 1/2"" MAXIMUM FROM THE FRONT EDGE OF THE DRINKING FOUNTAIN, INCLUDING BUMPERS *PER ANSI SECTION 602.* **SEE ANSI DRINKING SPOUT LOCATION & WATER COOLER MOUNTING HEIGHTS DIAGRAMS.**



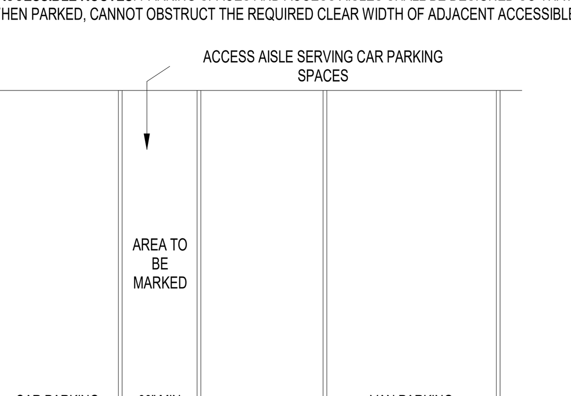
WHEELCHAIR DRINKING FOUNTAIN SPOUT LOCATION
STANDING USE DRINKING FOUNTAIN SPOUT HEIGHT AND LOCATION



WATER COOLER MOUNTING HEIGHTS

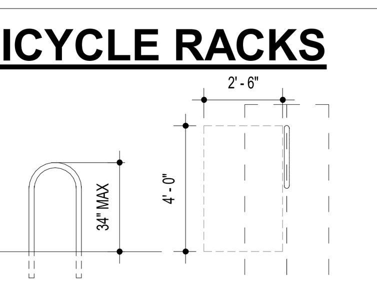
PARKING SPACES

GENERAL. ACCESSIBLE CAR AND VAN PARKING SPACES SHALL COMPLY WITH ANSI SECTION 502.
VEHICLE SPACE SIZE. CAR PARKING SPACES SHALL BE 96" MIN IN WIDTH VAN PARKING SPACES SHALL BE 132" MIN IN WIDTH.
EXCEPTION: VAN PARKING SPACES SHALL BE PERMITTED TO BE 96" MIN IN WIDTH WHERE THE ADJACENT ACESS AISLE IS 96" MIN IN WIDTH.
VEHICLE SPACE MARKING. CAR AND VAN PARKING SPACES SHALL BE MARKED TO DEFINE THE WIDTH. WHERE PARKING SPACES ARE MARKED WITH LINES, THE WIDTH MEASUREMENTS OF PARKING SPACES AND ADJACENT ACCESS AISLES SHALL BE MADE FROM THE CENTERLINE OF THE MARKINGS.
ACCESS AISLE. CAR AND VAN PARKING SPACES SHALL HAVE AN ADJACENT ACCESS AISLE COMPLYING WITH ANSI SECTION 502.4
LOCATION. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. ACCESS AISLES SHALL NOT OVERLAP WITH THE VEHICULAR WAY. PARKING SPACES SHALL BE PERMITTED TO HAVE ACCESS AISLES PLACED ON EITHER SIDE OF THE CAR OR VAN PARKING SPACE. VAN PARKING SPACES THAT ARE ANGLED SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.
WIDTH. ACCESS AILES SERVING CAR AND VAN PARKING SPACES SHALL BE 60" MIN IN WIDTH
LENGTH. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACES THEY SERVE.
MARKING. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM. WHERE ACCESS AISLES ARE MARKED WITH LINES, THE WIDTH MEASUREMENTS OF ACCESS AISLES AND ADJACENT PARKING SPACES SHALL BE MADE FROM THE CENTERLINE OF THE MARKINGS.
RELATIONSHIP TO ACCESSIBLE ROUTES. PARKING SPACES AND ACCESS AISLES SHALL BE DESIGNED SO THAT CARS AND VANS, WHEN PARKED, CANNOT OBSTRUCT THE REQUIRED CLEAR WIDTH OF ADJACENT ACCESSIBLE ROUTES.



ANSI-SECTION 502
1/8" = 1'-0"

BICYCLE RACKS



ELEVATION PLAN

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT IN THE STATE OF MARYLAND, LICENSE NUMBER 17386, EXPIRATION DATE 7/26/2025.

11720 Beltsville Drive
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Calverton, MD 20705
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MOVEMENT & ACCESSIBLE ROUTE

-**TURNING SPACE:** A TURNING SPACE SHALL COMPLY WITH ANSI 304. THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

-**CIRCULAR SPACE:** IN NEW BUILDINGS AND FACILITIES, THE TURNING SPACE SHALL BE A CIRCULAR SPACE WITH A 67" MIN DIAMETER *PER ANSI SECTION 304.* **SEE ANSI FIGURE 304.3.1**

- **CLEAR WIDTH:** ALL INTERIOR PASSAGEWAYS SHALL HAVE A MINIMUM 42" CLEAR WIDTH. A MINIMUM 36" CLEAR WIDTH IS ACCEPTABLE WHEN TRAVELING LESS THAN 36" PER *UD SEC. 2.2.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- **PASSING SPACE:** IF AN ACCESSIBLE ROUTE HAS LESS THAN 60" CLEAR WIDTH, PASSING SPACES AT LEAST 60" X 60" SHALL BE LOCATED AT INTERVALS OF 200 FT MAX. PER *UFAS SEC. 4.3.4* AND *ANSI SEC. 403.5.2.*

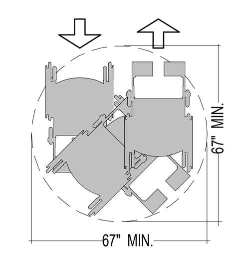
EACH QUALIFYING UNIT SHALL BE LOCATED ON AN ACCESSIBLE ROUTE COMPLYING WITH THE ABOVE REQUIREMENTS, WHICH ALLOWS PEDESTRIAN ACCESS TO ALL COMMON SPACES AND ACCESSIBLE PARKING SPACES PER *UD SEC. 1.4.*

- **T-SHAPED SPACE:** IN NEW BUILDINGS AND FACILITIES, THE TURNING SPACE SHALL BE A T-SHAPED SPACE COMPLYING WITH ONE OF THE FOLLOWING:
1. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, THAT FITS WITHIN AN AREA 68" WIDE AND 60" DEEP, WITH TWO ARMA AND ONE BASE THAT ARE ALL 36" MIN IN WIDTH. EACH ARM SHALL EXTEND 16" MIN FROM EACH SIDE OF THE BASE LOCATED OPPOSITE THE OTHER, AND THE BASE SHALL EXTEND 24" MIN FROM THE ARMS. AT THE INTERSECTION OF EACH ARM AND THE BASE, THE INTERIOR CORNERS SHALL BE CHAMFERED FRO 8" MIN ALONG BOTH THE ARM AND ALONG THE BASE. **SEE FIGURE 304.3.2.1 (A)**
2. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, THAT FITS WITHIN AN AREA 64" WIDE AND 60" DEEP, WITH TWO ARMS 38" MIN IN WIDTH AND A BASE 42" MIN IN WIDTH. EACH ARM SHALL EXTEND 11" MIN FROM EACH SIDE OF THE BASE, LOCATED OPPOSITE THE OTHER, AND THE BASE SHALL EXTEND 22" MIN FROM EACH ARM. **SEE FIGURE 304.3.2.1 (B)**
3. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, 64" WIDE AND 60" DEEP, WITH TWO ARMS AND ONE BASE 40" MIN IN WIDTH. EACH ARM SHALL EXTEND 12" MIN FROM EACH SIDE OF THE BASE AND THE BASE SHALL EXTEND 20" MIN FROM EACH ARM. **SEE FIGURE 304.3.2.1 (C).**

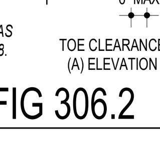
KNEE AND TOE CLEARANCE:
- **TOE CLEARANCE:** SPACE BENEATH AN ELEMENT BETWEEN THE FLOOR AND 9" ABOVE THE FLOOR SHALL BE CONSIDERED TOE CLEARANCE, AND SHALL COMPLY WITH *ANSI SEC. 306.2.*
TOE CLEARANCES SHALL EXTEND 17" - 25" UNDER AN ELEMENT, AND SHALL BE 30" MIN. IN WIDTH. **SEE IMAGE 306.2**

- **KNEE CLEARANCE:** PER *ANSI SEC. 306.3*, SPACE BENEATH AN ELEMENT 9" - 27" ABOVE THE FLOOR SHALL BE CONSIDERED KNEE CLEARANCE.
KNEE CLEARANCES SHALL EXTEND 25" MAX. AT 9" ABOVE THE FLOOR. WHERE KNEE CLEARANCE IS REQUIRED BENEATH AN ELEMENT AS PART OF A CLEAR FLOOR SPACE COMPLYING WITH *ANSI SEC. 305*, IT SHALL BE 11" MIN. IN DEPTH AT 9" ABOVE THE FLOOR, AND 8" MIN. IN DEPTH 27" ABOVE THE FLOOR. **SEE IMAGE 306.3**

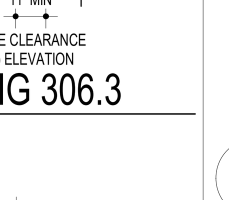
- **REACH RANGE:** OPERABLE PARTS INCLUDING LIGHTING CONTROLS, ELECTRICAL SWITCHES, AND RECEPTACLES MUST COMPLY WITH *UFAS SEC. 4.2, UD SEC. 3.2,* AND *ANSI SEC. 308.*



67" DIAMETER SPACE
ANSI-FIG 304.3.1
1/4" = 1'-0"



TOE CLEARANCE
(A) ELEVATION
ANSI-FIG 306.2
1/4" = 1'-0"



KNEE CLEARANCE
(A) ELEVATION
ANSI-FIG 306.3
1/4" = 1'-0"

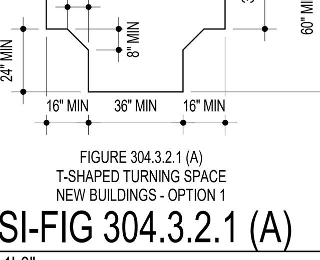


FIGURE 304.3.2.1 (A)
T-SHAPED TURNING SPACE
NEW BUILDINGS - OPTION 1
ANSI-FIG 304.3.2.1 (A)
1/4" = 1'-0"

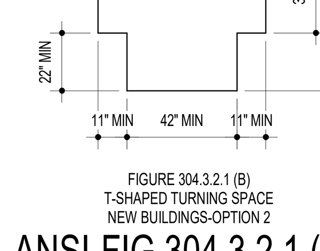


FIGURE 304.3.2.1 (B)
T-SHAPED TURNING SPACE
NEW BUILDINGS-OPTION 2
ANSI-FIG 304.3.2.1 (B)
1/4" = 1'-0"

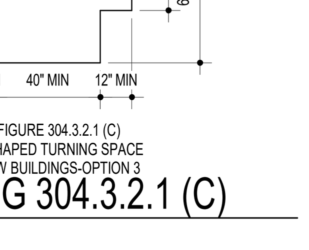
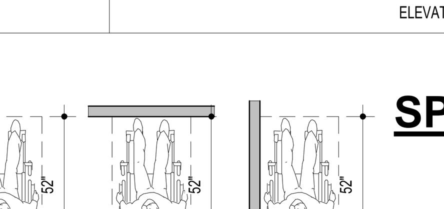
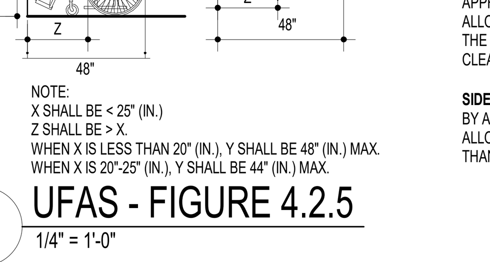


FIGURE 304.3.2.1 (C)
T-SHAPED TURNING SPACE
NEW BUILDINGS-OPTION 3
ANSI-FIG 304.3.2.1 (C)
1/4" = 1'-0"



CLEAR FLOOR SPACE FORWARD APPROACH PARALLEL APPROACH
ANSI-FIG 305.5
1/4" = 1'-0"



NOTE:
X SHALL BE < 25" (IN.)
Z SHALL BE > X.
WHEN X IS LESS THAN 20" (IN.), Y SHALL BE 48" (IN.) MAX.
WHEN X IS 20"-25" (IN.), Y SHALL BE 44" (IN.) MAX.
UFAS - FIGURE 4.2.5
1/4" = 1'-0"

SPACE ALLOWANCE & REACH RANGES

WHEELCHAIR PASSAGE WIDTH. THE MINIMUM CLEAR WIDTH FOR SINGLE WHEELCHAIR PASSAGE SHALL BE 32" AT A POINT AND 36" CONTINUOUSLY.

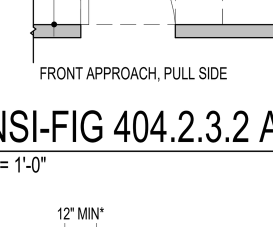
WIDTH FOR WHEELCHAIR PASSING. THE MINIMUM WIDTH FOR TWO WHEELCHAIRS TO PASS IS 60".

CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS.
SIZE AND APPROACH. THE MINIMUM CLEAR FLOOR OR GROUND SPACE REQUIRED TO ACCOMODATE A SINGLE, STAITONARY WHEELCHAIR OCCUPANT IS 30" x 52" FOR NEW BUILDINGS. FOR EXISTING BUILDINGS, THE CLEAR FLOOR SPACE SHALL BE 48" x 30" *PER ANSI 305.3.* THE MINIMUM CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS MAY BE POSITIONED FOR FORWARD OR PARALLEL APPROACH TO AN OBJECT. CLEAR FLOOR OR GORUND SPACE FOR WHEELCHAIRS MAY BE PART OF THE KNEE SPACE REQUIRED UNDER SOME OBJECTS. **SEE ANSI-FIGURE 305.5**

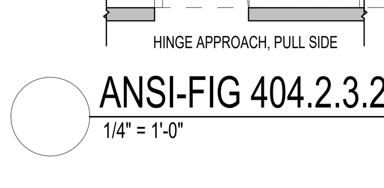
FORWARD REACH. IF THE CLEAR FLOOR SPACE ONLY ALLOWS FORWARD APPROACH TO AN OBJECT, THE MAXIMUM HIGH FORWARD REACH ALLOWED SHALL BE 48". THE MINIMUM LOW FORWARD REACH IS 15". IF THE HIGH FORWARD REACH IS OVER AN OBSTRUCTION, REACH AND CLEARANCES SHALL BE AS SHOWN IN **FIG 4.2.5**

SIDE REACH. IF THE CLEAR FLOOR SPACE ALLOWS PARALLEL APPROACH BY A PERSON IN A WHEELCHAIR, THE MAXIMUM HIGH SIDE REACH ALLOWED SHALL BE 54" AND THE LOW SIDE REACH SHALL BE NO LESS THAN 9" ABOVE THE FLOOR.

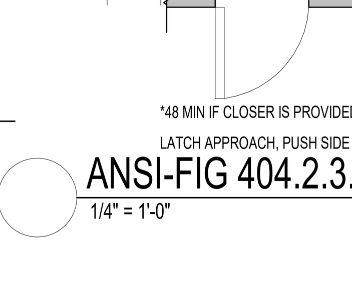
DOORS



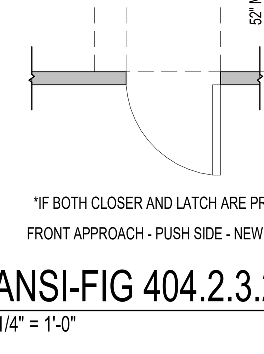
FRONT APPROACH, PULL SIDE
ANSI-FIG 404.2.3.2 A
1/4" = 1'-0"



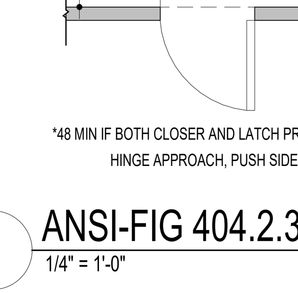
HINGE APPROACH, PULL SIDE
ANSI-FIG 404.2.3.2 E
1/4" = 1'-0"



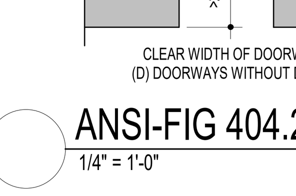
*48 MIN IF CLOSER IS PROVIDED
LATCH APPROACH, PUSH SIDE
ANSI-FIG 404.2.3.2 H
1/4" = 1'-0"



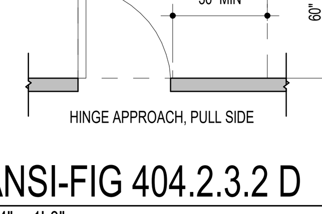
*IF BOTH CLOSER AND LATCH ARE PROVIDED
FRONT APPROACH - PUSH SIDE - NEW BUILDINGS
ANSI-FIG 404.2.3.2 B
1/4" = 1'-0"



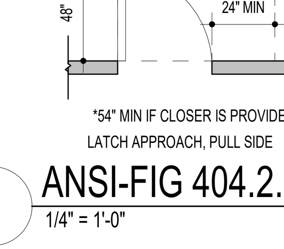
*48 MIN IF BOTH CLOSER AND LATCH PROVIDED
HINGE APPROACH, PUSH SIDE
ANSI-FIG 404.2.3.2 F
1/4" = 1'-0"



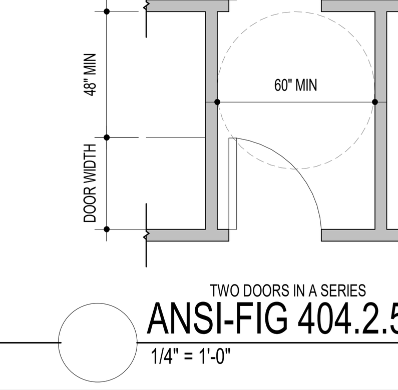
CLEAR WIDTH OF DOORWAYS
(D) DOORWAYS WITHOUT DOORS
ANSI-FIG 404.2.2 (D)
1/4" = 1'-0"



HINGE APPROACH, PULL SIDE
ANSI-FIG 404.2.3.2 D
1/4" = 1'-0"



*54" MIN IF CLOSER IS PROVIDED
LATCH APPROACH, PULL SIDE
ANSI-FIG 404.2.3.2 G
1/4" = 1'-0"



TWO DOORS IN A SERIES
ANSI-FIG 404.2.5 (F)
1/4" = 1'-0"

DOORS AND DOORWAYS
THE PRIMARY ENTRANCE DOOR TO THE UNIT, AND ALL OTHER DOORWAYS INTENDED FOR USER PASSAGE, SHALL COMPLY WITH *ANSI SECTION 404 & 1002.5.* EXCEPTIONS:
2. IN TOILET ROOMS AND BATHROOMS NOT REQUIRED TO COMPLY WITH *ANSI SECTION 1002.11.2*, MANEUVERING CLEARANCES REQUIRED BY *ANSI SECTION 404.2.3* ARE NOT REQUIRED ON THE TOILET ROOM OR BATHROOM SIDE OF THE DOOR.
3. A TURNING SPACE BETWEEN DOORS IN A SERIES AS REQUIRED BY *ANSI SECTION 404.2.5* IS NOT REQUIRED.

- **PRIMARY ENTRANCE DOORS:** THE ACCESSIBLE PRIMARY ENTRANCE SHALL NOT BE INTO A BEDROOM, UNLESS IT IS THE ONLY ENTRANCE, AND SHALL BE ON AN ACCESSIBLE ROUTE FROM PUBLIC AND COMMON AREAS PER *ANSI SEC. 1003.2.* THE PRIMARY ENTRANCE DOOR SHALL COMPLY WITH *UD SEC. 2.6*, AND SHALL BE NO LESS THAN 36" WIDE.

- **USER PASSAGEWAY DOORWAYS:** DOORWAYS INTENDED FOR USER PASSAGE SHALL HAVE A CLEAR OPENING OF 32" MIN. MEASURED FROM FACE OF DOOR TO STOP WITH DOOR OPEN TO 90˚ WITH A THRESHOLD LEVEL CHANGE NOT EXCEEDING 1/2" PER *UD SEC. 2.5.* CLEAR OPENING WIDTH OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED BETWEEN THE FACE OF DOOR AND STOP, WITH THE DOOR OPEN 90 DEGREES PER *ANSI SECTION 404.2.2* AND *UFAS SEC. 4.13.5.*

- **CLEAR FLOOR SPACE:** USER PASSAGE DOORS SHALL HAVE A MINIMUM 36" DEEP CLEAR FLOOR SPACE THAT EXTENDS A MINIMUM OF 18" PAST THE LATCH ON THE PULL SIDE OF THE DOOR PER *UD SEC. 2.4.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- **DOORWAYS WITHOUT DOORS:** DOORWAYS SHALL PROVIDE A CLEAR OPENING WIDTH OF 36" MINIMUM PER *ANSI SECTION 404.2.2.* **SEE IMAGE 404.2.2**

- **PROJECTIONS:** THERE SHALL BE NO PROJECTIONS INTO THE CLEAR OPENING WIDTH LOWER THAN 34" ABOVE THE FLOOR. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34" AND 80" ABOVE THE FLOOR SHALL NOT EXCEED 4" AS PER *ANSI SECTION 404.2.2* WITH THE FOLLOWING EXCEPTION:
1. DOOR CLOSERS AND DOOR STOPS SHALL BE PERMITTED TO BE 78" MINIMUM ABOVE THE FLOOR.

MANEUVERING CLEARANCES: MINIMUM MANEUVERING CLEARANCES AT DOORS SHALL COMPLY WITH *ANSI SECTION 404.2.3* AND SHALL INCLUDE THE FULL CLEAR OPENING WIDTH OF THE DOORWAY. REQUIRED DOOR MANEUVERING CLEARANCES SHALL NOT INCLUDE KNEE AND TOE CLEARANCE.
- **SWINGING DOORS:** SWINGING DOORS SHALL HAVE MANEUVERING CLEARANCES COMPLYING WITH FIG 404.2.3.2 (A) - 404.2.3.2 (H)

- **THRESHOLDS:** IF PROVIDED, THRESHOLDS AT DOORWAYS SHALL BE 1/2" MAXIMUM IN HEIGHT. RAISED THRESHOLDS AND CHANGES IN LEVEL AT DOORWAYS SHALL COMPLY WITH *ANSI SECTIONS 302, 303,* & 404.2.4

- **TWO DOORS IN A SERIES:** DISTANCE BETWEEN TWO HINGED OR PIVOTED DOORS IN SERIES SHALL BE 48" MINIMUM PLUS THE WIDTH OF ANY DOOR SWINGING INTO THE SPACE. THE SPACE BETWEEN THE DOORS SHALL PROVIDE A TURNING SPACE COMPLYING WITH *ANSI SECTIONS 304 & 404.2.5.* **SEE IMAGE 404.2.5**

- **DOOR HARDWARE:** ALL DOORS SHALL HAVE LEVER HANDLES PER *UD SEC. 3.4.* OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES AS PER *ANSI SECTION 404.2.6.*

- **DOOR SURFACE:** DOOR SURFACES WITHIN 10" OF THE FLOOR, MEASURED VERTICALLY, SHALL BE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR AS PER *ANSI SECTION 404.2.9*

- **CONTROL SWITCHES:** MANUALLY OPERATED CONTROL SWITCHES SHALL COMPLY WITH *ANSI SECTIONS 309 & 404.3.5.* THE CLEAR FLOOR SPACE ADJACENT TO THE CONTROL SWITCH SHALL BE LOCATED BEYOND THE ARC OF THE DOOR SWING.

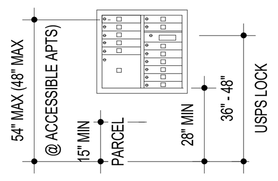
PROTRUDING OBJECTS & MOUNTING

PROTRUSION LIMITS. OBJECTS WITH LEADING EDGES MORE THAN 27" AND NOT MORE THAN 80" ABOVE THE FLOOR SHALL PROTRUDE 4" MAXIMUM HORIZONTALLY INTO THE CIRCULATION PATH.
EXCEPTION: HANDRAILS SHALL BE PERMITTED TO PROTRUDE 4 1/2" MAXIMUM.

POST-MOUNTED OBJECTS. OBJECTS ON POSTS OR PYLONS SHALL BE PERMITTED TO OVERHANG 4 INCHES MAXIMUM WHERE MORE THAN 27" AND NOT MORE THAN 80" ABOVE THE FLOOR. OBJECTS ON MULTIPLE POSTS OR PYLONS WHERE THE CLEAR DISTANCE BETWEEN THE POSTS OR PYLONS IS GREATER THAN 12" SHALL HAVE THE LOWEST EDGE OF SUCH OBJECT EITHER 27" MAXIMUM OR 80" MINIMUM ABOVE THE FLOOR.

MAILBOXES

WHERE MAILBOXES ARE PROVIDED IN AN INTERIOR LOCATION, AT LEAST 5 PERCENT, BUT NO FEWER THAN 1, OF EACH TYPE SHALL COMPLY WITH 309. IN RESIDENTIAL FACILITIES, WHERE MAIL BOXES ARE PROVIDED FOR EACH RESIDENTIAL DWELLING UNIT, MAILBOXES COMPLYING WITH 309SHALL BE PROVIDED FOR EACH RESIDENTIAL DWELLING UNIT REQUIRED TO PROVIDE MOBILITY FEATURES COMPLYING WITH 809.2 THROUGH 809.4.



USPS APPROVED MAILBOX MOUNTING HEIGHTS

LAUNDRY EQUIPMENT

- PER *UD SEC. 6.1 & UFAS 4.34.7.2* ALL LAUNDRY EQUIPMENT MUST BE FRONT LOADING. **SEE FRONT LOADING FIGURE BELOW.**

- **CLEAR FLOOR SPACE:** A CLEAR FLOOR SPACE SHALL BE PROVIDED PER *ANSI SECTIONS 305.3 AND UFAS SECTION 4.27.2.*
· **FRONT LOADERS:** CLEAR FLOOR SPACE FOR PARALLEL APPROACH REQUIRED. THE CENTERLINE OF THE CLEAR FLOOR SPACE SHALL BE OFFSET BY 24" MAX. FROM THE CENTERLINE OF THE DOOR OPENING, PER *ANSI SEC. 611.2.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

STORAGE FACILITIES
- **CLEAR FLOOR SPACE**: A CLEAR FLOOR SPACE COMPLYING WITH ANSI SEC. 305 SHALL BE PROVIDED. THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- **REACH RANGE**: ACCESSIBLE STORAGE ELEMENTS AND OPERABLE PARTS SHALL COMPLY WITH *ANSI SEC. 308* AND *309* AND *UD SEC. 3.2*

LOCATION. LAUNDRY FACILITIES AND EQUIPMENT SHALL BE ON AN ACESSIBLE ROUTE PER UFAS 4.34.7.1.



FRONT LOADING

STORAGE FACILITIES

GENERAL. ACCESSIBLE STORAGE FACILITIES SHALL COMPLY WITH SECTION 905.
CLEAR FLOOR SPACE. A CLEAR FLOOR SPACE COMPLYING WITH SECTION 305 SHALL BE PROVIDED.
HEIGHT. ACCESSIBLE STORAGE ELEMENTS SHALL COMPLY WITH AT LEAST ONE OF THE REACH RANGES SPECIFIED IN SECTION 308.
OPERABLE PARTS. OPERABLE PARTS OF STORAGE FACILITIES SHALL COMPLY WITH SECTION 309

ANSI, UFAS & UNIVERSAL DESIGN COMMON AREAS- GENERAL NOTES

THE ABBREVIATIONS LISTED BELOW SHALL REFER TO THE FOLLOWING DOCUMENTS:
"ANSI" SHALL REFER TO THE AMERICAN NATIONAL STANDARD INSTITUTE PUBLICATION #ICC A117.1-**2017** ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
"UD" SHALL REFER TO THE VIRGINIA HOUSING DEVELOPMENT AUTHORITY PUBLICATION 2025 GUIDELINES FOR THE DEVELOPMENT OF UNIVERSALLY DESIGNED UNITS.
"UFAS" SHALL REFER TO THE UNIFORM FEDERAL ACCESSIBLY STANDARDS (7-1-97).

ALL DIAGRAMS ON THIS SHEET ARE FROM THESE PUBLICATIONS, ALTHOUGH SOME ANNOTATION HAS BEEN ADDED FOR CLARITY.

THIS SHEET IS A SUMMARY AND IS NOT INTENDED TO PRECLUDE OR EXCLUDE ANY SECTIONS OF THE APPLICABLE CODES. THE CONTRACTOR WILL STILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE SECTIONS.

IN CASES OF CONFLICT, THE MORE RESTRICTIVE REQUIREMENT OR CODE SHALL BE USED.

REFERENCE SHEET A-015 FOR UNIVERSAL DESIGN OPTIONAL ELEMENT SELECTIONS

COMMON AREA ACCESSIBILITY - ANSI + UFAS + UD

ROANOKE GATEWAY
ROANOKE, VA 24022

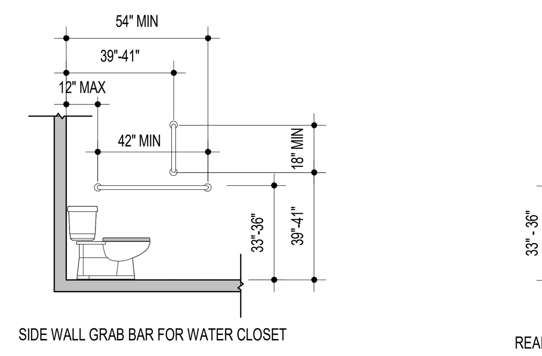
DATE	SUBMISSION / REVISION	#
03/12/2025	VH 9% SUBMISSION	
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

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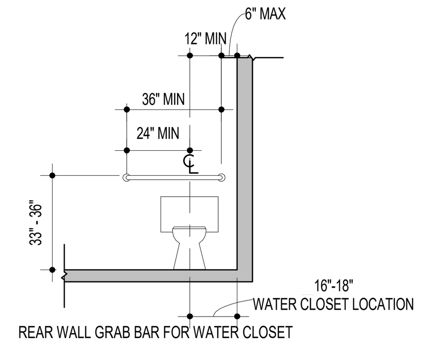
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CONSTRUCTABILITY REVIEW

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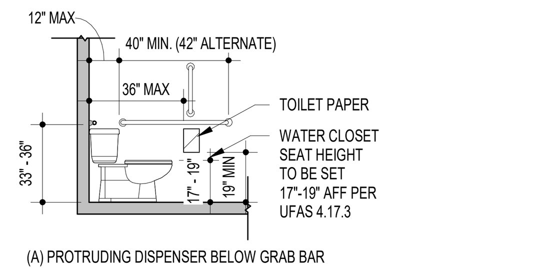
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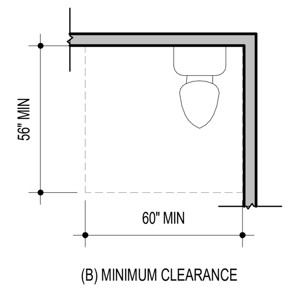
ANSI-FIG 604.5.1



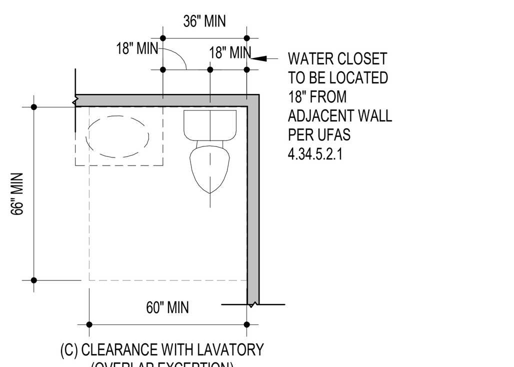
ANSI-FIG 604.5.2



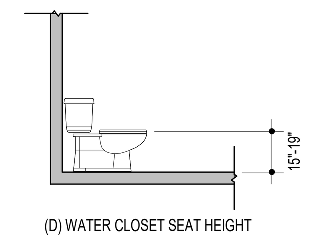
UFAS 4.17.3 FIG 30(D)



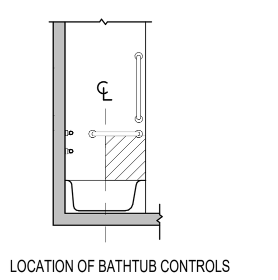
ANSI-FIG 1103.11.2.4 B



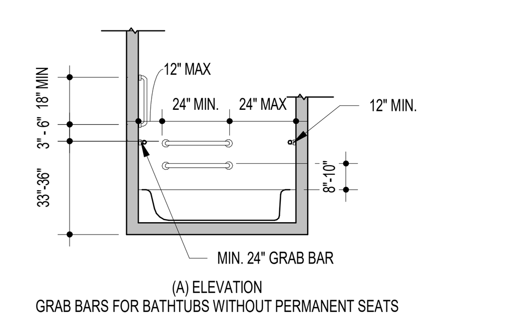
ANSI-FIG 1103.11.2.4 C



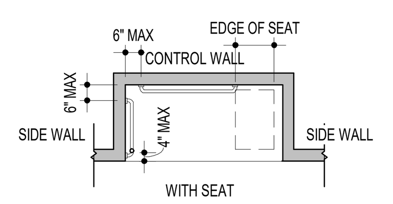
ANSI-FIG 1103.11.2.4 D



ANSI-FIG 607.5



ANSI-FIG 607.4.2 A



ANSI-FIG 608.3.2 (B)

BATHROOMS

- COVERED ROOMS: NOTES IN THIS BOX APPLY TO AT LEAST ONE COMPLETE BATHROOM AND ALL BATH FIXTURES IN THAT BATHROOM.

- DOORS: DOORS TO ACCESSIBLE BATHROOMS SHALL COMPLY WITH UFAS 4.13. DOORS SHALL NOT SWING INTO THE FLOOR SPACE REQUIRED FOR ANY FIXTURE *PER UFAS 4.23.2*

- CLEAR FLOOR SPACES: REQUIRED CLEARANCES AT FIXTURES MAY INCLUDE KNEE AND TOE CLEARANCES PER *ANSI SECTION 1103.11.2.1, EX.*

- TURNING RADIUS: PER *UD SEC. 5.1*, PROVIDE A FULL 60" UNENCUMBERED TURNING RADIUS IN COVERED BATHROOMS. ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT.)***

- GRAB BAR REINFORCEMENT: BLOCKING MUST BE SUITABLE TO CARRY A MIN. 250 LBS. LOAD. MOLDED SHOWER SURROUNDS SHALL HAVE INTEGRAL PLYWOOD BACKING, OR REINFORCING IS REQUIRED FULLY BETWEEN SURROUND AND WALL BLOCK AT GRAB BAR AND SEAT LOCATIONS PER *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).***
REINFORCEMENT SHALL BE PROVIDED FOR THE INSTALLATION OF GRAB BARS MEETING *ANSI SECTIONS 604.5, 607.4, 608.3, 608.2.1.3, 608.2.2.3 AND 608.2.3.2* . **SEE IMAGES 604.5.1 & 604.5.2**

- CONTROLS: PER *UD SEC. 3.5*, ALL PLUMBING FIXTURES SHALL BE LEVER TYPE. PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4* AND *UD SEC 3.5*. SHUT-OFFS ARE NOT REQUIRED TO COMPLY WITH *ANSI CHAPTER 3* PER *ANSI SECTION 1103.9 EX. 6.*

- DISPENSERS: WHEN BELOW THE GRAB BAR, THE DISPENSER SHALL BE 36" MAX FROM THE REAR WALL. THE DISPENSER OUTLET SHALL BE 19" MIN A.F.F. PER *UFAS SEC. 4.17.3.* **SEE UFAS FIG 30(D)**

LAVATORIES AND BATHROOM ACCESSORIES
- ROLL-UNDER VANITY: COVERED BATHROOMS SHALL HAVE A ROLL UNDER COMPLYING WITH *ANSI SEC. 606*

- LAVATORY COUNTER HEIGHT: THE LAVATORY SHALL BE 34" MAX AFF MEASURED TO THE HIGHER OF THE SINK RIM OR COUNTER SURFACE PER *ANSI SECTION 606.3.*

- VANITY COUNTER TOP SPACE: PROVIDE AN EQUAL AMOUNT OF VANITY COUNTERTOP SPACE IN ACCESSIBLE UNITS AS IS PROVIDED IN NON-ACCESSIBLE UNITS PER *ANSI SECTION 1102.11.2.1.*

- CONTROLS: PLUMBING FIXTURE CONTROLS AND SHUT-OFFS ARE REQUIRED TO COMPLY WITH *ANSI SECTION 309.*

- MIRROR: MIRRORS ABOVE ACCESSIBLE LAVATORIES SHALL HAVE THE BOTTOM EDGE OF THE REFLECTING SURFACE 40" MAXIMUM ABOVE THE FLOOR PER *ANSI SEC. 603.3 & 1103.11.2.3.*

- BATHROOM LIGHTING / ELECTRICAL: WITHIN BATHROOMS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLES ARE PERMITTED TO BE LOCATED OVER CABINETS WITH 46" MAX HIGH COUNTERTOPS UP TO 26" DEEP PER *UD SEC. 3.2.* WHERE REDUNDANT CONTROLS ARE PROVIDED FOR SINGLE ELEMENTS, ONE CONTROL LOCATION IN EACH SPACE IN NOT REQUIRED TO BE ACCESSIBLE PER *ANSI SECTION 1103.9 EX. 6.*

SHOWER STALLS
- % OF ROLL-IN SHOWERS: PER *UD SEC. 5.2*, AT LEAST HALF OF ALL QUALIFYING UNITS WITH TWO OR MORE FULL BATHROOMS SHALL HAVE ONE ROLL-IN SHOWER.

- ROLL-IN SHOWER DIMENSIONS: ALL ROLL-IN SHOWERS SHALL HAVE A LEVEL CHANGE NO GREATER THAN 1/2". ROLL-IN SHOWERS SHALL HAVE A CLEAR DIMENSION OF 60" MIN. IN WIDTH AND 36" MIN. IN DEPTH PER *UD SEC. 5.2.*

- SEAT REINFORCEMENT: PER UFAS 4.20.3 A SEAT SHALL BE PROVIDED.
REINFORCEMENT FOR THE INSTALLATION OF A SEAT SHALL BE PROVIDED COMPLYING WITH *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND *ANSI SECTIONS 608.3, 608.2.1.3, 608.2.2.3, & 608.2.3.2.*

- CONTROLS: PLUMBING FIXTURE CONTROL AND SHUT-OFFS ARE REQUIRED TO COMPLY WITH *ANSI SECTION 309.*
ALL SHOWERS SHALL CONTAIN BOTH A HANDHELD AND FIXED SHOWER HEAD. HANDHELD SHOWER CONTROLS SHALL BE LOCATED ON THE REAR WALL 38" - 48" FROM THE FLOOR, AND 27" MAX FROM THE END WALL. HANDHELD SHOWERS SHALL HAVE A MIN. 60" HOSE, A SLIDE BAR ATTACHMENT, AND A LOCKING MECHANISM, AND SHOULD BE 27" MAX FROM THE END WALL. THE FIXED SHOWER HEAD SHALL BE INSTALLED AT THE STANDARD HEIGHT AND LOCATION. A DIVERTER SHALL BE INSTALLED TO DIRECT THE FLOW OF WATER TO EITHER THE HANDHELD OR THE FIXED SHOWER HEAD, OR PROVIDE SEPARATE CONTROLS, PER *UD SEC. 5.3.* **SEE FIGURE 5.3**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE INSTALLATION OF GRAB BARS ON THE BACK WALLS BEGINNING AT THE EDGE OF THE SEAT, AND ON THE END WALL OPPOSITE THE SEAT PER *ANSI SEC. 608.3.2.* **SEE IMAGE 608.3.2.**

BATHTUBS
- CLEAR FLOOR SPACE: PER *ANSI SECTION 607.2*, A 30" MIN DEEP CLEARANCE EXTENDING THE LENGTH OF THE BATHTUB IS REQUIRED.

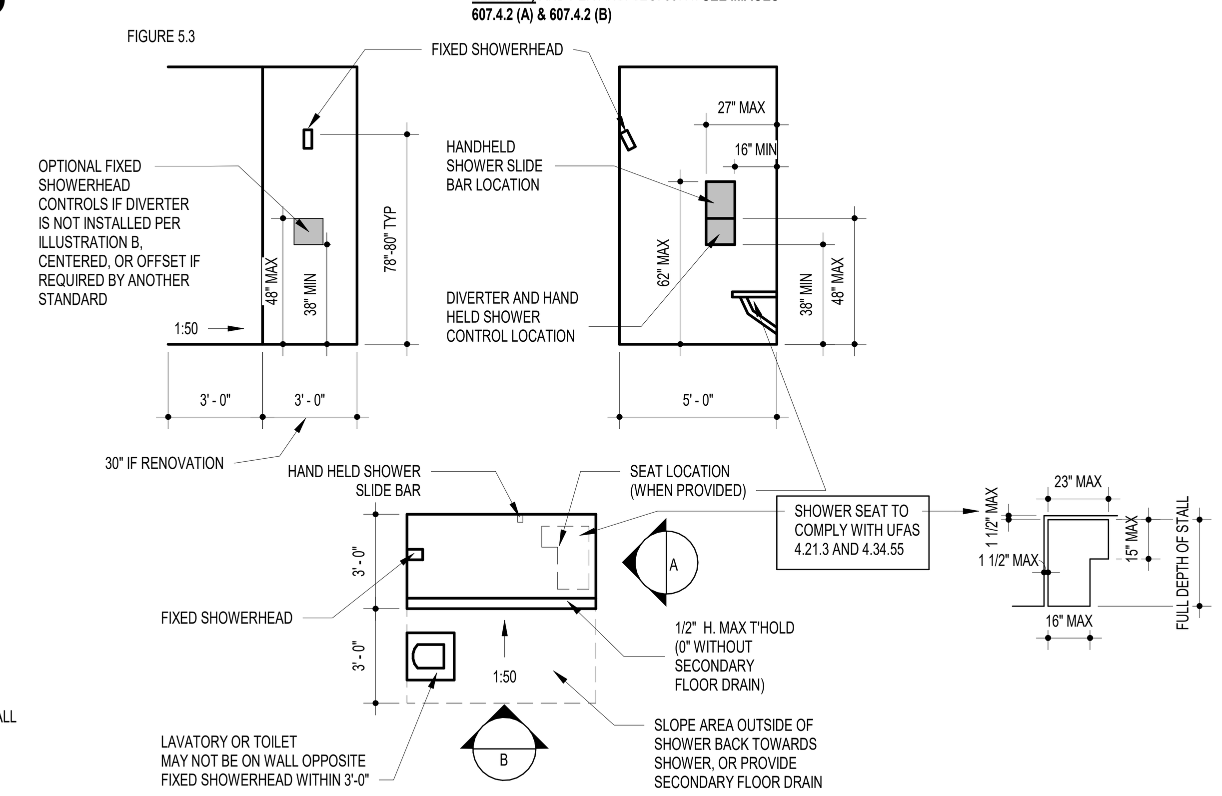
- GRAB BAR REINFORCEMENT: GRAB BARS SHALL BE PROVIDED PER *UFAS 4.20.4.* BLOCKING SHALL BE PROVIDED ON WALLS AROUND TOILET, TUB, AND SHOWER FOR GRAB BARS AND SHOWER SEAT PER *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND PER ANSI SEC. 607.4. **SEE IMAGES 607.4.2 (A) & 607.4.2 (B)**

WATER CLOSETS
- WATER CLOSET POSITION: THE CENTERLINE OF THE WATER CLOSET SHALL BE 16" MIN AND 18" MAX FROM THE SIDE WALL PER *ANSI SECTION 1103.11.2.4.1.* **SEE IMAGE 1103.11.2.4 (A)**

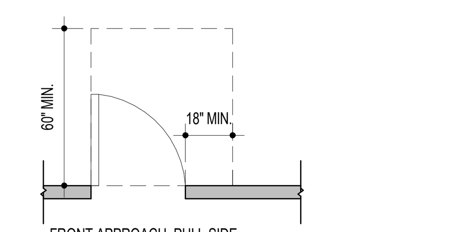
- CLEAR FLOOR SPACE:
· **CLEARANCE WIDTH:** CLEARANCE AROUND THE WATER CLOSET SHALL BE 60" MIN IN WIDTH, MEASURED PERPENDICULAR FROM THE SIDE WALL PER *ANSI SECTION 1103.11.2.4.2.* **SEE IMAGE 1103.11.2.4 (B)**
·**CLEARANCE DEPTH:** CLEARANCE AROUND THE WATER CLOSET SHALL BE 56" MIN IN DEPTH, MEASURED PERPENDICULAR FROM THE REAR WALL PER *ANSI SECTION 1103.11.2.4.3.* **SEE IMAGE 1103.11.2.4(B)**
·**CLEARANCE OVERLAP:** THE REQUIRED CLEARANCE AROUND THE WATER CLOSET SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET, ASSOCIATED GRAB BARS, PAPER DISPENSERS, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE REQUIRED AT OTHER FIXTURES, AND THE WHEEL-CHAIR TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE AS PER *ANSI SECTION 1103.11.2.4.4.*
EXCEPTION: A LAVATORY MEASURING 24" MAXIMUM IN DEPTH AND COMPLYING WITH *ANSI SECTION 1103.11.2.2* SHALL BE PERMITTED ON THE REAR WALL 18" MINIMUM FROM THE CENTERLINE OF THE WATER CLOSET TO THE SIDE EDGE OF THE LAVATORY WHERE THE CLEARANCE AT THE WATER CLOSET IS 66" MINIMUM PERPENDICULAR FROM THE REAR WALL. **SEE IMAGE 1103.11.2.4(C)**

- FLUSH CONTROLS: FLUSH CONTROLS SHALL BE HAND-OPERATED OR AUTOMATIC. HAND-OPERATED FLUSH CONTROLS SHALL COMPLY WITH *ANSI SECTION 309.* HAND-OPERATED FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET AS PER *ANSI SECTION 1103.11.2.4.6.*

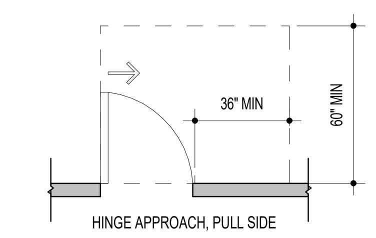
- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE INSTALLATION OF GRAB BARS MEETING *UD SEC. 5.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT)*** AND *ANSI SECTION 604.5* WITH THE FOLLOWING EXCEPTIONS: **SEE IMAGES 604.5.1 & 604.5.2**
1. POWDER ROOM: IN A ROOM WITH ONLY A LAVATORY AND WATER CLOSET, REINFORCEMENT IS NOT REQUIRED IF IT IS NOT THE ONLY AVAILABLE WATER CLOSET ON THAT LEVEL OF THE UNIT.
2. VERTICAL GRAB BAR: REINFORCEMENT FOR A SIDE WALL VERTICAL GRAB BAR IS NOT REQUIRED.
3. REAR GRAB BAR: REINFORCEMENT FOR A 24" LONG REAR GRAB BAR CENTERED ON THE WATER CLOSET IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 36" REAR GRAB BAR.
4. SIDE GRAB BAR: REINFORCEMENT FOR A 24" LONG SIDE GRAB BAR LOCATED 12" MAX FROM THE REAR WALL IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 42" SIDE GRAB BAR.



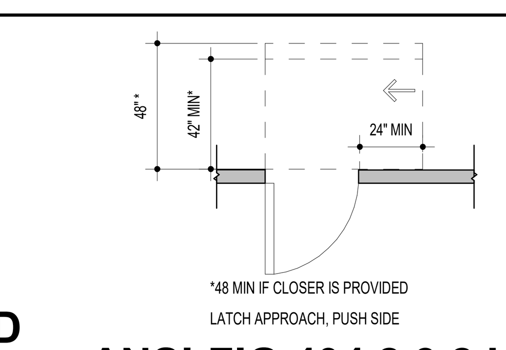
UD-FIGURE 5.3



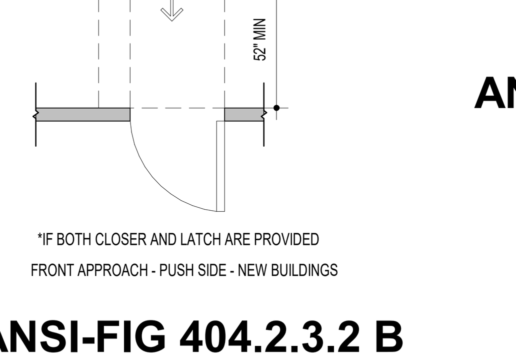
ANSI-FIG 404.2.3.2 A



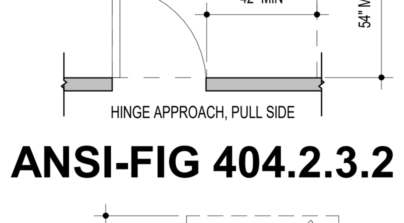
ANSI-FIG 404.2.3.2 D



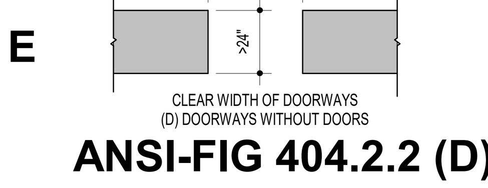
ANSI-FIG 404.2.3.2 H



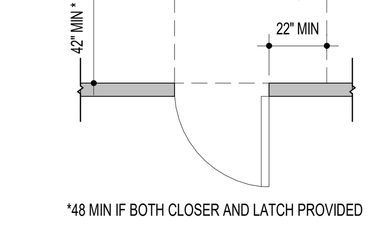
ANSI-FIG 404.2.3.2 B



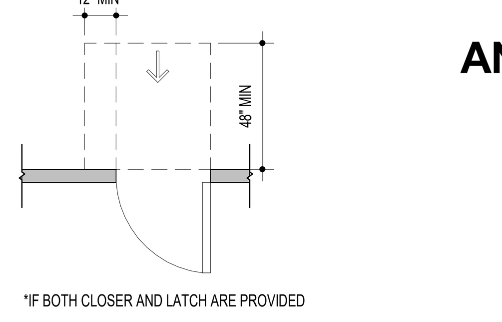
ANSI-FIG 404.2.3.2 E



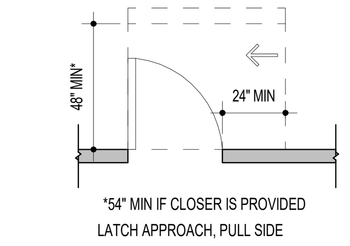
ANSI-FIG 404.2.2 (D)



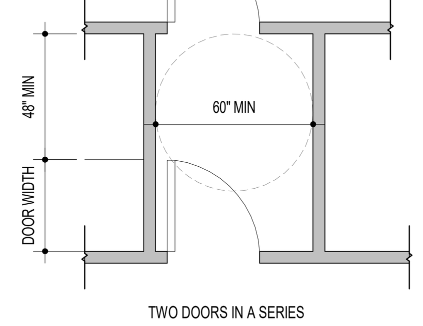
ANSI-FIG 404.2.3.2 F



ANSI-FIG 404.2.3.2 C



ANSI-FIG 404.2.3.2 G



ANSI-FIG 404.2.5 (F)

DOORS

DOORS AND DOORWAYS
THE PRIMARY ENTRANCE DOOR TO THE UNIT, AND ALL OTHER DOORWAYS INTENDED FOR USER PASSAGE, SHALL COMPLY WITH *ANSI SECTIONS 404 & 1103.5.*
EXCEPTIONS:
2. IN TOILET ROOMS AND BATHROOMS NOT REQUIRED TO COMPLY WITH *ANSI SECTION 1102.11.2*, MANEUVERING CLEARANCES REQUIRED BY *ANSI SECTION 404.2.3* ARE NOT REQUIRED ON THE TOILET ROOM OR BATHROOM SIDE OF THE DOOR.
3. A TURNING SPACE BETWEEN DOORS IN A SERIES AS REQUIRED BY *ANSI SECTION 404.2.5* IS NOT REQUIRED.

- PRIMARY ENTRANCE DOORS: THE ACCESSIBLE PRIMARY ENTRANCE SHALL NOT BE INTO A BEDROOM, UNLESS IT IS THE ONLY ENTRANCE, AND SHALL BE ON AN ACCESSIBLE ROUTE FROM PUBLIC AND COMMON AREAS PER *ANSI SEC. 1103.2.* THE PRIMARY ENTRANCE DOOR SHALL COMPLY WITH *UD SEC. 2.6*, AND SHALL BE NO LESS THAN 36" WIDE.
PER UD, ALL ENTRANCE DOORS MUST HAVE A 60" X 60" CLEAR SPACE ON EITHER SIDE.

- USER PASSAGEWAY DOORWAYS: DOORWAYS INTENDED FOR USER PASSAGE SHALL HAVE A CLEAR OPENING OF 32" MIN. MEASURED FROM FACE OF DOOR TO STOP WITH DOOR OPEN TO 90˚ WITH A THRESHOLD LEVEL CHANGE NOT EXCEEDING 1/2" PER *UD SEC. 2.5.* CLEAR OPENING WIDTH OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED BETWEEN THE FACE OF DOOR AND STOP, WITH THE DOOR OPEN 90 DEGREES PER *ANSI SECTION 404.2.2* AND *UFAS SEC. 4.13.5.*

- CLEAR FLOOR SPACE: USER PASSAGE DOORS SHALL HAVE A MINIMUM 36" DEEP CLEAR FLOOR SPACE THAT EXTENDS A MINIMUM OF 18" PAST THE LATCH ON THE PULL SIDE OF THE DOOR PER *UD SEC. 2.4.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- DOORWAYS WITHOUT DOORS: DOORWAYS SHALL PROVIDE A CLEAR OPENING WIDTH OF 36" MINIMUM PER *ANSI SECTION 404.2.2.* **SEE IMAGE 404.2.2**

- PROJECTIONS: THERE SHALL BE NO PROJECTIONS INTO THE CLEAR OPENING WIDTH LOWER THAN 34" ABOVE THE FLOOR. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34" AND 80" ABOVE THE FLOOR SHALL NOT EXCEED 4" AS PER *ANSI SECTION 404.2.2* WITH THE FOLLOWING EXCEPTION:
1. DOOR CLOSERS AND DOOR STOPS SHALL BE PERMITTED TO BE 78" MINIMUM ABOVE THE FLOOR.

MANEUVERING CLEARANCES: MINIMUM MANEUVERING CLEARANCES AT DOORS SHALL COMPLY WITH *ANSI SECTION 404.2.3* AND SHALL INCLUDE THE FULL CLEAR OPENING WIDTH OF THE DOORWAY. REQUIRED DOOR MANEUVERING CLEARANCES SHALL NOT INCLUDE KNEE AND TOE CLEARANCE.
- SWINGING DOORS: SWINGING DOORS SHALL HAVE MANEUVERING CLEARANCES COMPLYING WITH FIG 404.2.3.2 (A) - 404.2.3.2 (H)

- THRESHOLDS: IF PROVIDED, THRESHOLDS AT DOORWAYS SHALL BE 1/2" MAXIMUM IN HEIGHT. RAISED THRESHOLDS AND CHANGES IN LEVEL AT DOORWAYS SHALL COMPLY WITH *ANSI SECTIONS 302, 303*, & 404.2.4

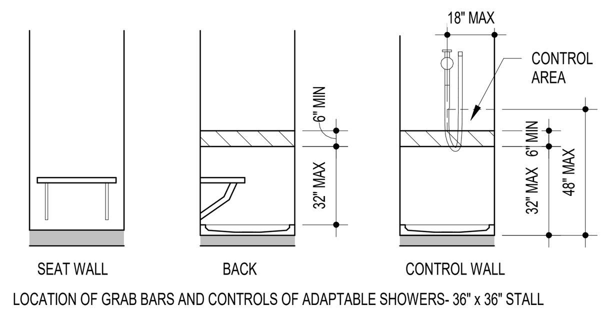
- TWO DOORS IN A SERIES: DISTANCE BETWEEN TWO HINGED OR PIVOTED DOORS IN SERIES SHALL BE 48" MINIMUM PLUS THE WIDTH OF ANY DOOR SWINGING INTO THE SPACE. THE SPACE BETWEEN THE DOORS SHALL PROVIDE A TURNING SPACE COMPLYING WITH *ANSI SECTIONS 304 & 404.2.5.* **SEE IMAGE 404.2.5**

- DOOR HARDWARE: ALL DOORS SHALL HAVE LEVER HANDLES PER *UD SEC. 3.4.* OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES AS PER *ANSI SECTION 404.2.6.*

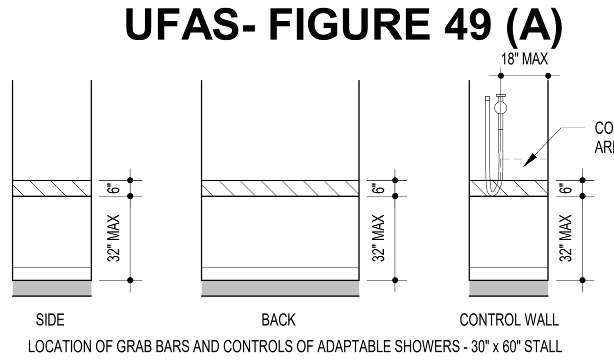
- DOOR SURFACE: DOOR SURFACES WITHIN 10" OF THE FLOOR, MEASURED VERTICALLY, SHALL BE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR AS PER *ANSI SECTION 404.2.9*

- CONTROL SWITCHES: MANUALLY OPERATED CONTROL SWITCHES SHALL COMPLY WITH *ANSI SECTIONS 309.* THE CLEAR FLOOR SPACE ADJACENT TO THE CONTROL SWITCH SHALL BE LOCATED BEYOND THE ARC OF THE DOOR SWING.

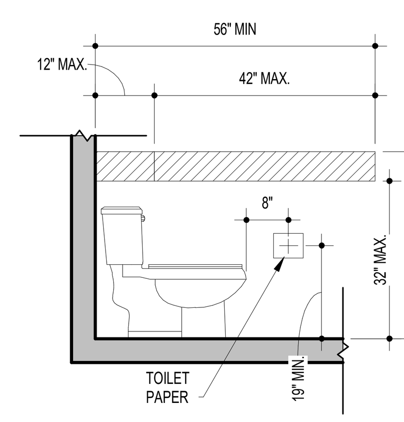
BATHROOM BLOCKING



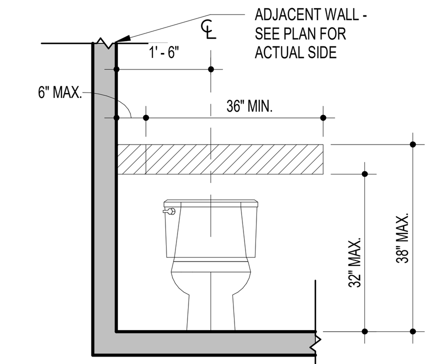
UFAS- FIGURE 49 (A)



UFAS- FIGURE 49 (B)



ANSI- FIG 604.5.2 A



ANSI-FIG 604.5.2 B

LAUNDRY EQUIPMENT

- PER *UD SEC. 6.1* ALL LAUNDRY EQUIPMENT MUST BE FRONT LOADING.

- LOCATION: LAUNDRY EQUIPMENT SHALL BE ON AN ACCESSIBLE ROUTE PER *UFAS SEC. 4.34.7.1*

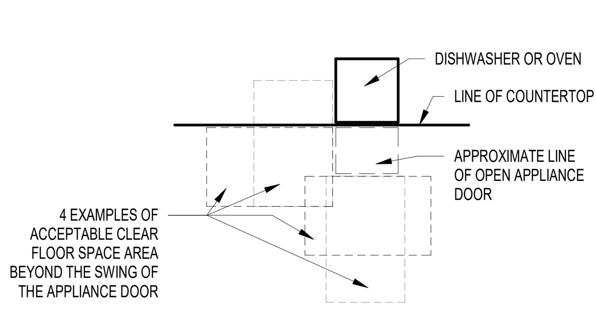
- CLEAR FLOOR SPACE: MUST BE A CLEAR FLOOR SPACE PROVIDED PER *ANSI SECTIONS 305.3 & 1103.10 AND UFAS SECTION 4.27.2.*
· **FRONT LOADERS:** CLEAR FLOOR SPACE FOR PARALLEL APPROACH REQUIRED. THE CENTERLINE OF THE CLEAR FLOOR SPACE SHALL BE OFFSET BY 24" MAX. FROM THE CENTERLINE OF THE DOOR OPENING, PER *ANSI SEC. 611.2.*

STORAGE FACILITIES

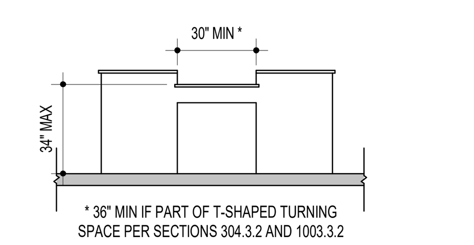
- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE COMPLYING WITH ANSI SEC. 305 SHALL BE PROVIDED.

- REACH RANGE: ACCESSIBLE STORAGE ELEMENTS AND OPERABLE PARTS SHALL COMPLY WITH *ANSI SEC. 308* AND *309* AND *UD SEC. 3.2*

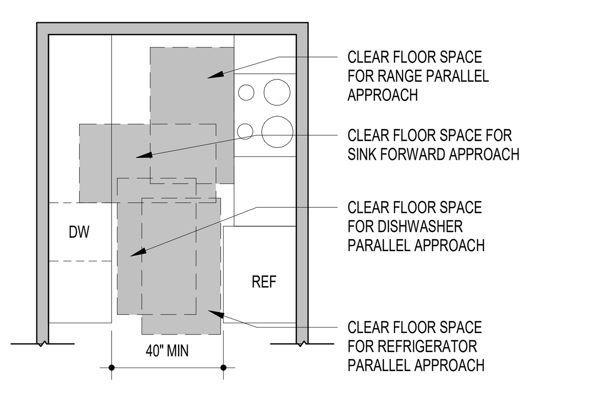
KITCHEN



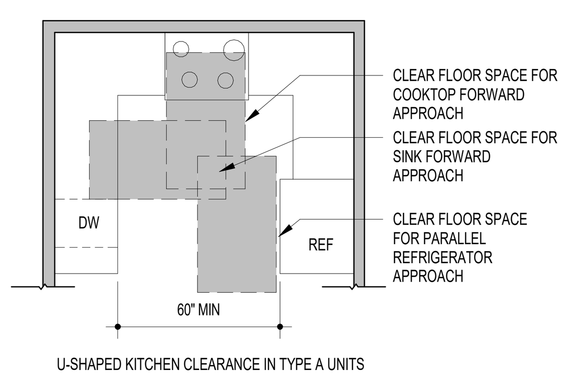
ANSI-IMAGE A



ANSI-FIG 1103.12.3



ANSI-FIG 1103.12.1.1



ANSI-FIG 1103.12.1.2

- MINIMUM CLEARANCE: CLEARANCE BETWEEN ALL OPPOSING CABINETS, COUNTERTOPS, APPLIANCES OR WALLS WITHIN KITCHEN WORK AREA SHALL BE 40" MIN. AND 60" MIN. FOR U-SHAPED KITCHENS PER *ANSI SEC. 1103.12.1 AND UFAS SEC. 4.34.6.1* **SEE IMAGE 1103.12.1.1 & 1103.12.1.2**
KITCHENS MUST HAVE A CLEAR FLOOR SPACE CENTERED ON ALL APPLIANCES. THE CLEAR FLOOR SPACE MAY BE POSITIONED FOR FORWARD OR PARALLEL APPROACH PER *UD SEC. 4.1 AND UFAS SEC. 4.34.6.2.*
- CLEAR FLOOR SPACE: CLEAR FLOOR SPACES REQUIRED BY SECTIONS 1103.12.3 - 1103.12.5 SHALL COMPLY WITH ANSI SECTION 305.
- TURNING DIAMETER: PROVIDE AN UNENCUMBERED 60" TURNING DIAMETER PER *UD SEC. 4.1* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).***

WORK SURFACE
- MINIMUM LENGTH: AT LEAST ONE SECTION OF COUNTER SHALL BE 30" MIN IN LENGTH PER *ANSI SEC. 1103.12.3 AND UFAS SEC. 4.34.6.4*
- MULTI-HEIGHT SURFACES: ALL UNITS SHALL HAVE AT LEAST ONE SURFACE AT 30" ABOVE THE FINISHED FLOOR. THE SURFACE MUST BE A MINIMUM OF 24" WIDE X 20" DEEP, AND CANNOT BE PORTABLE PER *UD SEC. 4.5.*
-CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH TO THE WORK SURFACE, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE, SHALL BE PROVIDED, COMPLYING WITH *ANSI SECTIONS 305 & 1103.12.3.1.* **SEE FIGURES 306.2, 306.3, & 1103.12.1.1, & 1103.12.1.2**
EXCEPTIONS: CABINETRY SHALL BE PERMITTED UNDER THE WORK SURFACE PROVIDED THE CABINETS CAN BE REMOVED WITHOUT REMOVING THE WORK SURFACE AND THE SCHEDULED FINISHED EXTEND UNDER THE CABINETS.
- HEIGHT: THE WORK SURFACE SHALL BE 34" MAX ABOVE THE FLOOR PER *ANSI 1103.12.3.2.*
-EXPOSED SURFACES: THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE EXPOSED PORTIONS OF WORK SURFACE COUNTERS PER *ANSI SECTION 1103.12.3.3* **SEE ANSI FIGURE 1103.12.3.**

SINK
EACH QUALIFYING UNIT SHALL HAVE A REAR DRAIN SINK WITH DRAIN PIPES CONCEALED BEHIND A REMOVABLE 30" WIDE CONCEALMENT PANEL OR REMOVABLE SINK BASE PER *UD SEC. 4.4.* THE KITCHEN FLOOR FINISH MUST EXTEND UNDER THE REMOVABLE CABINET, AND THE WALL BEHIND THE CABINET MUST BE FINISHED.
THE DEPTH OF THE SINK BOWL SHALL BE NO GREATER THAN 6-1/2". COUNTER THICKNESS SHALL BE 2" MAX. OVER THE REQUIRED CLEAR FLOOR SPACE PER *UFAS SEC. 4.34.6.5*
- HEIGHT: THE FRONT OF THE SINK SHALL BE 34" MAX AFF MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE PER *ANSI SEC. 1103.12.4.2*
- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE. THE UNDERSIDE OF THE SINK SHALL BE CONFIGURED TO PREVENT BURNS, ABRASIONS OR ELECTRICAL SHOCK. IF A REMOVABLE BASE IS INSTALLED, PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT PER ANSI SEC 1103.12.4.4 **SEE IMAGES 306.2, 306.3, 1103.12.1.1 & 1103.12.1.2**

DISHWASHER
- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED ADJACENT TO THE DISHWASHER DOOR, SHALL BE PROVIDED. THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE DISHWASHER OR ADJACENT SINK PER *ANSI SECTION 1103.12.5.3.* **SEE IMAGES 1103.12.1.1 & 1103.12.1.2**
- APPLIANCE DOOR CLEARANCE: THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR AREA FOR THE DISHWASHER PER *ANSI SECTION 1103.12.5.3.* **SEE IMAGE A**

COOKTOP
- APPROACH: A CLEAR FLOOR SPACE, POSITIONED FOR A PRALLEL OR FORWARD APPROACH TO THE COOKTOP, SHALL BE PROVIDED *PER ANSI 1103.12.5.4.1.*
- FORWARD APPROACH: WHERE THE CLEAR FLOOR SPACE IS POSITIONED FOR A FORWARD APPROACH, KNEE AND TOE CLEARANCE COMPLYING WITH ANSI 306 SHALL BE PROVIDED. THE UNDERSIDE OF THE COOKTOP SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT FROM BURNS, ABRASIONS OR ELECTRICAL SHOCK. **SEE ANSI FIGURE 1003.12.1.2.**
- PARALLEL APPROACH: WHERE THE CLEAR FLOOR SPACE IS POSITIONED FOR A PARALLEL APPROACH, THE CLEAR FLOOR SPACE SHALL BE CENTERED ON THE APPLIANCE.
-CONTROLS: THE LOCATION OF THE CONTROLS SHALL NOT REQUIRE REACHING ACROSS THE BURNERS PER *ANSI SECTION 1103.12.5.4.4* AND *UD SEC. 4.2.*

OVEN
- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE SHALL BE PROVIDED. THE OVEN DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE OVEN.
- SIDE-HINGED DOOR OVENS: SIDE-HINGED DOOR OVENS SHALL HAVE A COUNTERTOP POSITIONED ADJACENT TO THE LATCH SIDE OF THE OVEN DOOR PER ANSI 1103.12.5.5.2.
- BOTTOM HINGED DOOR OVENS: BOTTOM HINGED DOOR OVENS SHALL HAVE A COUNTERTOP POSITION ADJACENT TO ONE SIDE OF THE DOOR PER ANSI 1103.12.5.5.3.
- CONTROLS: THE LOCATION OF CONTROLS SHALL NOT REQUIRE REACHING ACROSS BURNERS PER ANSI 1103.12.5.5.4.

REFRIGERATOR / FREEZER
REFRIGERATORS SHALL BE SIDE-BY-SIDE TYPE PER *UD SEC. 4.3.*
- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, SHALL BE PROVIDED PER *ANSI SECTION 1103.12.5.6.* THE CENTERLINE OF THE CLEAR FLOOR SPACE MAY BE OFFSET 24" MAX FROM THE CENTERLINE OF THE APPLIANCE. **SEE IMAGES 1103.12.1.1 & 1103.12.1.2**
- ACCESSIBLE SHELVES: AT LEAST 50% OF THE FREEZER COMPARTMENT SHELVES, INCLUDING THE BOTTOM OF THE FREEZER, SHALL BE 54" MAX. ABOVE THE FLOOR PER *ANSI SEC. 1103.12.5.6.*

CABINETRY:
ALL CABINETS, DRAWERS, AND SHELF AREAS SHALL COMPLY WITH *UFAS SEC. 4.25.* ALL CABINETRY SHALL HAVE D TYPE PULL HANDLES OR TOUCH LATCHES PER *UD SEC. 4.6.*
KITCHENS IN ALL QUALIFYING UNITS SHALL HAVE A PANTRY STYLE CABINET OR CLOSET PER *UD SEC. 4.5* ***(OWNER HAS ELECTED THIS OPTIONAL ELEMENT).***

MOVEMENT & ACCESSIBLE ROUTE

-GENERAL: TYPE A UNITS SHALL COMPLY WITH ANSI SECTION 1103.3

- LOCATION: AT LEAST ONE ACCESSIBLE ROUTE MUST CONNECT ALL SPACES AND ELEMENTS THAT ARE PART OF THE UNIT AND COINCIDE WITH GENERAL CIRCULATION PATHS PER *ANSI SECTION 1103.3.1* WITH THE FOLLOWING EXCEPTION:
· **1.** ROUTE NOT REQUIRED TO ACCESS UNFINISHED BASEMENTS AND ATTICS.

-TURNING SPACE: ALL ROOMS SERVED BY AN ACCESSIBLE ROUTE SHALL PROVIDE A TURNING SPACE PER *ANSI SECTION 1103.3.2.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

EXCEPTIONS:
1. A TURNING SPACE IS NOT REQUIRED IN TOILET ROOMS AND BATHROOMS THAT ARE NOT REQUIRED TO COMPLY WITH ANSI *SECTION 1103.11.2.*
2. A TURNING SPACE IS NOT REQUIRED WITHIN CLOSETS OR PANTRIES THAT ARE 48" MAXIMUM IN DEPTH.

- COMPONENTS: ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING: WALKING SURFACES WITH A SLOPE NOT STEEPER THAN 1:20, DOORS AND DOORWAYS, RAMPS, ELEVATORS AND LIFTS PER *ANSI SECTION 1103.3.3.*

- CLEAR WIDTH: ALL INTERIOR PASSAGEWAYS SHALL HAVE A MINIMUM 42" CLEAR WIDTH. A MINIMUM 36" CLEAR WIDTH IS ACCEPTABLE WHEN TRAVELING LESS THAN 36" PER *UD SEC. 2.2.*THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- PASSING SPACE: IF AN ACCESSIBLE ROUTE HAS LESS THAN 60" CLEAR WIDTH, PASSING SPACES AT LEAST 60" X 60" SHALL BE LOCATED AT INTERVALS OF 200 FT MAX. PER *UFAS SEC. 4.3.4* AND *ANSI SEC. 403.5.2.* A T-INTERSECTION COMPLYING WITH *ANSI SEC. 304.3.2*, PROVIDED THE BASE AND ARMS OF THE SPACE EXTEND 48" MIN. BEYOND THE INTERSECTION, IS ACCEPTABLE.

EACH QUALIFYING UNIT SHALL BE LOCATED ON AN ACCESSIBLE ROUTE COMPLYING WITH THE ABOVE REQUIREMENTS, WHICH ALLOWS PEDESTRIAN ACCESS TO ALL COMMON SPACES AND ACCESSIBLE PARKING SPACES PER *UD SEC. 1.4.*

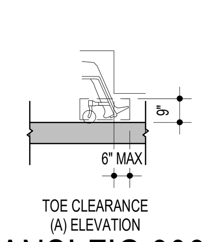
- T-SHAPED SPACE: IN NEW BUILDINGS AND FACILITIES, THE TURNING SPACE SHALL BE A T-SHAPED SPACE COMPLYING WITH ONE OF THE FOLLOWING:
1. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, THAT FITS WITHIN AN AREA 68" WIDE AND 60" DEEP, WITH TWO ARMA AND ONE BASE THAT ARE ALL 36" MIN IN WIDTH. EACH ARM SHALL EXTEND 16" MIN FROM EACH SIDE OF THE BASE LOCATED OPPOSITE THE OTHER, AND THE BASE SHALL EXTEND 24" MIN FROM THE ARMS. AT THE INTERSECTION OF EACH ARM AND THE BASE, THE INTERIOR CORNERS SHALL BE CHAMFERED FRO 8" MIN ALONG BOTH THE ARM AND ALONG THE BASE. **SEE FIGURE 304.3.2.1 (A)**
2. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, THAT FITS WITHIN AN AREA 64" WIDE AND 60" DEEP, WITH TWO ARMS 38" MIN IN WIDTH AND A BASE 42" MIN IN WIDTH. EACH ARM SHALL EXTEND 11" MIN FROM EACH SIDE OF THE BASE, LOCATED OPPOSITE THE OTHER, AND THE BASE SHALL EXTEND 22" MIN FROM EACH ARM. **SEE FIGURE 304.3.2.1 (B)**
3. A T-SHAPED SPACE, CLEAR OF OBSTRUCTION, 64" WIDE AND 60" DEEP, WITH TWO ARMS AND ONE BASE 40" MIN IN WIDTH. EACH ARM SHALL EXTEND 12" MIN FROM EACH SIDE OF THE BASE AND THE BASE SHALL EXTEND 20" MIN FROM EACH ARM. **SEE FIGURE 304.3.2.1 (C).**

TURNING SPACE: IN NEW BUILDINGS AND FACILITIES, THE CIRCULAR TURNING SPACE SHALL BE A SIRCULAR SPACE WITH A 67" MIN DIAMETER. *SEE ANSI FIGURE 304.3.1.*

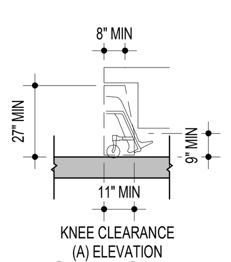
KNEE AND TOE CLEARANCE:
- TOE CLEARANCE: SPACE BENEATH AN ELEMENT BETWEEN THE FLOOR AND 9" ABOVE THE FLOOR SHALL BE CONSIDERED TOE CLEARANCE, AND SHALL COMPLY WITH *ANSI SEC. 306.2.*
TOE CLEARANCES SHALL EXTEND 17" - 25" UNDER AN ELEMENT, AND SHALL BE 30" MIN. IN WIDTH. **SEE IMAGE 306.2**

- KNEE CLEARANCE: PER *ANSI SEC. 306.3*, SPACE BENEATH AN ELEMENT 9" - 27" ABOVE THE FLOOR SHALL BE CONSIDERED KNEE CLEARANCE.
KNEE CLEARANCES SHALL EXTEND 25" MAX. AT 9" ABOVE THE FLOOR. WHERE KNEE CLEARANCE IS REQUIRED BENEATH AN ELEMENT AS PART OF A CLEAR FLOOR SPACE COMPLYING WITH *ANSI SEC. 305*, IT SHALL BE 11" MIN. IN DEPTH AT 9" ABOVE THE FLOOR, AND 8" MIN. IN DEPTH 27" ABOVE THE FLOOR. **SEE IMAGE 306.3**

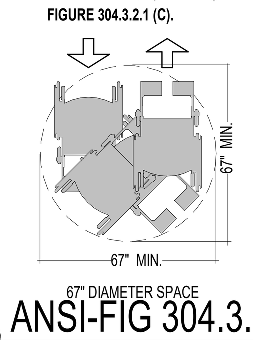
- REACH RANGE: OPERABLE PARTS INCLUDING LIGHTING CONTROLS, ELECTRICAL SWITCHES, AND RECEPTACLES MUST COMPLY WITH *UFAS SEC. 4.2, UD SEC. 3.2,* AND *ANSI SEC. 308.*



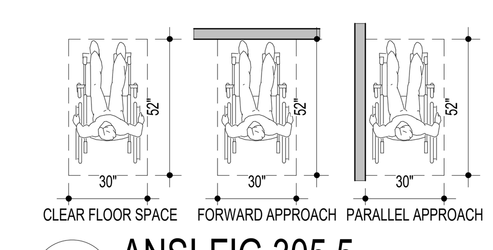
ANSI-FIG 306.2
1/4" = 1'-0"



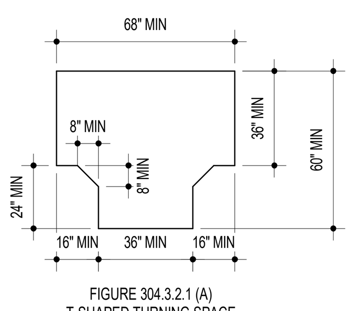
ANSI-FIG 306.3
1/4" = 1'-0"



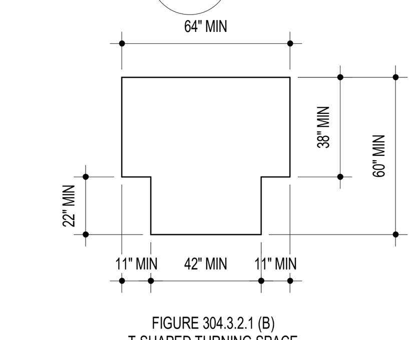
ANSI-FIG 304.3.1
1/4" = 1'-0"



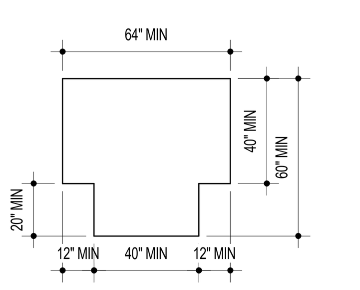
ANSI-FIG 305.5
1/4" = 1'-0"



ANSI-FIG 304.3.2.1 (A)
1/4" = 1'-0"



ANSI-FIG 304.3.2.1 (B)
1/4" = 1'-0"



ANSI-FIG 304.3.2.1 (C)
1/4" = 1'-0"

ANSI TYPE "A", UFAS & UNIVERSAL DESIGN UNITS - GENERAL NOTES

THE ABBREVIATIONS LISTED BELOW SHALL REFER TO THE FOLLOWING DOCUMENTS:
"ANSI" SHALL REFER TO THE AMERICAN NATIONAL STANDARD INSTITUTE PUBLICATION #ICC A117.1-**2017** ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
"UD" SHALL REFER TO THE VIRGINIA HOUSING DEVELOPMENT AUTHORITY PUBLICATION **2025** GUIDELINES FOR THE DEVELOPMENT OF UNIVERSALLY DESIGNED UNITS.
"UFAS" SHALL REFER TO THE UNIFORM FEDERAL ACCESSIBLY STANDARDS (7-1-97)."

ALL DIAGRAMS ON THIS SHEET ARE FROM THESE PUBLICATIONS, ALTHOUGH SOME ANNOTATION HAS BEEN ADDED FOR CLARITY.

THIS SHEET IS A SUMMARY AND IS NOT INTENDED TO PRECLUDE OR EXCLUDE ANY SECTIONS OF THE APPLICABLE CODES. THE CONTRACTOR WILL STILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE SECTIONS.

IN CASES OF CONFLICT, THE MORE RESTRICTIVE REQUIREMENT OR CODE SHALL BE USED.

ALL COMMON AREAS IN THIS PROJECT ON THE FIRST FLOOR AND/OR ACCESSIBLE FROM AN ELEVATOR SHALL BE DESIGNED AND CONSTRUCTED TO MEET ANSI TYPE 'B' REQUIREMENTS UNLESS MORE STRINGENT ACCESSIBILITY REQUIREMENTS ARE NOTED (I.E. ANSI TYPE 'A', UFAS, ETC.).

TYPE A, UFAS, & UD UNITS MUST BE DISPERSED AMONG THE VARIOUS CLASSES OF UNITS PROVIDED IN THE BUILDING.

OWNER HAS SELECTED THE FOLLOWING OPTIONAL ELEMENTS

- WEATHERED SHELTERED ENTRYWAYS: PROVIDE COVERED ENTRANCES TO REDUCE OR ELIMINATE WATER INFILTRATION AND PROVIDE PROTECTION FOR USER WHILE LEAVING OR ENTERING A QUALIFYING UNIT PER UD SEC. 1.1.

- SIGNAGE: PROVIDE BRAILLE CHARACTERS TRANSLATIONS ON ALL ENTRY DOOR, COMMON AREA, AND MAINTENANCE RELATED SIGNAGE. CHARACTERS AND SIGNAGE SIGNAGE SHALL CONTRAST WITH THEIR BACKGROUND- EITHR LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND. USE STANDARD BRAILLE CONVENTONS FOR LOCATION ON SIGNAGE. SIZING AND SPACING PER BRAILLE PUBLICATIONS IS ACCEPTABLE. ALL INTERIOR SIGNAGE PER UD SEC. 1.2.

- ACCESS TO ALL COMMON AREAS: FROM THE QUALIFYING UNIT VIA AN ACCESSIBLE PEDESTRIAN ROUTE PER UD SEC. 2.1.

- EXTRA FLOOR SPACE: PROVIDE A FULL 60" UNENCUMBERED TURNING DIAMETER WITHIN THE KITCHEN BOUNDRY OF EACH QUALIFYING UNIT PER UD SEC. 4.1

- FULL LENGTH PANTRY STYLE CABINET: IN EACH QUALIFYING UNIT, PROVIDE FUL-HEIGHT PANTRY CABINET ACCESSED FROM WITHIN THE KITHCHEN BOUNDRY. PER UD SEC. 4.5 PANTRY MAY BE A DEDICATED CLOSET ACCESSED FROM WITHIN THE KITCHEN BOUNDRY, AND COMPLY WITH ESSENTIALS 2.4, 2.5 AND 3.2.

- EXTRA FLOOR SPACE: IN EACH QUALIFYING UNIT; PROVIDE AT LEAST ONE BATHROOM WITH A FULL 60" UNENCUMBERED, TURNING DIAMETER PER UD SEC. 5.1.

-ROLL-UNDER VANITY OR SINK: IN EACH QUALIFYING UNIT; PROVIDE AT LEAST ONE BATHROOM WITH A ROLL UNDER SINK OR REMOVABLE VANITY BASE. IF A REMOVABLE VANITY BASE IS PROVIDED, IT SHALL BE A MINIMUM OF 30" WIDE AND EASILY REMOVABLE USING ONLY A SCREWDRIVER. THE BATHROOM FLOOR FINISH MUST EXTEND UNDER THE REMOVABLE CABINET, THE WALL BEHIND THE CABINET MUST BE FINISHED, AND A BASEBOARD MATCHING THAT INSTALLED IN OTHER AREAS OF THE DWELLING UNIT SHALL BE PERMANENTLY INSTALLED BEHIND THE CABINET. PER UD SEC 5.2

- NON-GLARE LIGHTING: IN EACH QUALIFYING UNIT, PROVIDE A MINIMUM OF TWO SEPARATE FIXED LIGHT FIXTURES. LIGHT SOURCES SHALL BE INDIRECT AND/OR HAVE FROSTED LENSES WITHOUT EXPOSING BULBS DIRECTLY TO THE OCCUPANT. PER UD SEC. 5.4

- SOLID IN-WALL BLOCKING: SOLID WOOD BLOCKING SHALL BE PROVIDED IN ALL APPLICABLE BATHROOM PER UD SEC. 5.5

-HANDHELD SHOWERHEADS: BOTH A FIXED AND HANDHELD SHOWER HEAD WITH A MINIMUM 60" HOSE SHALL BE INSTALLED ON THE CONTROL END WALL OF ALL BATHTUBS IN QUALIFYING UNITS. PER UD SEC. 5.6

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UNIT ACCESSIBILITY- ANSI A + UFAS + UD

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03/12/2025	VH 9% SUBMISSION	
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

A-013

06/30/2026
CONSTRUCTABILITY REVIEW

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BATHROOM OPTION A

SELECT ONE BATHROOM OPTION FOR EACH ANSI TYPE 'B' UNIT. BATHROOM OPTIONS A & B CANNOT BE COMBINED WITHIN A SINGLE UNIT.
ITEMS IN THIS BOX IN BLUE ARE SPECIFIC TO OPTION A ONLY.

ANSI TYPE 'B' - BATHROOM OPTION A PER *ANSI SECTION 1104.11.3.1*

- COVERED ROOMS: IF BATHROOM OPTION A IS SELECTED, NOTES IN THIS BOX APPLY TO ALL BATHROOMS AND BATH FIXTURES IN THE UNIT EXCEPT THOSE ON LEVELS THAT ARE NOT REQUIRED TO THE ACCESSIBLE PER *ANSI SECTION 1104.3.1, EX'S* AND THOSE IN POWDER ROOMS NOT REQUIRED TO BE ACCESSIBLE PER *ANSI SECTION 1104.11.3.1, EX. 2.*

- DOORS: WHERE A CLEAR FLOOR SPACE IS PROVIDED WITHIN A BATHROOM EXCLUDING ANY KNEE AND TOE CLEARANCES UNDER ELEMENTS AND BEYOND THE ARC OF THE DOOR, THE DOOR MAY SWING INTO THE CLEAR FLOOR SPACE FOR FIXTURES PER *ANSI SECTION 1104.11.2.1, EX.*

- CLEAR FLOOR SPACES: REQUIRED CLEARANCES AT FIXTURES MAY INCLUDE KNEE AND TOE CLEARANCES PER *ANSI SECTION 1104.11.2.2.*

- DISPENSERS: WHEN BELOW THE GRAB BAR, THE DISPENSER SHALL BE 24" MIN AND 42" MAX FROM THE REAR WALL. THE DISPENSER OUTLET SHALL BE 18" MIN A.F.F. PER *ANSI SEC. 604.7.* **SEE FIG. 604.7**

- CONTROLS: SHUT-OFFS ARE NOT REQUIRED TO COMPLY WITH *ANSI CHAPTER 3* PER *ANSI SECTION 1104.9 EX. 8.*

LAVATORIES AND BATHROOM ACCESSORIES

- BATHROOMS WITH MULTIPLE LAVATORIES: WHERE MULTIPLE LAVATORIES ARE PROVIDED IN A SINGLE BATHROOM, ONLY ONE LAVATORY IS REQUIRED TO COMPLY PER *ANSI SECTION 1104.11.3.1.*

- LAVATORY COUNTER HEIGHT: THE LAVATORY SHALL BE 34" MAX AFF MEASURED TO THE HIGHER OF THE SINK RIM OR COUNTER SURFACE PER *ANSI SECTION 606.3*

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE SHALL BE CENTERED ON THE LAVATORY AND POSITIONED FOR FORWARD APPROACH PER *ANSI SECTION 1104.11.3.1.1.* KNEE AND TOE CLEARANCE COMPLYING WITH *ANSI SEC. 306* SHALL BE PROVIDED. **SEE IMAGE 606.2**

- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4* SHUT-OFFS ARE NOT REQUIRED TO COMPLY WITH *ANSI CHAPTER 3* PER *ANSI SECTION 1104.9 EX. 8.*

- BATHROOM LIGHTING / ELECTRICAL: WITHIN BATHROOMS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLES ARE PERMITTED TO BE LOCATED OVER CABINETS WITH 36" MAX HIGH COUNTERTOPS UP TO 25.5" DEEP PER *ANSI SECTION 1104.9 EX. 10.* WHERE REDUNDANT CONTROLS ARE PROVIDED FOR SINGLE ELEMENTS, ONE CONTROL LOCATION IN EACH SPACE IN NOT REQUIRED TO BE ACCESSIBLE PER *ANSI SECTION 1104.9 EX. 9.*

SHOWER STALLS

- COMPARTMENT SIZE: IF A SHOWER IS THE ONLY BATHING FACILITY AND THE UNIT IS NOT INDICATED TO RECEIVE A R.I.S., IT MUST BE 36" MIN WIDE AND 36" MIN DEEP PER *ANSI SECTION 1104.11.3.1.3.3.*

- CLEAR FLOOR SPACE: PER *ANSI SECTION 1104.11.3.1.3.3*, A CLEARANCE 48" LONG, MEASURED PERPENDICULAR TO THE SHOWER CONTROL WALL & 30" DEEP, MEASURED FROM THE FACE OF THE SHOWER COMPARTMENT SHALL BE PROVIDED. **SEE IMAGE 1104.11.3.1.3.3**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTIONS 608.3, 608.2.1.3, 608.2.2.3 AND 608.2.3.2* (GRAB BARS FOR PUBLIC SHOWERS). **SEE IMAGES 604.5.1 & 604.5.2**

- SEAT REINFORCEMENT: REINFORCEMENT FOR THE FUTURE INSTALLATION OF A SEAT IS ONLY REQUIRED IN 36" X 36" SHOWER COMPARTMENTS; IT IS NOT REQUIRED IN LARGER SHOWER COMPARTMENTS PER *ANSI SECTIONS 1104.11.1 EX 7 & 1104.11.3.1.3.3.*

- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4.*

WATER CLOSETS

- WATER CLOSET POSITION: THE CENTERLINE OF THE WATER CLOSET SHALL BE 16" – 18" FROM ONE SIDE OF THE REQUIRED CLEARANCE PER *ANSI SECTION 1104.11.3.1.2.1.* **SEE IMAGE 1104.11.3.1.2**

- CLEAR FLOOR SPACE:
· **CLEARANCE WIDTH:** 48" MIN IN WIDTH MEASURED PERPENDICULARLY FROM THE 16" – 18" SIDE CLEARANCE PER *ANSI SECTION 1104.11.3.1.2.2.1.* **SEE IMAGE 1104.11.3.1.2 (A)**
·**PARALLEL APPROACH CLEARANCE DEPTH:** 56" MIN IN DEPTH MEASURED PERPENDICULAR FROM THE REAR WALL PER *ANSI SECTION 1104.11.3.1.2.2.2.*
·**FORWARD APPROACH CLEARANCE DEPTH:** 66" MIN IN DEPTH MEASURED PERPENDICULAR FROM THE REAR WALL WITH A FORWARD APPROACH PER *ANSI SECTION 1104.11.3.1.2.2.3.*

- CLEARANCE OVERLAP: A VANITY OR OTHER OBSTRUCTION UP TO 24" IN DEPTH MAY OVERLAP THE CLEAR FLOOR SPACE PROVIDED 33" CLEAR WIDTH REMAINS IN THE WATER CLOSET CLEAR FLOOR SPACE PER *ANSI SECTION 1104.11.3.1.2.2.4.* **SEE IMAGE 1104.11.3.1.2 (B)**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTION 604.5* (GRAB BARS FOR PUBLIC WATER CLOSETS) WITH THE FOLLOWING EXCEPTIONS: **SEE IMAGES 604.5.1 & 604.5.2**
2. VERTICAL GRAB BAR: REINFORCEMENT FOR A SIDE WALL VERTICAL GRAB BAR IS NOT REQUIRED.
3. REAR GRAB BAR: REINFORCEMENT FOR A 24" LONG REAR GRAB BAR CENTERED ON THE WATER CLOSET IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 36" REAR GRAB BAR.
4. SIDE GRAB BAR: REINFORCEMENT FOR A 24" LONG SIDE GRAB BAR LOCATED 12" MAX FROM THE REAR WALL IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 42" SIDE GRAB BAR.

- CONTROLS: PROVIDE WATER CLOSET FLUSH VALVE AT OPEN SIDE (AWAY FROM SIDE WALL OR BATHTUB) *PER ANSI SEC. 604.6*

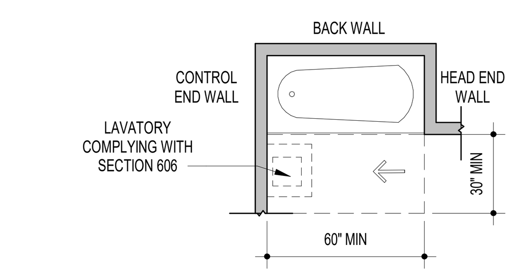
BATHTUBS

- CLEAR FLOOR SPACE:
· **PARALLEL APPROACH:** PER *ANSI SECTION 1104.11.3.1.3.1*, A 30" X 60" CLEAR FLOOR SPACE IS REQUIRED IN FRONT OF BATHTUB AND IS PERMITTED TO OVERLAP A LAVATORY MEETING *ANSI SECTION 606* PER *ANSI SECTION 1104.11.3.1.3.1.* **SEE IMAGE 1104.11.3.1.3.1(A)**
· **PARALLEL APPROACH ALTERNATE:** PER *ANSI SECTION 1104.11.3.1.3.1*, A CLEAR FLOOR SPACE ALIGNED WITH ONE END OF THE BATHTUB IS REQUIRED AND IS PERMITTED TO ABUT A LAVATORY MEETING *ANSI SECTION 1104.11.3.1.1.* **SEE IMAGE 1104.11.3.1.3.1(B)**
· **FORWARD APPROACH:** A 48" X 60" CLEAR FLOOR SPACE IS REQUIRED IN FRONT OF BATHTUB AND IS PERMITTED TO OVERLAP A LAVATORY OR WATER CLOSET AT ONE END PER *ANSI SECTION 1104.11.3.1.3.2.* **SEE IMAGE 1104.11.3.1.3.2**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTION 607.4* (GRAB BARS FOR COMMON AREA BATHTUBS) *PER ANSI SEC. 1104.11.1.* **SEE IMAGES 607.4.2(A) & 607.4.2(B)**

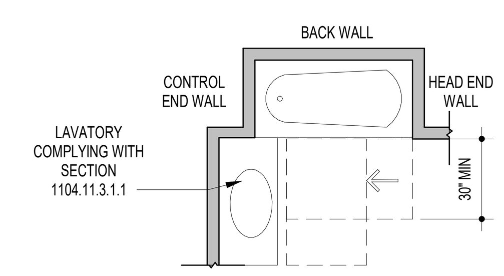
- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4.*

ANSI "TYPE B" UNITS-BATHROOM OPTIONS



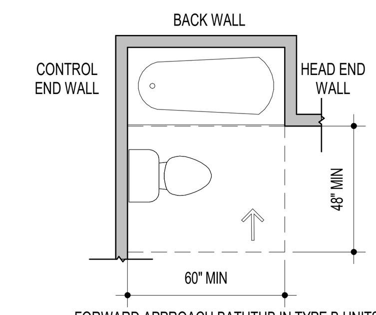
PARALLEL APPROACH BATHTUB IN TYPE B UNITS-- OPTION A BATHROOMS

ANSI-FIG 1104.11.3.1.3.1 A
1/4" = 1'-0"



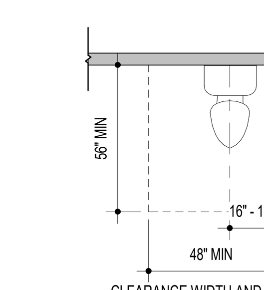
PARALLEL APPROACH BATHTUB IN TYPE B UNITS-- OPTION A BATHROOMS

ANSI-FIG 1104.11.3.1.3.1 B
1/4" = 1'-0"



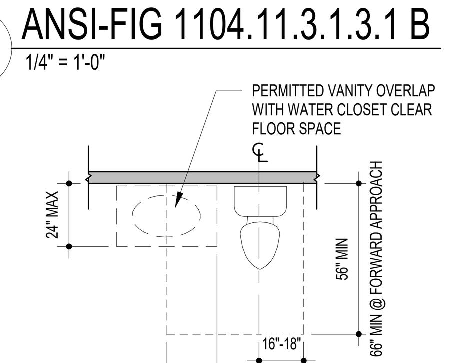
FORWARD APPROACH BATHTUB IN TYPE B UNITS OPTION A BATHROOMS

ANSI-FIG 1104.11.3.1.3.2
1/4" = 1'-0"



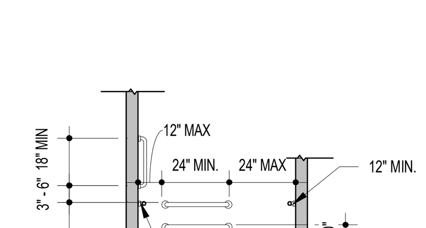
CLEARANCE WIDTH AND DEPTH

ANSI-FIG 1104.11.3.1.2 (A)
1/4" = 1'-0"



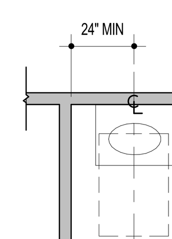
CLEARANCE WITH LAVATORY OVERLAP

ANSI-FIG 1104.11.3.1.2 (B)
1/4" = 1'-0"



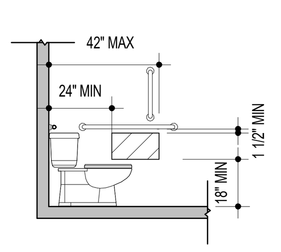
(A) ELEVATION
GRAB BARS FOR BATHTUBS WITHOUT PERMANENT SEATS

ANSI-FIG 607.4.2 A
1/4" = 1'-0"



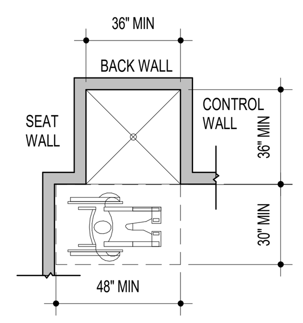
CLEARANCE AT ROLL UNDER SINK

ANSI-SECTION 606.2
1/4" = 1'-0"



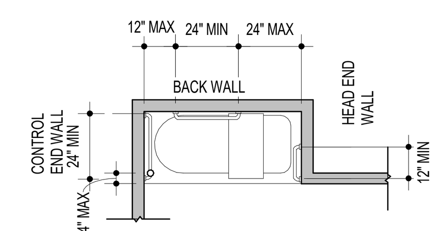
(A) PROTRUDING DISPENSER BELOW GRAB BAR

ANSI-FIG 604.7.1 A
1/4" = 1'-0"



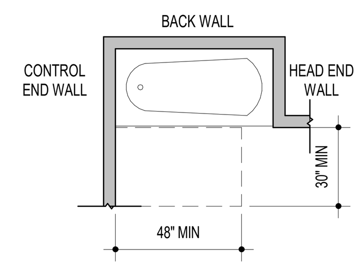
TRANSFER-TYPE SHOWER COMPARTMENT IN TYPE B UNITS

ANSI-FIG 1104.11.3.1.3.3
1/4" = 1'-0"



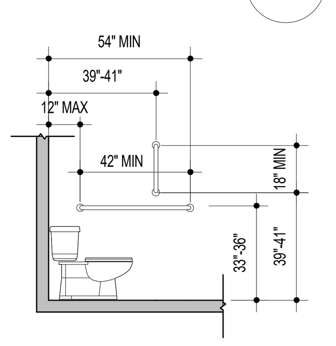
(B) PLAN
GRAB BARS FOR BATHTUBS WITHOUT PERMANENT SEATS

ANSI-FIG 607.4.2 B
1/4" = 1'-0"



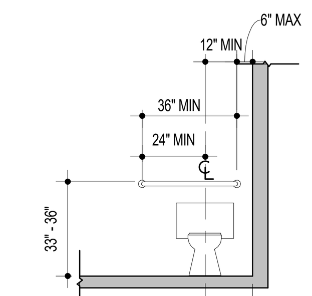
BATHROOM CLEARANCE IN TYPE B UNITS OPTION B BATHROOMS

ANSI-FIG 1104.11.3.2.3.1
1/4" = 1'-0"



SIDE WALL GRAB BAR FOR WATER CLOSET

ANSI-FIG 604.5.1
1/4" = 1'-0"



REAR WALL GRAB BAR FOR WATER CLOSET

ANSI-FIG 604.5.2
1/4" = 1'-0"

BATHROOM OPTION B

SELECT ONE BATHROOM OPTION FOR EACH ANSI TYPE 'B' UNIT. BATHROOM OPTIONS A & B CANNOT BE COMBINED WITHIN A SINGLE UNIT.
ITEMS IN THIS BOX IN BLUE ARE SPECIFIC TO OPTION B ONLY.

ANSI TYPE 'B' - BATHROOM OPTION B PER *ANSI SECTION 1104.11.3.2*

- COVERED ROOMS: IF BATHROOM OPTION B IS SELECTED, NOTES IN THIS BOX APPLY TO ONE COMPLETE BATHROOM AND ALL BATH FIXTURES IN THAT BATHROOM. ALL COMPLYING FIXTURES MUST BE IN THE SAME BATHROOM PER *ANSI SECTION 1104.11.3.2.*

- DOORS: WHERE A CLEAR FLOOR SPACE IS PROVIDED WITHIN A BATHROOM EXCLUDING ANY KNEE AND TOE CLEARANCES UNDER ELEMENTS AND BEYOND THE ARC OF THE DOOR, THE DOOR MAY SWING INTO THE CLEAR FLOOR SPACE FOR FIXTURES PER *ANSI SECTION 1104.11.2.1, EX.*

- CLEAR FLOOR SPACES: REQUIRED CLEARANCES AT FIXTURES MAY INCLUDE KNEE AND TOE CLEARANCES PER *ANSI SECTION 1104.11.2.2.*

- DISPENSERS: WHEN BELOW THE GRAB BAR, THE DISPENSER SHALL BE 24" MIN AND 42" MAX FROM THE REAR WALL. THE DISPENSER OUTLET SHALL BE 18" MIN A.F.F. PER *ANSI SEC. 604.7.* **SEE FIG. 604.7**

- CONTROLS: SHUT-OFFS ARE NOT REQUIRED TO COMPLY WITH *ANSI CHAPTER 3* PER *ANSI SECTION 1104.9 EX. 8.*

LAVATORIES AND BATHROOM ACCESSORIES

- LAVATORY COUNTER HEIGHT: THE LAVATORY SHALL BE 34" MAX AFF MEASURED TO THE HIGHER OF THE SINK RIM OR COUNTER SURFACE PER *ANSI SECTION 606.3*

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE SHALL BE CENTERED ON THE LAVATORY AND POSITIONED FOR FORWARD APPROACH PER *ANSI SECTION 1104.11.3.1.1.* KNEE AND TOE CLEARANCE COMPLYING WITH *ANSI SEC. 306* SHALL BE PROVIDED. **SEE IMAGE 606.2**

- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4.*

- BATHROOM LIGHTING / ELECTRICAL: WITHIN BATHROOMS, LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLES ARE PERMITTED TO BE LOCATED OVER CABINETS WITH 36" MAX HIGH COUNTERTOPS UP TO 25.5" DEEP PER *ANSI SECTION 1104.9 EX. 10.* WHERE REDUNDANT CONTROLS ARE PROVIDED FOR SINGLE ELEMENTS, ONE CONTROL LOCATION IN EACH SPACE IN NOT REQUIRED TO BE ACCESSIBLE PER *ANSI SECTION 1104.9 EX. 9.*

SHOWER STALLS

- COMPARTMENT SIZE: IF A SHOWER IS THE ONLY BATHING FACILITY AND THE UNIT IS NOT INDICATED TO RECEIVE A R.I.S., IT MUST BE 36" MIN WIDE AND 36" MIN DEEP PER *ANSI SECTION 1104.11.3.1.3.3.*

- CLEAR FLOOR SPACE: PER *ANSI SECTION 1104.11.3.1.3.3*, A CLEARANCE 48" LONG, MEASURED PERPENDICULAR TO THE SHOWER CONTROL WALL & 30" DEEP, MEASURED FROM THE FACE OF THE SHOWER COMPARTMENT SHALL BE PROVIDED. **SEE IMAGE 1104.11.3.1.3.3**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTIONS 608.3, 608.2.1.3, 608.2.2.3 AND 608.2.3.2* (GRAB BARS FOR PUBLIC SHOWERS). **SEE IMAGES 608.3.1 & 608.3.3**

- SEAT REINFORCEMENT: REINFORCEMENT FOR THE FUTURE INSTALLATION OF A SEAT IS ONLY REQUIRED IN MAX 36" X 36" SHOWER COMPARTMENTS; IT IS NOT REQUIRED IN LARGER SHOWER COMPARTMENTS PER *ANSI SECTIONS 1104.11.1 EX 7 & 1104.11.3.1.3.3.*

- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4.*

WATER CLOSETS

- WATER CLOSET POSITION: THE CENTERLINE OF THE WATER CLOSET SHALL BE 16" – 18" FROM ONE SIDE OF THE REQUIRED CLEARANCE PER *ANSI SECTION 1104.11.3.1.2.1.* **SEE IMAGE 1104.11.3.1.2(A)**

- CLEAR FLOOR SPACE:
· **CLEARANCE WIDTH:** 48" MINIMUM IN WIDTH MEASURED PERPENDICULARLY FROM THE 16" – 18" SIDE CLEARANCE PER *ANSI SECTION 1104.11.3.1.2.2.1.* **SEE IMAGE 1104.11.3.1.2(A)**
·**PARALLEL APPROACH CLEARANCE DEPTH:** 56" MIN IN DEPTH MEASURED PERPENDICULAR FROM THE REAR WALL PER *ANSI SECTION 1104.11.3.1.2.2.2.*
·**FORWARD APPROACH CLEARANCE DEPTH:** 66" MIN IN DEPTH MEASURED PERPENDICULAR FROM THE REAR WALL WITH A FORWARD APPROACH PER *ANSI SECTION 1104.11.3.1.2.2.3.*

- CLEARANCE OVERLAP: A VANITY OR OTHER OBSTRUCTION UP TO 24" IN DEPTH MAY OVERLAP THE CLEAR FLOOR SPACE PROVIDED 33" CLEAR WIDTH REMAINS IN THE WATER CLOSET CLEAR FLOOR SPACE PER *ANSI SECTION 1104.11.3.1.2.2.4.* **SEE IMAGE 1104.11.3.1.2 (B).**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTION 604.5* (GRAB BARS FOR PUBLIC WATER CLOSETS) WITH THE FOLLOWING EXCEPTIONS: **SEE IMAGES 604.5.1 & 604.5.2**
2. VERTICAL GRAB BAR: REINFORCEMENT FOR A SIDE WALL VERTICAL GRAB BAR IS NOT REQUIRED.
3. REAR GRAB BAR: REINFORCEMENT FOR A 24" LONG REAR GRAB BAR CENTERED ON THE WATER CLOSET IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 36" REAR GRAB BAR.
4. SIDE GRAB BAR: REINFORCEMENT FOR A 24" LONG SIDE GRAB BAR LOCATED 12" MAX FROM THE REAR WALL IS PERMITTED IF SPACE IS NOT AVAILABLE FOR A STANDARD 42" SIDE GRAB BAR.

- CONTROLS: PROVIDE WATER CLOSET FLUSH VALVE AT OPEN SIDE (AWAY FROM SIDE WALL OR BATHTUB). PER ANSI SEC. 604.6

BATHTUBS

- CLEAR FLOOR SPACE: PER *ANSI SECTION 1104.11.3.2.3.1*, A CLEAR FLOOR SPACE IS REQUIRED IN FRONT OF BATHTUB MEASURED PERPENDICULAR FROM THE CONTROL WALL. **SEE IMAGE 1104.11.3.2.3.1**

- GRAB BAR REINFORCEMENT: BLOCKING SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS MEETING *ANSI SECTION 607.4* (GRAB BARS FOR COMMON AREA BATHTUBS).*PER ANSI SEC 1104.11.1.* **SEE IMAGES 607.4.2 (A) & 607.4.2 (B).**

- CONTROLS: PLUMBING FIXTURE CONTROLS IN THE COVERED BATHROOM SHALL COMPLY WITH *ANSI SEC. 309* PER *ANSI SEC. 606.4.* SHUT-OFFS ARE NOT REQUIRED TO COMPLY WITH *ANSI CHAPTER 3* PER *ANSI SECTION 1104.9 EX. 8.*

ANSI TYPE "B" GENERAL NOTES

THE ABBREVIATIONS LISTED BELOW SHALL REFER TO THE FOLLOWING DOCUMENTS: "*ANSI*" SHALL REFER TO THE AMERICAN NATIONAL STANDARD INSTITUTE PUBLICATION #ICC A117.1-**2017** *ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.*

ALL DIAGRAMS ON THIS SHEET ARE FROM THESE PUBLICATIONS, ALTHOUGH SOME ANNOTATION HAS BEEN ADDED FOR CLARITY.

THIS SHEET IS A SUMMARY AND IS NOT INTENDED TO PRECLUDE OR EXCLUDE ANY SECTIONS OF THE APPLICABLE CODES. THE CONTRACTOR WILL STILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE SECTIONS.

IN CASES OF CONFLICT, THE MORE RESTRICTIVE REQUIREMENT OR CODE SHALL BE USED.

ALL SINGLE-STORY UNITS IN THIS PROJECT ON THE FIRST FLOOR AND/OR ACCESSIBLE FROM AN ELEVATOR SHALL BE DESIGNED AND CONSTRUCTED TO MEET ANSI REQUIREMENTS UNLESS MORE STRINGENT ACCESSIBILITY REQUIREMENTS ARE NOTED.

ANSI TYPE "B" ACCESSIBLE ROUTE REQUIREMENTS

ACCESSIBLE ROUTE

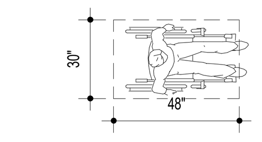
- LOCATION: ONE ACCESSIBLE ROUTE MUST CONNECT ALL SPACES AND ELEMENTS THAT ARE PART OF THE UNIT AND COINCIDE WITH GENERAL CIRCULATION PATHS PER *ANSI SECTION 1104.3.1.*

- COMPONENTS: ACCESSIBLE ROUTES CONSIST OF WALKING SURFACES WITH A SLOPE NOT STEEPER THAN 1:20, DOORS AND DOORWAYS, RAMPS, ELEVATORS AND LIFTS PER *ANSI SECTION 1104.3.2.*

- CLEAR FLOOR SPACE: FOR TYPE B UNITS, CLEAR FLOOR SPACES SHALL BE 48" MIN IN LENGTH AND 30" MIN IN WIDTH. SEE FIGURE 1104.1.1.

- CLEAR WIDTH: THE CLEAR WIDTH OF AN ACCESSIBLE ROUTE SHALL BE 36" MIN. AND COMPLY WITH *ANSI SEC. 403.5* PER *ANSI SEC. 1104.4.1.* THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

- THRESHOLDS / CHANGES IN LEVEL:
· **¼" LEVEL CHANGE**: MAY BE VERTICAL
· **¼" TO ½" LEVEL CHANGE**: AT 1:2 SLOPE
· **OVER ½" LEVEL CHANGE**: MUST BE A RAMP (1:12 SLOPE MAX PER *ANSI SECTION 405*) EXCEPT AT SLIDING DOORS WHERE THRESHOLDS ARE PERMITTED TO HAVE ¾" LEVEL CHANGE AT 1:2 SLOPE PER *ANSI SECTION 1104.5.2.2.EX.*



CLEAR FLOOR SPACE FOR TYPE B UNITS

ANSI-FIG 1104.1.1
1/4" = 1'-0"

ANSI TYPE "B" LAUNDRY EQUIPMENT REQUIREMENTS

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE MUST BE PROVIDED PER *ANSI SECTIONS 305.3 & 1104.10.1.*
· **FRONT LOADERS:** CLEAR FLOOR SPACE FOR FORWARD OR PARALLEL APPROACH REQUIRED.

- OPERABLE PARTS: CONTROLS OR SWITCHES MOUNTED ON APPLIANCES ARE EXCLUDED FROM REACH RANGE REQUIREMENTS PER *ANSI SECTION 1104.9. EX.6.*

STORAGE FACILITIES

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE COMPLYING WITH ANSI SEC. 305 SHALL BE PROVIDED *PER ANSI SEC. 905.2.*

- REACH RANGE: ACCESSIBLE STORAGE ELEMENTS AND OPERABLE PARTS SHALL COMPLY WITH *ANSI SEC. 308* AND *309*

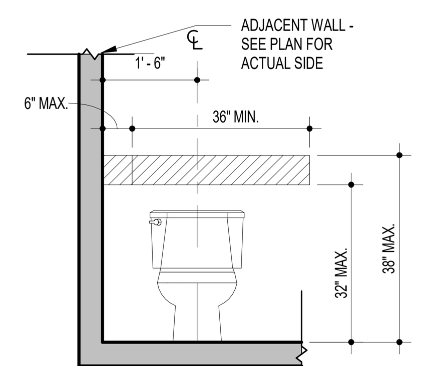
ANSI TYPE "B" DOOR REQUIREMENTS

DOORS

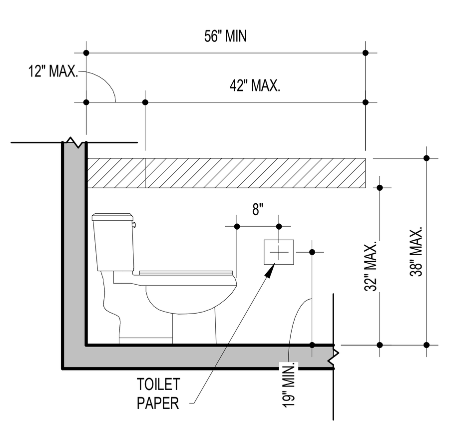
- RESIDENTIAL UNIT PRIMARY ENTRY DOOR: THE ACCESSIBLE PRIMARY ENTRANCE SHALL NOT BE INTO A BEDROOM (UNLESS THE UNIT IS A STUDIO) AND SHALL BE ON AN ACCESSIBLE ROUTE FROM PUBLIC AND COMMON AREAS PER *ANSI SECTION 1104.2.*

- USER PASSAGEWAY DOORWAYS: DOORWAYS INTENDED FOR USER PASSAGE SHALL HAVE A CLEAR OPENING OF 32" MIN. MEASURED FROM FACE OF DOOR TO STOP WITH DOOR OPEN TO 90° WITH A THRESHOLD LEVEL CHANGE NOT EXCEEDING 1/2". THE CLEARANCE MUST BE PROVIDED AT THE FLOOR, MEASURED TO THE BASE/SHOE MOLDING.

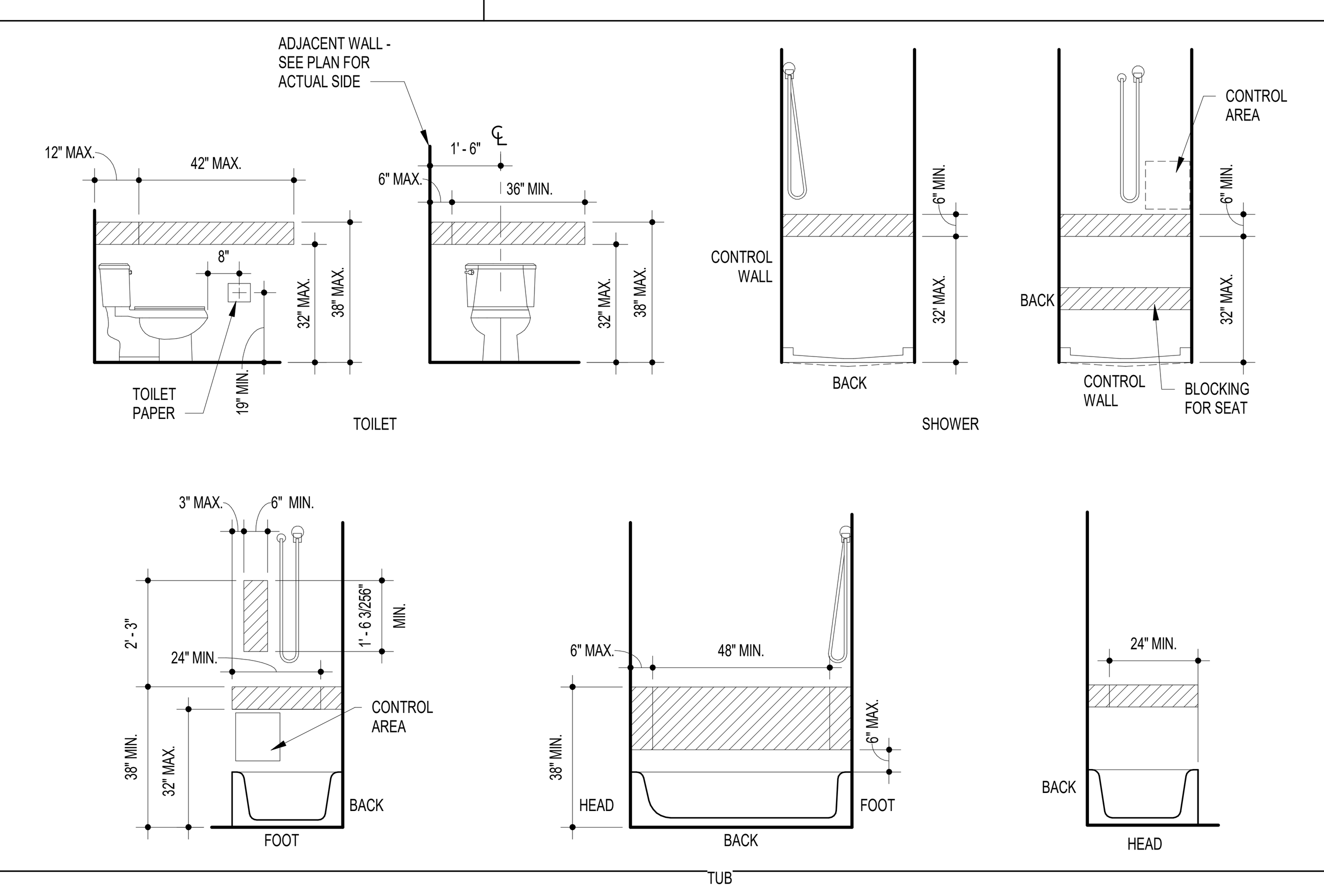
BATHROOM BLOCKING



ANSI-FIG 604.5.2 B
1/2" = 1'-0"



ANSI- FIG 604.5.2 A
1/2" = 1'-0"



ANSI TYPE "B" KITCHEN REQUIREMENTS

MINIMUM CLEARANCE: CLEARANCE BETWEEN ALL OPENING BASE CABINETS, COUNTER TOPS, APPLIANCES, OR WALLS WITHIN KITCHEN IS 40" MIN., AND 60" MIN. FOR U-SHAPED KITCHENS PER *ANSI SEC. 1104.12.1.1 & 1104.12.1.2*

SINK

-HEIGHT: PER *ANSI SEC. 606.3* THE FRONT OF SINKS SHALL BE 34" MAX A.F.F., MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE.

- CLEAR FLOOR SPACE
· **PARALLEL APPROACH:** A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, CENTERED ON THE SINK BOWL SHALL BE PROVIDED PER *ANSI SECTION 1104.12.2.1.* **SEE IMAGE 1104.12.1.1 & 1104.12.1.2**
· **FORWARD APPROACH:** A CLEAR FLOOR SPACE, POSITIONED FOR FORWARD APPROACH, INCLUDING UNDER-COUNTER TOE AND KNEE CLEARANCE, IS PERMITTED IN LIEU OF PARALLEL APPROACH PER *ANSI SECTION 1104.12.2.1.EX* MEETING THE REQUIREMENTS OF *ANSI SECTIONS 306 & 1103.12.4.1.* THE UNDERSIDE OF THE SINK SHALL BE CONFIGURED TO PREVENT BURNS, ABRASIONS OR ELECTRICAL SHOCK. **SEE IMAGES 306.2, 306.3, 1104.12.1.1 & 1104.12.1.2**

DISHWASHER

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL OR FORWARD APPROACH, SHALL BE PROVIDED PER *ANSI SECTION 1104.12.2.2.* **SEE IMAGES 1104.12.1.1(B) & 1104.12.1.2**

- APPLIANCE DOOR CLEARANCE: THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR AREA FOR THE DISHWASHER PER *ANSI SECTION 1104.12.2.2.* **SEE IMAGE A**

COOKTOP

- CLEAR FLOOR SPACE
· **PARALLEL APPROACH:** A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, SHALL BE PROVIDED PER *ANSI SECTIONS 1104.12.2.3.1 & 1104.12.2.3.3.* THE CLEAR FLOOR SPACE SHALL BE CENTERED ON THE APPLIANCE. **SEE IMAGE 1104.12.1.1 & 1104.12.1.2**

OVEN

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL OR FORWARD APPROACH, SHALL BE PROVIDED PER *ANSI SECTION 1104.12.2.4.* **SEE IMAGES 1104.12.1.1 & 1104.12.1.2**

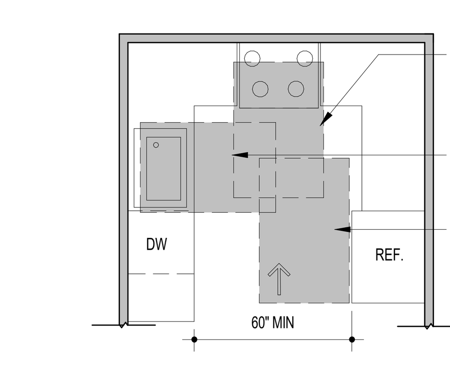
- APPLIANCE DOOR CLEARANCE: THE OVEN DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR AREA FOR THE OVEN PER *ANSI SECTION 1104.12.2.4.* **SEE IMAGE A**

REFRIGERATOR / FREEZER

- CLEAR FLOOR SPACE: A CLEAR FLOOR SPACE, POSITIONED FOR PARALLEL APPROACH, SHALL BE PROVIDED PER *ANSI SECTION 1104.12.2.5.* THE CENTERLINE OF THE CLEAR FLOOR SPACE MAY BE OFFSET 24" MAX FROM THE CENTERLINE OF THE APPLIANCE. **SEE IMAGES 1104.12.1.1 & 1104.12.1.2**

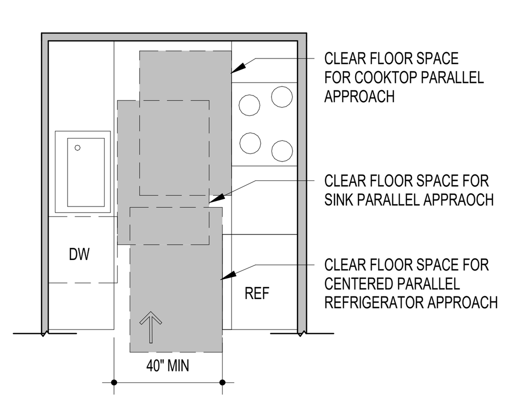
- WORK SURFACE:

- MINIMUM LENGTH: AT LEAST ONE SECTION OF COUNTER SHALL BE 30" IN LENGTH MINIMUM AND COMPLY WITH *ANSI SEC. 902* PER *ANSI SEC. 1102.12*



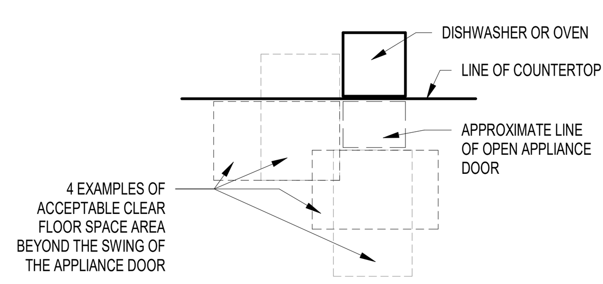
U-SHAPED KITCHEN CLEARANCE IN TYPE B UNITS

ANSI-FIG 1104.12.1.2
1/4" = 1'-0"

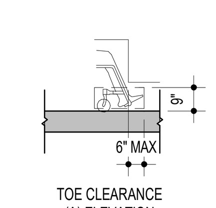


MINIMUM KITCHEN CLEARANCE IN TYPE B UNITS

ANSI-FIG 1104.12.1.1
1/4" = 1'-0"

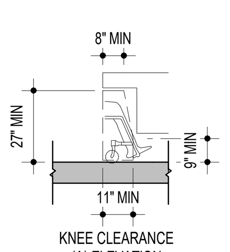


ANSI-IMAGE A
1/4" = 1'-0"



TOE CLEARANCE
(A) ELEVATION

ANSI-FIG 306.2
1/4" = 1'-0"



KNEE CLEARANCE
(A) ELEVATION

ANSI-FIG 306.3
1/4" = 1'-0"

ACCESSIBILITY GENERAL NOTES

PROJECT SHALL COMPLY WITH THE VIRGINIA ACCESSIBILITY CODE FOR ALL NEW CONSTRUCTION OF PUBLIC AND COMMON USE FACILITIES AND SPACES (MAIL KIOSKS, EXERCISE/LAUNDRY BUILDING, TRASH COMPACTORS, ETC.).

I. SITE

A. ACCESSIBLE SITE & EXTERIOR FACILITIES
1. ACCESSIBLE ROUTES TO BE PROVIDED THROUGHOUT THE SITE TO ALL BUILDINGS.
2. ACCESSIBLE PARKING SPACES, LOADING ZONES AND CURB RAMPS TO BE PROVIDED, REFER TO CIVIL & LANDSCAPE PLANS FOR ALL ACCESSIBLE ROUTES TO ALL BUILDINGS AND AMMENITIES

II. COMMON USE FACILITIES

A. ACCESSIBLE STRUCTURES:
1. BUILDING, MAIL, KIOSKS, EXERCISE/LAUNDRY FACILITIES, COMPACTORS, ETC., PUBLIC AND COMMON USE SPACES MUST BE READILY ACCESSIBLE TO AN USABLE BY PEOPLE WITH DISABILITIES PER FEDERAL, STATE, AND LOCAL MUNICIPAL REGULATIONS AND ANSI A117.1-2009 STANDARDS.
B. EXTERIOR DOORS:
1. PROVIDE COMPLIANT THRESHOLD.
2. LEVER TYPE HARDWARE WITH DEAD-BOLT LOCKS TO BE PROVIDED. MAX. HEIGHT OF 48" A.F.F.
3. DOOR CLOSURE: MUST ALLOW FOR "LOW FORCE" TO BE APPLIED IN ORDER TO OPEN.
4. SECURITY VIEWERS (PEEP HOLES) IF PROVIDED IN DOOR, TO BE INSTALLED AT A MAX. OF 44" A.F.F.
5. PROVIDE A MINIMUM OF 32" CLEAR WIDTH OPENING. (3'-0" DOOR)
C. INTERIOR DOORS:
1. ALL DOORS TO PROVIDE A MINIMUM OF 32" CLEAR WIDTH WHEN OPENED. (3'-0" DOOR) AND PROVIDE 1'-6" CLEAR SPACE ON THE "PULL" SIDE AT THE HANDLE.
2. LEVER TYPE HARDWARE TO BE PROVIDED. MAX. HEIGHT OF 48" A.F.F. AND MIN. HEIGHT OF 32" A.F.F.
D. KITCHEN/ BREAK ROOMS:
1. PROVIDE ACCESSIBLE KNEE SPACE UNDER SINK AS REQUIRED.
2. PROVIDE A 2'-6" MIN. (30") WIDE WORK SPACE COUNTERTOP.
3. MAXIMUM HEIGHT OF 34" AT TOP OF SINK AND TOP OF WORK SPACE SURFACE.
4. SINK & PLUMBING TRIM TO BE H.C. ACCESSIBLE APPROVED FIXTURES.
5. REFRIGERATOR NEEDS TO BE "SIDE BY SIDE" ACCESSIBLE, OR HAVE A BOTTOM MOUNTED FREEZER.
6. ALL APPLIANCE CONTROLS NEED TO BE FRONT MOUNTED AND LESS THAN 4'-0" (48") A.F.F. TYP.
7. PROVIDE A CLEAR FLOOR SPACE (C.F.S.) APPROACH TO ALL APPLIANCES. C.F.S. MAY OVERLAP EACH OTHER.
8. CLEAR FLOOR SPACE OF IS REQUIRED WITHIN KITCHENS TO ALLOW FOR PARALLEL OR PERPENDICULAR APPROACH TO THE APPLIANCES AND FIXTURES, TYP. SEE UNIT PLANS FOR ADDITIONAL INFORMATION.
E. RESTROOMS:
1. PROVIDE ACCESSIBLE KNEE SPACE UNDER SINK AS REQUIRED.
2. ACCESSIBLE LAVATORY HEIGHT TO BE 34" MAXIMUM A.F.F.
3. INSTALL GRAB BARS AT H.C. ACCESSIBLE TOILET STALLS AS REQUIRED.
4. TOILET ACCESSORIES TO MEET ALL H.C. ACCESSIBLE REACH RANGES, AND BE APPROVED H.C. FIXTURES.
5. ALL PLUMBING FIXTURES & TRIM UTILIZED IN H.C. ACCESSIBLE STALLS AND LAVATORIES SHOULD BE H.C. APPROVED FIXTURE TYPES.
6. PROVIDE A 60" DIAMETER CLEAR FLOOR SPACE TURNING RADIUS WITHIN ROOM EXCLUSIVE OF DOOR SWING.
7. ROLL-IN SHOWER TYPES TO PROVIDE CLEAR FLOOR SPACE, GRAB BARS AND ACCESSIBLE SEAT. SEE DETAILS.
8. WALL DIMENSIONS AND FIXTURE LOCATIONS MUST BE HELD SO THAT THE MINIMUM CLEARANCES ARE PROVIDED AS SHOWN.
9. PROVIDE METAL STRAP BLOCKING IN LINE OF STUD PLANE FOR WALLS NOTED AS REQUIRING REINFORCING FOR ALL GRAB BARS. SEE DETAILS.
10. LAVATORIES ARE TO BE INSTALLED WITH THE CENTERLINE OF THE FIXTURE A MINIMUM OF 1'-6" HORIZONTALLY FROM FINISHED SURFACE OF AN ADJOINING WALL OR FIXTURE.
F. FLOOR FINISHES:
1. PROVIDE "NON-SLIP" ABRASIVE SURFACE THROUGHOUT BUILDINGS ALONG ALL ACCESSIBLE ROUTES.
2. FLOOR TRANSITIONS BETWEEN DIFFERENT MATERIALS NEED TO BE FLUSH, OR MEET THE 1/2" MAX. THRESHOLD REQUIREMENTS.
G. ELECTRICAL/ENVIRONMENTAL CONTROLS:
1. LIGHT SWITCHES, ELECTRICAL OUTLETS, THERMOSTATS AND OTHER ENVIRONMENTAL CONTROLS: ITEMS MUST BE POSITIONED SO THAT CONTROLS ARE LOCATED NOT HIGHER THAN 48" A.F.F. ELECTRICAL OUTLETS MOUNTED SO THAT THE MINIMUM HEIGHT IS 15" A.F.F. CONTROLS AND/OR OUTLETS MOUNTED NOT HIGHER THAN 44" (HORIZONTALLY) ABOVE THE COUNTERTOPS. SEE DETAILS, TYP.
H. MISCELLANEOUS/OTHER:
1. CORRIDORS TO HAVE A MINIMUM CLEAR WIDTH OF 4'-0" (48") AND A MIN. HEAD HEIGHT OF 6'-8" (80").
2. ELECTRIC WATER COOLERS & DRINKING FOUNTAINS TO BE MOUNTED AT 36" TO TOP OF SPOUT.

COMPLIANCE TO BE PROVIDED WITH ALL APPROPRIATE FAIR HOUSING ACCESSIBILITY GUIDELINES AND GENERAL NOTES FOR LIVING UNITS AND GENERAL NOTES FOR PUBLIC AND COMMON USE FACILITIES.

123 East Main St.
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UNIT ACCESSIBILITY - ANSI B

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
03/12/2025	VH 9% SUBMISSION	
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

A-014

06/30/2026
CONSTRUCTABILITY REVIEW

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Essential Elements

Each qualifying Universally Designed Unit in the LIHTC program must contain all of the essential elements listed below and comply with Virginia Housing's Minimum Design and Construction Requirements, and Minimum Cabinet Requirements. Universal Design is not a safe harbor for other required accessibility standards such as ANSI A117.1, UFAS or the Fair Housing Act. It should be used as a supplement to required accessibility standards and building codes.

1. Route

1.1 Accessible Route – An accessible route shall consist of a minimum 36" wide continuous, stable, firm and slip-resistant surface, free of obstructions and changes in level greater than a ¼" vertical. Running slopes shall not exceed 1:20 and cross slopes shall not exceed 1:50. A minimum 60"x60" passing space must be provided at reasonable intervals not to exceed 200'. Routes requiring 180° turns must have a clear width of 60" during the turn. Cross walks must be striped and may not travel directly behind parking spaces or within a drive lane. Vertical means of transportation, other than fully handicap accessible elevators, must be presented to, and approved by, Virginia Housing prior to submission of the tax credit reservation application.

1.2 Accessible Parking* – Accessible parking spaces shall comply with Figure 1.2. Van accessible spaces required for public accommodation shall not count towards the number of accessible spaces required for qualifying units.

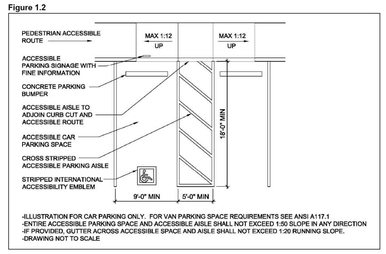
1.2.1 – Developments with off-street parking shall provide at least one accessible parking space on an accessible route for each qualifying UD unit, sufficiently dispersed to serve each qualifying UD unit.

Exception 1:
The total number of accessible parking spaces for UD qualifying units may be reduced to the greater of either:
1) 5 accessible parking spaces, or
2) 5% of the total number of parking spaces.

Exception 2:
Where a development receives a reduction in local zoning parking requirements from the authority having jurisdiction, a minimum 5% of off-street parking must be accessible spaces.

*Parking must comply with all applicable accessibility standards.

Figure 1.2



1.3 Garbage Collection – Each qualifying unit shall be located on an accessible route complying with 1.1 that leads to a resident garbage drop off area. Garbage chutes, dumpster openings, and their operating mechanisms shall be within the reach range complying with 3.2.

1.4 Common Spaces – Each qualifying unit shall be located on an accessible route complying with 1.1. which allows pedestrian access to the leasing office, community room, laundry facility, mailboxes and public transportation pick up areas if available to the facility.

Exception:
Alternative vehicular connectivity for impractical sites must be presented to and approved by Virginia Housing prior to submission of the tax credit reservation application. Each vehicular connected amenity must include two parking spaces compliant with Figure 1.2 in addition to the total number of spaces required by 1.2.

1.5 Curb Cuts – Shall comply with Figure 1.5 (a) or 1.5 (b). In 1.5 (a), the minimum width of a curb ramp landing shall be 60" exclusive of the ramp running slopes. In both, ramp running slopes and flared side slopes shall not exceed 1:12, however, when possible, ramp running slopes should not exceed 1:20. If a curb cut similar to that shown in Figure 1.5 (b) is provided, there shall be a minimum 36" wide clear unobstructed walk way immediately behind the curb cut with cross slopes not exceeding 1:50. Built up ramps located on the parking lot side of the curb line are not permitted.

Figure 1.5 (a)

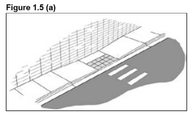
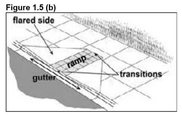


Figure 1.5 (b)



1.6 Ramps – In cases where topography and space limitations create the need for a ramp; running slopes shall not exceed 1:12. If a ramp rise is greater than 6" or if the horizontal projection is greater than 72", handrails must be provided on both sides. Ramps shall be constructed of concrete, brick or similar cementitious/slip-resistant materials.

2. Movement

2.1 Exterior Walkways – All existing exterior walkways on an accessible route shall be a minimum of 36" wide. All new exterior walkways shall be a minimum of 48" wide. All walkways perpendicular to parking spaces shall be 72" wide excluding curb, or 48" wide with at least 2 feet between sidewalk and back of curb or pinned concrete parking bumpers. Alternate solution incorporating bollards may be permitted.

2.1.1 – Walkways shall be constructed of concrete or similar cementitious material with a slip-resistant surface free of any obstructions and changes in level, with a cross slope not exceeding 1:50 and a running slope not exceeding 1:20. Curb cuts shall be required to allow access to accessible areas.

Exception: Covered breezeways may utilize alternate material with gaps not greater than 1/2".

2.2 Interior Passageways – Interior passageways shall have a minimum 42" clear floor width. A minimum 36" clear floor width between vertical surfaces is acceptable when traveling less than 36".

2.3 Level Space at Entryways – Unit entryways shall have a minimum 60"X60" clear, level floor space at both the interior and exterior side of the door, and shall include the full clear width of the door. A maximum 1:50 slope is permitted at the exterior side of doors to allow water shed.

2.4 Clear Space on Pull Side of All Doors – Doors shall have a minimum 36" deep clear, level floor space that extends a minimum 18" past the latch on the pull side of the door.

2.5 Interior Passage Doorways – All interior passage doorways between rooms deeper than 24" shall have a minimum clear opening of not less than 32" with a threshold level change not exceeding 1/2" (maximum ¼" vertical rise + ¼" 1:2 slope).

2.6 Exterior Doorways and Unit Entries – All exterior and unit entry doors shall be no less than 36" wide with a threshold level change not exceeding 1/2" (maximum ¼" vertical rise + ¼" 1:2 slope).

3. Approach

3.1 Clear Floor Space – Each qualifying unit must have clear, level floor space complying with 3.1 (a) or 3.1 (b) in front of all controls.

Figure 3.1 (a)

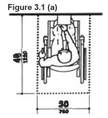
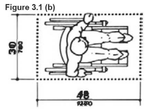
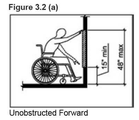


Figure 3.1 (b)



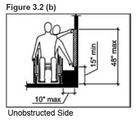
3.2 Reach Range – Operable parts shall be located in the following reach ranges.

Figure 3.2 (a)



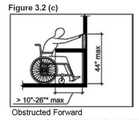
Unobstructed Forward

Figure 3.2 (b)



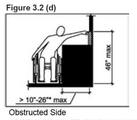
Unobstructed Side

Figure 3.2 (c)



Obstructed Forward

Figure 3.2 (d)



Obstructed Side

Illustrations adapted from the US Access Board

*Virginia Housing modification for countertops

Exceptions: Windows, shades/blinds, wall cabinets, closet shelving, ceiling fan cords, HVAC diffusers, smoke/CO detectors, bottoms of laundry drums, and plumbing shutoffs. Existing electric panels do not require relocation unless new feeder and/or branch wiring is provided.

3.3 Operation – Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbs.

3.4 Door Hardware – All doors shall have lever handles. All privacy locksets shall be push-button type. Thumb-turn deadbolts are acceptable.

3.5 Plumbing Fixtures – All plumbing fixtures shall be lever type.

4. Kitchens

4.1 Clear Floor Space – Each qualifying unit must have a minimum clear floor space complying with 3.1 centered on all appliances. The minimum clear floor space may be positioned for forward or parallel approach.

Exception: Dishwashers may have either a parallel approach offset 24" maximum from appliance centerline or an immediately adjacent, permanently roll-under kitchen sink for forward approach.

4.2 Range – Range controls must comply with reach range requirements in 3.2. The location of controls for ranges and cook-tops shall not require reaching over burners. Ranges shall be selfcleaning or steam-cleaning type. Range hood fan and light controls must be switched separately and comply with reach range requirements in 3.2.

4.3 Refrigerator – The water, ice, and temperature controls must comply with reach range requirements in 3.2, or within 54" A.F.F. given a parallel approach. Refrigerators shall be side-by-side type.

Exception: Top freezer type refrigerators may be installed in studio and efficiency apartments for new construction, adaptive reuse and renovated developments. Top freezer type refrigerators may be installed in one bedroom apartments for renovations only. Mid-height of freezer compartment shall be no more than 54" above the finished floor, and control placement for both the refrigerator and freezer shall comply with reach range requirements in 3.2.

4.4 Sink – Each qualifying unit shall have a rear drain sink with drain pipes concealed behind a removable 30" wide concealment panel or removable sink base. Concealment panel shall comply with UFAS for knee and toe clearances. If a sink base is provided, it shall be a minimum of 30" wide and easily removable using only a screwdriver. The kitchen floor finish must extend under the removable cabinet, the wall behind the cabinet must be finished, and a baseboard matching that installed in other areas of the dwelling unit shall be permanently installed behind the cabinet.

4.5 Multiple Height Work Surfaces – All qualifying units shall have multiple height work surfaces including at least one 29"–31" above the finished floor such that a person in a sitting position can work comfortably. The surface must be a minimum of 24" wide x 20" deep, and cannot be portable. Pull-out type boards are acceptable, but must carry a minimum 50 lb. load, and comply with cabinet hardware requirements in 4.6.

4.6 Cabinet Hardware – All cabinetry in a qualifying unit shall have hardware that complies with 3.3, or have touch latches, such that a person with limited dexterity may operate the cabinetry easily. Knobs shall not be permitted.

5. Bathrooms

5.1 Bathroom Type – Each qualifying unit shall have at least one bathroom complying with ANSI A117.1–2009 Type B - Option A.

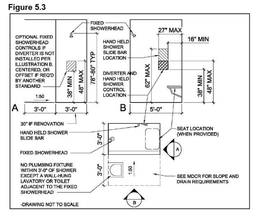
5.2 Bathing Areas – Each qualifying unit having two or more full bathrooms shall have one roll-in shower with a level change no greater than ½" - (maximum ¼" vertical rise + ¼" 1:2 slope). Roll-in showers for new construction shall have clear inside dimensions of 60" minimum in width and 36" minimum in depth. Roll-in showers for renovations shall have clear inside dimensions of 60" minimum in width and 30" minimum in depth.

Exception: A maximum of 50% of the qualifying units with two or more full bathrooms may have one step-in shower with a curb height between 2"-4" in lieu of the roll-in shower. For example, a development with 20 qualifying units, all with two full bathrooms, must have one roll-in shower in a minimum 10 of the 20 units. The design team may choose to install either a step-in shower or a roll-in shower in each of the remaining 10 units.

5.3 Shower Fixtures – All step-in and roll-in showers shall contain both a handheld shower and a fixed shower head per Figure 5.3. Handheld showers controls and diverter shall be located on the rear wall between 38" and 48" from the floor, and 27" maximum from the end wall. Handheld showers shall have a minimum 60" hose, a slide bar attachment and a locking mechanism operable with a closed fist, and should be located no more than 27" from the end wall. The fixed shower head shall be installed at the standard height and standard location. The designer has the option to either install a diverter within the hand held shower control area that directs the flow of water to either the handheld shower or the fixed shower head, or provide separate controls for both the handheld shower and the fixed shower head.

Exception: A second hand-held showerhead may be utilized in lieu of a fixed showerhead if required by an applicable accessibility standard.

Figure 5.3



6. Laundry

6.1 Side by Side, Front Loading Equipment – Laundry equipment in qualifying units, other than tenant supplied equipment, shall be side by side, front loading type. Where hookups only are provided, laundry closets shall be sized to accommodate side by side equipment. Control placement must comply with reach range requirements in 3.2.

7. Technology

7.1 Thermostats – Each qualifying unit shall have a 'smart', programmable thermostat with voice activation capability. Voice activated control may be either integrated, or through a separate tenant-supplied mobile device or smart home hub wirelessly connected to the thermostat. Thermostat must not rely exclusively on separate 'smart' device to function.

Optional Elements

New construction developments qualifying as Universally Designed in the LIHTC program must contain a minimum of ten of the optional elements listed below. Developments being renovated must contain a minimum of five of the optional elements listed below. Adaptive reuse developments must meet new construction requirements.

1. Route

1.1 Weather Sheltered Entryways – Provide covered entrances to reduce or eliminate water infiltration and provide protection for user while leaving or entering the qualifying unit.

1.2 Signage – Provide Braille character translations on all entry door, common area, and maintenance related signage. Characters and symbols on all signage shall contrast with their background - either light characters on a dark background or dark characters on a light background. Use standard Braille conventions for location on signage. Sizing and spacing per standard Braille publications is acceptable.

Exception: Property identification signage, vehicular and exterior directional signage do not require Braille. Secondary apartment unit entrances do not require signage.

2. Movement

2.1 Access to All Common Areas – From the qualifying unit via an accessible pedestrian route.

2.2 Enhanced Site Lighting – Provide one foot-candle of illumination at all exterior pedestrian routes and amenities.

3. Approach

3.1 Accessible Windows – Must comply with all four elements below. Minimum of one compliant window in each bedroom and living room.
3.1.1 Maximum sill height of 36" above finish floor.
3.1.2 Clear floor space complying with Essential 3.1.
3.1.3 Locks within reach range specified in Essential 3.2, and easily operable with one hand. Altered or additive hardware is not accepted.
3.1.4 Controls for shades/blinds within reach range specified in Essential 3.2.

4. Kitchens

4.1 Extra Floor Space – Provide a full 60", unencumbered turning diameter within the kitchen boundary of each qualifying unit.

4.2 Roll-Under Range – Provide a drop in range in each qualifying unit affording the user the ability to roll under with unobstructed clear floor space. Knee space shall be insulated or otherwise protected on the exposed contact surfaces to prevent burns, abrasions, or electrical shock.

4.3 Full Extension Drawers and Pull-out Shelves – All base cabinetry drawers in a qualifying unit shall be full extension. In addition, a minimum of one base cabinet, 24" wide or greater, shall have high/low pull out shelving; A 24" wide pantry cabinet with at least two pull out shelves below 36" above finish floor is also acceptable.

4.4 Task Lighting – In addition to general overhead kitchen lighting, provide task lighting at all counter surfaces. With general kitchen lighting turned off, task lights must provide a minimum of 30 foot-candles uniformly distributed across all counter surfaces.

4.5 Kitchen Pantry– In each qualifying unit, provide full-height pantry cabinet accessed from within the kitchen boundary. See Figure 4.5 for one example of this feature.

Exception: Pantry may be a dedicated closet accessed from within the kitchen boundary, and comply with Essentials 2.4, 2.5 and 3.2.

Figure 4.5



5. Bathrooms

5.1 Extra Floor Space – In each qualifying unit; provide at least one bathroom with a full 60", unencumbered turning diameter.

5.2 Roll-Under Vanity or Sink – In each qualifying unit; provide at least one bathroom with a roll under sink or removable vanity base. If a removable vanity base is provided, it shall be a minimum of 30" wide and easily removable using only a screwdriver. The bathroom floor finish must extend under the removable cabinet, the wall behind the cabinet must be finished, and a baseboard matching that installed in other areas of the dwelling unit shall be permanently installed behind the cabinet.

5.3 Tilt Mirror – Provide an adjustable tilt/pivot style mirror in at least the Option A bathroom of each qualifying unit. Mounting height should allow mirror to be easily used in both a standing and seated position.

5.4 Non-Glare Lighting – In each qualifying unit, provide a minimum of two separate fixed light fixtures. Light sources shall be indirect and/or have frosted lenses without exposing bulbs directly to the occupant.

5.5 Solid In-Wall Blocking – Installed on walls around toilet, tub and shower for new or future grab bars and shower seat. Blocking must be suitable to carry a minimum 250 lbs. load. Molded shower surrounds shall have integral plywood backing, or, reinforcing is required fully between surround and wall blocking at grab bar and seat locations.

5.6 Handheld Showerheads – Both a fixed and handheld shower head with a minimum 60" hose shall be installed on the control end wall of all bathtubs in qualifying units.

6. Bedrooms

6.1 Closets – In each unit; provide a versatile and adjustable closet organization solution allowing for a more efficient and usable storage area. A single or double adjustable height shelf and rod will not be accepted.

7. Audio/Visual

7.1 Audio/Visual Doorbell – Provide an A/V doorbell in all qualifying units. Doorbell control location to comply with reach range requirements in Essential 3.2.

7.2 Visual Alarm – Provide electrically powered internally illuminated emergency alarms located in all habitable spaces including bathrooms, that shall flash as a visual emergency notification in conjunction with audible emergency alarms. The flashing frequency of visual alarm devices shall be less than 5 Hz. Connect visual alarms to an emergency power source, similar to audible emergency alarms.

7.3 Closet Lighting – Provide overhead light fixture inside all unit closets including bedrooms, laundry, pantries, linen, coat, and other storage closets/rooms, controlled by wall switch. Closets 3 feet deep or less, mount light on wall above door.

8. Technology

8.1 Keyless Entry – Provide a deadbolt with wireless or Bluetooth technology at every qualifying unit entry door.

8.2 Smart Home – Provide permanently integrated smart home system with voice activation capability including smart control panel, thermostat, and at least one light fixture and outlet in every room, that can be wirelessly connected through the internet or Bluetooth.

9. Innovation

9.1 Innovation – Virginia Housing is interested in alternative features which increase the usability of spaces for all people. Proposed alternatives must be presented to and approved by Virginia Housing prior to the mandatory pre-construction meeting.

Solid vertical lines in margins show technical changes, additions and deletions to Virginia Housing's 2024 Universal Design Guidelines. Format changes such as reorganization, number changes, and phrasing are not identified

VIRGINIA HOUSING 2025 UNIVERSAL DESIGN CHECKLIST

New and Adaptive Re-use Unit, Pick 10 Optional Items
Rehab Unit, Pick 5 Optional Items

SUBMIT CHECKLIST TO VIRGINIA HOUSING PRIOR TO PRE-CONSTRUCTION MEETING

ESSENTIAL ELEMENTS	SHEET OR SPEC LOCATION
1. Route	
1.1 Accessible Route	A-100
1.2 Accessible Parking	A-100
1.3 Garbage Collection	A-100 - A-101
1.4 Common Spaces	A-101 & A-102
1.5 Curb Cuts	EXA
1.6 Ramps	EXA
2. Movement	
2.1 Exterior Walkways	EXA
2.2 Interior Passageways	A-101 & A-102 & A-500 - A-505
2.3 Level Space at Entryways	A-101 & A-102 & A-500 - A-505
2.4 Clear Space on Pull Side of All Doors	A-007
2.5 Interior Passage Doorways	A-007
2.6 Exterior Doorways and Unit Entry	A-101 & A-102 & A-500 - A-504
3. Approach	
3.1 Clear Floor Space	A-007
3.2 Reach Range	A-007
3.3 Operation	A-007
3.4 Door Hardware	SPEC SECTION 08 71 00
3.5 Plumbing Fixtures	SPEC SECTION 22 00 00 & A-007
4. Kitchens	
4.1 Clear Floor Space	A-500 - A-504
4.2 Range	A-500 - A-504
4.3 Refrigerator	A-500 - A-504
4.4 Sink	A-500 - A-504
4.5 Multiple Height Work Surfaces	A-500 - A-504
4.6 Cabinet Hardware	SPEC SECTION 12 35 30
5. Bathrooms	
5.1 Bathroom Type (# of Option A Baths)	A-001 & A-500 - A-504
5.2 Bathing Area (# of Step-in and Roll-in Showers)	A-001 & A-500 - A-504
5.3 Shower Fixtures	A-500 - A-504
6. Laundry	
6.1 Side by Side, Front Loading Equipment	A-500 - A-504
7. Technology	
7.1 Thermostats	A-007

OPTIONAL ELEMENTS	Included (X)	SHEET OR SPEC LOCATION
1. Route		
1.1 Weather Sheltered Entryways	X	A-007
1.2 Signage	X	A-007
2. Movement		
2.1 Access to All Common Areas	X	A-007
2.2 Enhanced Site Lighting		
3. Approach		
3.1 Accessible Windows		
4. Kitchens		
4.1 Extra Floor Space	X	A-007
4.2 Roll-Under Range		
4.3 Full Extension Drawers and Shelves		
4.4 Task Lighting		
4.5 Kitchen Pantry	X	A-007
5. Bathrooms		
5.1 Extra Floor Space	X	A-007
5.2 Roll-Under Vanity or Sink	X	A-007
5.3 Tilt Mirror		
5.4 Non-Glare Lighting	X	A-007
5.5 Solid In-Wall Blocking	X	A-007
5.6 Handheld Showerheads	X	A-007
6. Bedrooms		
6.1 Closets		
7. Audio/Visual		
7.1 Audio/Visual Doorbell		
7.2 Visual Alarm		
7.3 Closet Lighting		
8. Technology		
8.1 Keyless Entry		
8.2 Smart Home		
9. Innovation		
9.1 Innovation		

Provided that the development's architect of record is on Virginia Housing's list of Universal Design Certified Architects, and all essential elements and the required number of optional elements are incorporated into the design and construction of the qualified UD units:

- 15 points, if all the units in an elderly development meet this requirement.
- 15 points multiplied by the percentage of units meeting this requirement for non-elderly developments.

PROPERTY NAME: Roanoke Gateway - 9

APPLICANT: Pre-Construction Signature / Date — Post-Construction Signature / Date

ARCH OF REC: (same as TC app) 3/12/2025 Pre-Construction Signature / Date — Post-Construction Signature / Date

SITE ENGINEER: (if owner retained) Pre-Construction Signature / Date — Post-Construction Signature / Date

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GRIMM AND PARKER

GP #22424.00

UNIVERSAL DESIGN CHECKLIST

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-015

06/30/2026
CONSTRUCTABILITY REVIEW

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Virginia Housing

2026[1] Minimum Design and Construction Requirements

Requirements for All Developments

The following minimum requirements were created to address issues related to the design, construction, maintenance, marketing, life cycle costs and aesthetic concerns for developments utilizing low-income housing tax credits (LIHTC) and/or developments financed by the Virginia Housing Development Authority (Virginia Housing). Virginia Housing may require an expansion of the proposed scope of work for a project beyond those items specifically listed within the Minimum Design and Construction Requirements (MDCR) if it determines, in its sole discretion, that such expansion of scope is necessary after review of submitted plans and specifications for the project or examination of the existing conditions at the property. Any such required additions to the proposed scope of work shall be communicated to the developer by Virginia Housing in writing and shall be automatically incorporated into the MDCR herein by reference as it pertains to that specific project. For developments utilizing LIHTC, Virginia Housing will alert applicants to the additional required scope of work prior to allocating credits to the respective development. Architectural and Engineering (A&E) submission requirements for Virginia Housing loan and 4% LIHTC applications can be found at the end of the MDCR. Additional submission requirements for the LIHTC program can be found in the Virginia Housing Federal Housing Credit Manual. All developments utilizing LIHTC are subject to REAC Inspections utilizing the NSPIRE standard. The following MDCR do not account for all NSPIRE requirements. Developers are responsible for ensuring compliance with NSPIRE.

Drawings, specifications, scope of work, and installations must comply with the latest applicable issue of the *Virginia Uniform Statewide Building Code (USBC)*[2], *International Building Code (IBC)*[3], other applicable Virginia and national codes and standards, requirements of localities, prevailing design and construction practices and the *Minimum Design and Construction Requirements* of Virginia Housing. There may be only a single architect of record, and all work performed at the property must be managed and completed by a single prime Virginia-licensed Class A general contractor (GC) contracted by the developer. In no event may work be self-directed or self-performed by the developer's construction arm unless the contracted prime GC and Virginia Housing has approved, in writing, the developer's construction arm as the prime GC. Installation of materials, equipment, products, and building systems in both New Construction and Rehabilitation shall adhere to all manufacturers' requirements, specifications, and recommendations. All developments shall comply with applicable accessibility codes and standards, including but not limited to the USBC, the Fair Housing Act Design Requirements, and all accessibility commitments made through the LIHTC application process.

All additions and adaptive reuse shall comply with the Virginia Housing Minimum Design and Construction Requirements (MDCR) for *New Construction*. Adaptive reuse may also be required to comply with the MDCR for *Rehabilitation* where Virginia Housing deems applicable.

Waiver requests for individual MDCR may be submitted to waiver@virginiahousing.com. Requests must document substantial infeasibility and propose alternate solutions to achieve the intent of the specific MDCR. See Virginia Housing Webpage for Waiver Request form and instructions.

[1] The 2026 Virginia Housing Minimum Design and Construction Requirements apply to Virginia Housing loans with a 2026 application date, as well as developments receiving Federal Low-Income Housing Tax Credit allocations for year 2026.
[2] (USBC 2021) *Virginia Uniform Statewide Building Code* (Latest applicable edition as referenced by the USBC).
[3] (IBC 2021) *International Building Code* (Latest applicable edition as referenced by the IBC).

Requirements for New Construction

SITE WORK

1. Finished floor elevations of buildings shall be a minimum of 8 inches higher than the adjoining finished grade. When achieving an 8-inch height separation is not feasible, due to accessibility requirements or other conditions, provide an alternate solution acceptable to Virginia Housing. SEE GRADING ON C6 AND DETAILS ON D15A-011, 1/S-202.
2. Grade around buildings to achieve a minimum 5% slope away from foundation walls for a minimum distance of 10 feet, per IBC. Install yard drains, storm inlets, or drainage pipes under concrete walks to drain properly if the space between foundation walls and concrete walks is less than 10 feet. Drainage systems shall be designed to avoid water flowing over sidewalks. Provide an alternate drainage solution acceptable to Virginia Housing: SEE SHEET C6 AND DETAIL D15 /A-011.
   a. When buildings are closer than 10 feet to concrete walks.
   b. When a minimum 5% slope is not feasible.
   c. At entrances and accessible routes, when applicable.
3. Install seamless gutters, downspouts, and splash blocks, or an internal drainage system for all buildings. When discharging on grades steeper than 20%, or less than 1%, water from gutters and downspouts shall be piped underground to a storm sewer system, or to daylight at grades that will avoid soil erosion. Avoid water drainage over sidewalks. SEE SHEETS ZP-101 TO ZP-105, 3P-101 TO 3P-104.
4. Paving designs shall be based upon the geotechnical report, California Bearing Ratio (CBR) of the soil, traffic count, and loading. All drive lanes of parking lots shall be designed for dumpster trucks. Parking bays may have lighter paving than the drive lanes of parking lots. SEE SHEETS XX-XXX.
5. Extend concrete dumpster pads at least 12 feet into the asphalt so that the load bearing wheels of trucks rest on concrete while servicing the dumpsters. SEE SHEETS XX-XXX.
   a. Thickness of concrete shall be a minimum of 6 inches with reinforcement. SEE SHEETS XX-XXX.
   b. Dumpsters and/or compactors accessed via an accessible route shall meet accessibility requirements. SEE SHEETS XX-XXX.
   c. Install a privacy screen on at least three sides of all dumpster and/or compactor pads. SEE SHEETS XX-XXX.
   d. Install concrete filled steel bollards behind dumpster locations to protect enclosure. SEE SHEETS XX-XXX.
6. Minimum width of sidewalks shall be 3 feet. Sidewalks that are located perpendicular to parking spaces shall be a minimum of 5 feet wide excluding curb or 3 feet wide with 2 feet of space between the sidewalks and curbs. Provide gravel and sand base under walks when required by the geotechnical report. Provide control and expansion joints. SEE SHEETS XX-XXX.
7. All crosswalks and accessible routes within parking areas and across drive lanes shall be striped. SEE SHEETS XX-XXX.
8. Provide foundation plantings in the front of all buildings and at building entrances. All plantings must be shown on landscape drawings illustrating size at full maturity. Show dimension of tree locations from trunks/calipers to buildings. Portions of tree branches when fully mature shall not overhang roofs, contact building faces, or obstruct site lighting. Field verify planting locations match initial design. SEE SHEETS XX-XXX.
9. Grade to avoid standing water. Provide a smoothly graded transition from disturbed to undisturbed areas. Finish grade with clean topsoil. Seed and straw, and/or landscape all bare and disturbed areas. Provide ground cover materials or sod for slopes steeper than 20%. Clean site and dispose of all construction debris. Grass shall be established prior to project closeout. SEE SHEETS XX-XXX.

ARCHITECTURAL

1. Roofing
   a. Roof sheathing thickness shall be a minimum of 15/32 inch-thick plywood or 15/32 inch OSB. Install sheathing with clips. ZIP System roof sheathing or similar products are not accepted.
   b. Install drip edge on all sides of the roof. SEE SHEET 2S-002
   c. Install ice barrier extending from eave's edge to a point 24 inches beyond the exterior wall cladding.
   d. Roof shingles shall be a minimum 25-year, anti-fungal product, and shall be nailed (not stapled).
   e. Flat roofs shall have a minimum 20-year manufacturer's warranty for the entire roof system. SEE SPECS
   f. Provide minimum 24-inch-wide walk pads from roof access point to serviceable side of all rooftop equipment. SEE SHEETS 1A-103, 2A-107, AND 3A-104
2. Provide permanent access to all flat roofs. Access shall be located in an interior common area. Utilize direct walk out access from stairwell when feasible, otherwise provide a minimum 30-inch-wide premanufactured roof hatch with hold open device and permanent ladder. SEE SHEETS 1A-103, 2A-107, AND 3A-104
   EXCEPTION: Secondary roof levels within one story of the primary roof access may utilize fixed ladders from the primary roof.
3. Provide roofs/overhangs over exterior entrance doors to all units and buildings that are accessed by residents or visitors. Provide a minimum 30 inches of overhang along the front and 12 inches along each side of the door; or the door may be setback a minimum of 24 inches from the face of the exterior wall. SEE FLOOR PLAN AND ELEVATION SHEETS
4. Stairs to apartment units where stair halls are not enclosed shall be protected from weather by design features, such as, setting back stairs a minimum 5 feet from the exterior wall and/or installing a roof overhang at the second floor level, projecting a minimum of 5 feet beyond the first riser. SEE SHEETS 2A-101 TO 2A-104
5. Crawl spaces to be free of debris and water. Provide a minimum 6 mil vapor barrier at floor with seams overlapped 12 inches. Edges and seams to be taped. NO CRAWL SPACE, VAPOR BARRIER UNDER SLAB. SEE SPECS AND SHEET A301
6. Provide passive or active radon mitigation system for buildings in EPA Radon Zone 1 or 2. See ANSI/AARST multifamily mitigation standard for guidance. SEE SHEET A-423
7. Install waterproofing on exterior walls up to finished grade where finished floors are below adjoining finished grades. Provide a 10-year material/manufacturer's warranty. SEE SPECS AND A-011
8. Install weep holes in brick veneer at foundation walls, over lintels, and relief angles. SEE SPECS AND XX-XXX
   a. Weep holes at foundation walls shall be a minimum 6 inches above finished grade or 2 inches above hardscape.
   b. Provide mortar mesh to prevent blockage of weep holes.
   c. Provide continuous flashing at all weep holes and end dams at flashing terminations.
9. At masonry and precast window sills, and caps for masonry veneer walls that do not terminate directly under roofs, provide a positive slope resulting in a minimum 3/4 inch differential over the length of the sill/cap. SEE SPECS AND A-420, A-421
10. All wood framing in contact with concrete or masonry shall be of treated wood. SEE SPECS
11. Provide sill sealer for sill plates at all exterior walls. SEE SHEET A-011

12. All brick veneer or sidings, such as vinyl, aluminum, wood and fiber cement board, shall have a solid backing of plywood, OSB, gypsum, or similar material. Siding and brick shall be installed over an independent drainage plane, such as Tyvek® or equal. Fasten siding to framing with nails penetrating a minimum 3/4 of an inch into studs. Install pre-manufactured mounting blocks for all penetrations in siding such as electrical, plumbing, HVAC, etc. SEE SPECS AND A-301.
    EXCEPTION: Exterior wall sheathing systems with integrated drainage planes may be used when observation reports are provided by the manufacturer and the following conditions are met:
    1) Pre-installation
       a. General Contractor to hold pre-installation meeting with architect and manufacturer prior to installation. Manufacturer's observation reports to include documentation of meeting.
       b. Manufacturers' flashing details including windows, doors, joints and penetrations shall be maintained on site.
       c. Store materials to meet manufacturer's requirements.
    2) Installation
       a. The integral drainage plane must be preserved. Use manufacturer's approved products including tape, tape gun and roller.
       b. When weather conditions warrant, follow manufacturer's requirements for inclement weather installation and storage of materials.
       c. Manufacturer's representative to review the final installation to confirm all requirements are met prior to installation of exterior cladding. Manufacturer's observation reports documenting installation acceptance is required and must be maintained on site.
13. All panel type siding to be installed over vertical or corrugated furring to allow adequate drainage and ventilation, or provide siding product with integrated vented rain screen. SEE SPECS AND A-301, A-420
14. Building wall assemblies shall be vapor permeable with a minimum ASTM E96 perm rating >0.1. Foil faced building products, closed cell foam, and sheet plastic are examples of prohibited wall materials. SEE SPECS AND A-301.
15. The bottom of all siding and window sills shall be a minimum of 6 inches above the finished grade or mulch beds. SEE ELEVATIONS AND A-306
16. Exterior wooden trim, brickmolding, sills, fascia, rake boards, and columns, shall be clad with vinyl, vinyl coated aluminum, or similar materials. Use materials designed for cladding with a minimum thickness of 0.019 inch and provide a stiffening crimp for trim and fascia boards are more than 8 inches wide. Virginia Housing recommends the use of fiber cement, PVC, or similar low maintenance materials instead of wood for exterior use. SEE SPECS AND ELEVATIONS, SHEETS A-421, A-422
17. Powder coat or galvanize all steel products exposed to the weather, or provide an exterior steel paint that can achieve a minimum 10-year material warranty. Prepare surfaces per warranty requirements. Prime and paint steel prior to placement in concrete. SEE SPECS.
18. Use vinyl, aluminum, or steel for exterior railings, handrails, guardrails, posts and pickets instead of wood products. SEE SPECS AND ELEVATIONS
19. Balcony and stair railings at buildings shall be stable and secured to the wall structure with mounting block or equivalent. SEE SPECS AND ELEVATIONS, A-02X SERIES STAIR SHEETS

20. Windows and sliding glass doors: SEE SPECS AND A-306, A-421
    a. Provide minimum 1/2 inch insulated glass.
    b. Provide minimum 10-year warranties for material and breakage of seal.
    c. Provide thermal break for aluminum frames.
    d. Install and flash per manufacturer's specifications.
    e. Provide back dam flashing at sill, and extend sill flashing at least 6 inches up jambs.
    f. Before installing windows, perform initial installation with the Construction Control Officer.
    g. Provide removable metal pins or 'Charlie bar' at exterior sliding glass doors.
21. All exterior doors, except sliding glass doors, shall be either insulated fiberglass or insulated metal. Exterior wooden door jambs and molding require integral composite material, such as FrameSaver® or equal, for at least 3 inches from their lowest points. SEE SPECS AND A-20X SERIES ELEVATION SHEETS
22. Install hard surface flooring at the interior of all unit entrance doors, except for doors entered through carpeted interior hallways. Hard surface area shall be approximately 3 foot by 4 foot using flooring materials such as VCT, sheet vinyl, hardwood, or tile. SEE SHEET A-307
23. Resilient flooring such as, but not limited to, sheet vinyl and VCT shall be installed over minimum nominal 1/4 inch underlayment grade plywood, or similar underlayment material. Ceramic tile or similar flooring shall be installed over minimum nominal 1/4 inch cementitious board or similar underlayment material. Flooring may be installed over concrete provided concrete is finished smooth and uniform. When installed over Gypcrete, or a similar material, apply manufacturer approved sealer. SEE SPECS AND A-301
24. Carpets shall have the minimum number of seams. Seams are not to be located in heavily trafficked areas. T-seams are not acceptable except in closets. SEE SPECS, CARPET IN COMMON AREAS ONLY
25. All interior doors shall be side hinged. Bifold, pocket, or sliding doors are not acceptable. Door bottoms shall have a minimum of 3/4 inch clearance when closed to provide improved ventilation, and shall not drag on finish floors through door swing. Paint bottom, top, and all other sides of doors. All doors shall be factory assembled. Field cutting vents in doors is prohibited. Instead, pre- manufactured louvered doors must be installed. SEE SPECS AND SHEET A-305.
    EXCEPTION: High/low or offset transfer grille in lieu of 3/4 inch clearance requirement.
26. All unit interior spaces shall have finished floor and solid wood base/molding. Base and base moldings shall match in design and finish. SEE SPECS AND SHEET A-307
    EXCEPTION 1: Ceramic or stone baseboard is acceptable at matching adjacent flooring.
    EXCEPTION 2: Mechanical closets may use an alternate base material such as vinyl.
27. All common area interior spaces shall have finished floor and base. SEE SPECS AND SHEET A-307
    EXCEPTION: Utility/service rooms may have sealed concrete floor.
28. All windows and doors with glazing shall have blinds, shutters, or similar operable products for shading and privacy. Horizontal blinds are prohibited at doors. SEE SPECS AND SHEET A-306
    EXCEPTION: Horizontal blinds at doors that are integrated with glazing.
29. Provide a minimum of one full-height closet that is at least 2 feet deep, measured between front and rear wall faces inside the closet, with at least 6 square feet for general storage, in a location other than a bedroom. SEE SHEETS A-501 - A506 AND UNIT CLOSET SHELF SCHEDULE.
    EXCEPTION: Studio and one-bedroom units may utilize a single closet. Provide at least 8 linear feet of shelf/rod storage with at least 5 feet room depth from shelf/rod wall. Designs with opposing shelf/rods shall have at least 5 feet between the shelf/rods.

30. Provide a minimum of 1-1/2 bathrooms (one full bathroom and one half bathroom) in all two bedroom units and a minimum of 2 full bathrooms in all three or more bedroom units. SEE SHEETS A-501 TO A-506, A-515, A-516.
31. Concealed solid dimensional wood blocking (minimum 2x6 material) shall be provided for all handrails, grab bars and wall mounted cabinets and accessories. SEE SPECS AND SHEETS A-515, A-516
    EXCEPTION: Minimum 6-inch-wide 16 gauge metal strapping may be used with metal studs.
32. The top of all handrails shall be installed at 34 inches above finished floor and stair tread nosings. SEE SHEETS 1A-520, 1A-521, 2A-520, 2A-521, 3A-520, AND 3A-521.
33. Seal around all penetrations. Use code compliant sealant at all penetrations in fire rated separations and assemblies. SEE SPECS AND SHEETS A-302.
34. Ceramic tile or similar material tub and shower surrounds shall be installed over minimum 1/2 inch cementitious board with applied waterproofing, or, moisture-resistant, fiberglass mat faced gypsum tile backerboard. All installations shall include flush head, non-corrosive fasteners, caulked corners, and fiberglass tape, per manufacturer specification. SEE SPECS AND SHEETS A-515, A-516
35. Depress entire bathroom floor and build up as needed to account for accessibility and drainage requirements when designing for roll-in showers. Bathrooms which include a roll-in shower, shall have ceramic or similar tile flooring, with a minimum of 3 feet directly outside the shower sloped towards the shower drain at 1%-2%. Roll-in showers shall have a zero height transition between the bathroom floor and the shower floor and be either: SEE SPECS AND SHEETS A-515, A-516
    a. Ceramic or similar tile floor with water proofing membrane extending a minimum 8 inches up walls, **OR**
    b. Pre-manufactured with a trench drain located immediately adjacent to, and the full length of, the shower.
36. Vanities may not have a side exposed within 12 inches of the tub or shower. SEE SPECS AND SHEETS A-515, A-516
37. Where wall-hung lavatories, roll-under sinks, or pedestal sinks are installed, provide an alternate storage solution, minimum 6 inches interior depth, permanent with doors or drawers, complying with code required reach ranges and other accessibility requirements, which may apply to the unit. SEE SPECS AND SHEETS A-501 TO A-506, A-515, A-516
38. Kitchen cabinets and bathroom vanities shall comply with *Virginia Housing's Minimum Cabinet Requirements* in addition to the following: SEE SPECS AND SHEETS A-501 TO A-512.
    a. All cabinets shall be factory/manufacturer assembled.
    b. All exposed portions of cabinetry shall have factory applied finish.
    c. Kitchen cabinets and bathroom vanities shall abut the side walls or provide a minimum spacing of 10 inches between wall and cabinets. Wall cabinets shall abut the ceiling/ soffits or provide minimum of 10 inches between cabinet and ceiling/soffits.
    d. Kitchen wall cabinets shall be fastened to blocking with a minimum of four washer head cabinet screws; two in each upper and lower nailing strip for each wall cabinet.
    e. Plastic laminate countertops shall be post formed, or have back splashes that are factory attached to the countertop and sealed.
    f. A side splash shall be installed where countertops abut walls.
    g. Holes in cabinet backs for plumbing shall be drilled and completely covered by escutcheon plates.
    h. Provide at least one kitchen base cabinet with drawer, minimum 15-inch-wide.
39. Install a cleanable surface, such as plastic laminate, metal, or ceramic tile on the sidewall next to the cooking range when it is located directly adjacent to a wall. Materials such as plastic laminate or metal shall be installed with adhesive. N/A - NO RANGES AT SIDEWALLS

40. Appliances SEE SPECS AND SHEETS A-510 TO A-512
    a. All kitchen appliances in an apartment unit shall match in color.
    b. Provide a 30-inch-wide range in all units.
       EXCEPTION: Studio/efficiency apartments and one bedroom elderly apartments may utilize a minimum 20-inch-wide range.
    c. Provide a 30-inch range hood or combination range hood-microwave over all cooking ranges, or a maximum 24-inch- wide range hood for all 20-inch-wide ranges.
    d. Provide a 24-inch-wide dishwasher in all units.
       EXCEPTION: Studio/efficiency apartments and one bedroom elderly apartments may utilize 18-inch-wide dishwashers.
    e. All refrigerators shall be frost free. Minimum rated sizes of refrigerators shall be 12 cubic feet for studio/efficiency apartments, 14 cubic feet for 1 and 2 bedroom apartments, and 16 cubic feet for 3 and 4 bedroom apartments. Side-by-side models must open fully or have at least 12 inches of cabinet space between an adjacent sidewall.
    f. Provide laundry equipment connections in all units. In-unit washer and dryer connections shall be in a closet with doors, and shall be accessible directly from the unit common area. Laundry closets must accommodate separate, full-size side-by-side or full-size stackable type laundry equipment.
       EXCEPTION: Studio and one bedroom apartments may utilize a closet in a bedroom for laundry equipment provided the equipment does not restrict access to storage. When connections are located within a closet intended to store garments provide a jumper duct to communicate with the return air location. See "Plumbing" section for washing machine pan requirements.
    g. When provided in units, all laundry equipment shall be separate, full-size side-by-side or full-size stackable type. Ventless dryers, all-in-one combination washer/dryers, and laundry centers are prohibited. See age restricted housing requirement below for additional information.
       EXCEPTION: In-unit laundry centers are acceptable in studio and one bedroom apartments, and age restricted housing. Equipment shall comply with code required reach ranges and other accessibility requirements, which may apply to the unit.
41. Age restricted housing serving residents 55 years or older: NOT APPLICABLE.
    a. Provide a handrail on at least one side of common corridors.
    b. Provide an accessible elevator for buildings with two or more stories.
    c. Provide indoor resident garbage drop-off area and access.
    d. Provide in-unit laundry equipment; or, both connections for in-unit laundry equipment and onsite common laundry facilities with a minimum ratio of one washer and dryer per 20 units.
    e. Provide controlled access, automatic door opener, and call box at primary building entrance. Call box shall allow resident ability to communicate with visitor and unlock primary building entrance remotely with phone.
42. Provide space for a future dehumidifier in a stud cavity within the apartment living space. Utilize concealed power and plumbing drain (e.g. mechanical closet). Identify location in drawings and coordinate with plumbing and electrical. SEE SPECS AND SHEETS A-501 TO A-506.
    EXCEPTION 1: Not required where a permanent in-unit dehumidifier, or a balanced, whole-building DOAS dehumidification system is provided for all units.
    EXCEPTION 2: In lieu of stud cavity location, future in-line dehumidification at the air handler may be accepted when appropriate space and duct connections are demonstrated and provided.

MECHANICAL

1. Provide ducted Heating, Ventilation, and Air Conditioning (HVAC) equipment in all dwelling units and interior corridors except as noted in #3 below. PTACs are prohibited. Size of HVAC equipment, ducts, and diffusers shall be designed per heat gain/loss calculations. Refrigerant and condensate lines shall be concealed within walls with all penetrations sealed. All condensate to discharge onto splash blocks at grade or to locality approved hub drain. SEE SPECS AND SHEETS M-501 TO M-506
2. For all ducted HVAC systems including ducted mini-splits and self-contained VTAC systems (similar to Magic-Pak or First Co): SEE SPECS AND SHEETS M-501 TO M-506
   a. Air supply diffusers shall be located near windows in living rooms, dens and bedrooms.
      EXCEPTION: The mechanical engineer may locate supply diffusers at alternate locations with Virginia Housing's prior approval based on supporting calculations.
   b. Provide HVAC diffusers for kitchens and all full baths.
   c. Provide premanufactured air filters.
   d. Seal air duct penetrations in unheated spaces.
   e. Provide ducted return air to mechanical unit. Provide a separate ducted return for each floor of townhouse units.
      EXCEPTION: Mechanical closets may be utilized as return air plenums provided walls and ceiling receive finished or unfinished moisture-resistant, fiberglass mat faced gypsum and fiberglass tape. Closets shall comply with code plenum requirements for combustible materials. Provide a keyed deadbolt lock with door latch guard. Multi-level units require a ducted return pathway to mechanical closet from other floors.
   f. Heat pump to include auxiliary heat.
   g. Main supply trunk line from air handler to branch duct shall be sheet metal. Flex duct may be used only between main trunk line and supply diffuser. Fiberglass ductboard is prohibited.
   h. All ductwork shall be concealed behind permanent construction unless otherwise approved by Virginia Housing.
   i. Air handlers and ductwork may not decrease ceiling heights in any room below 7 feet 6 inches.
   j. Dedicated Outdoor Air Systems (DOAS) shall include dehumidification and reheat functionality.
   k. Provide certification for testing and balancing as required by mechanical code regardless of AHJ enforcement.
3. Ductless Heat Pumps (mini-splits) may be used in corridors, efficiencies, 1 bedroom units or elderly housing developments. SEE SPECS AND M-501 TO M-506, SEE SCHEDULES ON 1M-002, 2M-002, AND 3M-002.
   a. Provide separate mini-split wall mounted unit for each bedroom, den or living room.
   b. Provide separate wired wall mounted thermostat for each mini-split wall mounted unit.
   c. Provide a heater with a thermostat or timer controlled heat lamp for all full baths.
4. All exhaust ducts shall discharge to the exterior of the building, and terminate into vent caps. Vent caps to be of a quality that will minimize repair and replacement. SEE SPECS AND SHEETS M-501 TO M-506
5. Do not install condenser units in front of windows. SEE ROOF HVAC PLANS 2M-109, 2M-110, 3M-105
6. Electric baseboard heating and electric forced air heating shall not be used as the primary heating method. SEE SPECS.

PLUMBING

1. Install an overflow pan with a drain connected to the sewer system per applicable plumbing code where washing machine connections are provided. SEE SPECS AND SHEETS 1P-002, 2P-002, AND 3P-002.
   EXCEPTION: Common laundry facilities may utilize a floor drain without overflow pans.
2. The bottoms of bathtubs shall have slip resistant/textured finish. SEE SPECS.
3. All tubs/showers and shower diverters shall have internal shut-off-valves or external shut-off- valves with access panels. SEE SPECS.
4. Provide a maximum of two showerheads in all roll-in showers. SEE P-20X SERIES SHEETS
5. Wall-hung lavatories may only be installed in common areas or dwelling units recognized as UFAS, ANSI Type A, or fully accessible. When installing wall-hung sinks, provide concealed arm type carriers. SEE SHEETS 1P-001, 2P-001, 3P-001 AND P-10X SERIES SHEETS
6. All pipes to be concealed behind permanent construction. All wet plumbing pipe to be solid wall construction. Cellular core pipe not permitted. SEE SPECS AND SHEETS 1P-001 TO 3P-301.
7. All floor drains and indirect waste receptors to receive trap primer or code approved drain trap seal device. SEE SPECS AND SHEETS 1P-001 TO 3P-301.
8. When installing individual apartment water heaters provide the following minimum rated sizes:
   a. Studio/1BR units 30 gallon. SEE SPECS AND SHEETS 1P-001, 2P-001, 3P-001
   b. 2BR units 40 gallon.
   c. 3BR units 50 gallon.
9. Water heater temperature and pressure relief valve shall discharge through CPVC, PEX or Copper pipes and terminate between 2 inches and 6 inches from the pan. SEE SPECS AND XP-002 SHEETS
10. Provide hub drain in mechanical closet to accept overflow pan and condensate lines. SEE SPECS AND XP-002 SHEETS
11. Where a permanent in-unit dehumidifier, or a balanced, whole-building DOAS dehumidification system is not provided for all units, provide a hub drain for a future dehumidifier. Identify hub drain location in drawings and coordinate with architectural. Locate hub drain such that when dehumidifier is installed, hub drain will not be visible from a habitable space. SEE SPECS AND SHEETS XM-002
    EXCEPTION: The mechanical closet hub drain may be utilized when the designated future dehumidifier location is on an adjacent wall or in-line at the air handler.

ELECTRICAL

1. Provide fluorescent light fixtures or LED light fixtures in all public common areas such as offices, multipurpose rooms, laundry rooms, hallways, and stairs. SEE 5PECS AND XE-004 SERIES SHEETS, ELECTRICAL FLOOR PLANS
2. Kitchens shall have a minimum of one light fixture 4 feet long with either LED or two 32 watt fluorescent bulbs, or lighting fixture(s) that provide a minimum illumination of 30 foot-candles distributed across the leading edge of all countertops. SEE SPECS AND XE-004 SERIES SHEETS
   SEE UNIT PLANS ON E-50X SERIES SHEETS
3. Provide both an overhead light fixture, and a light fixture above each bathroom sink.
   EXCEPTION: Half bathrooms may omit the overhead light fixture.
   SEE SPECS AND UNIT PLANS ON E-50X SERIES SHEETS
4. Provide wire data/ TV and data port/jack for all bedrooms, living rooms, and dens. All units shall provide working infrastructure with an internet service provider. Provide interface for incoming service at one central location per building. All wiring for the interior and exterior of the building shall be concealed within the walls, floors, or ceiling. SEE SPECS AND UNIT PLANS ON E-50X SERIES SHEETS
   EXCEPTION 1: Incoming power and telecommunication wiring run vertically in conduit from grade to the meter(s) and interface without horizontal runs.
   EXCEPTION 2: Wiring in metal conduit on exposed masonry or concrete structure inside building stairways and breezeways, parking garages, and spaces with no resident access. Conduit must be painted to match adjacent surface, run orthogonally and tight to corners of walls, floors, or ceilings.
5. Provide exterior LED or fluorescent lighting to illuminate all parking areas, dumpster pads, building entrances and mailboxes with a minimum of one foot-candle of illumination. Provide illumination so that building numbers and apartment numbers are legible at night. PHOTOMETRIC STUDY IN PROGRESS
   SEE SPECS. SEE SCHEDULES ON XE-004 SERIES SHEETS, SEE XA-20X SERIES ELEVATIONS.
6. Provide tenant controlled light fixture at all patios and balconies. SEE XE-004 SERIES SHEETS AND XE-20X SERIES SHEETS
7. Where a permanent in-unit dehumidifier, or a balanced, whole-building DOAS dehumidification system is not provided for all units, provide an outlet for a future dehumidifier. Identify outlet location in drawings and coordinate with architectural. Locate outlet such that when dehumidifier is installed, power cord will not be visible from a habitable space.
   DEHUMIDIFIERS PROVIDED. SEE SPECS AND XM-002 SERIES SHEETS
8. Provide a CO detector immediately adjacent to bedrooms on each floor when the unit is serviced by gas fired equipment or has an attached garage. Combo smoke/CO detectors are acceptable. SEE SPECS. SEE E-50X SERIES SHEETS

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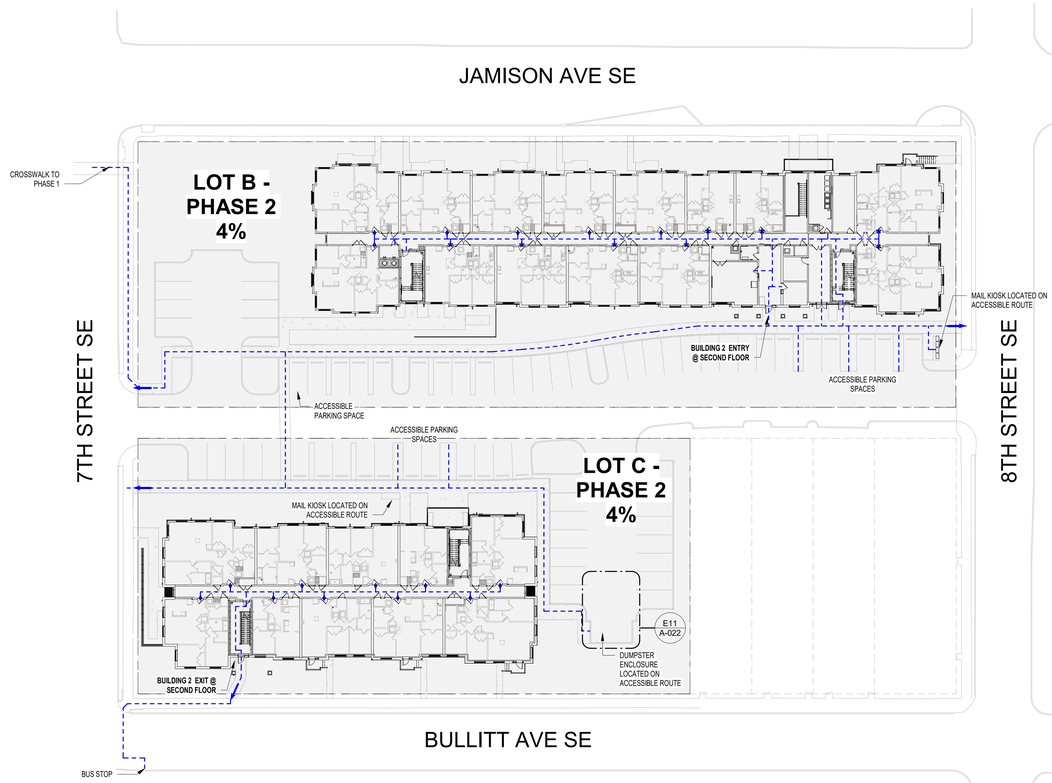
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DATE	SUBMISSION / REVISION	#
03/12/2025	VH 9% SUBMISSION	
05/14/2026	VH 4% HOTC APP.	
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A-016
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CONSTRUCTABILITY REVIEW

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G8 ARCHITECTURAL SITE PLAN - PHASE 2 - SECOND FLOOR
1" = 30'-0"

ACCESSIBILITY LEGEND

UNIVERSAL DESIGN GENERAL NOTES:
- ALL CURB CUTS U.D. COMPLIANT
- ACCESSIBLE ROUTE DOES NOT TRAVEL BEHIND OR THROUGH PARKING SPACES.

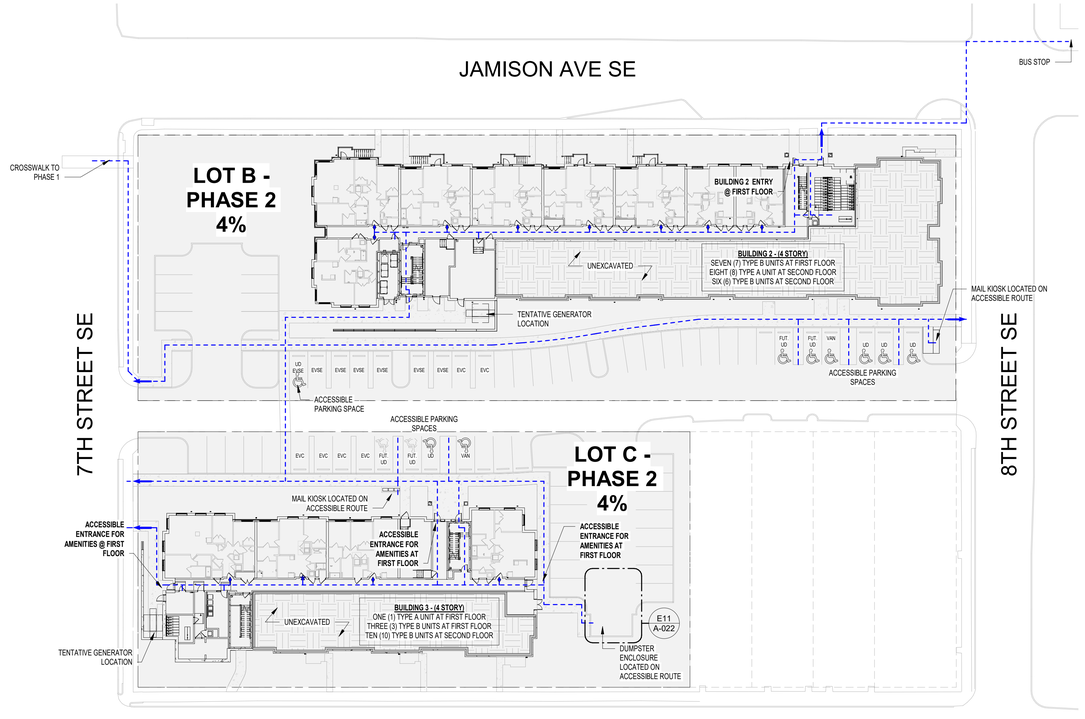
- ACCESSIBLE ROUTE
- ZERO STEP ENTRY AT ANSI TYPE A/UD UNITS
- ZERO STEP ENTRY AT ANSI TYPE B UNITS
- CONNECTION TO PUBLIC R.O.W.

UNIVERSAL DESIGN GENERAL NOTES

BUILDING 2
- 52 APARTMENT UNITS TOTAL
  - 8 U.D. UNITS

BUILDING 3
- 34 APARTMENT UNITS TOTAL
  - 1 U.D. UNIT

73 PARKING SPACES TOTAL
- 5 TYPICAL ACCESSIBLE SPACES
- 2 VAN ACCESSIBLE SPACES



A8 ARCHITECTURAL SITE PLAN - PHASE 2 - FIRST FLOOR
1" = 30'-0"

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ARCHITECTURAL SITE PLAN - PHASE 2

ROANOKE GATEWAY
ROANOKE, VA 24022

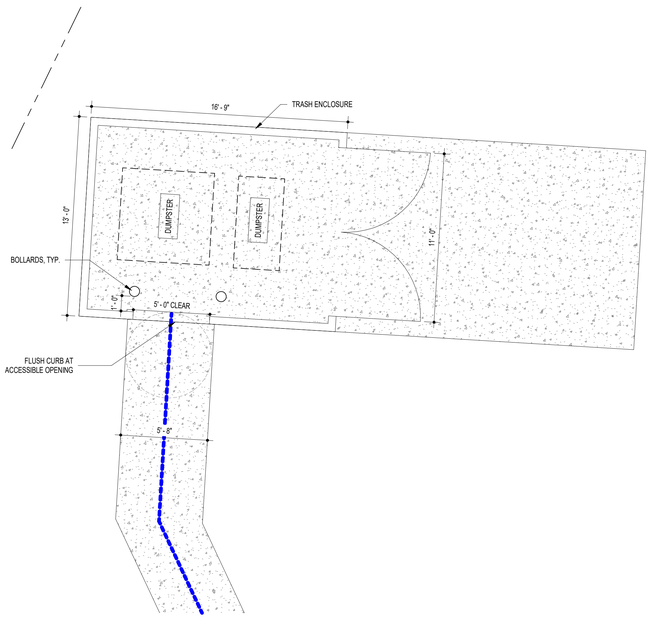
DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP
06/30/2026	CONSTRUCTABILITY REVIEW

A-021

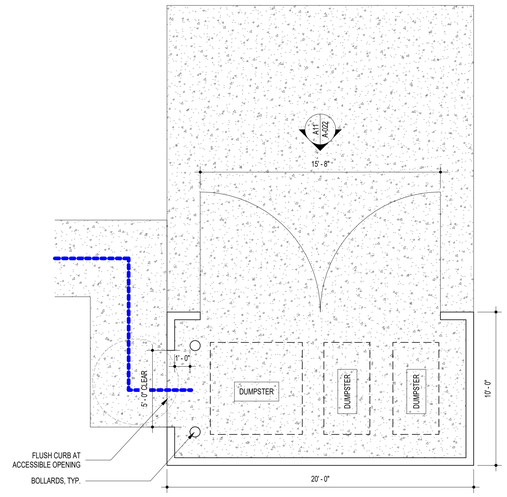
06/30/2026
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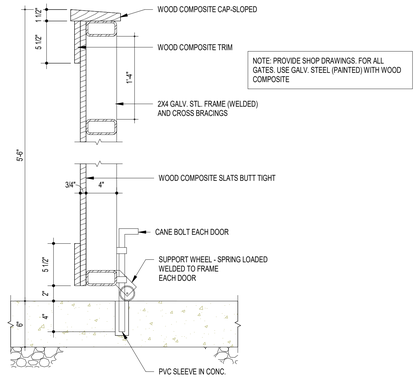
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E17 TRASH ENCLOSURE PLAN AT BUILDING 1
1/4" = 1'-0"



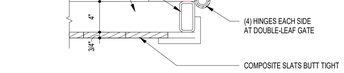
E11 TRASH ENCLOSURE PLAN AT BUILDING 3
1/4" = 1'-0"



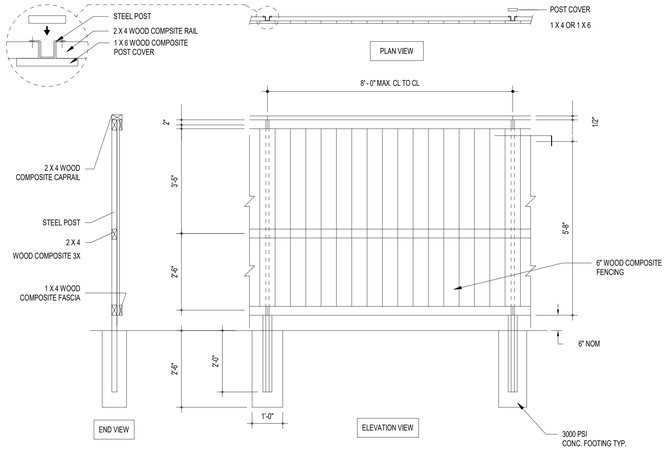
NOTE: PROVIDE SHOP DRAWINGS. FOR ALL GATES. USE GALV. STEEL (PAINTED) WITH WOOD COMPOSITE

H4 SECTION THROUGH GATE AT DUMPSTER
1 1/2" = 1'-0"

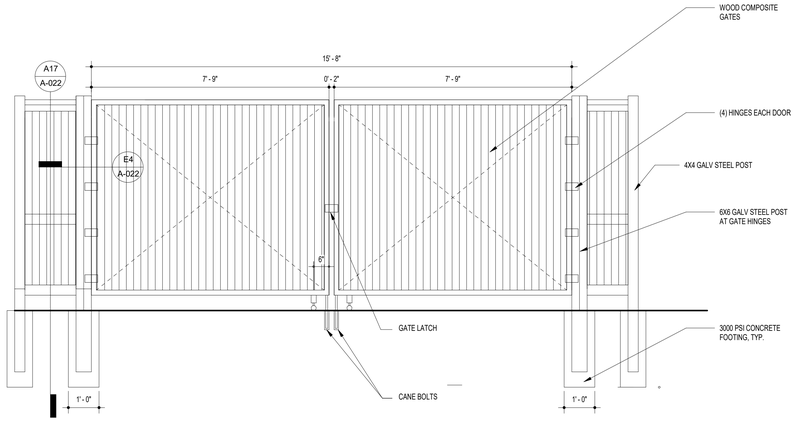
HARDWARE NOTES EA. ENCLOSURE:
PROVIDE VERT. CANE SLIDE BOLTS (1 EA. DOOR)
PROVIDE SUPPORT WHEELS (1 EA. DOOR)
PROVIDE HEAVY DUTY WELDED DOOR FRAME AND 6X6 STEEL SUPPORT POST
HINGES (4 EA. DOOR)
PROVIDE ONE LATCH TO HOLD BOTH DOORS



E4 PLAN DETAIL AT GATE HINGE
1 1/2" = 1'-0"



A17 TRASH ENCLOSURE FENCE DETAIL
1/2" = 1'-0"



A11 TRASH ENCLOSURE GATE ELEVATION
1/2" = 1'-0"

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ARCHITECTURAL SITE DETAILS

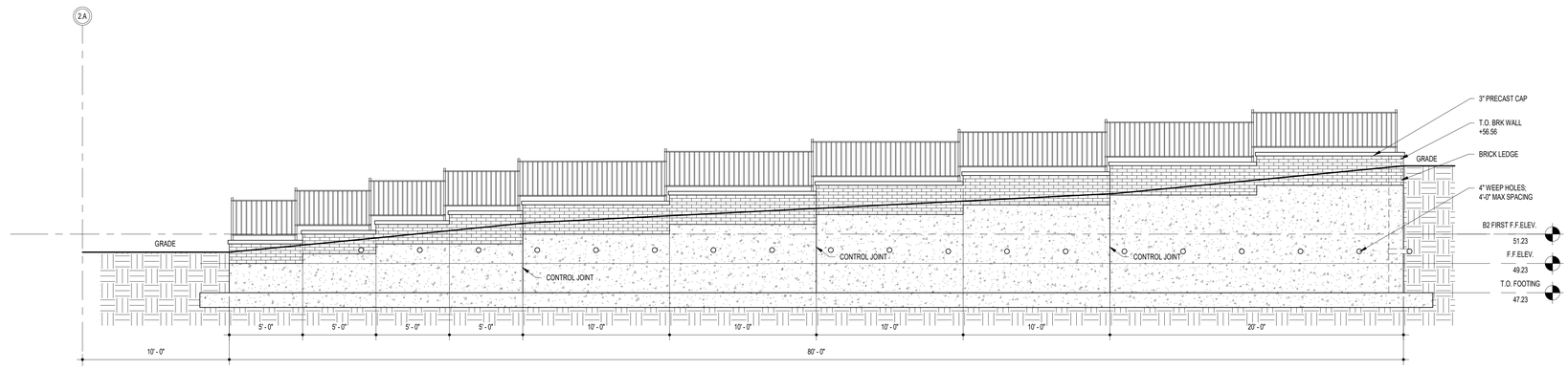
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IS.
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

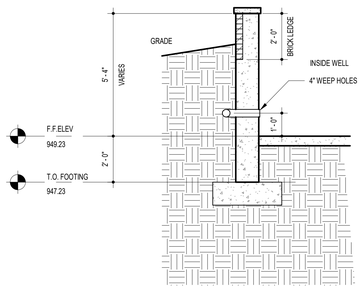
A-022
06/30/2026
CONSTRUCTABILITY REVIEW

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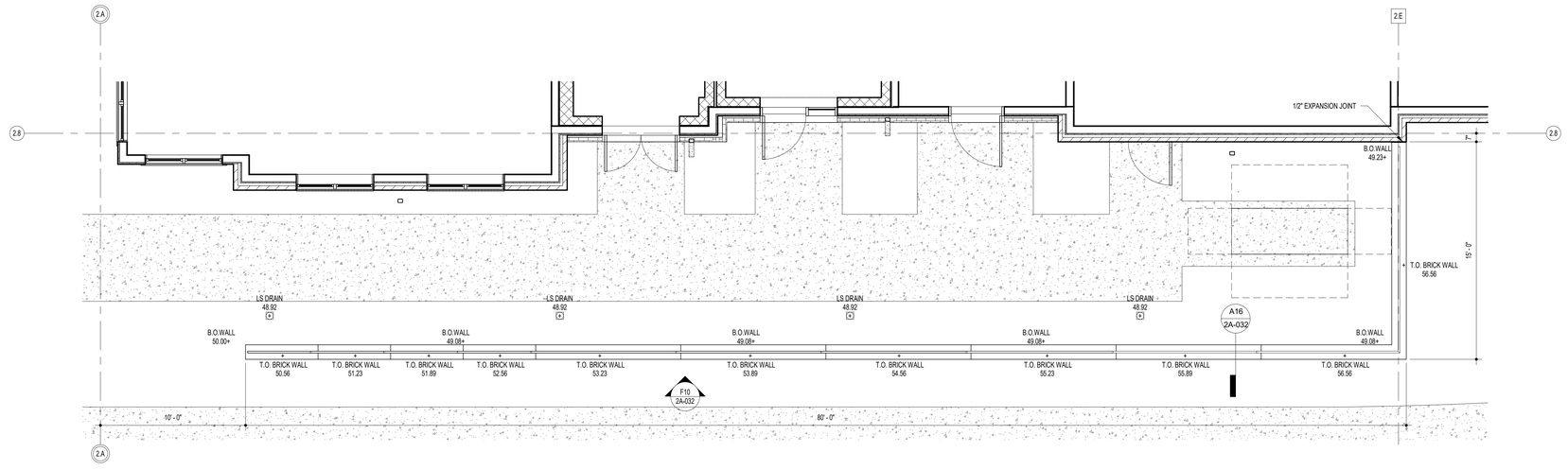
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F10 BUILDING 2 - RETAINING WALL ELEVATION
1/4" = 1'-0"



A16 DETAIL - BUILDING 2 RETAINING WALL
3/8" = 1'-0"



A10 BUILDING 2 - RETAINING WALL PLAN
1/4" = 1'-0"

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BUILDING 2 RETAINING WALL PLANS, SECTIONS, & DETAILS
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ROANOKE, VA 24022

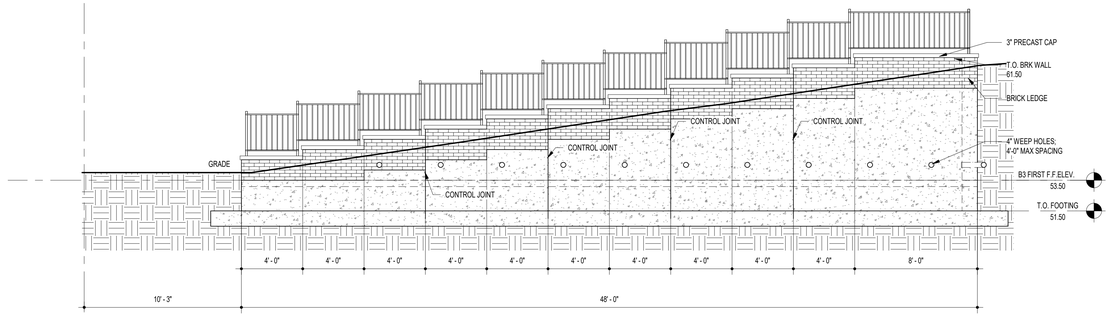
DATE	SUBMISSION / REVISION	#:
06/30/2026	CONSTRUCTABILITY REVIEW	

2A-032

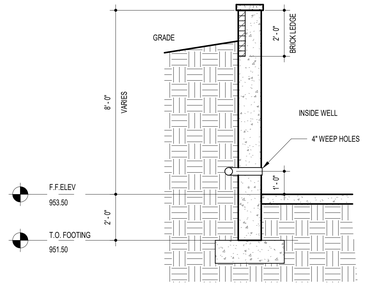
06/30/2026
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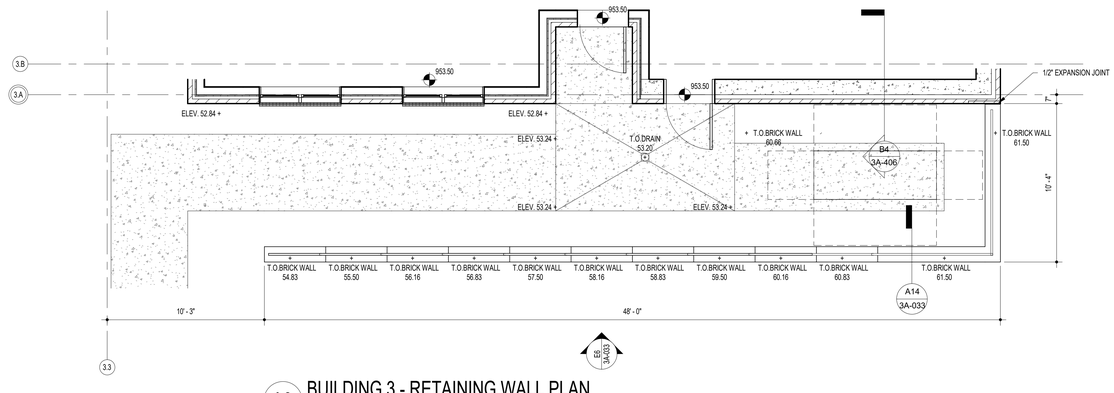
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E6 BUILDING 3 - RETAINING WALL ELEVATION
1/4" = 1'-0"



A14 DETAIL - BUILDING 3 RETAINING WALL
3/8" = 1'-0"



A6 BUILDING 3 - RETAINING WALL PLAN
1/4" = 1'-0"

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BUILDING 3 RETAINING WALL PLANS, SECTIONS & DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW

3A-033

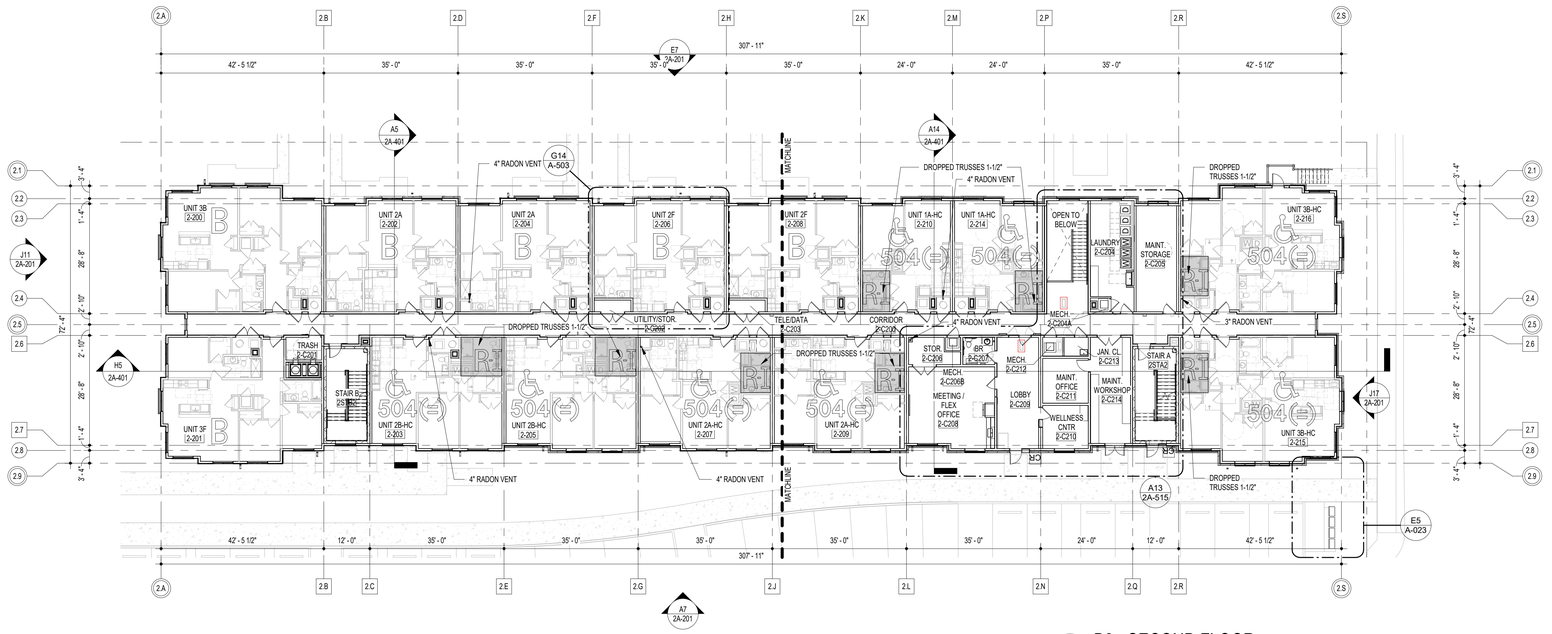
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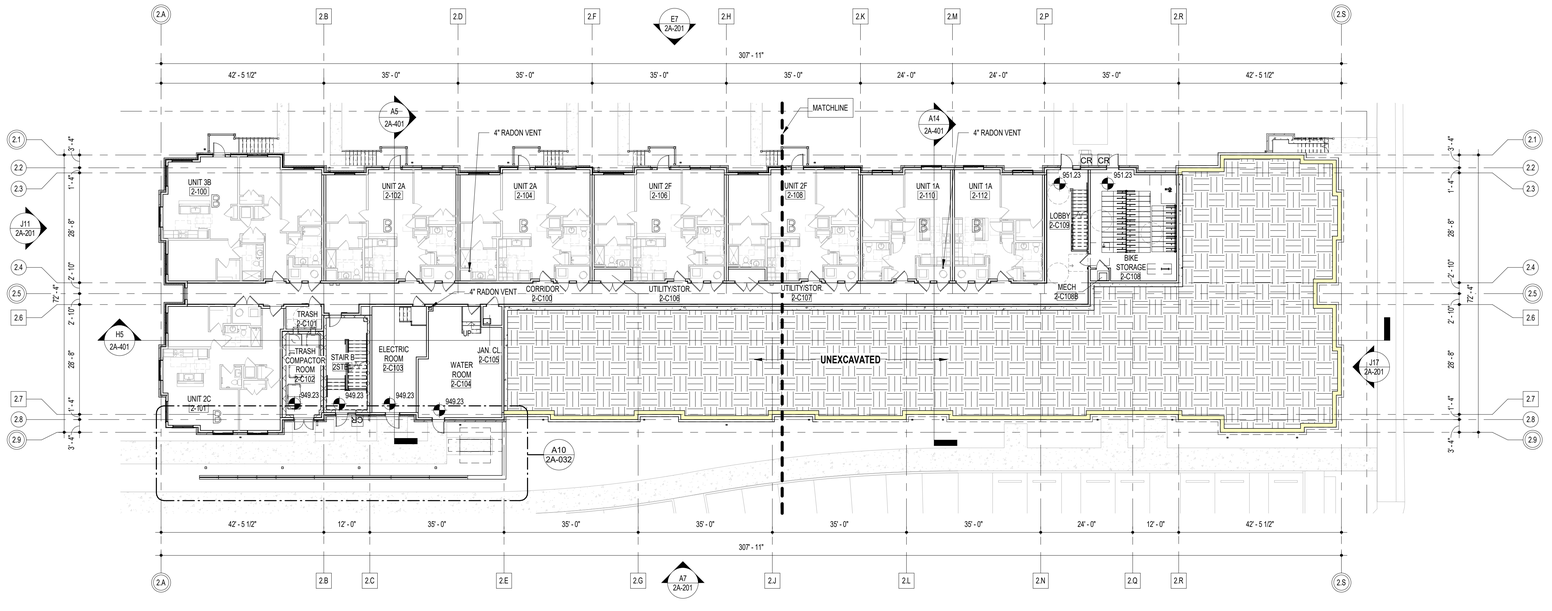
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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER



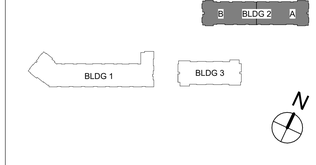
G7 **B2 - SECOND FLOOR**
1/16" = 1'-0"



A7 **B2- FIRST FLOOR**
1/16" = 1'-0"

SCALE:1/16" = 1'-0"
0 8' - 0" 16' - 0" 32' - 0" 48' - 0" 64' - 0"

KEY PLAN



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BUILDING 2 OVERALL PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP
06/30/2026	CONSTRUCTABILITY REVIEW

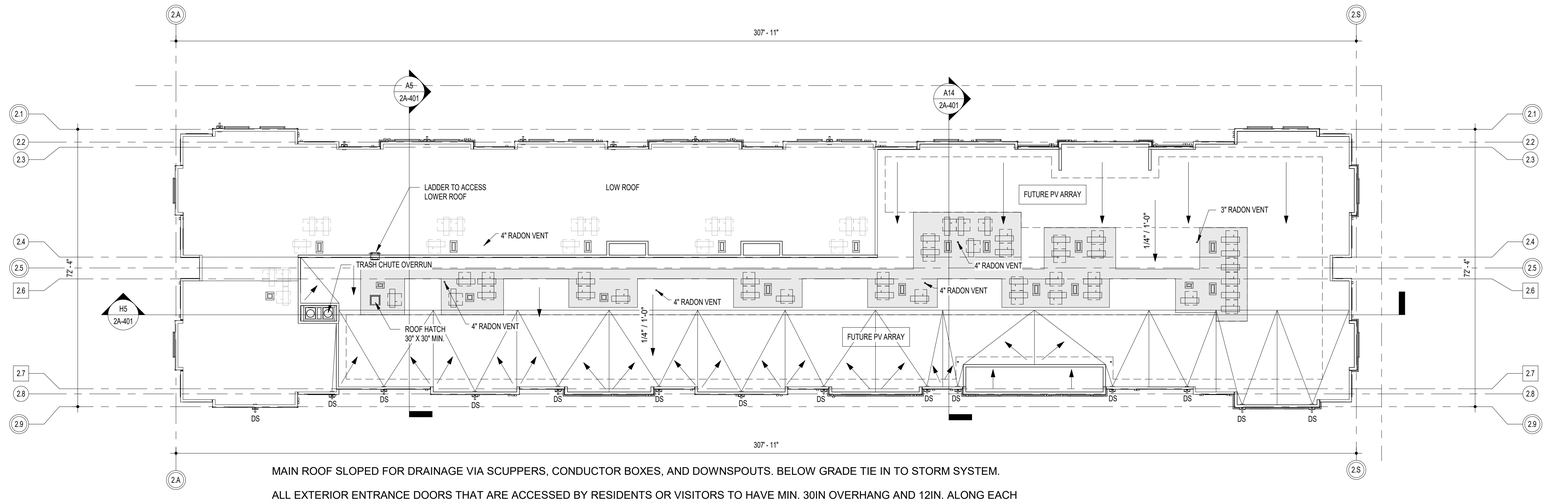
2A-101
06/30/2026
CONSTRUCTABILITY REVIEW

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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER

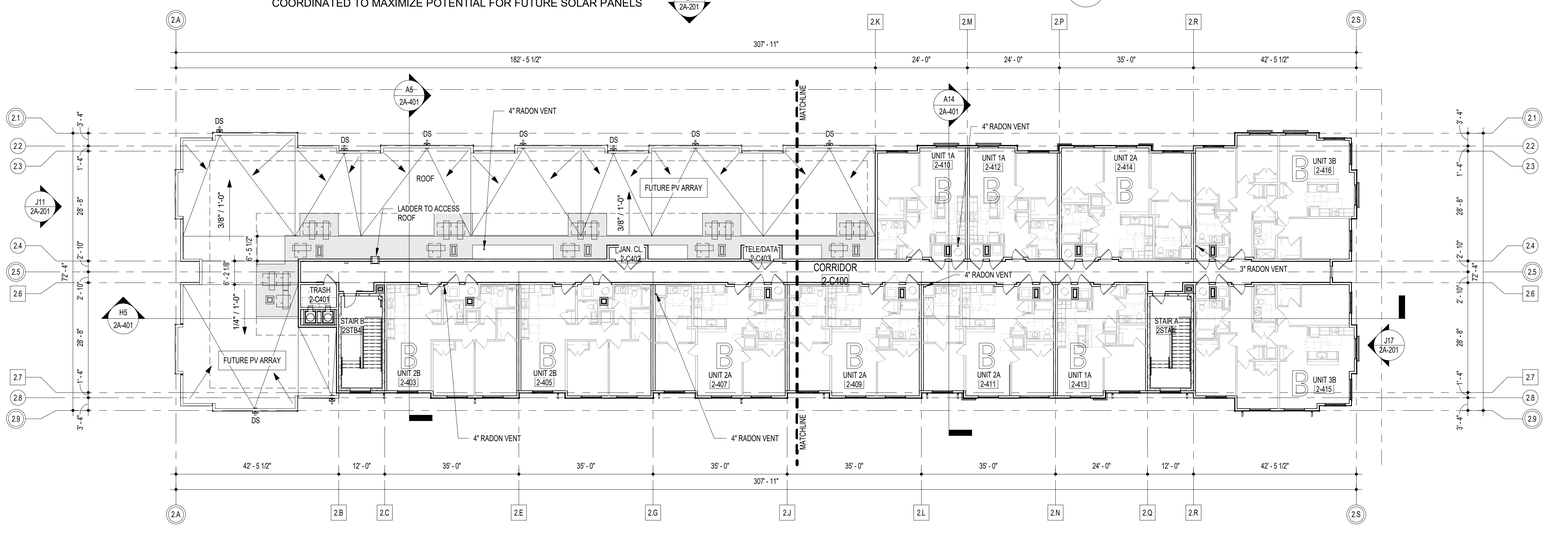


MAIN ROOF SLOPED FOR DRAINAGE VIA SCUPPERS, CONDUCTOR BOXES, AND DOWNSPOUTS. BELOW GRADE TIE IN TO STORM SYSTEM.

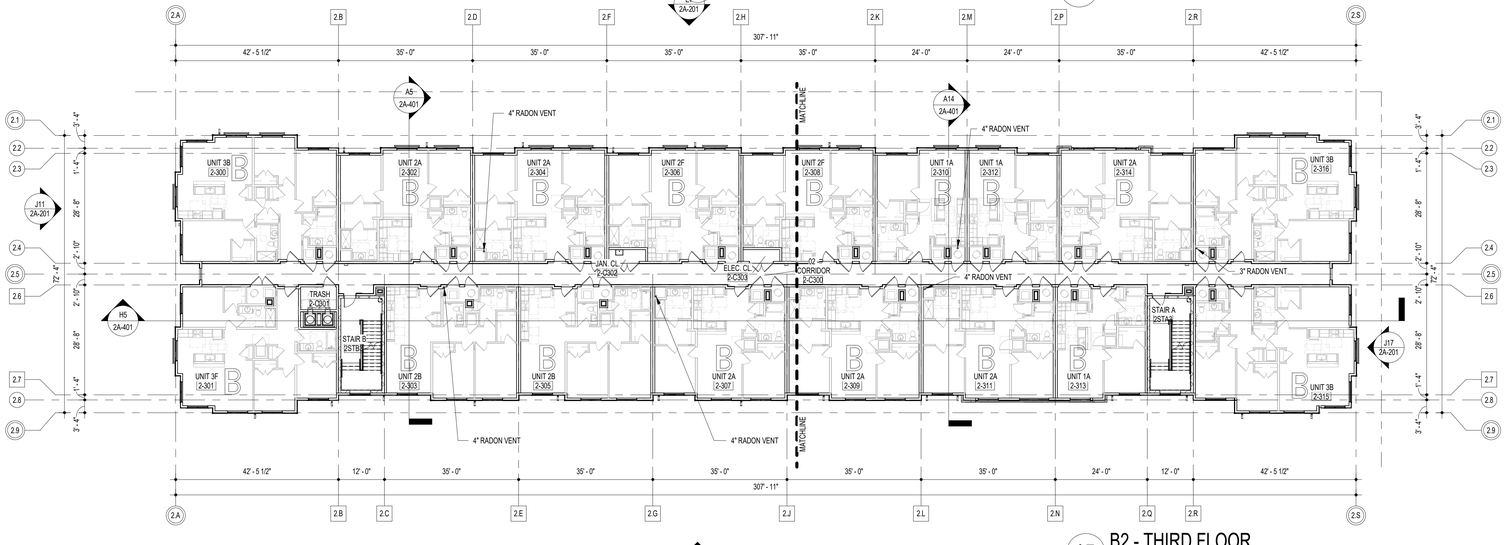
ALL EXTERIOR ENTRANCE DOORS THAT ARE ACCESSED BY RESIDENTS OR VISITORS TO HAVE MIN. 30IN OVERHANG AND 12IN. ALONG EACH SIDE OF DOOR. PROVIDE DOWNSPOUTS AND BELOW GRADE TIE IN TO STORM SYSTEM.

EXTERIOR MECHANICAL EQUIPMENT TO BE ROOF MOUNTED. BUILDING WILL BE SOLAR READY. FINAL MECHANICAL LAYOUTS MUST BE COORDINATED TO MAXIMIZE POTENTIAL FOR FUTURE SOLAR PANELS

J7 B2 - TRUSS BEARING
1/16" = 1'-0"



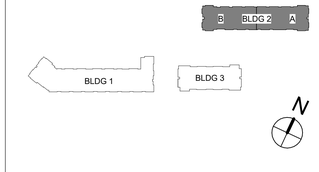
E7 B2 - FOURTH FLOOR
1/16" = 1'-0"



A7 B2 - THIRD FLOOR
1/16" = 1'-0"

SCALE:1/16" = 1'-0"
0 8' - 0" 16' - 0" 32' - 0" 48' - 0" 64' - 0"

KEY PLAN



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BUILDING 2 OVERALL PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IS
05/14/2026	VH 4% HOTC APP
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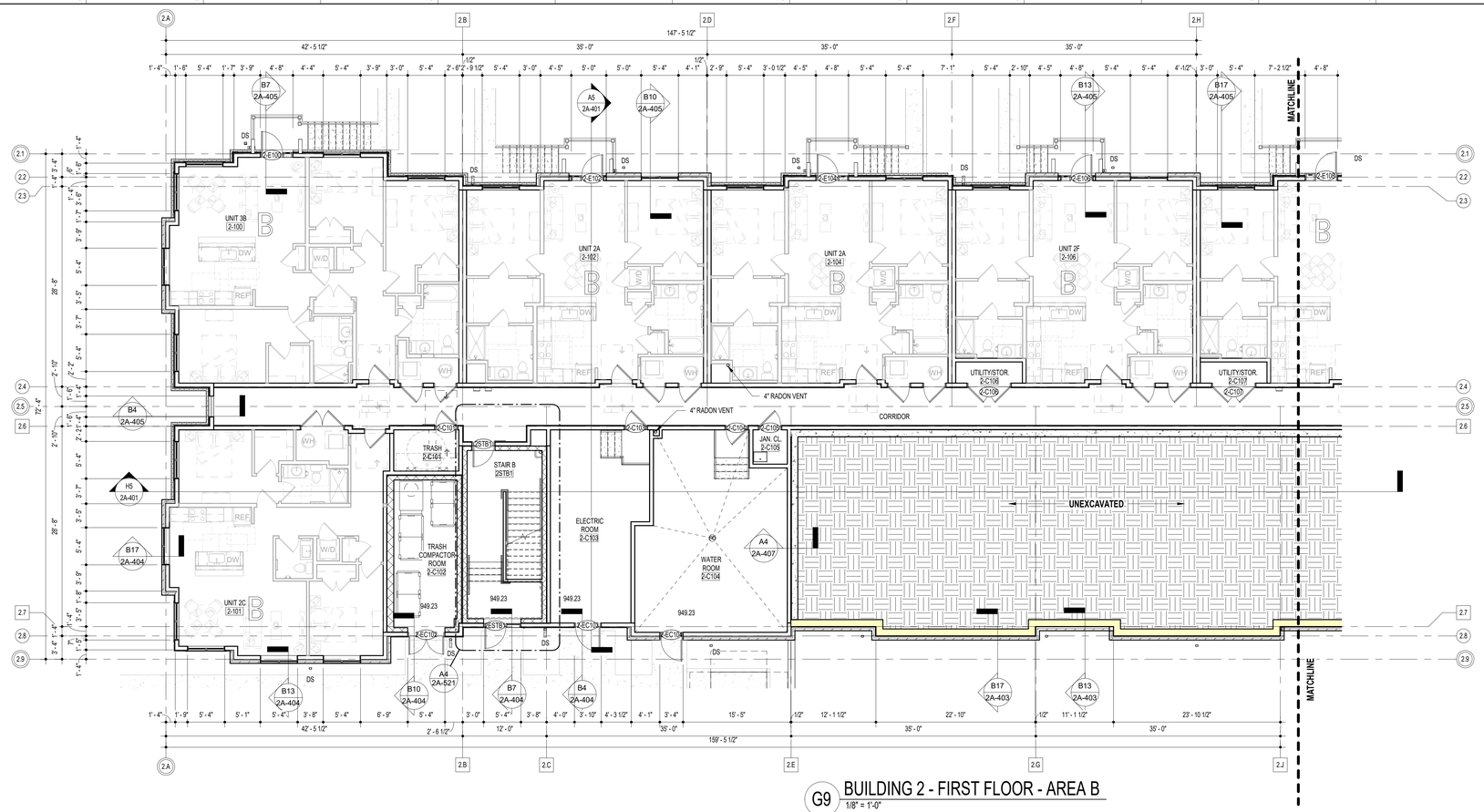
2A-102
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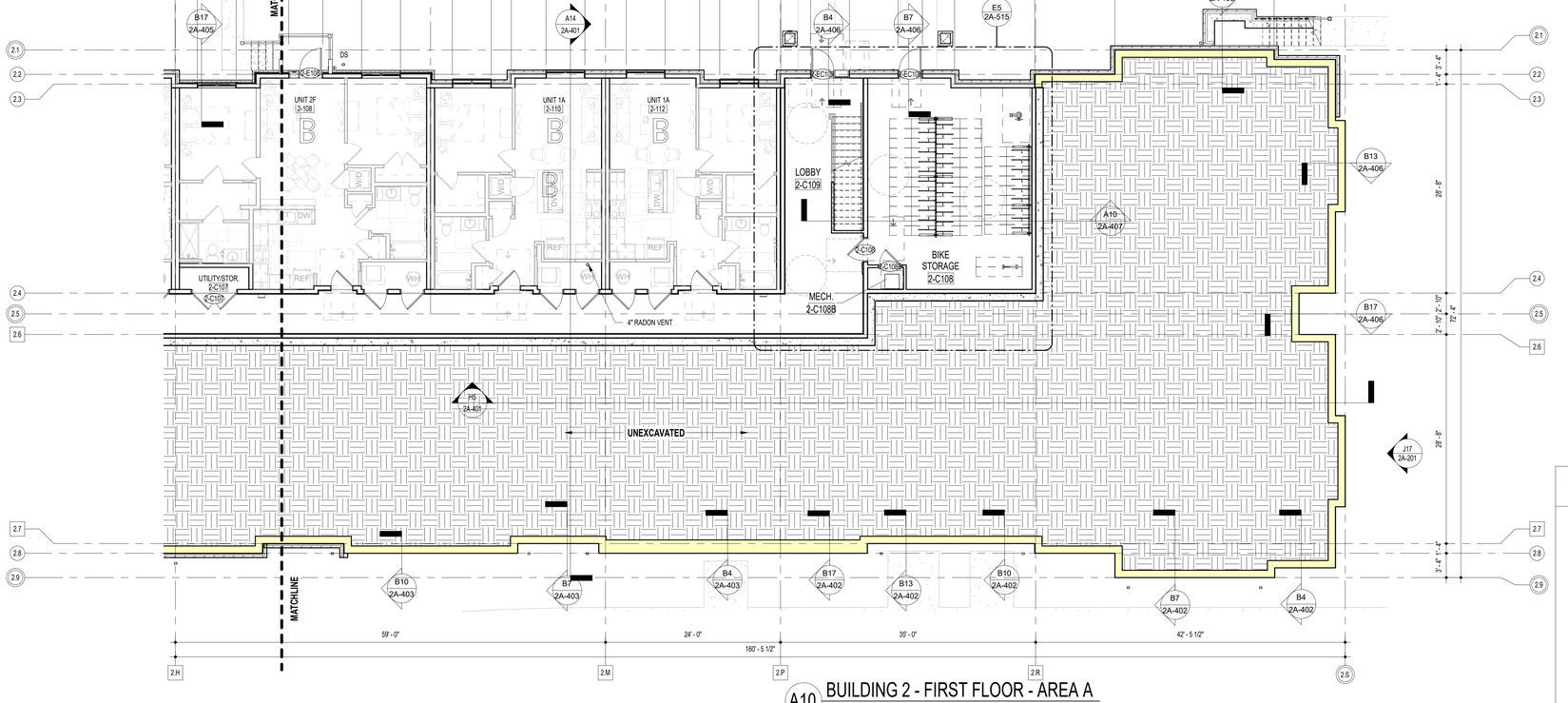
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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER



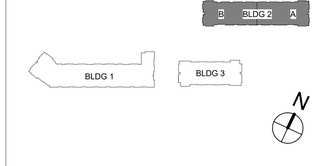
G9 BUILDING 2 - FIRST FLOOR - AREA B
1/8" = 1'-0"



A10 BUILDING 2 - FIRST FLOOR - AREA A
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 2 PARTIAL FIRST FLOOR PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
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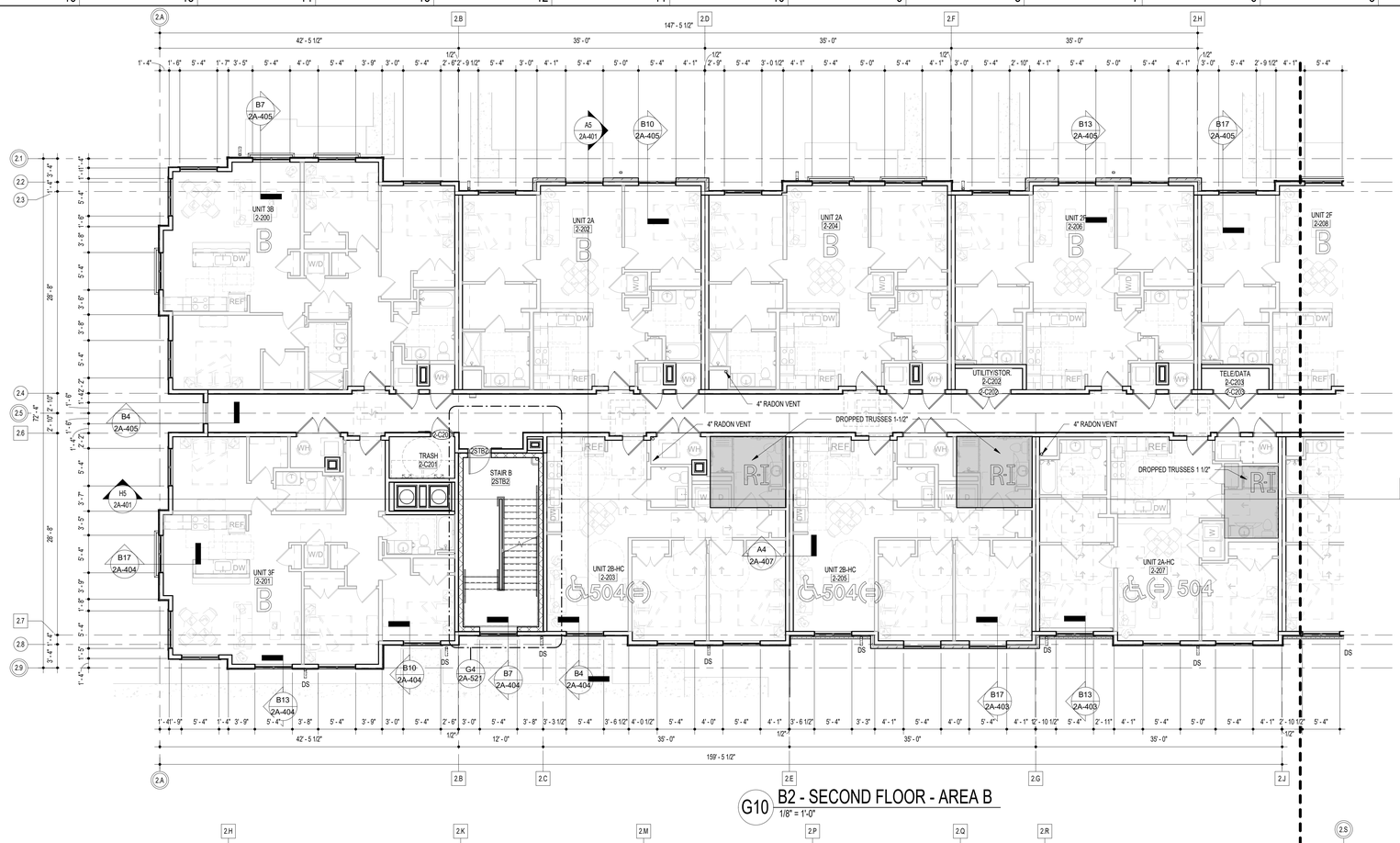
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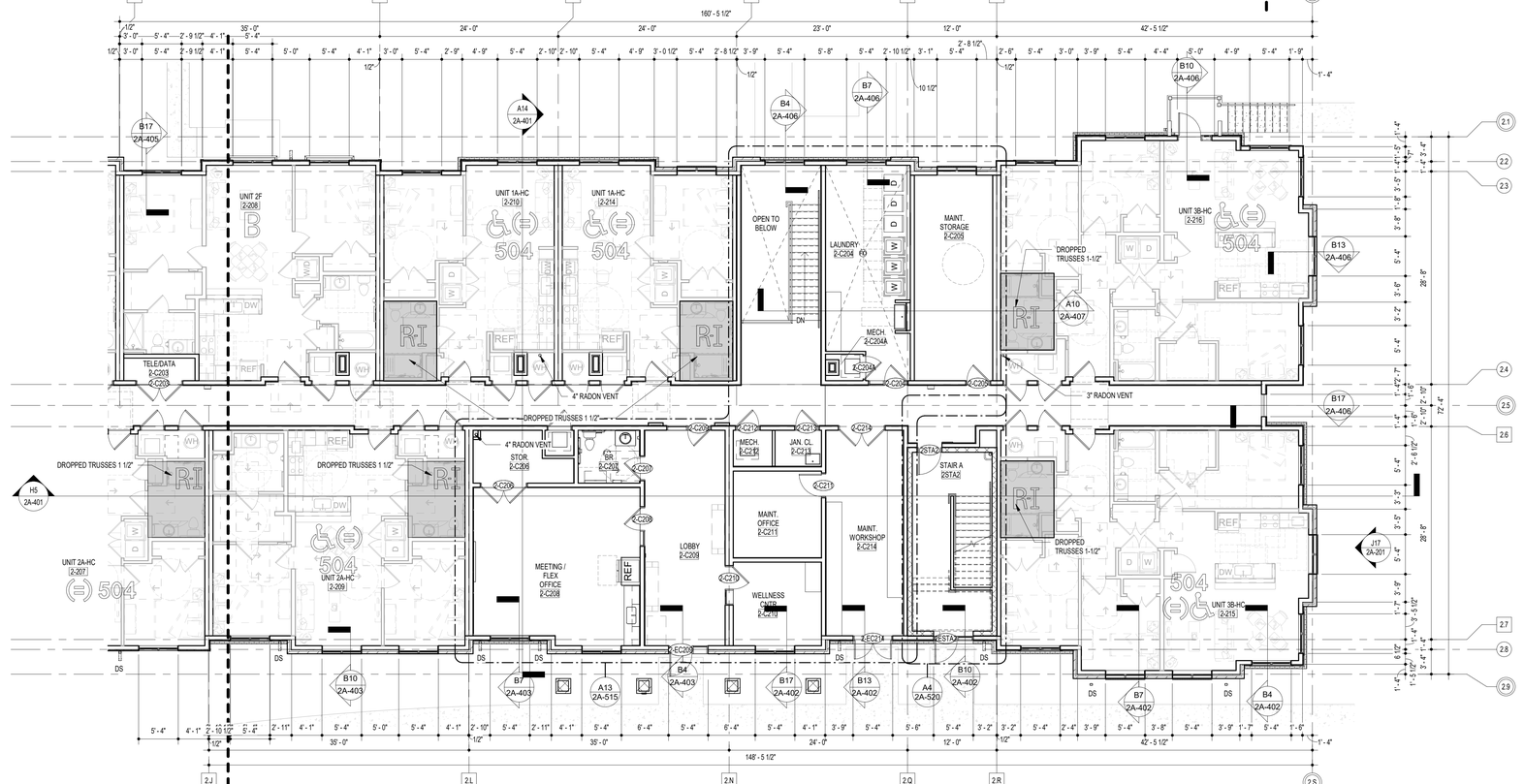
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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 UFAS/SECTION 504
- B ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI ROLL-IN SHOWER



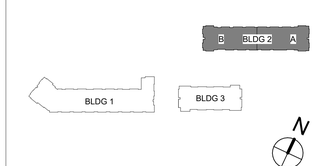
G10 B2 - SECOND FLOOR - AREA B
1/8" = 1'-0"



A10 B2 - SECOND FLOOR - AREA A
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 2 PARTIAL SECOND FLOOR PLANS

ROANOKE GATEWAY
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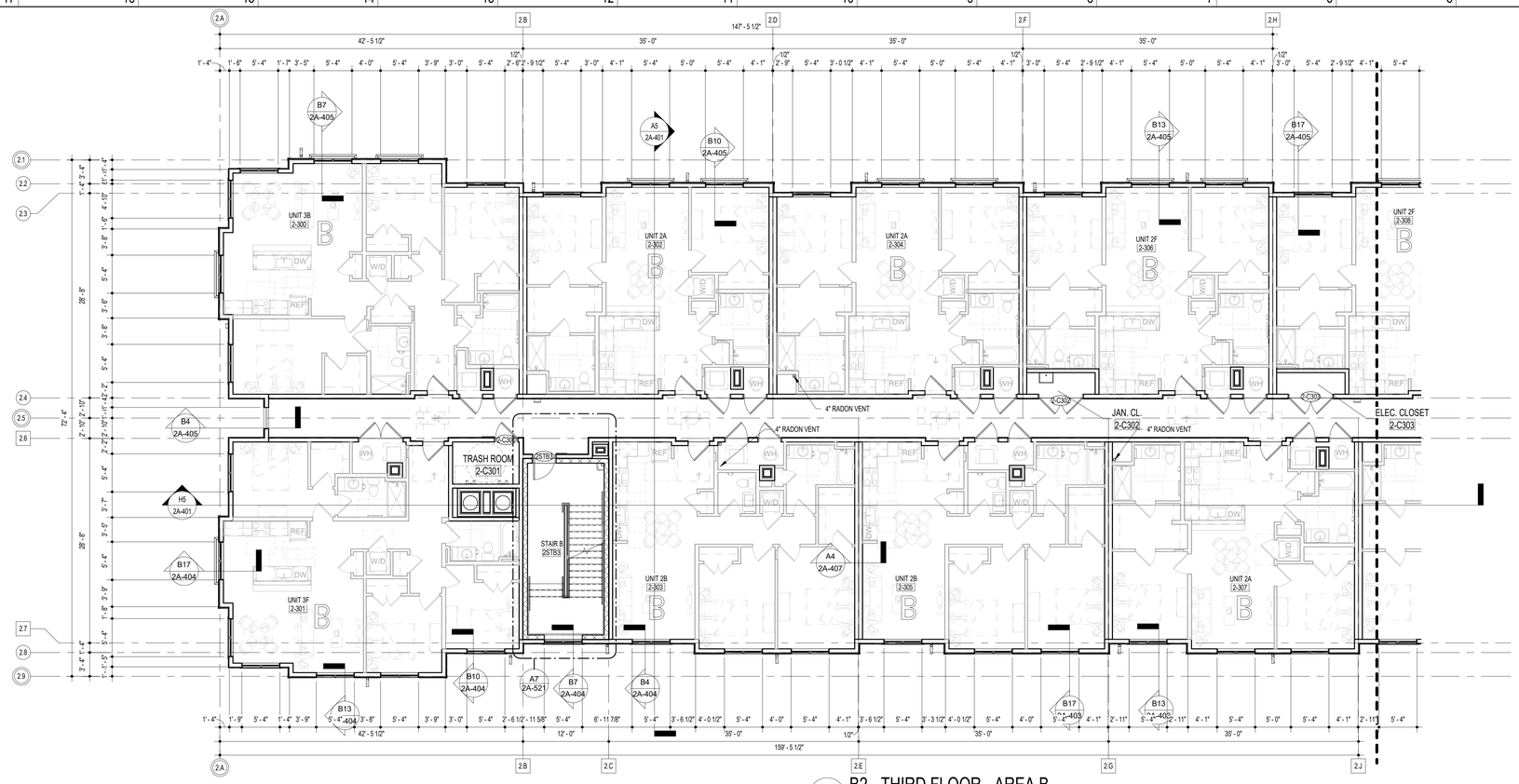
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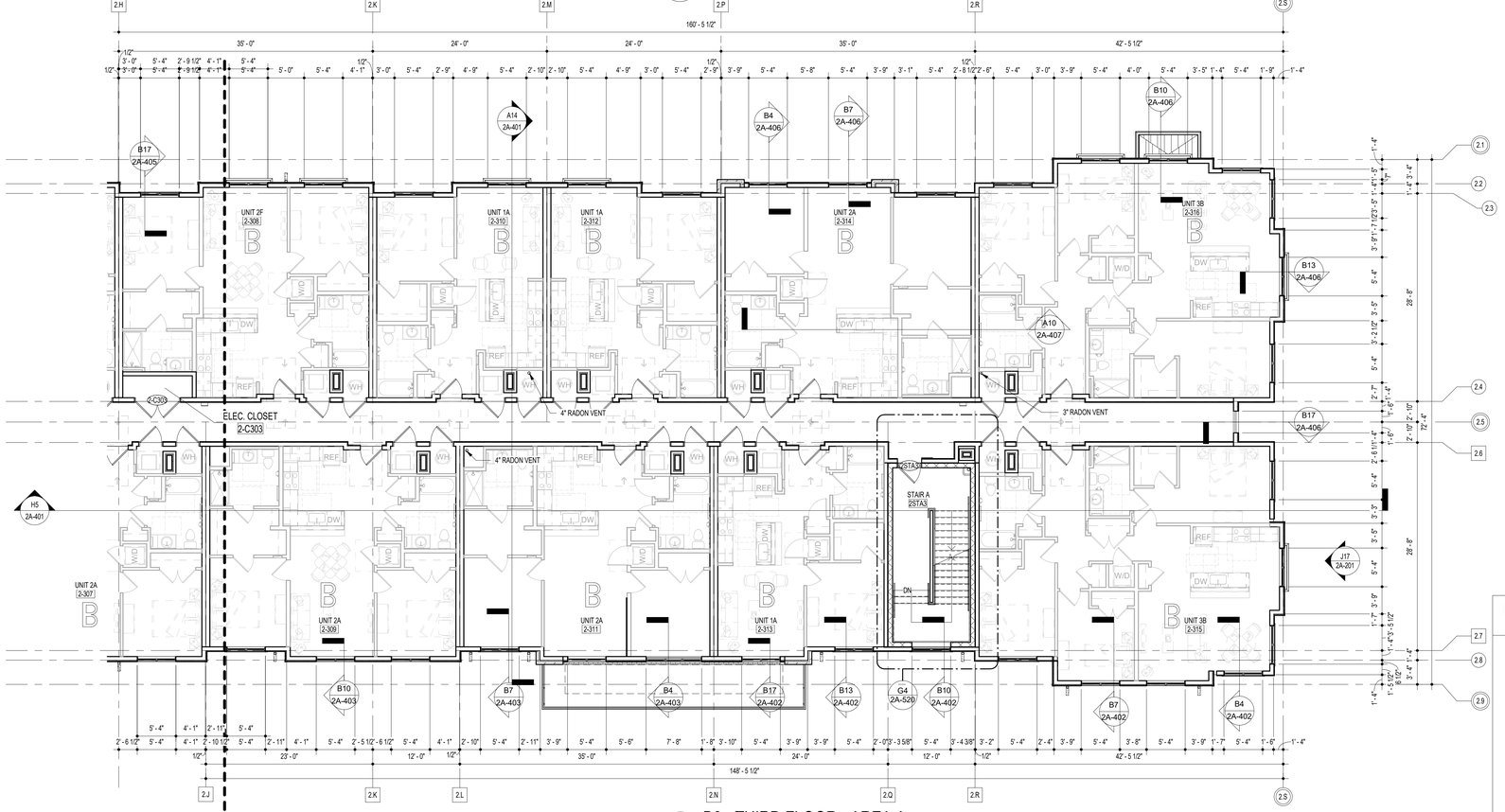
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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER



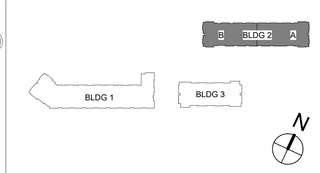
G10 B2 - THIRD FLOOR - AREA B
1/8" = 1'-0"



A10 B2 - THIRD FLOOR - AREA A
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 2 PARTIAL THIRD FLOOR PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW

2A-105

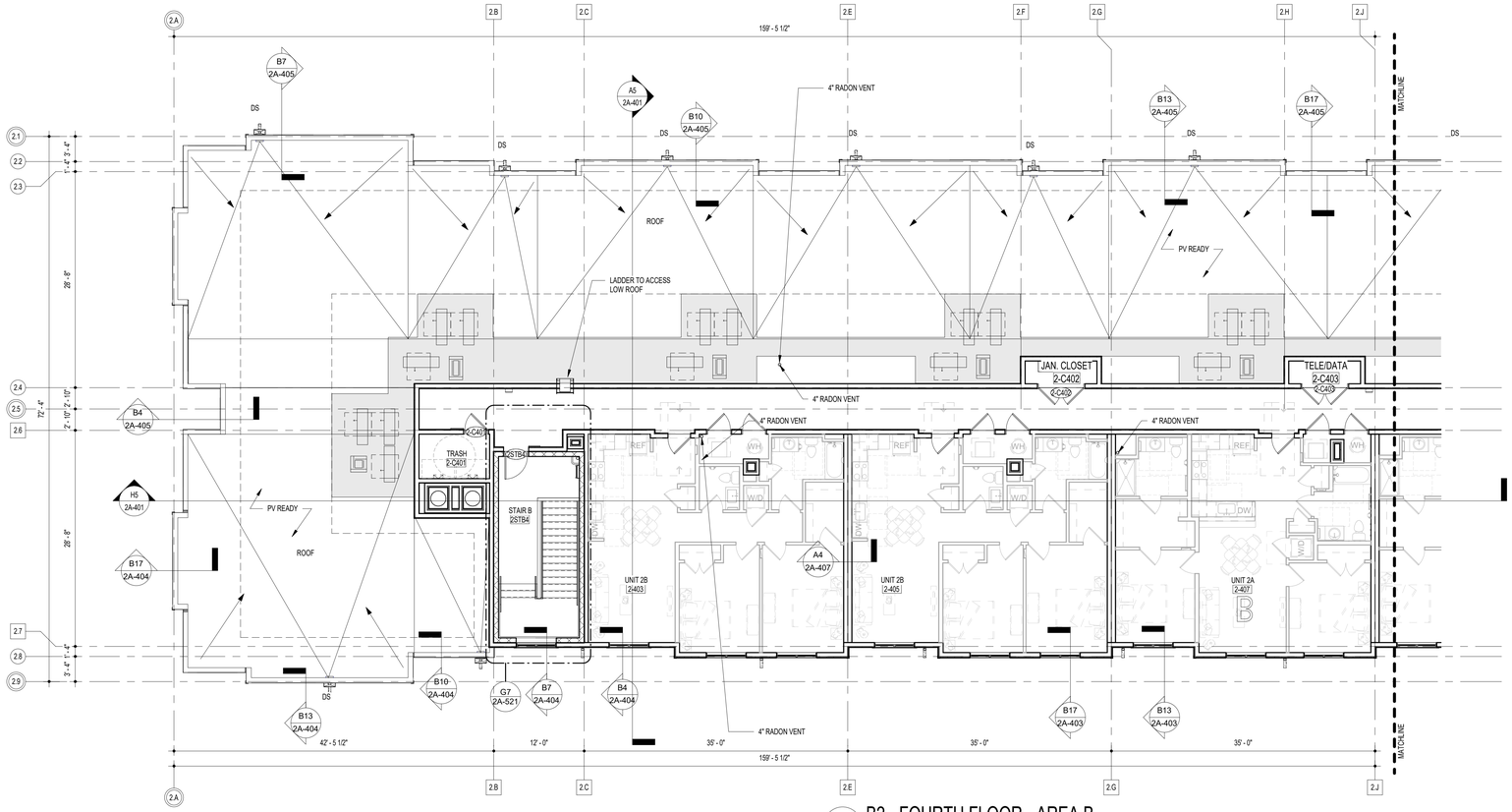
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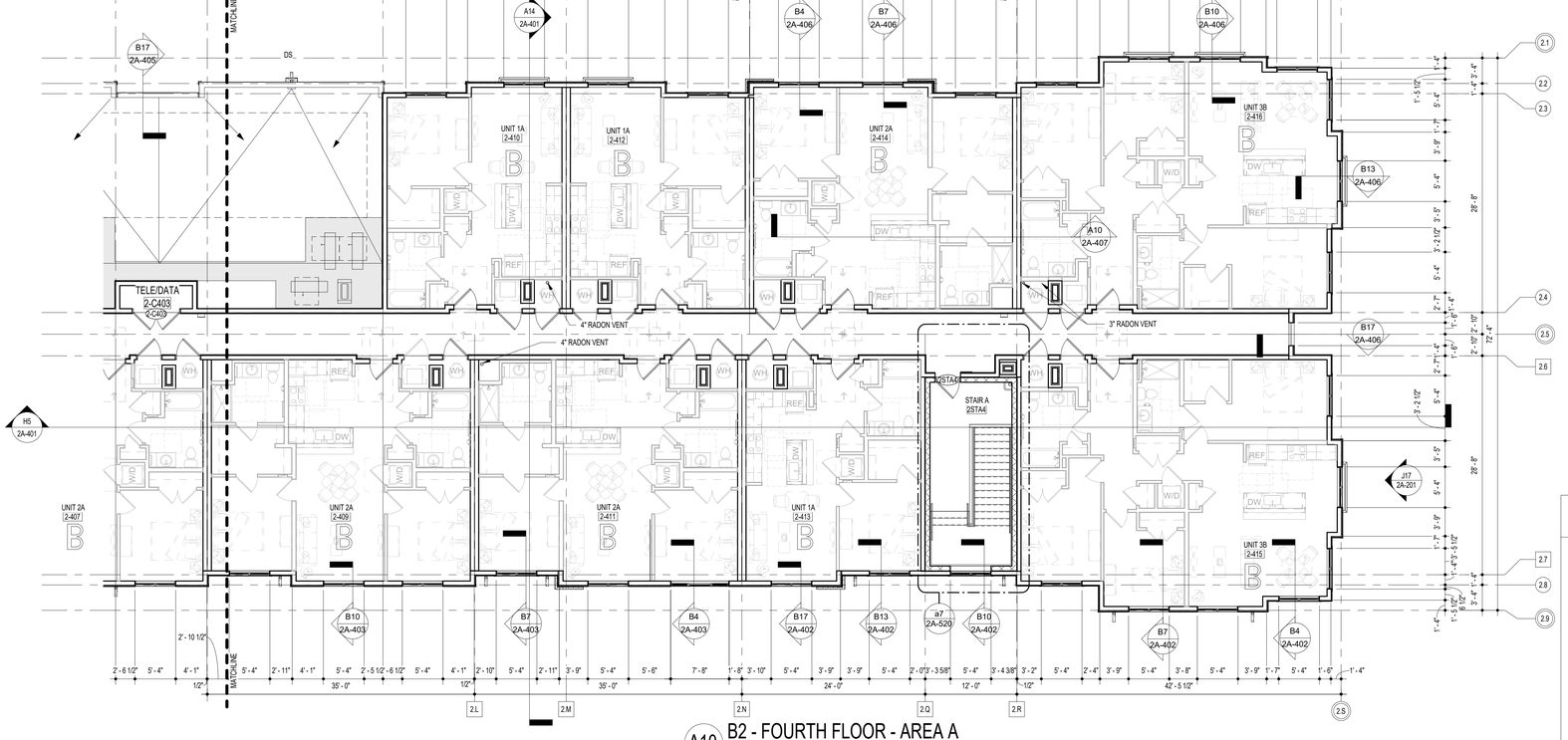
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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER



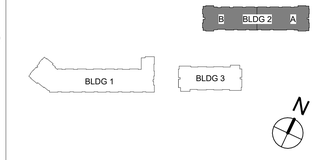
G10 B2 - FOURTH FLOOR - AREA B
1/8" = 1'-0"



A10 B2 - FOURTH FLOOR - AREA A
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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G+P GRIMM AND PARKER

GP #22424.00

BUILDING 2 PARTIAL FOURTH FLOOR PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

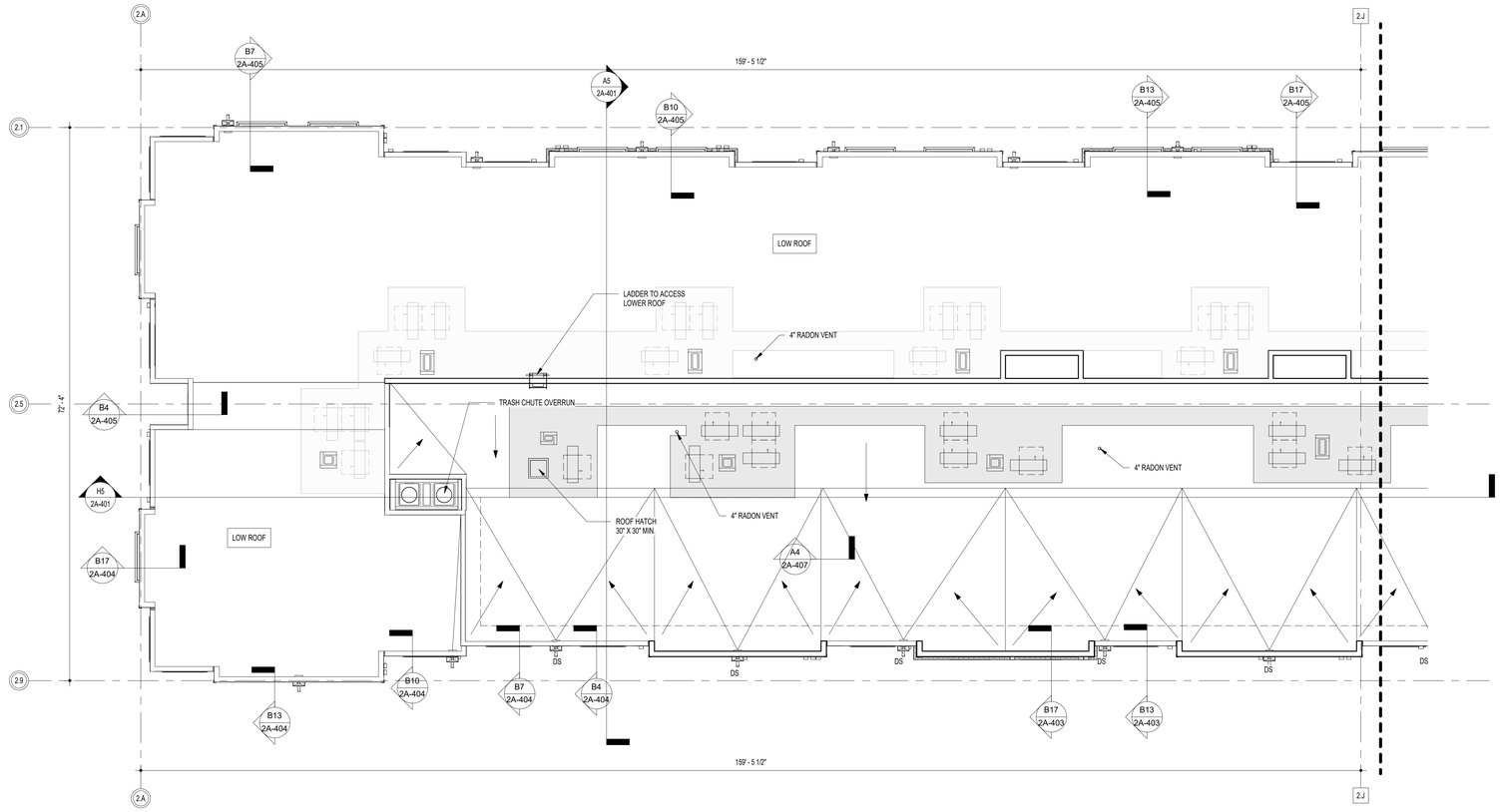
DATE	SUBMISSION / REVISION / #:
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

2A-106

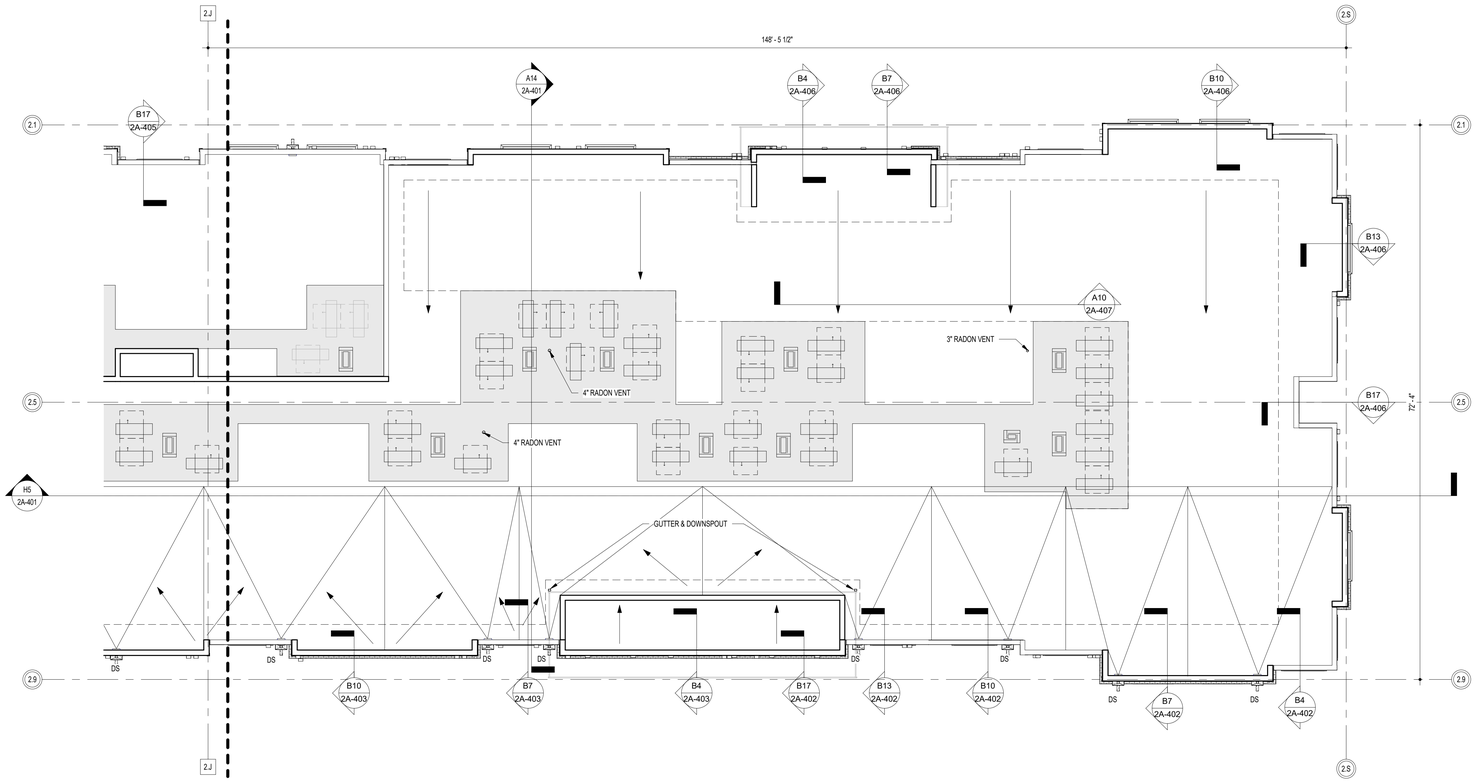
06/30/2026
CONSTRUCTABILITY REVIEW

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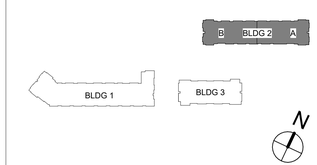
G10 B2 - TRUSS BEARING - AREA B
1/8" = 1'-0"



A10 B2 - TRUSS BEARING - AREA A
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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G+P GRIMM AND PARKER

GP #22424.00

BUILDING 2 PARTIAL ROOF PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

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05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

2A-107

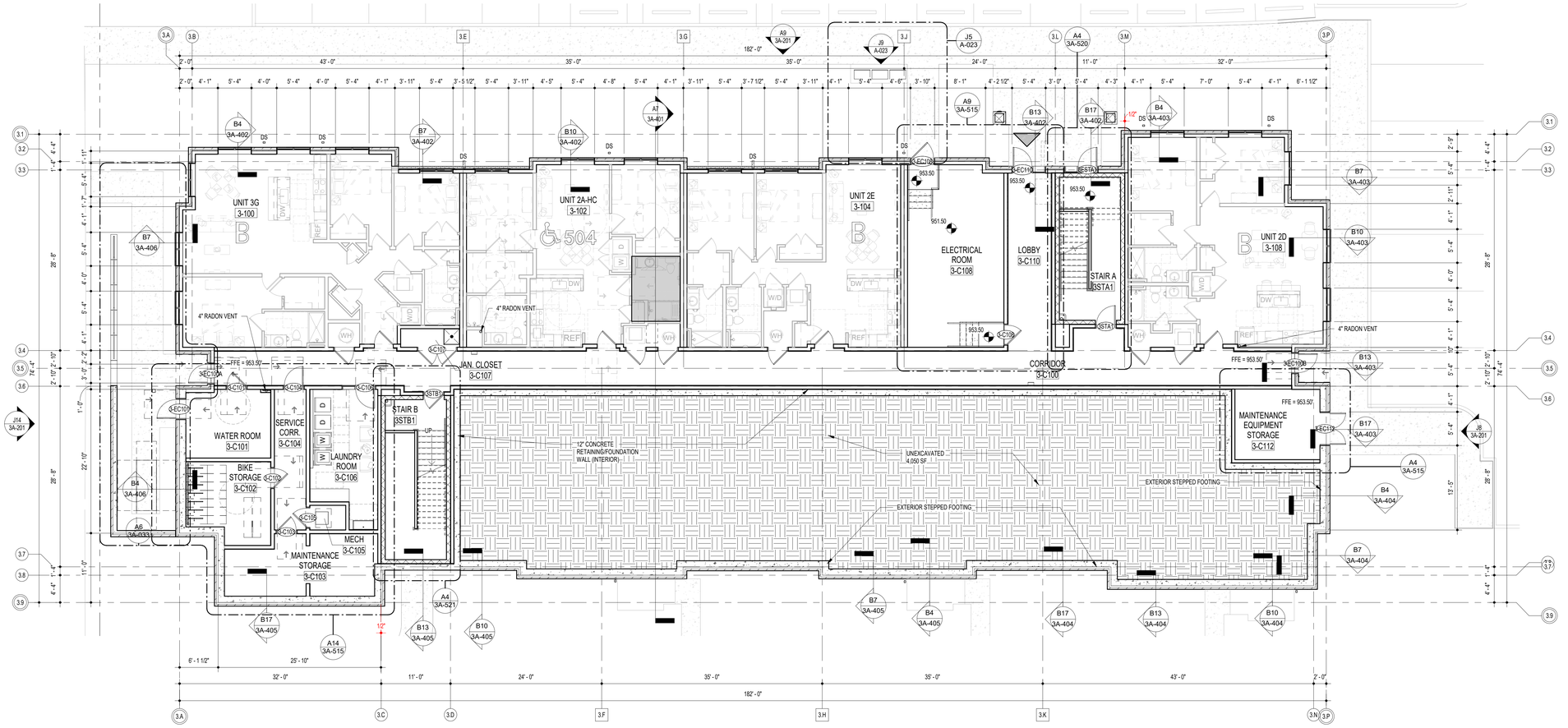
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CONSTRUCTABILITY REVIEW

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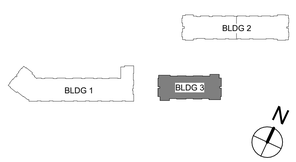
UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER



B7 BUILDING 3 - FIRST FLOOR PLAN
1/8" = 1'-0"

KEY PLAN



SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

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GP #22424.00

BUILDING 3 OVERALL PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / P...
05/14/2026	VH 4% HOTC APP
06/30/2026	CONSTRUCTABILITY REVIEW

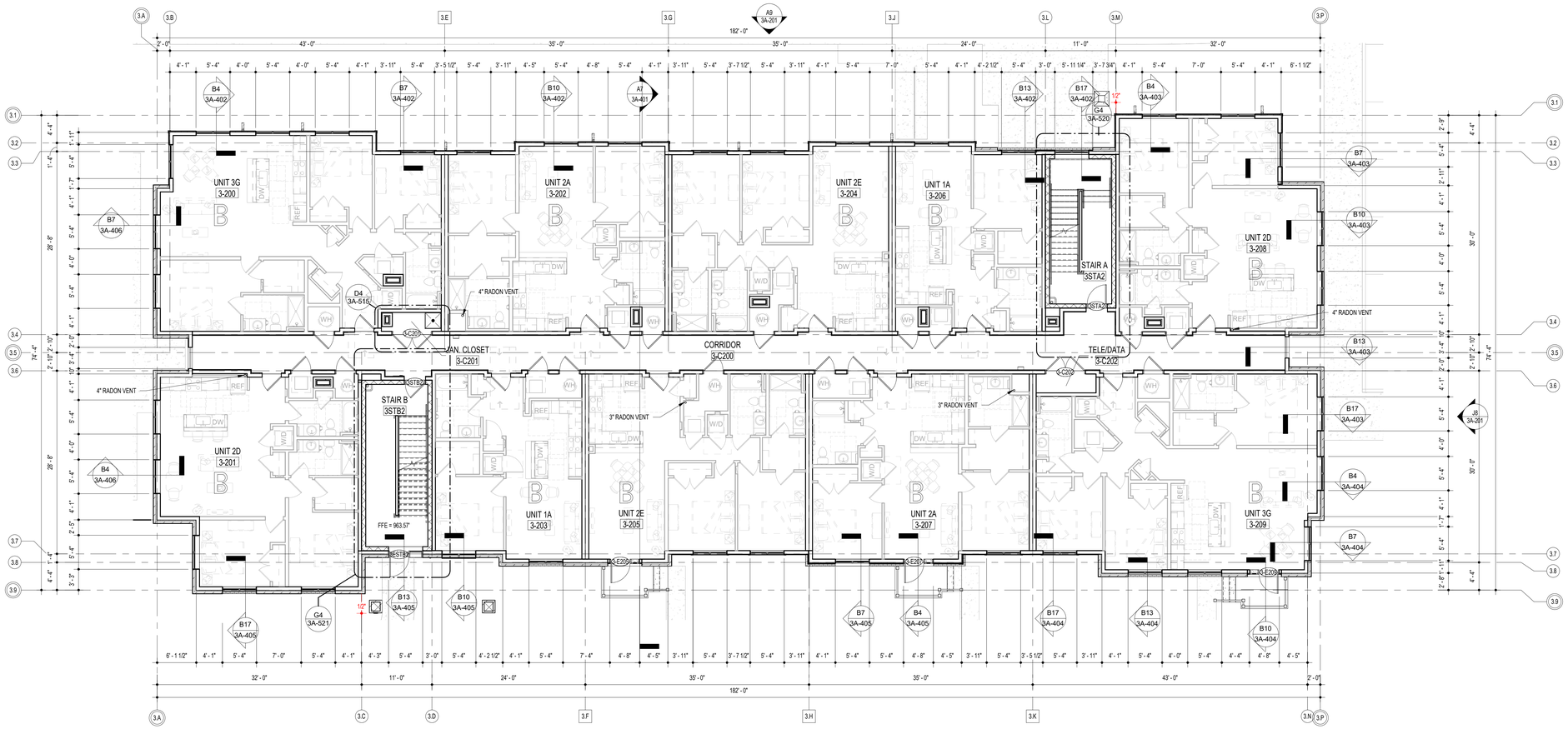
3A-101
06/30/2026
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UNIT ACCESSIBILITY SYMBOLS

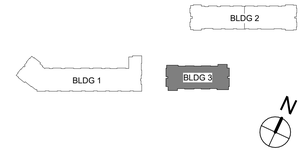
- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- R.I — ROLL-IN SHOWER



B7 BUILDING 3 - SECOND FLOOR PLAN
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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GP #22424.00

BUILDING 3 OVERALL PLAN
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

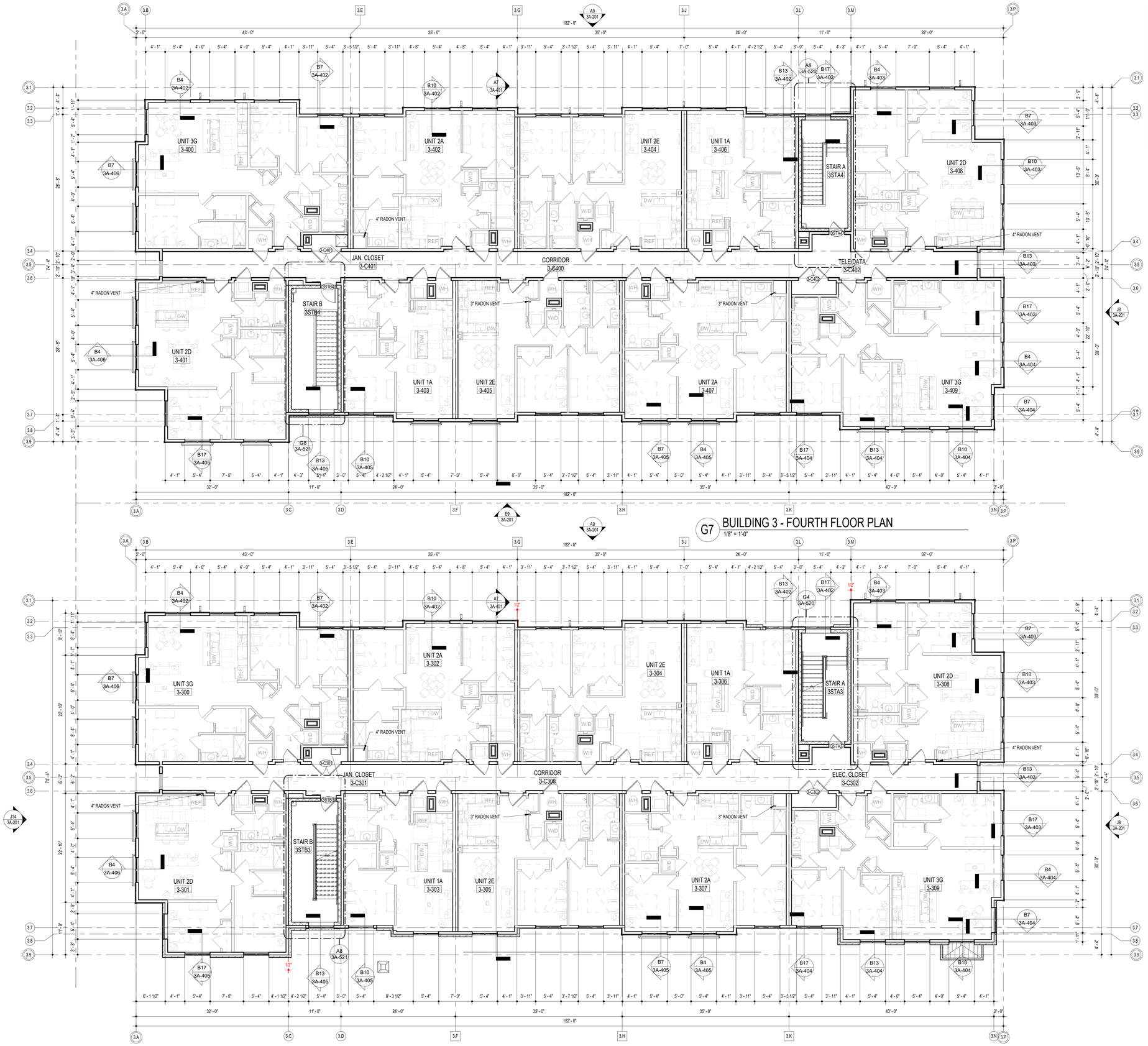
3A-102
06/30/2026
CONSTRUCTABILITY REVIEW

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UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 — UFAS/SECTION 504
- B — ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI — ROLL-IN SHOWER

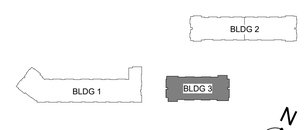


G7 BUILDING 3 - FOURTH FLOOR PLAN
1/8" = 1'-0"

A7 BUILDING 3 - THIRD FLOOR PLAN
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 3 OVERALL PLANS
ROANOKE GATEWAY
ROANOKE, VA 24022

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3A-103
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CONSTRUCTABILITY REVIEW

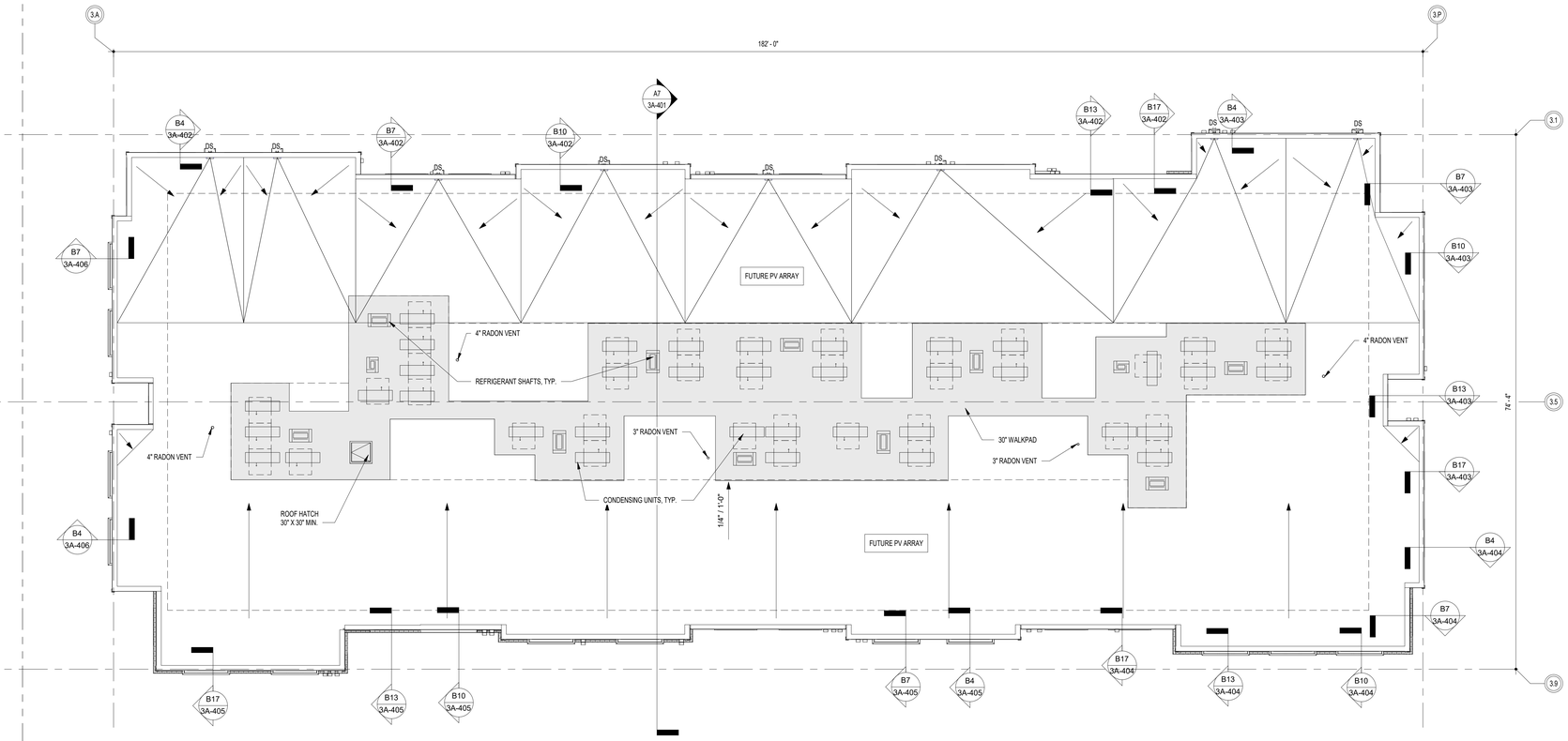
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MAIN ROOF SLOPED FOR DRAINAGE VIA SCUPPERS, CONDUCTOR BOXES, AND DOWNSPOUTS. BELOW GRADE TIE IN TO STORM SYSTEM.

ALL EXTERIOR ENTRANCE DOORS THAT ARE ACCESSED BY RESIDENTS OR VISITORS TO HAVE MIN. 30IN OVERHANG AND 12IN. ALONG EACH SIDE OF DOOR. PROVIDE DOWNSPOUTS AND BELOW GRADE TIE IN TO STORM SYSTEM.

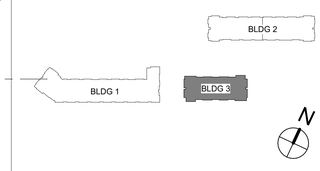
EXTERIOR MECHANICAL EQUIPMENT TO BE ROOF MOUNTED. BUILDING WILL BE SOLAR READY. FINAL MECHANICAL LAYOUTS MUST BE COORDINATED TO MAXIMIZE POTENTIAL FOR FUTURE SOLAR PANELS



A7 BUILDING 3 - ROOF PLAN
1/8" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

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BUILDING 3 ROOF PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IP
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06/30/2026	CONSTRUCTABILITY REVIEW

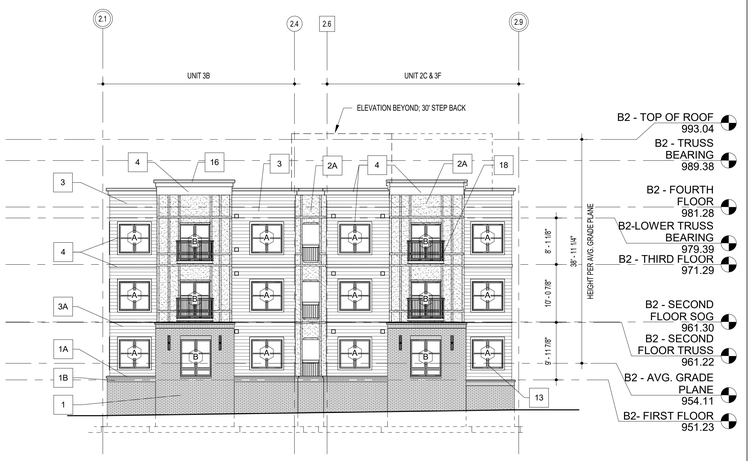
3A-104
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J17 BUILDING 2 ELEVATION - 8TH ST SE
3/32" = 1'-0"



J11 BUILDING 2 ELEVATION - 7TH ST SE
3/32" = 1'-0"

ELEVATION MATERIAL KEYNOTES

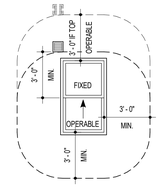
1. BRICK VENEER - COLOR 1
1A. BRICK ROWLOCK SILL - COLOR 1
1B. BRICK SOLDIER COURSE - COLOR 1
2. FIBER CEMENT PANEL WITH TRIM - COLOR 1
2A. FIBER CEMENT PANEL WITH TRIM - COLOR 2
2B. FIBER CEMENT PANEL WITH TRIM - COLOR 3
3. FIBER CEMENT LAP SIDING - COLOR 1
3A. FIBER CEMENT LAP SIDING - COLOR 2
4. FIBER CEMENT TRIM - COLOR 1
5. KNOX BOX
6. AUTO DOOR OPERATOR PUSH PLATE
7. KEY FOB READER
8. NOT USED
9. STANDING SEAM METAL ROOF
10. NOT USED
11. ALUMINUM CONDUCTOR BOXES AND DOWNSPOUTS
12. ALUMINUM FASCIA
13. ENERGY STAR VINYL WINDOWS
14. ALUMINUM STOREFRONT
15. INSULATED HOLLOW METAL DOORS AND FRAMES
16. ALUMINUM COPING - COLOR 1
16A. ALUMINUM COPING - COLOR 2
17. ARCHITECTURAL METAL LOUVERS
18. ALUMINUM JULIET BALCONY RAILINGS

ELEVATION NOTES:

1. IF SIDE ELEVATIONS OF BAYS ARE NOT SHOWN, ASSUME THE MATERIALS SHOWN ON THE FRONT ELEVATION OF THE BAY, RETURNS BACK TO THE NEARBY ADJACENT WALL AT THE SAME HEIGHT AS SHOWN ON THE FRONT ELEVATION.

2. LOUVERS AND VENTS SHOULD BE FACTORY FINISHED TO MATCH IN COLOR, AS CLOSELY AS POSSIBLE, ADJACENT MATERIALS WHERE THEY ARE LOCATED ON THE ELEVATIONS.

EXHAUST VENT PROXIMITY DIAGRAM: NO EXHAUST VENTS ARE PERMITTED WITHIN 3'-0" OF OPERABLE PORTIONS OF WINDOWS (SINGLE HUNG SHOWN FOR EXAMPLE - UPPER CLEARANCE NEEDED FOR CASEMENT, DOUBLE HUNG, AND SLIDER TYPE WINDOWS)



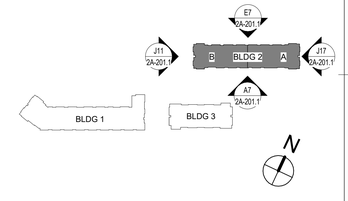


E7 BUILDING 2 ELEVATION - JAMISON AVE SE
3/32" = 1'-0"



A7 BUILDING 2 ELEVATION - ALLEY
3/32" = 1'-0"

KEY PLAN



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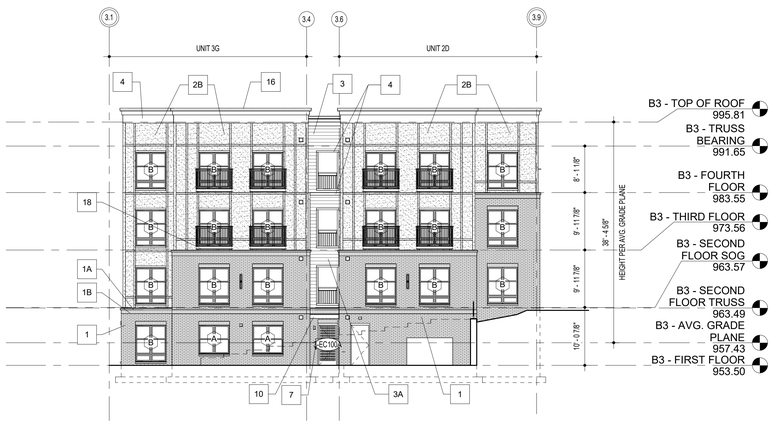
BUILDING 2 ELEVATIONS
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#:
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J14 BUILDING 3 ELEVATION - 7TH ST SE
3/32" = 1'-0"



J8 BUILDING 3 ELEVATION - PARKING LOT
3/32" = 1'-0"



E9 BUILDING 3 ELEVATION - BULLITT AVE SE
3/32" = 1'-0"



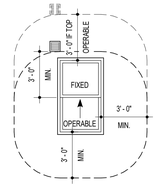
A9 BUILDING 3 ELEVATION - ALLEY
3/32" = 1'-0"

ELEVATION NOTES:

1. IF SIDE ELEVATIONS OF BAYS ARE NOT SHOWN, ASSUME THE MATERIALS SHOWN ON THE FRONT ELEVATION OF THE BAY, RETURNS BACK TO THE NEARBY ADJACENT WALL AT THE SAME HEIGHT AS SHOWN ON THE FRONT ELEVATION.

2. LOUVERS AND VENTS SHOULD BE FACTORY FINISHED TO MATCH IN COLOR, AS CLOSELY AS POSSIBLE, ADJACENT MATERIALS WHERE THEY ARE LOCATED ON THE ELEVATIONS.

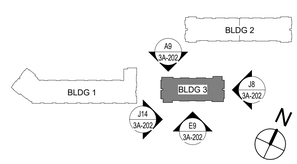
EXHAUST VENT PROXIMITY DIAGRAM: NO EXHAUST VENTS ARE PERMITTED WITHIN 3'-0" OF OPERABLE PORTIONS OF WINDOWS (SINGLE HUNG SHOWN FOR EXAMPLE - UPPER CLEARANCE NEEDED FOR CASEMENT, DOUBLE HUNG, AND SLIDER TYPE WINDOWS)



ELEVATION MATERIAL KEYNOTES

1. BRICK VENEER - COLOR 1
1A. BRICK ROWLOCK SILL - COLOR 1
1B. BRICK SOLDIER COURSE - COLOR 1
2. FIBER CEMENT PANEL WITH TRIM - COLOR 1
2A. FIBER CEMENT PANEL WITH TRIM - COLOR 2
2B. FIBER CEMENT PANEL WITH TRIM - COLOR 3
3. FIBER CEMENT LAP SIDING - COLOR 1
3A. FIBER CEMENT LAP SIDING - COLOR 2
4. FIBER CEMENT TRIM - COLOR 1
5. KNOX BOX
6. AUTO DOOR OPERATOR PUSH PLATE
7. CARD READER
8. NOT USED
9. STANDING SEAM METAL ROOF
10. NOT USED
11. ALUMINUM CONDUCTOR BOXES AND DOWNSPOUTS
12. ALUMINUM FASCIA
13. ENERGY STAR VINYL WINDOWS
14. ALUMINUM STOREFRONT
15. INSULATED HOLLOW METAL DOORS AND FRAMES
16. ALUMINUM COPING - COLOR 1
16A. ALUMINUM COPING - COLOR 2
17. ARCHITECTURAL METAL LOUVERS
18. ALUMINUM JULIET BALCONY RAILINGS

KEY PLAN



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BUILDING 3 ELEVATIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

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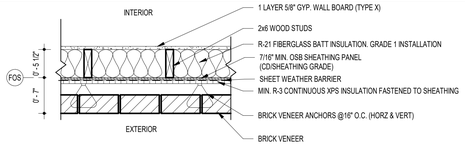
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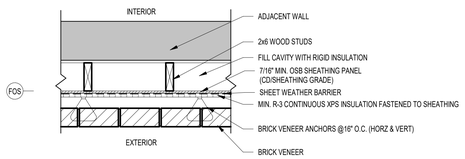
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EXTERIOR WALL TYPES

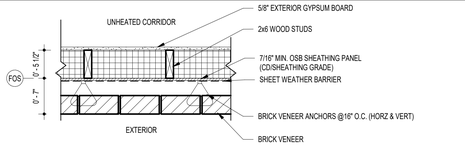
A1 UL LISTING: U356 | FIRE RATING: 1-HR | STC: --



A3 UL LISTING: N/A | FIRE RATING: 1-HR | STC: --

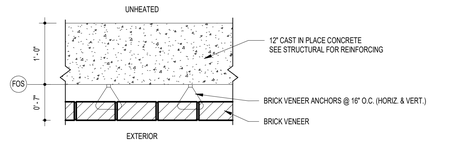


A4 UL LISTING: N/A | FIRE RATING: 1-HR | STC: --

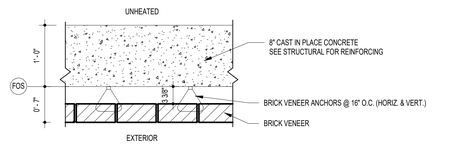


B1 UL LISTING: N/A | FIRE RATING: N/A

B2 SAME AS 'B1' WITH 8" CONCRETE

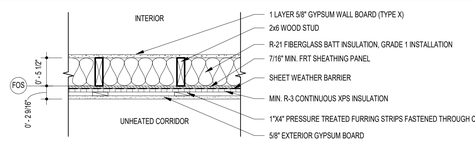


B5 UL LISTING: N/A | FIRE RATING: N/A



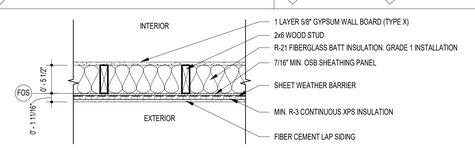
C1 UL LISTING: V340 | FIRE RATING: 1-HR | STC: --

C2 SAME AS C1 W/ OUT LAYER 5/8" GWB

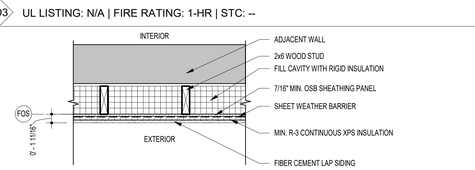


D1 UL LISTING: U356 | FIRE RATING: 1-HR | STC: --

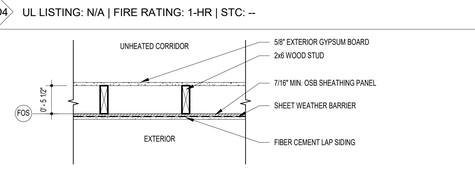
D2 SAME AS D1 W/ OUT LAYER 5/8" GWB



D3 UL LISTING: N/A | FIRE RATING: 1-HR | STC: --



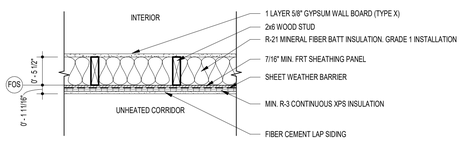
D4 UL LISTING: N/A | FIRE RATING: 1-HR | STC: --



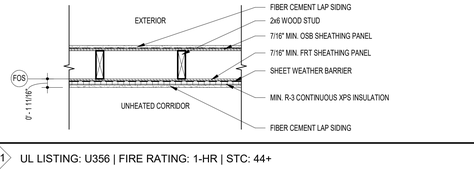
EXTERIOR WALL TYPES (CONT.)

E1 UL LISTING: V340 | FIRE RATING: 1-HR | STC: --

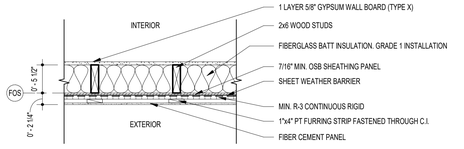
E2 SAME AS E1 W/ OUT LAYER 5/8" GWB



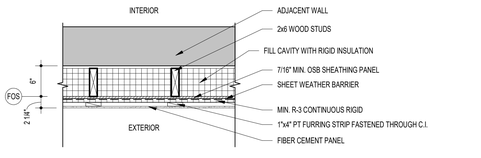
E5 UL LISTING: N/A | FIRE RATING: 1-HR | STC: --



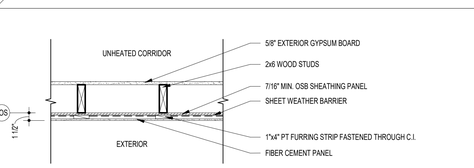
F1 UL LISTING: U356 | FIRE RATING: 1-HR | STC: 44+



F3 UL LISTING: N/A | FIRE RATING: 1-HR | STC: 44+

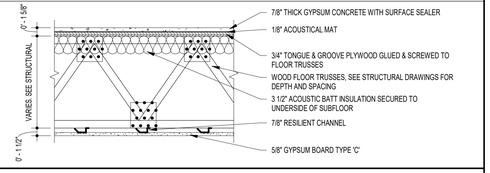


F4 UL LISTING: N/A | FIRE RATING: 1-HR | STC: 44+

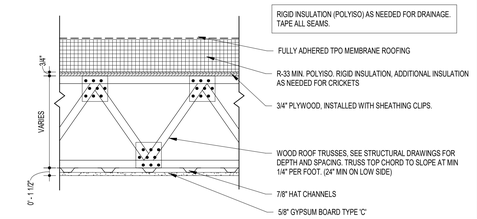


CEILING / FLOOR TYPES

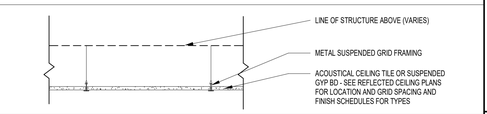
CL1 UL LISTING: L521, SYSTEM NO. 2 | FIRE RATING: 1 HR | STC: 63+ | IIC: 55



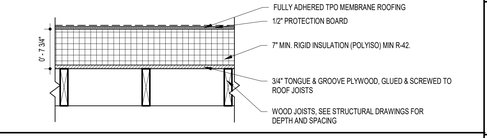
CL2 UL LISTING: P545 | FIRE RATING: 1-HR



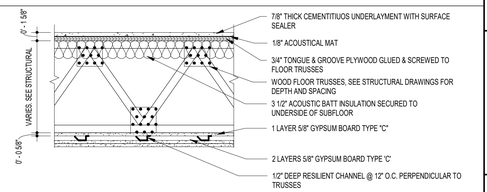
CL5 UL LISTING: | FIRE RATING: - | STC: -



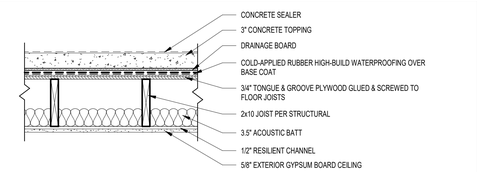
CL7 UL LISTING: P545 | FIRE RATING: 1-HR | STC: N/A | IIC: N/A



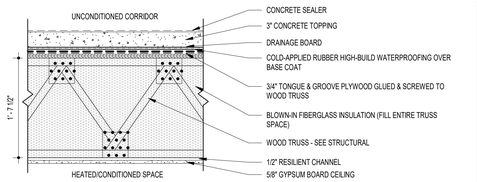
CL8 UL LISTING: L577, SYSTEM NO. 1 | FIRE RATING: 2 HR | STC: 58+ | IIC: -



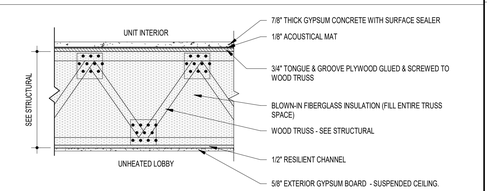
CL9 2021 VCC TABLE 721.1(3) ASSEMBLY 13-1.4 | FIRE RATING: 1 HR | STC: -- | IIC: --



CL10 2021 VCC TABLE 721.1(3) ASSEMBLY 13-1.4 | FIRE RATING: 1 HR | STC: -- | IIC: --



CL11 UL LISTING: L521, SYSTEM NO. 2 | FIRE RATING: 1 HR | STC: 63+ | IIC: 55



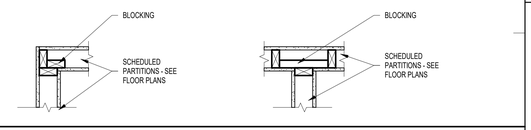
TYPICAL WALL TYPE NOTES

1. CURRENT UL LISTED ASSEMBLIES TO TAKE PRECEDENCE OVER LISTED WALL TYPES WHERE REQUIRED AND/OR NOTED.
2. FOR WALL INTERSECTION DETAILS SEE TYPICAL INTERIOR AND EXTERIOR STUD ARRANGEMENT DETAILS BELOW.
3. SEE CODE STUDY PLANS (A00X SERIES) FOR LIMITS AND EXTENT OF FIRE RATED WALLS. SEE REFLECTED CEILING PLANS FOR EXTENT OF FIRE RATED CEILINGS.
4. PROVIDE 2X BLOCKING AT WOOD STUD CONSTRUCTION, FOR SUPPORT OF SHELVING, CABINETRY, MISCELLANEOUS TOILET ACCESSORIES, ETC.
5. ALL STUDS TO BE INSTALLED 16" O.C. UNLESS NOTED OTHERWISE.
6. ALL PARTITIONS ARE TO EXTEND FULL HEIGHT FROM UNFINISHED FLOOR TO UNDERSIDE OF STRUCTURE ABOVE, UNLESS NOTED OTHERWISE.
7. REFER TO FLOOR PLANS FOR WALL TYPE DESIGNATION. TYPICAL WALL TYPE SHALL BE TYPE 1 AT WOOD FRAMED AREAS, UNLESS NOTED OTHERWISE.
8. FOR TYPICAL STUD BRIDGING SEE STRUCTURAL DRAWINGS.
9. PROVIDE 3-1/2" SOUND BATT INSULATION AROUND ALL UNIT MECHANICAL CLOSETS AND AROUND ALL UNIT WASHER / DRYER CLOSETS.
10. ALL WALLS THAT ARE RATED FOR FIRE RESISTANCE OR SMOKE BARRIERS SHALL BE MARKED AT THE HIGHEST POINT OF THE WALL WITH SIX INCH TALL RED, STENCIL PAINT LETTERS, WITH A MINIMUM OF 3/4" STROKE WIDTH, STATING THE TYPE OF WALL IT SERVES AS ACCORDING TO THE INTERNATIONAL BUILDING CODE AND "PROTECT ALL PENETRATIONS". SUCH IDENTIFICATION SHALL BE ABOVE ANY DECORATIVE CEILING AND IN CONCEALED SPACES. IF A WALL TRANSVERSES MULTIPLE FLOORS, THEN THE WALL SHALL BE MARKED AT EACH LEVEL. THE SIGNAGE SHALL BE REPEATED EVERY 20 LINEAR FEET.
11. AT EXTERIOR WALLS WITH MASONRY, PROVIDE MASONRY RETURNS AT ALL JAMBS U.O.N.

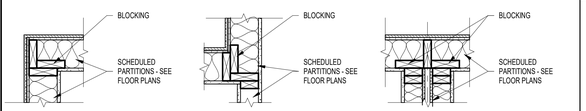
TYPICAL CEILING TYPE NOTES

1. TYPICAL CEILINGS TO HAVE TYPE CL1 UNLESS OTHERWISE NOTED.
2. SEE REFLECTED CEILING PLANS FOR ROOM CEILING HEIGHTS.
3. SEE FINISH SCHEDULES FOR CEILING MATERIALS AND FINISHES.
4. **PROVIDE SOUND MAT UNDERNEATH TILE AND/OR RESILIENT PRODUCTS UTILIZED ON TOP OF CONCRETE SLAB CONSTRUCTION AT RESIDENTIAL UNITS. PROVIDE SOUND MAT THAT IS COMPATIBLE WITH FINISH PRODUCT AND OF LESS THICKNESS THAN FINISH PRODUCT. INTEGRAL SOUND MATS WITH RESILIENT PRODUCTS ARE ALSO ACCEPTABLE. PROVIDE SOUND MAT UNDERNEATH GYPCRETE WHERE APPLICABLE.**

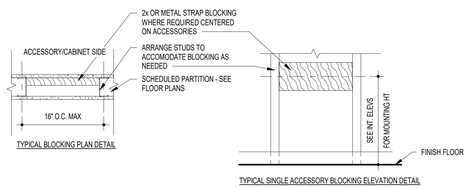
TYPICAL INTERIOR STUD ARRANGEMENT DETAILS



TYPICAL EXTERIOR STUD ARRANGEMENT DETAILS

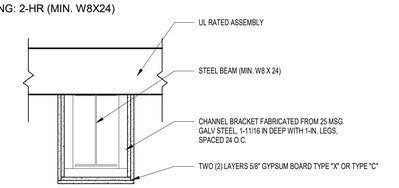


TYPICAL BLOCKING DETAILS



STEEL BEAM FIRE PROTECTION

UL LISTING: N501 | FIRE RATING: 2-HR (MIN. W8X24)



123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
www.grimmandparker.com

GRIMM AND PARKER

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ASSEMBLY TYPES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IR
03/12/2025	VH 9% SUBMISSION
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

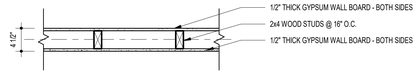
A-301
06/30/2026
CONSTRUCTABILITY REVIEW

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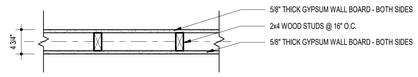
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INTERIOR WALL TYPES

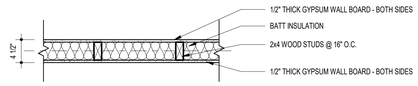
1 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **1A** SAME AS 1 W/ 2X6 STUDS



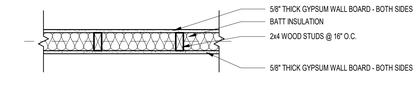
2 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **2A** SAME AS 2 W/ 2X6 STUDS



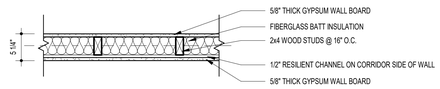
3 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **3A** SAME AS 3 W/ 2X6 STUDS



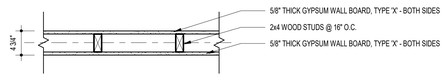
4 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **4A** SAME AS 4 W/ 2X6 STUDS



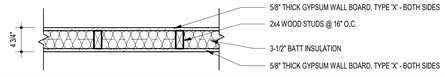
5 UL LISTING: U311 | FIRE RATING: 1 HR | STC: 56 | **5A** SAME AS 5 W/ 2X6 STUDS



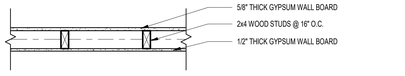
7 UL LISTING: U305 | FIRE RATING: 1 HR | **7A** SAME AS 7 W/ 2X6 STUDS



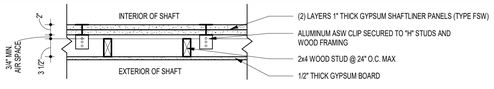
8 UL LISTING: U305 | FIRE RATING: 1 HR | **8A** SAME AS 8 W/ 2X6 STUDS



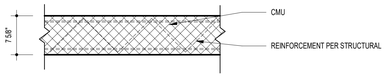
11 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **11A** SAME AS 11 W/ 2X6 STUDS



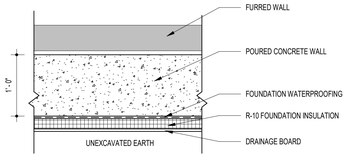
37 UL LISTING: U347 | FIRE RATING: 2 HR | STC: -



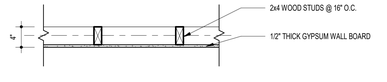
42B UL LISTING: U905 | FIRE RATING: 2 HR | STC: - | **43** SAME AS 42B BUT 11-5/8" BLOCK



60 UL LISTING: N/A | FIRE RATING: - | STC: -

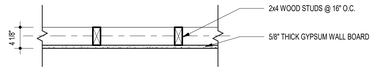


70 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **70A** SAME AS 70 W/ 2X6 STUDS

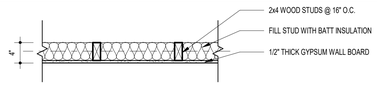


INTERIOR WALL TYPES (CONT.)

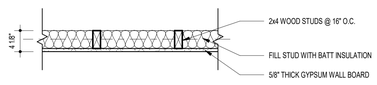
71 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **71A** SAME AS 71 W/ 2X6 STUDS



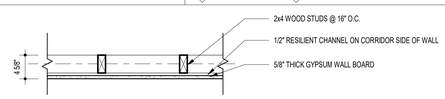
72 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **72A** SAME AS 72 W/ 2X6 STUDS



73 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **73A** SAME AS 73 W/ 2X6 STUDS

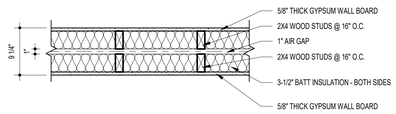


74 UL LISTING: N/A | FIRE RATING: N/A | STC: - | **74A** SAME AS 74 W/ 2X6 STUDS



75 GA #WP 3370 | FIRE RATING: 1-HR | STC:

75A SAME AS 75 W/ 2X6 STUDS **75B** SAME AS 75 W/ 2X4 ONE SIDE, 2X6 OTHER SIDE



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ASSEMBLY TYPES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #.
03/12/2025	VH 9% SUBMISSION
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-302

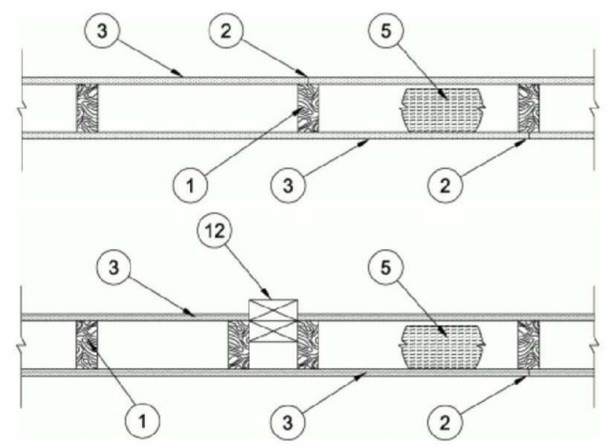
06/30/2026
CONSTRUCTABILITY REVIEW

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Design No. U305
March 05, 2026
Bearing Wall Rating - 1 HR

7 7A



1. Wood Studs — Nom 2 by 4 in., spaced 16 or 24. OC. Effectively firestopped.

2. Joints and Nail-Heads — Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. Gypsum Board* — 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F, Steel Framing Members*.

When Items 6, 6B, 6C, 6D, 6E, 6F, 6G, or 6H Steel Framing Members*, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. When Item 6A, Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3. When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing, 5/8 in. Type C.

CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), Type LWTX (finish rating 18 min),

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULIX (finish rating 20 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11, PG-13 (Nails increased to 2 in.), Type PG-C or PGI (finish rating 26 min)

PANEL REY S A — Type ARX, GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min) SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)
THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)
UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min), Type SCX (finish rating 24 min)
USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).
USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.)
CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min), Type EGRG or GlasRoc, LWTX.
CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)
NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)
UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min),
Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)
USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).
USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. Gypsum Board* — (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.

CGC INC — Types AR, IP-AR
UNITED STATES GYPSUM CO — Types AR, IP-AR
USG MEXICO S A DE C V — Types AR, IP-AR

3C. Gypsum Board* — (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.

CGC INC — Type SHX
UNITED STATES GYPSUM CO — Type SHX
USG MEXICO S A DE C V — Type SHX

Batts and Blankets* — 3-1/2 in. thick mineral wool batts, placed to fill interior of wall, attached to the 4-in. face of the studs with staples placed 24 in. OC.

JOHNS MANVILLE
ROCKWOOL — Types Acoustical Fire Batts and AFB, min. density 1.69 pcf / 27.0 kg/m
ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts.
ROCK WOOL MANUFACTURING CO — Type Delta Board
THERMAFIBER/OWENS CORNING — Type SAFB, SAFB FF.

4. Steel Corner Fasteners — (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. Batts and Blankets* — (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.
CERTAINTEED CORP
JOHNS MANVILLE
KNAUF INSULATION LLC
MANSON INSULATION INC
ROCKWOOL — Types Acoustical Fire Batts and Type AFB, min. density 1.69 pcf / 27.0 kg/m
ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts
ROCK WOOL MANUFACTURING CO — Delta Board
THERMAFIBER/OWENS CORNING — Type SAFB, SAFB FF

5C. Batts and Blankets* — Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.
THERMAFIBER/OWENS CORNING — Type SAFB, SAFB FF

5D. Glass Fiber Insulation — (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

5E. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

6. Steel Framing Members* - Not used. See UL for more information.

7. Resilient Channel — Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. Caulking and Sealants — (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. STC Rating — The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:
A. Item 2, above — Nailheads Shall be covered with joint compound.
B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.
C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.
D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.
E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.
F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. Wall and Partition Facings and Accessories* — (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

Cementitious Backer Units* — (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. Non-Bearing Wall Partition Intersection — (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. Mesh Netting — (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. Mineral and Fiber Board* — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14A. Mineral and Fiber Board* — (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

14B. Glass Fiber Insulation — (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. Batts and Blankets* — (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.
THERMAFIBER/OWENS CORNING — Type SAFB, SAFB FF

14D. (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

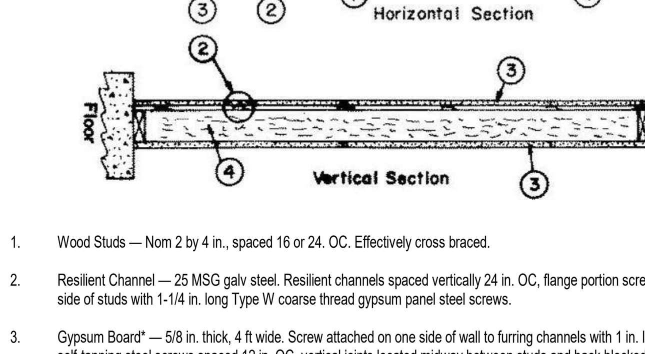
14E. Gypsum Board* — (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.
AMERICAN GYPSUM CO — Type AG-C
CABOT MANUFACTURING ULC — 5/8 in. Type C.
CGC INC — Types C, IP-X2, IPC-AR
GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C
NATIONAL GYPSUM CO — Types FSK-C, FSW-C
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C
PANEL REY S A — Type PRC
THAI GYPSUM PRODUCTS PCL — Type C
UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR
USG BORAL DRYWALL SFZ LLC — Type C
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

14F. Mineral and Fiber Board — (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
BLUE RIDGE FIBERBOARD INC — SoundStop

14G. Building Units – (Optional Item Not Shown – For use over Gypsum Board, Item 3) 1 in., 2 in. or 3 in. thick, 4 ft. wide – Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of of ¾in., spaced a max 8 in. o.c.
NATIONAL GYPSUM CO – Type PBCI

Design No. U311
November 14, 2025
Bearing Wall Rating - 1 HR

5 5A



1. Wood Studs — Nom 2 by 4 in., spaced 16 or 24. OC. Effectively cross braced.

2. Resilient Channel — 25 MSG galv steel. Resilient channels spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long Type W coarse thread gypsum panel steel screws.

3. Gypsum Board* — 5/8 in. thick, 4 ft wide. Screw attached on one side of wall to furring channels with 1 in. long, self-drilling, self-tapping steel screws spaced 12 in. OC, vertical joints located midway between studs and back blocked with furring channels, attached with 1 in. long, self-drilling, self-tapping screws, spaced 12 in. OC, along each edge. Gypsum board on opposite side of wall attached directly to studs with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced 12 in. OC. Vertical joints shall be located over studs on this side of the wall.

AMERICAN GYPSUM CO — Types AG-C
CABOT MANUFACTURING ULC — 5/8 in. Type C.
CERTAINTEED GYPSUM INC — Type C
CGC INC — Types C, IP-X2, IPC-AR, ULIX
GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C
NATIONAL GYPSUM CO — Types -eXP-C, FSK-C, FSW-C, FSW-G
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C or PG-C
SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air
THAI GYPSUM PRODUCTS PCL — Type C
UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, ULIX
USG BORAL DRYWALL SFZ LLC — Type C
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

4. Batts and Blankets* — 3-1/2 in. thick mineral wool batts, placed to fill interior of wall, attached to the 4-in. face of the studs with staples placed 24 in. OC.

JOHNS MANVILLE
ROCKWOOL — Types Acoustical Fire Batts and AFB, min. density 1.69 pcf / 27.0 kg/m
ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts.
ROCK WOOL MANUFACTURING CO — Type Delta Board
THERMAFIBER/OWENS CORNING — Type SAFB, SAFB FF.

4A. Glass Fiber Insulation — (As an alternate to Item 4) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

5. Joints and Screw Heads — Wallboard joints covered with paper tape and joint compound. Screw heads covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

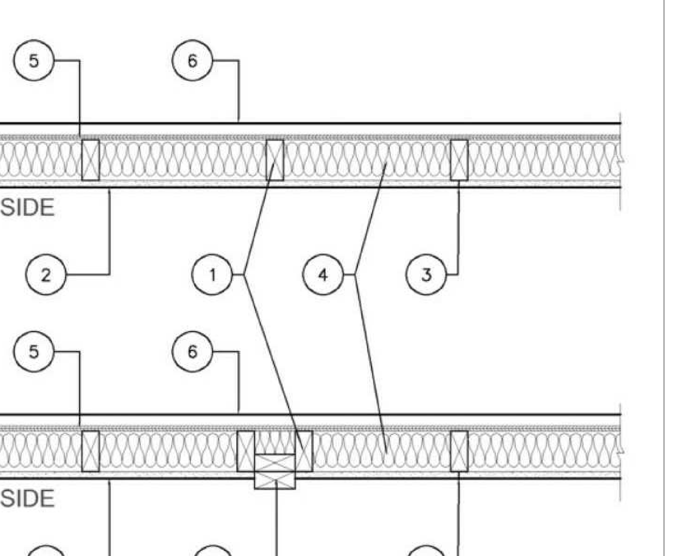
6. Wall and Partition Facings and Accessories* — (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

7. Mineral and Fiber Board — (Optional, Not Shown) — 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on the side of the wood framing without the resilient channels, in between the wood framing and the UL Classified gypsum board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed horizontally or vertically and fastened through the fiber boards to wood framing with 2 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Gypsum board joints staggered from fiber board joints. Fiber boards not evaluated or intended as a substitute for the required layer of UL Classified Gypsum Board.

Design No. U356
November 14, 2025
Bearing Wall Rating - 1 HR. rating exposed to fire on interior face only

A D



1. Wood Studs — Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When Mineral and Fiber Boards* (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.
2. Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.
When Item Steel Framing Members* (Item 7 or any alternate clips), is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.
When Item 7A Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196
BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374
CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370
CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660
CGC INC (View Classification) — CKNX.R19751
GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717
NATIONAL GYPSUM CO (View Classification) — CKNX.R3501
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094
PANEL REY S A (View Classification) — CKNX.R21796
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262
THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517
UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319
USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438
USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board* — (As an alternate to Item 2, Not Shown) — Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified Companies listed below shown in the Gypsum Board* (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

3. Joints and Fastener Heads — (Not Shown) — Gypsum board joints covered with tape and joint compound. Fastener heads covered with joint compound.

4. Batts and Blankets* — Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).

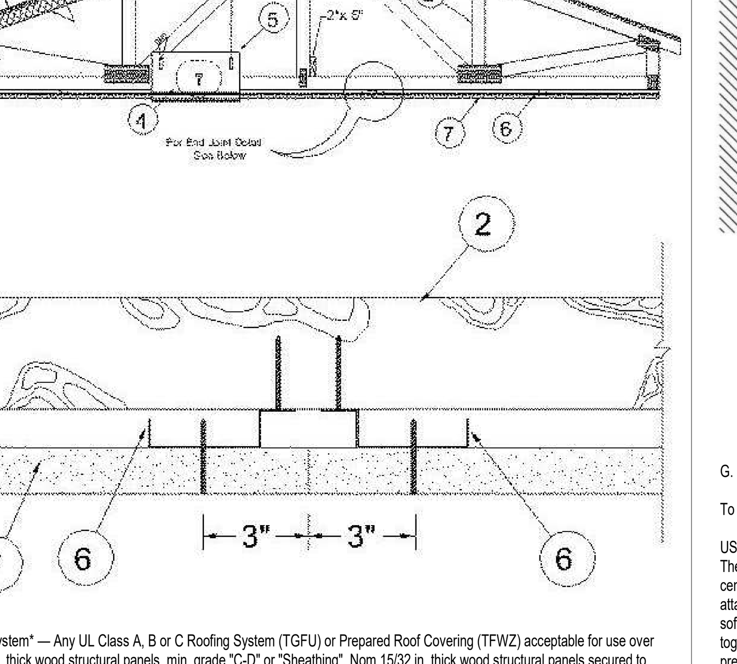
5. Wood Structural Panel Sheathing — Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing". Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

6. Exterior Facings — Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:

A. Vinyl Siding — Molded Plastic* — Contoured rigid vinyl siding having a flame spread value of 20 or less.
B. Particle Board Siding — Hardboard exterior sidings including patterned panel or lap siding.
C. Wood Structural Panel or Lap Siding — APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.
D. Cementitious Stucco — Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.
E. Brick Veneer — Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie: ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.
F. Exterior Insulation and Finish System (EIFS) — Nom 1 in. Foamed Plastic* insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See Foamed Plastic (BRYX and CCVW) categories for names of Classified companies.
G. Siding — Aluminum or steel siding attached over sheathing to studs.
H. Fiber-Cement Siding — Fiber-cement exterior sidings including smooth and patterned panel or lap siding.
I. Wall and Partition Facings and Accessories* — Stone veneer is mortar bonded to a lath, scratch coat and water resistant barrier applied to sheathing, installed in accordance with the manufacturers installation instructions, and meeting the requirements of local code agencies.
ELDORADO STONE OPERATIONS L L C — Type Eldorado Stone
J. Cementitious Backer Units — 1/2 in. or 5/8 in., min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum 3/4 in., spaced a max of 8 in. OC. Horizontal joints need not be backed by framing. When Cementitious Backer Units are used, the rating is applicable with exposure on either face. Cementitious Backer Units for use as substrate for exterior finishes such as ceramic tile, slate, marble, natural stone, manufactured stone, thin brick, or Portland cement or synthetic stucco.
NATIONAL GYPSUM CO — Type PermaBase
K. Building Units – 1 in., 2 in. or 3 in. thick, 4 ft. wide composite exterior cement backer board with rigid insulation, finished with ceramic tile, marble, natural stone, manufactured stone, thin brick, Portland cement or synthetic stucco.
NATIONAL GYPSUM CO – Type PBCI

Design No. P545
July 30, 2025
Unrestrained Assembly Rating - 1 HR.

CL2



1. Roofing System* — Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails. Nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive is optional.

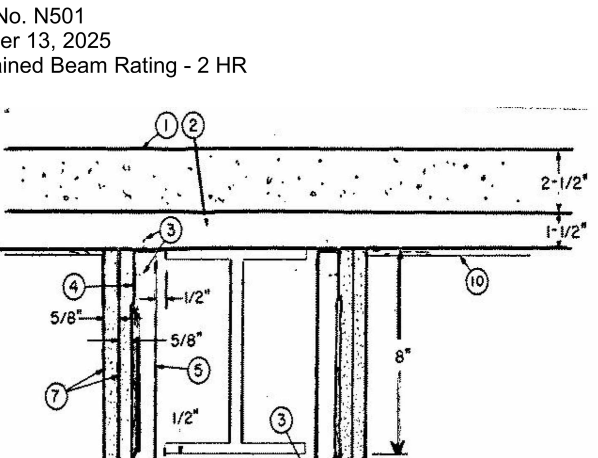
2. Trusses — Pitch chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together min.0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. and a min. average depth of 18 in.. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing. Min roof slope of 3/12 unless American Gypsum boards are used, in which case there is no minimum slope.

3B. Fiber, Sprayed* — For Use With American Gypsum Type AG-C only. As an alternate to Item 3 (not evaluated for use with Item 6B and 6C) — spray-applied cellulose insulation material, having a min density of 0.5 lb/ft3, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft3 over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft3 behind netting (Item 11) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber The finished rating when this insulation is used has not been determined.
When Type AG-C panels are installed there is no limit on maximum thickness.

6. Furring Channels — Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When insulations are installed or draped over the resilient channel/gypsum wallboard ceiling membrane, the spacing shall be as described below. Channels secured to each truss with 1-1/4 in. long Type S steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration.
When Type AG-C panels are attached to the resilient channels, the channels may remain at 16 in. OC.

7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide, installed with long dimension perpendicular to resilient channels with 1 in. long Type S screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When batt and blanket insulation, Item 3, is draped over the resilient channel/gypsum wallboard ceiling membrane, screws shall be installed at 8 in. OC. When Steel Framing Members (Item 6B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.
When Steel Framing Members (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

Design No. N501
November 13, 2025
Unrestrained Beam Rating - 2 HR



— Min size, a W8X24 with outside dimensions of 7-7/8x6-1/2 in. with a flange thickness of 3/8 in., a webthickness of 1/4 in., and a cross-sectional area of 7.06 sq in.

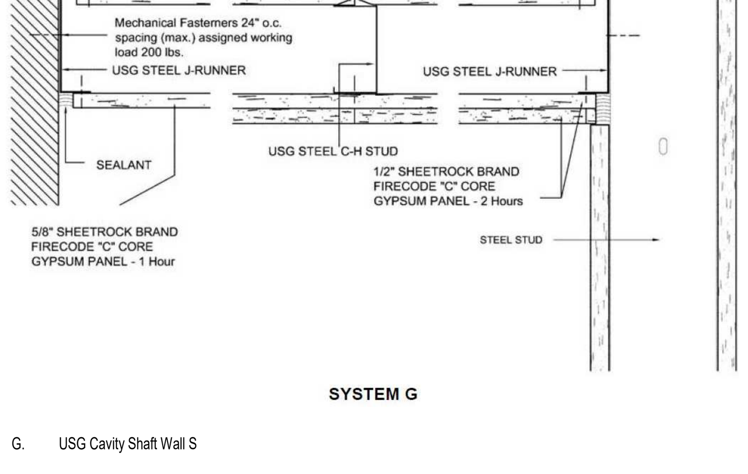
1. Normal Weight Concrete — 148 pcf.
2. Steel Floor and Form Units* — 1-1/2 in. fluted type, welded to beam.
3. Drill Screw — No. 8-18 by 1/2-in. long Phillips panhead drill screws, self-drilling and self-tapping, made of case-hardened steel.
4. Runner Angle — 24 MSG galv steel with 1 and 2-in. legs. Fastened to steel deck 12 in. O.C. with Item 3.
5. Channel Bracket — Fabricated from 25 MSG galv steel, 1-11/16 in. deep with 1-in. legs and spaced 24 in. O.C. Fastened to the runner angles with Item 3.
6. Corner Angle — Same material as Item 4, fastened to channel brackets with Item 3.7. Gypsum Board*— 5/8 in. thick. First layer fastened with 1-1/4 in. long, 0.150 in. diam screws spaced 16 in. O.C. Second layerattached with 1-3/4 in. long, 0.150 in. diam screws spaced 8 in. O.C. Screws are self-drilling and self-tapping Phillips head made of case-hardened steel.

AMERICAN GYPSUM CO — Types AGX-1, AG-C, LightRoc.
BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1.
CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing, 5/8 in. Type C.
CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, , Type C, Type X-1, LWTX.
CGC INC — Type C, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, ULIX.
GEORGIA-PACIFIC GYPSUM L L C — Types 5, C, DAP, DD, DA, DAPC, DGG, DS, GPFS1, GPFS6, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit -Type LW2X.
NATIONAL GYPSUM CO — Types FSK, FSK-C, FSK-G, FSL, FSMR-C, FSW, FSW-C, FSW-G, FSW-3, FSW-6, FSW-8, FSLX.
NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-3, PG-9, PG-11, PG-C, PGS-WRS or PGI.
PANEL REY S A — Type PRC
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1
THAI GYPSUM PRODUCTS PCL — Type C, Type X.
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX
UNITED STATES GYPSUM CO — Types C, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, ULIX.
USG BORAL DRYWALL SFZ LLC — Types C, SCX
USG MEXICO S A DE C V — Types C, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX.

8. Corner Bead — Fabricated from 20 MSG galv steel to form an angle with 1-1/4 in. legs. Legs perforatedwith 1/4 in. diam holes approx 1 in. OC. Attached to wallboard with special crimping tool approx 6 in. OC. As an alternate, the bead may be nailed to the wallboard.
8A. Corner Bead* — (As an alternate to Item 8) — Attached to gypsum board using all-purpose ready mix joint compound.
CERTAINTEED GYPSUM INC — Types NC, NCPRO, NC450
BAILEY METAL PRODUCTS LTD — Types NC, NCPRO, NC450
9. Joint Compound — 1/32 in. thick on bottom and sides of wallboard from corner beads and feathered out. Paper tape embedded in joint compound over joints with edges of compound feathered out.
12. Alternate Construction - Steel Framing Members* — As an alternate to Items 3, 4, 5 and 6 steel clips attached to both sides of beam flanges 2 ft OC and at ends of beam. First layer of gypsum board fastened to steel clips with 1-1/4 in. long Type S drywall screws. 2 in. by 2 in. 25 MSG angle fastened to clips on bottom portion of assembly with 2 in. long Type S drywall screws. Second layer of gypsum board fastened to angle and steel clips with 2 in. long Type S drywall screws, spaced 2 ft OC. Screws are self-drilling and self-tapping Phillips head made of case-hardened steel.
JOHN WAGNER ASSOCIATES INC, DBA GRABBER — Type CB Clip.

Design No. NER-258: SYSTEM 'G'
July 1st, 2008
Horizontal Assembly Ratings - 2 HR.

CL8



SYSTEM G

G. USG Cavity Shaft Wall S

To provide a fire-resistive protection to corridor ceilings or the underside of stairs.

USG "J" runners are attached to all existing horizontal and vertical framing intersected at the boundaries of the area to be protected. The "J" runners are attached to the existing framing members using mechanical fasteners spaced at a maximum of 24 inches on center and having an assigned design load of 2000 pounds in either shear or pullout. USG C-H studs of the required gauge are attached to the "J" runners at 24 inches on center by means of two Type S-12, 1/2 inch panhead screws to frame the walls and/or soffits of the enclosures. Corners of the enclosure which do not intersect existing framing are built up of two "J" runners fastened together with two Type S-12, 1/2 inch panhead screws at 24 inches on center. The USG C-H studs are fastened to the "J" runners as previously described. One-inch-thick SHEETROCK brand Gypsum Liner Panels, 24 inches wide, is installed on the interior face of the enclosure within the slots of the C-H studs. No screw attachments are required. Where the Gypsum Liner Panel intersects the "J" runners against the existing horizontal and/or vertical framing, 15/8 inch Type S screws are installed at a maximum of 12 inches on center.

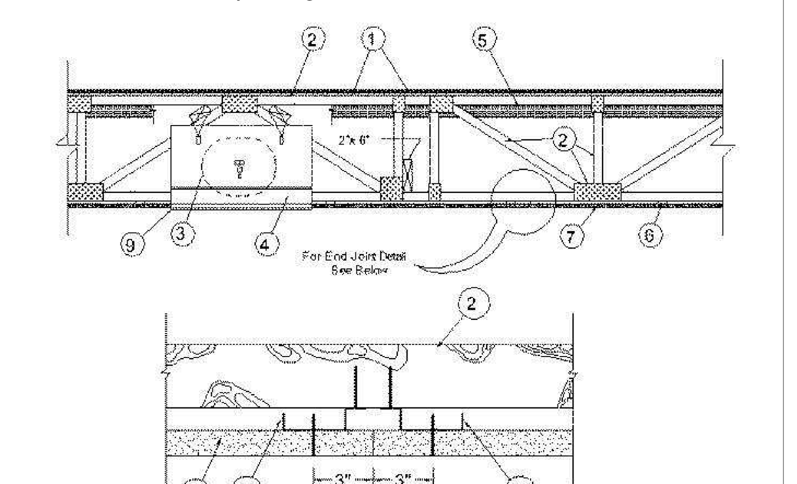
Gypsum panels are attached to the exterior surfaces of the framing in the manner required for the fire-resistive rating as follows:

1. One-hour construction consists of one layer of 5/8 inch SHEETROCK FIRECODE Type C gypsum panels applied parallel to the C-H studs, with all vertical joint on studs. The panels are fastened to each C-H stud and end "J" runners with 1 inch Type S screws 12 inches on center in the field and at edges. Joints and screw heads on the outer face panels are finished with SHEETROCK Joint Tape and SHEETROCK Joint Compound.

2. Two-hour construction consists of a base layer of 1/2 inch SHEETROCK FIRECODE Type C panels applied parallel to the C-H studs and attached with 1 inch Type S screws at 24 inches on center in the field and at edges. The finish layer of 1/2 inch SHEETROCK FIRECODE Type C panels are applied either parallel or normal to the C-H studs, with joints staggered 24 inches from the base layer. 15/8 inch Type S screws at 12 inches on center in the field and at edges fasten the finish layer. Joints and screw heads on the outer layer only are finished with SHEETROCK Joint Tape and SHEETROCK Joint Compound.

Design No. L521 System 2
July 30, 2025
Unrestrained Assembly Rating — 1 HR.

CL1



1. Flooring System — The flooring system shall consist of one of the following:
System No. 2

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring* — Floor Topping Mixture — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

2. Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when no Ceiling Damper* is used and 18 in. when a Ceiling Damper* is used. Truss members secured together with min 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.

3. Air Duct* — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

4. Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 324 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.

5. Batts and Blankets* — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 24 in. OC, no insulation shall be installed in the concealed space. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 6) or furring channels (Item 6A) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When Steel Framing Members (Item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ca) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Cd). The finished rating has only been determined when the insulation is secured to the subflooring.

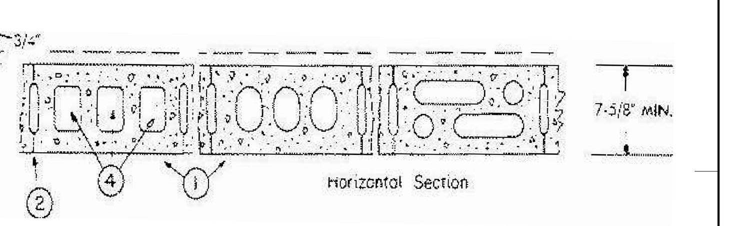
5D. Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (As described above in Items 5 through 5B) — (For Use with Item 7A, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6H)/gypsum board (Item 7A) ceiling membrane.

6. Resilient Channels — Formed from min 25 MSG galv steel installed perpendicular to trusses. When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation (Item 5) is secured to the underside of the subfloor the resilient channels are spaced 16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channel/gypsum panel ceiling membrane, or when Item 5C, 5E or 5F is applied to underside of subflooring, the resilient channels are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel.

7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 6) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane screw spacing shall be reduced to 8 in. OC. When insulation (Item 5C, 5E or 5F) is applied to the underside of the subflooring, screw spacing shall be reduced to 8 in. OC and minimum 1-1/4 in. long Type S screws to install gypsum to the resilient channels (Item 6), and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. End joints secured to both resilient channels as shown in end joint detail. When Steel Framing Members (Item 6A) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panel. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the truss with one clip at each end of the channel. When Steel Framing Members* (Item 6B) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long . Type S bugle-head screws spaced in the field and 8 in. OC along end joints. Panels fastened to main runners with 1 in. long . Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 4 2 ft OC. When Fiber, Sprayed (Items 5A or 5B) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer gypsum board secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. End joints secured to both resilient channels as shown in end joint detail. Outer layer gypsum board secured with 1-5/8 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Outer layer shall be finished as described in Item 8. When both Steel Framing Members (Item 6A) and Fiber, Sprayed (Items 5A or 5B) are used, furring channels spaced 12 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long Type S bugle head screws spaced 8 in. OC along butted end joints and in the field of the board. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the underside of the truss with one clip at each end of the channel. Outer layer secured to furring channels using 1-5/8 in. long Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min. of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min. 18 in. from butted side joints of base layer. When Steel Framing Members (Item 6C) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ca). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When Steel Framing Members (Item 6D) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one Isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC in the field. The end of the outer layer boards at the butt joint shall be attached to the base layer boards with 1-5/8 in. long Type G screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min 18 in. from butted side joints of base layer. Outer layer shall be finished as described in Item 8. When Steel Framing Members (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide are installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels using 1 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered minimum 2 ft. within the assembly. Additional furring channels constructed as per Item 6E shall be used to support each end of each gypsum board. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 6E. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field. The outer layer boards at the butt joint shall be attached to the base layer boards with No. 10, 1-1/2 in. long drywall screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 24 in. from base layer end joints. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer. When Steel Framing Members (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. from joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

Design No. U905
September 30, 2010
Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR

40B



1. Concrete Blocks* — Various designs. Classification D-2 (2 hr).
See Concrete Blocks category for list of eligible manufacturers.

2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

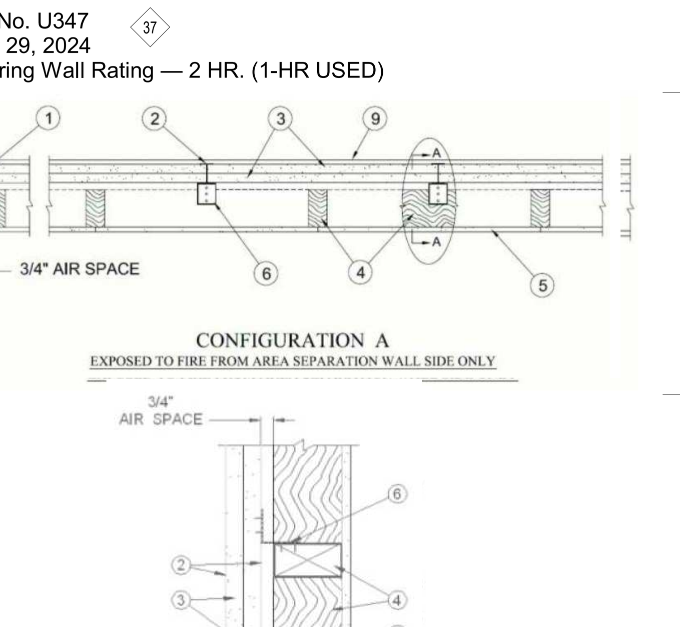
3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
THE DOW CHEMICAL CO — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel and Thermax Heavy Duty Plus (HDP)

Design No. U347
January 29, 2024
Nonbearing Wall Rating — 2 HR. (1-HR USED)

37

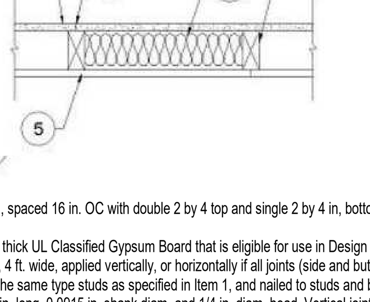


SEPARATION WALL: (Non-bearing, Max Height - 66 ft. - See item 6)
1. Steel Track — Floor, sidewall or top wall track, Nom 2 in. wide channel shaped with nom 1 in. long legs, formed from No. 25 MSG galv steel, secured with suitable fasteners spaced 24 in. OC.
2. Steel Studs — "H" shaped studs formed from No. 25 MSG galv steel having an overall depth of approximately 2 in. and flange width 1-3/8 in.
3. Gypsum Board* — Two layers of 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. widths. Vertical edges of panels friction fit into "H" shaped studs.
NATIONAL GYPSUM CO — Types FSW, FSW-B, FSW-7, FSW-9

PROTECTED WALL: (Bearing or Nonbearing Wall, as indicated in Items 5, 5A, and 5B. When Bearing, Load Restricted for Canadian Applications — See Guide BXUV7.)
4. Wood Studs — For Bearing or Nonbearing Wall Rating — Nom 2 by 4 in. max spacing 24 in. OC. Studs cross braced at mid-height where necessary for clip attachment. Min 3/4 in. separation between wood framing and fire separation wall. Finish rating evaluated for wood studs only.
5. Gypsum Board — Classified or Unclassified — Min 1/2 in. thick, 4 ft wide, applied horizontally or vertically. Wallboard attached to wood studs (Item 4) with 1-1/4 in. long steel drywall screws spaced 12 in. OC. Wallboard attached to steel studs (Item 5A or 5B) with 1 in. long Type S steel screws spaced 12 in. OC. Vertical joints located over studs. Horizontal joints shall be butted tight to form a closed joint. As an option, joints covered with paper tape and joint compound. As an option, screw heads covered with joint compound.
5A. Plywood Sheathing or OSB - (not shown) - As an alternate to Item 5, Min 1/2 in. thick plywood or OSB applied horizontally or vertically to wood or steel studs. Vertical joints located over studs. Horizontal joints shall be butted tight to form a closed joint. Fastened to studs with nails or screws of sufficient length, spaced 12 in OC. Joints and fastener heads are not required to be treated. Aluminum clips shall be spaced as described in Item 6.
6. Aluminum Clips — Aluminum angle, 0.049 in. thick, 2 in. wide with 2 in. and 2-1/2 in. legs. Clips secured with Type S screws 3/8 in. long to "H" studs and with 1-1/4 in. long screws to wood framing or steel framing through holes provided in clip.
6A. Clip placement for separation walls up to 23 ft high: Space clips a max of 10 ft OC vertically between wood or steel framing and "H" studs.
6B. Clip placement for separation walls up to 54 ft high: Space clips as described in Item 6A for upper 24 ft. Remaining wall area below requires clips spaced a max of 5 ft OC vertically between wood or steel framing and "H" studs.
6C. Clip placement for separation walls up to 66 ft high: Space clips as described in Item 6A for upper 24 ft, space clips as described in Item 6B for middle 30 ft. Remaining wall area below requires clips spaced a max of 39 in. OC vertically between wood or steel framing and "H" studs.
8. Non-Bearing Wall Partition Intersection — (Optional) Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud. nailed together with two 3in. long 10d nails spaced a max. 16in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max of 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4in. studs. The wall partition wood studs are to be framed with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the wall.
9. Plywood Sheathing or OSB — (Optional) — Min 1/2 in. thick plywood or OSB applied horizontally or vertically to "H" studs on area separation wall side of Configuration A or Configuration C. Vertical joints located over studs. Fastened to "H" studs with screws of sufficient length, spaced a maximum of 12 in. OC.
10. Gypsum Board* - As an alternate to Item 5 - Min 5/8 in. thick, min. 6 in. wide batten strips, applied on both sides of Steel Studs (Item 2) and horizontal back to back Steel Track (Item 1). Min. 5/8 in. thick, min. 3 in. wide batten strips applied on both sides of single Steel Track (Item 1) at perimeter of assembly. Batten strips secured to studs with 1-1/4 in. long Type S steel screws spaced 12 in. OC. Batten joints shall be butted tight to form a closed joint. As an option, entire sheet of gypsum board may be used in lieu of the battens. Clip placement as in item 6, 6A, 6B or 6C.
NATIONAL GYPSUM CO - Type FSW-3.

Design No. V340
December 29, 2025
Bearing Wall Rating — 1 HR. EXPOSED TO FIRE ON EITHER FACE

E1 E3



1. Wood Studs — Nom 2 by 4 in., spaced 16 in. OC with double 2 by 4 top and single 2 by 4 in, bottom plates. Studs effectively firestopped.
2. Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. 1 Hr rating - Nom. 5/8 in. thick, 4 ft. wide, applied vertically, or horizontally if all joints (side and butt end joints) of applied gypsum board are backed by the same type studs as specified in Item 1, and nailed to studs and bearing plates 7 in. OC. with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam. and 1/4 in. diam. head. Vertical joints centered over studs and staggered min. 1 stud cavity from the vertical joints of the building units (Item #5). 2 Hr rating - two layers required, base layer nailed 6 in. OC. with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam. and 1/4 in. diam. head. The face layer nailed to the studs and bearing plates over the base layer, 8 in. OC with 8d cement coated nails, 2-3/8 in. long, 0.113 in. shank diam. 9/32 in. diam. head. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity.
3. Joints and Nail Heads — Wallboard joints covered with tape and joint compound. Nail heads covered with joint compound.
4. Batts and Blankets* — Faced or unfaced mineral fiber insulation, 3-1/2 in. thick, minimum 2.87 pcf, friction fit in the wall cavity between stud, plates.
5. Building Units* — Building units placed with the laminate face against or laminate face away from, and nailed to, the wood framing, with 1-7/8 in. long, 6d nails, spaced 6 in. OC. on the perimeter and 12 in. OC. in the field. Vertical joints centered on studs. Horizontal joints backed with nom. 2 by 4 wood blocking. Areas of damage to laminate, no larger than the width between studs, may be repaired by the following: Damaged areas shall be backed with either one-sided LP FlameBlock/ Blazeguard sheathing or minimum 1/2-inch gypsum board. When using BlazeGuard or FlameBlock, the laminated face must be installed in the same orientation as the initially installed building units. The gypsum board or building unit sheathing shall be securely fastened to 2x dimensional lumber on two sides with fasteners spaced 6 inches on center (OC), the lumber is then attached to the wall studs with fasteners at a minimum of 6 inches OC. Any repair shall extend a minimum of 6 in. above and below the damaged laminate and span the full width of the stud cavity.
LOUISIANA-PACIFIC CORP — Type Blazeguard 1-Side
LOUISIANA-PACIFIC CORP — Type LP FlameBlock 1-Side

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
www.grimmandparker.com

G+P GRIMM AND PARKER

GP #22424.00

FIRE RESISTANCE RATINGS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

A-303

06/30/2026
CONSTRUCTABILITY REVIEW

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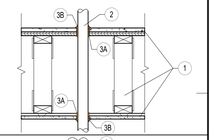
FIRE ASSEMBLY PENETRATIONS

(USE THE FOLLOWING RATED ASSEMBLIES THAT APPLY TO PENETRATIONS
OR SUBMIT ALTERNATE FOR APPROVAL)

A. FLOOR/CEILING PENETRATIONS FOR PVC PIPES 2" DIA. OR SMALLER (1HR RATED)

U.L. SYSTEM NO. FC 2008

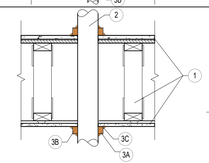
1. TYPICAL FLOOR CONSTRUCTION
2. PVC PIPE 2" DIA. OR SMALLER
3A. FILL VOID WITH NOMINAL 1/4" THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ONE SIDE W/ ALUM. FOIL BY MINNESOTA MINING & MFG. CO.
3B. FILL VOID W/ CAULK OR PUTTY NOM. 1/4" THICK OF CAULK APPLIED TO THE EXPOSED EDGE OF THE WRAP STRIP BY MINNESOTA MINING & MFG. CO.



B. FLOOR/CEILING PENETRATIONS FOR PVC PIPES 4" DIA. OR SMALLER (1HR RATED)

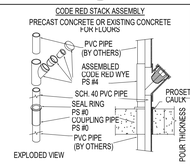
U.L. SYSTEM NO. FC 2024

1. TYPICAL FLOOR CONSTRUCTION
2. PVC PIPE 4" DIA. OR SMALLER
3. FIRESTOP SYSTEM
   - A. FILL VOID W/ WRAP STRIP NOM. 1/4" THICK INTUMESCENT ELASTOMERIC MAT. FACED ONE SIDE W/ ALUM. FOIL BY MINNESOTA MINING & MFG. CO.
   - B. STEEL COLLAR TO RETAIN STRIP LAYERS
   - C. FILL VOID W/ CAULK OR PUTTY AROUND STEEL COLLAR @ INTERFACE OF PLYWOOD AND GYPSUM
   - D. FOIL TAPE (NOT SHOWN) NOM 4" WIDE, 3 MIL THICK ALUMINIUM TAPE WRAPPED AROUND PIPE PRIOR TO THE INSTALLATION OF THE ITEM 3A.
   - E. FIRESTOP DEVICE (NOT SHOWN) AS ALT. TO A, B & C CONSISTS OF STEEL SPLIT RING COLLAR LINED W/ INTUMESCENT MATERIAL. MAY BE INSTALLED AT FLOOR OR GYPSUM CEILING



A & B ALTERNATE FOR 1 & 2 HOUR RATING
W.H. DESIGN NO. PS/PH 120-04 F RATING

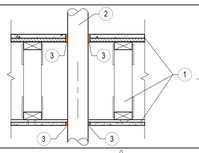
IMPORTANT NOTES:
1. Drill a 3" hole through the plate for 1 1/2" or 2" PVC Riser Support, a 4" hole for a 3" and a 5" hole for a 4".
2. Install the P-90 Pipe a couple of inches up through the hole in the wood floor.
3. Slip the Riser Support over the pipe into the hole and secure with nails or screws.
4. Solvent weld the "Code Red Wye Fitting" to the extended P-90 PVC Pipe.
5. An optional Type I PVC sanitary tee or cross may be solvent cemented to the P-90 PVC Pipe stack extention in the concealed space to connect a nom. 2" (or smaller) PVC waste from a bathtub or shower drain or nom. 4" (or smaller) PVC waste from a floor mounted water closet.
6. Install a P-90 pipe extention from the bottom of the PVC tee into the wall below.
7. PVC, ABS or cell core piping can connect to either side of the Firestop assembly.
8. Expansion of the P-90 PVC Pipe will easily seal up a 1/4" gap in a fire condition. Holes or gaps over a 1/4" through the wood or gypsum must be sealed with a fire caulk.



C. FLOOR/CEILING PENETRATIONS FOR STEEL PIPE OR CONDUIT 4" DIA. OR SMALLER (1HR RATED)

U.L. SYSTEM NO. FC 1006

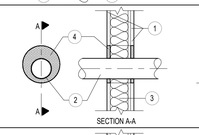
1. TYPICAL FLOOR CONSTRUCTION
2. PIPE OR CONDUIT 4" DIA. OR SMALLER
3. FILL VOID OR CAVITY MATERIALS CAULK FORCED INTO ANNULAR SPACE THROUGHOUT THICKNESS OF FLOORING & CEILING INFO. CAULK BY MINNESOTA MINING & MFG. CO.



D. WALL PENETRATIONS FOR STEEL PIPES 4" DIA. OR SMALLER (1HR RATED)

U.L. SYSTEM NO. WL 1039

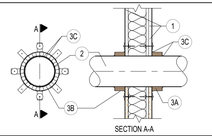
1. TYPICAL WALL CONSTRUCTION
2. STL. PIPE OR CONDUIT 4" DIA. OR SMALLER
3. 2~8" THICK MINERAL WOOL BATT INSULATION AS FORMING MATERIAL BY U.S.G. INTERIORS, INC.
4. FILL VOID W/ ~8" FILL MATERRIAL BY U.S.G. CO.



E. WALL PENETRATIONS FOR PVC PIPES 6" DIA. OR SMALLER (1HR RATED)

U.L. SYSTEM NO. WL 2002

1. TYPICAL WALL CONSTRUCTION
2. PVC PIPE 6" DIA. OR SMALLER
3. FIRESTOP SYSTEM
   - A. FILL VOID W/ WRAP STRIP OF 1/4" THICK INTUMESCENT ELASTOMERIC MAT. FACED ONE SIDE W/ ALUM. FOIL BY MINNESOTA MINING & MFG. CO.
   - B. STEEL COLLAR, NOM. 2" OR 4" DEEP COLLAR
   - C. FILL VOID W/ CAULK @ OUTER PERIMETER OF PIPE OR CONDUIT BY MINN. MINING & MFG. CO.
   - D. FIRESTOP DEVICE (NOT SHOWN) AS ALTERNATE FOR ITEMS A, B, & C A STEEL SPLIT COLLAR LINED W/ INTUMESCENT MAT. BY MINN. MINING & CO.



FIRE DAMPER DETAILS

(FIRE DAMPERS BY RUSKIN)

WARNOCK HERSEY
INSTALLATION INSTRUCTIONS
CEILING DAMPERS
MODELS CFD(R)2W, CFD(R)3W, CFD(R)3.5W, CFD4W



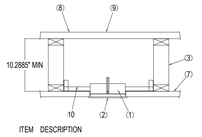
IMPORTANT: Screws, bolts, rivets, etc., used in connection of the damper MUST NOT INTERFERE WITH DAMPER BLADE OPERATION.

APPLICATION
Models CFD(R)2W, CFD(R)3W, CFD(R)3.5W and CFD4W ceiling fire dampers install with surface mounted grilles or diffusers to pro-vide a heat barrier in air ducts penetrating fire resistive membrane ceilings. Ceiling dampers maintain the integrity of the fire resistive assembly.

The ceiling damper and associated components must be installed and supported to remain in place and to protect the ceiling penetra-tion throughout a fire up to three hours in duration. Flex duct must be UL listed.

THE INSTALLATIONS AND DIFFUSERS SHOWN IN THESE INSTRUCTIONS ILLUSTRATE GENERAL ARRANGEMENTS ONLY.

INSTALLATION 6
WOOD TRUSS WITH GYPBOARD CEILING



ITEM DESCRIPTION

1. Damper
2. Grille (Steel or Alum)
3. Wood framing member or joist
4. #8 SHEET METAL SCREW
5. #6 Penny Nail or #8 Screw
6. 3 /16" Dia. Steel Rivet
7. 5 /8" Gypsum Wallboard
8. Roof Construction
9. Floor Construction
10. 1" x 1 /2" 20 Ga. Min. Galv. Mounting Angle
11. 1" x 1 /2" x 3" x 20 Ga. Min. Galv. Mounting Clip
12. 3" Galvanized Collar (Optional)

GENERAL INSTRUCTIONS
Ceiling penetrations should be located within ceiling tiles, panels or gypsum wallboard without necessitating cuts in the ceiling suspen-sion main runner, cross tees or furring channels. If required, a maximum of one runner or cross tee may be cut to enable proper damper location and installation. Each cut end shall be supported by 12 SWG vertical hanger wire. A 1 /2" maximum clearance must be maintained between the outlet and the cut end of the main run-ner or cross tee.

IMPORTANT: Screws, bolts, rivets, etc., used in connection of the damper shall be a minimum of 3 /16" from the edge of the damper frame, duct drop, or grille frame and MUST NOT INTERFERE WITH DAMPER BLADE OPERATION. Hanger wires must be verti-cal and not splayed.

INSTALLATION 6
Installation 6 shows the support for rectangular dampers and grille assemblies. Measure the actual spacing between the wood fram-ing members and cut the vertical leg of the mounting angle to length plus 6 inches. Two mounting angles are required. Fold up 3 inches at 90° at both ends of the mounting angle and attach it to the wood frame with minimum of 2 each #6 penny nails or #8 screws (Item #5) as shown in the mounting detail.

The damper is attached to the mounting angle by sheet metal screws starting at two inches from the end of the damper (item 4, installation 2A). A minimum of 2 screws per angle is required for rectangular dampers. A minimum of 1 screw per angle is required for round dampers (item 4, installation 2B).

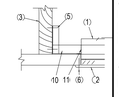
On the opposite side of the damper form the mounting angles a minimum 3" long mounting clip is to be attached to the damper with steel rivets or sheet metal screws (minimum 2 required per clip for rectangular dampers and 1 per clip for round dampers). Bottom leg of the mounting clip rests on the ceiling material.

INSTALLATION 6
Installation 6 depicts a rectangular ceiling damper installation.

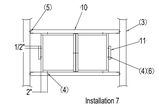
The damper in installation 6 must be fastened to the grille frame using sheet metal screws, tubular steel rivets, or tack welds spaced 6" O.C. Use a minimum of one connection per side. (For round damper use a minimum of three screws, rivets or welds equally spaced.) The ceiling damper can be no more than 1 /4" larger than the grille frame.

Installation 6 shows the round ceiling damper installation.

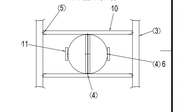
MOUNTING DETAIL



INSTALLATION 6A



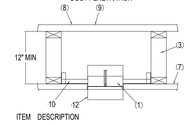
INSTALLATION 6B



Installation 7

Installation 7 shows the installation of a damper in a galvanized steel sleeve which extends 3 inches above and below the rated ceiling. The ceiling fire damper is installed as described in the pre-vious illustrations. The connecting ductwork may be flexible or rigid dependent upon local codes. Duct to sleeve connections shall be the same as damper to grille frame connection described in plan view. Flex duct connection shall be made with a steel clamp, 16 SWG wire or cable ties.

INSTALLATION 7
DAMPER IN SLEEVE FOR DUCT PENETRATION



ITEM DESCRIPTION

1. Damper
2. Grille (Steel or Alum)
3. Wood framing member or joist
4. #8 Tek Screw
5. #6 Penny Nail or #8 Screw
6. 3 /16" Dia. Steel Rivet
7. 5 /8" Gypsum Wallboard
8. Roof Construction
9. Floor Construction
10. 1" x 1 /2" 20 Ga. Min. Galv. Mounting Angle
11. 1" x 1 /2" x 3" x 20 Ga. Min. Galv. Mounting Clip
12. 3" Galvanized Collar (Optional)

GENERAL NOTE:

THE THRU-PENETRATION ASSEMBLIES SHOWN ARE REPRESENTATIVE OF TYPICAL CONDITIONS AND ARE NOT ALL INCLUSIVE. THE CONTRACTOR WILL ENCOUNTER OTHER THRU-PENETRATION FIRESTOP CONDITIONS NOT COVERED BY THESE DETAILS. ALL THRU-PENETRATIONS FIRESTOP ASSEMBLIES SHALL BE UL LISTED WITH THE FIRE RATING OF THE ASSEMBLY BEING PENETRATED. IT IS STRONGLY SUGGESTED A FIRESTOP SPECIALTY CONTRACTOR BE RETAINED TO PERFORM ALL THRU-PENETRATION FIRE STOPPING FOR THE ENTIRE PROJECT.

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
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G+P GRIMM AND PARKER

GP #22424.00

FLOOR & WALL PENETRATION FIRESTOP ASSEMBLIES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-304

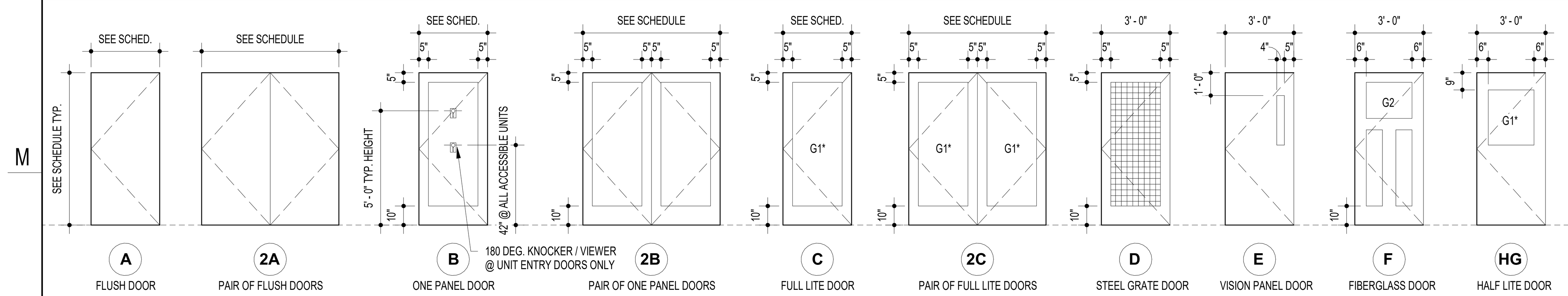
06/30/2026
CONSTRUCTABILITY REVIEW

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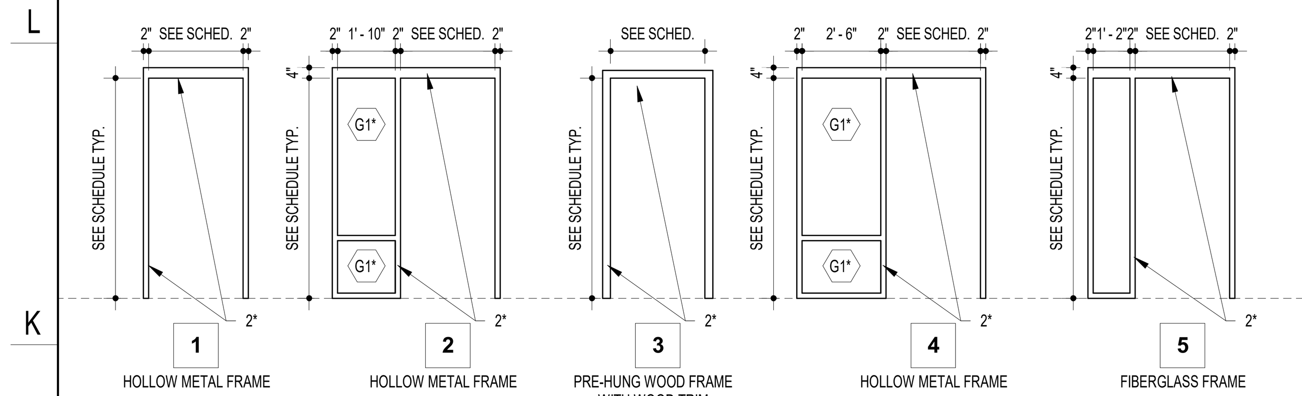
DOOR TYPES

*USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS



FRAME TYPES

NOTES: 1* USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS
2* SEE HEAD & JAMB DETAILS FOR ADDED TRIM PROFILES



DOOR SCHEDULE - UNIT INTERIORS

DOOR NO.	DOOR: NOMINAL SIZE: WIDTH	HEIGHT	THK.	DOOR: TYPE	DOOR: MAT'L	FRAME: MAT'L	FRAME: TYPE	SECTION: JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
U1	2' - 10"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-02	
U2	3' - 0"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-02	
U3	1' - 6"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U4	2' - 0"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U5	2' - 6"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U6	2' - 8"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U7	2' - 8"	6' - 8"	0' - 1 3/8"	B	SCWD	WD	3	J1	H1		-	RU-05	
U8	2' - 10"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U9	3' - 0"	6' - 8"	0' - 1 3/8"	B	WD	WD	3	J1	H1		-	RU-03	
U10	4' - 0"	6' - 8"	0' - 1 3/8"	2B	WD	WD	3	J1	H1		-	RU-04	
U11	5' - 0"	6' - 8"	0' - 1 3/8"	2B	WD	WD	3	J1	H1		-	RU-04	
UE1	3' - 0"	7' - 0"	0' - 1 3/4"	B	MC	MTL	1	J2	H2	S7	45 MIN	RU-01	
UM1	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1	J3	H3	S7	45 MIN	RU-06	
UM2	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1	J3	H3	S7	45 MIN	RU-07	

FURTHER COORDINATION NEEDED FOR STACKED WASHER DRYER CLOSET DOORS. UNITS WILL BE 80" TALL WHEN STACKED AND MAY NOT FIT THROUGH THE 6'-8" TALL DOOR.

SEE PAGE 1A-310 FOR BUILDING 1 DOOR SCHEDULES

SEE PAGE 2A-310 FOR BUILDING 2 DOOR SCHEDULES

SEE PAGE 3A-310 FOR BUILDING 3 DOOR SCHEDULES

GENERAL DOOR & FRAME NOTES

1. ALL INTERIOR AND EXTERIOR DOORS AND FRAMES SHALL BE FACTORY PREPPED TO ACCEPT REQUIRED FINISH HARDWARE AND ELECTRONIC ACCESS CONTROL EQUIPMENT.
2. ALL BUILDING INTERIOR DOORS TO HAVE JAMB DETAIL 'J1' AND HEAD DETAIL 'H1' U.N.O.; ALL UNIT INTERIOR DOORS TO HAVE JAMB DETAIL 'J2' AND HEAD DETAIL 'H2' U.N.O.
3. REFER TO DETAIL SHEETS FOR DOOR AND WINDOW SILL, HEAD, AND JAMB CONDITION DETAILS.
4. ALL RATED DOORS TO HAVE CLOSERS AND LATCHES. APARTMENT ENTRY DOORS TO HAVE SPRING HINGES.
5. MEP MECHANICAL AND WASHER/DRYER CLOSETS TO RECEIVE CEILING/HIGH-WALL TRANSFER GRILLES - SEE DRAWINGS FOR FREE AREA REQUIREMENTS AND TRANSFER GRILLE LOCATIONS.
6. FOR HARDWARE SET INFORMATION, SEE SPECIFICATIONS AND DRAWINGS.
7. ALL UNIT BATHROOM DOORS TO HAVE SILL DETAIL 'S1' U.N.O.
8. ALL UNITS DESIGNATED AS 'VHI' UNITS SHALL HAVE DOOR BELLS AT UNIT ENTRY DOORS.
9. ALL UNIT ENTRY DOORS TO HAVE COMBINATION KNOCKER/VIEWER PER DOOR TYPE B ELEVATION.
10. THE BOTTOM 10 INCHES OF THE DOOR SURFACE ON THE PUSH SIDE OF THE DOOR SHALL BE SMOOTH AND FREE OF OBSTRUCTIONS FOR THE FULL WIDTH OF THE DOOR.
11. PER MDCR PAINT BOTTOM, TOP, AND ALL OTHER SIDES OF DOORS.

GLASS TYPES & NOTES

GLASS TYPES (NOTE: NOT ALL TYPES MAY BE USED ON THIS PROJECT.)

G1 1/4" TEMPERED GLASS

G2 INSULATED TEMPERED GLASS (1/8" TEMP+ AIRSPACE +1/8" TEMP).

G3 INSULATED GLASS (1/8" GLASS+ AIRSPACE +1/8" GLASS).

G4 FIRE RATED GLASS ('FIRELITE' BY TGP OR EQUAL)

GLASS NOTES:

1. MAXIMUM GLASS AREA, EACH LITE, IN 3/4 HR RATED FRAME ASSEMBLIES IS 1,296 SQ IN.
2. MAXIMUM HEIGHT AND WIDTH FOR 3/4 HR RATING IS 54".
3. MAXIMUM GLASS AREA, EACH LITE, IN 1-1/2 HR RATED FRAME ASSEMBLIES 100 SQ IN.
4. MAXIMUM HEIGHT AND WIDTH FOR 1-1/2 HR RATING IS 33" H AND 10" W.
5. ALL DOORS INTO EGRESS AREAS SUCH AS STAIRS THAT CONTAIN GLAZING, SHALL HAVE LABELED FIRE RESISTANT RATED GLASS TYPE G4
6. ALL GLAZING ON EXTERIOR, NON-RATED WALLS OF EGRESS STAIRS SHALL BE LABELED SAFETY GLAZING.

DOOR & FRAME MATERIAL KEY

DOOR MATERIAL:

SCWD SOLID CORE WOOD
WD HOLLOW CORE WOOD / HARD BOARD
HM HOLLOW METAL
MC METAL CLAD
F FIBERGLASS
MANUF. BY MANUFACTURER

FRAME MATERIAL:

MTL ADJUST-A-FIT METAL FRAME
HM HOLLOW METAL
WD PRE-HUNG WOOD
F FIBERGLASS
MANUF. BY MANUFACTURER

HARDWARE SETS

NOTE: FOR MORE INFORMATION, SEE SPECIFICATIONS.

UNITS

SET: RU-01 UNIT ENTRY (UE1)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
2	EA	SPRING HINGE	H45S-00SN OR BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
1	EA	BALL BEARING HINGE (TOP)	H45-02RSN OR BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
1	EA	SINGLE CYLINDER DEADBOLT	FD861UL	619	PAMEX
1	EA	PASSAGE LATCHSET	FYSP3C	619	PAMEX
1	EA	SPRING STOP/HINGE PIN STOP/ROLLER BUMPER	DD02-31SN/DD02-41SN/DD02-25SN (AS REQ'D)	619	PAMEX
1	EA	KNOCKER VIEWER	DD01-K180ULSN	619	PAMEX
1	EA	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP - U SHAPE	DD13-DS3636AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12536AL	719	PAMEX

** NOTE: TWO DOOR VIEWERS REQUIRED AT ADA UNITS. ADD DOOR BELL AT "VHI" UNITS.

SET: RU-02 BEDROOM/BATHROOM (U1, U2)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	PLAIN BEARING HINGES	BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
1	EA	PRIVACY LEVERSET	FLFP1C	619	PAMEX
1	EA	SPRING STOP/HINGE PIN STOP/ROLLER BUMPER	DD02-31SN/DD02-41SN/DD02-25SN (AS REQ'D)	619	PAMEX

SET: RU-03 W.I.C, W/D, LINEN, MP (U3, U4, U5, U6, U8, U9)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	PLAIN BEARING HINGES	BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
1	EA	PASSAGE LATCHSET	FLFP3B	619	PAMEX
1	EA	SPRING STOP/HINGE PIN STOP	DD02-31SN/DD02-41SN (AS REQ'D)	619	PAMEX

SET: RU-04 W/D, CLOSET, MP (U10, U11) - PAIR OF DOORS

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	PLAIN BEARING HINGES	BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
2	EA	DUMMY LEVER	FLFP4B	619	PAMEX
1	SET	MAG CATCH	DD05-22WH	WHT	PAMEX
1	EA	HINGE PIN STOP/SPRING STOP	DD02-41SN/DD02-31SN (AS REQ'D)	619	PAMEX

SET: RU-05 MECH FROM UNIT (U7)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	PLAIN BEARING HINGES	BY DOOR SUPPLIER (PRE-HUNG)	646	PAMEX
1	EA	SINGLE CYLINDER DEADBOLT	FD861	619	PAMEX
1	EA	HINGE PIN STOP/SPRING STOP	DD02-41SN/DD02-31SN (AS REQ'D)	619	PAMEX

SET: RU-06 WH, MECH FROM CORRIDOR (UM1)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	WEATHERSTRIPPING	DD13-WS313684AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX

SET: RU-07 WH, MECH FROM CORRIDOR (UM2) - PAIR OF DOORS

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	BALL BEARING HINGES X NRP CONSTANT FLUSH BOLT WITH FIRE	H45-02NSN	646	PAMEX
1	SET	BOLT	DD05-67FSC	626	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	COORDINATOR	E4000/DC52-AL	626	PAMEX
1	EA	FILLER BAR	E4000/FB18-AL	626	PAMEX
1	EA	MOUNTING BRACKET	E4000/MB3	BLK	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	ASTRAGAL SEAL	BY OTHERS	---	---
1	SET	WEATHERSTRIPPING	DD13-WS317284AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12872AL (AS REQ'D)	719	PAMEX

SET: RU-08 UNIT ENTRY EXTERIOR (2-E100, 2-E102, 2-E106, 2-E108, 2-E110, 3-E205, 3-E207, 3-E209)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	SPRING HINGE	H45S-00SS OR BY DOOR SUPPLIER (PRE-HUNG)	630	PAMEX
1	EA	SINGLE CYLINDER DEADBOLT	FD861	619	PAMEX
1	EA	PASSAGE LATCHSET	FYSP3C	619	PAMEX
1	EA	OVERHEAD STOP/FLOOR STOP	DD08-13S36SS/DD02-613SN (AS REQ'D)	630/619	PAMEX
1	EA	WEATHERSTRIPPING	BY DOOR SUPPLIER	719	PAMEX
1	EA	DOOR SWEEP	BY DOOR SUPPLIER	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL	719	PAMEX

** ADD DOOR BELL AT "VHI" UNITS AS REQUIRED.

COMMON & AMENITIES

SET: B01 CORRIDOR, LOBBY FROM UNCONDITIONED CORRIDOR (1C100, 2-C209)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	RIM FIRE EXIT HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, PASSAGE	E9000/LFPA-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	FLOOR STOP	DD02-613SN	619	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX

SET: B02 LOBBY FROM CORRIDOR (1-C100B)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02NSN	646	PAMEX
1	EA	RIM FIRE EXIT HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, PASSAGE	E9000/LFPA-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B03 VESTIBULE EXTERIOR (1-EC101)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02NSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E910E/EO3-AL	626	PAMEX
1	EA	RIM CYLINDER, NIGHT LATCH	E9100/NLRCSC-AL	626	PAMEX
1	EA	OFFSET PULL	1158	630	DON JO
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	DROP BRACKET	GFDB590-AL (AS REQ'D)	689	PAMEX
1	EA	BLADE STOP SPACER	GBSS590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B04 LEASING OFFICE, ADMIN OFFICE, SUPPORTIVE HOUSING ADMIN, MAINT. OFFICE (1-C103, 1-C105, 1-C106, 2-C211)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	OFFICE ENTRY LEVERSET	FYSP0C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL (AS REQ'D)	689	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B05 OFFICE MECH/STORAGE, STORAGE (1-C103A, 1-C105A, 1-C106A, 1-C117A)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B06 WORKROOM (1-C104A)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	CLASSROOM LEVERSET	FYSP8C	619	PAMEX
1	EA	FLOOR STOP	DD02-613SN	619	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B07 WORKROOM (1-C104B)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	CLASSROOM LEVERSET	FYSP8C	619	PAMEX
1	EA	OVERHEAD STOP	DD08-13S36SS	630	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B08 PACKAGE, FITNESS, MEETING/FLEX OFFICE, WELLNESS CENTER (1-C107, 1-C116, 2-C208, 2-C210)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
3	EA	SILENCER	DD02-81	GRY	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B09 FILE ROOM (1-C108)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL (AS REQ'D)	689	PAMEX
1	EA	FLOOR STOP	DD02-613SN	619	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B10 MECH, STORAGE (1-C108A, 1-C112, 2-C108B, 2-C204A)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	OVERHEAD STOP	DD08-13S36SS	630	PAMEX
3	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B11 LAUNDRY ROOM (1-C109)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	PASSAGE LATCHSET	FYSP3C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B12 MECH (1-C109B, 1-C116A, 3-C105)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B13 UNISEX BATH (1-C110, 1-C111)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	PRIVACY LEVERSET	FYSP1C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL (AS REQ'D)	689	PAMEX
1	EA	KICK PLATE	DD09-301034SS	630	PAMEX
1	EA	MOP PLATE	DD09-30434SS	630	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
3	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B14 WATER ROOM, MAINT. STORAGE (1-C113, 3-C103)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B15 ELECTRICAL ROOM FROM CORRIDOR (1-C114)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02NSS	646	PAMEX
1	EA	RIM FIRE PANIC HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
2	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
2	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B16 BIKE STORAGE INTERIOR (1-C117)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER, DELAYED ACTION	GC5900BFDA-AL	689	PAMEX
1	EA	OVERHEAD STOP	DD08-13S36SS	630	PAMEX
3	EA	SILENCER	DD02-81	GRY	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES

SET: B17 COMMUNITY ROOM INTERIOR (1-C118)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGESX NRP	H45-02NSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E900E/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	FLOOR STOP	DD02-613SN	619	PAMEX
1	EA	SILENCER	DD02-81	GRY	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B18 STORAGE (1-C118B, 2-C206)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	BALL BEARING HINGES	H45-02NSN	646	PAMEX
1	EA	MANUAL FLUSH BOLT (TOP)	DD05-63SN	619	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	OVERHEAD STOP	DD08-13S36SS	630	PAMEX
1	EA	FLOOR STOP	DD02-613SN	619	PAMEX
2	EA	SILENCERS	DD02-81	GRY	PAMEX

SET: B19 UTILITY/STORAGE, WATER ROOM, MAINT. STORAGE (1-C119, 1-C201, 1-C301, 1-C401, 2-C104, 2-C205)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX

SET: B20 TRASH ROOM, SERVICE CORRIDOR (1-C120, 1-C202, 1-C302, 1-C402, 2-C101, 2-C201, 2-C301, 2-C401, 3-C104)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGESX NRP	H45-02NSN	646	PAMEX
1	EA	PASSAGE LATCHSET	FYSP3C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX

SET: B21 VESTIBULE INTERIOR (1-C101)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-04NSS	630	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E910E/EO3-AL	626	PAMEX
1	EA	RIM CYLINDER, NIGHT LATCH	E9100/NLRCSC-AL	626	PAMEX
1	EA	OFFSET PULL	1158	630	DON JO
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	DROP BRACKET	GFDB590-AL (AS REQ'D)	689	PAMEX
1	EA	BLADE STOP SPACER	GBSS590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB5836AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B22 CORRIDOR EXIT, COMMUNITY ROOM EXTERIOR, STAIR EXTERIOR, LOBBY EXTERIOR (1-EC102A, 1-EC102B, 1-EC118, 1ESTA1, 1ESTB1, 2ESTB1, 2-EC209, 2ESTA2, 3ESTA1, 3ESTB2)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSS	630	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E900E/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	WEATHERSTRIPPING	DD13-WS313684AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB5836AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

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SET: B23 CORRIDOR EXIT (3-EC100A, 3-EC100B)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSS	630	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E900E/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B24 LOBBY EXTERIOR (2-EC109, 3-EC110)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSS	630	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	RIM PANIC HARDWARE, ELR	E900E/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	DON JO
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

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SET: B25 WATER ROOM EXTERIOR (1-EC113, 2-EC104, 3-EC101)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSS	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	WEATHERSTRIPPING	DD13-WS313684AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB5836AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	LATCH GUARD PROTECTOR	DD10-11SS	630	PAMEX

SET: B26 ELECTRICAL ROOM EXTERIOR (1-EC114, 2-EC103, 3-EC108)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	HW BALL BEARING HINGES X NRP	H45-04NSS	630	PAMEX
1	EA	RIM PANIC HARDWARE	E9000/EO4-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	WEATHERSTRIPPING	DD13-WS313684AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB5836AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	LATCH GUARD PROTECTOR	DD10-11SS	630	PAMEX

SET: B27 BIKE STORAGE EXTERIOR (1-EC117, 2-EC108)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSS	630	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER, DELAYED ACTION	GC5900BFDA-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	WEATHERSTRIPPING	DD13-WS313684AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB5836AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX
1	EA	LATCH GUARD PROTECTOR	DD10-11SS	630	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B28 TRASH COMPACTOR ROOM, MAINT. WORKSHOP, MAINT. EQUIP. STORAGE (1-EC121, 2-EC102, 2-EC214, 3-EC112)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	BALL BEARING HINGES X NRP	H45-02NSS	630	PAMEX
2	EA	MANUAL FLUSH BOLT	DD05-63SN	619	PAMEX
1	EA	DUST PROOF STRIKE	DD05-604SN	619	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	HANDLE CONTROL HOLD OPEN ARM	GHCHA590-AL	689	PAMEX
1	EA	FLOOR STOP (FIELD VERIFY)	DD02-613SN	619	PAMEX
1	SET	SECURITY ASTRAGAL	BY OTHERS	---	---
1	SET	WEATHERSTRIPPING	DD13-WS317284AL	719	PAMEX
2	EA	DOOR BOTTOM	DD13-DS3636AL	719	PAMEX
1	EA	THRESHOLD	DD13-TH12572AL	719	PAMEX
1	EA	RAIN DRIP	DD13-DC2576AL (AS REQ'D)	719	PAMEX

SET: B29 JANITOR CLOSET, MECH, WATER ROOM (1-C203, 1-C303, 1-C403, 2-C105, 2-C212, 2-C213, 3-C101)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGESX NRP	H45-02NSN	646	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	SMOKE SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12836AL	719	PAMEX

HW SET B30 BY STOREFRONT MANUFACTURER

SET: B31 STAIR INTERIOR (1STA1)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES X NRP	H45-02NSN	646	PAMEX
1	EA	RIM FIRE EXIT HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, PASSAGE	E9000/LFPA-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
1	EA	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX

SET: B32 STAIR INTERIOR (1STA2, 1STA3, 1STA4, 1STB1, 1STB2, 1STB3, 1STB4, 2STA2, 2STA3, 2STA4, 2STB1, 2STB2, 2STB3, 2STB4, 3STA1, 3STA2, 3STA3, 3STA4, 3STB1, 3STB2, 3STB3, 3STB4)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	RIM FIRE EXIT HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, PASSAGE	E9000/LFPA-AL	626	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
1	EA	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP	DD13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX

SET: B33 ELECTRICAL ROOM FROM UNCONDITIONED CORRIDOR (2-C103, 3-C108)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGESX NRP	H45-02NSN	646	PAMEX
1	EA	RIM FIRE PANIC HARDWARE	EF9000/EO3-AL	626	PAMEX
1	EA	EXIT TRIM, STOREROOM	E9000/LFS-AL	626	PAMEX
2	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
2	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP	DD13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX

SET: B34 UTILITY/STORAGE, TELE/DATA, JANITOR CLOSET, ELEC. CLOSET (2-C106, 2-C107, 2-C202, 2-C203, 2-C302, 2-C303, 2-C402, 2-C403, 3-C107, 3-C201, 3-C202, 3-C301, 3-C302, 3-C401, 3-C402)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	BALL BEARING HINGES X NRP CONSTANT FLUSH BOLT WITH FIRE	H45-02NSN	646	PAMEX
1	SET	BOLT	DD05-67FSC	626	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	COORDINATOR	E4000/DC52-AL	626	PAMEX
1	EA	FILLER BAR	E4000/FB18-AL	626	PAMEX
1	EA	MOUNTING BRACKET	E4000/MB3	BLK	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	EA	ASTRAGAL SEAL	BY OTHERS	---	---
1	SET	WEATHERSTRIPPING	DD13-WS317284AL	719	PAMEX
1	EA	DOOR BOTTOM - U SHAPE	DD13-DB6936AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD - 8" WIDE	DD13-TH12872AL (AS REQ'D)	719	PAMEX

SET: B35 BIKE STORAGE (2-C108)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER, DELAYED ACTION	GC5900BFDA-AL	689	PAMEX
1	EA	WALL STOP/FLOOR STOP	DD02-53SN/DD02-613SN (AS REQ'D)	619	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP	DD13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

** DOOR IS LOCKED AND LATCHED AT ALL TIMES. ENTRY BY VALID CREDENTIAL OR BY KEY OVERRIDE. DOOR WILL REMAIN LOCKED WHEN FIRE ALARM IS TRIGGERED OR LOSS OF POWER (FAIL-SECURE). FREE EGRESS AT ALL TIMES.

SET: B36 LAUNDRY ROOM (2-C205)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP	D13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

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SET: B37 RESTROOM (2-C207)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	PRIVACY LEVERSET	FYSP1C	619	PAMEX
1	EA	SURFACE CLOSER	GC5900BF-AL (AS REQ'D)	689	PAMEX
1	EA	KICK PALTE	DD09-301034SS	630	PAMEX
1	EA	MOP PLATE	DD09-30434SS	630	PAMEX
1	EA	WALL STOP	DD02-53SN	619	PAMEX
3	EA	SILENCER	DD02-81	GRY	PAMEX

SET: B38 MAINT. WORKSHOP (2-C214)

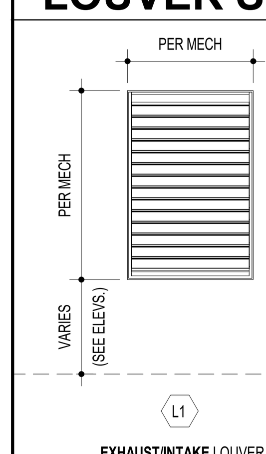
QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
6	EA	BALL BEARING HINGES	H45-02RSN	646	PAMEX
1	EA	CONSTANT FLUSH BOLT W/ FIRE BOLT	DD05-67FSC	626	PAMEX
1	EA	STOREROOM LEVERSET	FYSP5C	619	PAMEX
1	EA	DOOR COORDINATOR	E4000/DC52-AL	626	PAMEX
1	EA	FILLER BAR	E4000/FB18-AL	626	PAMEX
2	EA	SURFACE CLOSER	GC5900BF-AL	689	PAMEX
2	EA	FLOOR STOP	DD02-613SN	619	PAMEX
1	SET	ASTRAGAL SEAL	BY OTHERS	---	---
1	SET	PERIMETER SEAL	DD13-SS3821BR	BRN	PAMEX
2	EA	DOOR SWEEP	DD13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12572AL (AS REQ'D)	719	PAMEX

SET: B06 BIKE STORAGE (3-C102)

QTY	UOM	DESCRIPTION	MODEL	FINISH	MFG
3	EA	BALL BEARING HINGES	H45-02NSN	646	PAMEX
1	EA	POWER TRANSFER DEVICE	EPT-L5SS	630	PAMEX
1	EA	ELECTRIFIED LEVERSET, FAIL-SECURE	FYSP5CE-SE	619	PAMEX
1	EA	SURFACE CLOSER, DELAYED ACTION	GC5900BFDA-AL	689	PAMEX
1	EA	CUSH-N-STOP ARM	GCNSA590-AL	689	PAMEX
1	SET	PERIMETER SEAL	DD13-SS3817BR	BRN	PAMEX
1	EA	DOOR SWEEP	DD13-DS3636AL (AS REQ'D)	719	PAMEX
1	EA	THRESHOLD	DD13-TH12536AL (AS REQ'D)	719	PAMEX
1	EA	CREDENTIAL READER	BY ACCESS CONTROL CONTRACTOR	---	---
1	EA	POWER SUPPLY	BY ACCESS CONTROL CONTRACTOR	---	---

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LOUVER SCHEDULE



EXHAUST/INTAKE LOUVER

NOTE: SEE MEP DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION ON ALL LOUVERS AND SIZE REQUIREMENTS, OPEN AREA PERCENTAGES, ETC.

NOTE: ALL LOUVERS TO EITHER BE PAINTED, OR FACTORY FINISHED,A COLOR TO MATCH ADJACENT MATERIAL WHERE LOCATED. SEE ELEVATIONS FOR ADJACENT MATERIALS.

123 East Main St.
2nd Floor
Charlottesville, VA 22902
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DOOR, FRAME, AND LOUVER SCHEDULES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

A-305

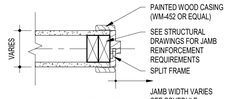
06/30/2026
CONSTRUCTABILITY REVIEW

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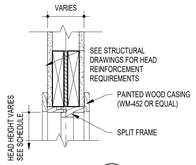
HEAD, SILL, AND JAMB DETAILS

NOTE: THESE DETAILS DO NOT REFERENCE THE DETAIL GRID ON THE PERIMETER OF THIS SHEET; 'J' REFERENCES A JAMB DETAIL, 'H' REFERENCES A HEAD DETAIL, AND 'S' REFERENCES A SILL DETAIL.

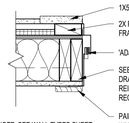


NOTE: SEE WALL TYPES SHEET FOR ACTUAL WALL DIMENSION AND CONSTRUCTION.

PRE-HUNG WOOD FRAME 1-1/2" = 1'-0" — J1

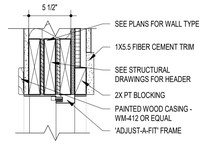


PRE-HUNG WOOD FRAME 1-1/2" = 1'-0" — H1

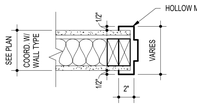


NOTE: SEE WALL TYPES SHEET FOR ACTUAL WALL DIMENSION AND CONSTRUCTION.

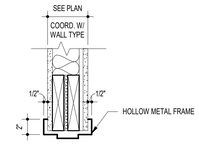
METAL ADJUST-A-FIT FRAME 1-1/2" = 1'-0" — J2



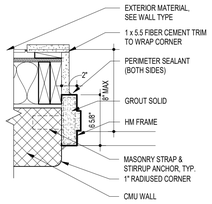
METAL ADJUST-A-FIT FRAME 1-1/2" = 1'-0" — H2



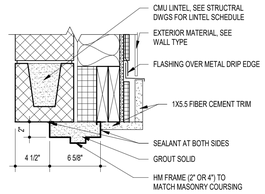
HOLLOW METAL FRAME 1-1/2" = 1'-0" — J3



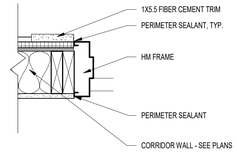
HOLLOW METAL FRAME 1-1/2" = 1'-0" — H3



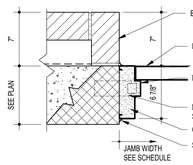
HM FRAME @ CORR. STAIR 1-1/2" = 1'-0" — J4



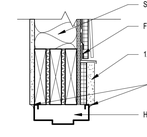
HM FRAME @ CORR. STAIR 1-1/2" = 1'-0" — H4



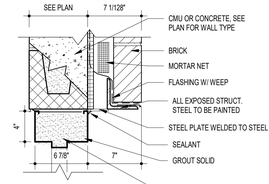
HM FRAME @ CORRIDOR 1-1/2" = 1'-0" — J5



HM FRAME 1-1/2" = 1'-0" — J6

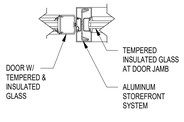


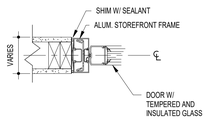
HM FRAME @ CORRIDOR 1-1/2" = 1'-0" — H5

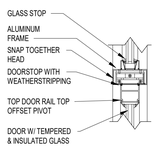


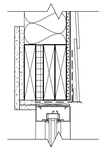
HM FRAME 1-1/2" = 1'-0" — H6

STOREFRONT DETAILS





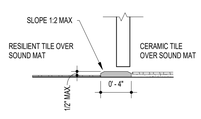




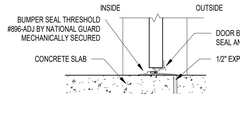
SILL DETAILS

NOTE: THESE DETAILS DO NOT REFERENCE THE DETAIL GRID ON THE PERIMETER OF THIS SHEET; 'I' REFERENCES A TRANSITION SILL DETAIL.

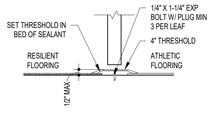
NOTE: ON ACCESSBILE ROUTES, CHANGES IN LEVEL BETWEEN 1/4 " AND 1/2" SHALL BE BEVELED WITH SLOPE NO GREATER THAN 1:2.



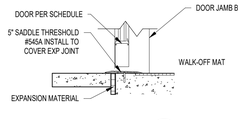
MARBLE 1-1/2" = 1'-0" — S1



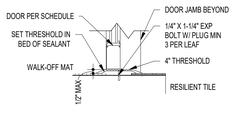
EXTERIOR 1-1/2" = 1'-0" — S2



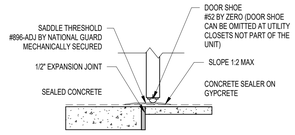
INTERIOR 1-1/2" = 1'-0" — S3



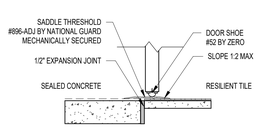
EXT. VESTIBULE 1-1/2" = 1'-0" — S4



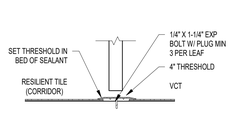
INT. VESTIBULE 1-1/2" = 1'-0" — S5



UNIT UTILITY CLOSET ON CORRIDOR 1-1/2" = 1'-0" — S6



UNIT ENTRY SILL 1-1/2" = 1'-0" — S7

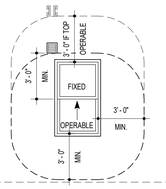


CORRIDOR SILL 1-1/2" = 1'-0" — S8

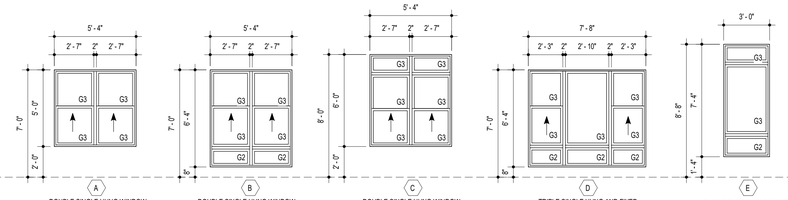
WINDOW SCHEDULE

WINDOW GENERAL NOTES (EDIT PER SPECIFIC PROJECT):

1. SEE DOOR SCHEDULE SHEETS FOR GLAZING TYPES AND WINDOW GENERAL NOTES.
2. ALL WINDOWS TO HAVE OPERATIONAL LIMITERS.
3. GC TO VERIFY LOCATIONS OF OPENINGS THAT REQUIRE SAFETY GLAZING.
4. ACCESSIBLE UNIT WINDOW LOCKS TO BE AT 48" A.F.F. MAX
5. ACCESSIBLE UNIT WINDOWS TO HAVE CASEMENT VERSIONS OF 'SIMULATED' SINGLE HUNG WINDOWS.



EXHAUST VENT PROXIMITY DIAGRAM: NO EXHAUST VENTS ARE PERMITTED WITHIN 3'-0" OF OPERABLE PORTIONS OF WINDOWS OR DOORS (SINGLE HUNG SHOWN FOR EXAMPLE - UPPER CLEARANCE NEEDED FOR CASEMENT, DOUBLE HUNG, AND SLIDER TYPE WINDOWS)



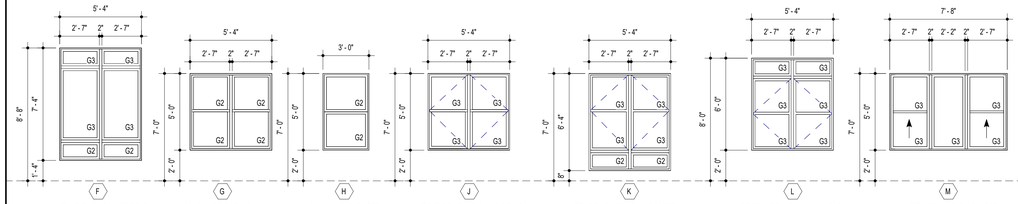
A DOUBLE SINGLE HUNG WINDOW

B DOUBLE SINGLE HUNG WINDOW WITH LOWER TRANSOM

C DOUBLE SINGLE HUNG WINDOW WITH UPPER TRANSOM

D TRIPLE SINGLE HUNG AND FIXED WINDOW WITH LOWER TRANSOM

E SINGLE FIXED WINDOW WITH UPPER AND LOWER TRANSOM



F DOUBLE FIXED WINDOW WITH UPPER AND LOWER TRANSOM

G DOUBLE FIXED WINDOW

H SINGLE FIXED WINDOW

J DOUBLE CASEMENT - SIMULATED SINGLE HUNG WINDOW REFERENCE NOTES 4 AND 5

K DOUBLE CASEMENT - SIMULATED SINGLE HUNG WINDOW WITH LOWER TRANSOM REFERENCE NOTES 4 AND 5

L DOUBLE CASEMENT - SIMULATED SINGLE HUNG WINDOW WITH UPPER TRANSOM REFERENCE NOTES 4 AND 5

M TRIPLE SINGLE HUNG WINDOW

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
www.grimmandparker.com

G+P GRIMM AND PARKER

GP #22424.00

WINDOW SCHEDULE AND DOOR & WINDOW DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP
06/30/2026	CONSTRUCTABILITY REVIEW

A-306

06/30/2026
CONSTRUCTABILITY REVIEW

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COMMON

FINISH SCHEDULE - UNITS

NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
FOYER	F4	B3	W1	C1	
BEDROOM	F4	B3	W1	C1	
LIVING AREA	F4	B3	W1	C1	
HALL CLOSET	F4	B3	W1	C1	
KITCHEN	F4	B3	W1	C1	2, 3
BATHROOM	F17	B3B	W1/ W5	C1	1, 2, 3
BATHROOM W/ ROLL-IN SHOWER	F13	B2	W1/W5	C1	1, 2, 3, 9
BEDROOM CLOSET	F4	B3	W1	C1	
WATER HEATER CLOSET	F20	B5	W1	C1	
MECHANICAL CLOSET	F3	B5	W1	C1	
WASHER / DRYER CLOSET	F3	B5	W1	C1	
LINEN CLOSET	F4	B3	W1	C1	

FINISH SCHEDULE - STAIRS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
1STA1	STAIR A	F5	B1/B4	W2	CX	4, 10
1STA2	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
1STA3	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
1STA4	STAIR A	F4/F6	B1/B4	W2	C1	4, 10
1STB1	STAIR B	F5	B1/B4	W2	CX	4, 10
1STB2	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
1STB3	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
1STB4	STAIR B	F4/F6	B1/B4	W2	C1	4, 10
2STA2	STAIR A	F5	B1/B4	W2	CX	4, 10
2STA3	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
2STA4	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
2STB1	STAIR B	F5	B1/B4	W2	CX	4, 10
2STB2	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
2STB3	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
2STB4	STAIR B	F4/F6	B1/B4	W2	C1	4, 10
3STA1	STAIR A	F5	B1/B4	W2	CX	4, 10
3STA2	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
3STA3	STAIR A	F4/F6	B1/B4	W2	CX	4, 10
3STA4	STAIR A	F4/F6	B1/B4	W2	C1	4, 10
3STB1	STAIR B	F5	B1/B4	W2	CX	4, 10
3STB2	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
3STB3	STAIR B	F4/F6	B1/B4	W2	CX	4, 10
3STB4	STAIR B	F4/F6	B1	W2	C1	4, 10

BUILDING 1

FINISH SCHEDULE - BUILDING 1 - LEVEL 1 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
1-C100	CORRIDOR	F5	BX	W6	C1/ C5	
1-C101	VEST.	F16	B4B	W6	C5	
1-C102	LOBBY	F4	B4B	W1	C4/C5	6
1-C102A	PRINTER STATION	F4	B4B	W1	C1	SEE INTERIOR ELEVATIONS FOR WALL FINISHES
1-C102B	CORRIDOR	F4	B4B	W1	C1	7
1-C103	LEASING OFF.	F14	B4	W1	C1	
1-C104	WORK RM	F14	B4	W1	C1	
1-C105	ADMIN OFF.	F14	B4	W1	C1	
1-C106	SUPPORTIVE HOUSING ADMIN.	F14	B4	W1	C1	
1-C107	PACKAGE	F14	B4	W1	C1	
1-C108	FILE RM.	F14	B4	W1	C1	
1-C108A	MECH.	F5	B5	W1	C1	
1-C109	LAUNDRY ROOM	F3	B4	W1/ W4	C1	2; SEE INT ELEVS FOR ACCENT FINISHES TYP. ALL LAUNDRY ROOMS
1-C109B	MECH.	F5	B5	W1	C1	
1-C110	UNISEX BATH	F12	B2	W4/ W1	C1	2, 3, 8; SEE INTERIOR ELEVATIONS FOR BASE
1-C111	UNISEX BATH	F12	B2	W4/ W1	C1	2, 3, 8; SEE INTERIOR ELEVATIONS FOR BASE
1-C112	STOR.	F5	B5	W1	C1	
1-C113	WATER ROOM	F5	B5	W1	C1	
1-C114	ELECTRICAL ROOM	F5	B5	W1	C1	
1-C116	FITNESS	F15	B5	W1	C1/C4	6
1-C116A	MECH.	F5	B5	W1	C1	
1-C117	BIKE STORAGE	F5	B5	W1	C1	
1-C117B	MECH					
1-C118	COMMUNITY ROOM	F4	B4B	W1/ SF-1	C1/C4	2, 6, 8; SEE INTERIOR ELEVATIONS
1-C118B	STOR.	F4	B4B	W1	C1	
1-C119	UTILITY/STOR.	F5	B5	W1	C1	
1-C120	TRASH RM	F20	B5	W1	C1	
1-C121	TRASH COMPACTOR RM	F20	B5	W1	C1	
1-C122	LOBBY	F5	B4B	W1	C1	4, 7

FINISH SCHEDULE - BUILDING 1 - LEVEL 2 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
1-C200	CORRIDOR	F5	BX	W6	C1/ C5	
1-C201	UTILITY	F5	B5	W1	C1	
1-C202	TRASH RM	F20	B5	W1	C1	
1-C203	JAN CL	F20	B5	W1	C1	5
1-C205	LOBBY	F5	B4B	W1	C1/ C4/C5	4, 6, 7

FINISH SCHEDULE - BUILDING 1 - LEVEL 3 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
1-C300	CORRIDOR	F5	BX	W6	C1/ C5	
1-C301	UTILITY	F5	B5	W1	C1	
1-C302	TRASH RM	F20	B5	W1	C1	
1-C303	JAN CL	F20	B5	W1	C1	5

FINISH SCHEDULE - BUILDING 1 - LEVEL 4 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
1-C400	CORRIDOR	F5	B4B	W6	C1/ C5	
1-C401	UTILITY	F5	B5	W1	C1	
1-C402	TRASH ROOM	F20	B5	W1	C1	
1-C403	JAN CL.	F20	B5	W1	C1	5

BUILDING 2

FINISH SCHEDULE - BUILDING 2 - LEVEL 1 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
2-C100	CORRIDOR	F5	BX	W6	C1/ C5	
2-C101	TRASH RM	F20	B5	W1	C1	
2-C102	TRASH COMPACTOR ROOM	F20	B5	W2	C1	
2-C103	ELECTRIC ROOM	F5	B5	W1	C1	
2-C104	WATER ROOM	F5	B5	W1	C1	
2-C105	JAN. CLOSET	F20	B5	W1	C1	5
2-C106	UTILITY/STOR.	F5	B5	W1	C1	
2-C107	UTILITY/STOR.	F5	B5	W1	C1	
2-C108	BIKE STORAGE	F5	B5	W1	C1	
2-C108B	MECH.	F5	B5	W1	C1	
2-C109	LOBBY	F5	BX	W1	C1	10

FINISH SCHEDULE - BUILDING 2 - LEVEL 2 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
2-C200	CORRIDOR	F5	B4	W6	C1/ C5	
2-C201	TRASH ROOM	F20	B5	W1	C1	
2-C202	UTILITY/STOR.	F5	B5	W1	C1	
2-C203	TELE/DATA	F5	B5	W1	C1	
2-C204	LAUNDRY	F3	B4	W1	C1	2, 7
2-C204A	MECH.	F5	B5	W1	C1	
2-C205	MAINT. STORAGE	F12	B5	W1	C1	
2-C206	STORAGE	F4	B4	W1	C1	
2-C206B	MECH					
2-C207	BATHROOM	F12	B2	W4/W1	C1	2, 3, 8; SEE INTERIOR ELEVATIONS FOR BASE
2-C208	MEETING / FLEX OFFICE	F4	B4B	W1/ SF-1	C1/ C4	2, 6, 8; SEE INTERIOR ELEVATIONS
2-C209	LOBBY	F5	BX/B4	W6	C1	7
2-C210	WELLNESS CENTER	F14	B4	W1	C1	
2-C211	MAINT. OFFICE	F5	B5	W1	C1	
2-C212	MECH.	F5	B5	W1	C1	
2-C213	JAN. CL.	F20	B5	W1	C1	5
2-C214	MAINT. WORKSHOP	F5	B5	W1	C1	

FINISH SCHEDULE - BUILDING 2 - LEVEL 3 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
2-C300	CORRIDOR	F5	BX	W6	C1/C5	
2-C301	TRASH ROOM	F20	B5	W1	C1	
2-C302	JAN. CL.	F20	B5	W1	C1	5
2-C303	ELEC. CLOSET	F3	B5	W1	C1	

FINISH SCHEDULE - BUILDING 2 - LEVEL 4 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
2-C400	CORRIDOR	F5	BX	W6	C1/C5	
2-C401	TRASH ROOM	F20	B5	W1	C1	
2-C402	JAN. CLOSET	F20	B5	W1	C1	5
2-C403	TELE/DATA	F3	F5	W1	C1	

BUILDING 3

FINISH SCHEDULE - BUILDING 3 - LEVEL 1 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
3-C100	CORRIDOR	F5	BX	W6	C1/ C5	
3-C101	WATER ROOM	F5	B5	W1	C1	
3-C102	BIKE STORAGE	F5	B5	W1	C1	
3-C103	MAINTENANCE STORAGE	F5	B5	W1	C1	
3-C104	SERVICE CORR.	F5	B5	W1	C1	
3-C105	MECH	F5	B5	W1	C1	
3-C106	LAUNDRY ROOM	F3	B4	W1	C1	2, 7
3-C107	JAN. CLOSET	F20	B5	W1	C1	5
3-C108	ELECTRICAL ROOM	F5	B5	W1	C1	
3-C110	LOBBY	F5	BX	W1	C1	7
3-C112	MAINTENANCE EQUIPMENT STORAGE	F20	B5	W6	C1	

FINISH SCHEDULE - BUILDING 3 - LEVEL 2 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
3-C200	CORRIDOR	F5	BX	W6	C1/ C5	
3-C201	JAN. CLOSET	F20	B5	W1	C1	5
3-C202	TELE/DATA	F3	B5	W1	C1	

FINISH SCHEDULE - BUILDING 3 - LEVEL 3 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
3-C300	CORRIDOR	F5	BX	W6	C1/ C5	
3-C301	JAN. CLOSET	F20	B5	W1	C1	5
3-C302	ELEC. CLOSET	F5	B5	W1	C1	

FINISH SCHEDULE - BUILDING 3 - LEVEL 4 - COMMON AREAS

RM. NO.	NAME	FLOOR	BASE	WALLS	CLG. MATL.	REMARKS
3-C400	CORRIDOR	F5	BX	W6	C1/ C5	
3-C401	JAN. CLOSET	F20	B5	W1	C1	5
3-C402	TELE/DATA	F5	B5	W1	C1	

GENERAL FINISH SCHEDULE NOTES

1. REFER TO INTERIOR ELEVATIONS, REFLECTED CEILING PLANS, ENLARGED PLANS AND INTERIOR DETAILS FOR ADDITIONAL INFORMATION SUCH AS FLOOR PATTERNS, EXTENT OF TILE AND TILE PATTERNS, ACCENT WALL LOCATIONS, ETC. FOR ALL COMMON AREAS.
2. ALL GYPSUM BOARDS ARE TO BE GLUED & SCREW ATTACHED TO STUDS FOR WOOD FRAMED CONSTRUCTION AND SCREWED TO STUDS IN METAL STUD CONSTRUCTION.
3. FOLLOW REQUIREMENTS OF FIRE TEST LISTING NUMBERS FOR BUILDING ASSEMBLIES.
4. FOR WALL INTERSECTION DETAILS SEE TYPICAL INTERIOR AND EXTERIOR STUD ARRANGEMENT DETAILS ON WALL TYPE SHEETS.
5. INSULATE ALL EXTERIOR WALL CAVITIES. USE LOW EXPANSION FOAM AROUND EXTERIOR OPENINGS.
6. SEE CODE STUDY SHEETS FOR LIMITS AND EXTENT OF FIRE RATED WALLS, ESPECIALLY EXTENSION FROM FLOOR TO UNDERSIDE OF STRUCTURE (FLOOR/CEILING ASSEMBLY) ABOVE.
7. PROVIDE BLOCKING FOR ALL WALL MOUNTED CABINETS, TOILET ACCESSORIES, ETC. AS REQUIRED.
8. REFER TO FIRE ASSEMBLY PENETRATION DETAILS FOR FIRE STOP SYSTEMS & UL LISTINGS. ALL PENETRATIONS THROUGH RATED CONSTRUCTION SHALL UTILIZE ONE OF THESE SYSTEMS.
9. NOT USED
10. TRANSITIONS BETWEEN SURFACES SHALL HAVE LEVEL CHANGES NOT EXCEEDING ½ INCH WITH A MAXIMUM BEVEL OF 1:2 AND UNBEVELED LEVEL CHANGES SHALL NOT EXCEED ¼ INCH.
11. WHEN THE WALL FINISH IS BLANK IN THE TABLE, REFER TO THE EXTERIOR WALL ASSEMBLY FOR MORE INFORMATION.
12. WHERE THE EXTENT OF WALK-OFF MAT (F16) IS NOT SPECIFIED, ASSUME 12'-0" OF SPACE PERPENDICULAR TO EXTERIOR DOOR(S).
13. ALL FAUX BEAMS AND BROWS ABOVE DOORS TO RECEIVE WOOD LOOK WALLCOVERING.
14. PER MDCR PAINT BOTTOM, TOP, AND ALL OTHER SIDES OF DOORS.

FINISH SCHEDULE KEY

NOTE: NOT ALL KEY TYPES MAY BE USED ON THIS PROJECT. SEE SPECIFICATIONS FOR ADDITIONAL FINISH INFORMATION.

FLOOR TYPES:

FX	NO FLOORING
F1	CARPET 1 (UNIT CARPET) & PAD
F2	CARPET 2 (COMMON AREA CARPET)
F3	VINYL COMPOSITE TILE (VCT)
F4	LUXURY VINYL TILE (LVT) 1, 2, OR 3 (RESILIENT PLANK FLOORING)
F5	CONCRETE WITH SEALER
F6	VINYL TREAD
F7	RESILIENT SHEET FLOORING
F8	MARMOLEUM COMPOSITE TILE (MCT)
F9	HARDWOOD FLOORING
F10	PEDESTAL PERVIOUS PAVERS 2'X2'
F11	COMPOSITE DRIP-THROUGH DECKING
F12	PORCELAIN TILE 1 (COMMON AREAS)
F13	PORCELAIN TILE 2 (UNITS) 2X2 MOSAIC
F14	CARPET TILE
F15	RESILIENT ATHLETIC FLOORING
F16	RECESSED FLOOR MAT
F17	RESILIENT SHEET FLOORING WITH INTEGRAL SOUND MAT UNDERLAYMENT
F18	RUBBER STAIR TREADS AND RISERS
F19	RUBBER FLOOR TILE
F20	EPOXY FLOORING

BASE TYPES:

BX	NO BASE
B1	4" VINYL COVE
B2	MATCHING TILE BASE WITH BULLNOSE
B3	PAINTED WOOD BASE - **WM-750 (9/16" X 4-1/4")**
B3B	B3 WITH SHOEMOULD
B4	PAINTED WOOD BASE - **WM-750 (9/16" X 5-1/4")**
B4B	B4 WITH SHOEMOULD
B5	4" RUBBER BASE

CEILING TYPES:

CX	NO CEILING / EXPOSED STRUCTURE
C1	PAINTED GYPSUM BOARD
C3	EXPOSED CONCRETE - SKIM COATED & PAINTED
C4	ACOUSTICAL FAUX BEAMS
C5	METAL SUSPENSION SYSTEM

WALL TYPES:

W1	PAINTED GYPSUM BOARD
W2	PAINTED C.M.U.
W3	PAINTED CONCRETE
W4	CERAMIC TILE
W5	CERAMIC TILE TUB / SHOWER SURROUND
W6	FIBER CEMENT LAP SIDING/ PAINTED EXTERIOR GYPSUM BOARD
WX	EXPOSED UNFINISHED STRUCTURE
SF-1	SPECIALTY FINISH - TILE
SF-2	SPECIALTY FINISH - WOOD

NOTES FOR REMARKS COLUMN

NOTE: NOT ALL NOTES MAY BE USED ON THIS PROJECT. SEE SPECIFICATIONS FOR ADDITIONAL FINISH INFORMATION. ALSO SEE INTERIOR ELEVATIONS, REFLECTED CEILING PLANS, FLOOR FINISH PLANS AND INTERIOR DETAILS FOR ADDITIONAL FINISH INFORMATION.

1. FIBERGLASS MAT TILE BACKER GYPSUM BOARD OR CEMENT BOARD IN SHOWER & BATH SURROUNDS, MOISTURE RESISTANT BOARD ON DRY WALLS.
2. RUN VINYL OR TILE FLOORING UNDERNEATH ALL DISHWASHERS, REFRIGERATORS, RANGES & KNEE/CLEAR SPACE BELOW COUNTERS.
3. PAINT ALL DOORS, DOOR FRAMES, AND KITCHEN & BATHROOM WALLS W/ SEMI-GLOSS PAINT.
4. ALL VISIBLE PAINTABLE SURFACES OF STAIR INCLUDING UNDERSIDE ARE TO BE PAINTED UP TO TWO COLORS.
5. PROVIDE FIBERGLASS REINFORCED WALL PANELS AT BACK AND SIDES OF MOP SINKS.
6. SPACE CONTAINS FAUX BEAMS.
7. SEE INTERIOR ELEVATIONS AND ENLARGED PLANS FOR WALLCOVERING LOCATIONS.
8. WAINSCOTING TO 3'-6" A.F.F.
9. PROVIDE F13 TILE FLOORING AND B2 BASE AT BATHROOMS WITH ROLL-IN SHOWERS.
10. PROVIDE F5 FINISH ON STAIRS.

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GRIMM AND PARKER

GP #22424.00

FINISH SCHEDULES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

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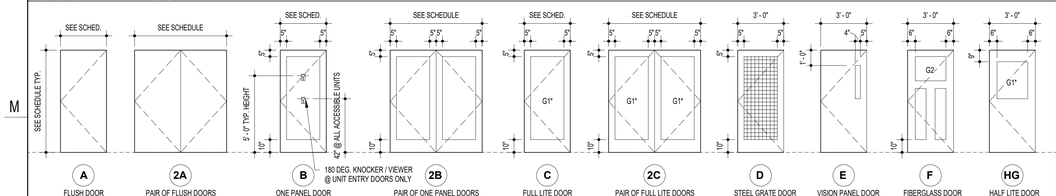
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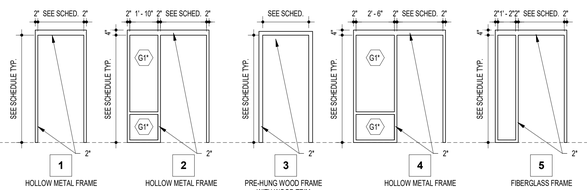
DOOR TYPES

*USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS



FRAME TYPES

NOTES: 1* USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS
2* SEE HEAD & JAMB DETAILS FOR ADDED TRIM PROFILES



DOOR SCHEDULE - B2 FIRST FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-C101	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B20	
2-C103	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B33	
2-C104	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B19	
2-C105	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B29	
2-C106	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	
2-C107	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	
2-C108	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	1				45 MIN	B35	
2-C108B	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B10	

DOOR SCHEDULE - B2 FIRST FLOOR EXITS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-E100	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-E102	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-E104	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-E106	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-E108	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-EC102	5' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				-	B28	
2-EC103	3' - 6"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B26	
2-EC104	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM					-	25	
2-EC108	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	2				-	B27	
2-EC109	3' - 0"	7' - 0"	0' - 1 3/4"	D	HM	HM	1				-	B24	
2ESTB1	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	1				-	B22	
3-EC112	5' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				-	B11	

DOOR SCHEDULE - B2 SECOND FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-C201	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B20	
2-C202	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
2-C203	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
2-C204	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	2				45 MIN	B36	
2-C204A	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B10	
2-C205	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B19	
2-C206	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				-	B18	
2-C207	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B37	
2-C208	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	2				-	B08	
2-C209	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	4				45 MIN	B01	
2-C210	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	2				-	B21	
2-C211	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	1				-	B04	
2-C212	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B29	
2-C213	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B29	
2-C214	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B38	

DOOR SCHEDULE - B2 SECOND FLOOR EXITS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-E216	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
2-EC209	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	2				-	B12	
2-EC214	5' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				-	B28	
2ESTA2	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	2				-	B22	

DOOR SCHEDULE - B2 THIRD FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-C301	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B20	
2-C302	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	
2-C303	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	

DOOR SCHEDULE - B2 FOURTH FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2-C401	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B20	
2-C402	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	
2-C403	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B14	

DOOR SCHEDULE - B2 STAIRS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
2STA2	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STA3	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STA4	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STB1	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STB2	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STB3	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
2STB4	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	

GENERAL DOOR & FRAME NOTES

1. ALL INTERIOR AND EXTERIOR DOORS AND FRAMES SHALL BE FACTORY PREPPED TO ACCEPT REQUIRED FINISH HARDWARE AND ELECTRONIC ACCESS CONTROL EQUIPMENT.
2. ALL BUILDING INTERIOR DOORS TO HAVE JAMB DETAIL "J1" AND HEAD DETAIL "H1" U.N.O.; ALL UNIT INTERIOR DOORS TO HAVE JAMB DETAIL "J2" AND HEAD DETAIL "H2" U.N.O.
3. REFER TO DETAIL SHEETS FOR DOOR AND WINDOW SILL, HEAD, AND JAMB CONDITION DETAILS.
4. ALL RATED DOORS TO HAVE CLOSERS AND LATCHES. APARTMENT ENTRY DOORS TO HAVE SPRING HINGES.
5. MEP MECHANICAL AND WASHER/DRYER CLOSETS TO RECEIVE CEILING/HIGH-WALL TRANSFER GRILLES - SEE DRAWINGS FOR FREE AREA REQUIREMENTS AND TRANSFER GRILLE LOCATIONS.
6. FOR HARDWARE SET INFORMATION, SEE SPECIFICATIONS AND DRAWINGS.
7. ALL UNIT BATHROOM DOORS TO HAVE SILL DETAIL "S1" U.N.O.
8. ALL UNITS DESIGNATED AS "VH" UNITS SHALL HAVE DOOR BELLS AT UNIT ENTRY DOORS.
9. ALL UNIT ENTRY DOORS TO HAVE COMBINATION KNOCKER/VIEWER PER DOOR TYPE B ELEVATION.
10. THE BOTTOM 10 INCHES OF THE DOOR SURFACE ON THE PUSH SIDE OF THE DOOR SHALL BE SMOOTH AND FREE OF OBSTRUCTIONS FOR THE FULL WIDTH OF THE DOOR.
11. PER MDCR PAINT BOTTOM, TOP, AND ALL OTHER SIDES OF DOORS.

GLASS TYPES & NOTES

GLASS TYPES (NOTE: NOT ALL TYPES MAY BE USED ON THIS PROJECT.)

G1 1/4" TEMPERED GLASS

G2 INSULATED TEMPERED GLASS (1/8" TEMP+ AIRSPACE +1/8" TEMP).

G3 INSULATED GLASS (1/8" GLASS+ AIRSPACE +1/8" GLASS).

G4 FIRE RATED GLASS (FIRELITE' BY TGP OR EQUAL)

GLASS NOTES:

1. MAXIMUM GLASS AREA, EACH LITE, IN 3/4 HR RATED FRAME ASSEMBLIES IS 1,296 SQ IN.
2. MAXIMUM HEIGHT AND WIDTH FOR 3/4 HR RATING IS 54".
3. MAXIMUM GLASS AREA, EACH LITE, IN 1-1/2 HR RATED FRAME ASSEMBLIES 100 SQ IN.
4. MAXIMUM HEIGHT AND WIDTH FOR 1-1/2 HR RATING IS 33" H AND 10" W.
5. ALL DOORS INTO EGRESS AREAS SUCH AS STAIRS THAT CONTAIN GLAZING, SHALL HAVE LABELED FIRE RESISTANT RATED GLASS TYPE G4
6. ALL GLAZING ON EXTERIOR, NON-RATED WALLS OF EGRESS STAIRS SHALL BE LABELED SAFETY GLAZING.

DOOR & FRAME MATERIAL KEY

DOOR MATERIAL:

SCWD	SOLID CORE WOOD
WD	HOLLOW CORE WOOD / HARD BOARD
HM	HOLLOW METAL
MC	METAL CLAD
F	FIBERGLASS
MANUF.	BY MANUFACTURER

FRAME MATERIAL:

MTL	ADJUST-A-FIT METAL FRAME
HM	HOLLOW METAL
WD	PRE-HUNG WOOD
F	FIBERGLASS
MANUF.	BY MANUFACTURER

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BUILDING 2 DOOR SCHEDULES

ROANOKE GATEWAY
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06/30/2026	CONSTRUCTABILITY REVIEW

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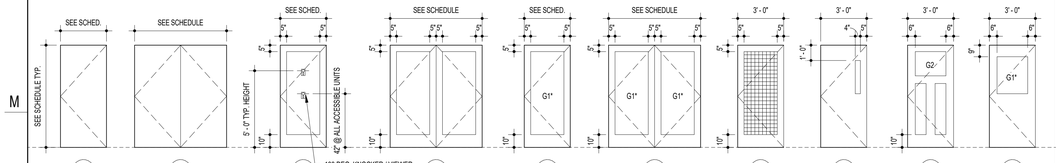
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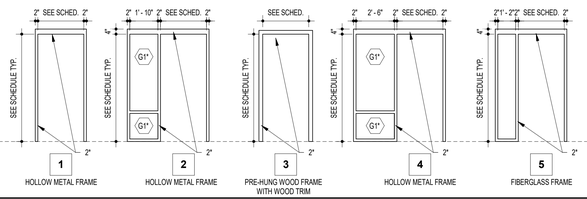
DOOR TYPES

*USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS



FRAME TYPES

NOTES: 1* USE GLASS TYPE G2 INSTEAD OF G1 AT EXTERIOR DOOR LOCATIONS
2* SEE HEAD & JAMB DETAILS FOR ADDED TRIM PROFILES



DOOR SCHEDULE - B3 FIRST FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-C101	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B29	
3-C102	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B39	
3-C103	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B14	
3-C104	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	1				45 MIN	B20	
3-C105	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B12	
3-C106	3' - 0"	7' - 0"	0' - 1 3/4"	C	HM	HM	2				45 MIN	B36	
3-C107	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
3-C108	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				45 MIN	B33	
3-C125	2' - 10"	6' - 8"	0' - 1 3/8"	B	WD	WD							
3-C131	5' - 0"	6' - 8"	0' - 1 3/8"	2B	WD	WD							
3-C135	2' - 10"	6' - 8"	0' - 1 3/8"	B	WD	WD							

DOOR SCHEDULE - B3 FIRST FLOOR EXITS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-EC100A	3' - 0"	7' - 0"	0' - 1 3/4"	D	HM	HM	1				-	B23	
3-EC100B	3' - 0"	7' - 0"	0' - 1 3/4"	D	HM	HM	1				-	B23	
3-EC101	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B25	
3-EC108	3' - 6"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				-	B26	
3-EC110	3' - 0"	7' - 0"	0' - 1 3/4"	D	HM	HM	1				-	B24	
3-EC112	5' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				-	B11	
3ESTA1	3' - 0"	7' - 0"	0' - 1 3/4"	E	HM	HM	1				-	B22	

DOOR SCHEDULE - B3 SECOND FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-C201	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
3-C202	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	

DOOR SCHEDULE - B3 SECOND FLOOR EXITS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-E205	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
3-E207	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
3-E209	3' - 0"	7' - 0"	0' - 1 3/4"	F	F	F	5				-	RU-08	
3ESTB2	3' - 0"	7' - 0"	0' - 1 3/4"	HG	HM	HM	1				-	B12	

DOOR SCHEDULE - B3 THIRD FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-C301	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
3-C302	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	

DOOR SCHEDULE - B3 FOURTH FLOOR COMMON

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3-C401	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	
3-C402	6' - 0"	7' - 0"	0' - 1 3/4"	2A	HM	HM	1				45 MIN	B34	

DOOR SCHEDULE - B3 STAIRS

DOOR NO.	DOOR NOMINAL SIZE WIDTH	HEIGHT	THK.	TYPE	MAT'L	FRAME MAT'L	TYPE	SECTIONS JAMB	HEAD	SILL	DOOR LABEL FIRE RATING	HARDWARE SET	REMARKS
3STA1	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STA2	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STA3	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STA4	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STB1	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STB2	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STB3	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	
3STB4	3' - 0"	7' - 0"	0' - 1 3/4"	A	HM	HM	1				90 MIN	B32	

GENERAL DOOR & FRAME NOTES

1. ALL INTERIOR AND EXTERIOR DOORS AND FRAMES SHALL BE FACTORY PREPPED TO ACCEPT REQUIRED FINISH HARDWARE AND ELECTRONIC ACCESS CONTROL EQUIPMENT.
2. ALL BUILDING INTERIOR DOORS TO HAVE JAMB DETAIL 'J1' AND HEAD DETAIL 'H1' U.N.O.; ALL UNIT INTERIOR DOORS TO HAVE JAMB DETAIL 'J2' AND HEAD DETAIL 'H2' U.N.O.
3. REFER TO DETAIL SHEETS FOR DOOR AND WINDOW SILL, HEAD, AND JAMB CONDITION DETAILS.
4. ALL RATED DOORS TO HAVE CLOSERS AND LATCHES. APARTMENT ENTRY DOORS TO HAVE SPRING HINGES.
5. MEP MECHANICAL AND WASHER/DRYER CLOSETS TO RECEIVE CEILING/HIGH-WALL TRANSFER GRILLES - SEE DRAWINGS FOR FREE AREA REQUIREMENTS AND TRANSFER GRILLE LOCATIONS.
6. FOR HARDWARE SET INFORMATION, SEE SPECIFICATIONS AND DRAWINGS.
7. ALL UNIT BATHROOM DOORS TO HAVE SILL DETAIL 'S1' U.N.O.
8. ALL UNITS DESIGNATED AS 'VHI' UNITS SHALL HAVE DOOR BELLS AT UNIT ENTRY DOORS.
9. ALL UNIT ENTRY DOORS TO HAVE COMBINATION KNOCKER/VIEWER PER DOOR TYPE B ELEVATION.
10. THE BOTTOM 10 INCHES OF THE DOOR SURFACE ON THE PUSH SIDE OF THE DOOR SHALL BE SMOOTH AND FREE OF OBSTRUCTIONS FOR THE FULL WIDTH OF THE DOOR.
11. PER MDCR PAINT BOTTOM, TOP, AND ALL OTHER SIDES OF DOORS.

GLASS TYPES & NOTES

GLASS TYPES (NOTE: NOT ALL TYPES MAY BE USED ON THIS PROJECT.)

G1 1/4" TEMPERED GLASS

G2 INSULATED TEMPERED GLASS (1/8" TEMP+ AIRSPACE +1/8" TEMP).

G3 INSULATED GLASS (1/8" GLASS+ AIRSPACE +1/8" GLASS).

G4 FIRE RATED GLASS (FIRELITE' BY TGP OR EQUAL)

GLASS NOTES:

1. MAXIMUM GLASS AREA, EACH LITE, IN 3/4 HR RATED FRAME ASSEMBLIES IS 1,296 SQ IN.
2. MAXIMUM HEIGHT AND WIDTH FOR 3/4 HR RATING IS 54".
3. MAXIMUM GLASS AREA, EACH LITE, IN 1-1/2 HR RATED FRAME ASSEMBLIES 100 SQ IN.
4. MAXIMUM HEIGHT AND WIDTH FOR 1-1/2 HR RATING IS 33" H AND 10" W.
5. ALL DOORS INTO EGRESS AREAS SUCH AS STAIRS THAT CONTAIN GLAZING, SHALL HAVE LABELED FIRE RESISTANT RATED GLASS TYPE G4
6. ALL GLAZING ON EXTERIOR, NON-RATED WALLS OF EGRESS STAIRS SHALL BE LABELED SAFETY GLAZING.

DOOR & FRAME MATERIAL KEY

DOOR MATERIAL:

SCWD	SOLID CORE WOOD
WD	HOLLOW CORE WOOD / HARD BOARD
HM	HOLLOW METAL
MC	METAL CLAD
F	FIBERGLASS
MANUF.	BY MANUFACTURER

FRAME MATERIAL:

MTL	ADJUST-A-FIT METAL FRAME
HM	HOLLOW METAL
WD	PRE-HUNG WOOD
F	FIBERGLASS
MANUF.	BY MANUFACTURER

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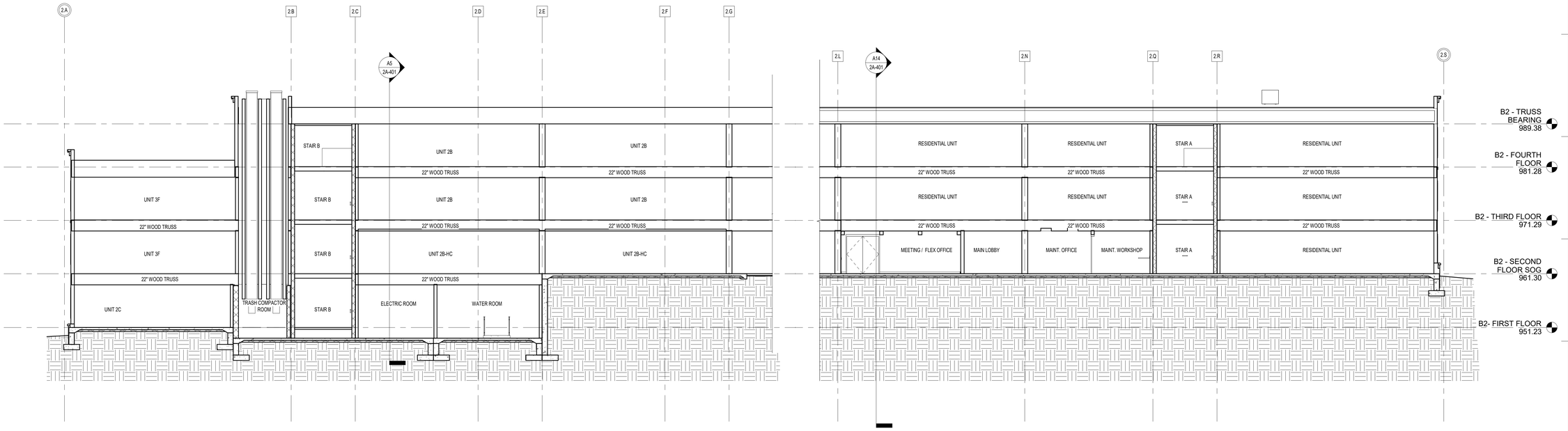
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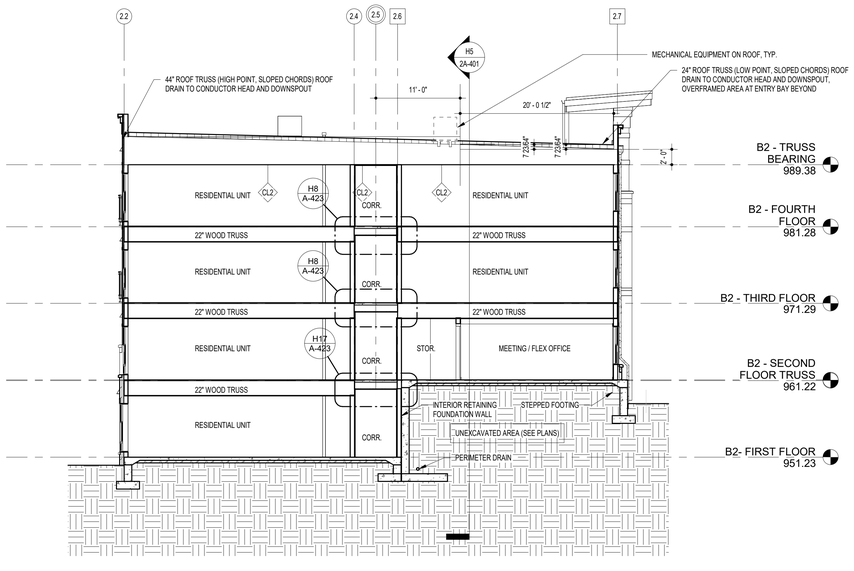
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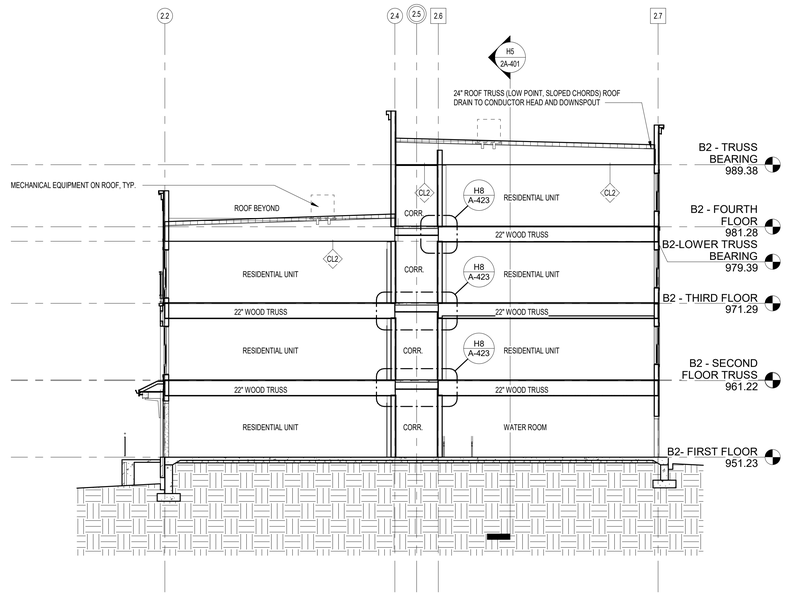
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H5 BUILDING 2 SECTION
1/8" = 1'-0"



A14 BUILDING 2 SECTION
1/8" = 1'-0"



A5 BUILDING 2 SECTION
1/8" = 1'-0"

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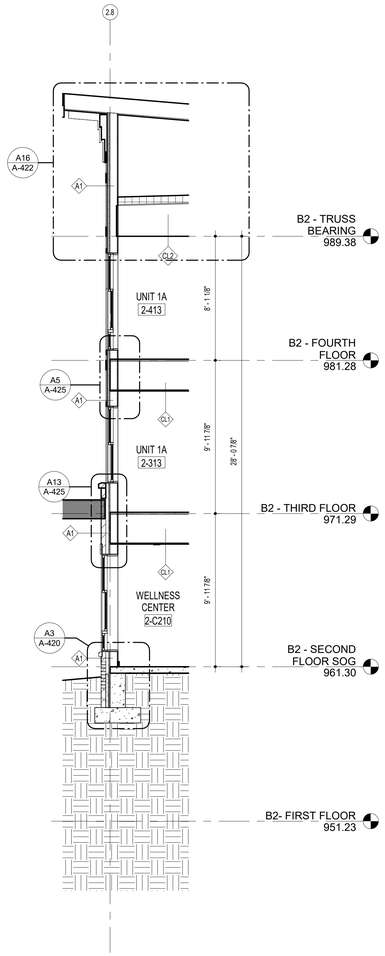
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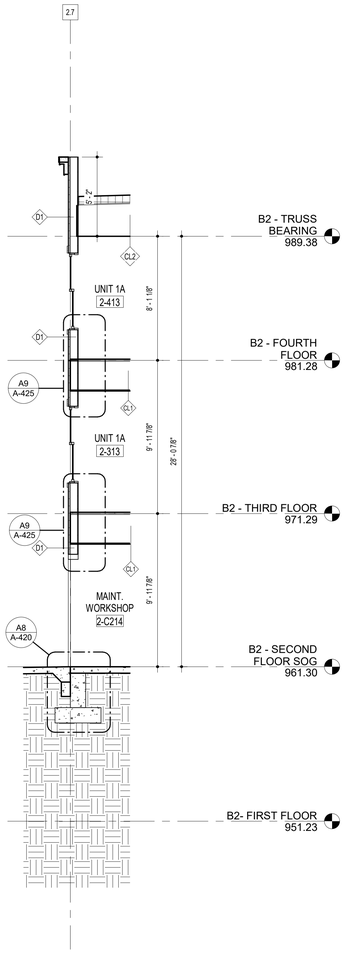
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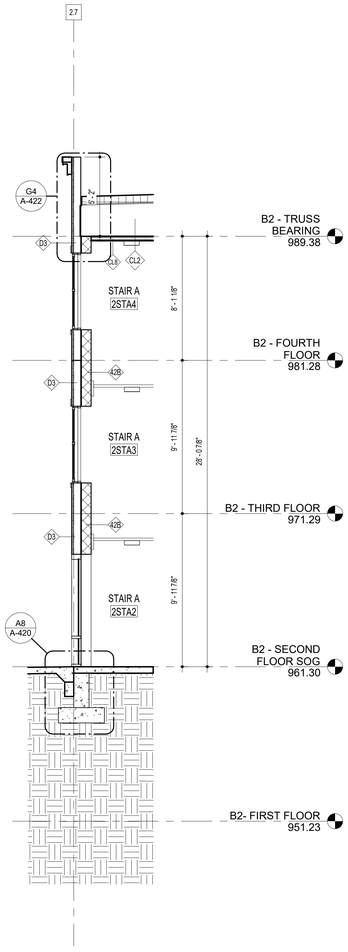
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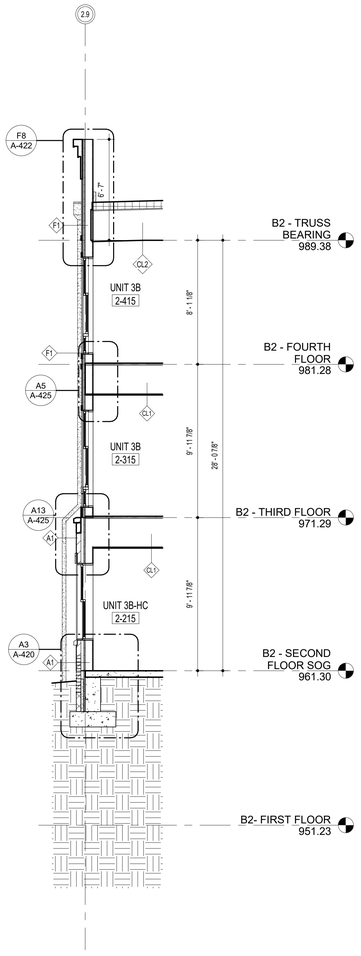
B17 WALL SECTION
1/4" = 1'-0"



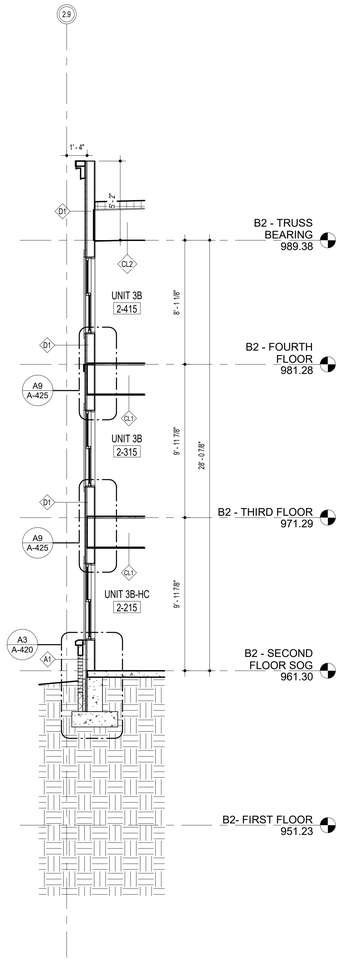
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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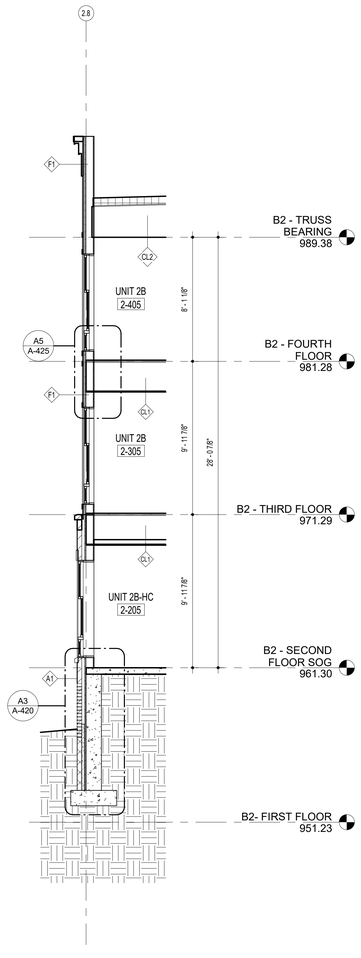
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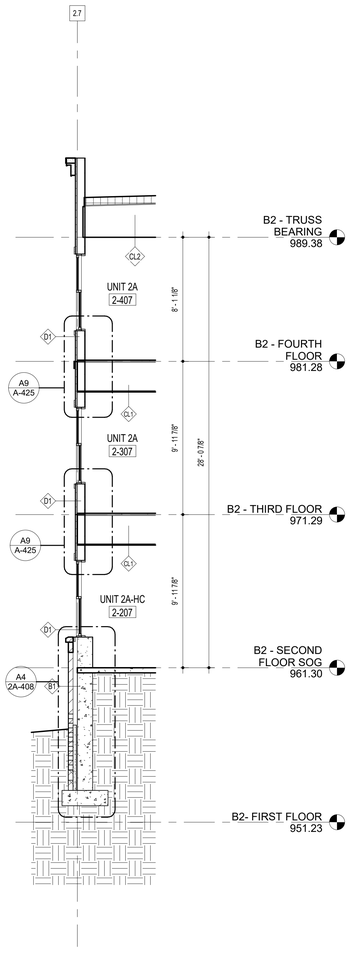
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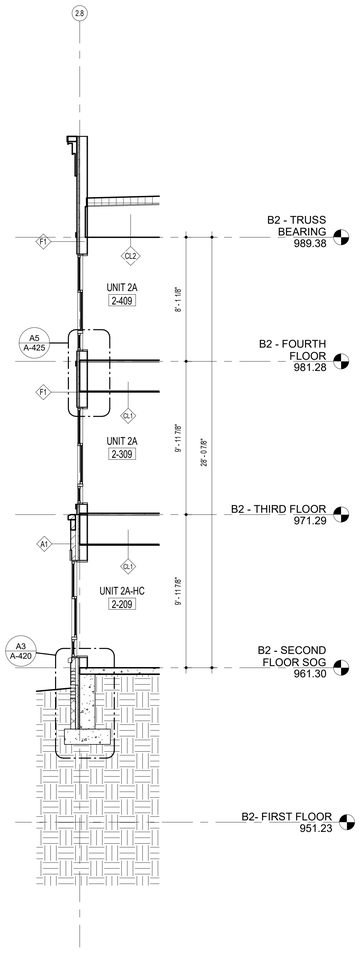
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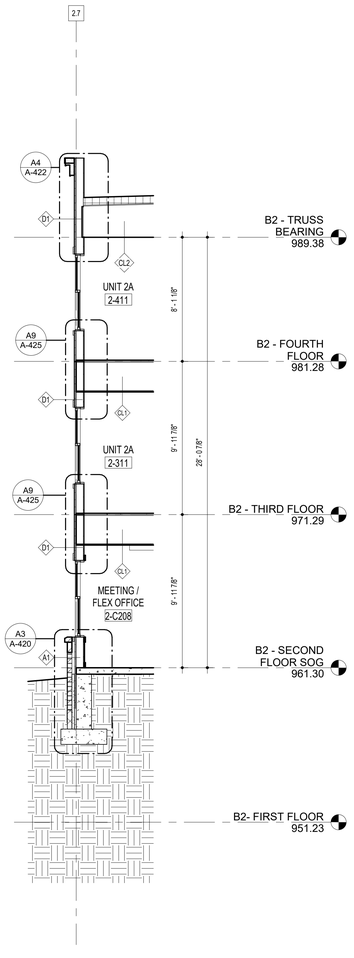
B17 WALL SECTION
1/4" = 1'-0"



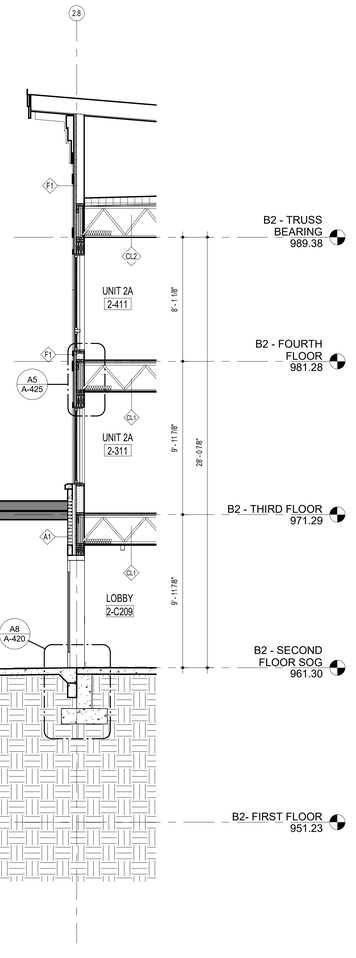
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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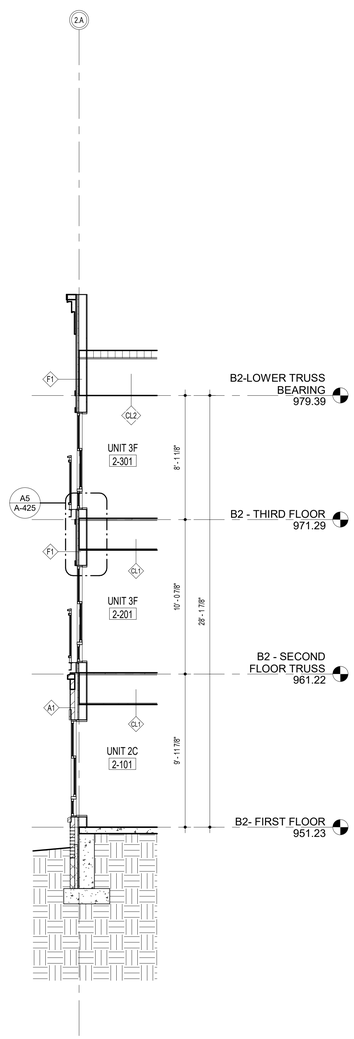
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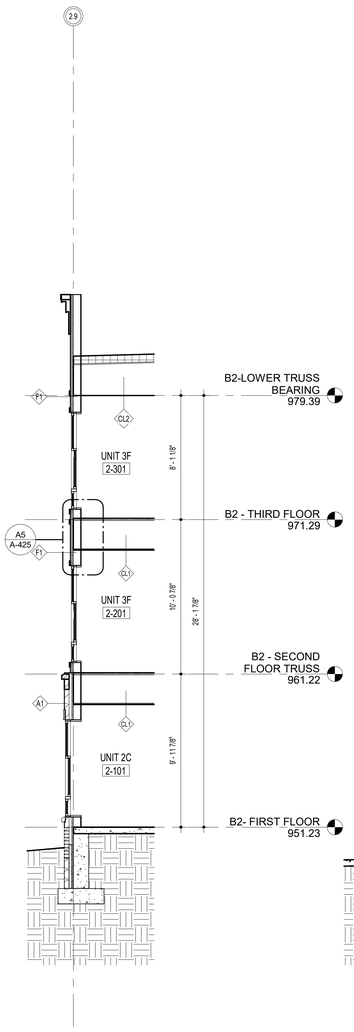
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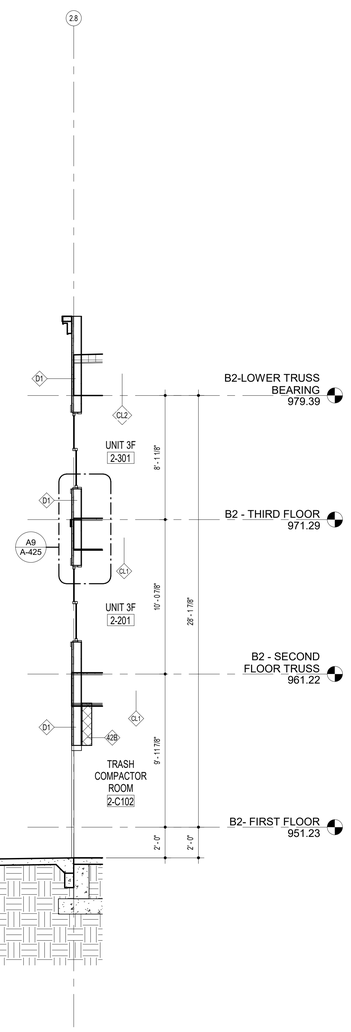
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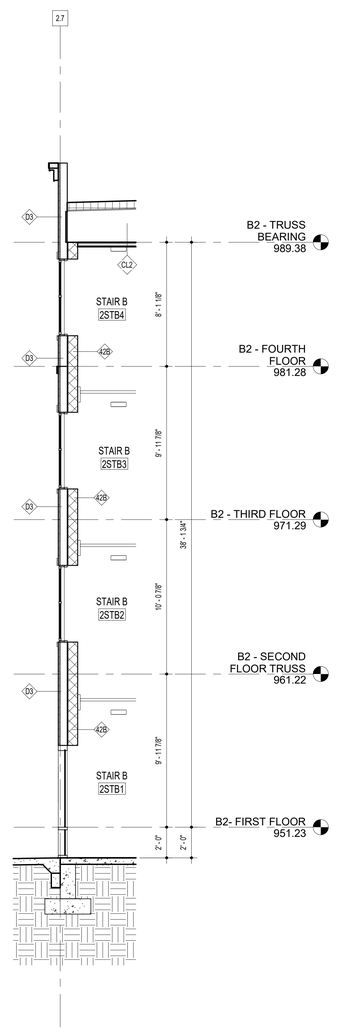
B17 WALL SECTION
1/4" = 1'-0"



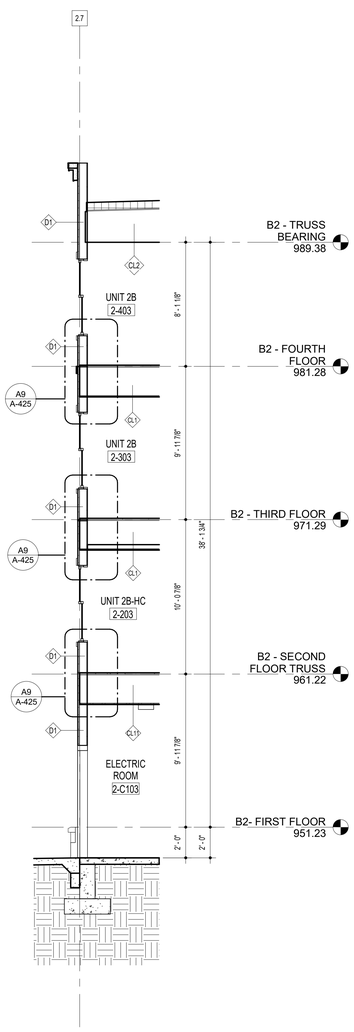
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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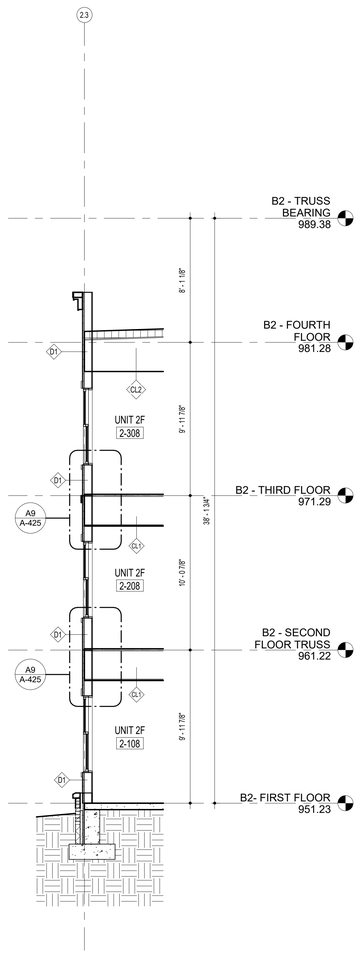
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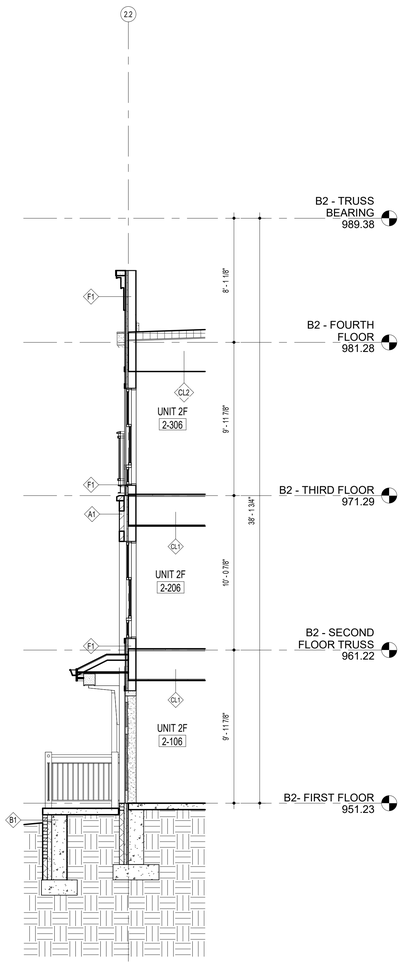
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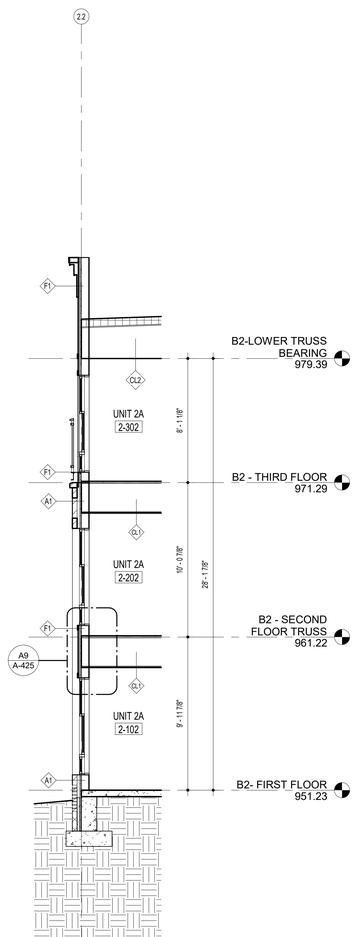
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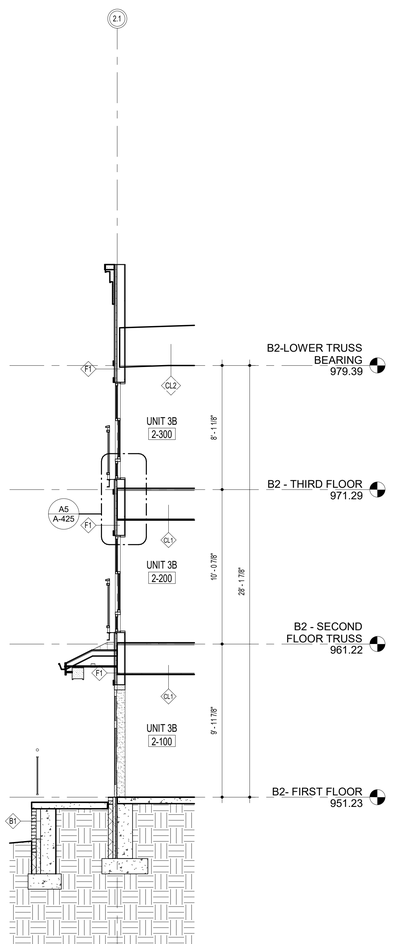
B17 WALL SECTION
1/4" = 1'-0"



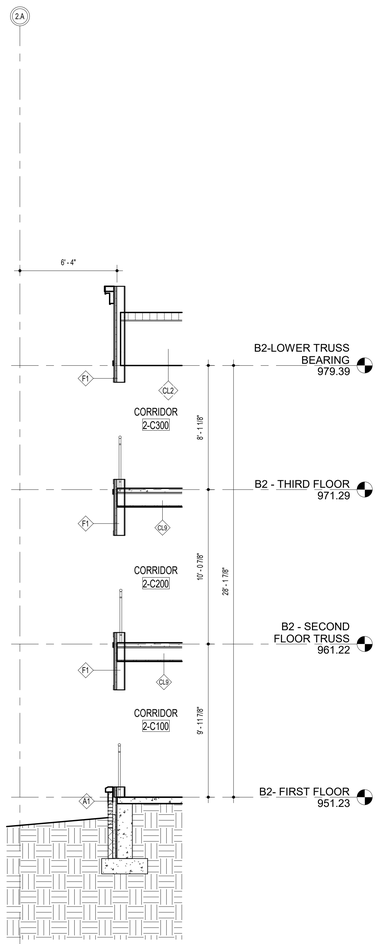
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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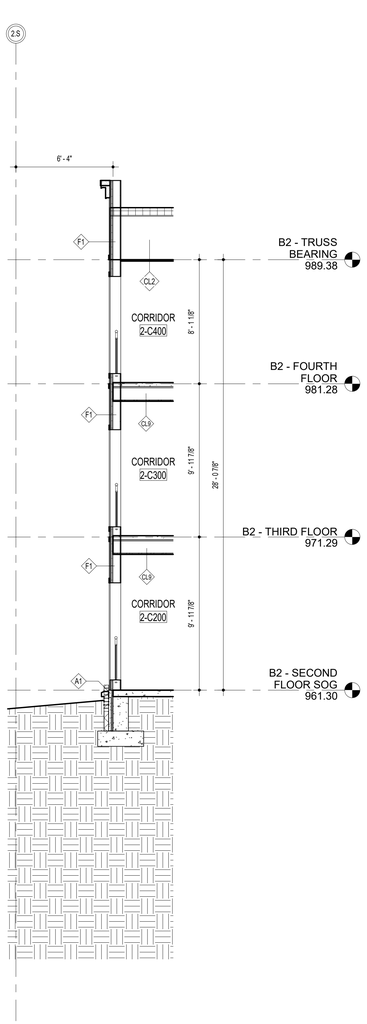
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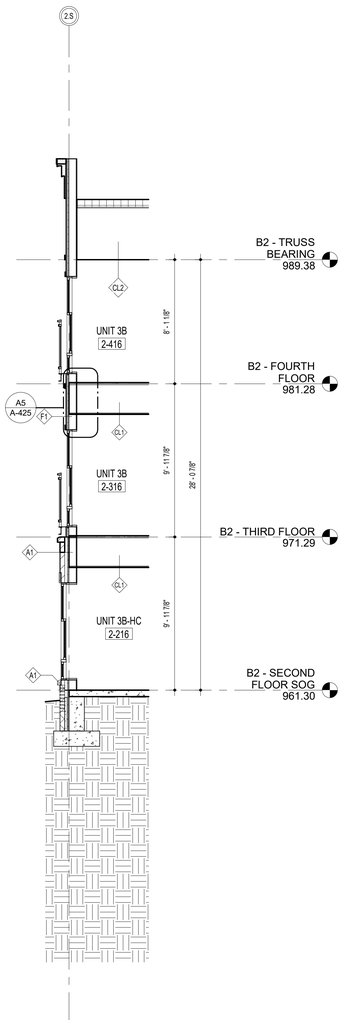
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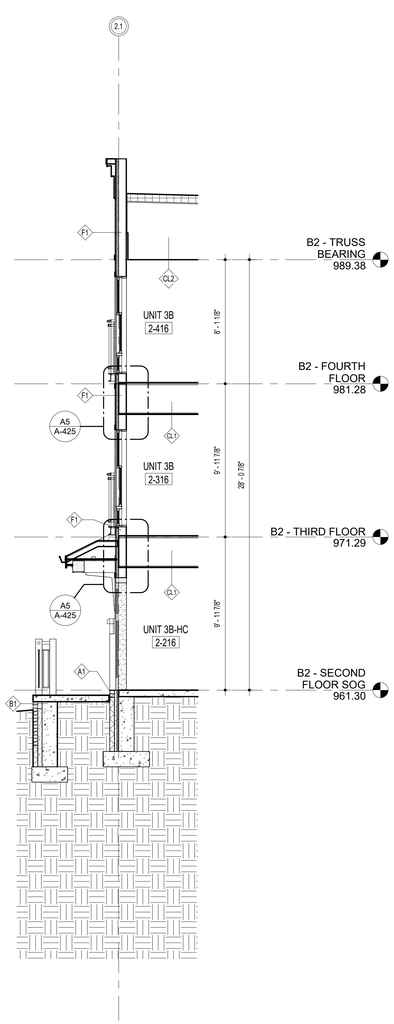
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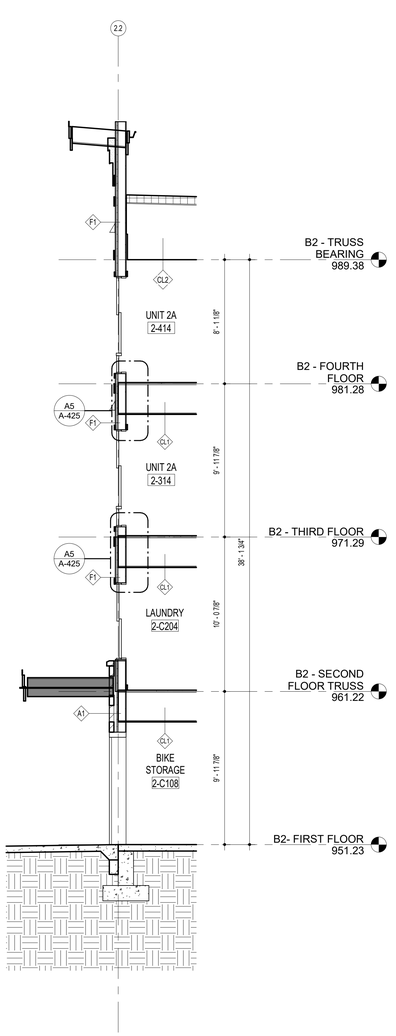
B17 WALL SECTION
1/4" = 1'-0"



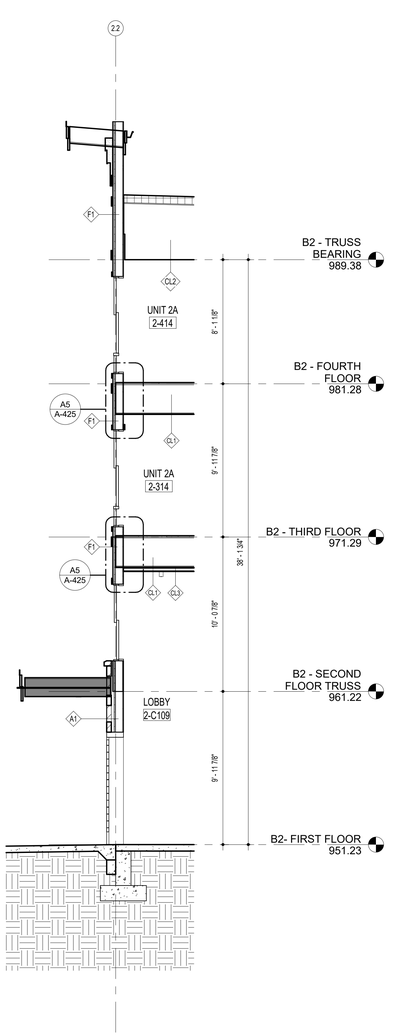
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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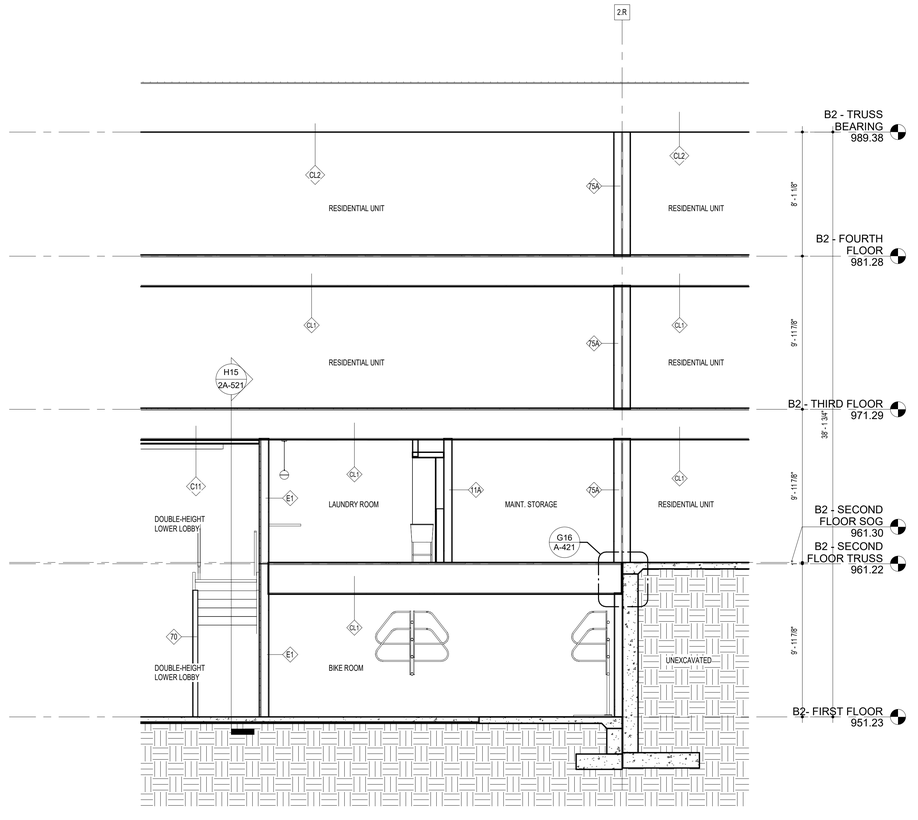
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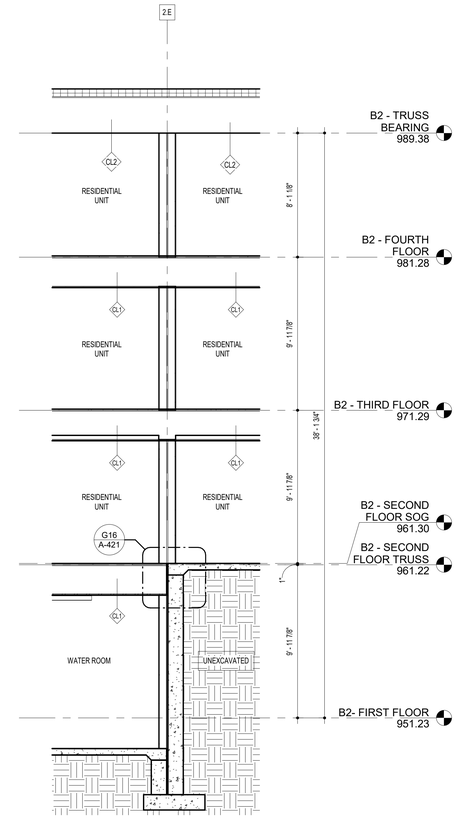
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A10 WALL SECTION
1/4" = 1'-0"



A4 WALL SECTION
1/4" = 1'-0"

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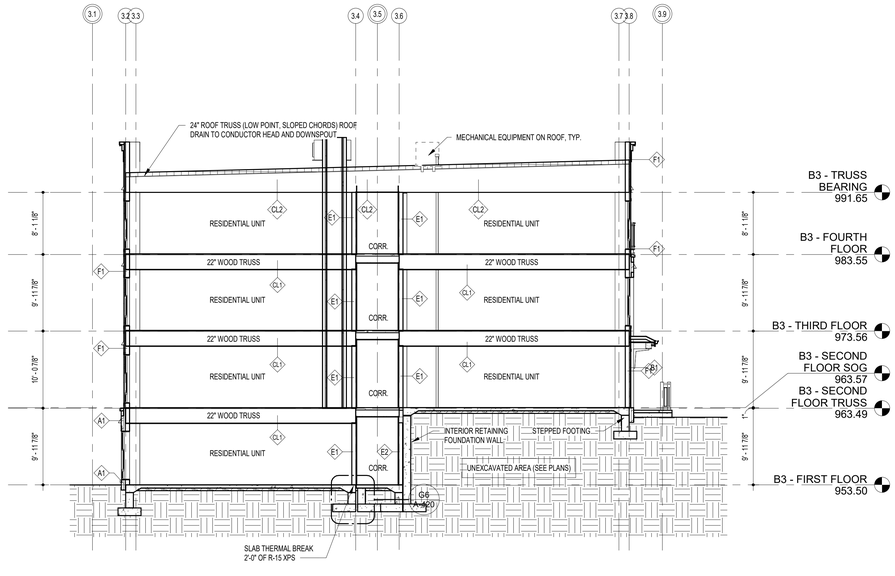
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A7 B3 - SHORT SECTION
1/8" = 1'-0"

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BUILDING 3 BUILDING SECTIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

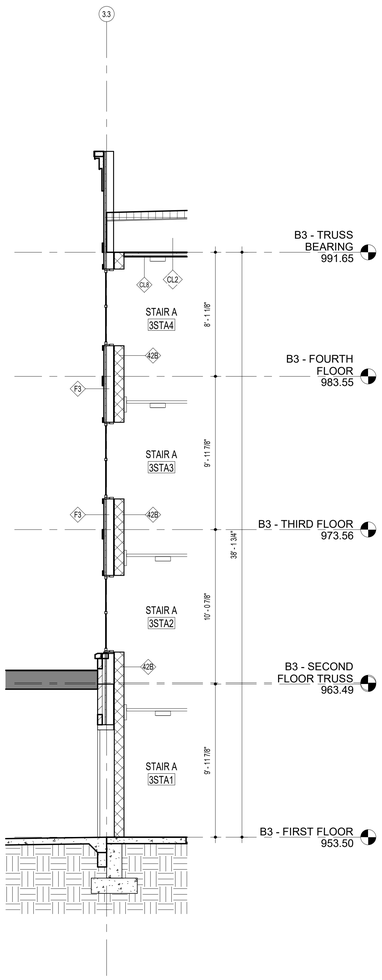
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3A-401

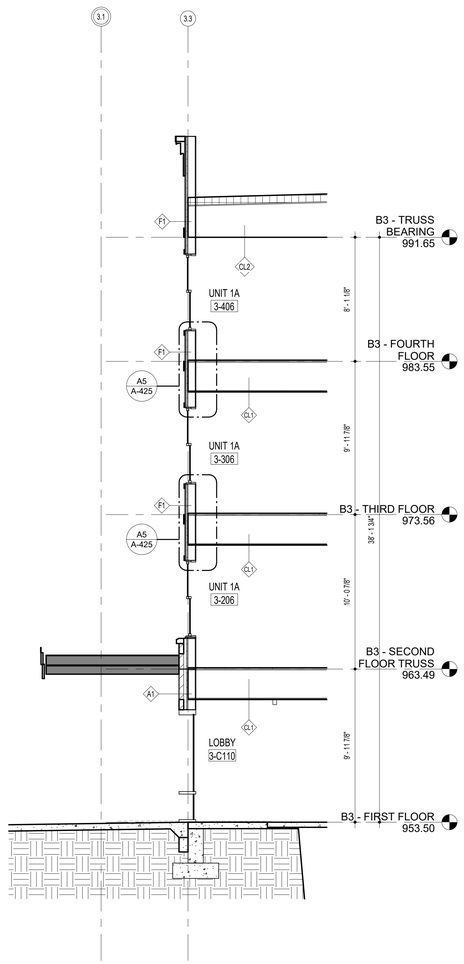
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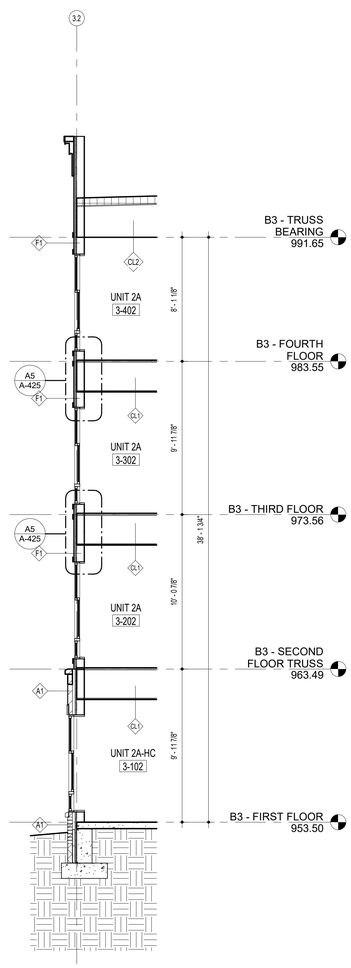
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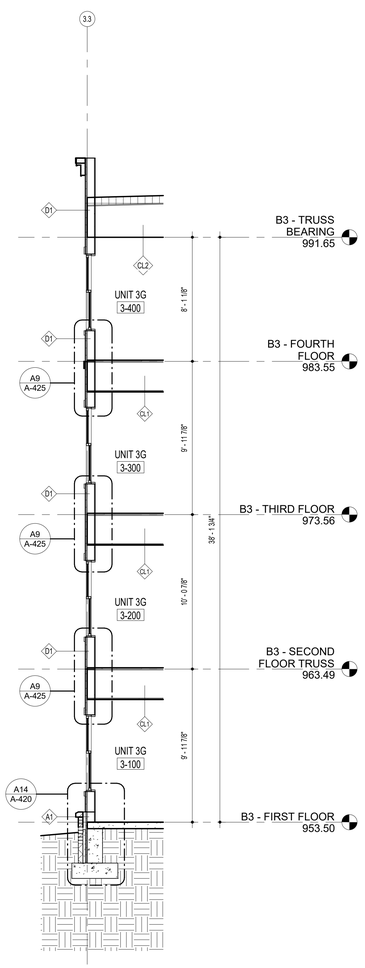
B17 WALL SECTION
1/4" = 1'-0"



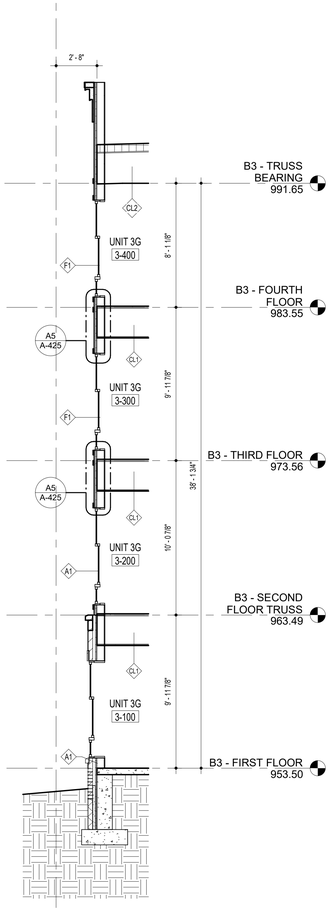
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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BUILDING 3 WALL SECTIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

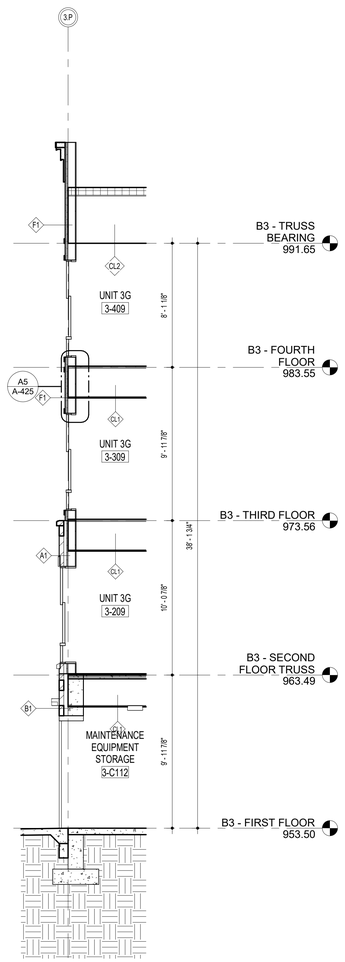
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3A-402

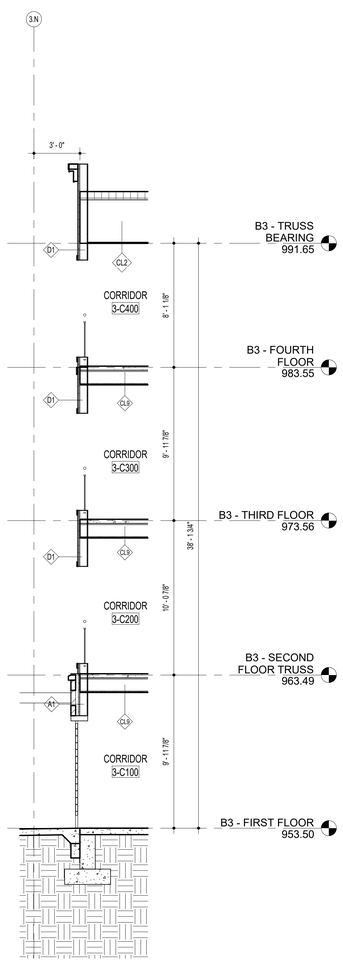
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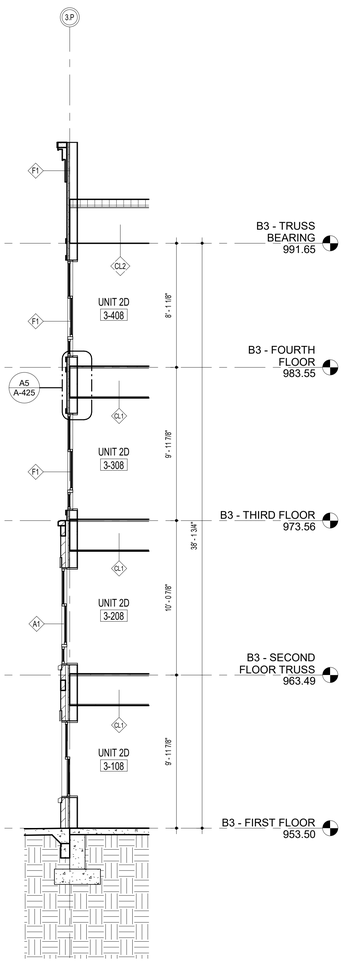
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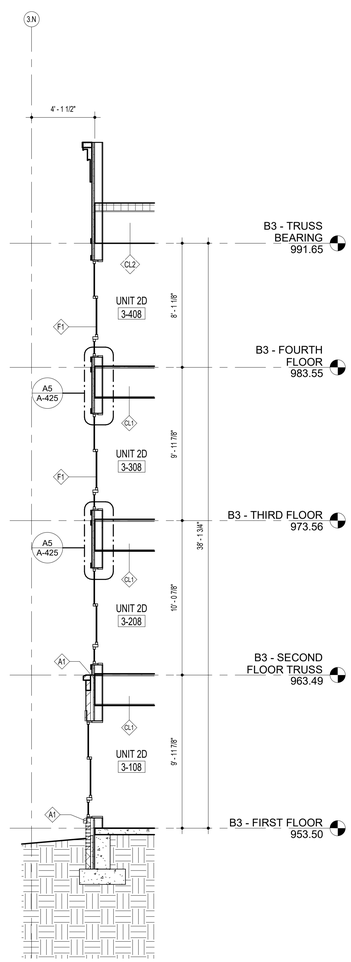
B17 WALL SECTION
1/4" = 1'-0"



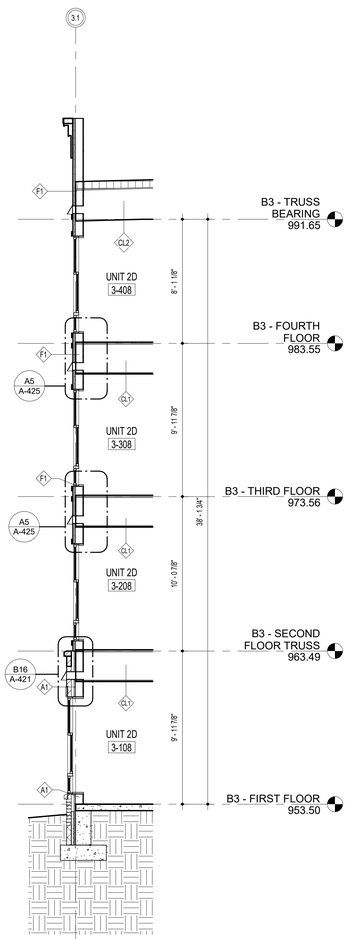
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 B3 - WALL SECTION 7
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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BUILDING 3 WALL SECTIONS

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ROANOKE, VA 24022

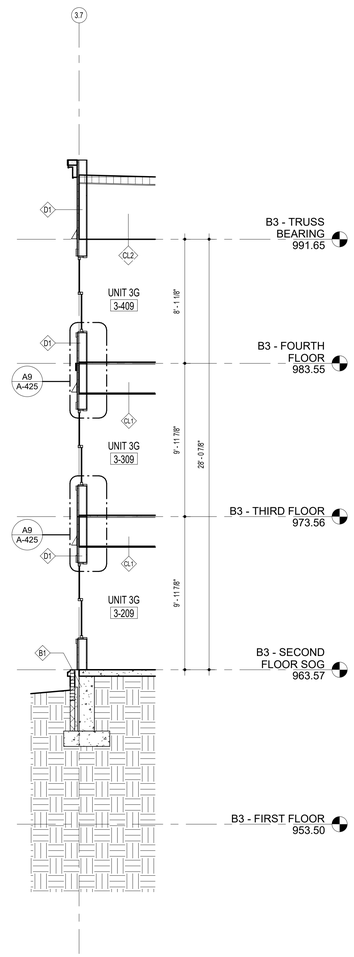
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06/30/2026	CONSTRUCTABILITY REVIEW	

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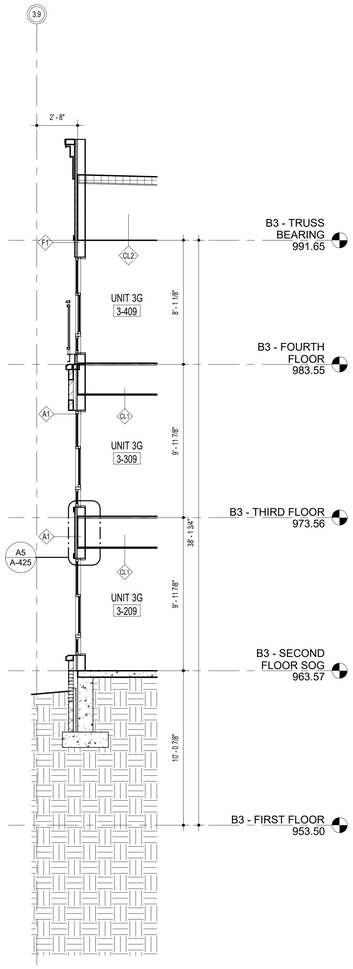
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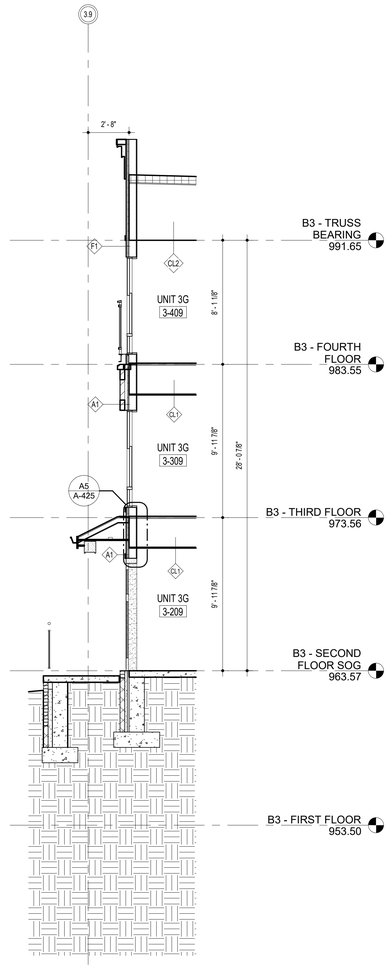
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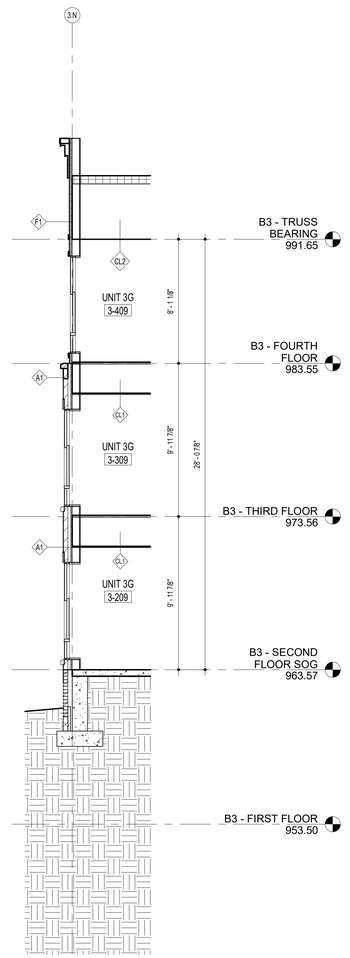
B17 WALL SECTION
1/4" = 1'-0"



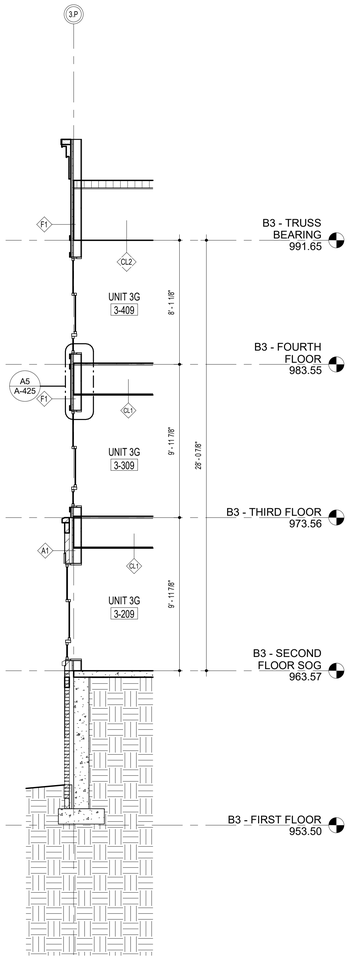
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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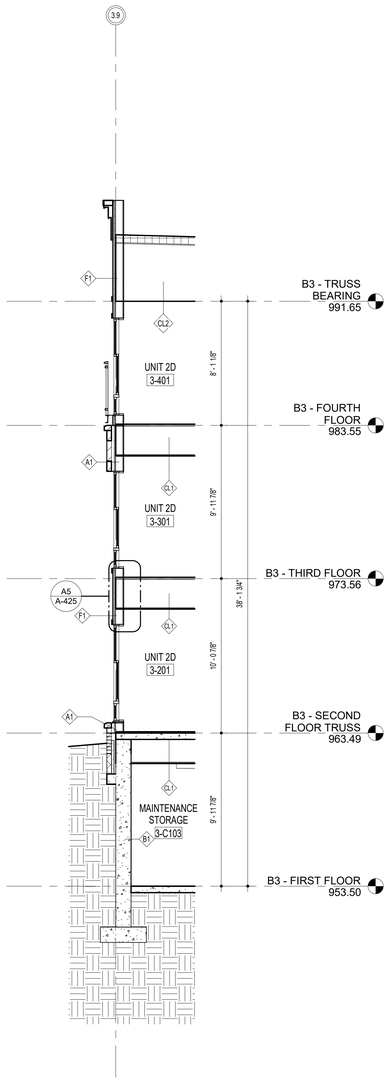
BUILDING 3 WALL SECTIONS
ROANOKE GATEWAY
ROANOKE, VA 24022

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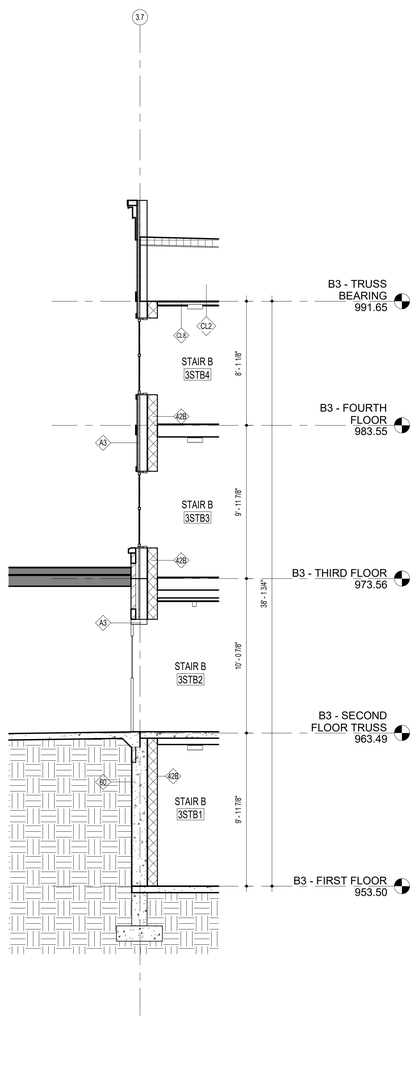
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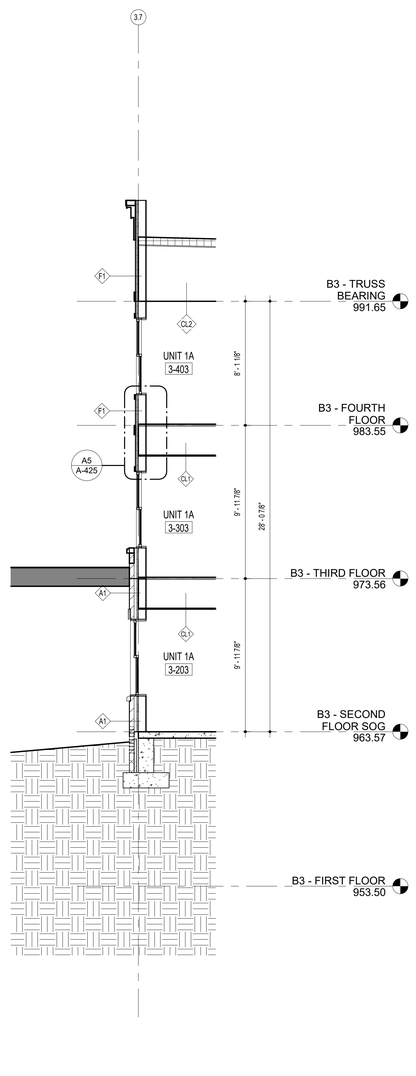
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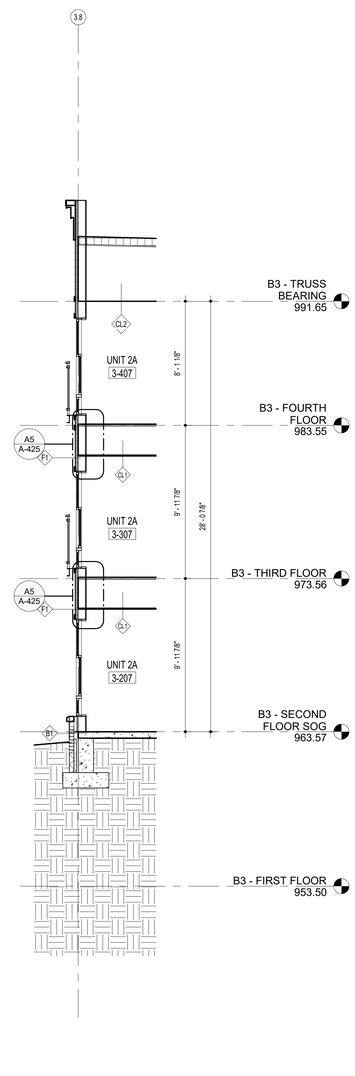
B17 B3 - WALL SECTION 20
1/4" = 1'-0"



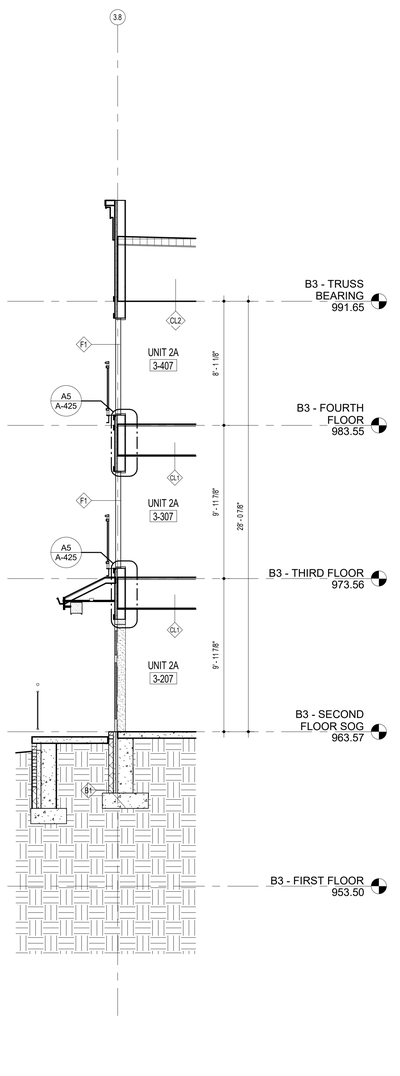
B13 WALL SECTION
1/4" = 1'-0"



B10 WALL SECTION
1/4" = 1'-0"



B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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BUILDING 3 WALL SECTIONS

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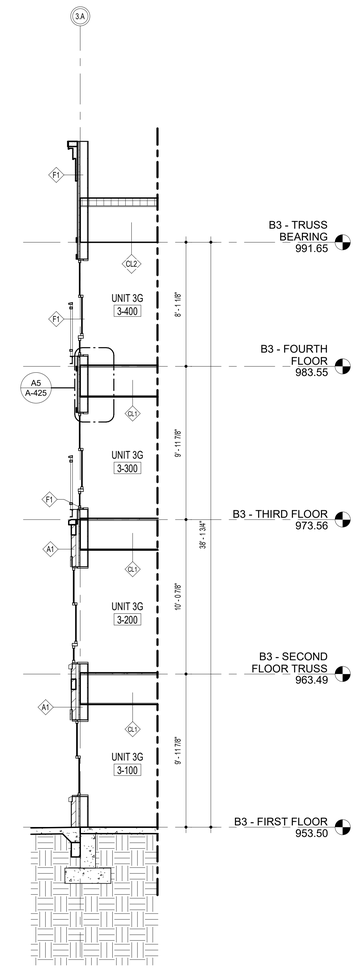
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06/30/2026	CONSTRUCTABILITY REVIEW	

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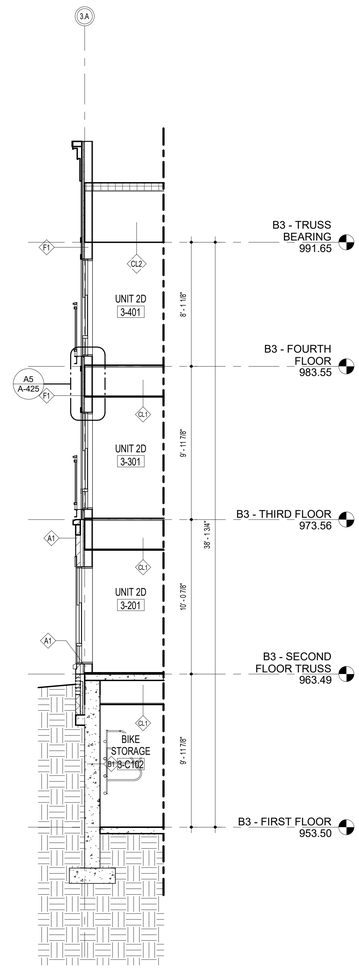
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B7 WALL SECTION
1/4" = 1'-0"



B4 WALL SECTION
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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BUILDING 3 WALL SECTIONS

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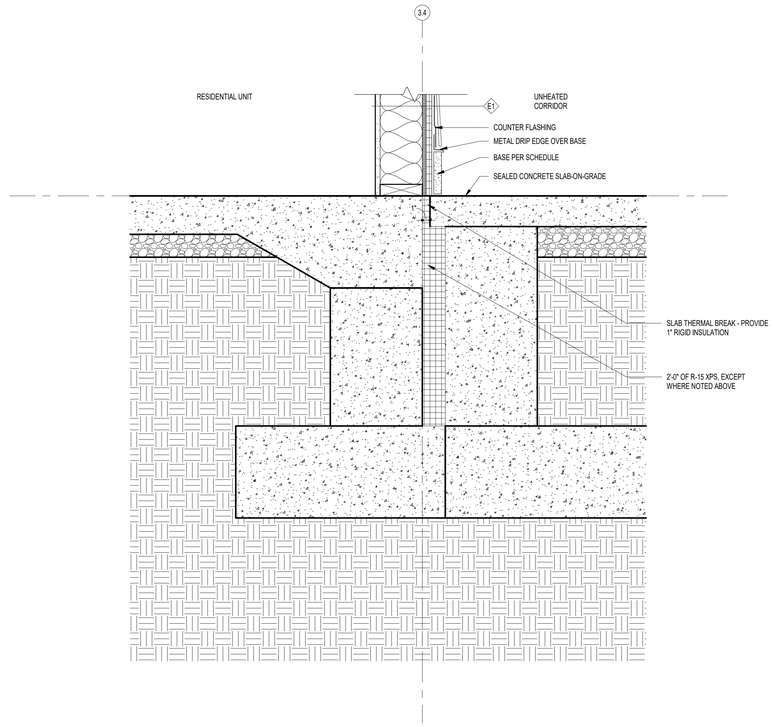
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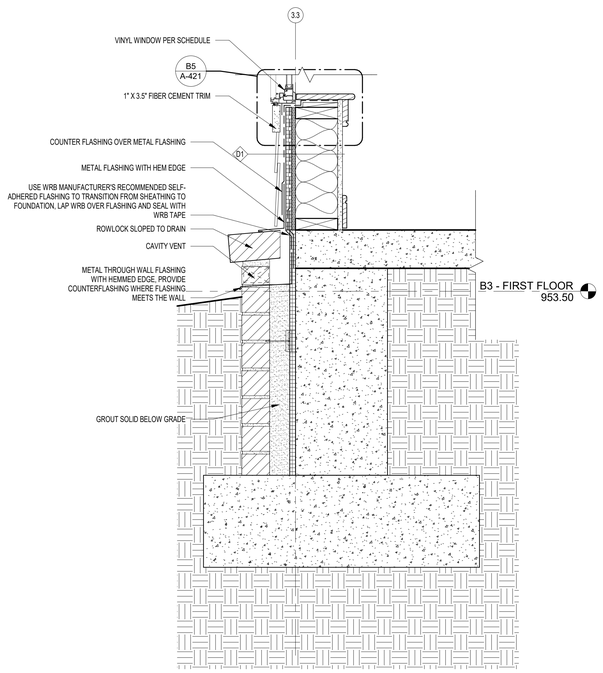
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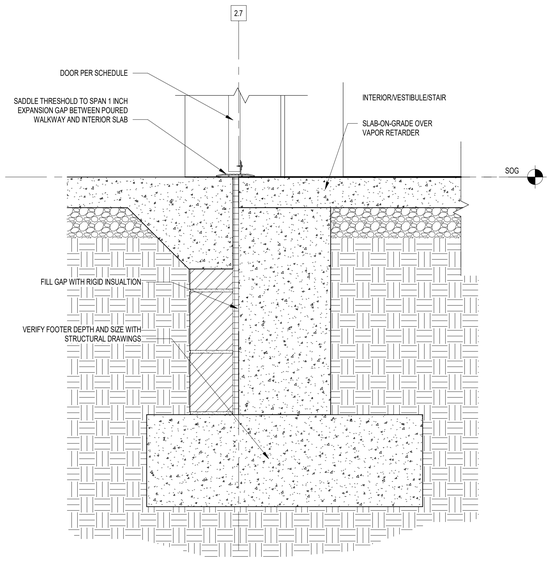
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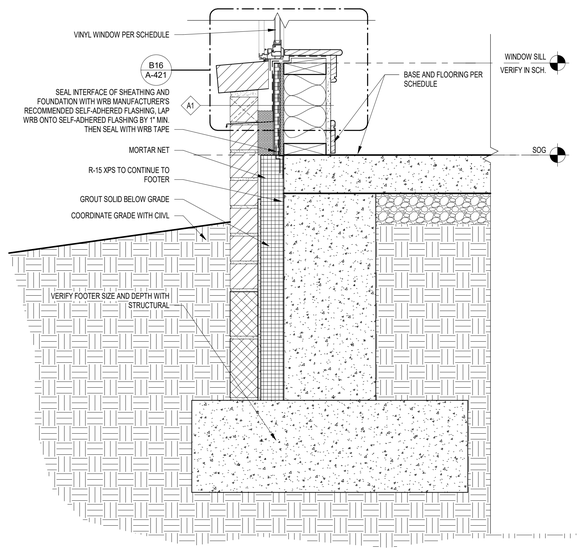
G6 TYP. FOUNDATION AT CORRIDOR
1 1/2" = 1'-0"



A14 TYP. FOUNDATIN AT FC LAP TRANSITIN TO MASONRY @ SILL
1 1/2" = 1'-0"



A8 FOUNDATION @ DOOR SILL
1 1/2" = 1'-0"



A3 TYP. FOUNDATION @ WINDOW
1 1/2" = 1'-0"

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TYPICAL FOUNDATION DETAILS

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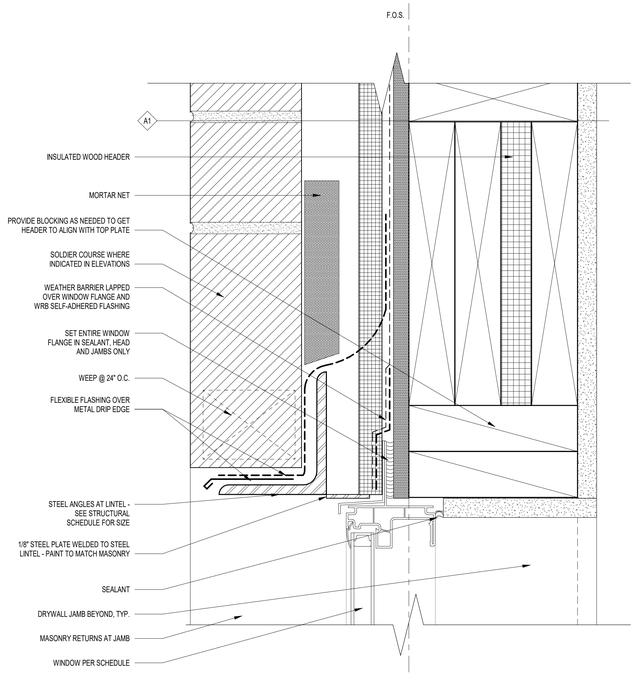
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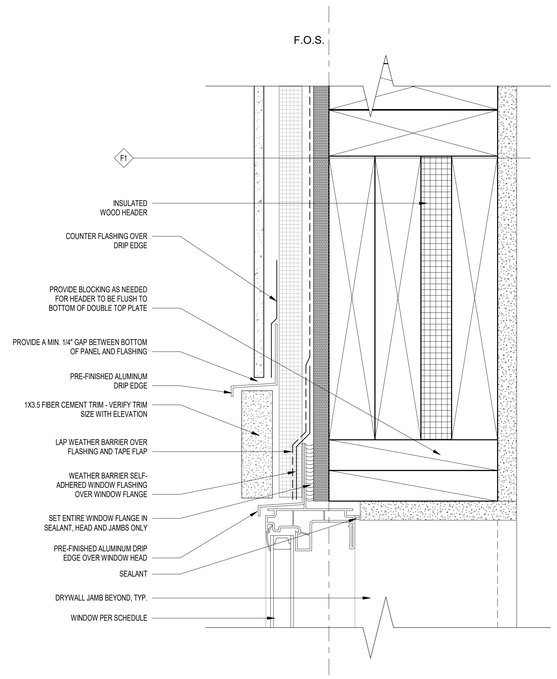
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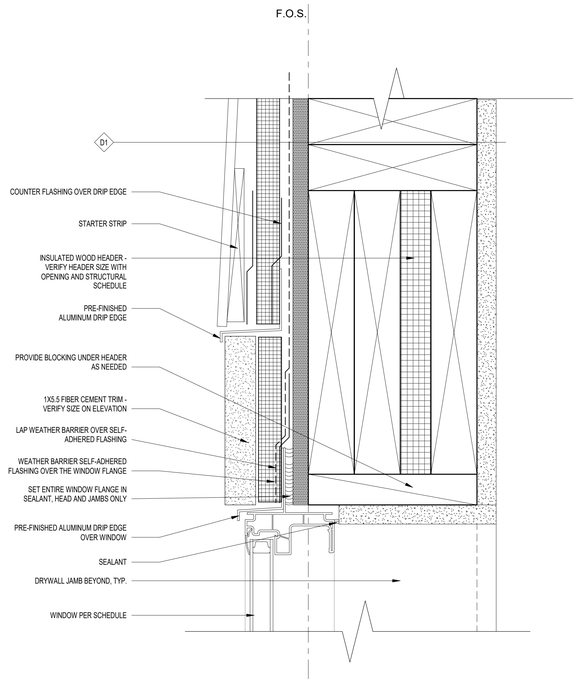
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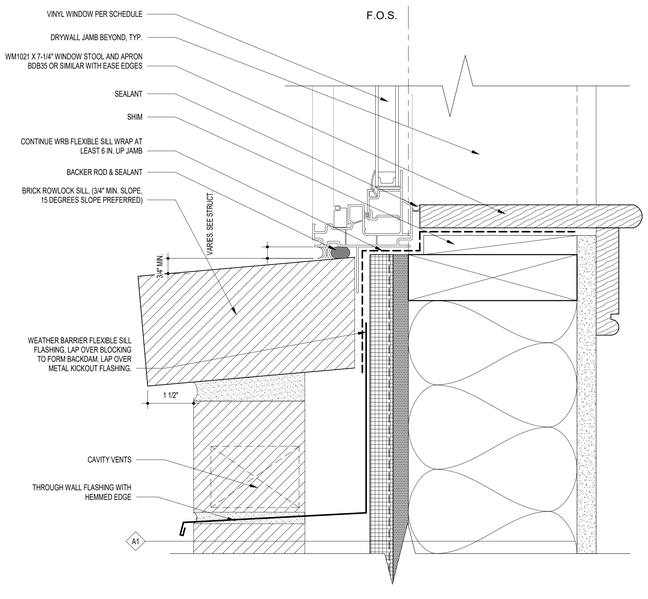
G16 HEAD DETAIL AT BRICK
6" = 1'-0"



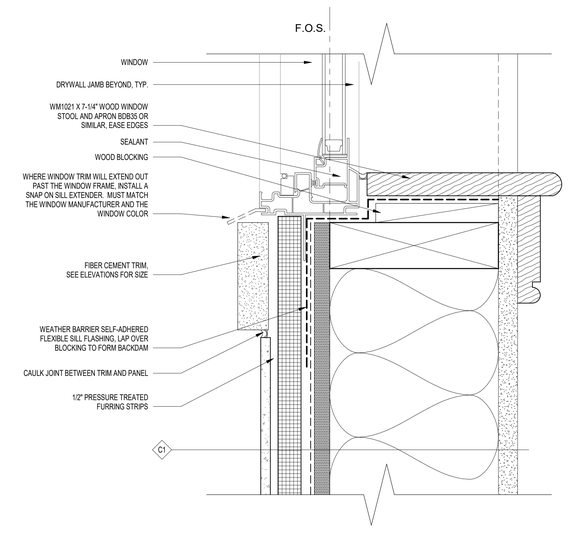
G11 HEAD DETAIL AT FIBER CEMENT PANEL
6" = 1'-0"



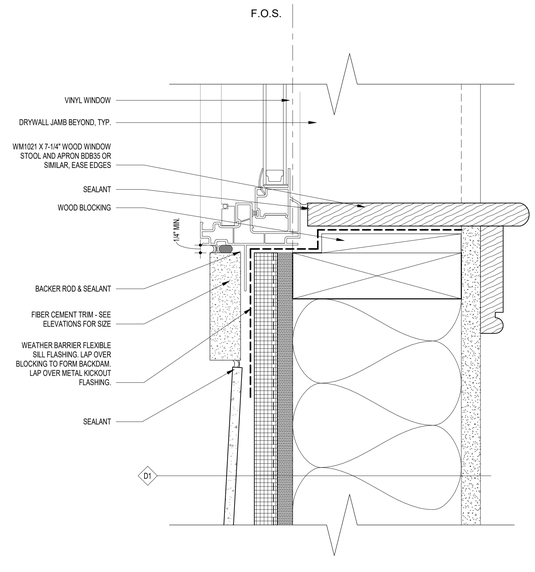
G5 HEAD DETAIL AT FIBER CEMENT SIDING
6" = 1'-0"



B16 SILL DETAIL AT BRICK
6" = 1'-0"



B11 SILL DETAIL AT FIBER CEMENT PANEL
6" = 1'-0"



B5 SILL DETAIL AT FIBER CEMENT SIDING
6" = 1'-0"

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TYPICAL WALL SECTION DETAILS

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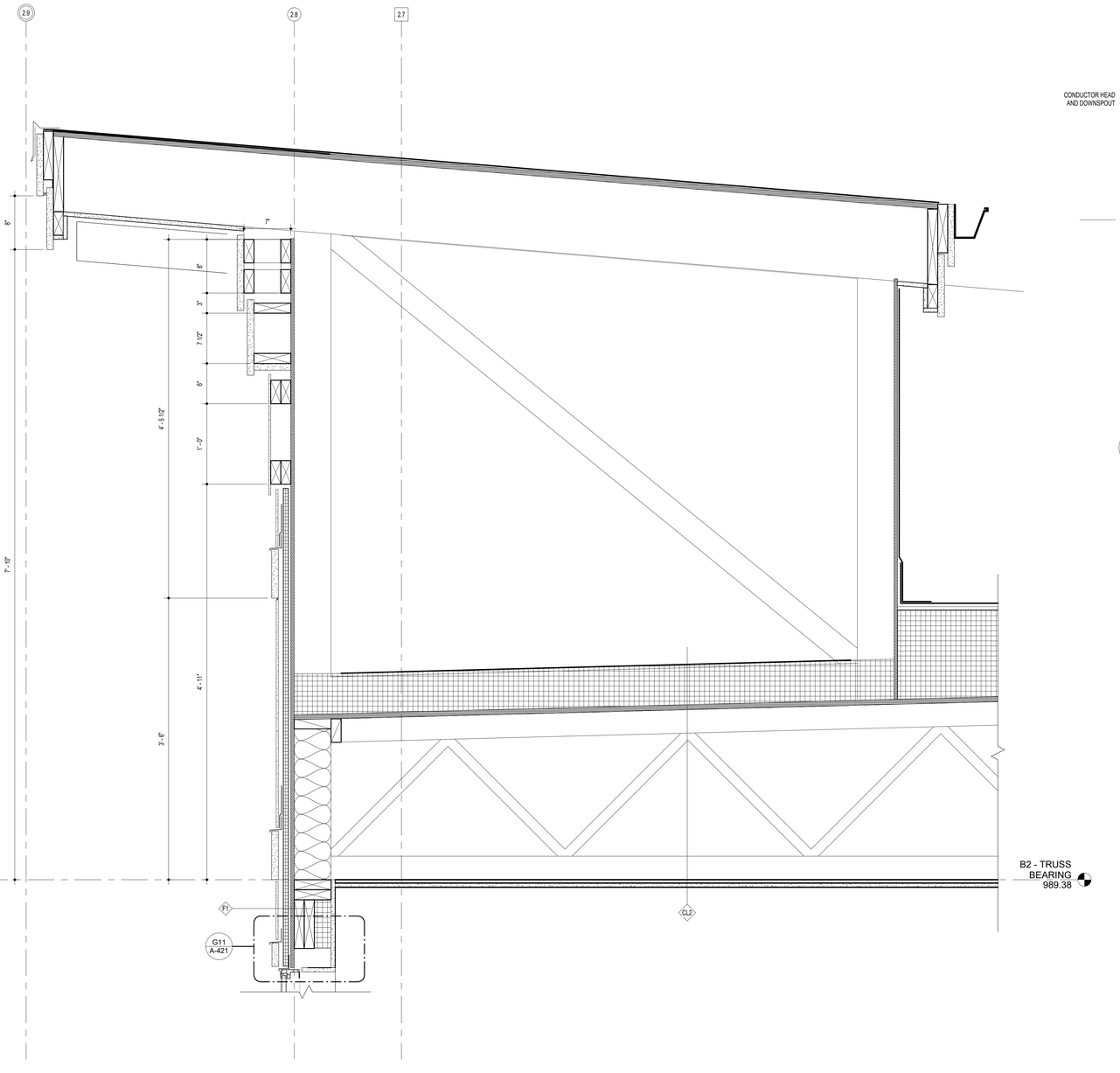
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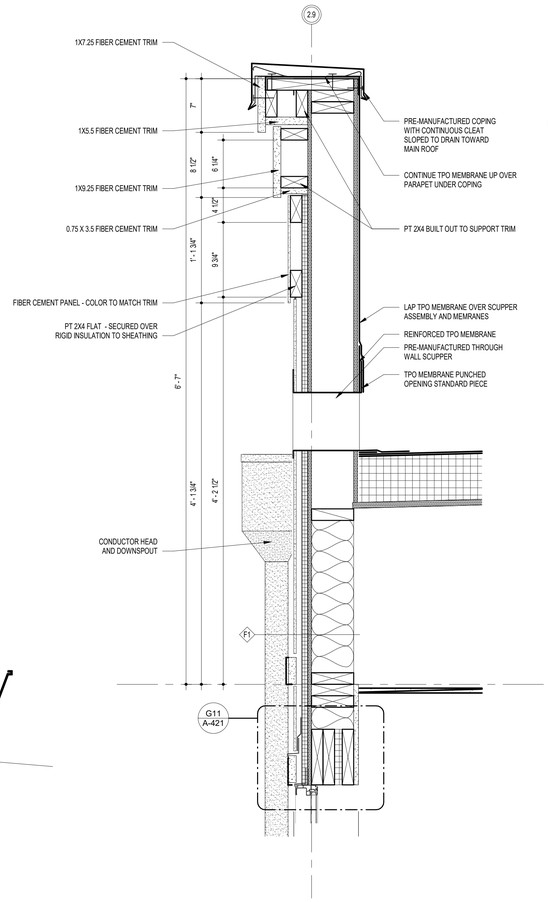
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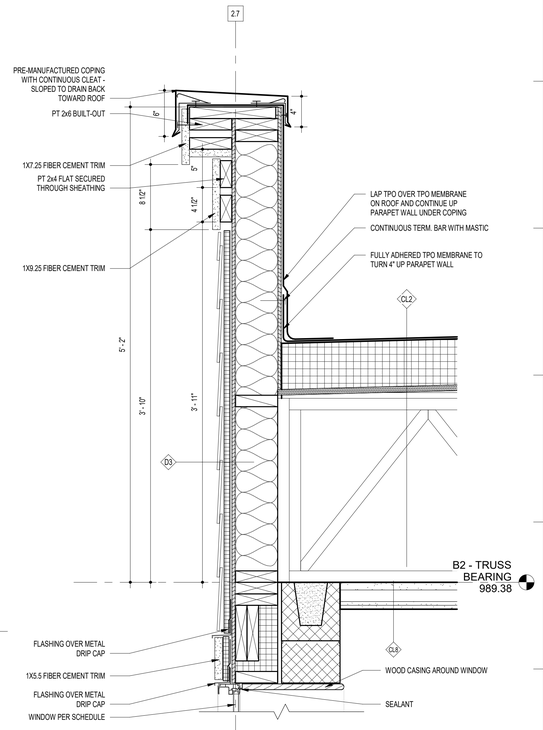
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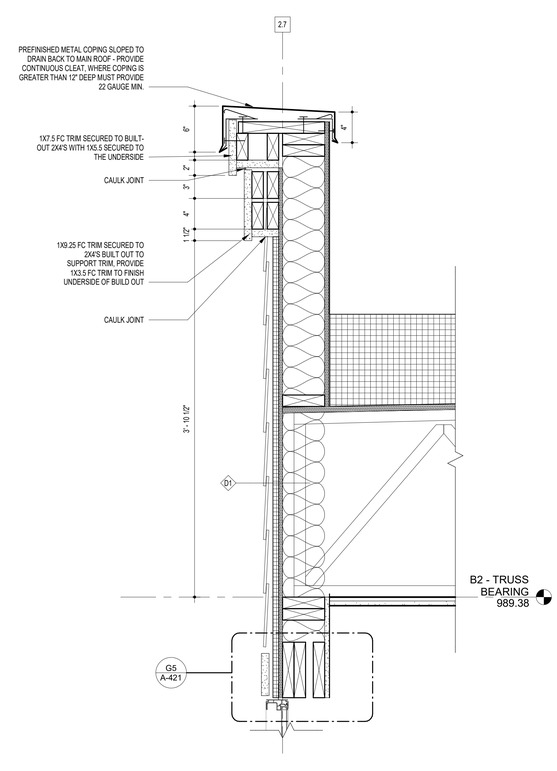
A16 TYPICAL BUILDING ENTRY ROOF DETAIL
1 1/2" = 1'-0"



F8 TYP. PARAPET @ FC PANEL
1 1/2" = 1'-0"



G4 PARAPET AT STAIRS
1 1/2" = 1'-0"



A4 TYP. PARAPET @ LAP SIDING
1 1/2" = 1'-0"

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TYPICAL PARAPET DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

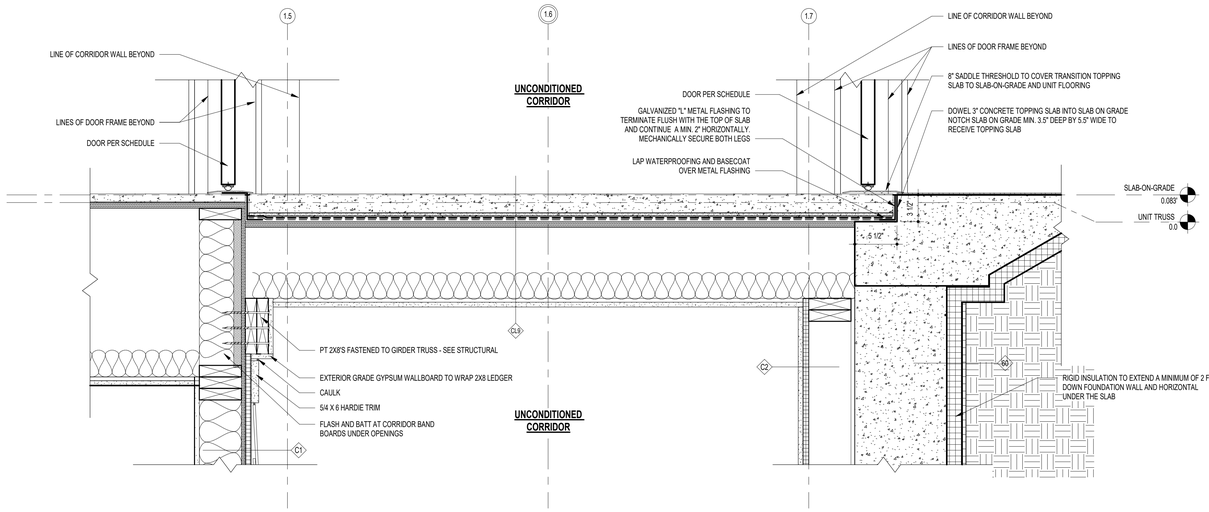
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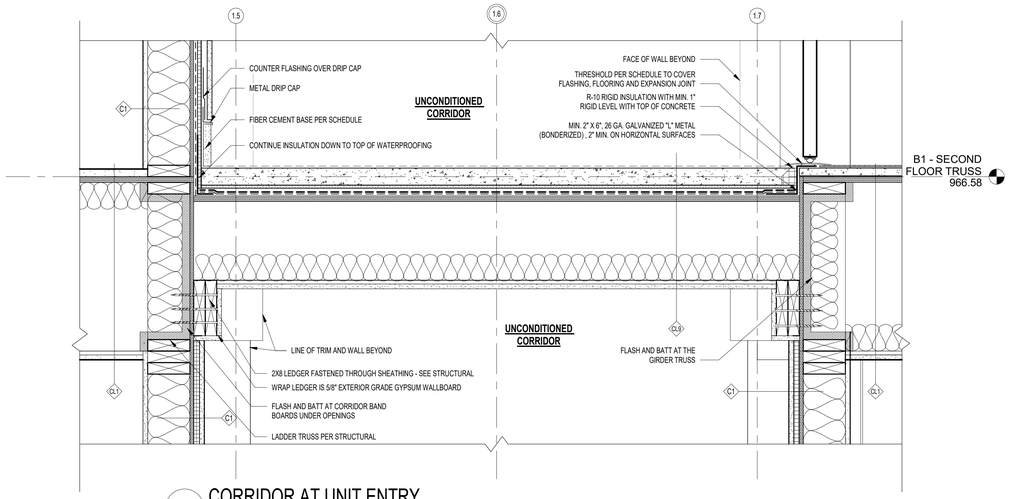
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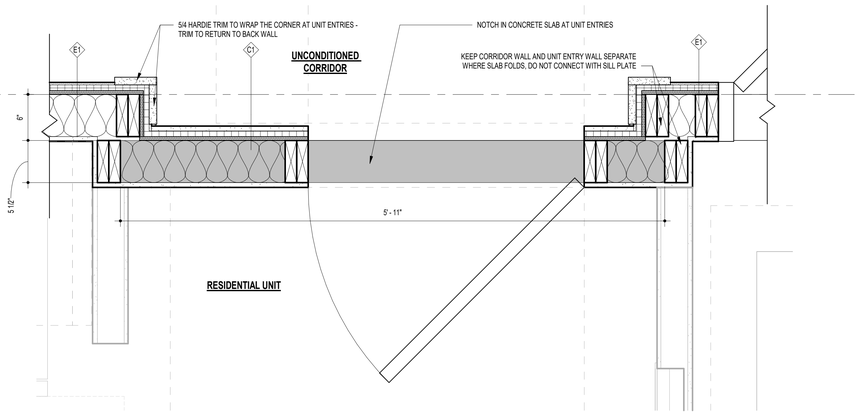
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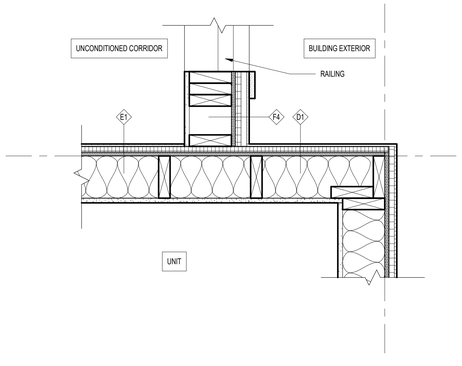
H17 CORRIDOR SECTION AT UNIT ENTRY AND SLAB FOLD
1 1/2" = 1'-0"



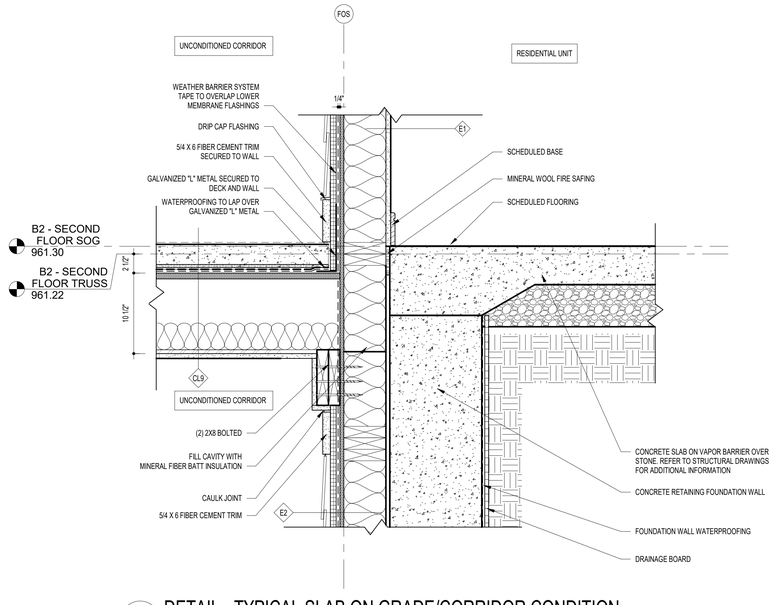
H8 CORRIDOR AT UNIT ENTRY
1 1/2" = 1'-0"



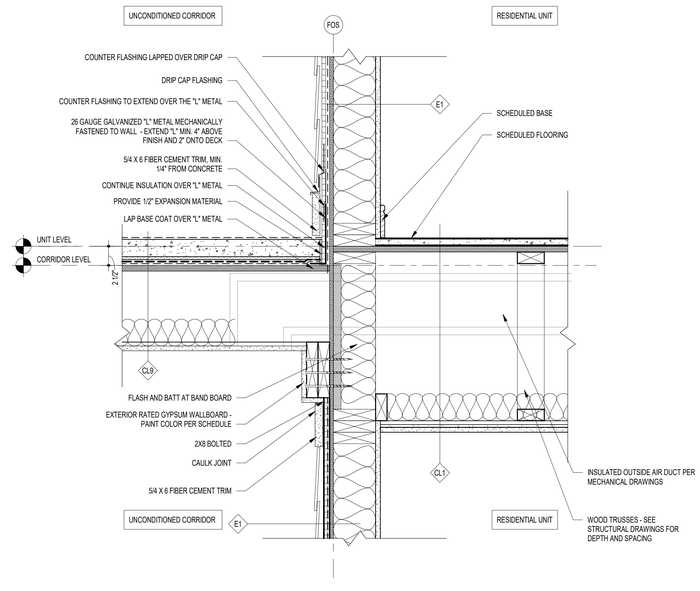
E17 UNIT ENTRY AT SLAB FOLD
1 1/2" = 1'-0"



A16 PLAN DETAIL - CORRIDOR TO UNIT EXT.
1 1/2" = 1'-0"



A12 DETAIL - TYPICAL SLAB ON GRADE/CORRIDOR CONDITION
1 1/2" = 1'-0"



A5 DETAIL - TYPICAL CORRIDOR/TRUSS CONNECTION
1 1/2" = 1'-0"

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TYPICAL CORRIDOR DETAILS

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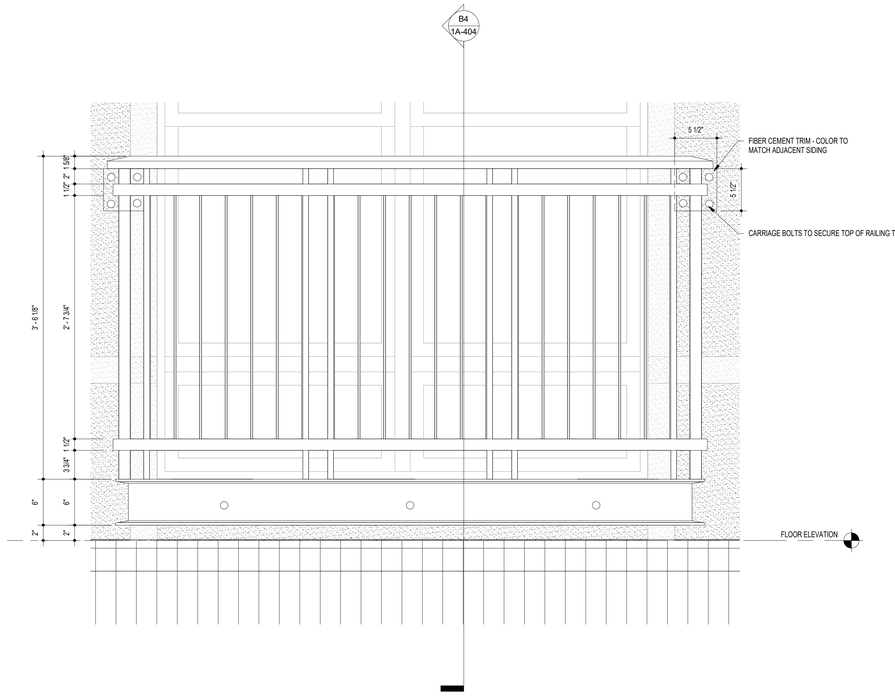
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A-423

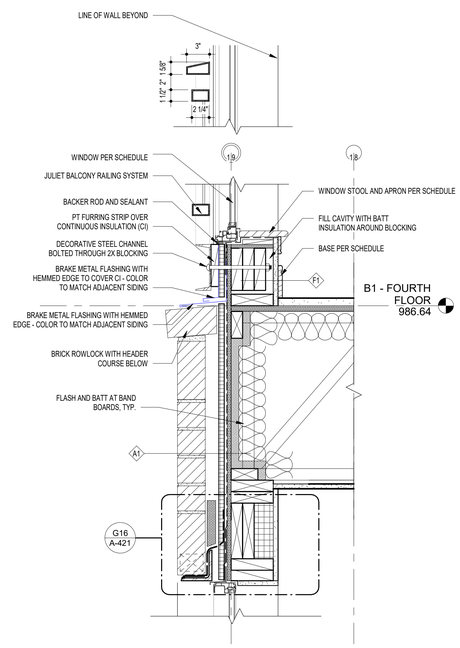
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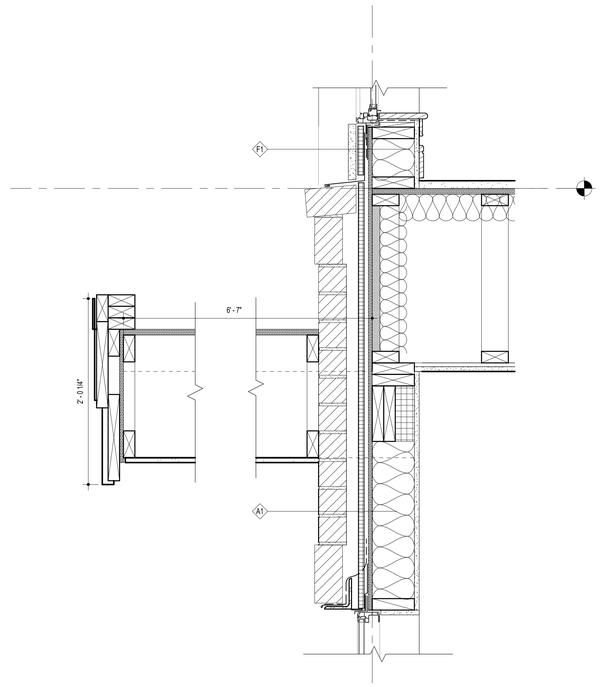
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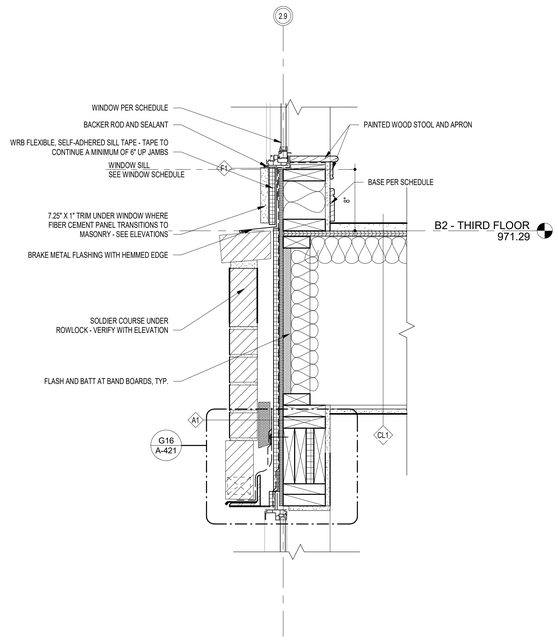
G15 JULIET BALCONY ELEVATION
1 1/2" = 1'-0"



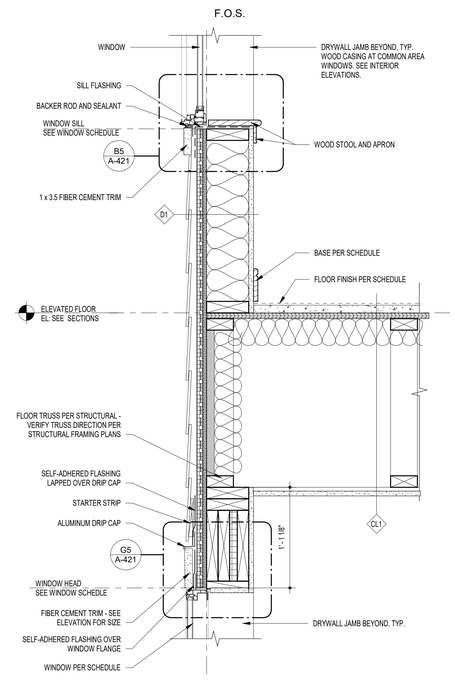
G10 TYP. JULIET BALCONY
1 1/2" = 1'-0"



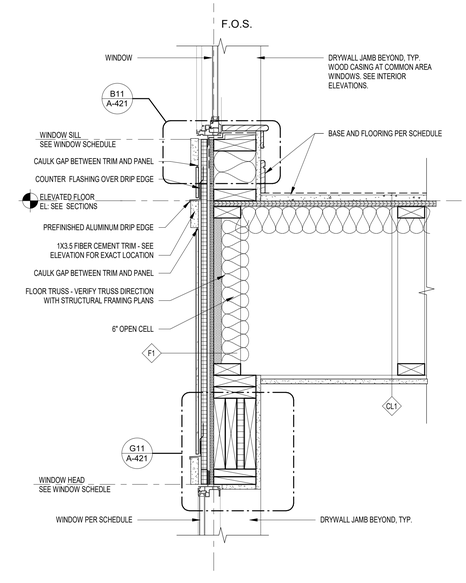
G5 TYP. ENTRY CANOPY CONNECTION
1 1/2" = 1'-0"



A13 MASONRY TO FC TRANSITION AT WINDOW SILL
1 1/2" = 1'-0"



A9 TYP. HEAD AND SILL AT FC SIDING
1 1/2" = 1'-0"



A5 HEAD AND SILL AT FC PANEL WALL
1 1/2" = 1'-0"

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TYPICAL WALL SECTION DETAILS

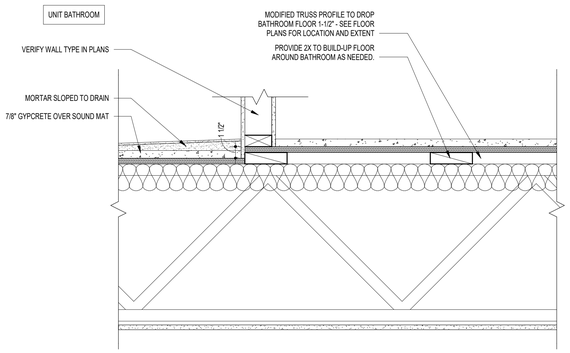
ROANOKE GATEWAY
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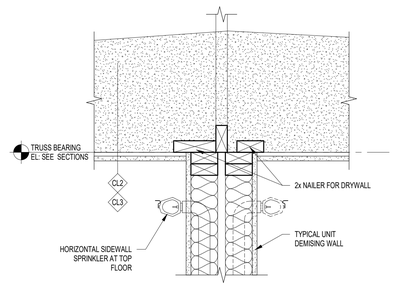
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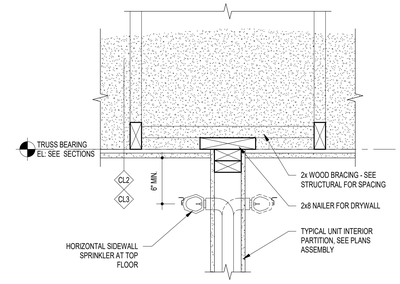
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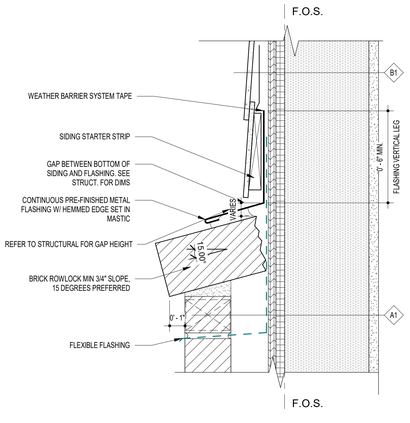
G13 BUILT-UP FLOOR DETAIL
1 1/2" = 1'-0"



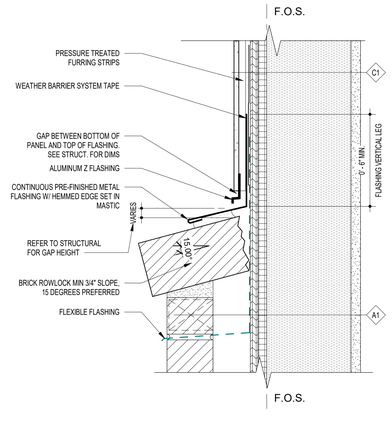
G9 DETAIL - SIDE WALL SPRINKLER HEAD - PARTY WALL
1 1/2" = 1'-0"



G5 DETAIL - SIDE WALL SPRINKLER HEAD - TYP. WALL
1 1/2" = 1'-0"



2 FC SIDING TO BRICK TRANSITION
3" = 1'-0"



1 FC PANEL TO BRICK TRANSITION
3" = 1'-0"

PASSIVE SUB-SLAB DEPRESSURIZATION RADON CONTROL SYSTEM NOTES:

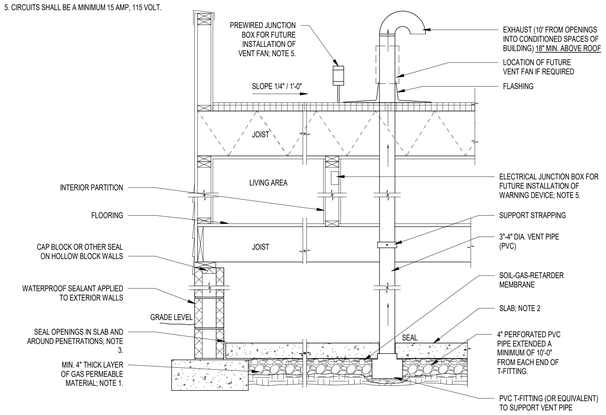
1. ALL CONCRETE SLABS THAT COME IN CONTACT WITH THE GROUND SHALL BE LAID OVER A GAS PERMEABLE MATERIAL MADE UP OF EITHER A MINIMUM 4" THICK UNIFORM LAYER OF CLEAN AGGREGATE, OR A MINIMUM 4" THICK UNIFORM LAYER OF SAND, OVERLAIN BY A LAYER OF MANUFACTURED MATTING DESIGNED TO ALLOW THE LATERAL FLOW OF SOIL GASES.

2. ALL CONCRETE FLOOR SLABS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL BUILDING CODES. ADDITIONAL REFS: AMERICAN CONCRETE INSTITUTE PUBLICATIONS, "ACI302.1R" AND "ACI330R", OR THE POST TENSIONING INSTITUTE MANUAL, "DESIGN AND CONSTRUCTION OF POST-TENSIONED SLABS ON GROUND".

3. ALL OPENINGS, GAPS AND JOINTS IN FLOOR AND WALL ASSEMBLIES IN CONTACT WITH SOIL OR GAPS AROUND PIPES, TOILETS, BATHTUBS, OR DRAINS PENETRATING THESE ASSEMBLIES SHALL BE FILLED OR CLOSED WITH MATERIALS THAT PROVIDE A PERMANENT AIR-TIGHT SEAL. SEAL LARGE OPENINGS WITH NON-SHRINK MORTAR, GROUTS, OR EXPANDING FOAM MATERIALS AND SMALLER GAPS WITH AN ELASTOMERIC JOINT SEALANT, AS DEFINED IN ASTM C920-87.

4. VENT PIPES SHALL BE INSTALLED SO THAT ANY RAINWATER OR CONDENSATION DRAINS DOWNWARD INTO THE GROUND BENEATH THE SLAB OR SOIL-GAS-RETARDER MEMBRANE.

5. CIRCUITS SHALL BE A MINIMUM 15 AMP, 115 VOLT.



GENERAL CONTRACTOR SHALL MEET ALL REQUIREMENTS OF ASTM E-1465-08A FOR ALL PORTIONS OF RADON MITIGATION SYSTEM
1. PROVIDE 4" DIAM. PIPE SLEEVES AT GRADE BEAMS, UNDER THE SLAB OF CORRIDOR WALLS. THIS PROVIDES A MEANS FOR AIR TO FLOW THROUGH THE GRADE BEAM FROM GRAVEL UNDER SLAB OF UNIT TO UNDER SLAB OF CORRIDOR AND UP TO VENT STACK.
2. REFER TO 1/8" SCALE PLANS FOR LOCATION AND NUMBER OF PIPE SLEEVES AND VENT STACKS. MAXIMUM AREA PER VENT PIPE SHALL BE 3000 S.F.
3. TAPE THE ENDS OF SLEEVES SO CONCRETE DOES NOT ENTER THE ENDS OF THE PIPE WHILE POURING THE FOOTING.
4. REMOVE THE TAPE WHEN FORMS ARE REMOVED.
5. EXTEND ONE END OF THE "T" AT BASE OF VENT STACK INTO CORRIDOR UNDERSLAB. LEAVE THE OTHER END OPEN TO COLLECT FLOW IN UNDERSLAB OF UNIT.

PROJECT IN EPA RADON ZONE 1/2

A5 RADON VENTILATION DIAGRAM
1/16" = 1'-0"

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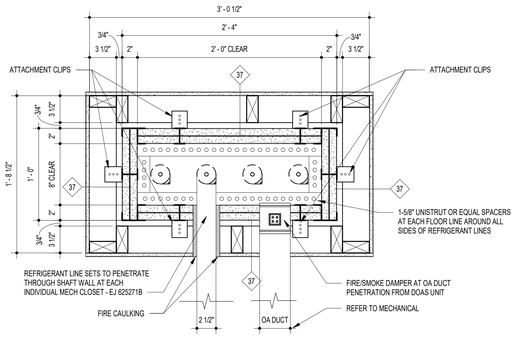
TYPICAL DETAILS
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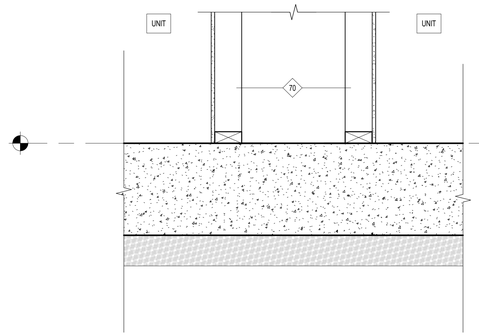
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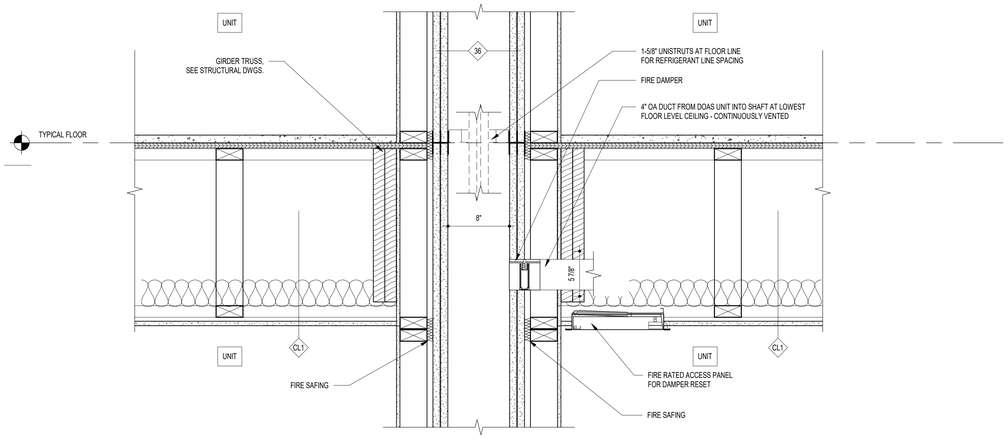
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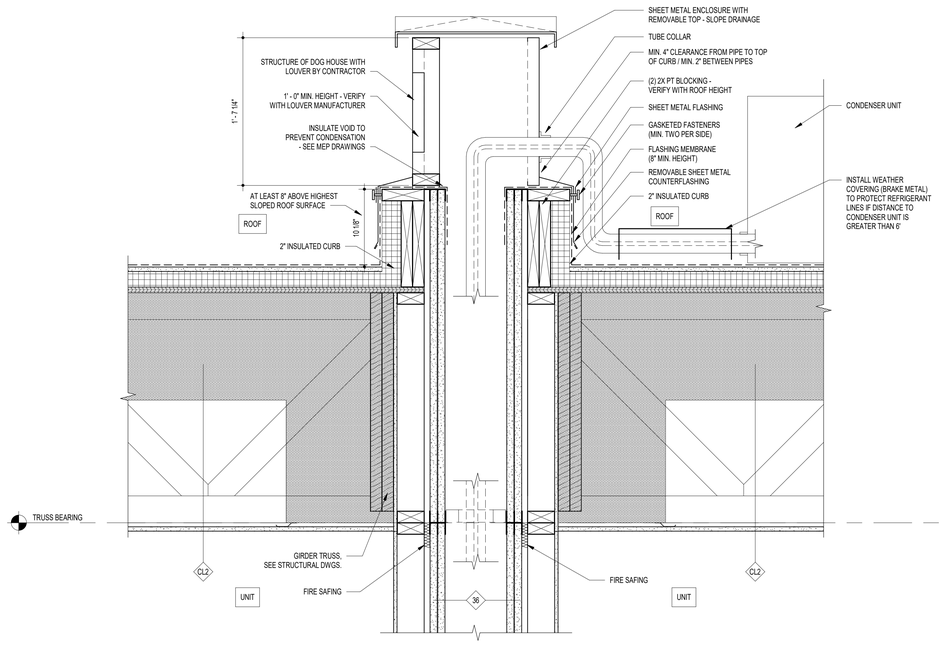
K17 REFRIGERANT SHAFT PLAN 1HR TYPICAL
1 1/2" = 1'-0"



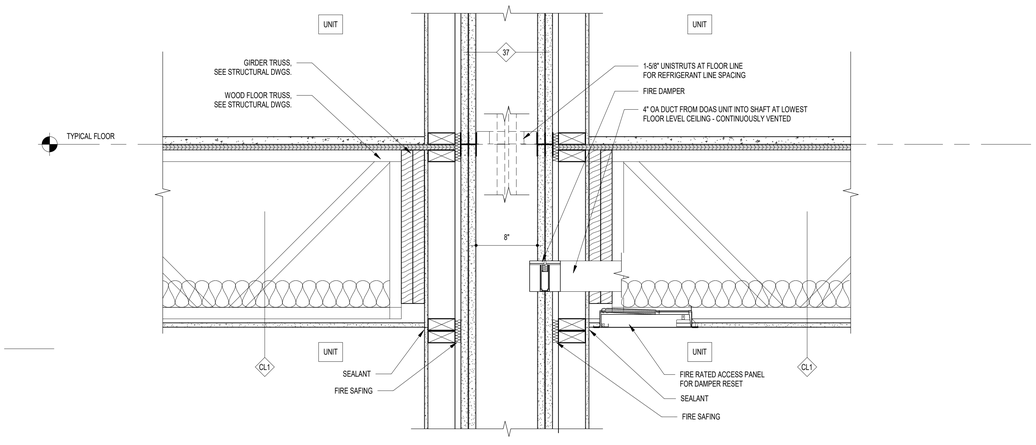
K13 REFRIGERANT SHAFT SECTION 1HR - SLAB
1 1/2" = 1'-0"



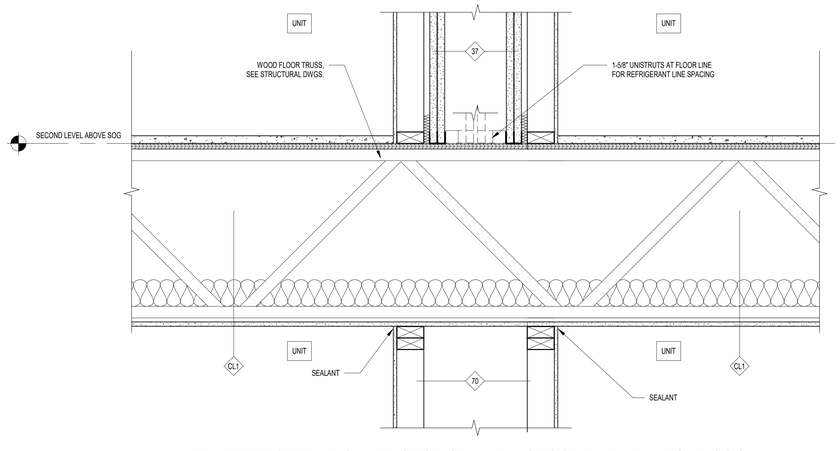
J8 REFRIGERANT SHAFT SECTION 1HR - TYPICAL FLOOR - TRUSSES PARALLEL TO SHAFT
1 1/2" = 1'-0"



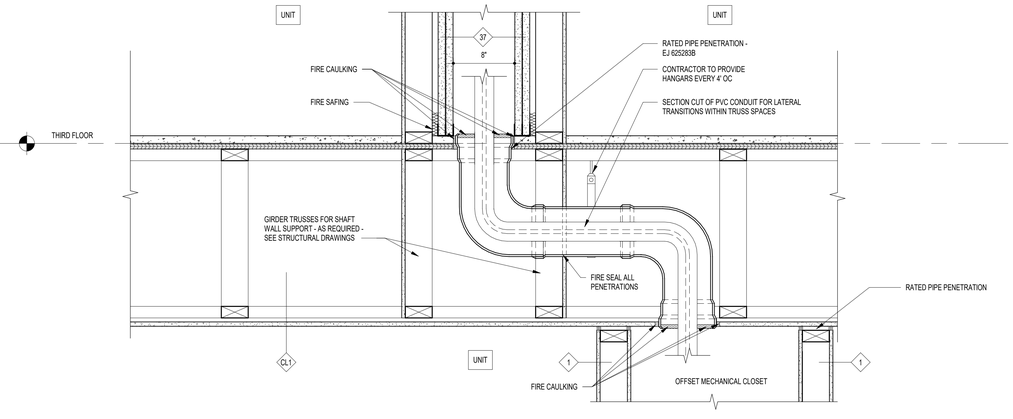
E16 REFRIGERANT SHAFT SECTION 1HR - ROOF
1 1/2" = 1'-0"



E8 REFRIGERANT SHAFT SECTION 1HR - TYPICAL FLOOR - TRUSSES PERPENDICULAR TO SHAFT
1 1/2" = 1'-0"



A16 REFRIGERANT SHAFT SECTION 1HR - SECOND LEVEL ABOVE SOG
1 1/2" = 1'-0"



A8 REFRIGERANT SHAFT SECTION OFFSET DETAIL - 1 HR FLOOR
1 1/2" = 1'-0"

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REFRIGERANT SHAFT DETAILS

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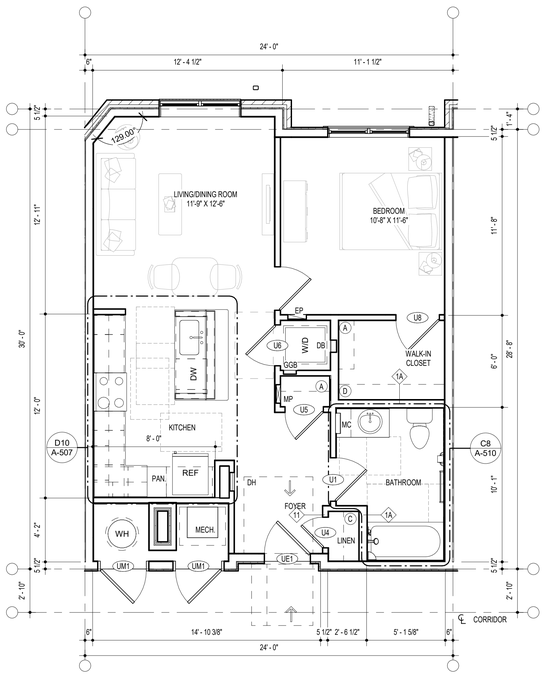
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CONSTRUCTABILITY REVIEW

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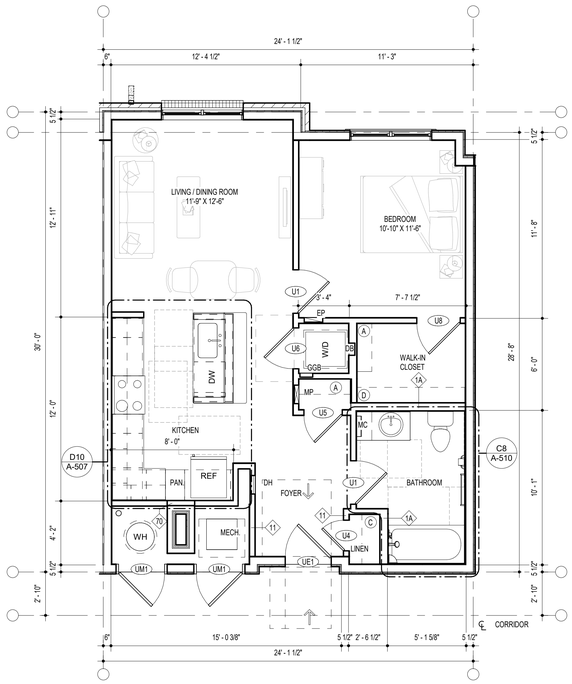
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G15 UNIT 1B
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

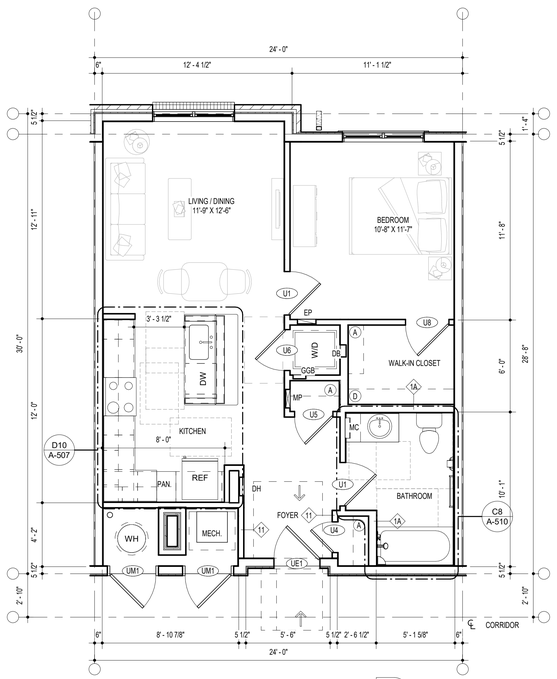
1 BEDROOM / 1 BATH
OCCURS IN BUILDING 1 ONLY



G10 UNIT 1C
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

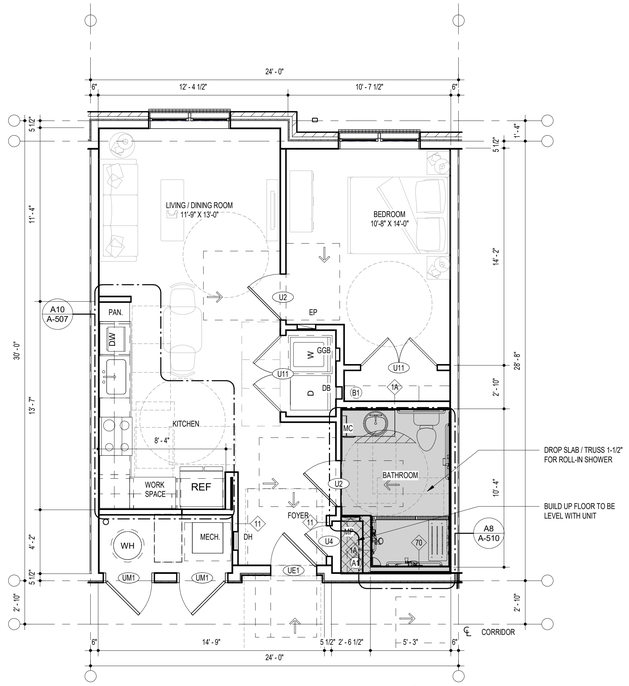
1 BEDROOM / 1 BATH
OCCURS IN BUILDING 1 ONLY



A10 UNIT 1A
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

1 BEDROOM / 1 BATH
OCCURS IN ALL BUILDINGS



A4 UNIT 1A-HC
1/4" = 1'-0"

1 BEDROOM / 1 BATH ACCESSIBLE
OCCURS IN ALL BUILDINGS

GENERAL NOTES - UNITS

WALLS:

1. ALL EXTERIOR WALLS ARE 2x6s; SEE WALL TYPES.
2. DIMENSIONS ARE TO FACE OF STUDS AND CENTERLINE OF UNIT SEPARATION WALLS UNLESS OTHERWISE NOTED.
3. ALL INTERIOR WALLS WITHIN APARTMENT UNITS ARE TYPE (1) U.O.N. ON UNIT PLANS.
4. PROVIDE FIBERGLASS MATT FACED MOLD RESISTANT GYPSUM BOARD FOR ALL BATHROOM WALLS.
5. REQUIRED FIRE RATED WALL BOARD AND INSULATION SHALL BE CONTINUOUS TO FLOORS BEHIND BATHTUBS.
6. PROVIDE BULKHEADS WHERE INDICATED ABOVE KITCHEN CABINETS AND TO CONCEAL MECHANICAL DUCTWORK.
7. SOUND INSULATE INTERIOR WALLS OF MECHANICAL CLOSETS.
8. FRAMER SEE TUB AND SHOWER SHOP DRAWINGS FOR SPECIFIC DIMENSIONS.

DOORS:

1. LOCATE TYPICALLY, SET 4" FROM ADJACENT WALL ALONG HINGE SIDE, CENTERED ON SPACES, OR AS INDICATED ON PLANS.
2. ALL INTERIOR UNIT DOORS ARE TO BE UNDERCUT 3/4" A.F.F.U.O.N.
3. ALL PASSAGE DOORS IN UFAS UNITS ARE TO BE MIN. 3'-0" WIDE, EVEN IF NOTED OTHERWISE. IF NOTED OTHERWISE, PLEASE NOTIFY ARCHITECT.

FINISHES:

1. FLOORING TO CONTINUE UNDER KITCHEN APPLIANCES (REFRIGERATOR, RANGES, DISHWASHERS), AND AT ACCESSIBLE UNIT SINKS/COUNTERS WITHOUT BASE CABINETS OR WITH REMOVABLE CANBINETS.
2. PROVIDE CHROME ESCUTCHEON PLATES AT ALL PIPE TO WALL PENETRATIONS. SEAL GWB TO PIPE BEHIND ESCUTCHEON.

MECHANICAL:

1. ALL EXHAUST VENTS (BATHROOM & DRYER) TO BE CENTERED ON TOP OF WINDOW UNLESS OTHERWISE NOTED.
2. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR EQUIPMENT INFORMATION. PROVIDE PAN AND DRAIN FOR WATER HEATER AND WASHER.

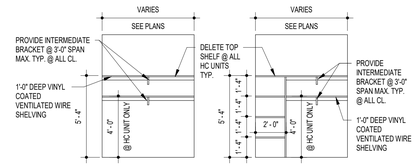
ELECTRICAL:

1. ALL LIGHT FIXTURES ARE TO BE CENTERED AND EVENLY SPACED WITHIN EACH SPACE, U.O.N. ALL DIMENSIONS ARE TO LIGHT FIXTURE CENTERLINE.
2. ELECTRICAL PANEL COVERS IN UNITS SHALL BE MANUFACTURER'S PRE-FINISHED WHITE. FOR LOCATION REFER TO ELECTRICAL DRAWINGS.

SYMBOL LEGEND

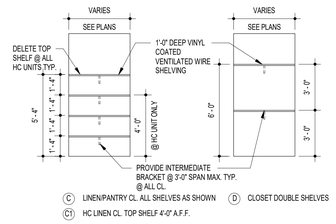
- DRYER BOX (DB)
- GUY GRAY BOX (GGB)
- MEDIA PANEL (MP)
- ELECTRICAL PANEL (EP)
- DEHUMIDIFIER (DH)
- MEDICINE CABINET (MC)

UNITS- CLOSET SHELVES SCHEDULE



(A) ONE ROD/ONE SHELF CLOSET
(A1) HC CL. ROD @ SHELF 4'-0" A.F.F.

(B) LINEN/CLOTHES CL. ALL SHELVES AS SHOWN
(B1) HC CL. ROD @ SHELF 4'-0" A.F.F.



(C) LINEN/PANTRY CL. ALL SHELVES AS SHOWN
(C1) HC LINEN CL. TOP SHELF 4'-0" A.F.F.
(D) CLOSET DOUBLE SHELVES

UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 UFAS/SECTION 504
- B ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI ROLL-IN SHOWER

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT PLANS
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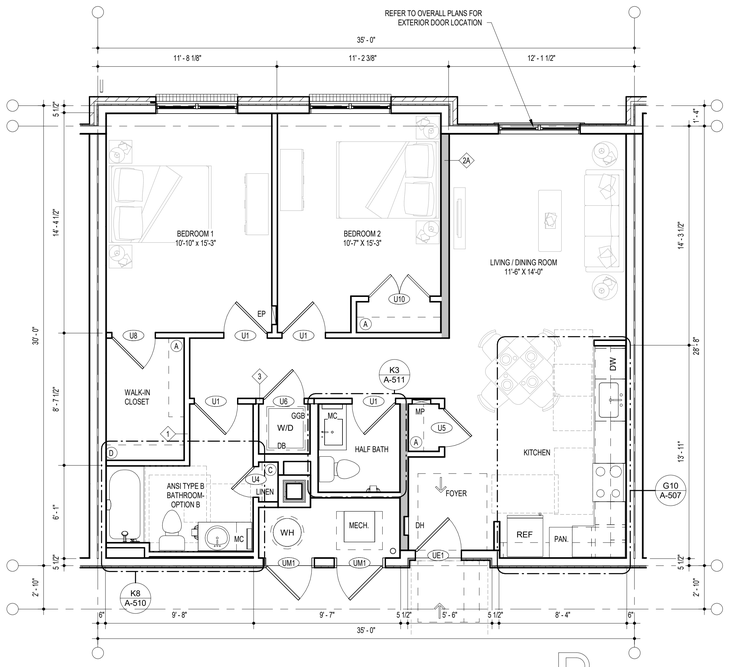
DATE	SUBMISSION / REVISION	#
03/12/2025	VH 9% SUBMISSION	
05/14/2025	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

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06/30/2026
CONSTRUCTABILITY REVIEW

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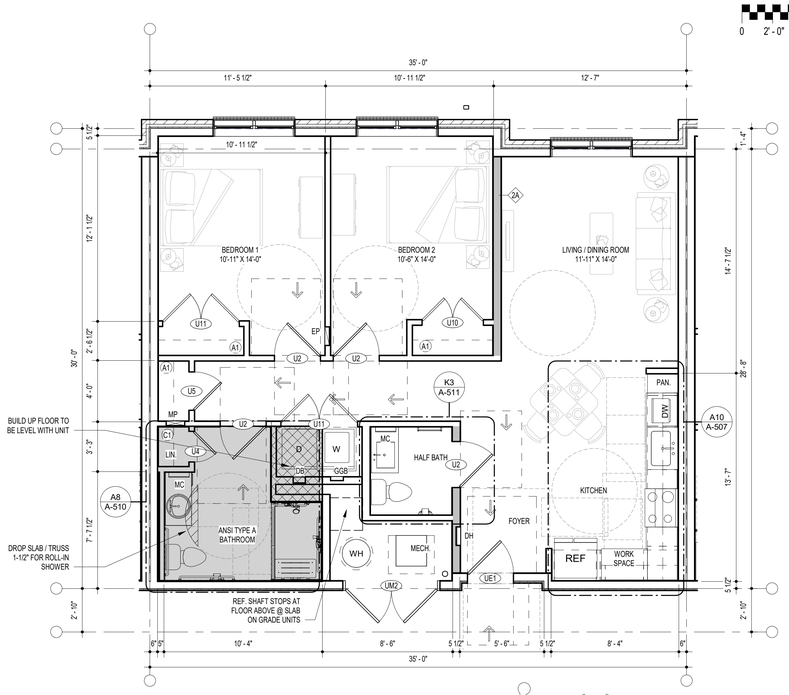
SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"



G12 UNIT 2B
1/4" = 1'-0"

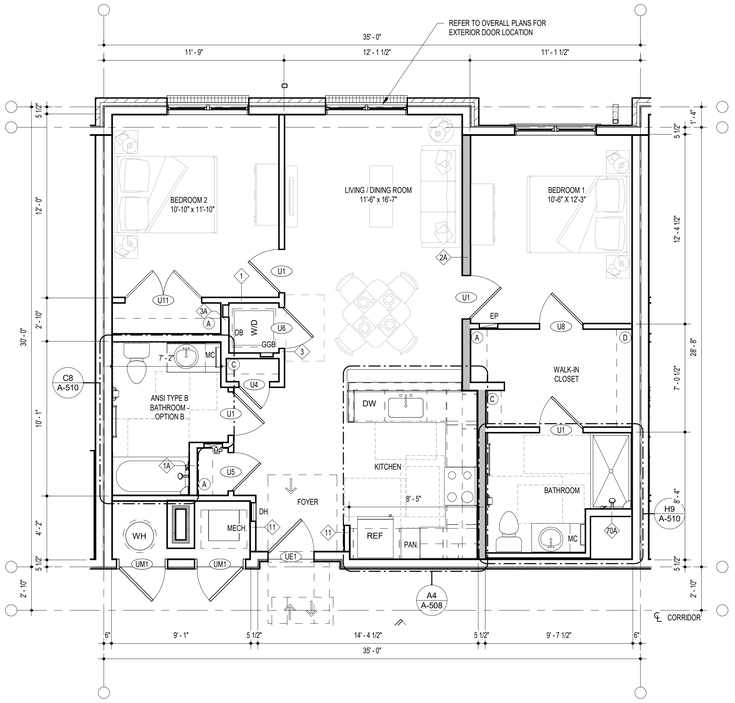
WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

2 BEDROOM / 1.5 BATH
OCCURS IN BUILDINGS 1 & 2 ONLY



G5 UNIT 2B-HC
1/4" = 1'-0"

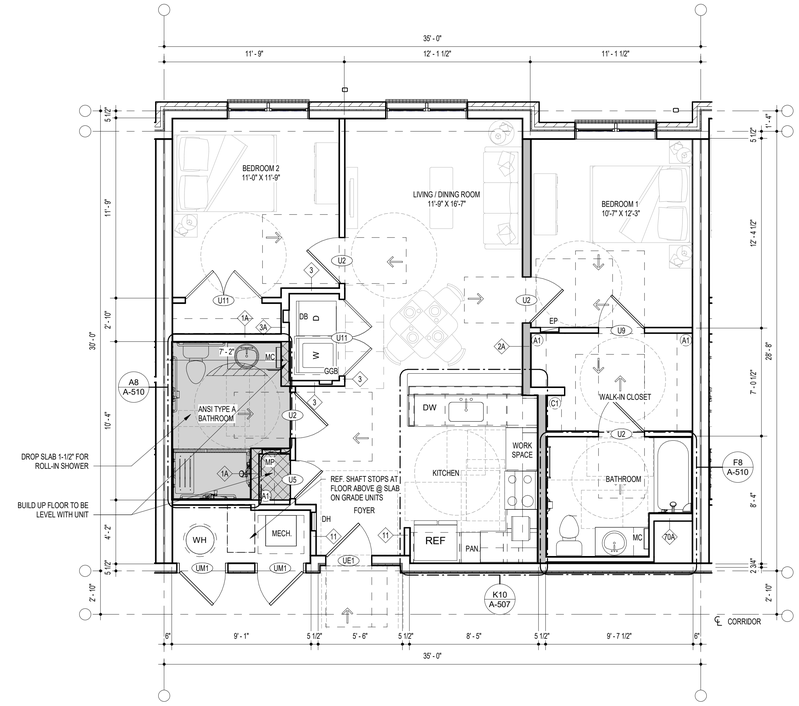
2 BEDROOM / 1.5 BATH ACCESSIBLE
OCCURS IN BUILDINGS 1 & 2 ONLY



A12 UNIT 2A
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

2 BEDROOM / 2 BATH
OCCURS IN ALL BUILDINGS



A5 UNIT 2A-HC
1/4" = 1'-0"

2 BEDROOM / 2 BATH ACCESSIBLE
OCCURS IN ALL BUILDINGS

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UNIT PLANS
ROANOKE GATEWAY
ROANOKE, VA 24022

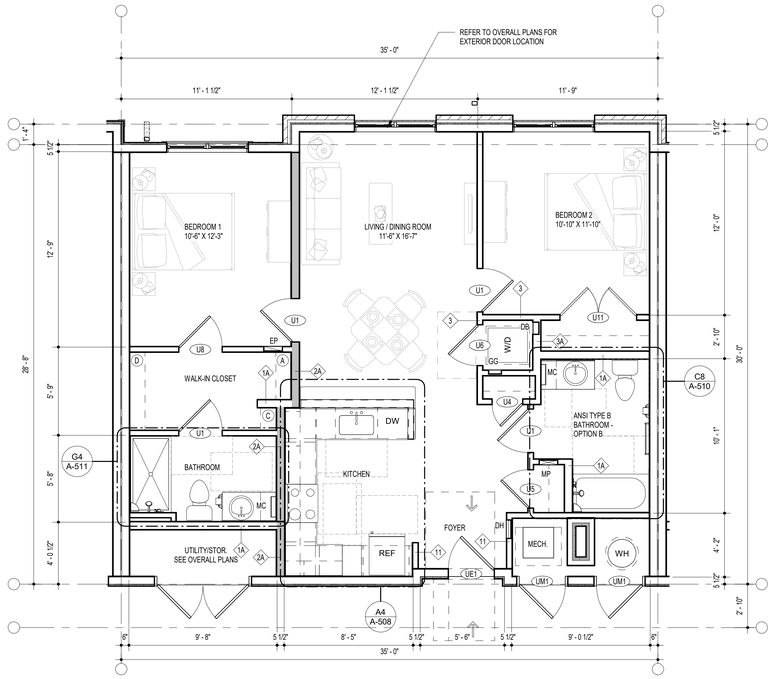
DATE	SUBMISSION / REVISION	#:
03/12/2025	VH 9% SUBMISSION	
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A-502
06/30/2026
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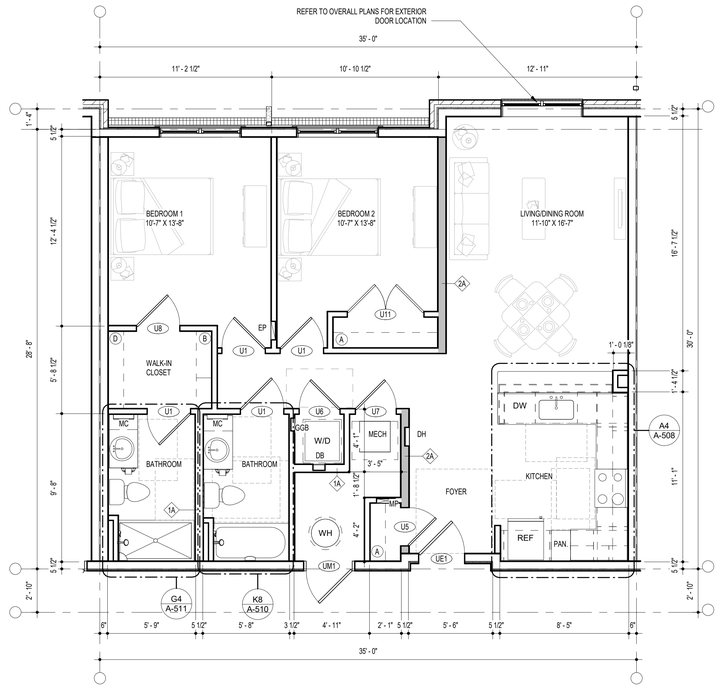
SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"



G14 UNIT 2F
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

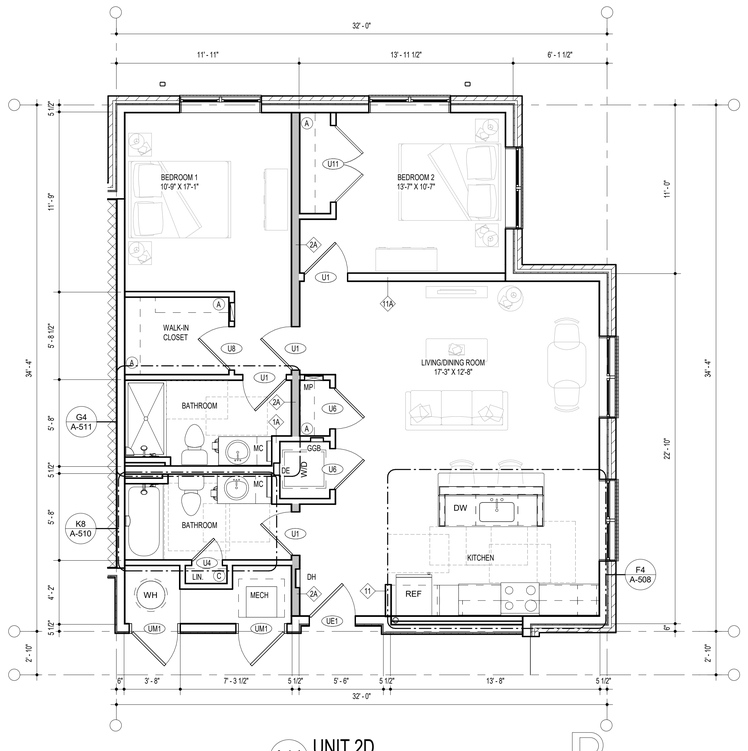
2 BEDROOM / 2 BATH
OCCURS IN BUILDING 2 ONLY



G5 UNIT 2E
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

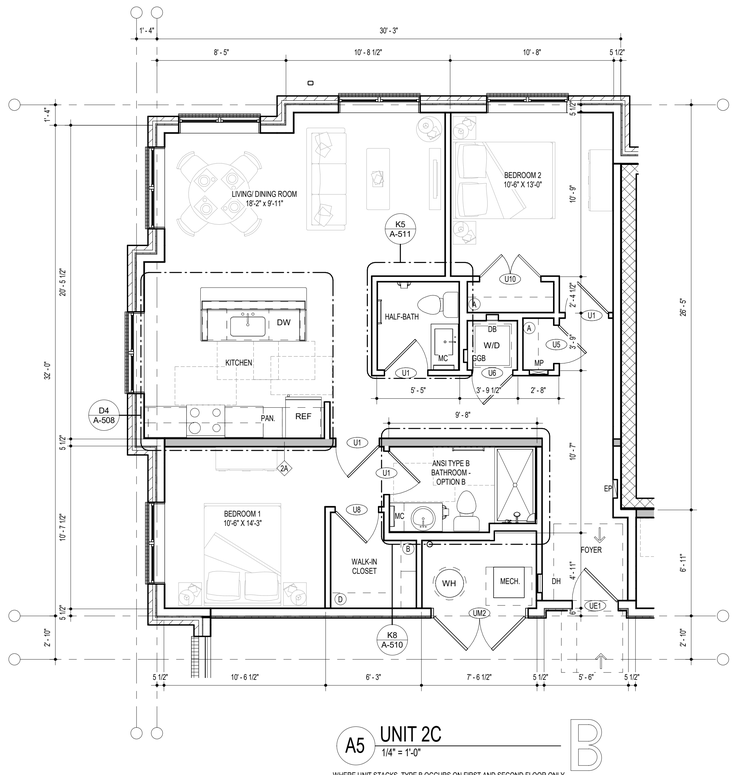
2 BEDROOM / 2 BATH
OCCURS IN BUILDING 3 ONLY



A14 UNIT 2D
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

2 BEDROOM / 2 BATH
OCCURS IN BUILDING 3 ONLY



A5 UNIT 2C
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

2 BEDROOM / 1.5 BATH
OCCURS IN BUILDINGS 1 & 2 ONLY

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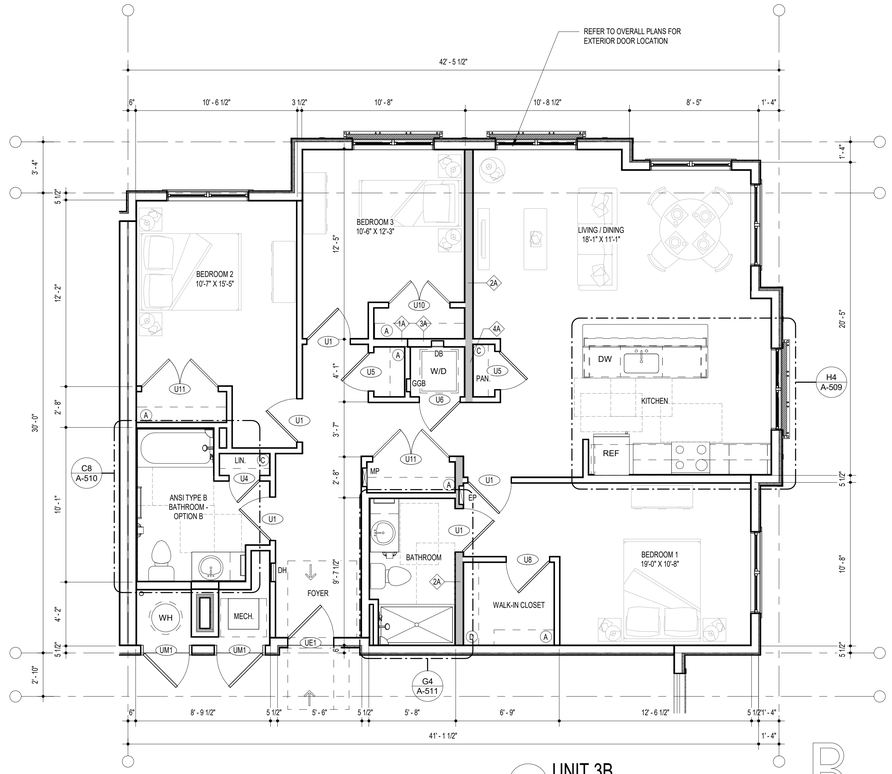
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03/12/2025	VH 9% SUBMISSION
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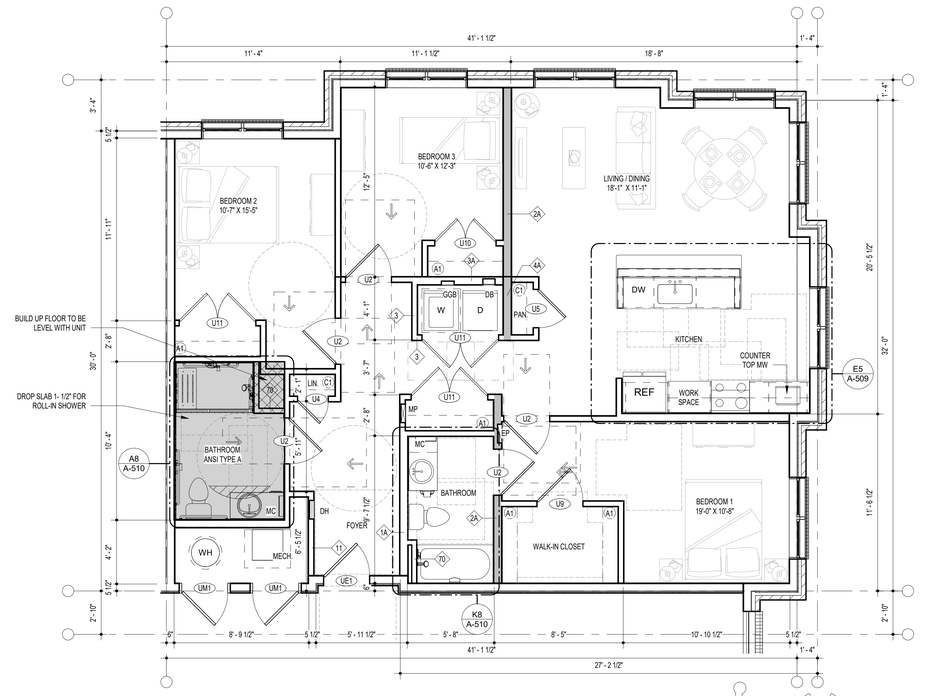


G14 UNIT 3B
1/4" = 1'-0"

B

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 2 ONLY



G5 UNIT 3B-HC
1/4" = 1'-0"

504

3 BEDROOM / 2 BATH ACCESSIBLE
OCCURS IN BUILDING 1 & 2 ONLY



A14 UNIT 3A
1/4" = 1'-0"

B

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 1 ONLY



A5 UNIT 3A-HC
1/4" = 1'-0"

504

3 BEDROOM / 2 BATH ACCESSIBLE
OCCURS IN BUILDING 1 ONLY

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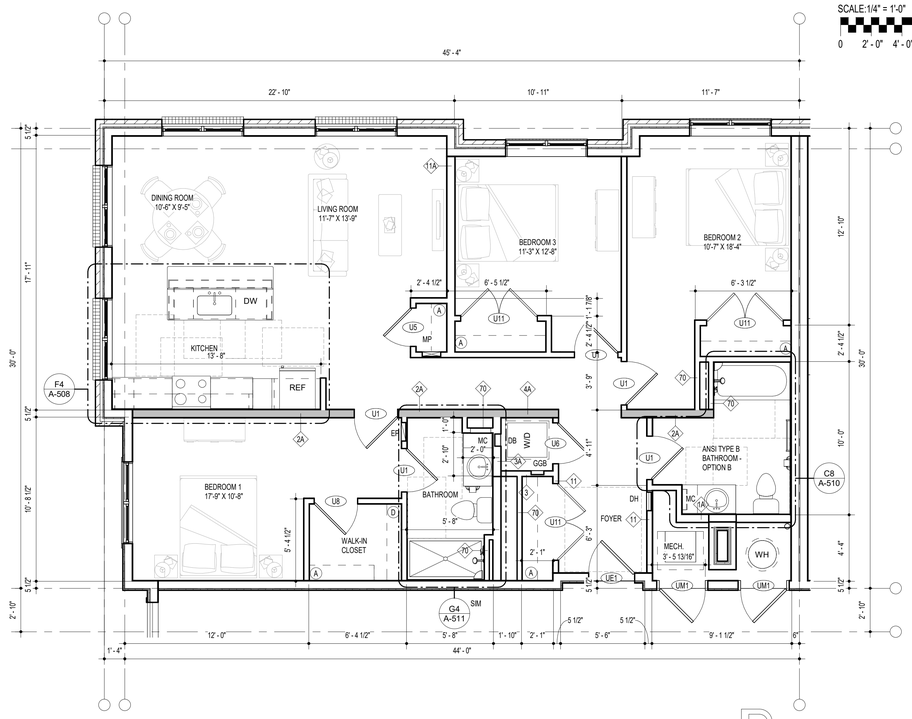
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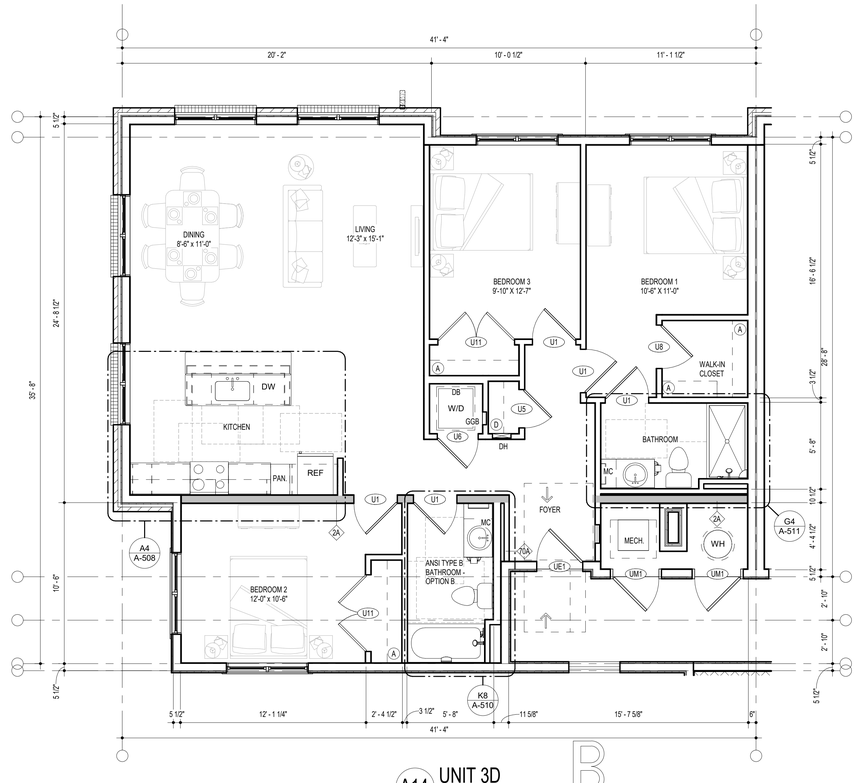


G5 UNIT 3E
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 1 ONLY

B

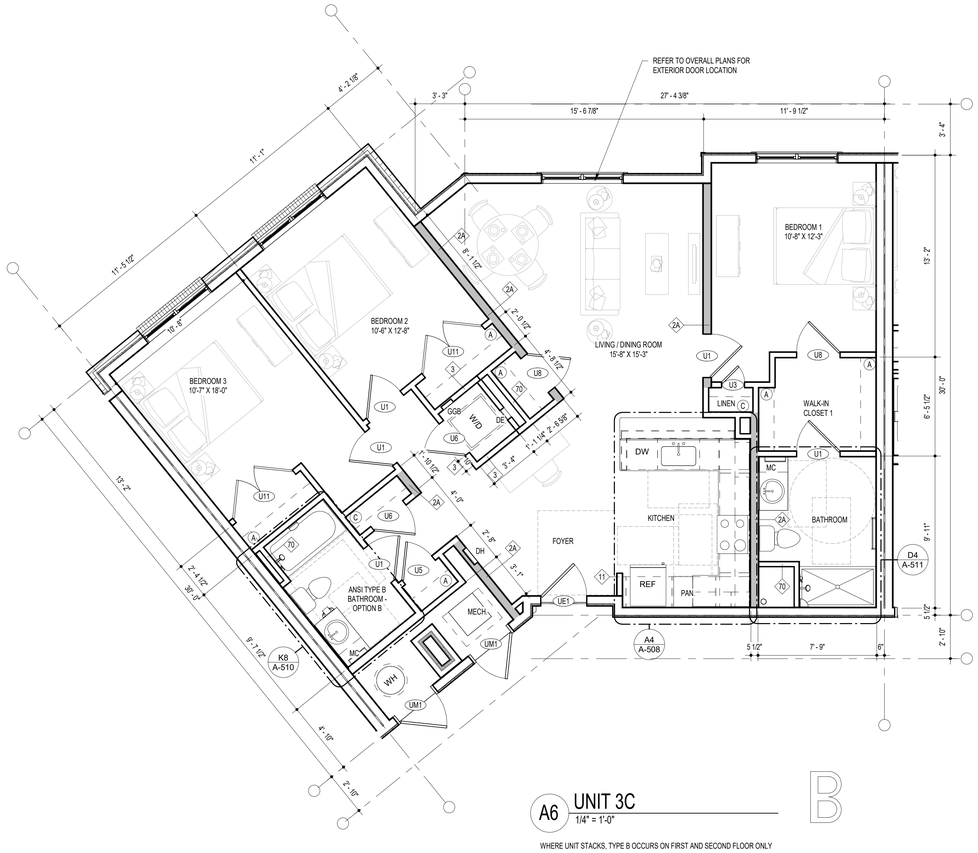


A14 UNIT 3D
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 1 ONLY

B



A6 UNIT 3C
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 1 ONLY

B

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UNIT PLANS

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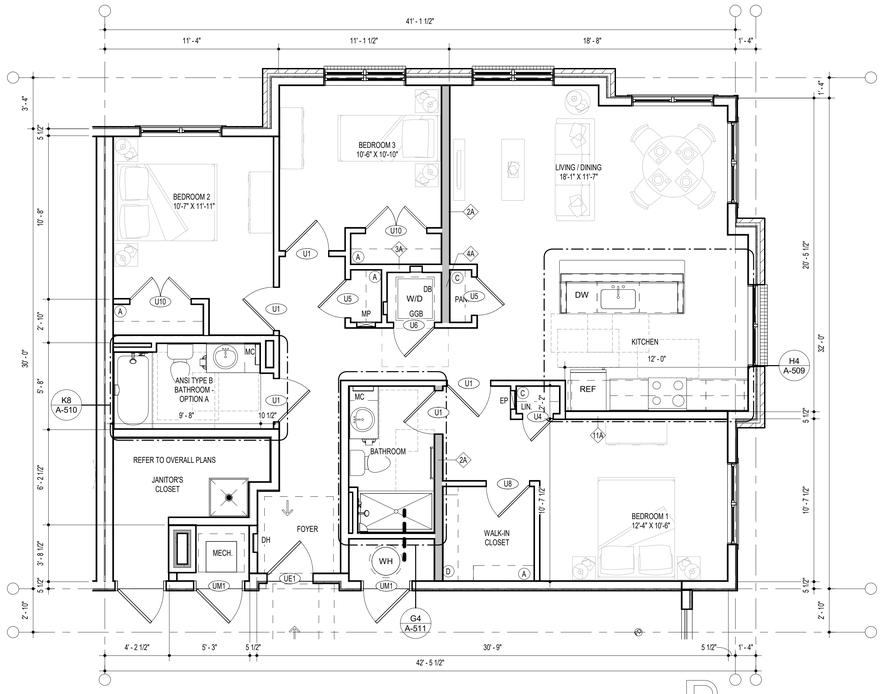
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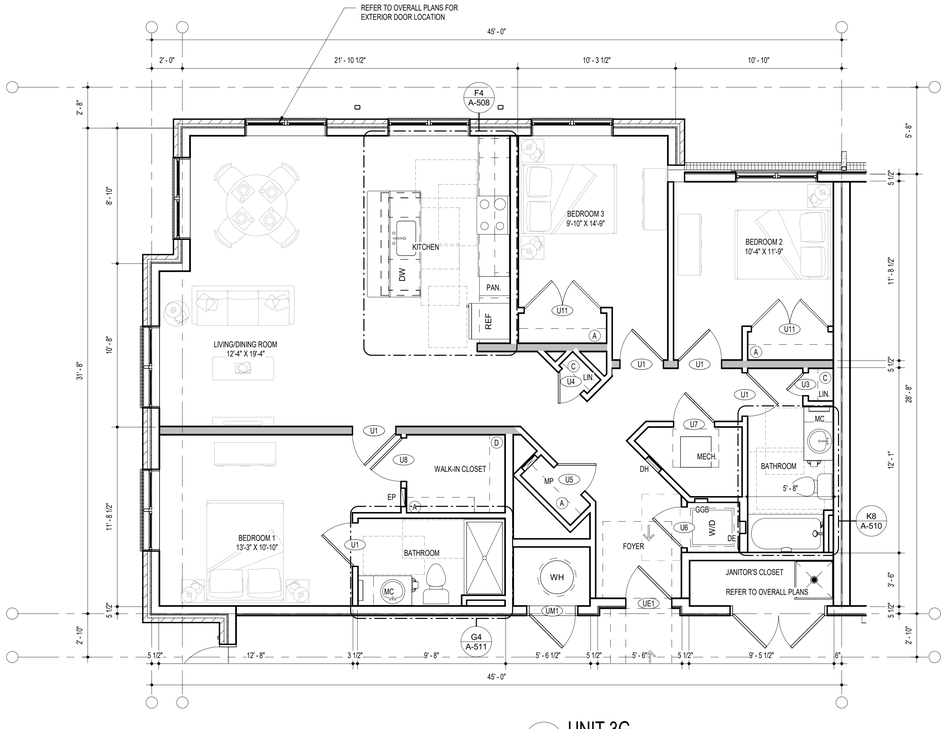
SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"



G5 UNIT 3H
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

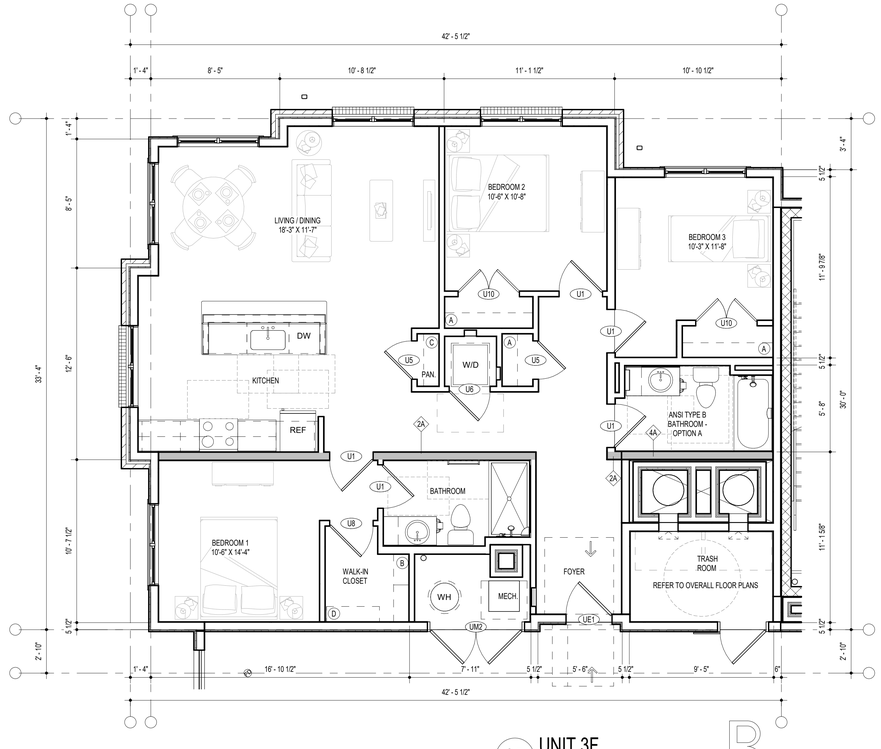
3 BEDROOM / 2 BATH
OCCURS IN BUILDING 1 ONLY



A13 UNIT 3G
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDING 3 ONLY



A5 UNIT 3F
1/4" = 1'-0"

WHERE UNIT STACKS, TYPE B OCCURS ON FIRST AND SECOND FLOOR ONLY

3 BEDROOM / 2 BATH
OCCURS IN BUILDINGS 1 & 2 ONLY

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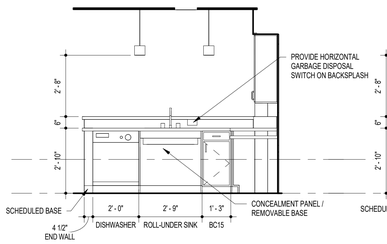
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ROANOKE, VA 24022

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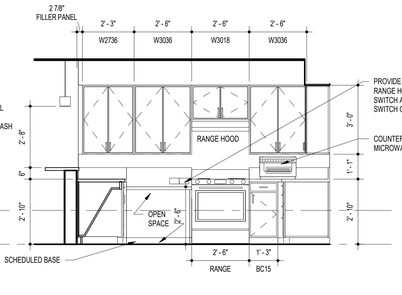
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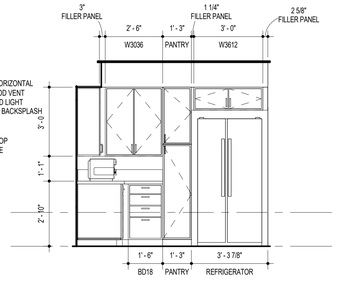
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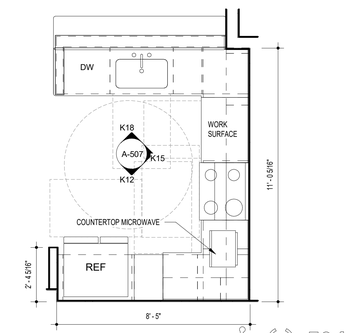
K18 KITCHEN TYPE 4 - VIEW A
3/8" = 1'-0"



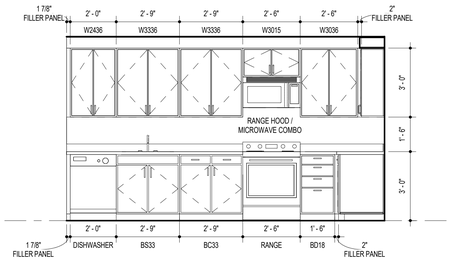
K15 KITCHEN TYPE 4 - VIEW B
3/8" = 1'-0"



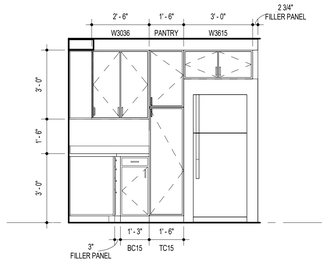
K12 KITCHEN TYPE 4 - VIEW C
3/8" = 1'-0"



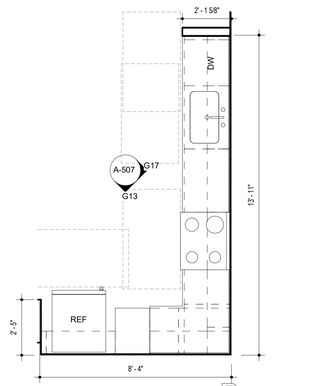
K10 KITCHEN TYPE 4
3/8" = 1'-0"



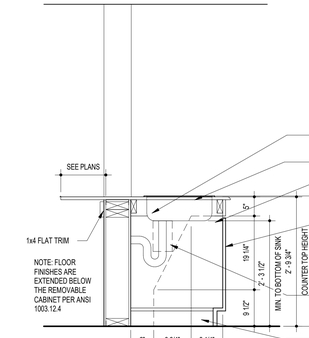
G17 KITCHEN TYPE 3 - VIEW A
3/8" = 1'-0"



G13 KITCHEN TYPE 3 - VIEW B
3/8" = 1'-0"

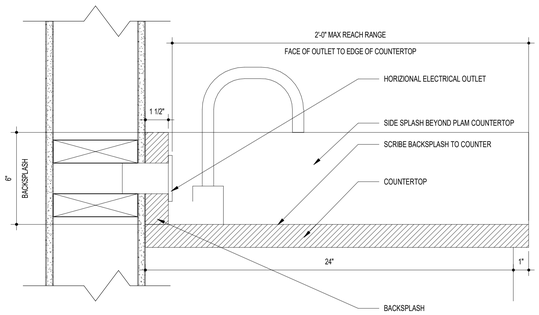


G10 KITCHEN TYPE 3
3/8" = 1'-0"

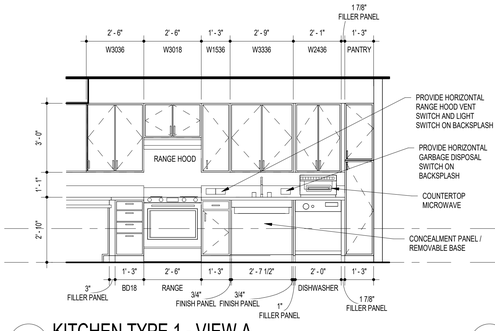


K6 SECTION AT UFAS COUNTER
3/4" = 1'-0"

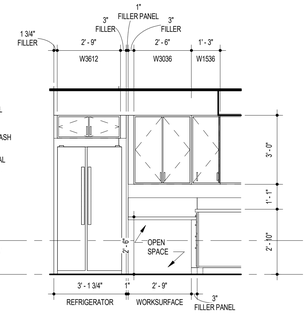
UNDERMOUNT SINK, COUNTER HEIGHT TO BE 2'-10"
TOP MOUNTED SINK, COUNTER TO BE 2'-9 3/4" TO ACCOUNT FOR 1/4" RIM OF SINK.



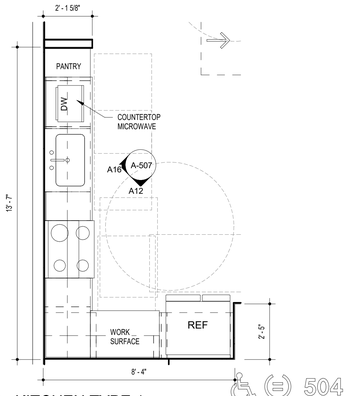
G6 SECTION FOR ELECTRICAL OUTLET IN UNITS (UFAS/ TYPE A)
3" = 1'-0"



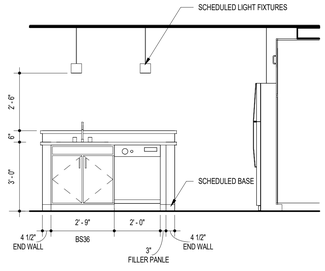
A16 KITCHEN TYPE 1 - VIEW A
3/8" = 1'-0"



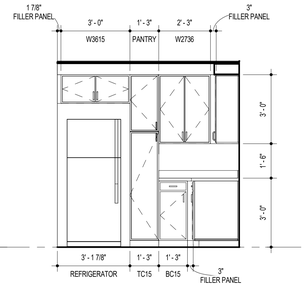
A12 KITCHEN TYPE 1 - VIEW B
3/8" = 1'-0"



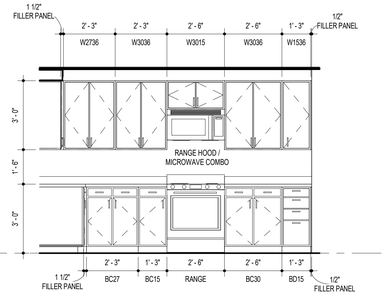
A10 KITCHEN TYPE 1
3/8" = 1'-0"



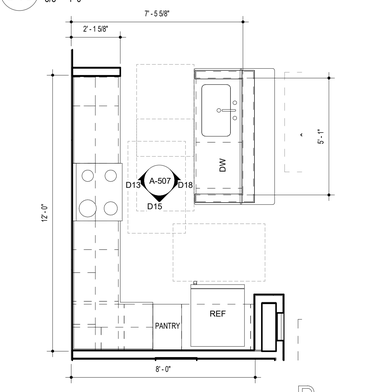
D18 KITCHEN TYPE 2 - VIEW A
3/8" = 1'-0"



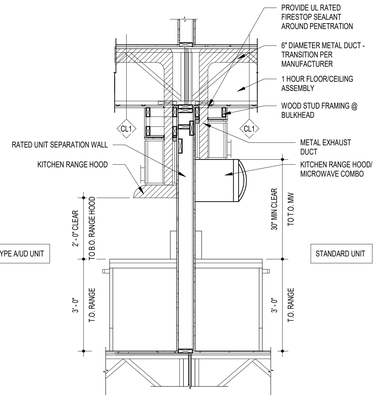
D15 KITCHEN TYPE 2 - VIEW B
3/8" = 1'-0"



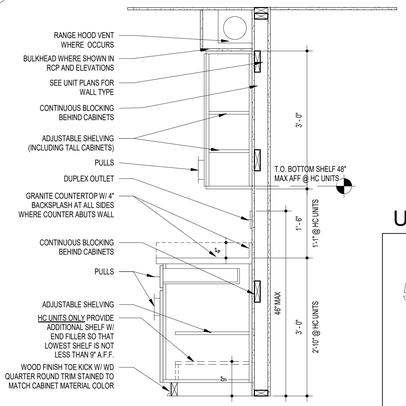
D13 KITCHEN TYPE 2 - VIEW C
3/8" = 1'-0"



D10 KITCHEN TYPE 2
3/8" = 1'-0"



D6 UNITS - KITCHEN RANGE HOOD EXHAUST w/ MW
1/2" = 1'-0"



A6 TYP. KITCHEN CABINET SECTION
3/4" = 1'-0"

KITCHEN PLAN/ELEVATION NOTES

1. DIMENSIONS ON PLANS ARE TO FACE OF STUD. DIMENSIONS ON ELEVATIONS ARE TO FACE OF FINISH. IF A QUESTION REGARDING A DIMENSION OCCURS, REQUEST CLARIFICATION FROM THE ARCHITECT.
2. IN ACCESSIBLE UNITS, ALL PIPES AND VALVES UNDER SINKS, INCLUDING GARBAGE DISPOSAL, SHALL BE INSULATED.
3. COUNTER BACK SPLASH RETURNS AT ALL WALLS.
4. IN ACCESSIBLE UNITS CABINETS HAVE SHORTENED BASE TO ACHIEVE FINISHED HEIGHT.
5. WALL BASE TO RUN ON WALL AND CABINET AROUND REFRIGERATOR AND UNDER PASS THROUGHS WHERE APPLICABLE.
6. PROVIDE CONTINUOUS SHELF INTO BLIND CORNERS OF WALL CABINETS.
7. ALL KITCHEN CABINETS TO HAVE 5" PULL HANDLES WITH SATIN NICKEL FINISH. JEFFREY ALEXANDER 178SN OR EQUAL. COORDINATE WITH SPECIFICATIONS.
8. PROVIDE SHELVES IN CABINETS AS PER TYPICAL CABINET DETAIL ON THIS SHEET.
9. IN ACCESSIBLE UNIT, KITCHEN SINK TO BE SHALLOW TYPE W/ DRAIN AT REAR OF SINK.
10. SEAL COUNTERTOP SIDE AT BACKSPLASHES WITH MATCHING COLOR SEALANT.
11. IN ACCESSIBLE UNITS PROVIDE SEPARATE SWITCH FOR RANGE HOOD, LIGHT, AND FAN PER ACCESSIBLE MOUNTING HEIGHT REQUIREMENTS - SEE ELEVATIONS.
12. PROVIDE METAL STRAP BLOCKING WHEN USING METAL STUD CONTRUCTION, AND 2X BLOCKING WHEN USING WOOD STUD CONTRUCTION FOR CABINET AND ACCESSORY SUPPORT.
13. AT ACCESSIBLE KITCHENS, THE KITCHEN FLOOR FINISH MUST EXTEND UNDER THE REMOVABLE CABINET, THE WALL BEHIND THE CABINET MUST BE FINISHED, AND A BASEBOARD MATCHING THAT INSTALLED IN OTHER AREAS OF THE DWELLING UNIT SHALL BE PERMANENTLY INSTALLED BEHIND THE CABINET.

CABINET NOTES

BC	___	BASE CABINET, WIDTH (INCHES)
BD	___	BASE DRAWER UNIT , WIDTH (INCHES)
BS	___	BASE SINK UNIT , WIDTH (INCHES)
TC	___	TALL PANTRY UNIT , WIDTH (INCHES)
W	___ ___	WALL CABINET, WIDTH, HEIGHT (INCHES)

UNIT ACCESSIBILITY SYMBOLS

- ANSI (TYPE A WHEN IN UNIT)
- 504 UFAS/SECTION 504
- B ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- RI ROLL-IN SHOWER

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KITCHEN PLANS, ELEVATIONS, & DETAILS

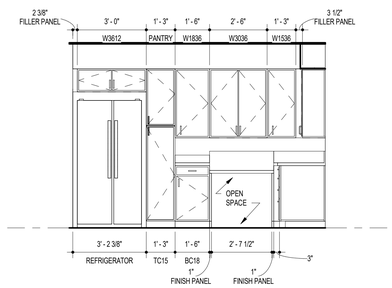
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ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW	

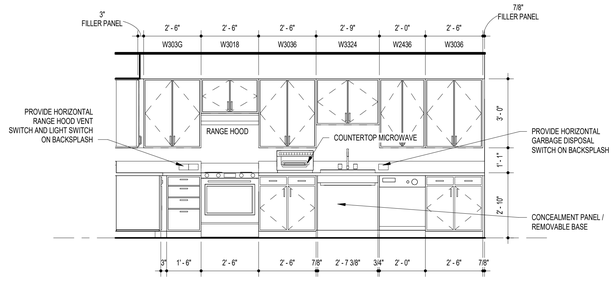
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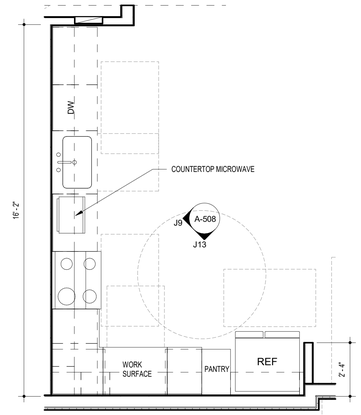
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J13 KITCHEN TYPE 8 - VIEW A
3/8" = 1'-0"

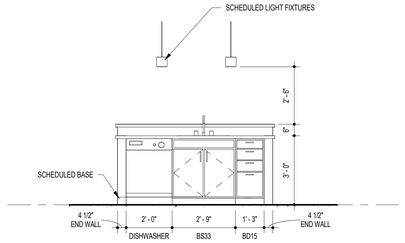


J9 KITCHEN TYPE 8 - VIEW B
3/8" = 1'-0"

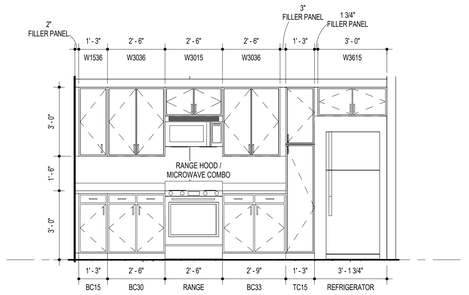


J5 KITCHEN TYPE 8
3/8" = 1'-0"

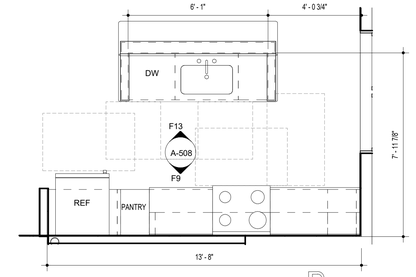
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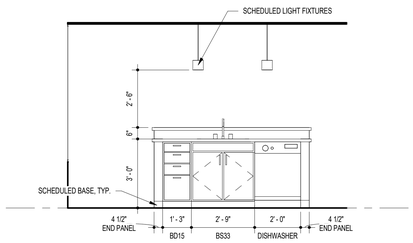
F13 KITCHEN TYPE 7 - VIEW A
3/8" = 1'-0"



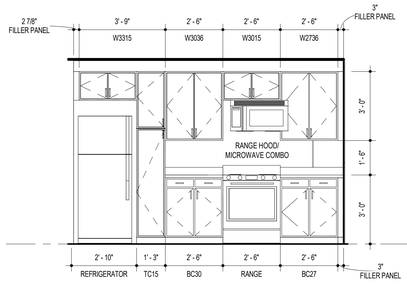
F9 KITCHEN TYPE 7 - VIEW B
3/8" = 1'-0"



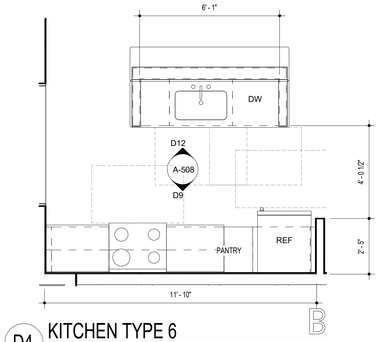
F4 KITCHEN TYPE 7
3/8" = 1'-0"



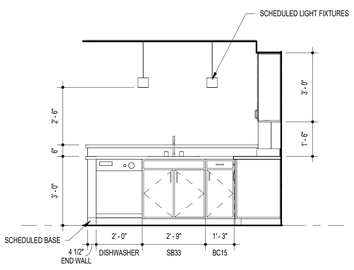
D12 KITCHEN TYPE 6 - VIEW A
3/8" = 1'-0"



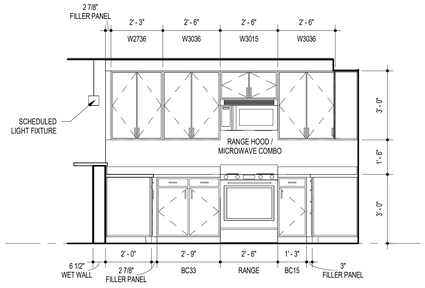
D9 KITCHEN TYPE 6 - VIEW B
3/8" = 1'-0"



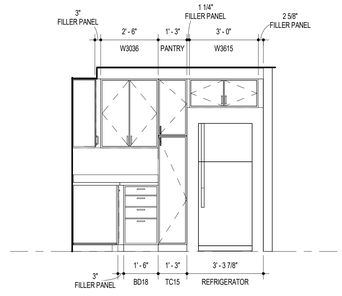
D4 KITCHEN TYPE 6
3/8" = 1'-0"



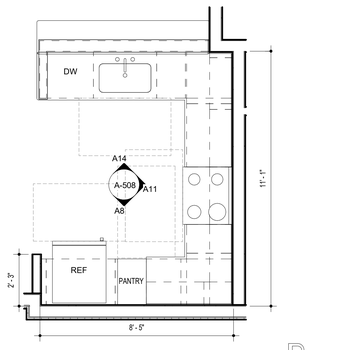
A14 KITCHEN TYPE 5 - VIEW A
3/8" = 1'-0"



A11 KITCHEN TYPE 5 - VIEW B
3/8" = 1'-0"



A8 KITCHEN TYPE 5 - VIEW C
3/8" = 1'-0"



A4 KITCHEN TYPE 5
3/8" = 1'-0"

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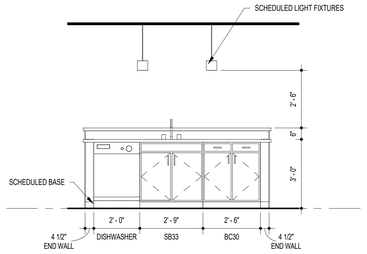
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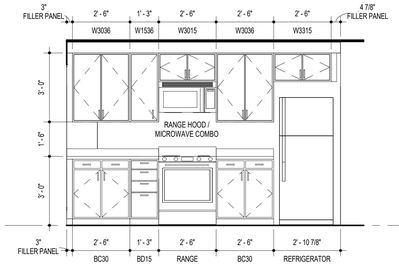
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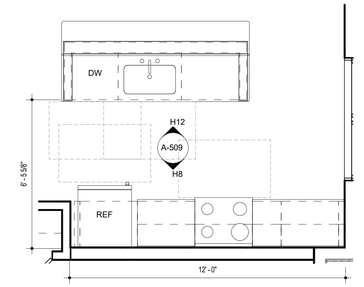
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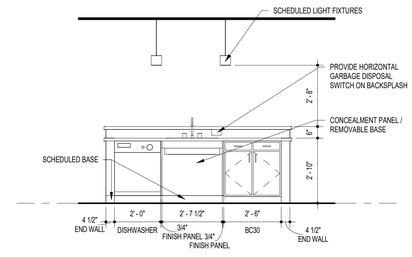
H12 KITCHEN TYPE 11 - VIEW A
3/8" = 1'-0"



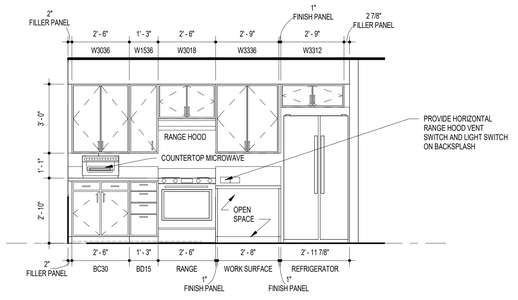
H8 KITCHEN TYPE 11 - VIEW B
3/8" = 1'-0"



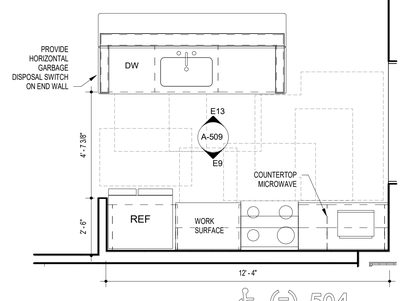
H4 KITCHEN TYPE 11
3/8" = 1'-0"



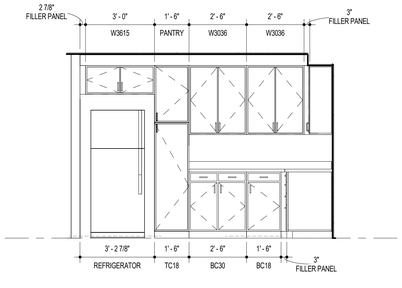
E13 KITCHEN TYPE 10 - VIEW A
3/8" = 1'-0"



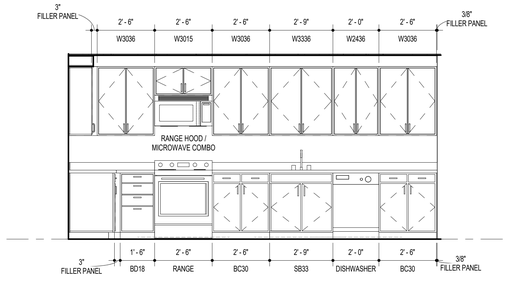
E9 KITCHEN TYPE 10 - VIEW B
3/8" = 1'-0"



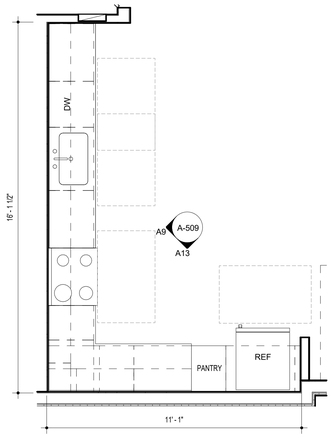
E5 KITCHEN TYPE 10
3/8" = 1'-0"



A13 KITCHEN TYPE 9 - VIEW A
3/8" = 1'-0"



A9 KITCHEN TYPE 9 - VIEW B
3/8" = 1'-0"



A5 KITCHEN TYPE 9
3/8" = 1'-0"

B

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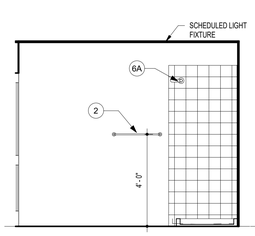
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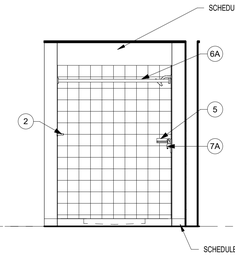
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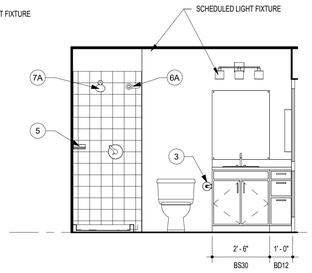
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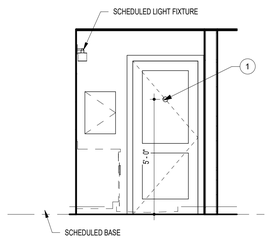
K18 BATHROOM 5 - VIEW A
3/8" = 1'-0"



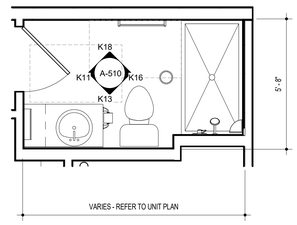
K16 BATHROOM 5 - VIEW B
3/8" = 1'-0"



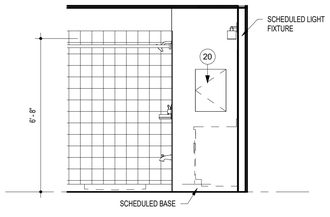
K13 BATHROOM 5 - VIEW C
3/8" = 1'-0"



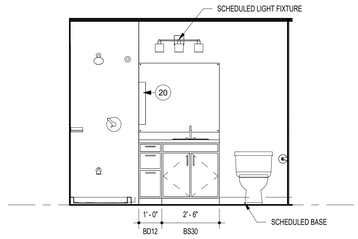
K11 BATHROOM 5 - VIEW D
3/8" = 1'-0"



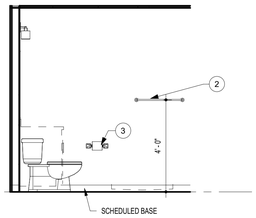
K8 BATHROOM TYPE 5
3/8" = 1'-0"



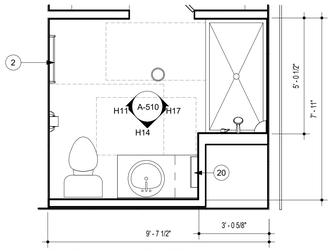
H17 BATHROOM TYPE 4 - VIEW A
3/8" = 1'-0"



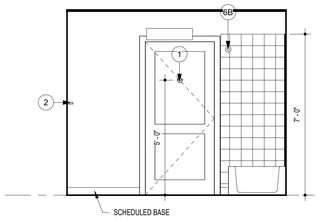
H14 BATHROOM TYPE 4 - VIEW B
3/8" = 1'-0"



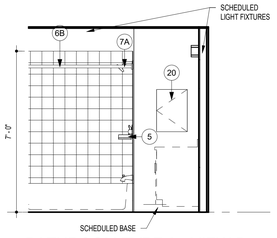
H11 BATHROOM TYPE 4 - VIEW C
3/8" = 1'-0"



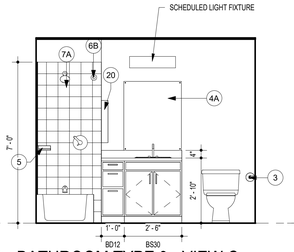
H9 BATHROOM TYPE 4
3/8" = 1'-0"



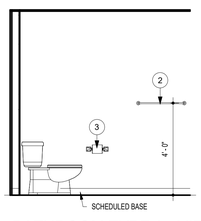
F18 BATHROOM TYPE 3 - VIEW A
3/8" = 1'-0"



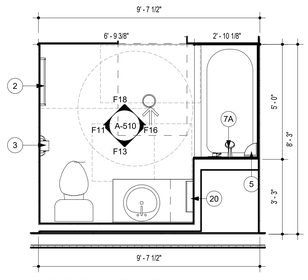
F16 BATHROOM TYPE 3 - VIEW B
3/8" = 1'-0"



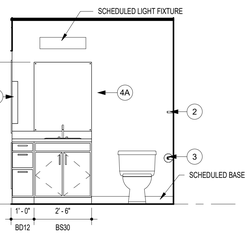
F13 BATHROOM TYPE 3 - VIEW C
3/8" = 1'-0"



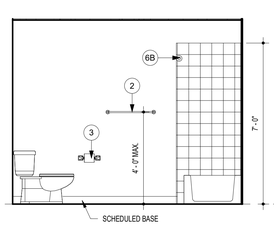
F11 BATHROOM TYPE 3 - VIEW D
3/8" = 1'-0"



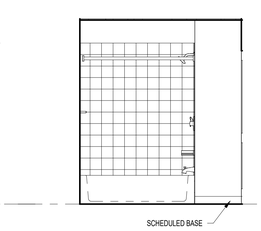
F8 BATHROOM TYPE 3
3/8" = 1'-0"



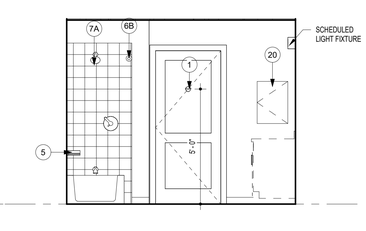
C18 BATHROOM TYPE 2 - VIEW A
3/8" = 1'-0"



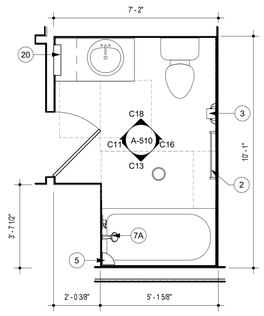
C16 BATHROOM TYPE 2 - VIEW B
3/8" = 1'-0"



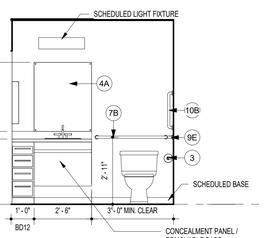
C13 BATHROOM TYPE 2 - VIEW C
3/8" = 1'-0"



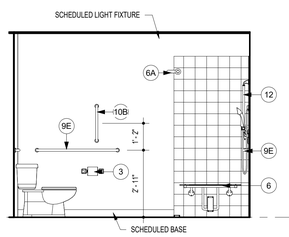
C11 BATHROOM TYPE 2 - VIEW D
3/8" = 1'-0"



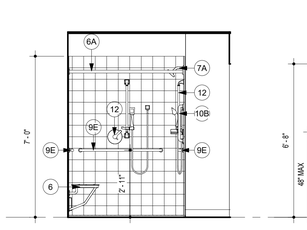
C8 BATHROOM TYPE 2
3/8" = 1'-0"



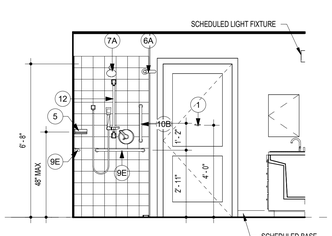
A18 BATHROOM TYPE 1 - VIEW A
3/8" = 1'-0"



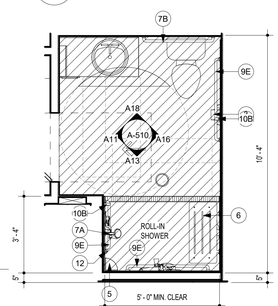
A16 BATHROOM TYPE 1 - VIEW B
3/8" = 1'-0"



A13 BATHROOM TYPE 1 - VIEW C
3/8" = 1'-0"

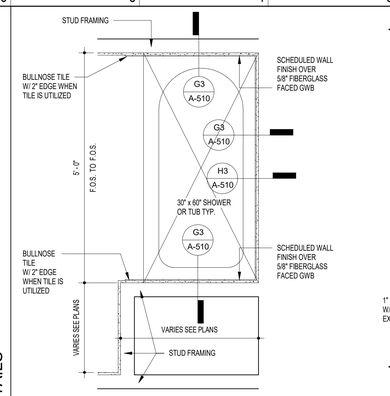


A11 BATHROOM TYPE 1 - VIEW D
3/8" = 1'-0"

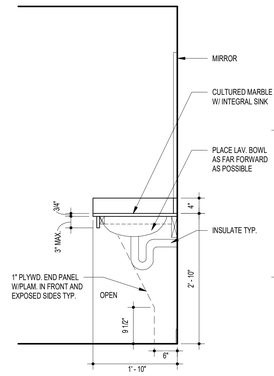


A8 BATHROOM TYPE 1
3/8" = 1'-0"

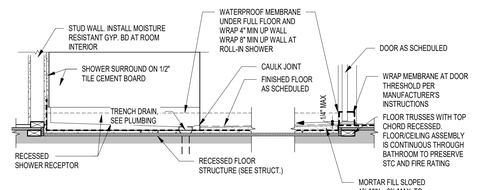
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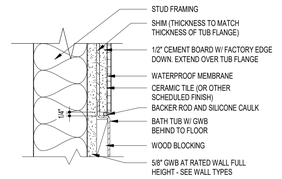
K5 CERAMIC TILE AT BATH TUB
3/4" = 1'-0"



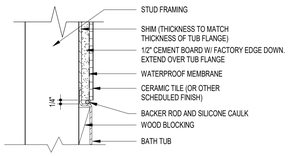
K3 TYPICAL UFAS SINK SECTION
3/4" = 1'-0"



H5 ROLL-IN SHOWER RECEPTOR SECTION
3/4" = 1'-0"

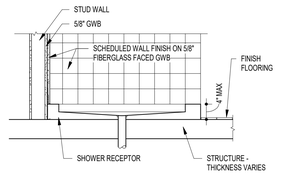


H3 TUB SECTION AT RATED WALL
3" = 1'-0"



G3 WALL SECTION AT TUB (TYP.)
3" = 1'-0"

UNIT ACCESSIBILITY SYMBOLS



L3 SHOWER RECEPTOR SECTION
3/4" = 1'-0"

- ANSI (TYPE A WHEN IN UNIT)
- UFAS/SECTION 504
- ANSI TYPE B
- VISION AND HEARING IMPAIRMENT (VHI)
- UNIVERSAL DESIGN
- ROLL-IN SHOWER

TYPICAL BATHROOM NOTES

1. DIMENSIONS INDICATED ON BATHROOM PLANS ARE TO FACE OF STUD AND ON ELEVATIONS ARE TO FINISH MATERIAL.
2. ALL ACCESSORIES ARE SURFACE MOUNTED UNLESS NOTED OTHERWISE.
3. TOILET FLUSH CONTROL SHALL BE LOCATED ON OPEN SIDE OF TOILET (NOT WALL SIDE).
4. SHOWERS, EXCEPT IN ACCESSIBLE UNITS, TO HAVE CURBS (4" MAX HIGH).
5. PROVIDE 2X BLOCKING BETWEEN STUDS AROUND ALL TUBS, SHOWERS, AND TOILETS FOR ATTACHMENT OF ACCESSORIES (INCLUDING GRAB BARS).
6. ACCESSIBLE UNIT SHOWERS AND BATHS SHALL HAVE OFFSET CONTROLS W/TUB HAVING OFFSET DIVERTER. SHOWER CONTROLS SHALL BE OFFSET, 4'-0" MAX. ABOVE SHOWER FLOOR. SEE ELEVATIONS. BATHTUB CONTROLS SHALL BE OFFSET, BETWEEN RIM OF TUB AND GRAB BAR. SEE ELEVATION.
7. PROVIDE CONTINUOUS 2X BLOCKING AROUND ALL BATHROOMS AS SHOWN ON ACCESSIBILITY DETAIL FRONT END SHEETS. REINFORCEMENT LOCATIONS ARE FOR ALL BATHROOMS INCLUDING ACCESSIBLE AND NON-ACCESSIBLE UNITS, AND COMMON AREAS.
8. ACCESSIBLE UNIT SHOWERS ARE TO HAVE COMPRESSIBLE WATER RETAINER AND REMOVABLE SEAT.
9. FOR ADDITIONAL INFORMATION ON TOILET ACCESSORIES, MODEL NUMBERS, MANUFACTURERS, ETC. SEE SPECIFICATIONS.
10. **ALL BATH AND SHOWER CONTROLS TO BE OFFSET.**

TOILET ACCESSORY SCHEDULE

NUMBER	EQUIPMENT	MOUNTING HEIGHT
1	Robe and Towel Hook	5'-0" CL
2	24" TOWEL BAR	<varies>
2B	18" TOWEL BAR	<varies>
3	TOILET PAPER HOLDER	2'-0" TO CL OF ROLL
4A	30" X 36" VANITY MIRROR	TOP OF BACKSPLASH
4D	42" X 36" VANITY MIRROR	TOP OF BACKSPLASH
4E	33" X 36" VANITY MIRROR	TOP OF BACKSPLASH
5	SOAP DISH	SEE ELEVATION
5A	SOAP DISH	2'-0" TO TOP @ TUB; 4'-0" TO TOP @ SHOWER
6	SHOWER SEAT - RECTANGULAR	
6A	SHOWER CURTAIN ROD - CURVED	6'-4" CL
6B	SHOWER CURTAIN ROD - STRAIGHT	6'-4" CL
7A	SHOWER HEAD	<varies>
7B	HORIZONTAL GRAB BARS 36"	SEE ELEVATION
9E	HORIZONTAL GRAB BAR 42"	SEE ELEVATION
10B	VERTICAL GRAB BAR 18"	40" TO CL OF BOTTOM FLANGE
12	SHOWER FAUCET WITH OFFSET CONTROLS	6'-6" TO FAUCET 3'-6" TO CONTROLS
13	SOAP DISPENSER	SEE ELEVATION
15	SURFACE-MOUNTED PAPER TOWEL DISPENSER AND TRASH RECEPTACLE	SEE ELEVATION
17	SANITARY NAPKIN DISPOSAL	SEE ELEVATION
20	SURFACE MOUNTED MEDICINE CABINET	3'-6" MAX TO BOTTOM SHELF
22	BABY CHANGING STATION	SEE ELEVATION

TYPICAL BATHROOM DETAILS

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BATHROOM PLANS, ELEVATIONS, & DETAILS

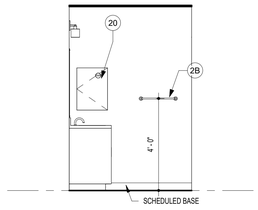
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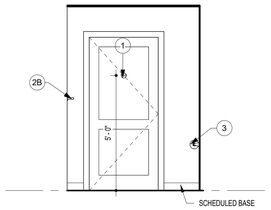
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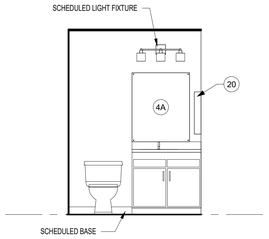
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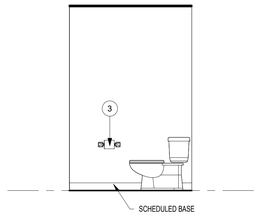
K17 BATHROOM TYPE 9 - VIEW A
3/8" = 1'-0"



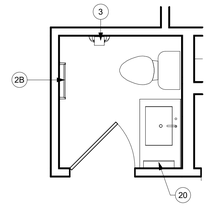
K14 BATHROOM TYPE 9 - VIEW B
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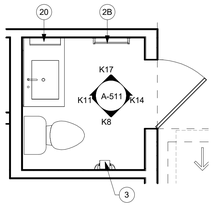
K11 BATHROOM TYPE 9 - VIEW C
3/8" = 1'-0"



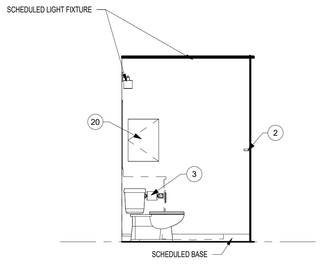
K8 BATHROOM TYPE 9 - VIEW D
3/8" = 1'-0"



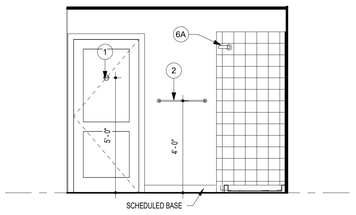
K5 BATHROOM TYPE 9 - ALT.
3/8" = 1'-0"



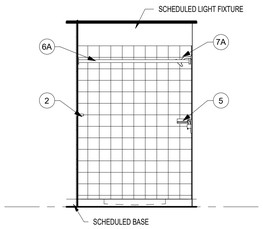
K3 BATHROOM TYPE 9
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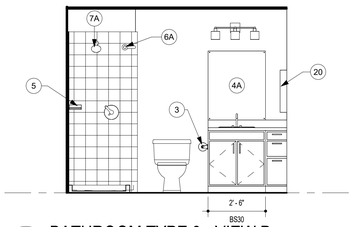
G17 BATHROOM TYPE 8 - VIEW A
3/8" = 1'-0"



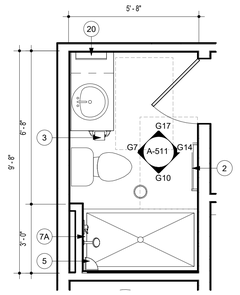
G14 BATHROOM TYPE 8 - VIEW B
3/8" = 1'-0"



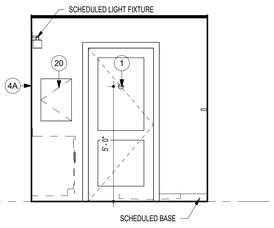
G10 BATHROOM TYPE 8 - VIEW C
3/8" = 1'-0"



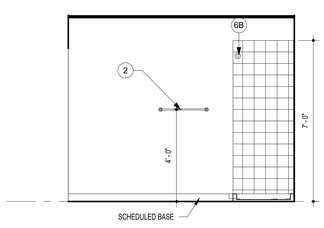
G7 BATHROOM TYPE 8 - VIEW D
3/8" = 1'-0"



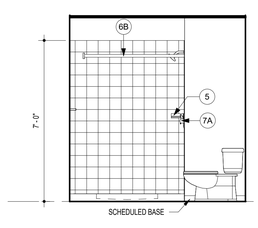
G4 BATHROOM TYPE 8
3/8" = 1'-0"



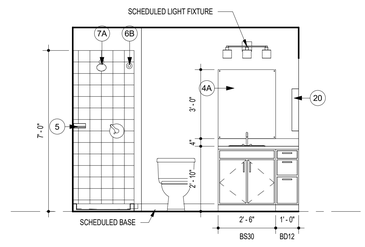
D17 BATHROOM TYPE 7 - VIEW A
3/8" = 1'-0"



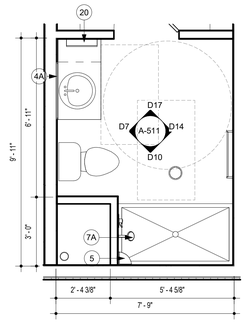
D14 BATHROOM TYPE 7 - VIEW B
3/8" = 1'-0"



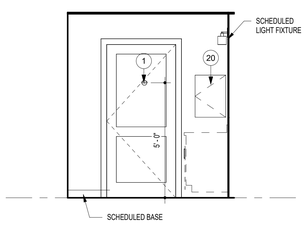
D10 BATHROOM TYPE 7 - VIEW C
3/8" = 1'-0"



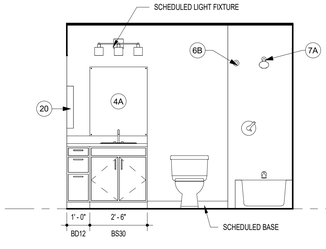
D7 BATHROOM TYPE 7 - VIEW D
3/8" = 1'-0"



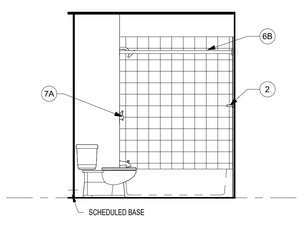
D4 BATHROOM TYPE 7
3/8" = 1'-0"



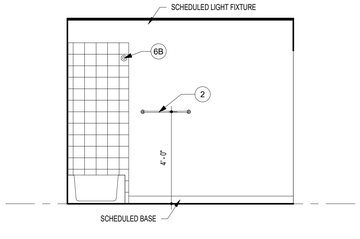
A17 BATHROOM TYPE 6 - VIEW A
3/8" = 1'-0"



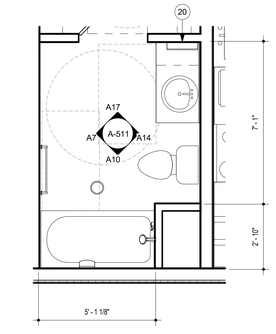
A14 BATHROOM TYPE 6 - VIEW B
3/8" = 1'-0"



A10 BATHROOM TYPE 6 - VIEW C
3/8" = 1'-0"



A7 BATHROOM TYPE 6 - VIEW D
3/8" = 1'-0"



A4 BATHROOM TYPE 6
3/8" = 1'-0"

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BATHROOM PLANS, ELEVATIONS, & DETAILS

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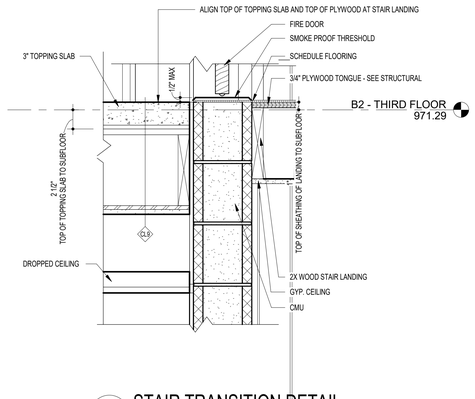
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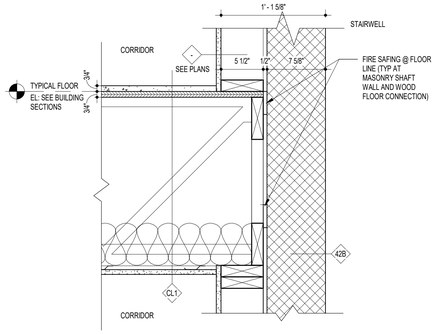
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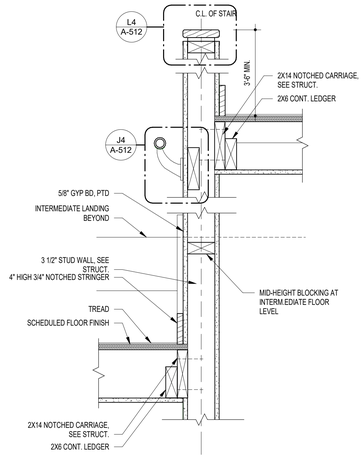
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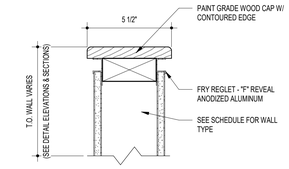
J16 STAIR TRANSITION DETAIL
1 1/2" = 1'-0"



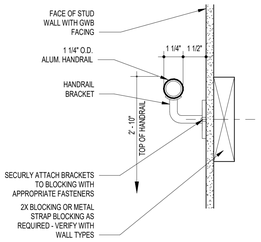
J11 SECTION - FLOOR/ CELING ASSEMBLY
1 1/2" = 1'-0"



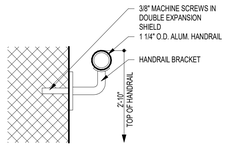
J5 WOOD STAIRS DETAIL AT CENTER WALL - GWB
1 1/2" = 1'-0"



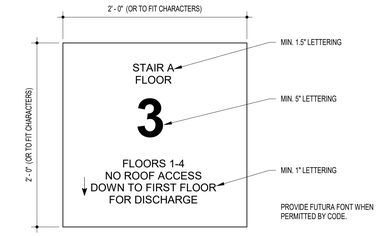
L4 WOOD CAP @ STAIR LOW WALL
3" = 1'-0"



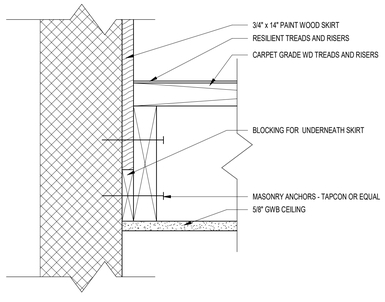
J4 HANDRAIL DETAIL @ GWB WALL
3" = 1'-0"



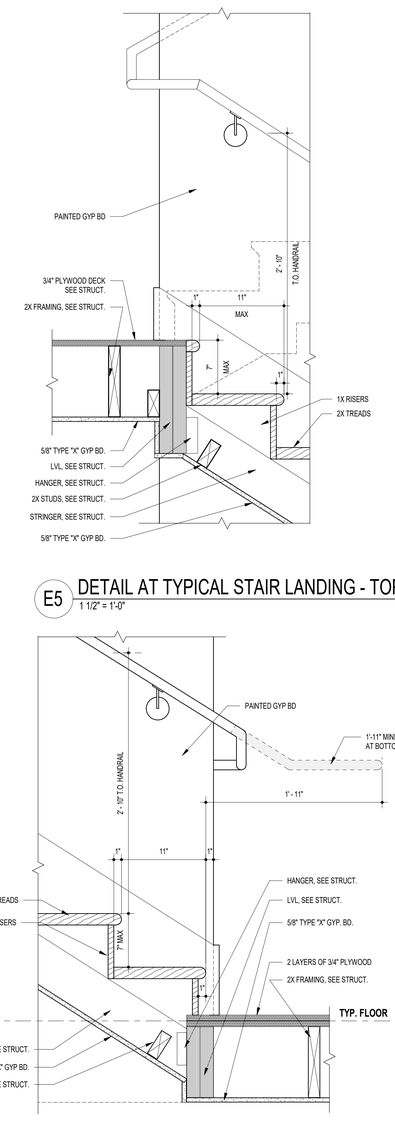
G11 HANDRAIL @ MASONRY WALL
3" = 1'-0"



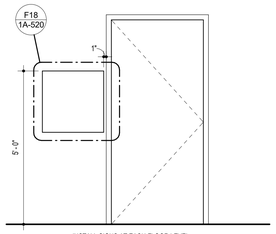
G5 STAIR SIGNAGE LETTERING DETAIL B2-B3
1 1/2" = 1'-0"



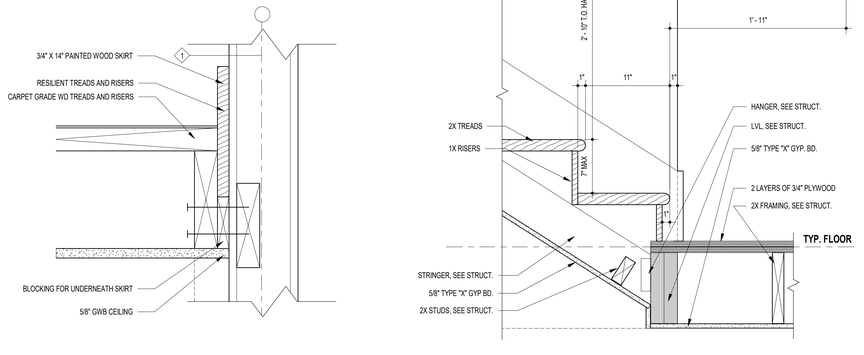
E11 WOOD STAIR AT WALL - CMU
3" = 1'-0"



E5 DETAIL AT TYPICAL STAIR LANDING - TOP
1 1/2" = 1'-0"



D4 STAIR SIGNAGE MOUNTING DETAIL B2-B3
1/2" = 1'-0"



A11 WOOD STAIR DETAIL AT WALL - GWB
3" = 1'-0"

A5 DETAIL AT TYPICAL STAIR LANDING - BOTTOM
1 1/2" = 1'-0"

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STAIR DETAILS

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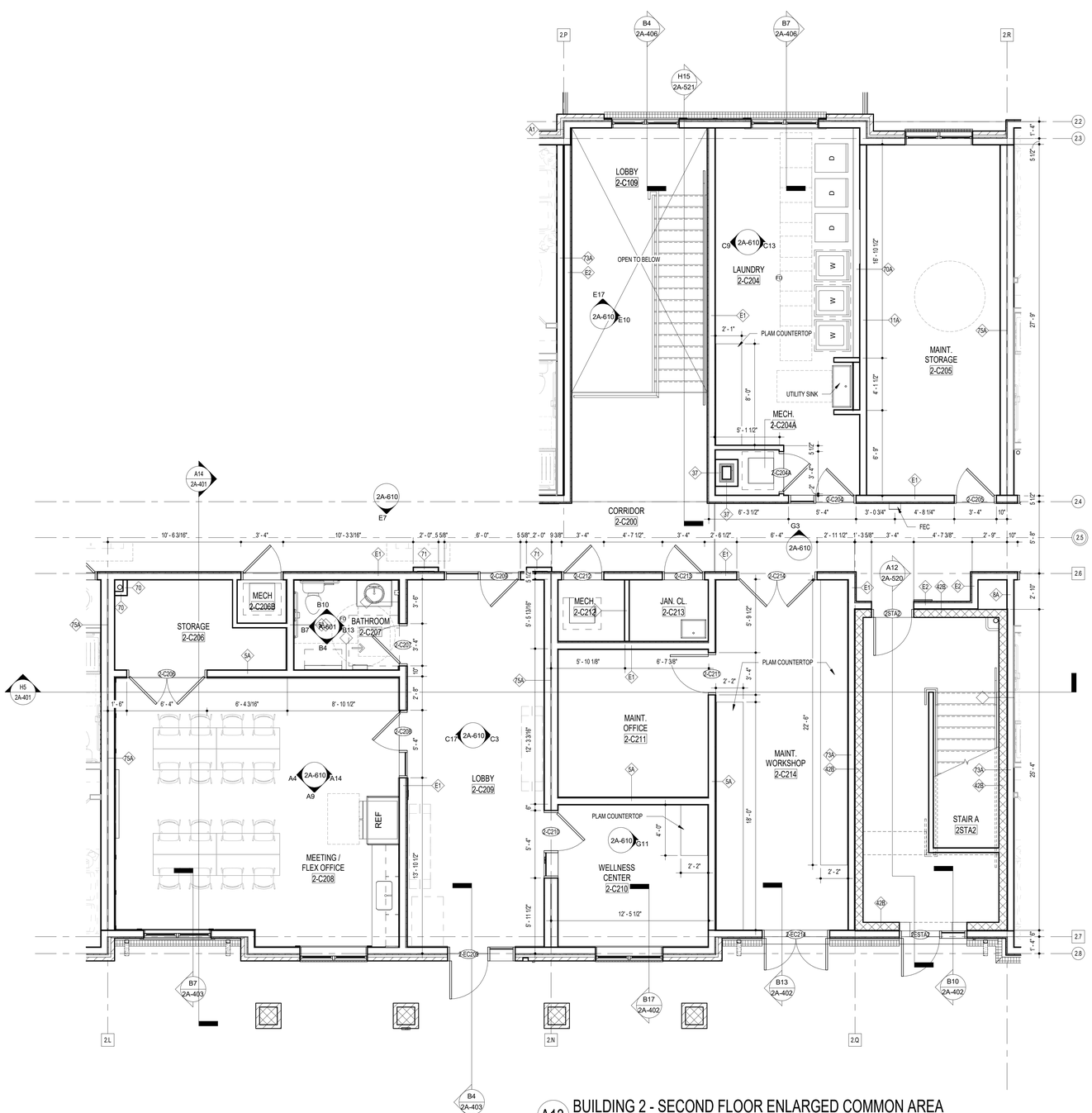
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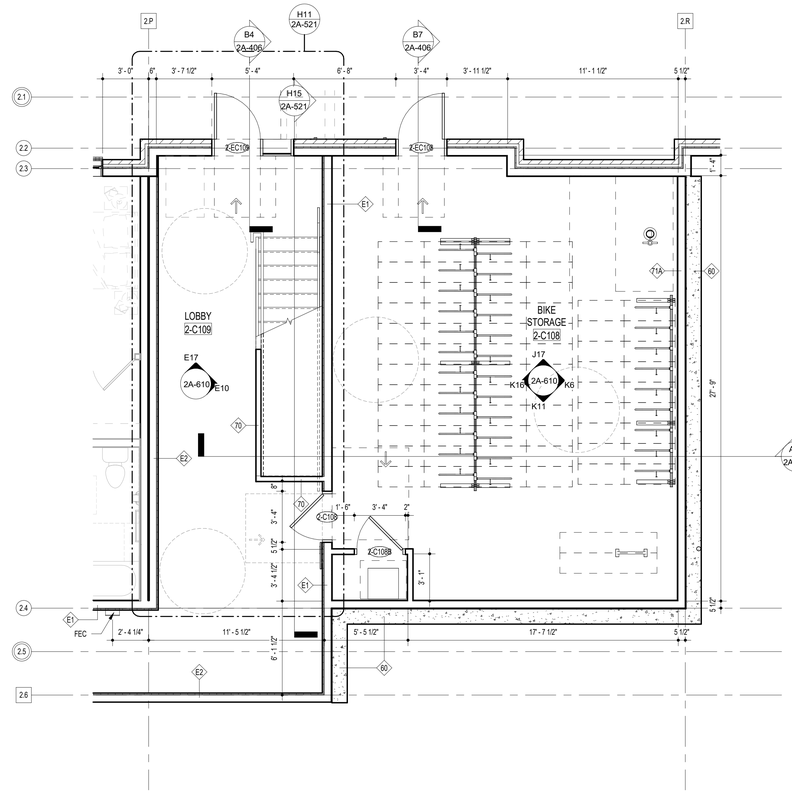
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A13 BUILDING 2 - SECOND FLOOR ENLARGED COMMON AREA
1/4" = 1'-0"



E5 BUILDING 2 - FIRST FLOOR ENLARGED COMMON AREA
1/4" = 1'-0"

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BUILDING 2 ENLARGED COMMON AREA PLANS

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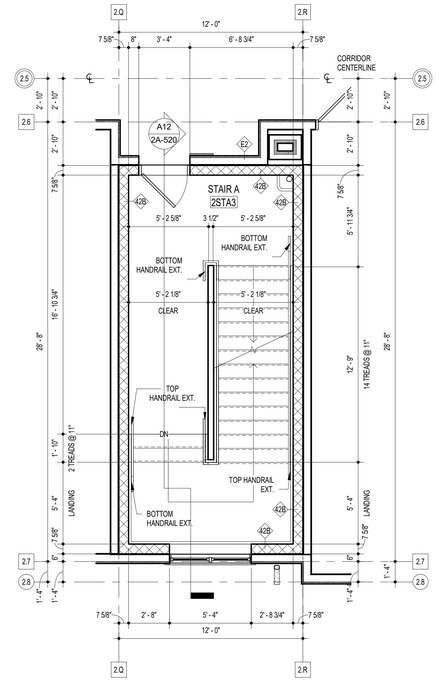
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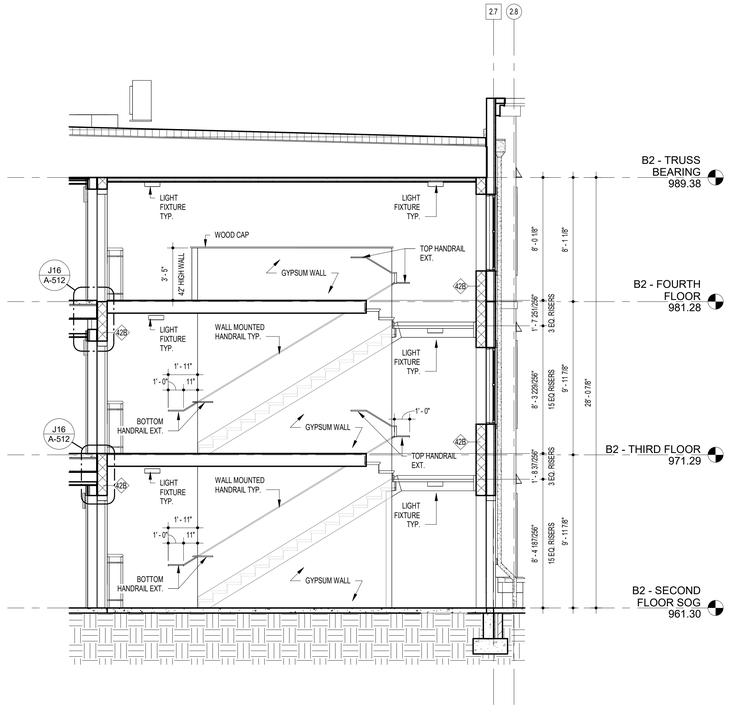
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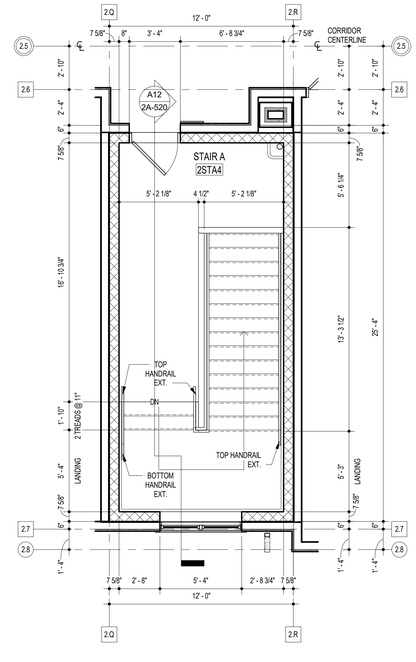
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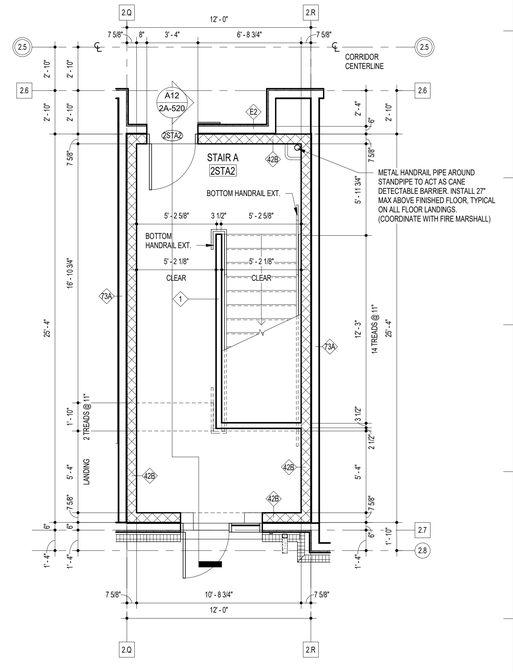
G4 B2 - STAIR A - THIRD FLOOR
1/4" = 1'-0"



A12 B2 - STAIR A SECTION
1/4" = 1'-0"



a7 B2 - STAIR A - FOURTH FLOOR
1/4" = 1'-0"



A4 B2 - STAIR A - SECOND FLOOR
1/4" = 1'-0"

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BUILDING 2 STAIR A PLANS, SECTIONS, AND DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

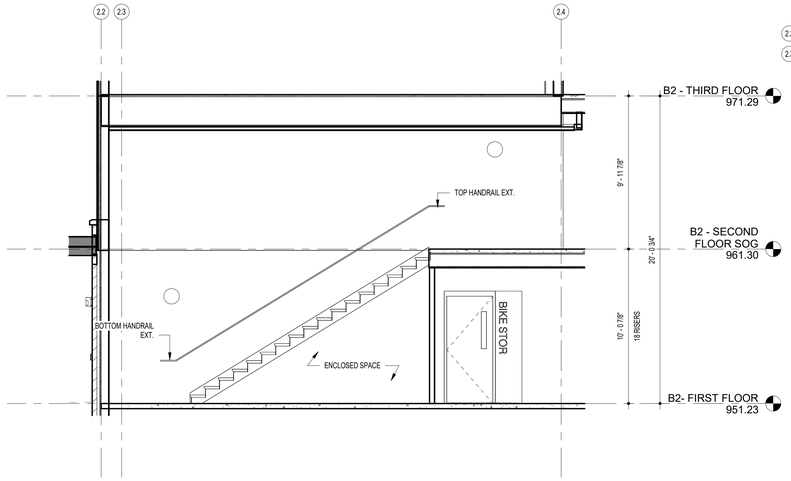
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2A-520

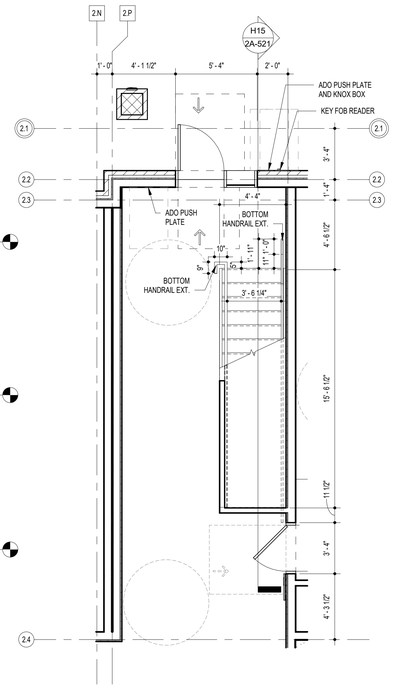
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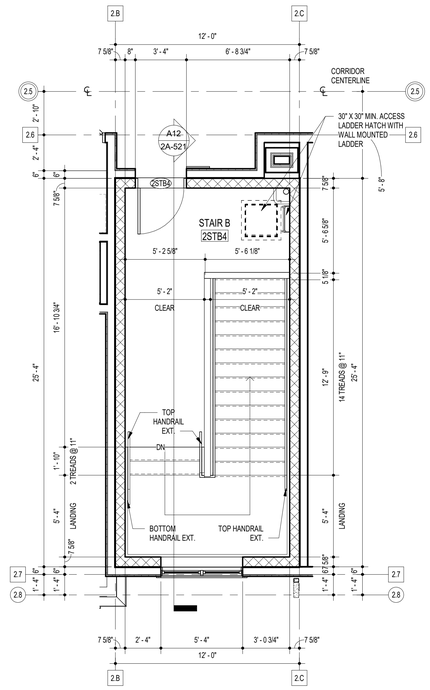
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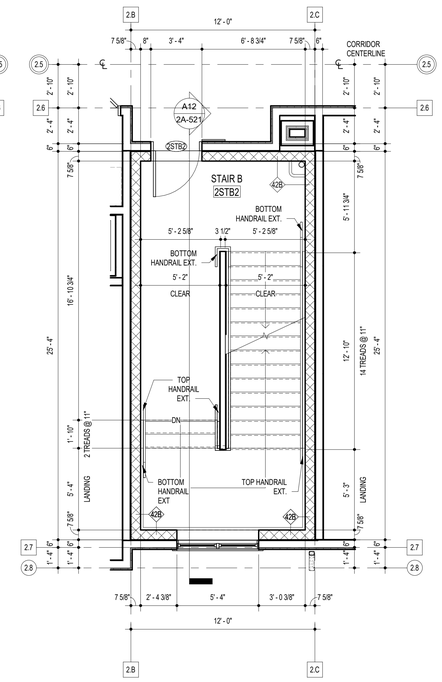
H15 B2 - STAIR C - SECTION
1/4" = 1'-0"



H11 B2 - STAIR C - FIRST FLOOR PLAN
1/4" = 1'-0"

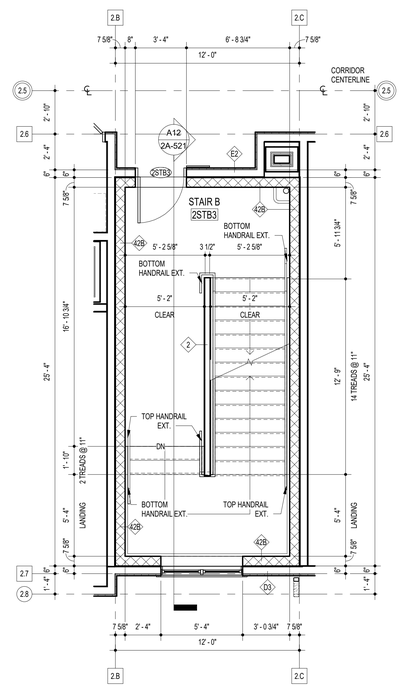


G7 B2 - STAIR B - FOURTH FLOOR PLAN
1/4" = 1'-0"

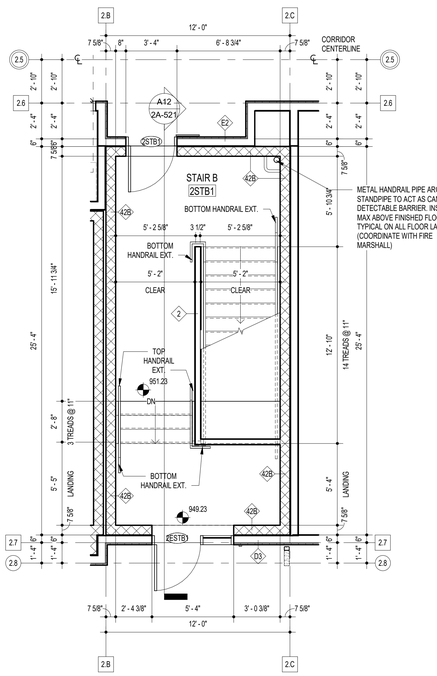


G4 B2 - STAIR B - SECOND FLOOR PLAN
1/4" = 1'-0"

A12 B2 - STAIR B SECTION
1/4" = 1'-0"



A7 B2 - STAIR B - THIRD FLOOR PLAN
1/4" = 1'-0"



A4 B2 - STAIR B - FIRST FLOOR PLAN
1/4" = 1'-0"

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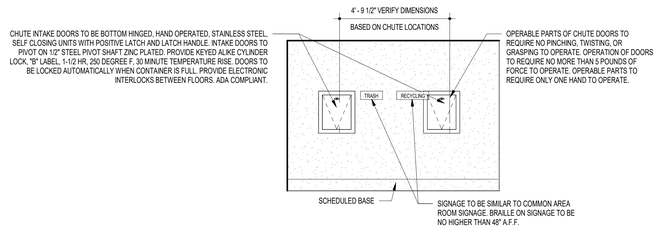
BUILDING 2 STAIR B AND C PLANS, SECTIONS, AND DETAILS
ROANOKE GATEWAY
ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW	

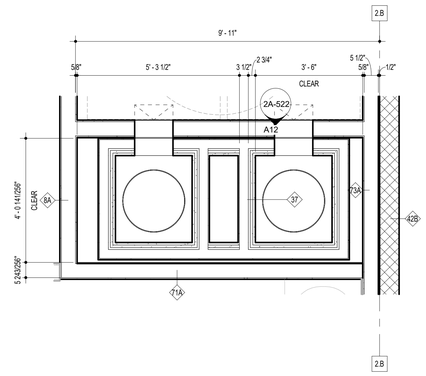
2A-521
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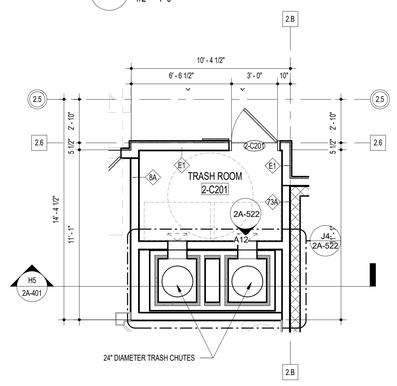
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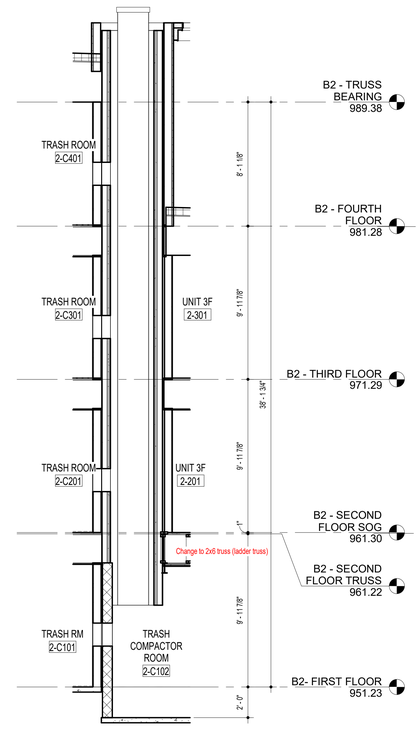
A12 TRASH ROOM ELEVATION - TYPICAL FLOOR
3/8" = 1'-0"



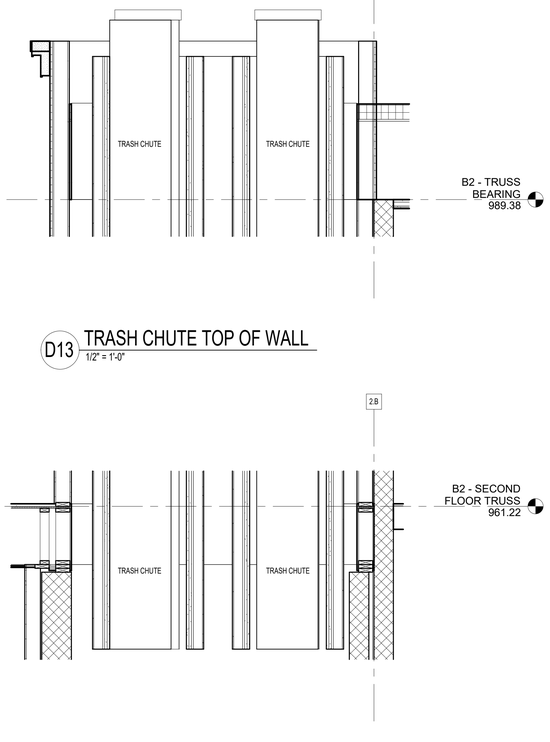
J4 B2 - TRASH CHUTES ENLARGED PLAN
1/2" = 1'-0"



G4 B2-TRASH ROOM - TYPICAL FLOOR
1/4" = 1'-0"

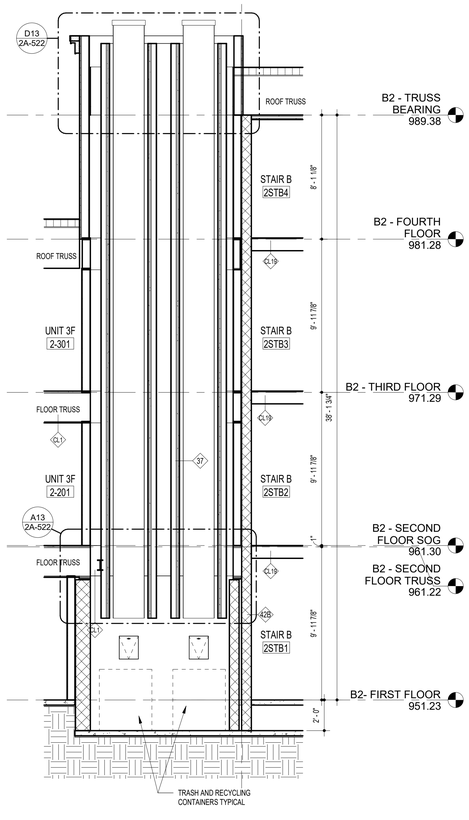


A17 B2 TRASH CHUTE CROSS SECTION
1/4" = 1'-0"

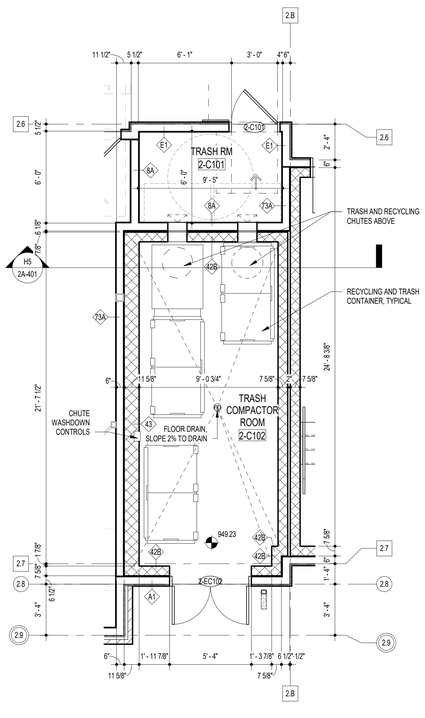


D13 TRASH CHUTE TOP OF WALL
1/2" = 1'-0"

A13 TRASH CHUTE BOTTOM SUPPORT DETAIL
1/2" = 1'-0"



A9 TRASH CHUTE SECTION
1/4" = 1'-0"



A4 B2- TRASH COMPACTOR ROOM
1/4" = 1'-0"

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TRASH ROOM PLANS, SECTIONS, AND DETAILS

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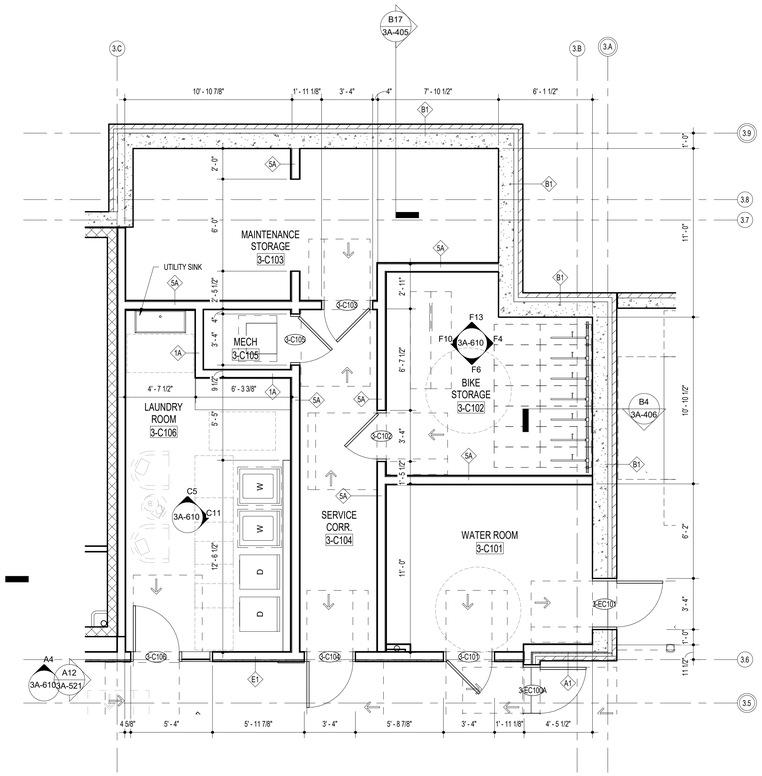
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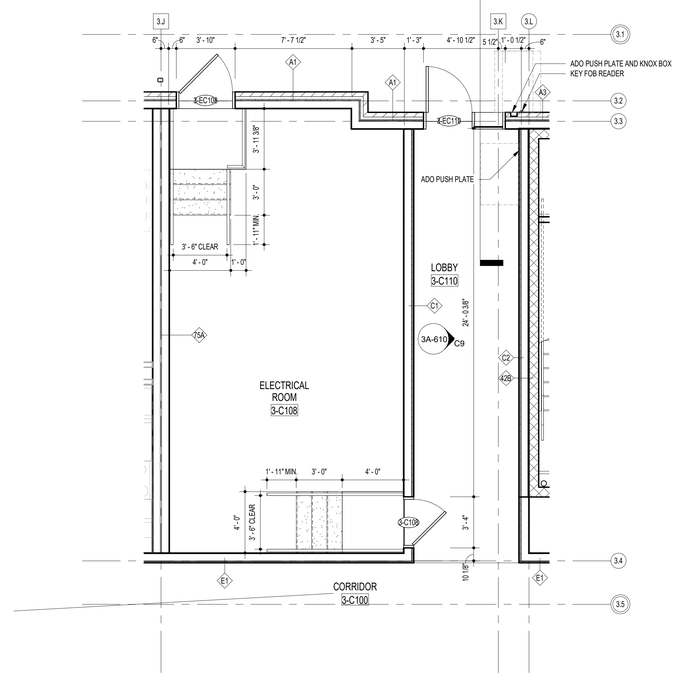
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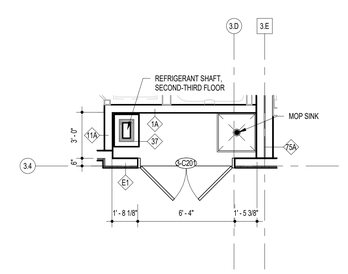
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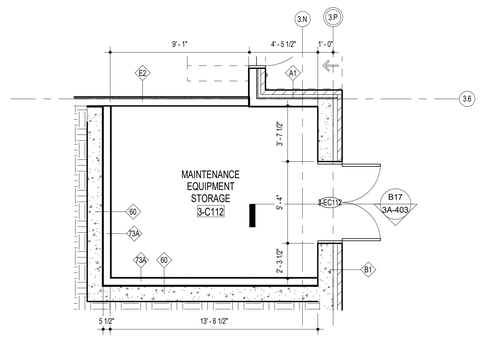
A14 LAUNDRY / BIKE / WATER / MAINT STOR - FIRST FLOOR
1/4" = 1'-0"



A9 ENLARGED ELEC / TELE DATA / LOBBY PLAN - FIRST FLOOR
1/4" = 1'-0"



D4 B3 - FIRST-3RD FLOOR - JAN. CLOSET
1/4" = 1'-0"



A4 ENLARGED GAS STORAGE ROOM PLAN
1/4" = 1'-0"

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BUILDING 3 ENLARGED FLOOR PLANS

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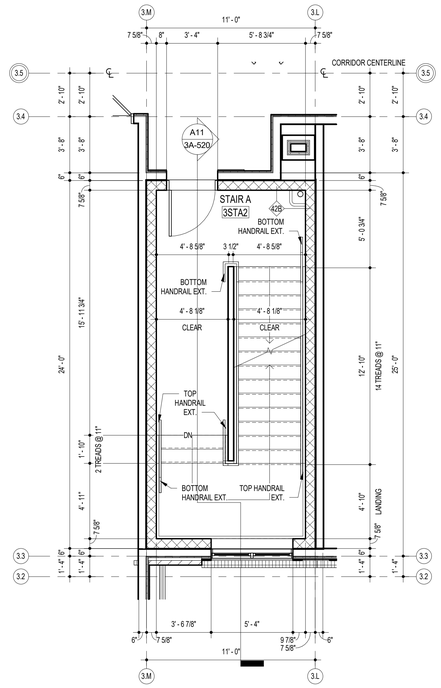
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3A-515

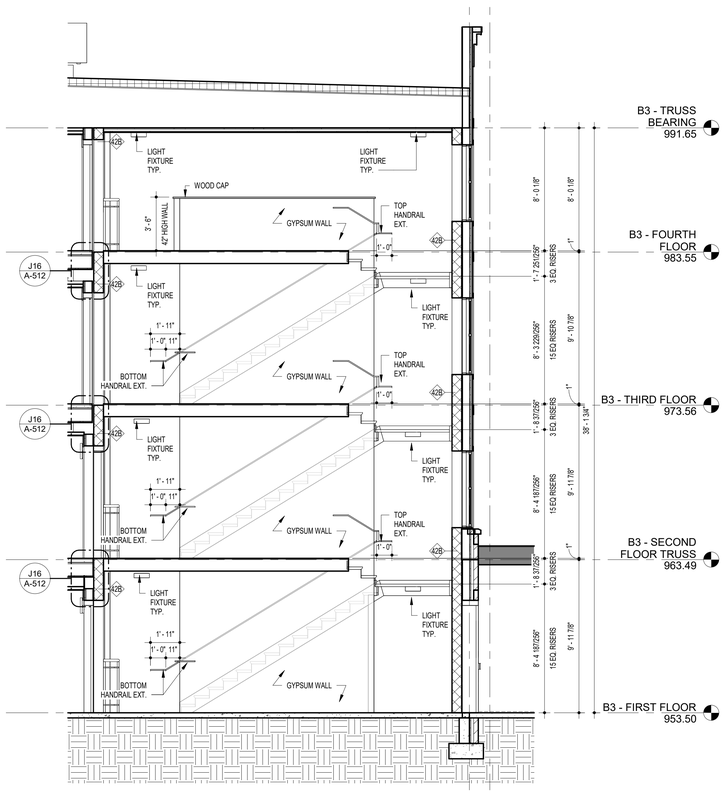
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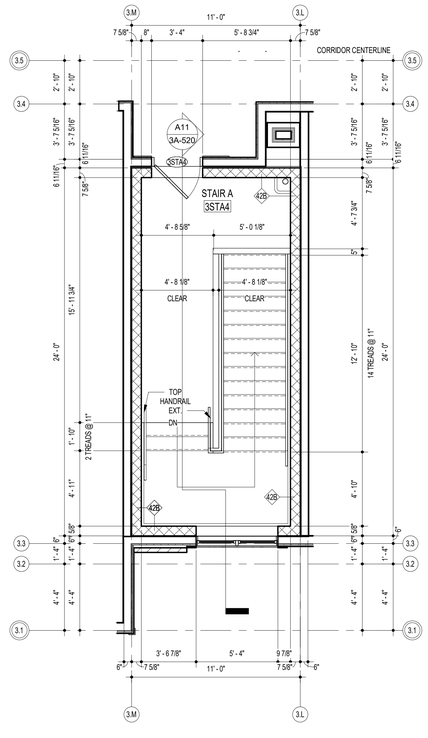
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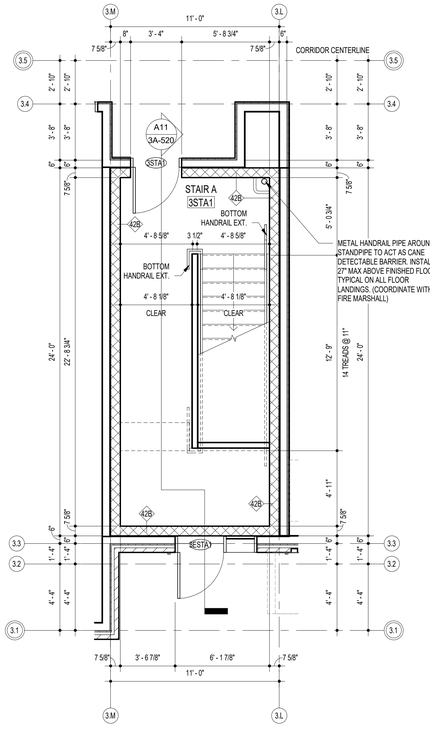
G4 B3 - STAIR A - SECOND AND THIRD FLOOR
1/4" = 1'-0"



A11 B3 - STAIR A - SECTION
1/4" = 1'-0"



A8 B3 - STAIR A - FOURTH FLOOR
1/4" = 1'-0"



A4 B3 - STAIR A - FIRST FLOOR
1/4" = 1'-0"

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BUILDING 3 STAIR A PLANS, SECTIONS, AND DETAILS

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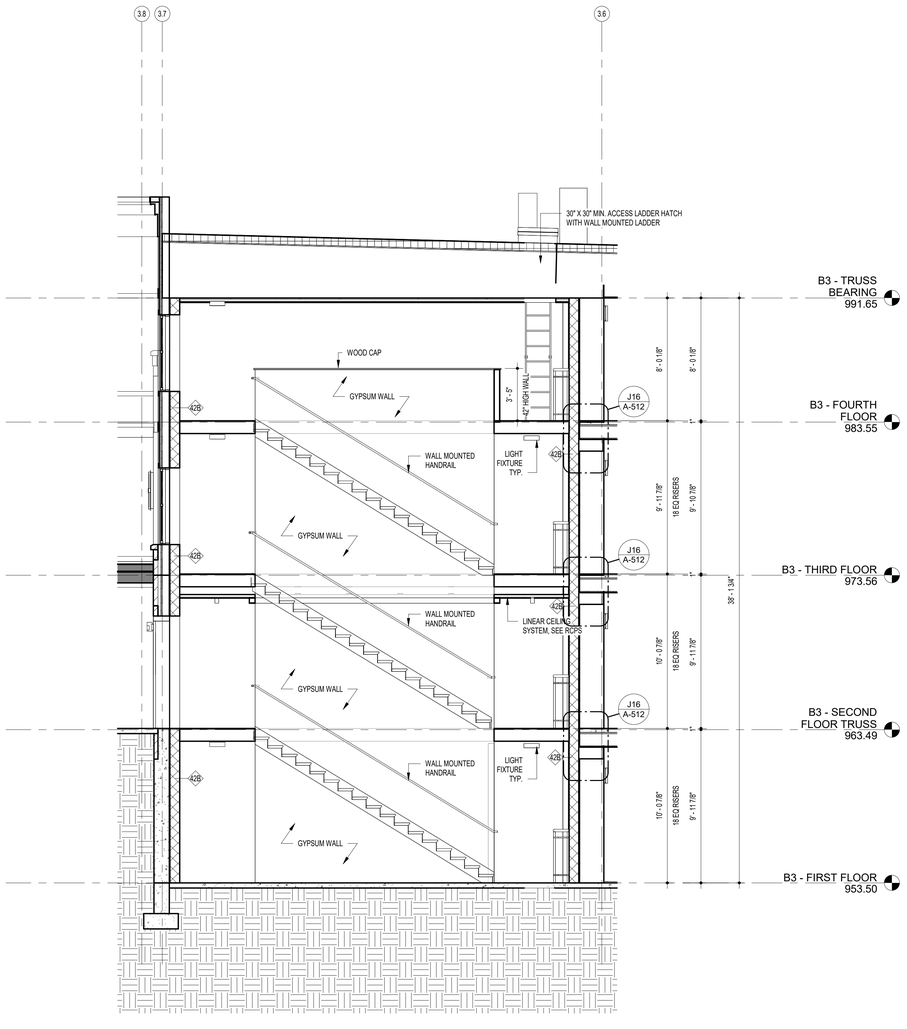
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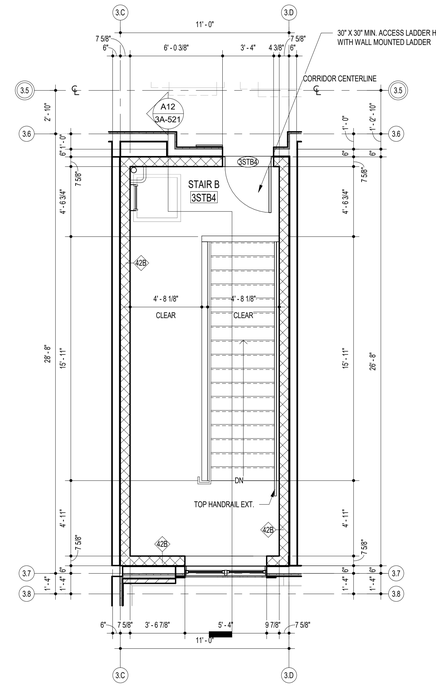
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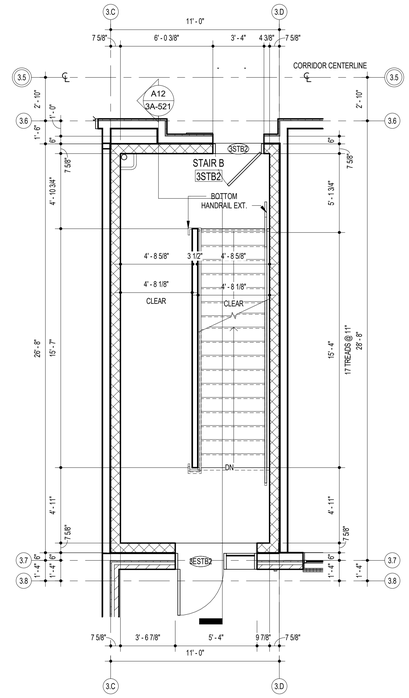
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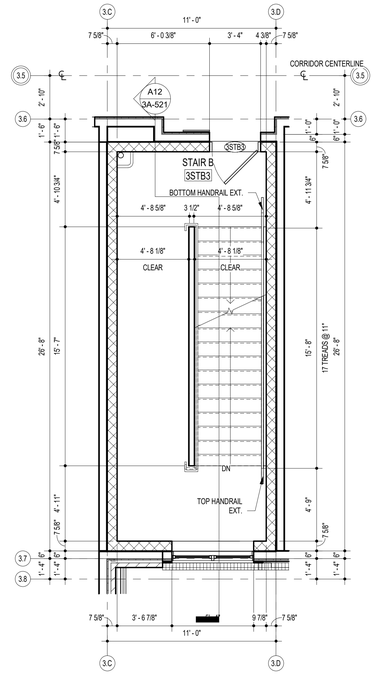
A12 B3 - STAIR B SECTION
1/4" = 1'-0"



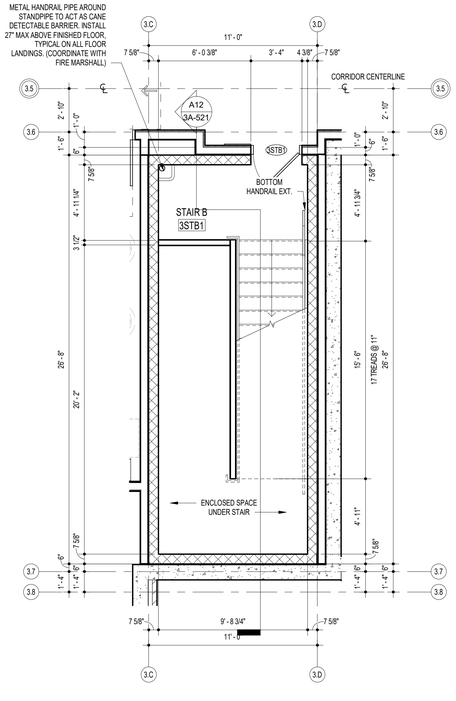
G8 B3 - STAIR B - FOURTH FLOOR
1/4" = 1'-0"



G4 B3 - STAIR B - SECOND FLOOR
1/4" = 1'-0"



A8 B3 - STAIR B - THIRD FLOOR
1/4" = 1'-0"



A4 B3 - STAIR B - FIRST FLOOR
1/4" = 1'-0"

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BUILDING 3 STAIR B PLANS, SECTIONS, AND DETAILS

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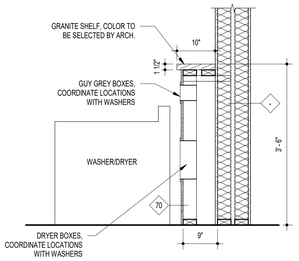
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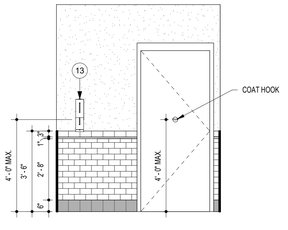
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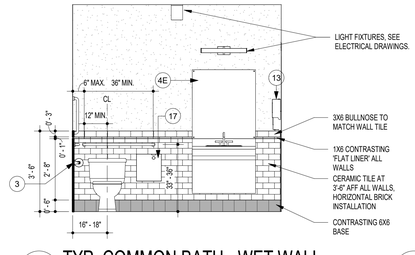
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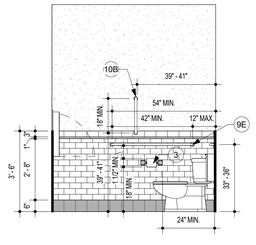
D4 SHELF DETAIL AT COMMON LAUNDRY
3/4" = 1'-0"



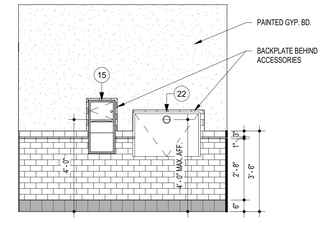
B13 TYP. COMMON BATH - ELEV D
3/8" = 1'-0"



B10 TYP. COMMON BATH - WET WALL
3/8" = 1'-0"



B7 TYP. COMMON BATH - ELEV B
3/8" = 1'-0"



B4 B1 RESTROOM ELEVATION 1
3/8" = 1'-0"

WHEN INSTALLING WALL-HUNG SINKS (COMMON AREAS ONLY), PROVIDE CONCEALED ARM TYPE CARRIERS.

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TYPICAL COMMON INTERIOR ELEVATIONS AND DETAILS

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ROANOKE, VA 24022

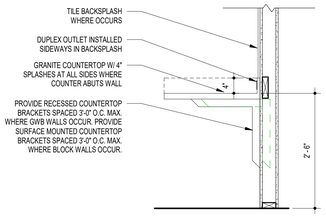
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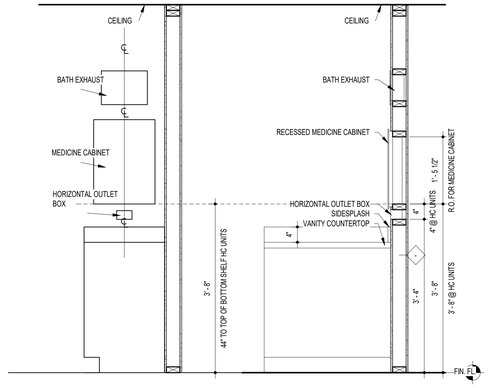
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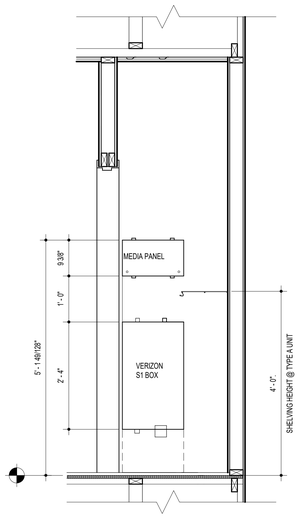
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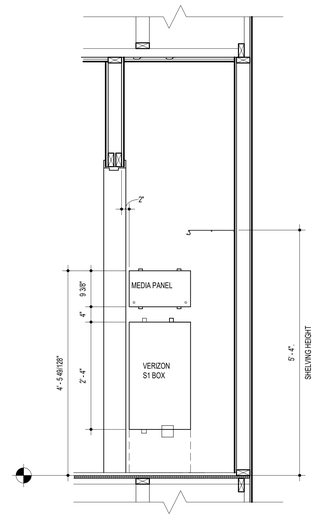
J8 SECTION AT WORK COUNTERS
3/4" = 1'-0"



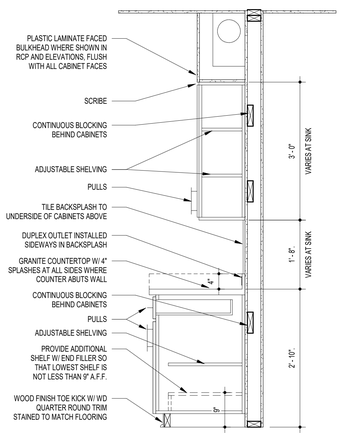
J4 MEDICINE CABINET/ BATH EXHAUST MOUNTING DETAIL
3/4" = 1'-0"



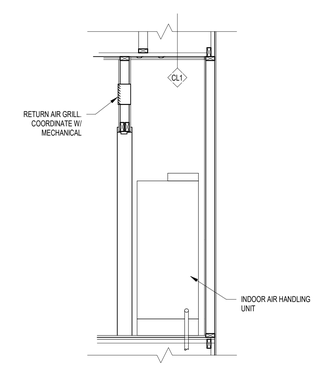
E8 UNIT MEDIA CLOSET ELEVATION - TYPE A UNIT
3/4" = 1'-0"



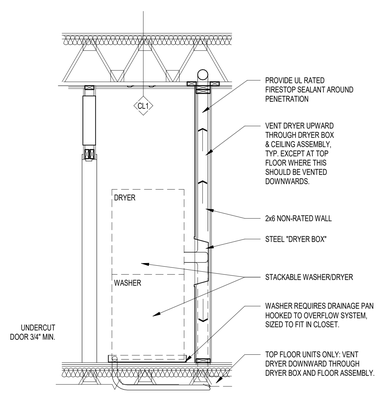
E4 UNIT MEDIA CLOSET ELEVATION
3/4" = 1'-0"



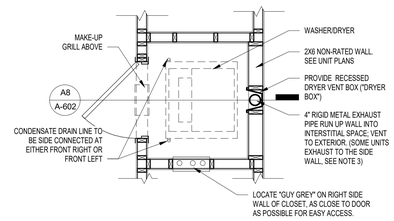
A15 CABINET SECTION AT COMMUNITY RMS
3/4" = 1'-0"



A12 UNITS - MECHANICAL CLOSET SECTION
1/2" = 1'-0"



A8 UNITS - LAUNDRY CLOSET SECTION
1/2" = 1'-0"



RESIDENTIAL UNIT CLOTHES DRYER NOTES:

1. REFER TO UNIT PLANS FOR DIMENSIONS OF LAUNDRY CLOSETS.
2. REFER TO MECHANICAL DRAWINGS FOR ACTUAL LOCATION OF "GUY GREY BOX" AND DRYER EXHAUST WALL.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATION OF 2x6 PLUMBING WALLS AS UNITS FLIP (BECOME OPPOSITE HAND) ON PLANS, REFER TO 1/8" SCALE PLANS.
4. UNITS ON LOWER LEVEL FLOORS: DRYER EXHAUST MUST GO INTO NON-RATED WALL IN UNIT, RUN UP THROUGH DOUBLE TOP PLATES INTO FLOOR/CEILING ASSEMBLY AND MUST BE VENTED TO THE OUTDOORS.
5. UNITS ON TOP FLOOR: DRYER EXHAUST MUST GO INTO NON-RATED WALL IN UNIT, RUN DOWN THROUGH DOUBLE BOTTOM PLATES INTO FLOOR/ CEILING ASSEMBLY AND MUST BE VENTED TO THE OUTDOORS.
6. REFER TO UNIT AND FLOOR PLANS FOR DETERMINING SIDE EXHAUST KITS WHEN ORDERING DRYERS.
7. GENERAL CONTRACTOR SHALL PROVIDE RECESSED DRYER VENT BOX AT ALL LAUNDRY CLOSETS; COORDINATE MODEL # PER UPWARD/DOWNWARD EXHAUST DIRECTION.
8. GC SHALL PROVIDE OVERFLOW PAN AND FITTINGS/ ACCESSORIES.
9. GC SHALL PROVIDE STACKING RACK WHEN FULL SIZE WASHER & DRYER ARE SPECIFIED.

A4 UNITS - LAUNDRY CLOSET PLAN
1/2" = 1'-0"

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TYPICAL UNIT INTERIOR ELEVATIONS AND DETAILS

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ROANOKE, VA 24022

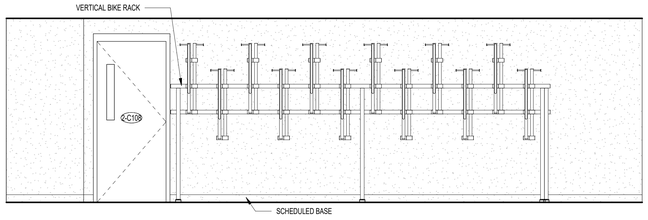
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A-602

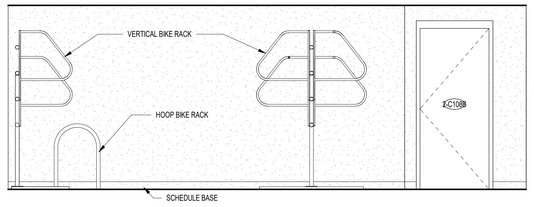
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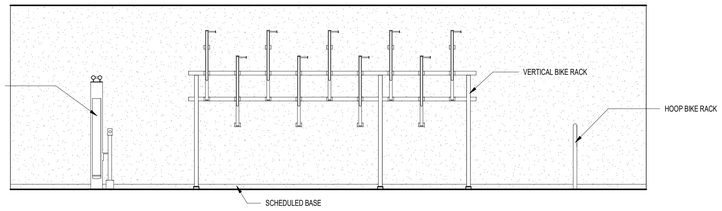
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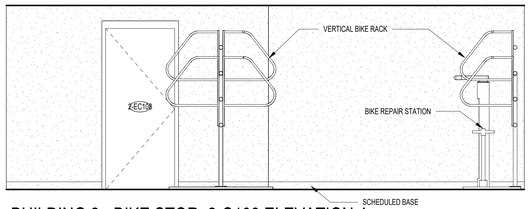
K16 BUILDING 2 - BIKE STOR. 2-C108 ELEVATION 3
3/8" = 1'-0"



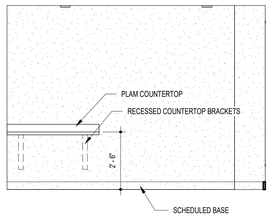
K11 BUILDING 2 - BIKE STOR. 2-C108 ELEVATION 2
3/8" = 1'-0"



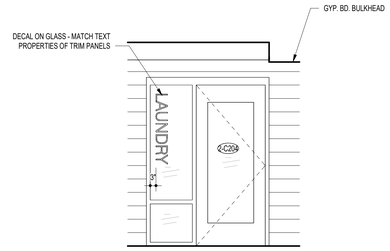
K6 BUILDING 2 - BIKE STOR. 2-C108 ELEVATION 1
3/8" = 1'-0"



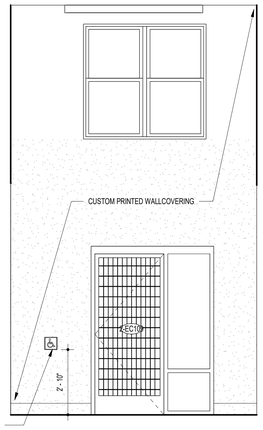
J17 BUILDING 2 - BIKE STOR. 2-C108 ELEVATION 4
3/8" = 1'-0"



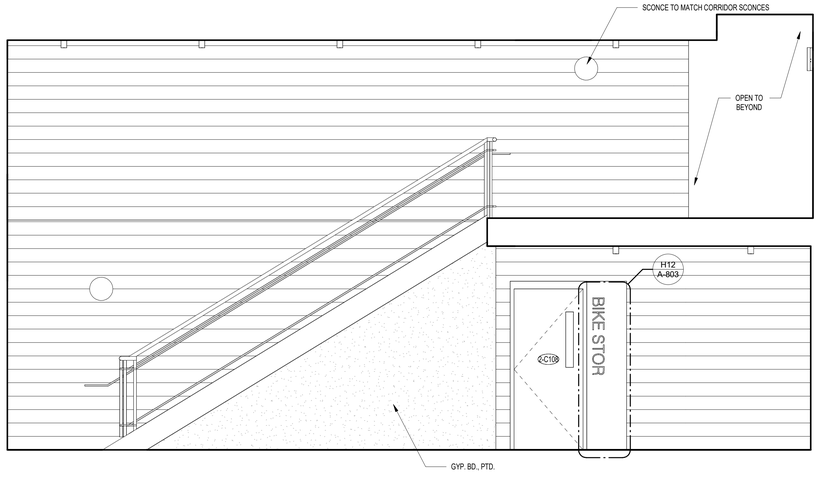
G11 BUILDING 2 - WELLNESS ROOM 2-C210 ELEVATION
3/8" = 1'-0"



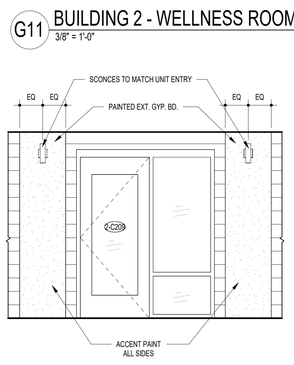
G3 PARTIAL ENTRY INTO 2-C204 LAUNDRY
3/8" = 1'-0"



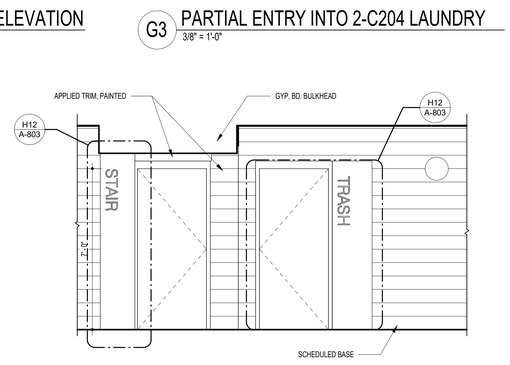
E17 ELEVATION - LOBBY
3/8" = 1'-0"



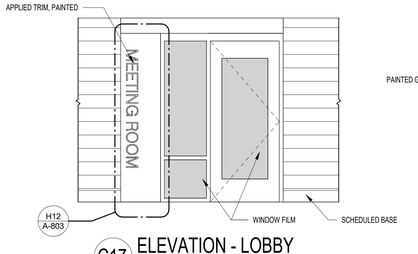
E10 ELEVATION - LOBBY
3/8" = 1'-0"



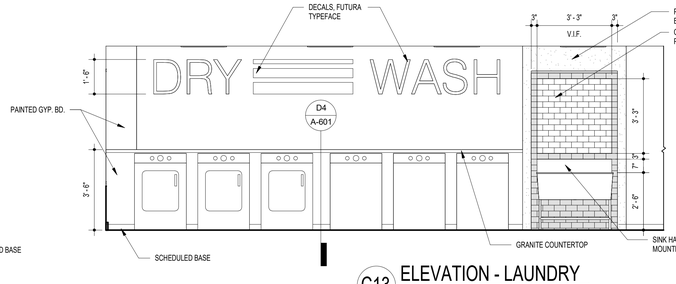
E7 PARTIAL ENTRY INTO LOBBY 2-C209
3/8" = 1'-0"



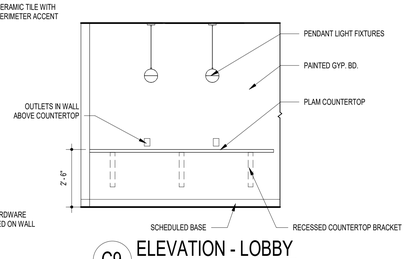
E5 TYP. ELEVATION AT BUILDING 2 STAIR B AND TRASH ROOM
3/8" = 1'-0"



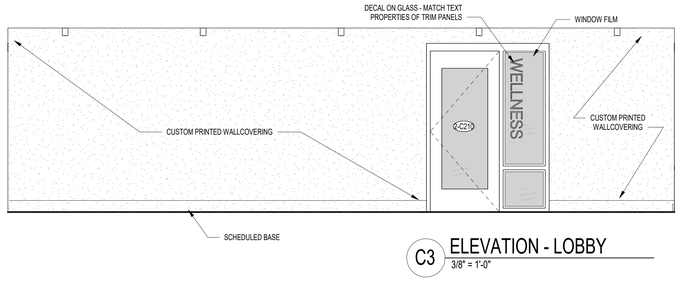
C17 ELEVATION - LOBBY
3/8" = 1'-0"



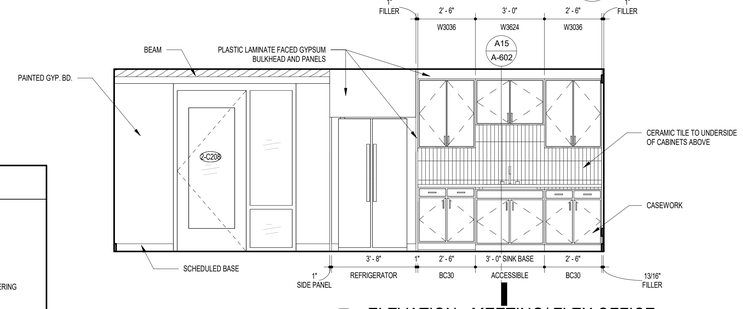
C13 ELEVATION - LAUNDRY
3/8" = 1'-0"



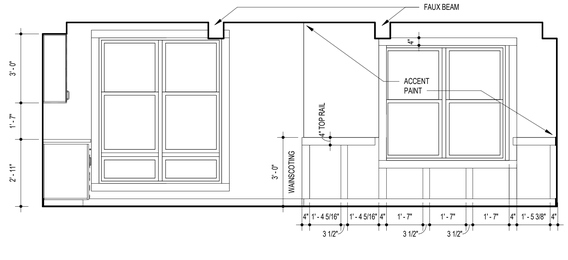
C9 ELEVATION - LOBBY
3/8" = 1'-0"



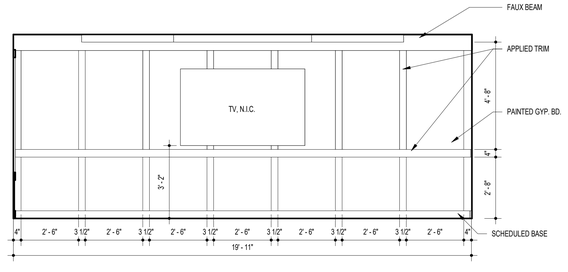
C3 ELEVATION - LOBBY
3/8" = 1'-0"



A14 ELEVATION - MEETING/ FLEX OFFICE
3/8" = 1'-0"



A9 ELEVATION - MEETING/FLEX OFFICE
3/8" = 1'-0"



A4 ELEVATION - MEETING/ FLEX OFFICE
3/8" = 1'-0"

FINISHES KEY

- WINDOW FILM
- WOOD LOOK WALLCOVERING

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BUILDING 2 COMMON INTERIOR ELEVATIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

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2A-610

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FINISHES KEY

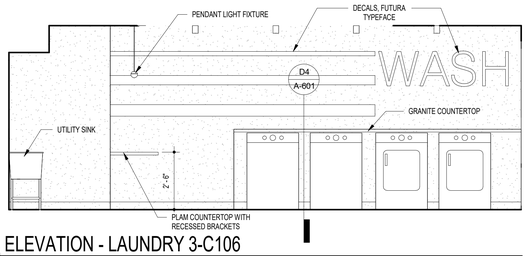
- WINDOW FILM
- WOOD LOOK WALLCOVERING

F13 B1 - BIKE STOR. 1-C117 - ELEV 4
3/8" = 1'-0"

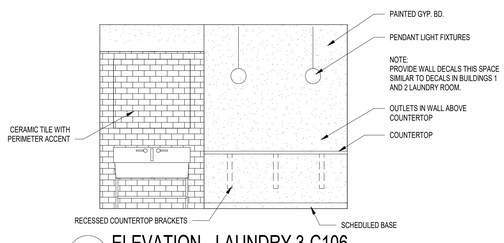
F10 B1 - BIKE STOR. 1-C117 - ELEV 3
3/8" = 1'-0"

F6 B1 - BIKE STOR. 1-C117 - ELEV 2
3/8" = 1'-0"

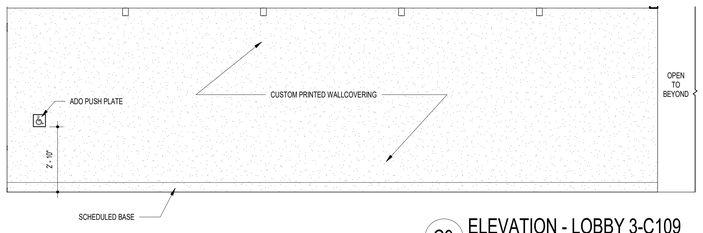
F4 B3 - BIKE STOR. 3-C102 - ELEV 1
3/8" = 1'-0"



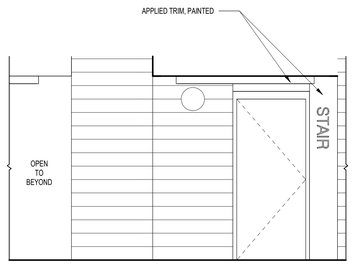
C11 ELEVATION - LAUNDRY 3-C106
3/8" = 1'-0"



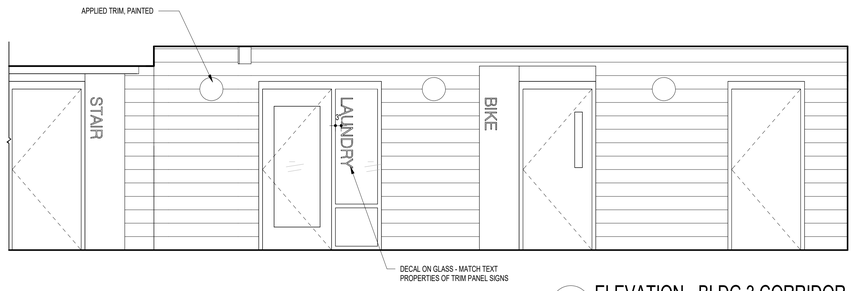
C5 ELEVATION - LAUNDRY 3-C106
3/8" = 1'-0"



C9 ELEVATION - LOBBY 3-C109
3/8" = 1'-0"



A12 ELEVATION - BUILDING 3 STAIR A
3/8" = 1'-0"



A4 ELEVATION - BLDG 3 CORRIDOR
3/8" = 1'-0"

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BUILDING 3 COMMON INTERIOR ELEVATIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

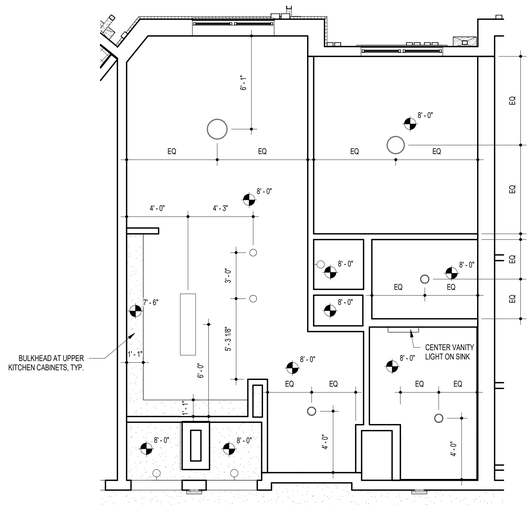
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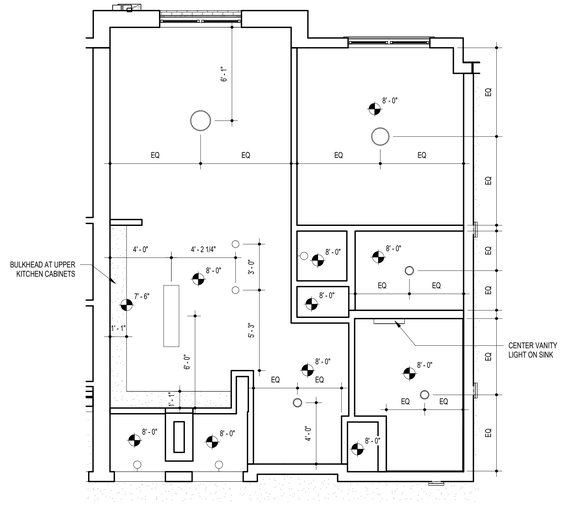
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G13 UNIT 1B RCP
1/4" = 1'-0"



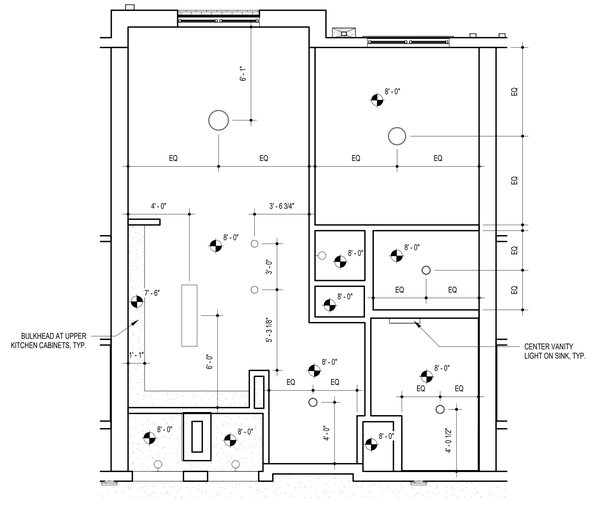
G7 UNIT 1C RCP
1/4" = 1'-0"

RCP LEGEND AND NOTES

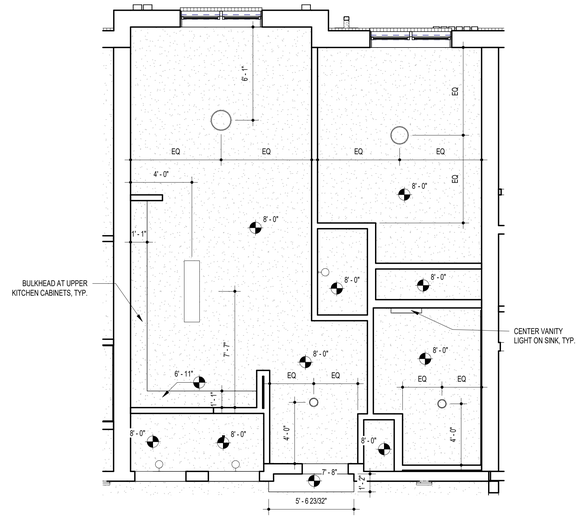
NOTES:
1. ALL CEILINGS ARE TYPE 'CL1' U.N.O.
2. ALL FINISHED CEILING HEIGHTS ARE 9'-0" AFF ON LEVEL 1 AND 8'-0" AFF ON LEVELS 2, 3, AND 4 U.N.O.
3. REFER TO ENLARGED REFLECTED CEILING PLANS FOR MORE INFORMATION ON COMMON AREA CEILINGS.
4. TYPES AND GENERAL SPACING OF SCONCES AT MAIN CORRIDORS (AT UNIT ENTRIES AND IN BETWEEN ALONG MAIN CORRIDORS) SHOWN ON THIS SHEET ARE TO BE ASSUMED TYPICAL FOR BUILDING 1 LEVELS 3 AND 4 AND FOR BUILDINGS 2 AND 3 ALL LEVELS.

LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



A13 UNIT 1A RCP
1/4" = 1'-0"



A7 UNIT 1A-HC RCP
1/4" = 1'-0"

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT REFLECTED CEILING PLANS

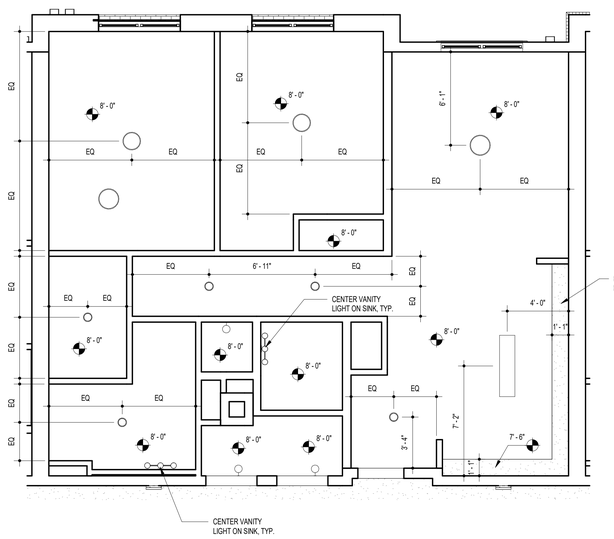
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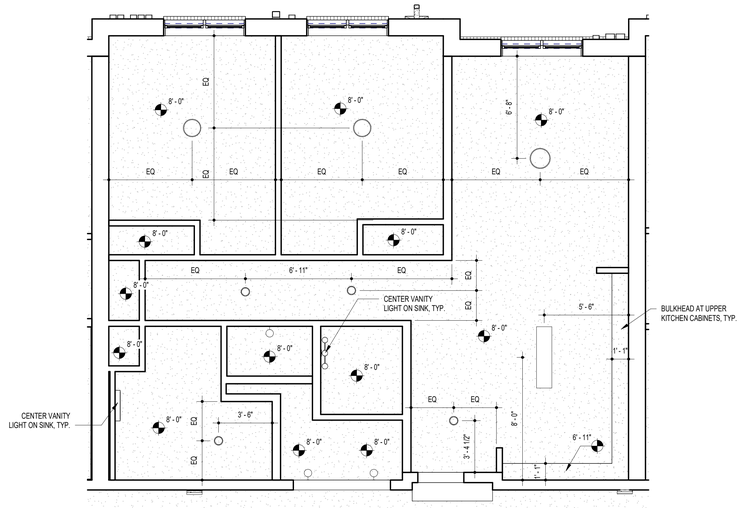
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G14 UNIT 2B RCP
1/4" = 1'-0"



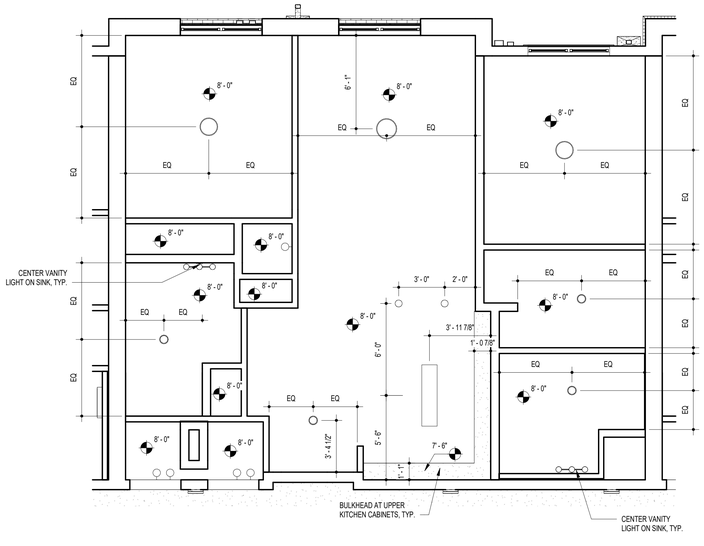
G8 UNIT 2B-HC RCP
1/4" = 1'-0"

RCP LEGEND AND NOTES

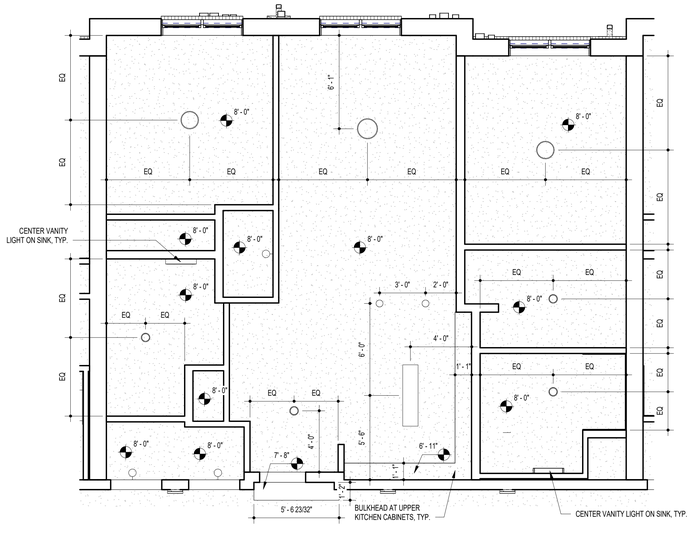
NOTES:
1. ALL CEILINGS ARE TYPE 'CL1' U.N.O.
2. ALL FINISHED CEILING HEIGHTS ARE 9'-0" AFF ON LEVEL 1 AND 8'-0" AFF ON LEVELS 2, 3, AND 4 U.N.O.
3. REFER TO ENLARGED REFLECTED CEILING PLANS FOR MORE INFORMATION ON COMMON AREA CEILINGS.
4. TYPES AND GENERAL SPACING OF SCONCES AT MAIN CORRIDORS (AT UNIT ENTRIES AND IN BETWEEN ALONG MAIN CORRIDORS) SHOWN ON THIS SHEET ARE TO BE ASSUMED TYPICAL FOR BUILDING 1 LEVELS 3 AND 4 AND FOR BUILDINGS 2 AND 3 ALL LEVELS.

LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



A14 UNIT 2A RCP
1/4" = 1'-0"



A8 UNIT 2A-HC RCP
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT REFLECTED CEILING PLANS

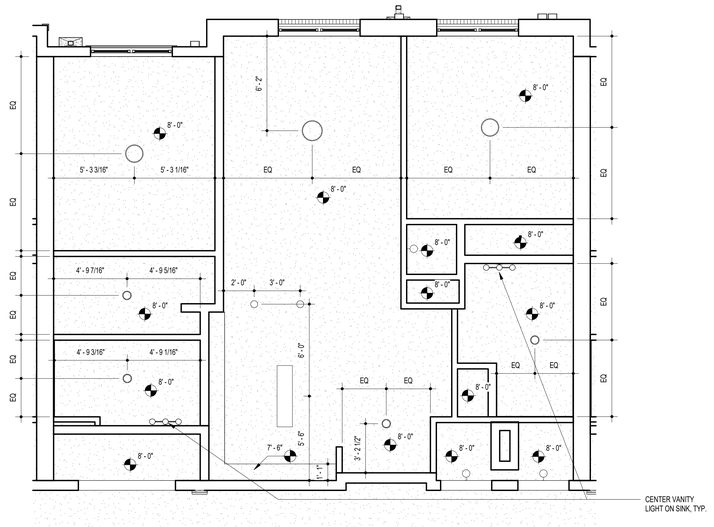
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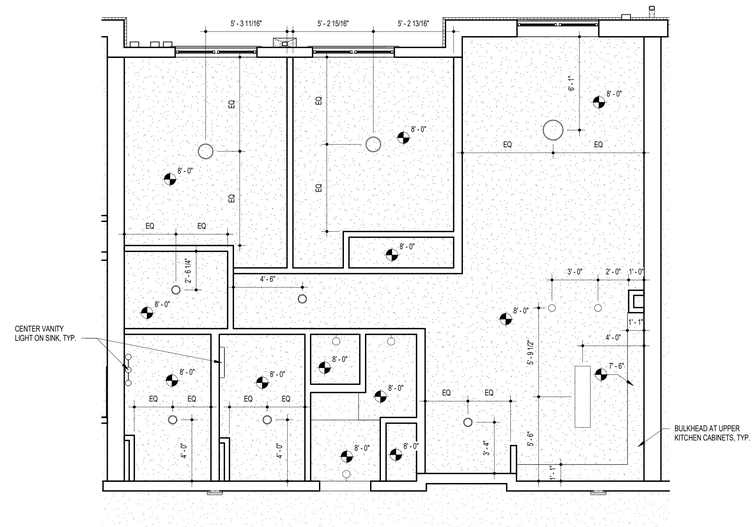
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G15 UNIT 2F RCP
1/4" = 1'-0"



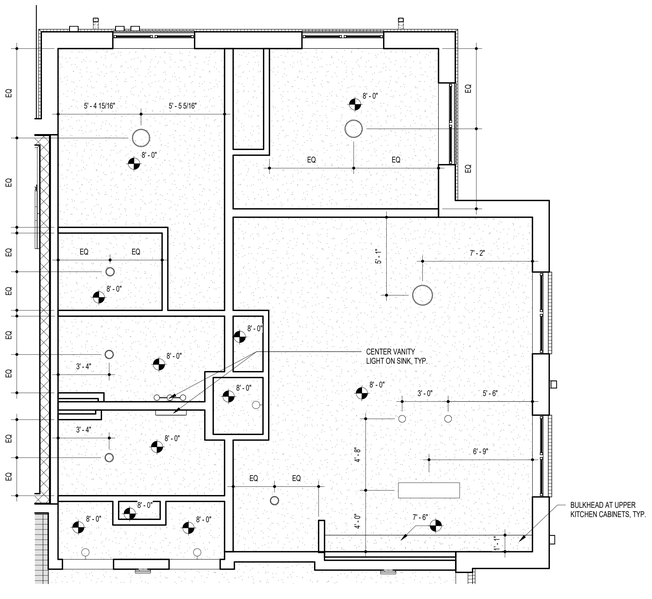
G8 UNIT 2E RCP
1/4" = 1'-0"

RCP LEGEND AND NOTES

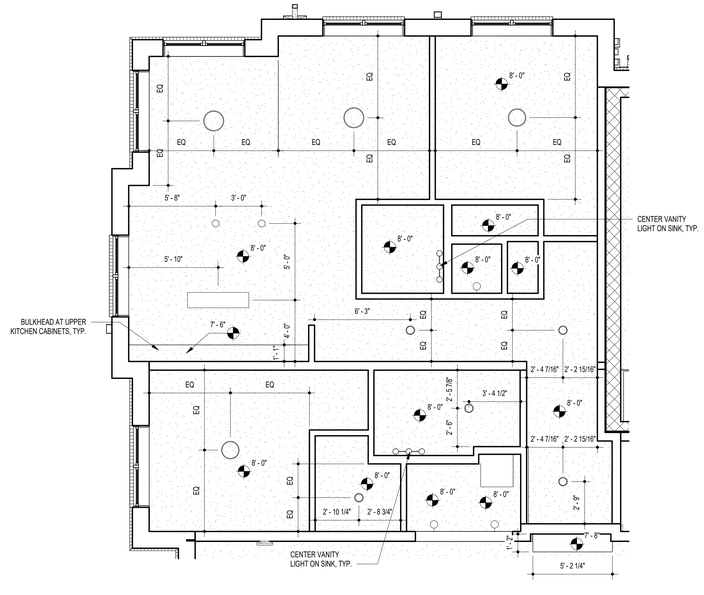
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LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
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- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
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- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



A14 UNIT 2D RCP
1/4" = 1'-0"



A8 UNIT 2C RCP
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT REFLECTED CEILING PLANS

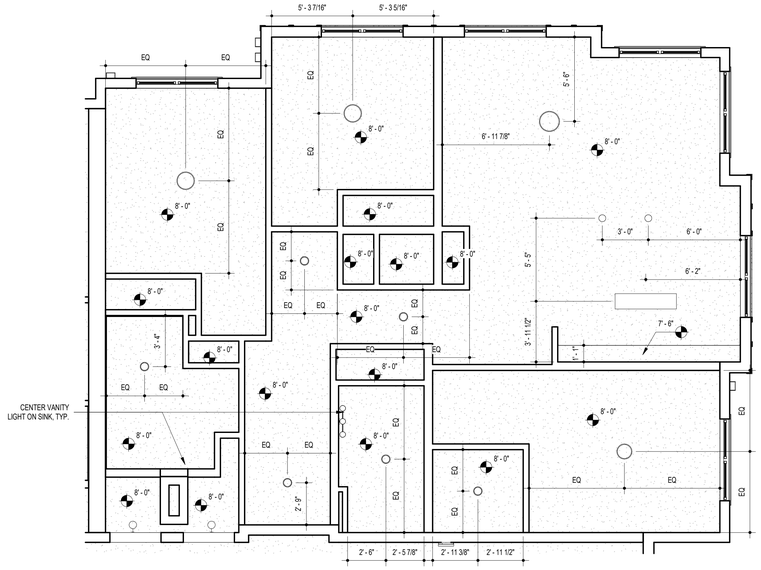
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ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

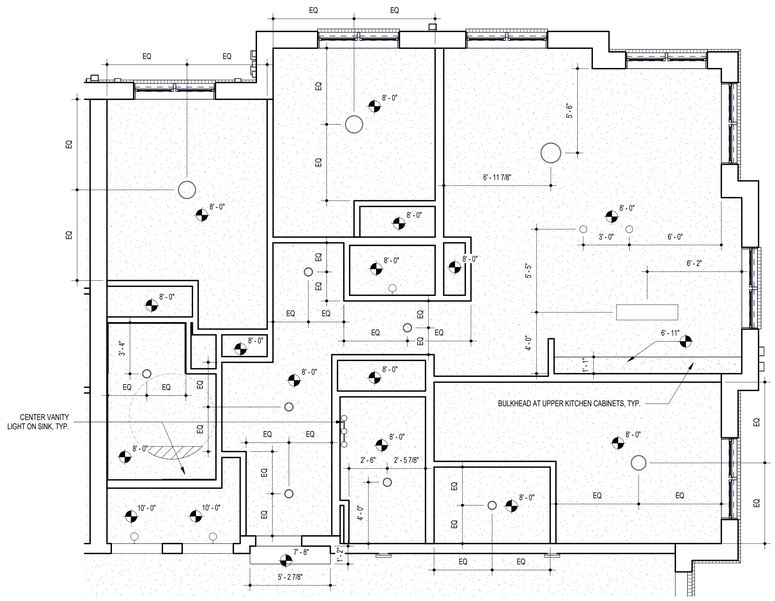
A-703
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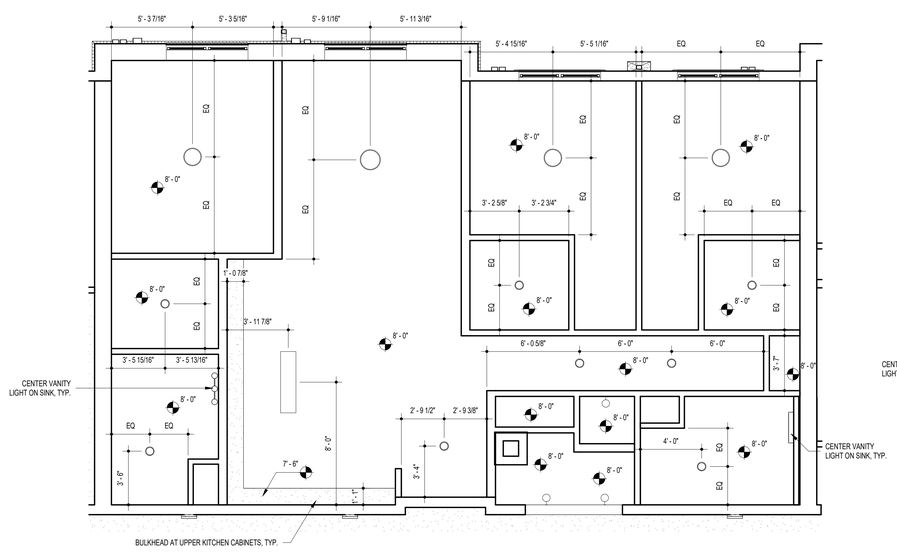
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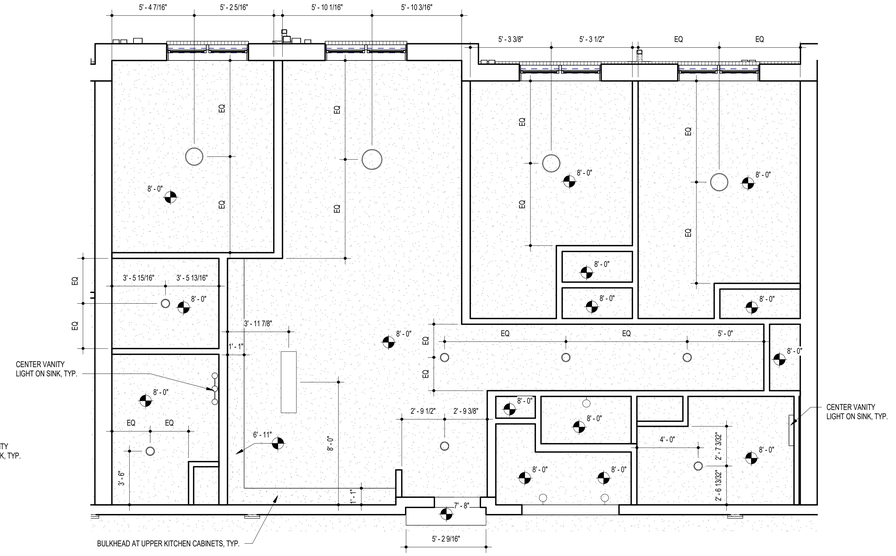
G15 UNIT 3B RCP
1/4" = 1'-0"



G8 UNIT 3B-HC RCP
1/4" = 1'-0"



A15 UNIT 3A RCP
1/4" = 1'-0"



A8 UNIT 3A-HC RCP
1/4" = 1'-0"

RCP LEGEND AND NOTES

NOTES:
1. ALL CEILINGS ARE TYPE 'CL1' U.N.O.
2. ALL FINISHED CEILING HEIGHTS ARE 9'-0" AFF ON LEVEL 1 AND 8'-0" AFF ON LEVELS 2, 3, AND 4 U.N.O.
3. REFER TO ENLARGED REFLECTED CEILING PLANS FOR MORE INFORMATION ON COMMON AREA CEILINGS.
4. TYPES AND GENERAL SPACING OF SCONCES AT MAIN CORRIDORS (AT UNIT ENTRIES AND IN BETWEEN ALONG MAIN CORRIDORS) SHOWN ON THIS SHEET ARE TO BE ASSUMED TYPICAL FOR BUILDING 1 LEVELS 3 AND 4 AND FOR BUILDINGS 2 AND 3 ALL LEVELS.

LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK

SCALE:1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT REFLECTED CEILING PLANS

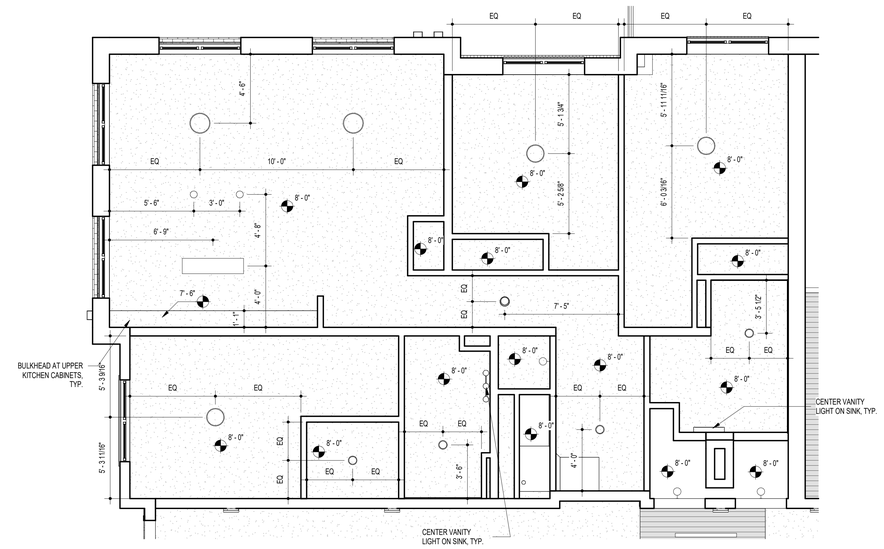
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ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW

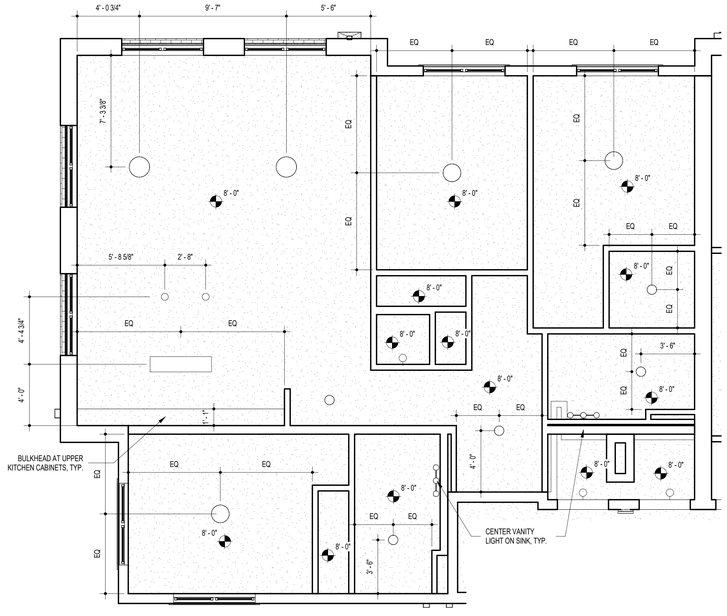
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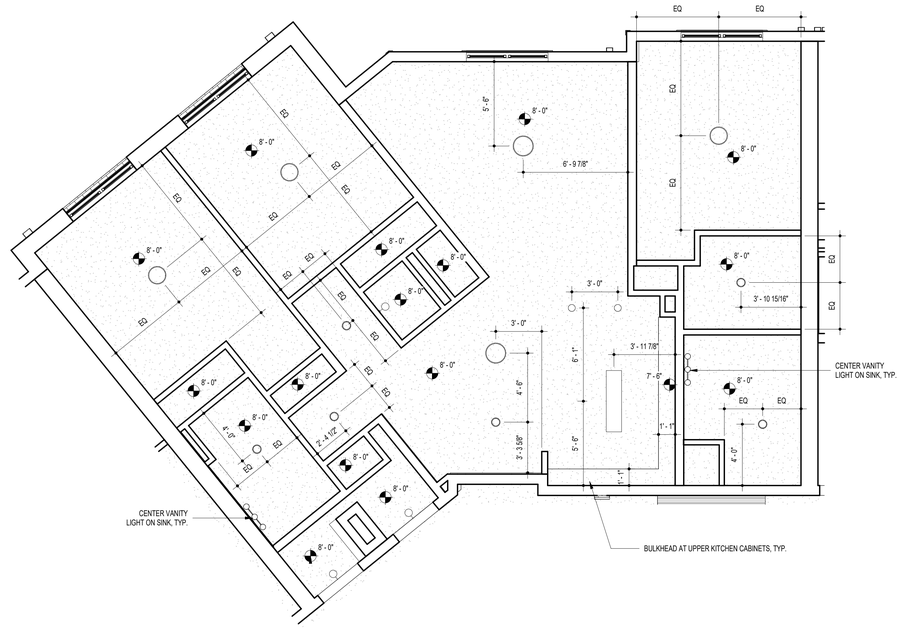
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G8 UNIT 3E RCP
1/4" = 1'-0"



A15 UNIT 3D RCP
1/4" = 1'-0"



A8 UNIT 3C RCP
1/4" = 1'-0"

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

0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

RCP LEGEND AND NOTES

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LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK

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UNIT REFLECTED CEILING PLANS

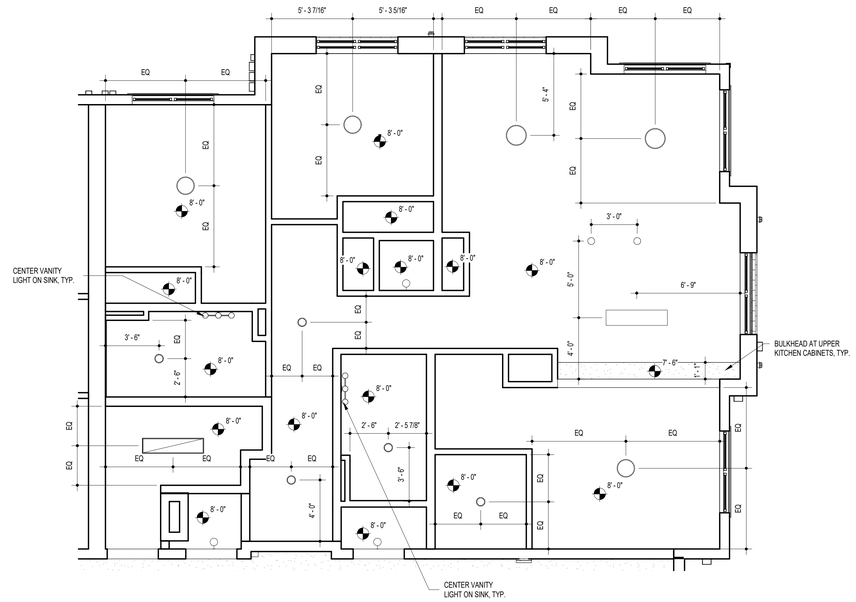
ROANOKE GATEWAY
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A-705
06/30/2026
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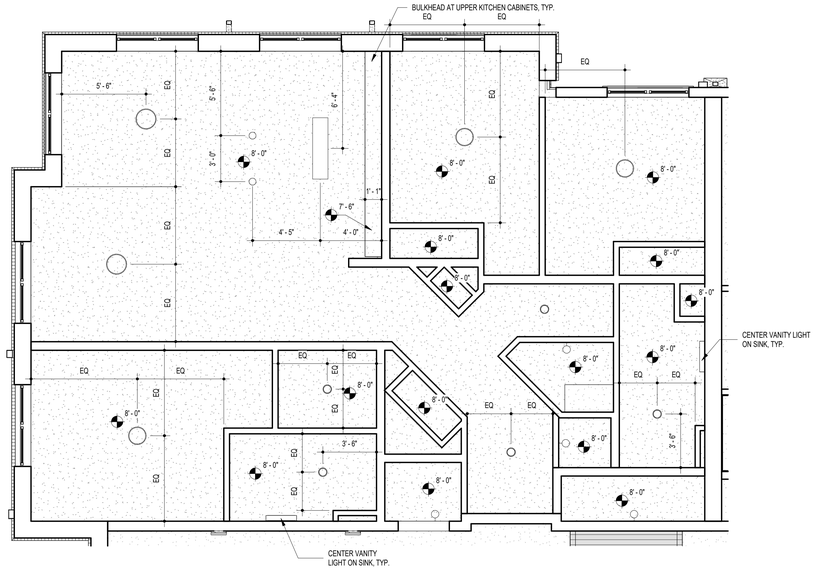
G7 UNIT 3H RCP
1/4" = 1'-0"

RCP LEGEND AND NOTES

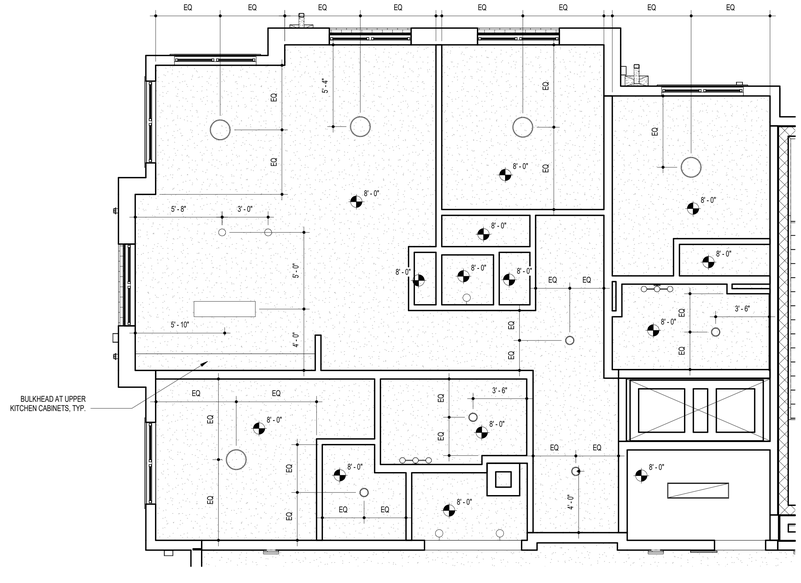
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LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



A10 UNIT 3G RCP
1/4" = 1'-0"



A7 UNIT 3F RCP
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
0 2' - 0" 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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UNIT REFLECTED CEILING PLANS

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A-706
06/30/2026
CONSTRUCTABILITY REVIEW

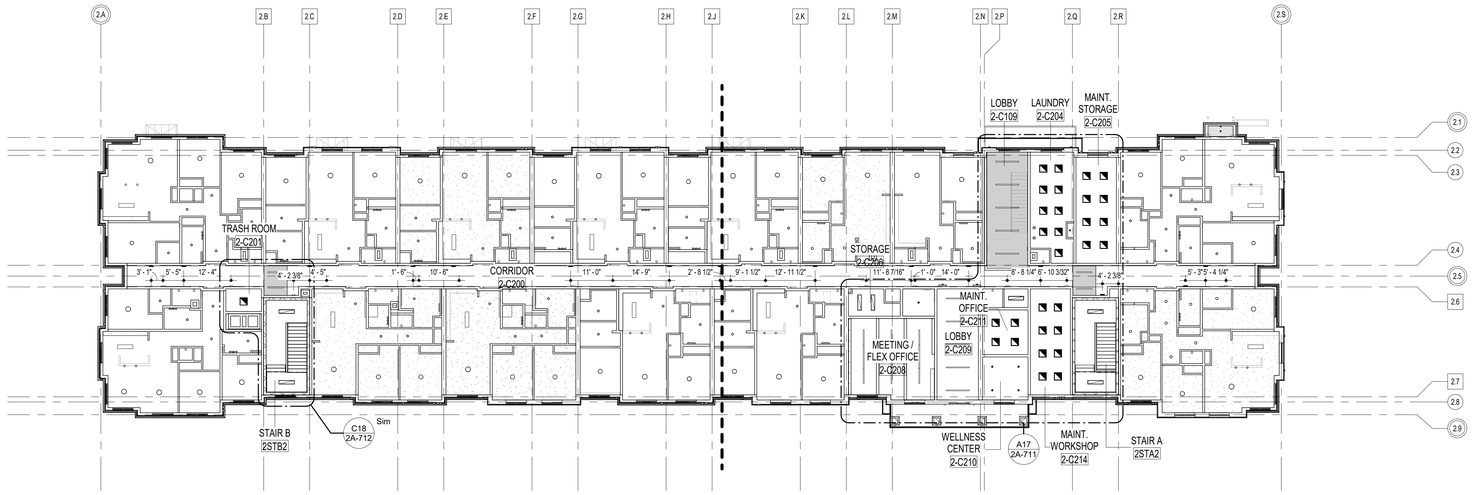
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J8 B2 - THIRD THRU FOURTH FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"

NOTE: CEILINGS ON THIS LEVEL ARE TO BE ASSUMED AS TYPICAL FOR UPPER LEVELS OF THIS BUILDING.



F8 B2 - SECOND FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"



A8 B2- FIRST FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"

RCP LEGEND AND NOTES

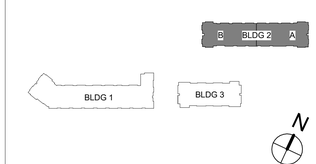
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LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK

SCALE:1/16" = 1'-0"
0 8' - 0" 16' - 0" 32' - 0" 48' - 0" 64' - 0"

KEY PLAN



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BUILDING 2 COMMON REFLECTED CEILING PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IS.
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06/30/2026	CONSTRUCTABILITY REVIEW

2A-710
06/30/2026
CONSTRUCTABILITY REVIEW

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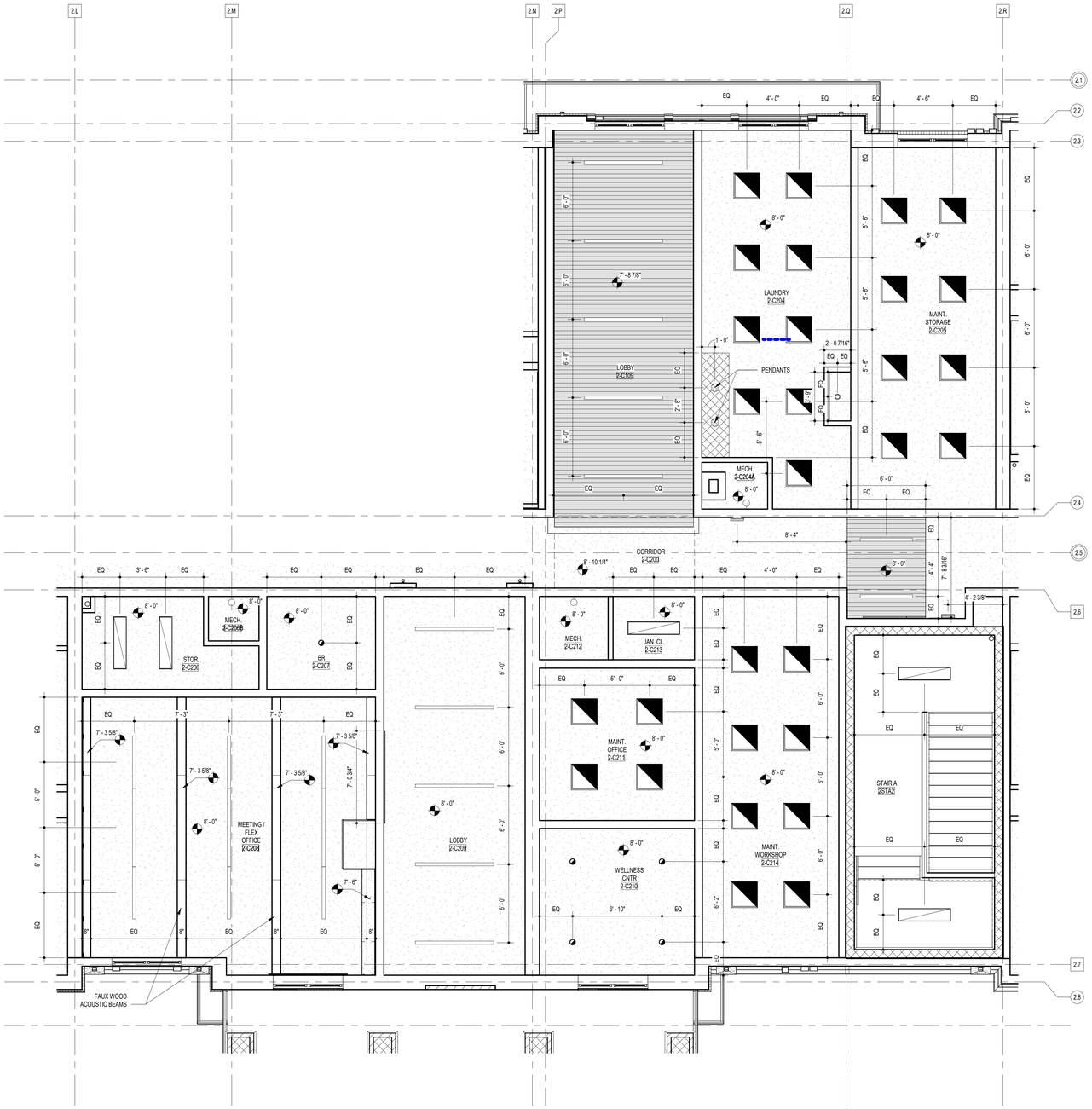
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RCP LEGEND AND NOTES

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LIGHT FIXTURE LEGEND

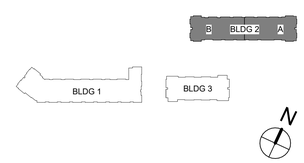
- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



A17 B2 - SECOND FLOOR SOG ENLARGED RCP - COMMON AREAS
1/4" = 1'-0"

SCALE:1/16" = 1'-0"
0 8'-0" 16'-0" 32'-0" 48'-0" 64'-0"

KEY PLAN



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BUILDING 2 COMMON REFLECTED CEILING PLANS
ROANOKE GATEWAY
ROANOKE, VA 24022

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2A-711
06/30/2026
CONSTRUCTABILITY REVIEW

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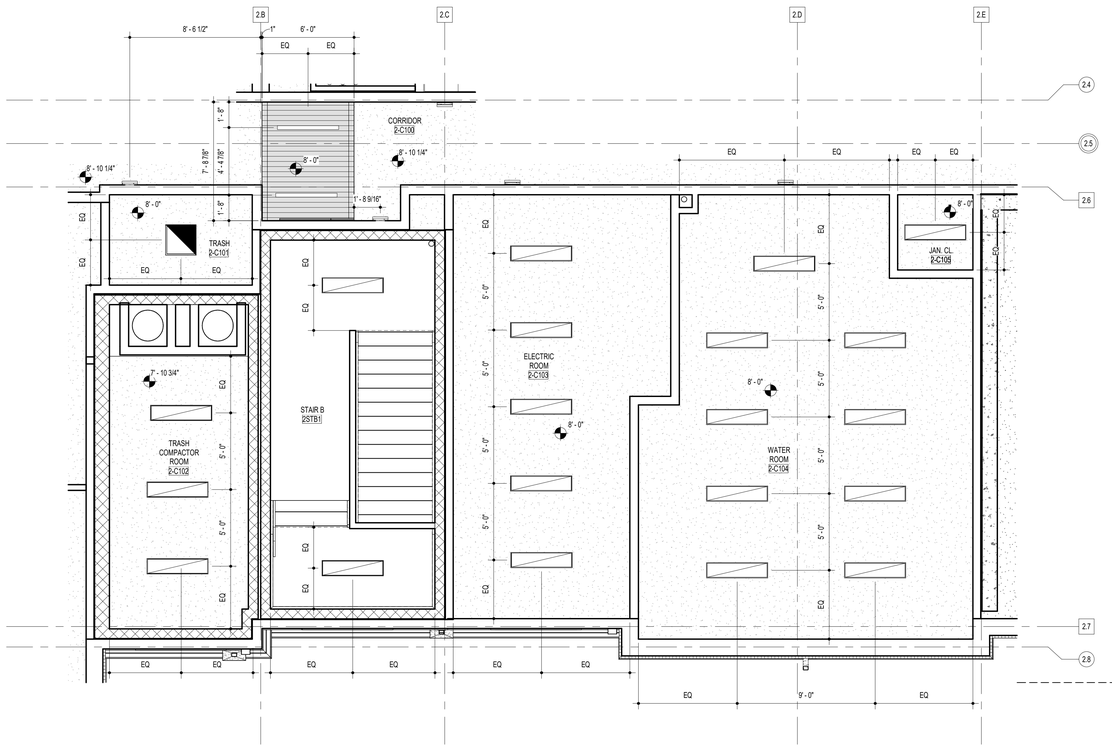
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RCP LEGEND AND NOTES

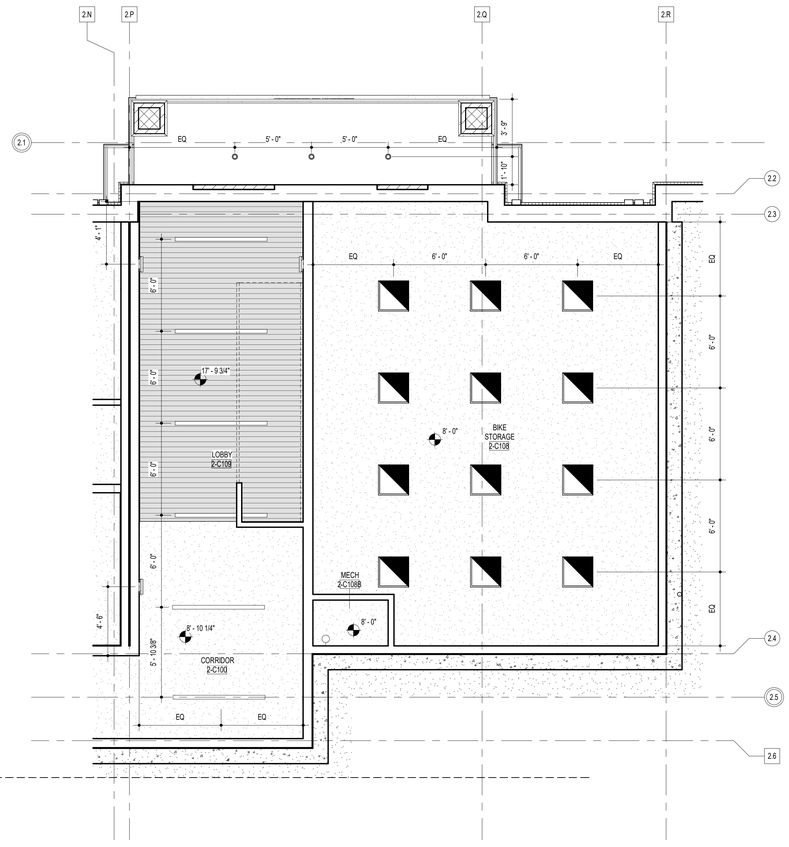
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LIGHT FIXTURE LEGEND

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- UTILITY WALL SCONCE
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- TRACK LIGHTING
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- PENDANT LARGE (PUBLIC AREAS)
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- EXTERIOR WALL PACK



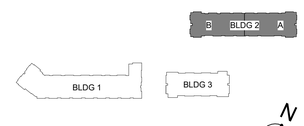
C18 B2 - FIRST FLOOR ENLARGED RCP - BACK OF HOUSE
1/4" = 1'-0"



C8 B2- FIRST FLOOR ENLARGED RCP - COMMON AREAS
1/4" = 1'-0"

SCALE: 1/16" = 1'-0"
0 8' - 0" 16' - 0" 32' - 0" 48' - 0" 64' - 0"

KEY PLAN



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BUILDING 2 COMMON REFLECTED CEILING PLANS

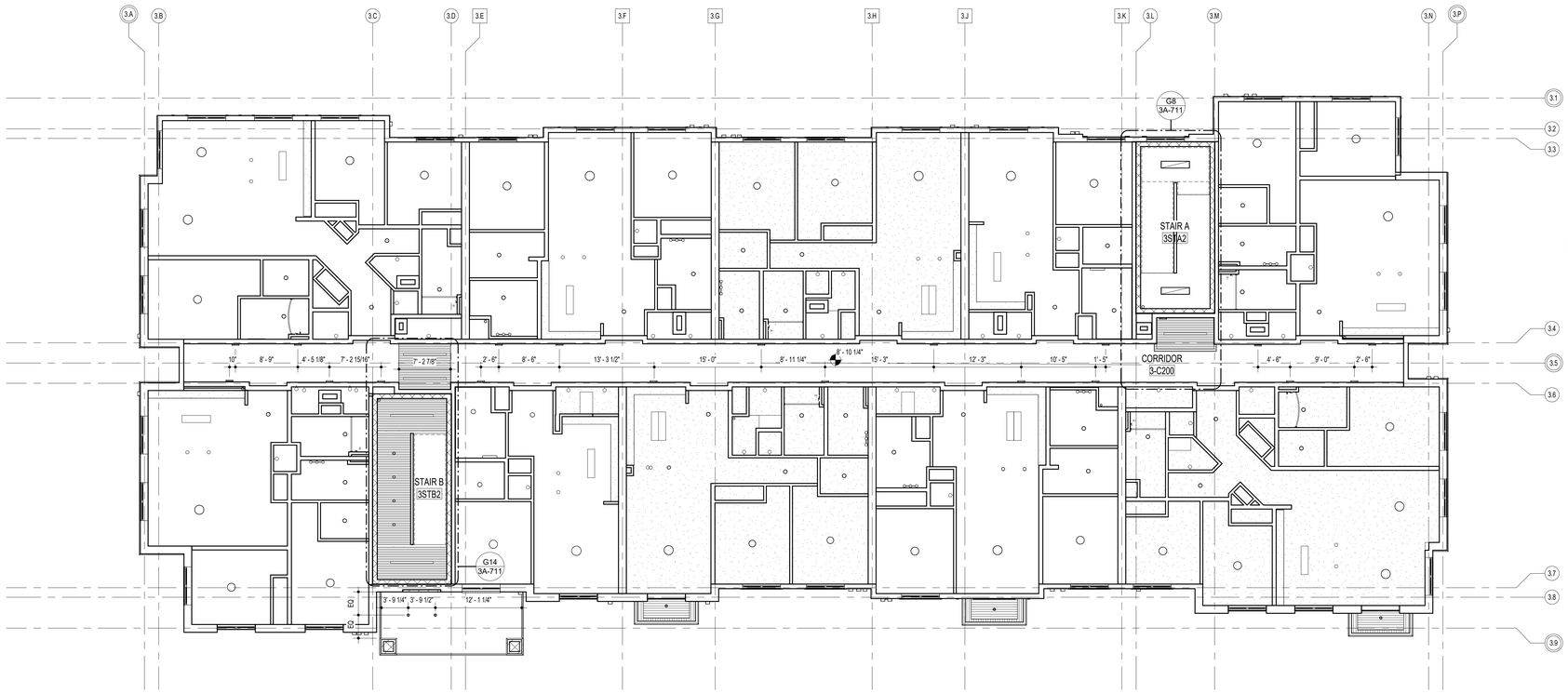
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G8 B3 - SECOND THRU FOURTH FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

NOTE: CEILINGS ON THIS LEVEL ARE TO BE ASSUMED AS TYPICAL FOR UPPER LEVELS OF THIS BUILDING.

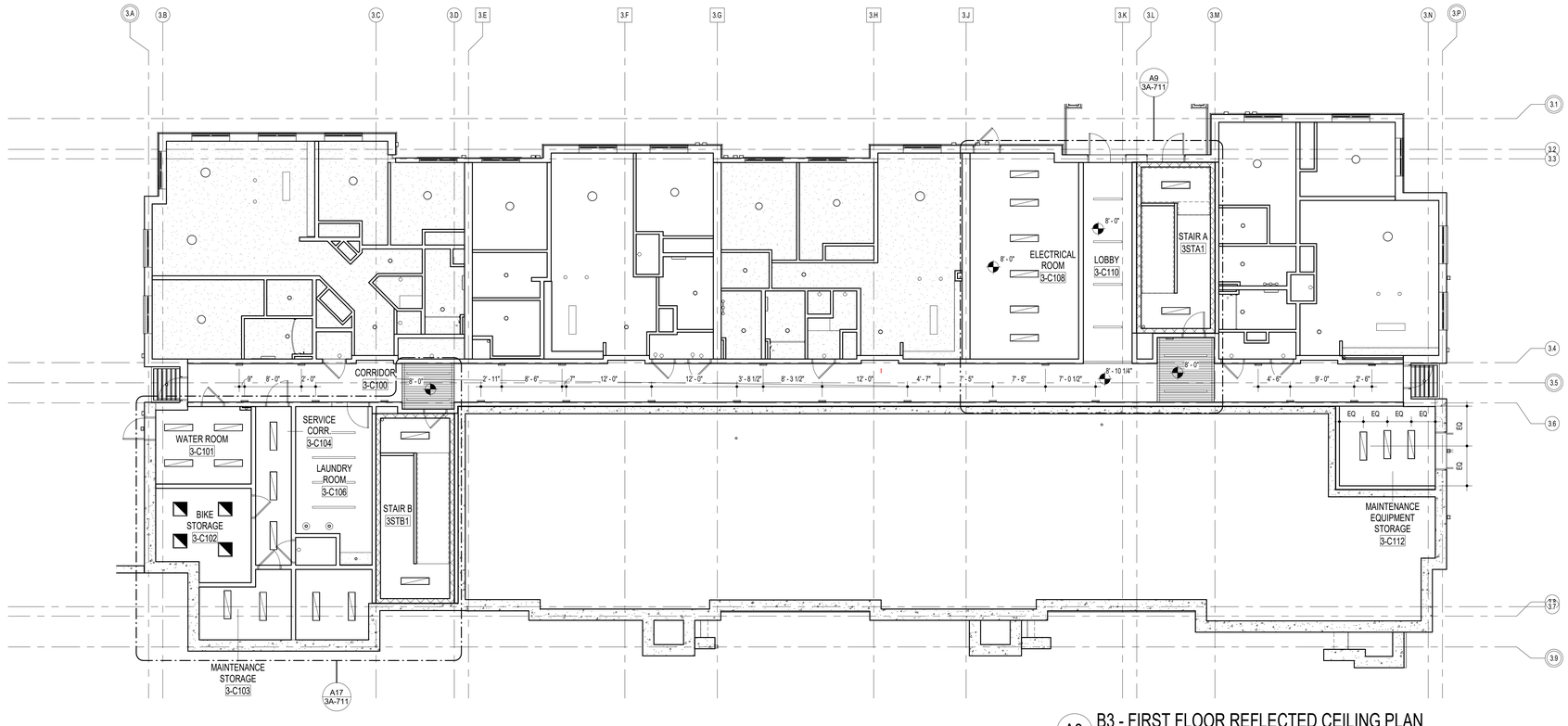
RCP LEGEND AND NOTES

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- RECESSED DOWNLIGHT
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- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
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- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



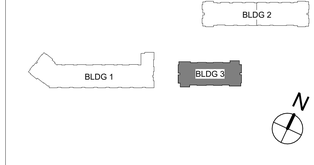
A8 B3 - FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

SCALE:1/8" = 1'-0"

0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 3 COMMON REFLECTED CEILING PLANS

ROANOKE GATEWAY
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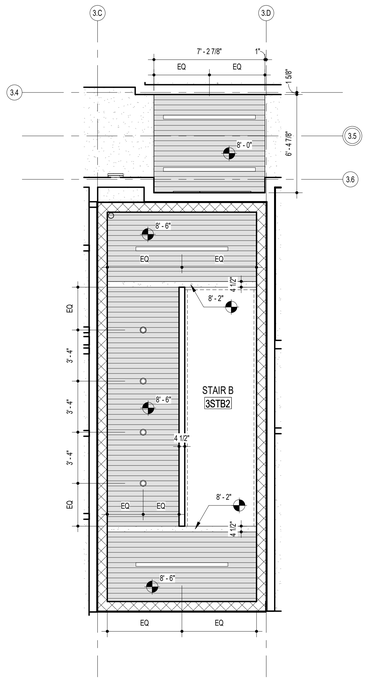
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06/30/2026	CONSTRUCTABILITY REVIEW

3A-710

06/30/2026
CONSTRUCTABILITY REVIEW

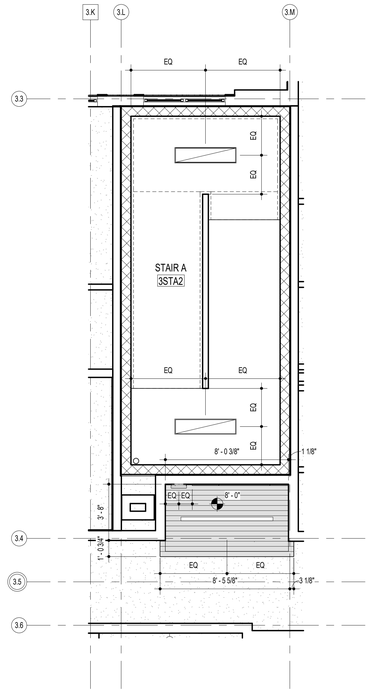
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G14 B3 - SECOND FLOOR ENLARGED RCP - STAIR B
1/4" = 1'-0"

NOTE: WOOD CEILING OCCURS AT LEVEL 2 ONLY.



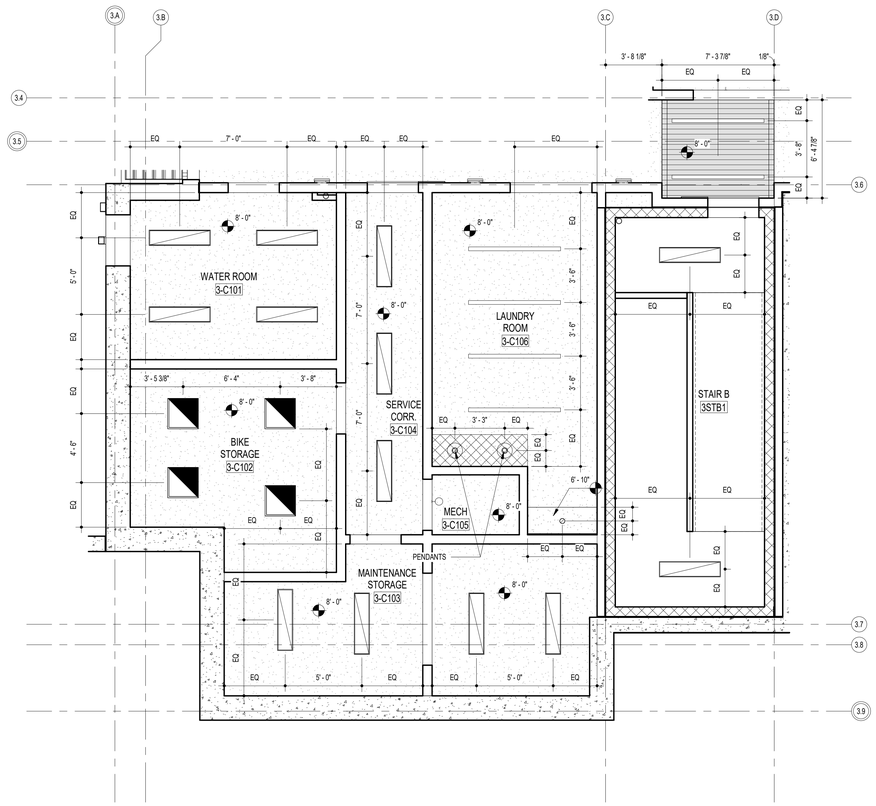
G8 B3 - SECOND FLOOR ENLARGED RCP - STAIR A
1/4" = 1'-0"

RCP LEGEND AND NOTES

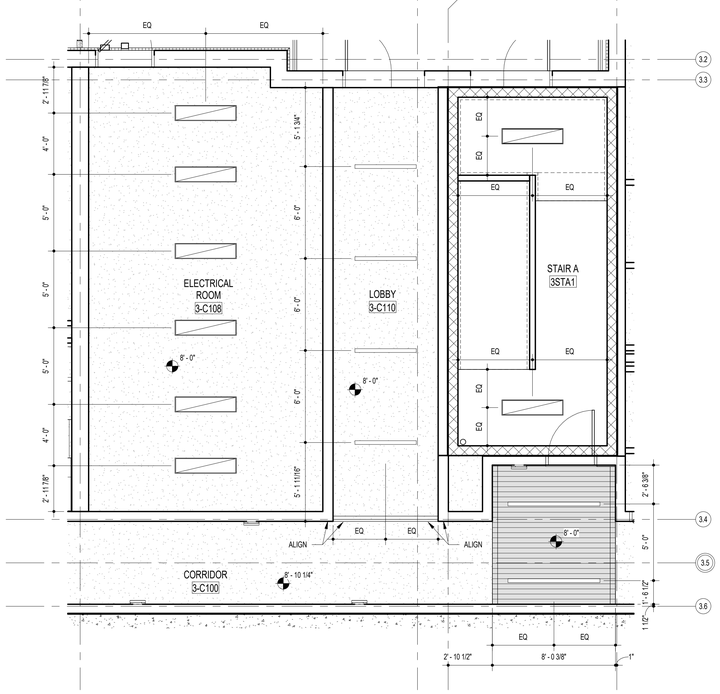
NOTES:
1. ALL CEILINGS ARE TYPE 'CL1' U.N.O.
2. ALL FINISHED CEILING HEIGHTS ARE 9'-0" AFF ON LEVEL 1 AND 8'-0" AFF ON LEVELS 2, 3, AND 4 U.N.O.
3. REFER TO ENLARGED REFLECTED CEILING PLANS FOR MORE INFORMATION ON COMMON AREA CEILINGS.
4. TYPES AND GENERAL SPACING OF SCONCES AT MAIN CORRIDORS (AT UNIT ENTRIES AND IN BETWEEN ALONG MAIN CORRIDORS) SHOWN ON THIS SHEET ARE TO BE ASSUMED TYPICAL FOR BUILDING 1 LEVELS 3 AND 4 AND FOR BUILDINGS 2 AND 3 ALL LEVELS.

LIGHT FIXTURE LEGEND

- SURFACE MOUNTED LIGHT
- RECESSED DOWNLIGHT
- CEILING MOUNTED LIGHTS (UNITS)
- UTILITY WALL SCONCE
- BACK OF HOUSE LIGHT
- LINEAR LIGHT - SEE ELEC FOR LENGTHS
- TRACK LIGHTING
- 2'X2' SURFACE MOUNTED FIXTURE
- PENDANT LARGE (PUBLIC AREAS)
- PENDANT MEDIUM (PUBLIC AREAS)
- PENDANT SMALL (UNITS)
- WALL SCONCES
- UNIT BATHROOM FIXTURE
- WALL MOUNTED BATHROOM FIXTURE
- EXTERIOR WALL PACK



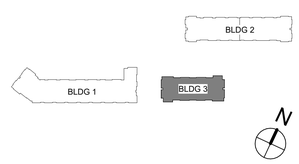
A17 B3 - FIRST FLOOR RCP - BIKE STORAGE, LAUNDRY, AND SERVICE SPACES
1/4" = 1'-0"



A9 B3 - FIRST FLOOR ENLARGED RCP - LOBBY AND STAIR
1/4" = 1'-0"

SCALE:1/8" = 1'-0"
0 4' - 0" 8' - 0" 16' - 0" 24' - 0" 32' - 0"

KEY PLAN



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BUILDING 3 COMMON REFLECTED CEILING PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

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1. PREPARE THE OPENING

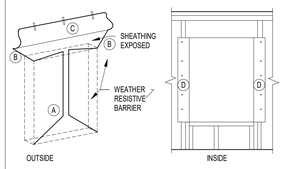
THE ROUGH OPENING MUST BE PLUMB, LEVEL AND SQUARE AND THE WEATHER-RESISTIVE BARRIER MUST ALREADY INSTALLED.

(A) MAKE AN "I-CUT" IN THE WEATHER-RESISTIVE BARRIER, BEGIN WITH A HORIZONTAL CUT ACROSS THE BOTTOM AND TOP OF THE ROUGH OPENING. FROM THE TOP CENTER OF THE ROUGH OPENING, CUT STRAIGHT DOWN TO THE SILL.

(B) CUT TWO 45 DEGREE SLITS A MIN. OF 6" EXTENDING FROM THE CORNER OF THE WINDOW HEAD UP AND AWAY FROM THE WINDOW OPENING. THIS WILL CREATE A ROUGH OPENING TO EXPOSE THE SHEATHING TO ALLOW HEAD FLASHING INSTALLATION.

(C) FLIP HEAD FLAP UP AND TEMPORARILY SECURE WITH WRB TAPE.

(D) FOLD SIDE AND BOTTOM FLAPS INTO ROUGH OPENING AND SECURE. FLIP HEAD FLAP UP AND TEMPORARILY SECURE.



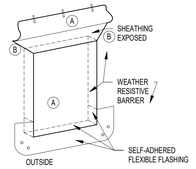
2. INSTALL SILL FLASHING

FLASHING SHALL BE INSTALLED AT ALL WINDOWS INCLUDING SELF- FLASHING WINDOWS.

(A) CUT SELF-ADHESIVE FLEXIBLE FLASHING AT LEAST 12" LONGER THAN THE WIDTH OF THE ROUGH OPENING SILL. USE ROLLS WIDTHS SUFFICIENT TO ACHIEVE A MIN. OF 1" ADHESION BEYOND WHERE THE WINDOW FRAME WILL BE LOCATED. ENSURING 2-3" ADHESION TO FACE OF WALL.

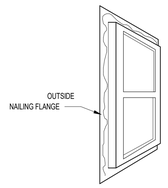
(B) COVER HORIZONTAL SILL BY ALIGNING FLEX-FLASHING WITH INSIDE EDGE OF SILL AND ADHERE INTO ROUGH OPENING ACROSS SILL AND 6" UP JAMB.

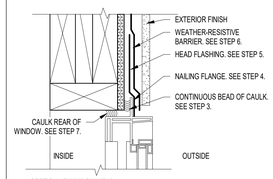
(C) FAN FLEX-FLASHING AT BOTTOM CORNERS ONTO OUTSIDE FACE OF WALL. PRESS FIRMLY AND SECURE FANNED EDGES WITH CAP-NAIL. ENSURE NO GAPS IN THE CORNERS.



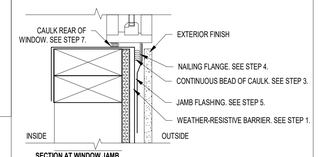
3. PREPARE THE WINDOW FOR INSTALLATION

(A) APPLY A CONTINUOUS BEAN OF SEALANT TO THE INTERIOR SURFACE OF THE NAILING FLANGE ALONG THE JAMBS AND HEAD. DO NOT APPLY SEALANT ALONG THE BOTTOM SILL FLANGE.

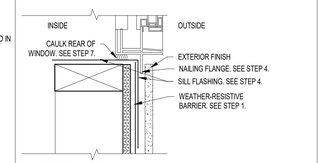




SECTION AT WINDOW HEAD



SECTION AT WINDOW JAMB

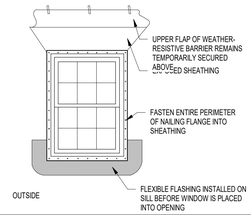


SECTION AT WINDOW SILL

NOTE: COORDINATE TERMINATION OF SPECIFIED EXTERIOR FINISH AT WINDOWS WITH JOB-SPECIFIC SILL AND HEAD DETAILS. WINDOW MOCK-UP REQUIRED DURING CONSTRUCTION.

4. WINDOW INSTALLATION

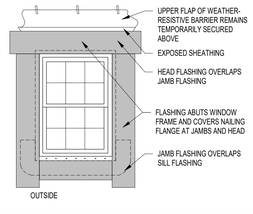
(A) INSTALL WINDOW INTO PREPARED ROUGH OPENING IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. FASTEN THE ENTIRE PERIMETER OF THE NAILING FLANGE INTO THE SHEATHING.



5. INSTALL OVERLAPPING FLASHING AT JAMBS THEN HEAD

(A) CUT TWO PIECES OF SELF-ADHERED FLASHING FOR JAMB FLASHING EXTENDING 1" ABOVE WINDOW HEAD FLANGE AND BELOW BOTTOM EDGE OF SILL FLASHING. JAMB FLASHING SHOULD ALIGN WITH SIDES OF WINDOW FRAME AND COVER JAMB NAILING FLANGES. PRESS FIRMLY.

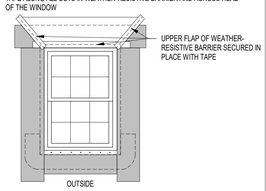
(B) CUT ONE PIECE OF SELF-ADHERED FLASHING FOR HEAD FLASHING TO EXTEND BEYOND OUTER EDGE OF JAMB FLASHING. INSTALL TO COMPLETELY COVER HEAD NAILING FLANGE AND ADHERE TO EXPOSED SHEATHING.



6. SECURE UPPER FLAP OF WEATHER-RESISTIVE BARRIER

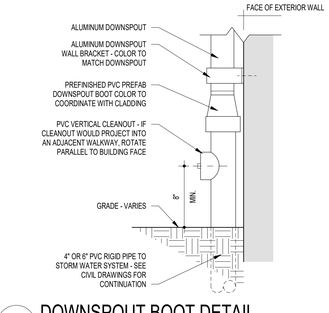
(A) FLIP DOWN UPPER FLAP OF WEATHER-RESISTIVE BARRIER SO IT LAYS SMOOTHLY OVER HEAD FLASHING.

(B) TAPE ALONG ALL CUTS IN WEATHER-RESISTIVE BARRIER AND ACROSS HEAD OF THE WINDOW



7. CAULK REAR OF WINDOW

(A) INSIDE CAULK AROUND ENTIRE REAR EDGE OF WINDOW PERIMETER TO AIR SEAL WINDOW FRAME TO INSIDE OF ROUGH OPENING



A4 **DOWNSPOUT BOOT DETAIL**
1 1/2" = 1'-0"

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EXTERIOR FLASHING & MOUNTING DETAILS

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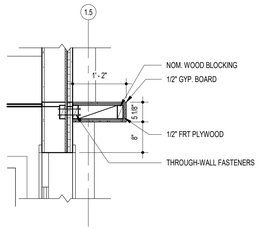
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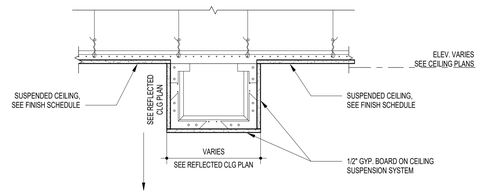
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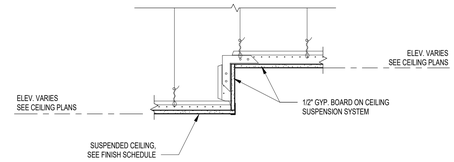
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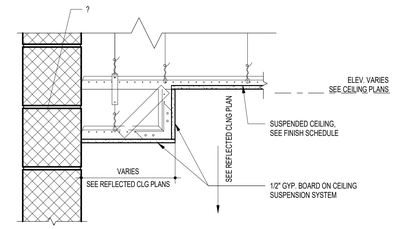
K16 SECTION DTL. - UNIT ENTRY BROW
3/4" = 1'-0"



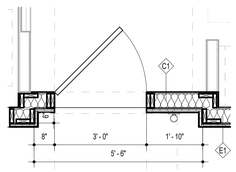
K13 TYPICAL BULKHEAD DETAIL
1 1/2" = 1'-0"



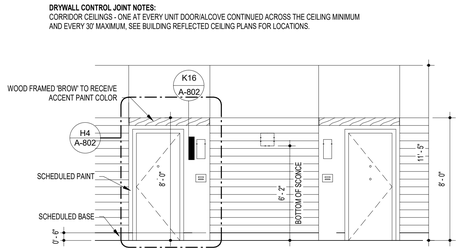
K9 TYPICAL BULKHEAD DETAIL
1 1/2" = 1'-0"



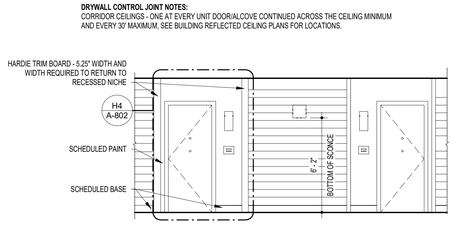
K4 TYPICAL BULKHEAD DETAIL
1 1/2" = 1'-0"



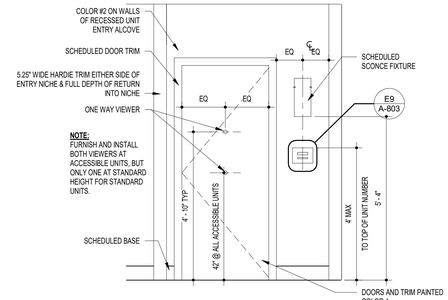
H16 TYP. UNIT ENTRY
1/2" = 1'-0"



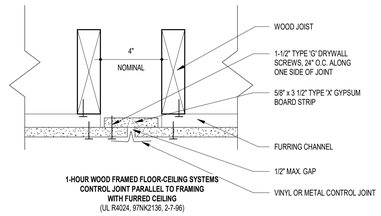
H14 TYPICAL CORRIDOR ELEVATION - BUILDING 1 FIRST FLOOR
1/4" = 1'-0"



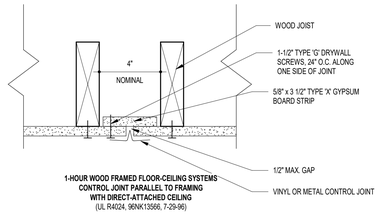
H9 TYPICAL CORRIDOR ELEVATION - CORRIDORS EXCEPT BLDG 1 FIRST FLOOR
1/4" = 1'-0"



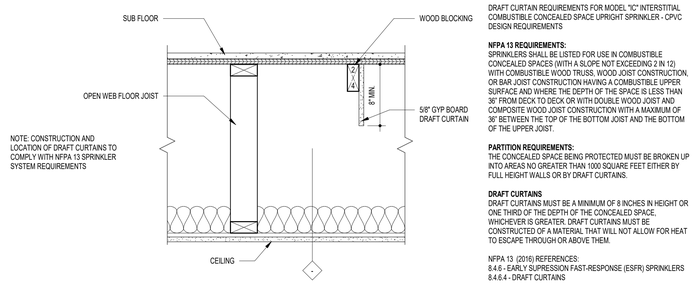
H4 DOOR ALCOVE ELEVATION
1/2" = 1'-0"



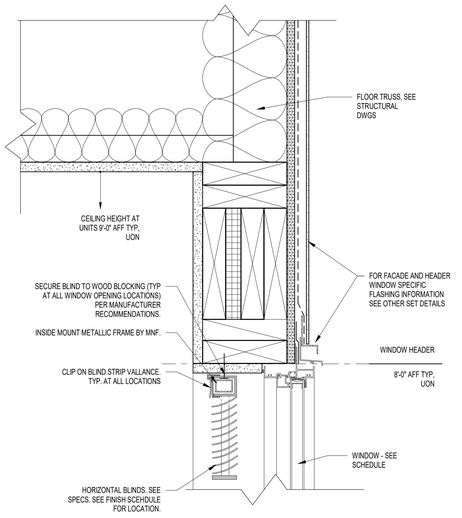
D18 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



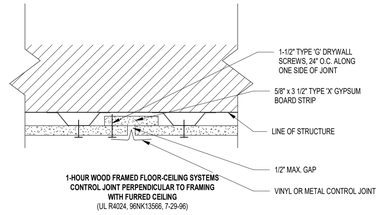
D15 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



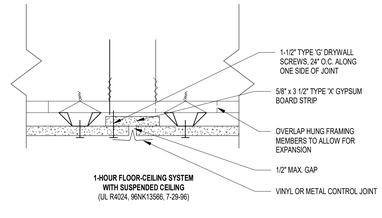
D11 DRAFT CURTAIN DETAIL
1 1/2" = 1'-0"



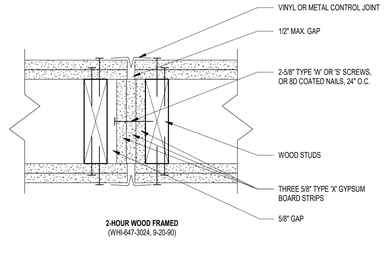
C5 BLIND INSTALLATION DETAIL
3" = 1'-0"



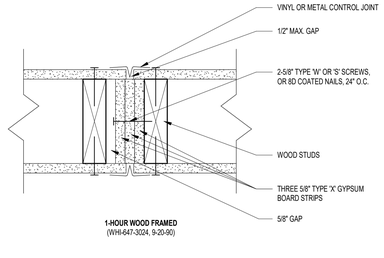
A18 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



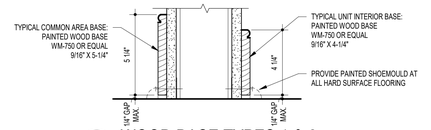
A15 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



A11 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



A8 DRYWALL CONTROL JOINT DETAIL
3" = 1'-0"



A4 WOOD BASE TYPES 1 & 2
3" = 1'-0"

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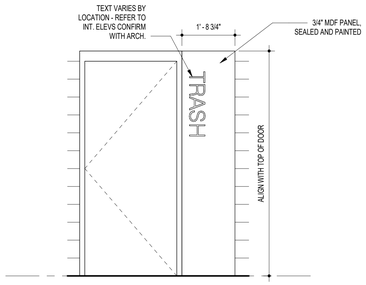
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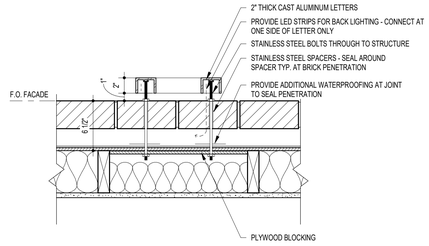
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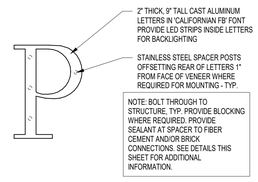
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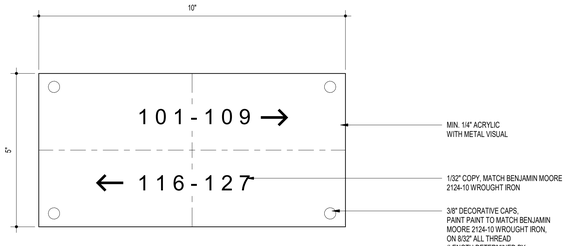
H12 TYP. WALL PANEL SIGNAGE
1/2" = 1'-0"



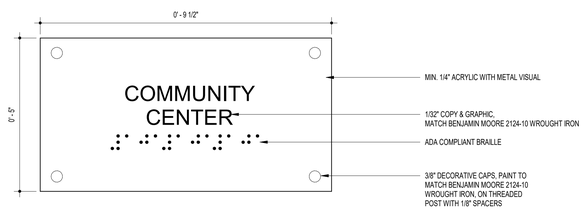
H9 CAST ALUMINUM LETTER MOUNTING DETAIL - BRICK ON STUD
1 1/2" = 1'-0"



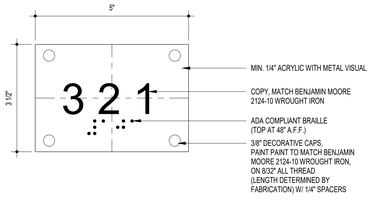
H4 CAST ALUMINUM LETTER ELEVATION DETAIL
1 1/2" = 1'-0"



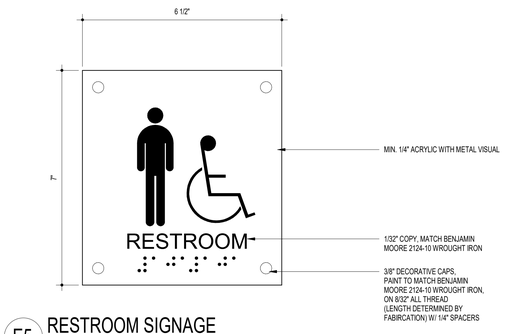
E18 DIRECTIONAL SIGNAGE
6" = 1'-0"



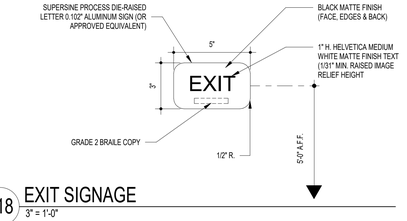
E13 ROOM ID
6" = 1'-0"



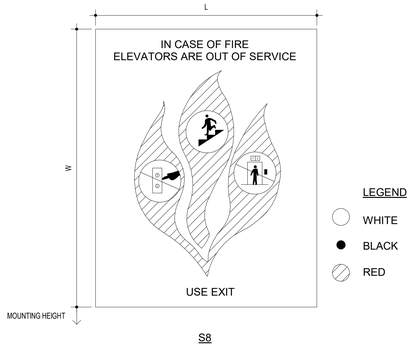
E9 ROOM NUMBER & ID SIGN
6" = 1'-0"



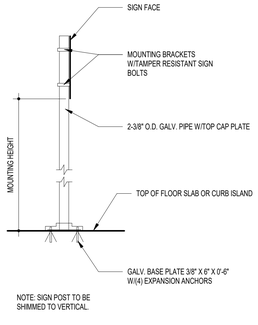
E5 RESTROOM SIGNAGE
6" = 1'-0"



B18 EXIT SIGNAGE
3" = 1'-0"



B14 FIRE SIGNAGE
1 1/2" = 1'-0"

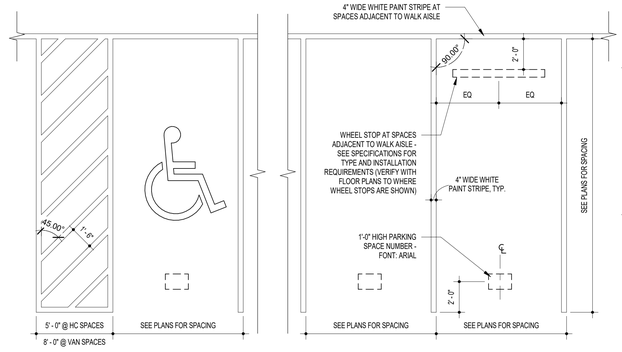


B12 SIGN MOUNTING DETAIL-FLOOR
1 1/2" = 1'-0"



NOTES:
1. TOP PORTION OF SIGN SHALL HAVE A REFLECTED BROWN BACKGROUND WITH WHITE REFLECTORIZED LEGEND & BORDER.

A9 HC PARKING SIGNAGE
3" = 1'-0"



B5 90 DEGREE PARKING STRIPING DETAIL
1/4" = 1'-0"

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
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GRIMM AND PARKER

GP #22424.00

SIGNAGE DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / R.
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

A-803

06/30/2026
CONSTRUCTABILITY REVIEW

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ROANOKE GATEWAY - PHASE 2

ROANOKE, VIRGINIA

1. GENERAL:

A. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE PROVISIONS OF THE 2021 VIRGINIA STATEWIDE BUILDING CODE (VUSBC) AND RELATED CODES OF ROANOKE CITY REQUIREMENTS.

B. DESIGN LOADS (PSF):

DESIGN LOADS - OPEN WEB TRUSSES (PSF)

LOCATIONS:	LIVE LOAD		DEAD LOAD (1)		TOTAL LOAD		
	TC	BC	TC	BC	TC	BC	TOTAL
ROOF TRUSSES:	30*	10 (2)	7	10	37	10	47
ROOF TRUSSES WITH MECH UNITS:	30*	10 (2)	32	10	62	10	72
ROOF TRUSSES WITH SOLAR...	30*	10(2)	15	10	45	10	55
LIVING UNITS:	40	-	20	5	60	5	65
CORRIDORS SERVING LIVING UNITS:	40	-	45	10	85	10	95
CORRIDORS WITHIN 10'-0" OF PUBLIC AREAS/ELEVATORS	100	-	45	10	145	10	155
PRIVATE DECKS:	60	-	10	-	70	-	70
ASSEMBLY, PUBLIC AREAS OR EGRESS STAIRS:	100	-	20	5	120	5	125
LIGHT STORAGE	125	-	20	5	145	5	150

1. DEAD LOADS DO NOT INCLUDE THE SELF WEIGHT OF THE TRUSS MEMBERS
2. ROOF TRUSS BCLL TO BE NON-CONCURRENT WITH OTHER LIVE LOADS
* SEE PONDING NOTE FOR ADDITIONAL LOADING INFORMATION

SPRINKLER PIPE LOADS - NFPA:

1. THE FLOOR AND ROOF DEAD LOADS ABOVE INCLUDE AN ALLOWANCE FOR WATER FILLED NON-METAL PLASTIC SPRINKLER PIPE LOADS OF 5 PSF FOR CORRIDOR AREAS AND 2 PSF FOR LIVING UNITS AND ALL OTHER AREAS.
2. IN ADDITION TO THE PSF LOADING REQUIREMENTS ABOVE, TRUSSES SUPPORTING SCHEDULE 10/40 SPRINKLER MAIN LINE PIPE DIAMETERS BETWEEN 4"-8" SHALL BE DESIGNED FOR DEAD LOADS SHOWN IN THE 'SPRINKLER PIPE MAIN LINE LOADING' DETAIL. ALL OTHER TRUSSES SHALL BE DESIGNED FOR A 50 LB CONCENTRATED DEAD LOAD APPLIED ALONG THE TOP OR BOTTOM TRUSS CHORD MEMBERS.
3. IN ADDITION TO THE DEAD LOAD OF THE SCHEDULE 10/40 SPRINKLER MAIN PIPES, FLOOR TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT A MINIMUM, SHORT TERM (Cd=2.0), CONCENTRATED LIVE LOAD OF 250 POUNDS APPLIED AT THE HANGER LOCATION ANYWHERE ALONG THE TOP OR BOTTOM CHORD MEMBERS, NON-CONCURRENT WITH OTHER LIVE LOADS. IF MULTIPLE SPRINKLER LINES ARE ATTACHED TO THE SAME TRUSS, THE 250 POUND LIVE LOAD ONLY HAS TO BE APPLIED TO ANY ONE LOCATION AT A TIME. EACH POSSIBLE POINT OF ATTACHMENT ON A INDIVIDUAL TRUSS SHOULD BE EVALUATED TO DETERMINE WHICH LOCATION HAS THE MOST CRITICAL EFFECT.
4. FOR CONDITIONS WHERE THE SPRINKLER SYSTEM LOADS EXCEED THE PSF DEAD LOAD ALLOWANCES OR WHERE THE SCHEDULE 10/40 SPRINKLER MAIN PIPE SUPPORTS EXCEED THE 50 POUND MAXIMUM DEAD LOAD, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE, NOTIFY AND OBTAIN ANY NECESSARY DESIGN MODIFICATIONS FROM THE TRUSS MANUFACTURER.

RAIN LOADS - VUSBC 2021 AND ASCE 7-22:

A. THE HEIGHT OF THE SECONDARY DRAINAGE SYSTEM SHALL NOT BE GREATER THAN 2 INCHES ABOVE THE PRIMARY DRAINAGE SYSTEM.

B. SECONDARY DRAIN LINES AND THEIR POINT OF DISCHARGE SHALL BE SEPARATE FROM THE PRIMARY DRAIN LINES.

C. CONTROLLED FLOW ROOF DRAINS SHALL NOT BE USED ON THE SECONDARY DRAINAGE SYSTEM.

D. ROOF SHALL BE DESIGNED TO SUSTAIN THE LOAD ALL RAINWATER THAT WILL ACCUMULATE ON IT IF THE PRIMARY DRAINAGE SYSTEM FOR THAT PORTION IS BLOCKED, PLUS THE UNIFORM LOAD CAUSED BY WATER THAT RISES ABOVE THE INLET OF THE SECONDARY DRAINAGE SYSTEM AT ITS DESIGN FLOW.

E. THE DESIGN FLOW RATE OF THE SECONDARY (OVERFLOW) DRAINS (INCLUDING ROOF DRAINS AND DOWNSTREAM PIPING) OR SCUPPERS, AND THEIR RESULTING HYDRAULIC HEAD (dh) SHALL BE BASED ON A RAINFALL INTENSITY EQUAL TO OR GREATER THAN THE 15-MIN DURATION / 100 YEAR RETURN PERIOD (FREQUENCY) STORM. PRIMARY DRAINAGE SYSTEMS SHALL BE DESIGNED FOR A RAINFALL INTENSITY EQUAL TO OR GREATER THAN THE 60-MIN DURATION / 100 YEAR RETURN PERIOD (FREQUENCY) STORM.

1. 15 MINUTE DURATION (i15) = 5.33 INCHES / HOUR
2. 60 MINUTE DURATION (I60) = 2.81 INCHES / HOUR
3. MAXIMUM DRAINAGE AREA (A) = 5000 SQFT
4. PRIMARY DRAINAGE FLOW RATE (Qp - 0.0104 x A x i60) = 146 GPM
5. SECONDARY DRAINAGE FLOW RATE (Qs = 0.0104 x A x i15) = 277 GPM
6. SECONDARY DRAINAGE MEANS:
   a. ROOF DRAIN - 6 INCH DIAMETER
   b. SCUPPER LENGTH - 24 INCH
7. STATIC HEAD (ds) = 2 INCHES
8. HYDRAULIC HEAD (dh) = 2.5 INCHES
9. RAIN LOAD (R) = 5.2 (ds + dh) = 23 PSF

SNOW LOADS - VUSBC 2021 AND ASCE 7-22:

1. GROUND SNOW LOAD (Pg) = 42 PSF (ASCE 7, FIG. 7.2-1)
2. EXPOSURE FACTOR (Ce) = 1.0 (ASCE 7, TABLE 7.3-1, TERRAIN B)
3. THERMAL FACTOR (Ct) = 1.1 (ASCE 7, TABLE 7.3-2)
4. IMPORTANCE FACTOR (Is) = 1.00 (ASCE 7, TABLE 1.5-2)
5. ROOF SLOPE FACTOR (Cs) = 1.0 WITH ROOF PITCH < 8:12 (ASCE 7, FIG. 7.4-1)
6. FLAT ROOF SNOW LOAD (Pf = 0.7 Ce Ct I Pg) = 32.3 PSF (ASCE 7, EQN. 7.3-1)
7. SLOPED ROOF SNOW LOAD (Ps = Cs Pf) = 32.3 PSF (ASCE 7, EQN. 7.4-1)

WIND LOADS - VUSBC 2021 AND ASCE 7-22:

MAIN WIND-FORCE RESISTING SYSTEM AND COMPONENTS AND CLADDING LOADS ARE EVALUATED IN ACCORDANCE WITH PROVISIONS OF SECTION 1609 OF THE IBC AND CHAPTER 26-30 OF ASCE 7. THE TABLES BELOW ARE TAKEN FROM ASCE 7, BASED ON THE FOLLOWING PARAMETERS:

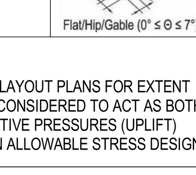
1. BASIC DESIGN WIND SPEED = 115 MPH (3-SECOND GUST WIND SPEED)
2. ALLOWABLE STRESS DESIGN WIND SPEED = 90 MPH
3. RISK CATEGORY = II (ASCE 7, TABLE 1.5-1)
4. WIND EXPOSURE CATEGORY = B (ASCE 7, SECTION 26.7)
5. TOPOGRAPHIC EFFECTS FACTOR (Kzt) = 1.0 (ASCE 7, SECTION 26.8)
6. INTERNAL PRESSURE COEFFICIENT (GCpi) = ± 0.18 (ASCE 7, SECTION 26.13)

COMPONENTS AND CLADDING (qz, PSF) (5) - ASCE 7-22 09.07.23

EFFECTIVE AREA	ROOF ZONES						WALL ZONES			
	1		2		3		4		5	
	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
10	24.5	--	32.3	--	44.0	--	15.2	14.0	18.7	14.0
20	22.9	--	30.2	--	39.8	--	14.6	13.4	17.5	13.4
50	20.7	--	27.5	--	34.4	--	13.8	12.6	15.8	12.6
100	19.1	--	25.4	--	30.2	--	13.1	12.0	14.6	12.0

EFFECTIVE AREA	ROOF OVERHANGS	PARAPETS	
		4	5
10		59.0	59.0
20		54.2	54.2
50		47.8	47.8
100		42.9	42.9

Interior Zones
Roofs - Zone 1 / Walls - Zone 4
End Zones
Roofs - Zone 2 / Walls - Zone 5
Corner Zones
Roofs - Zone 3



Flat/Hip/Gable (0° ≤ Θ ≤ 7°)

NOTES:
1. H = MEAN ROOF HEIGHT = 44.0 FT
2. a = END/CORNER WIDTH = SEE SHEARWALL LAYOUT PLANS FOR EXTENT
3. WALL ZONE DESIGN PRESSURES SHALL BE CONSIDERED TO ACT AS BOTH POSITIVE AND NEGATIVE
4. ROOF ZONE DESIGN PRESSURES ARE NEGATIVE PRESSURES (UPLIFT)
5. DESIGN PRESSURES SHOWN ARE BASED ON ALLOWABLE STRESS DESIGN (0.6W)

EARTHQUAKE LOADS - VUSBC 2021 AND ASCE 7-22:

EARTHQUAKE LOADS ARE EVALUATED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1613 OF THE IBC AND CHAPTERS 11 AND 12 OF ASCE 7 BASED ON THE FOLLOWING PARAMETERS:

1. RISK CATEGORY = II (ASCE 7, TABLE 1.5-1)
2. SEISMIC IMPORTANCE FACTOR IE = 1.0 (ASCE 7, TABLE 1.5-2)
3. MAPPED SPECTRAL RESPONSE ACCELERATIONS, SS = 0.22 S1 = 0.069
4. SITE CLASS = D
5. DESIGN SPECTRAL RESPONSE COEFFICIENTS, SDS = 0.18 SD1 = 0.097
6. SEISMIC DESIGN CATEGORY = B
7. BASIC SEISMIC FORCE RESISTING SYSTEMS:
   1. LIGHT FRAMED WALLS SHEATHED WITH GYPSUM WALL BOARD
   2. LIGHT FRAMED WALLS WITH WOOD STRUCTURAL PANELS
8. RESPONSE MODIFICATION FACTOR(s): R (ASCE 7, TABLE 12.2-1)
   CONC. WALLS RCONC = 4.5
   LF WOOD WALLS RWOOD = 6.5
   LF GYP WALLS RGYP = 2.0
9. SEISMIC RESPONSE COEFFICIENT(s): CS = SDS / (R/I) (ASCE 7, EQN. 12.8-2)
   CONC. WALLS CS CONC = _.__
   LF WOOD WALLS CS WOOD = _.__
   LF GYP WALLS CS GYP = _.__
10. ANALYSIS PROCEDURE USED: ASCE 7, SECTION 12.8 EQUIVALENT LATERAL FORCE PROCEDURE
11. DESIGN BASE SHEAR
    BLDG SF. = ____ SF
    TOTAL BLDG DL = RF DL + (#FLRS * FLR DL) = (---- PSF) + (-- * ----- PSF) = ----- PSF
    W = BLDG SF * TOTAL BLDG DL = ----- PSF * ---- SF/1000 = ----- KIPS
    V = CS CONC x W = ----- KIPS   V = CS WOOD x W = ---- KIPS   V = CS GYP x W = ----- KIPS

LATERAL EARTH PRESSURES:

FOUNDATION WALLS SHALL BE ADEQUATELY DRAINED TO PREVENT WATER FROM ACCUMULATING BEHIND WALLS.

THE DESIGN LATERAL EARTH PRESSURES RECOMMENDED PER THE GEOTECHNICAL REPORT (SEE SECTION 2) ARE AS FOLLOWS:

BRACED BASEMENT WALLS: AT REST EFP: 63 PCF
SURCHARGE: 0.55 TIMES VERTICAL LOAD UNIFORMLY DISTRIBUTED OVER HEIGHT OF WALL

UNRESTRAINED WALLS: ACTIVE EFP: 42 PCF
SURCHARGE: 0.38 TIMES VERTICAL LOAD UNIFORMLY DISTRIBUTED OVER HEIGHT OF WALL

PASSIVE PRESSURE: 293 PCF, SLIDING FRICTION COEFF. 0.32

C. THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER OF RECORD (S.E.R) ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC. TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.

D. MECHANICAL UNITS AND ANY OTHER EQUIPMENT SUPPORTED BY THE STRUCTURE WITH WEIGHTS IN EXCESS OF 200 LBS. SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

E. CONTRACTOR SHALL REVIEW AND VERIFY ALL FIELD CONDITIONS, DIMENSIONS AND CONTRACT DOCUMENTS PRIOR TO COMMENCING WORK AND SHALL NOTIFY THE S.E.R. OR ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS BEFORE PROCEEDING.

2A. EARTHWORK:

A. ALL EXCAVATION, SUBGRADE PREPARATION, AND OTHER EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT BY ECS MID-ATLANTIC, LLC DATED APRIL 16, 2026 AND ANY SUPPLEMENTAL CORRESPONDENCE. GEOTECHNICAL RECOMMENDATIONS SHALL TAKE PRECEDENCE OVER THE ITEMS THAT FOLLOW IN THIS SECTION OF THE STRUCTURAL NOTES.

B. THE FOUNDATION HAS BEEN DESIGNED FOR A NET ALLOWABLE BEARING PRESSURE OF 2000PSF FOR ORIGINAL UNDISTURBED SOILS AND COMPACTED FILL. THE FOOTING SUBGRADES SHALL BE VERIFIED FOR BEARING REQUIREMENTS BY A GEOTECHNICAL ENGINEER JUST PRIOR TO THE PLACEMENT OF CONCRETE. FOOTING EXCAVATIONS SHALL HAVE THE SIDES AND BOTTOMS CLEANED AND HAND TAMPED TO A UNIFORM SURFACE.

C. ALL FOOTINGS SHALL PROJECT AT LEAST 1'-0" INTO UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL. BOTTOMS OF ALL EXTERIOR FOOTINGS SHALL BE AT LEAST 2'-6" BELOW FINISHED GRADE. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED. NO EXCAVATION SHALL BE CLOSER THAN 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 HORIZONTAL TO 1 VERTICAL.

D. PRIOR TO THE START OF ANY CONSTRUCTION, ALL VEGETATION, TOPSOIL, ORGANIC SOILS, SOIL MIXED WITH EXCESSIVE AMOUNTS OF ROOTS, STUMPS, ASPHALT OR OTHER DELETERIOUS MATERIALS, BUILDING DEBRIS, EXISTING UTILITY LINES AND BACKFILL SHALL BE REMOVED FROM ALL BUILDING AND PAVEMENT AREAS INCLUDING AT LEAST 5 FT OFFSETS OUTSIDE ALL BUILDING AND PAVEMENT LINES. SOFT, VERY WET AND LOOSE SOILS SHALL ALSO BE REMOVED FROM BUILDING AREAS. THE CLEARED AREAS SHALL ALSO BE PROOFROLLED PRIOR TO THE PLACEMENT OF FILL. PROOFROLLING SHALL BE CARRIED OUT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER. IF PUMPING OR RUTTING IS OBSERVED, THE SOFT OR WET MATERIAL SHALL BE REMOVED DOWN TO FIRM SUBGRADE AND REPLACED WITH SUITABLE FILL. ALL POTENTIALLY EXPANSIVE CLAY (CL-CH) SOILS BELOW FOOTINGS AND FOR AT LEAST 2 FT BELOW SLABS AND PAVEMENTS SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL MATERIALS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.

E. CONTRACTOR TO PROVIDE A DE-WATERING SYSTEM (IF REQUIRED) TO PREVENT SOFTENING OF SUBGRADE, FACILITATE CONTROL OF GROUNDWATER AND ALLOW CONSTRUCTION IN DRY CONDITIONS. NO EXCAVATION SHALL EXTEND CLOSER THAN 2 FT TO GROUNDWATER LEVEL. IF THE SOIL AT THE SUBGRADE BECOMES WET, THEN CONSTRUCTION SHOULD BE STOPPED AND DE-WATERING MUST BE PERFORMED TO LOWER THE WATER LEVEL. RESUME EXCAVATION ONLY AFTER THE GEOTECHNICAL ENGINEER HAS EXAMINED THE CONDITION AND HAS APPROVED THE RESTART OF ANY EXCAVATION WORK.

F. DO NOT PLACE BACKFILL AGAINST FOUNDATION WALLS UNTIL UPPER BRACING FLOORS ARE IN PLACE FOR AT LEAST SEVEN DAYS AND HAVE ATTAINED 75% OF DESIGN STRENGTH.

3A. CONCRETE:

A. CONCRETE MATERIAL, QUALITY CONTROL, DESIGN AND CONSTRUCTION SHALL CONFORM WITH REQUIREMENTS OF CHAPTER 19, INTERNATIONAL BUILDING CODE (IBC), AND WITH BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318).

B. MINIMUM SPECIFIED 28 DAYS CONCRETE DESIGN STRENGTH SHALL BE AS SHOWN ON THE CONCRETE STRENGTH AND DURABILITY REQUIREMENTS TABLE LOCATED ON SHEET S0.2 UNLESS A HIGHER STRENGTH IS SHOWN ON THE CONSTRUCTION DRAWINGS. EXPOSURE CATEGORIES ARE PER ACI-318, CHAPTER 19. REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS ARE PER ACI-318, TABLE 19.3.2.1. ALL CEMENTITIOUS MATERIALS SHALL BE INCLUDED IN CALCULATING WATER/CEMENT RATIO.

C. MIXING, TRANSPORTING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 301.

D. HIGH STRENGTH GROUT SHALL BE NON-SHRINK, NON-METALLIC CONFORMING TO ASTM C 827 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

E. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60 (60,000 PSI). WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A-1064. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE ACI'S "GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS". DETAILS OF REINFORCEMENT SHALL CONFORM TO THE ACI 318 EDITION REFERENCED BY IBC IN EFFECT AND CRSI STANDARDS.

F. CONCRETE PROTECTION FOR REINFORCEMENT: PROVIDE THE MINIMUM CLEARANCES (COVER) FOR REINFORCEMENT AS FOLLOWS PER ACI 318, TABLE 20.6.1.3.1:

- FOOTINGS AND OTHER CONCRETE POURED AGAINST EARTH — 3"
- FORMED CONCRETE EXPOSED TO EARTH OR WEATHER — #5 BAR OR SMALLER 1-1/2"; #6 BAR OR LARGER 2"
- FORMED VERT. CONCRETE NOT EXPOSED TO WEATHER OR EARTH — 3/4"
- SLABS ON GROUND, UNLESS NOTED OTHERWISE — MID-DEPTH
- ELEVATED SLAB NOT EXPOSED TO WEATHER OR EARTH — 3/4" TOP, 1" BOT.
- BEAMS AND COLUMNS (TO TIES) — 1-1/2"
- PARKING SLABS — 2" TOP, 1" BOT.

G. SEE FOUNDATION PLAN NOTES FOR SLAB ON GRADE INFORMATION. PLACE CONCRETE OVER POLYETHYLENE VAPOR BARRIER AND FREE DRAINING COARSE AGGREGATE AS RECOMMENDED BY GEOTECHNICAL ENGINEER. THE AGGREGATE LAYER SHALL BE PLACED OVER FIRM NATURAL SUBGRADE OR ON COMPACTED AND CONTROLLED FILL. USE AIR -ENTRAINMENT AT ALL EXTERIOR SLABS. PROVIDE CONTROL AND CONSTRUCTION JOINTS AT 15' - 25' MAXIMUM TO PREVENT UNCONTROLLED CRACKING PER ACI RECOMMENDATIONS.

H. PROVIDE CORNER AND "T" BARS TO MATCH ALL HORIZONTAL REINFORCING IN WALLS AND FOOTINGS. ALL LAPS SHALL BE A MINIMUM OF 30 BAR DIAMETERS. PROVIDE DOWELS BETWEEN ALL FOOTINGS, WALLS AND PIERS TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.

I. SLAB OPENINGS AND SLEEVES SMALLER THAN 12" (IN LARGER DIMENSION) ARE NOT SHOWN ON PLANS. CONTRACTOR SHALL SUBMIT ALL OPENINGS (SIZE AND LOCATION) AS A SINGLE COORDINATED SLEEVE PLAN FOR REVIEW AND APPROVAL.

J. CHAMFER ALL EXPOSED CONCRETE CORNERS, 3/4"x3/4" UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.

K. MAXIMUM PERMISSIBLE WATER CEMENTITIOUS MATERIALS RATIOS FOR CONCRETE WHEN STRENGTH DATA FROM FIELD EXPERIENCE OR TRIAL MIXTURES ARE NOT AVAILABLE SHALL BE IN ACCORDANCE WITH ACI 318.

L. PLACE CONCRETE FOR FOUNDATIONS ON THE SAME DAY SUBGRADE APPROVAL IS GIVEN BY THE GEOTECHNICAL ENGINEER.

M. PROTECT CONCRETE FROM FREEZING DURING PLACING AND FOR A PERIOD OF NOT LESS THAN FIVE DAYS AFTERWARD.

N. CAST IN PLACE ALL SLEEVES AND INSERTS.

O. WHERE CALLED OUT ON PLAN OR DETAIL, PAPER JOINT IS DEFINED AS A BOND BREAKER CONSISTING OF, BUT NOT LIMITED TO POLYETHYLENE TAPE, COATED BUILDING PAPER OR METAL FOILS BETWEEN TWO ELEMENTS TO PREVENT BONDING.

3B. OPENINGS, PIPE SLEEVES AND EMBEDDED CONDUITS:

A. SIZE AND LOCATION OF ALL OPENINGS SHALL BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. PROVIDE COORDINATED M.E.P. OPENINGS AND SLEEVE LAYOUT DRAWINGS FOR ELEVATED FLOOR SLABS FOR APPROVAL PER GUIDELINES STIPULATED FOR SHOP DRAWINGS. OPENING DIAMETER AND SLEEVE OUTSIDE DIAMETER SHALL BE SHOWN AND DIMENSIONED FROM ESTABLISHED GRIDLINES. APPROVAL OF THESE DRAWINGS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF OTHER TRADES SHOP DRAWINGS RELATED TO CONCRETE WORK.

B. PENETRATIONS ARE NOT PERMITTED IN BEAMS, COLUMNS OR COLUMN CAPS EXCEPT AS SPECIFICALLY INDICATED ON STRUCTURAL DRAWINGS. FORM ROUND OPENINGS USING PIPE SLEEVES. CLEAR DISTANCE BETWEEN FACE OF COLUMN, COLUMN CAP OR EMBEDDED PLATE AND EDGE OF OPENING OR SLEEVE SHALL BE NOT LESS THAN ONE-HALF THE SLAB OR DROP PANEL THICKNESS. ARRANGE REINFORCING AROUND OPENINGS AS SHOWN IN TYPICAL DETAILS. PLACE SLAB BARS TO CLEAR SLEEVES AND MAINTAIN 1-1/2" MINIMUM CLEAR SPACING BETWEEN BARS. WHERE SLEEVES ARE CLOSELY SPACED IN A GROUP, TREAT THE GROUP AS AN OPENING AND REINFORCE ACCORDINGLY. SEAL PENETRATIONS TO MAINTAIN THE INTEGRITY OF THE FIRE RATING.

C. EMBEDDED PIPES OR CONDUITS SHALL BE PLACED AT LEAST THREE DIAMETERS ON CENTER. CONDUIT DIAMETER SHALL BE NOT LARGER THAN 1/3 (1/4 FOR POST-TENSIONED SLABS) OF OVERALL THICKNESS OF SLAB, WALL, OR BEAM IN WHICH THEY ARE EMBEDDED. OBSERVE MINIMUM CONCRETE COVER REQUIREMENTS. CENTER TO CENTER SPACING OF CONDUITS SHALL BE NOT LESS THAN THREE TIMES THE LARGEST CONDUIT DIAMETER IN THE GROUP. CONDUITS MUST NOT INTERFERE WITH SLAB REINFORCING. IT IS UNDESIRABLE TO HAVE EXCESS NUMBER OF CONDUITS ENTERING/EXITING THE SLAB AT/FROM THE SAME LOCATION. IF THIS CONDITION EXISTS, THE CONDUITS MUST BE FANNED OUT IMMEDIATELY. ALUMINUM CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC REACTION BETWEEN ALUMINUM AND STEEL. EXCESSIVE CROSSING OVER OF CONDUITS IN SLABS WILL NOT BE PERMITTED. CONDUITS AND PIPES WITH THEIR FITTINGS, EMBEDDED WITHIN A CONCRETE COLUMN SHOULD BE AVOIDED, BUT IF UNAVOIDABLE SHALL NOT DISPLACE MORE THAN 4 PERCENT OF THE COLUMN CROSS SECTIONAL AREA.

4A. BRICK VENEER:

A. ALL BRICK VENEER CONSTRUCTION TO BE IN ACCORDANCE WITH TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", THE BRICK INDUSTRY ASSOCIATION AND CURRENT YEAR IBC REQUIREMENTS.

- VENEER BRICK — ASTM C216, GRADE SW
- MORTAR — ASTM C270, TYPE S EXTERIOR OR BELOW GRADE; ASTM C270, TYPE N OR S EXTERIOR OR ABOVE GRADE

B. BRICK VENEER WITH A MAXIMUM WEIGHT OF 40 PSF SHALL BE ANCHORED IN ACCORDANCE WITH TMS 402, SECTION 12.2.2.5.

C. BRICK VENEER SHALL BE INSTALLED WITH A MAXIMUM DISTANCE OF 4-1/2" BETWEEN INSIDE FACE OF VENEER AND OUTSIDE FACE OF SOLID SHEATHING OR CONCRETE / CMU WALL. MAINTAIN A MINIMUM 1" AIRSPACE. ATTACH VENEER TO BACKING MATERIAL PER THE FOLLOWING TABLES:

D. ALL COMPONENTS, INCLUDING FASTENERS, SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION CONFORMING TO ASTM A-153 CLASS B-2 OR STAINLESS STEEL CONFORMING TO ASTM A 580-AISI TYPE 304. EMBED ALL ANCHORS IN THE MORTAR JOINT 2" MIN WITH AT LEAST 5/8" COVER TO THE OUTSIDE FACE. ALL TRIANGULAR WIRE TIES TO BE 3/16"Ø.

E. BRICK VENEER SHALL BE DESIGNED AND DETAILED BY THE ARCHITECT/CONTRACTOR TO ALLOW FOR DIFFERENTIAL MOVEMENT, RESULTING FROM WOOD SHRINKAGE, AT ALL OBJECTS ATTACHED TO THE WOOD FRAMING AND EXTEND INTO THE VENEER INCLUDING DOORS, WINDOWS, BEAMS, TRIM, ETC.

BRICK VENEER ANCHORS - NO CONTINUOUS INSULATION

BACKING MATERIAL	ANCHOR OPTIONS	FASTENER OPTIONS
CONCRETE	HOHMANN AND BARNARD #315 TIE	1. (1) 3/16"x1-1/4" TAPCON HEX HEAD SCREW
		2. DOVETAIL SLOT
CMU	HOHMANN AND BARNARD #315 TIE	(1) 3/16"x1-1/4" TAPCON HEX HEAD SCREW
WOOD STUD	HOHMANN AND BARNARD DW-10 WITH TIE	1. (2) 0.131"x2-1/2" NAILS
		2. (2) #9x1-5/8" WOOD SCREWS
	HECKMANN 315-D WITH TIE	1. (2) 0.131"x2-1/2" NAILS
		2. (2) #9x1-5/8" WOOD SCREWS

BRICK VENEER ANCHOR SPACING REQUIREMENTS

LOADING CRITERIA	AREA PER ANCHOR	TMS 402 REFERENCE	MAX. HORIZONTAL x VERTICAL SPACING OPTIONS	SPACING AT OPENINGS
<=125 MPH BASIC WIND SPEED SDC A,B,C, NO HEIGHT LIMIT	2.67 SQ. FT	SECTION 12.2.2.5.6.1, 12.2.2.10.1	12 IN. x 24 IN. 16 IN. x 24 IN. 24 IN. x 16 IN. 32 IN. x 12 IN.	1. PROVIDE ADDITIONAL ANCHORS AROUND OPENINGS LARGER THAN 16" IN EITHER DIRECTION. SPACE AROUND PERIMETER OF OPENING AT A MAXIMUM OF 36" O.C. PLACE WITHIN 12" OF OPENINGS
>125 MPH AND <147 MPH BASIC WIND SPEED 60'-0" HEIGHT LIMIT	1.87 SQ. FT	SECTION 12.2.2.2.11	12 IN. x 16 IN. 16 IN. x 16 IN.	2. PROVIDE ADDITIONAL ANCHORS AROUND OPENINGS LARGER THAN 16" IN EITHER DIRECTION. SPACE AROUND PERIMETER OF OPENING AT A MAXIMUM OF 24" O.C. PLACE WITHIN 12" OF OPENINGS
>147 MPH BASIC WIND SPEED	NOT PERMITTED			
SEISMIC DESIGN CATEGORY D	2.00 SQ. FT	SECTION 12.2.2.10.2.2	12 IN. x 24 IN. 16 IN. x 18 IN. 24 IN. x 12 IN. 32 IN. x 9 IN.	SAME AS NOTE 1 ABOVE

4A. BRICK VENEER:

F. STEEL LINTELS SHALL BE ASTM A36 AND SHALL HAVE A CORROSION-RESISTANT GALVANIZED COATING, APPROVED COAT OF PAINT, ENAMEL OR OTHER APPROVED PROTECTION PRIOR TO INSTALLATION IN ACCORDANCE WITH NOTE 5A.I. STEEL LINTELS MAY ALSO BE FABRICATED OF APPROVED CORROSION-RESISTANT STEEL (STAINLESS STEEL OR ASTM A242) REFER TO THE MASONRY VENEER LINTEL SCHEDULE FOR ADDITIONAL REQUIREMENTS ON NEXT SHEET.

4B. MASONRY:

A. ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH THE NATIONAL CONCRETE MASONRY ASSOCIATION'S STANDARD PRACTICES AND TMS 402/602 BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES. ALL MASONRY TO CONFORM TO THE FOLLOWING SPECIFICATION:

- LOAD BEARING CMU — ASTM C90
- MORTAR — ASTM C270, TYPE S EXTERIOR OR BELOW GRADE; ASTM C270, TYPE N EXTERIOR ABOVE GRADE; ASTM C270, TYPE N INTERIOR LOAD BEARING; ASTM C270, TYPE O INTERIOR NON-LOAD BEARING

B. THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY SHALL BE f'm = 2000 PSI. CONTRACTOR SHALL PROVIDE SPECIAL TEST AND INSPECTION FOR THE LOCATION OF THE REINFORCEMENT AND DURING CONSTRUCTION OF CMU WALL.

C. JOINT REINFORCING: PROVIDE LADDER TYPE ZINC COATED, COLD DRAWN STEEL WIRE CONFORMING TO ASTM A1064 AT EVERY OTHER BLOCK COURSE. ABOVE GRADE, REINFORCEMENT SHOULD CONSIST OF TWO OR MORE LONGITUDINAL WIRES, NO. 9 GAUGE OR LARGER WELD CONNECTED WITH NO. 12 GAUGE OR LARGER CROSS WIRES.

D. GROUT OR PEA GRAVEL CONCRETE USED FOR FILLING UNIT CELLS OF MASONRY SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI ON THE NET AREA AT 28 DAYS.

E. REINFORCED MASONRY SHALL BE BUILT IN RUNNING BOND WITH ALL CELLS LINED UP. WEBS OF UNITS TO BE REINFORCED SHALL BE FILLED WITH GROUT OR PEA GRAVEL CONCRETE AND SHALL HAVE FULL MORTAR COVERAGE.

5A. STEEL:

A. STRUCTURAL STEEL W-SHAPES TO CONFORM TO ASTM A992 (FY = 50 KSI MIN.). STRUCTURAL STEEL M, S, C, MC, AND L SHAPES TO CONFORM TO ASTM A36 (FY = 36 KSI). STRUCTURAL STEEL HP SHAPES TO CONFORM TO A572 GR 50 (FY = 50 KSI). STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 GR. B (FY = 35 KSI). ROUND HSS SHAPES TO CONFORM TO ASTM A500 GR. C (FY = 46 KSI) SQUARE AND RECTANGULAR HSS SHAPES TO CONFORM TO ASTM A500 GR. C (FY = 50 KSI) ALL STRUCTURAL PLATES SHALL CONFORM TO ASTM A36 (FY = 36 KSI)

B. WELDS SHALL COMPLY WITH AWS D1.1. WELDING ELECTRODE: E70XX

C. CONNECTIONS SHALL BE AISC STANDARD DESIGNED FOR REACTIONS SHOWN ON PLAN. IF NO REACTIONS ARE SHOWN ON PLAN, PROVIDE CONNECTION CAPABLE OF SUPPORTING 1/2 OF TOTAL UNIFORM LOAD CAPACITY OF THE BEAM. MINIMUM ASTM A325 3/4"Ø BOLT CONNECTION SHALL BE:
- W8 OR W10 - 2 BOLTS
- W12 OR W14 - 3 BOLTS
- W16 OR W18 - 4 BOLTS
- W21 OR W24 - 5 BOLTS

D. SHOP DRAWING SUBMITTALS: SHOW FABRICATION OF STRUCTURAL STEEL COMPONENTS.
1. INCLUDE DETAILS OF CUTS, CONNECTIONS, SPLICES, CAMBER, HOLES AND OTHER PERTINENT DATA
2. INCLUDE EMBEDMENT DRAWINGS
3. INDICATE WELDS BY STANDARD AWS SYMBOLS, DISTINGUISHING BETWEEN SHOP AND FIELD WELDS, AND SHOW SIZE, LENGTH, AND TYPE OF EACH WELD. SHOW BACKING BARS THAT ARE TO BE REMOVED AND SUPPLEMENTAL FILLET WELDS WHERE BACKING BARS ARE TO REMAIN.
4. INDICATE TYPE, SIZE AND LENGTH OF BOLTS, DISTINGUISHING BETWEEN SHOP AND FIELD BOLTS. IDENTIFY PRE-TENSIONED AND SLIP-CRITICAL, HIGH-STRENGTH BOLTED CONNECTIONS

(ITEMS 5-7 ONLY APPLY TO "HIGH SEISMIC APPLICATIONS" AS DEFINED IN AISC 360)
5. IDENTIFY MEMBERS AND CONNECTIONS OF THE SEISMIC-LOAD-RESISTING SYSTEM
6. INDICATE LOCATIONS AND DIMENSIONS OF PROTECTED ZONES
7. IDENTIFY DEMAND CRITICAL WELDS

E. FOR STRUCTURAL STEEL CONNECTIONS INDICATED TO COMPLY WITH ABOVE DESIGN LOADS, SHOP DRAWINGS SHALL ALSO INCLUDE ANALYSIS DATA AND CALCULATIONS SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

F. PROVIDE STEEL PLATE FOR ALL STRUCTURAL STEEL BEARING ON CONCRETE OR MASONRY

G. ANCHOR BOLTS FOR BEAM AND COLUMN BASE PLATES SHALL BE ASTM F1554 GRADE 36, U.N.O. GROUT UNDER BASE PLATE SHALL BE NON-SHRINK, NON-METALLIC, f'c = 5000 PSI.

H. ALL ANCHOR BOLTS, BEARING PLATES, AND INSERTS SHALL BE CAST INTO CONNECTING WORK USING PRE-SET TEMPLATES.

I. ALL STEEL EXPOSED TO WEATHER, INCLUDING STEEL LINTELS FOR MASONRY OPENINGS, EXCEPT WHERE FABRICATED OF APPROVED CORROSION-RESISTANT STEEL OR OF STEEL HAVING A CORROSION RESISTANT OR OTHER APPROVED COATING, SHALL BE PROTECTED AGAINST CORROSION WITH AN APPROVED COAT OF PAINT, ENAMEL, OR OTHER APPROVED PROTECTION.

5B. PRE-ENGINEERED STRUCTURAL ELEMENTS, STAIRS, HANDRAILS AND GUARDRAILS:

A. FABRICATE, SUPPLY AND ERECT PRE-ENGINEERED STRUCTURAL ELEMENTS, STAIRS, HANDRAILS AND GUARDRAILS AS SHOWN ON SHOP DRAWING PROFILE AND LAYOUT SHEETS AND AS SPECIFIED.

B. WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
1. COMPLETE DETAILS AND MATERIAL SCHEDULES FOR FABRICATION OF EACH MEMBER AND ALL CONNECTIONS
2. BUILDING ELEVATIONS INDICATING THE LOCATION AND FABRICATOR DESIGNATION OF EACH RAILING
3. SCALE ELEVATIONS AND PLAN DRAWINGS OF ALL STAIR AND RAILING CONFIGURATIONS SHOWING THE ACTUAL DIMENSIONS AND QUANTITY. DISTINGUISH CLEARLY THE LIMIT OF FACTORY AND FIELD ASSEMBLED WORK, ILLUSTRATE METHOD OF JOINING COMPONENTS, AND ILLUSTRATE PROVISIONS FOR ACCOMMODATION OF THERMAL EXPANSION AND CONTRACTION.

C. SHOP DRAWINGS SHALL BE THOROUGHLY CHECKED BY THE FABRICATOR AND CONTRACTOR BEFORE BEING SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW. THE REVIEW BY THE ARCHITECT/ENGINEER IS FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT ONLY AND DOES NOT RELIEVE FABRICATOR OF FULL RESPONSIBILITY OF THE CORRECTNESS OF ALL MATERIALS, SIZES, DIMENSIONS AND DETAILS.

D. FABRICATOR SHALL NOT PROCEED WITH FABRICATION OR ERECTION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY ARCHITECT/ENGINEER

E. FABRICATION, ASSEMBLY, AND ERECTION SHALL CONFORM TO REVIEWED SHOP DRAWINGS.

F. ALL STAIRS, HANDRAILS AND GUARDRAILS SHALL BE DESIGNED IN ACCORDANCE WITH THE LOADING REQUIREMENTS SPECIFIED IN THE IBC CODE. PROVIDE COMPLETE STRUCTURAL CALCULATIONS INCLUDING MAXIMUM ALLOWABLE FIBER STRESSES, DEFLECTIONS, AND ACTUAL LOADS FOR ALL CONNECTIONS, BASE PLATES AND POST ANCHORS. ALL ASSUMPTIONS, GIVEN VALUES, CONSTANTS, EQUATIONS, CODES AND INDUSTRY STANDARDS SHALL BE CLEARLY STATED AND REFERENCED AS APPROPRIATE.

G. CALCULATIONS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.

6A. WOOD:

A. ALL LOAD BEARING STRUCTURAL MEMBERS LISTED BELOW SHALL BE MINIMUM SPRUCE-PINE-FIR #2 (SPF #2) OR BETTER UNLESS NOTED OTHERWISE. SPF SOUTH #2 IS NOT PERMITTED.
- FLOOR AND CEILING JOISTS
- WINDOW AND DOOR HEADERS
- BUILT UP BEAMS AND COLUMNS
- EXTERIOR AND INTERIOR BEARING WALL STUDS

B. ALL LUMBER DELIVERED TO THE SITE SHALL HAVE A MOISTURE CONTENT OF 19% OR LESS

C. ALL NON-BEARING INTERIOR WALL STUDS AND TOP AND BOTTOM PLATES MAY BE SPRUCE-PINE-FIR STUD GRADE (SPF STUD) WITH SIZE TO MATCH ARCHITECTURAL DRAWINGS WITH STUDS AT 24" O.C. MAXIMUM SPACING. COORDINATE WITH OWNER OR ARCHITECT ON MORE STRICT REQUIREMENTS.

D. ALL LOAD BEARING TOP AND BOTTOM WALL PLATES ARE TO BE SOUTHERN PINE #2 (SP#2) UNLESS NOTED OTHERWISE.

E. ALL LUMBER USED IN EXTERIOR APPLICATIONS, INCLUDING: BALCONY DECK BOARDS, LEDGERS, FLOOR JOISTS, BEAMS, WOOD IN CONTACT WITH EXTERIOR MASONRY OR CONCRETE SLABS OR WALLS, AND SILL PLATES EXPOSED TO CONCRETE SHALL BE SOUTHERN PINE #2 (SP #2) TREATED IN ACCORDANCE WITH AWPA UC1. USE CATEGORY 2 FOR SILL PLATES, CATEGORY 3B FOR EXTERIOR MEMBERS, AND CATEGORY 4A FOR WOOD IN GROUND CONTACT. SEE AWPA U1 FOR ALL OTHER CASES.

F. THE DESIGN VALUES SHOWN IN THE FOLLOWING TABLE ARE IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATIONS (NDS) EDITION REFERENCED BY THE IBC IN EFFECT:

LUMBER GRADE DESIGN VALUES

LUMBER GRADE:	Fb	Fc ⊥	Fc II	Fv	E
	PSI	PSI	PSI	PSI	PSI
SPF#2 (WALL STUDS, COLUMNS, ETC) U.N.O.	875	425	1150	135	1,400,000
6"x6" POSTS SP#2	850	375	525	-	1,200,000
8"x8" POSTS DFL (N) #2	725	625	700	-	1,300,000
SP#2 (WALL PLATES) SP#2 P.T. (BALCONY, EXTERIOR) PER SUPPLEMENT NO. 13 TO THE SPIB GRADING RULES 2002 EDITION	1100 FOR 2x4 1000 FOR 2x6 925 FOR 2x8 800 FOR 2x10 750 FOR 2x12	565	-	175	1,400,000
LVL	2600	750	-	285	2,000,000
PSL	2900	625	-	290	2,000,000
PSL PLUS (WOLMANIZED) USE SERVICE LEVEL 2	1827	338	-	197	1,460,000
LSL BEAM ORIENTATION	1700	710	1835	425	1,300,000
LSL PLANK ORIENTATION	1900	670	1835	150	1,300,000
FIRE RETARDANT LUMBER REDUCTION FACTOR	0.89	0.91	0.91	0.93	0.94

1. BEAM ORIENTATION REFERS TO LOAD APPLIED PARALLEL TO THE WIDE FACE OF THE STRANDS. (APPLIES TO THE EDGE OF THE MEMBER)
2. PLANK ORIENTATION REFERS TO LOAD APPLIED PERPENDICULAR TO THE WIDE FACE OF THE STRANDS. (APPLIES TO THE FACE OF THE MEMBER)
3. FRT LUMBER DESIGN STRENGTHS REDUCED ARE WORST CASE FROM 3 DIFFERENT PRODUCTS. (DRICON, D-BLAZE AND PYROGUARD). REDUCTION APPLIES TO TEMPERATURE UP TO 100°F. ALTERNATE FACTORS ARE REQUIRED FOR TEMPERATURE GREATER THAN 100°F
4. FRT LUMBER CHOSEN MAY NOT REDUCE CAPACITY MORE THAN WHAT IS LISTED ABOVE WITHOUT PRIOR APPROVAL OF S.E.R.
5. FASTENER CONNECTION CAPACITY SHALL BE REDUCED AS NOTED BELOW:
- LATERAL STRENGTH OF NAILS = 0.98
- WITHDRAWAL STRENGTH OF NAILS = 0.91
- WITHDRAWAL STRENGTH OF SCREWS = 0.94

G. ALL METAL CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED MINIMUM 1.85 OUNCE PER SQUARE FOOT (ASTM A653, A123, AND A153), STAINLESS STEEL (TYPE 303,304,305 OR 316) OR OTHER CORROSION RESISTANT MATERIALS THAT ARE COMPATIBLE WITH THE PRESERVATIVE USED AND EXPOSURE CONDITIONS. BEAM TO BEAM CONNECTIONS ON EXPOSED DECKS SHALL BE IN ACCORDANCE WITH THE ALLOWABLE WOOD PRESERVATIVE SYSTEMS AND REQUIRED CORROSION PROTECTION SCHEDULE ON NEXT SHEET. CONTRACTOR TO VERIFY THE SUITABILITY OF CONNECTORS WITH THE MANUFACTURER AND THE GOVERNING JURISDICTION.

H. FASTENERS SHOULD MATCH THE TYPE OF CONNECTOR BEING USED. STAINLESS STEEL CONNECTORS REQUIRE STAINLESS STEEL FASTENERS AND HOT DIPPED GALVANIZED CONNECTORS REQUIRE HOT DIPPED GALVANIZED FASTENERS THAT MEET THE SPECIFICATIONS OF ASTM A153.

I. LVL's (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 UNLESS NOTED OTHERWISE.

J. PSL's (PARALLEL STRAND LUMBER) SHALL BE OF THE WIDTH AND DEPTH SPECIFIED ON THE PLANS, AND SHALL BE SECURED TOGETHER AS DIRECTED BY THE MANUFACTURER UNLESS NOTED OTHERWISE.

K. ALL STUDS SHALL BE INSTALLED IN ACCORDANCE WITH AWC (AMERICAN WOOD COUNCIL) 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 BETWEEN FLOORS.

L. SHEATHING: EACH PANEL SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION, AND SHALL MEET THE REQUIREMENTS OF APA PRP-108 PERFORMANCE STANDARDS. ALL PANELS WHICH HAVE ANY EDGE OR SURFACE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE CLASSED EXTERIOR GRADE. PANEL THICKNESS, GRADE, AND GROUP NUMBER OR SPAN RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS. APPLICATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN PLYWOOD ASSOCIATION. ALL ADHESIVES SHALL CONFORM TO APA SPECIFICATION AFG-01 AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

M. FLOOR DECKING SHALL BE GLUED AND NAILED PER APA RECOMMENDATIONS FOR THE STURD-I-FLOOR SYSTEM AND IN ACCORDANCE WITH THE SCHEDULE PROVIDED.

N. IF 5/4 'TREX' TYPE MATERIAL IS UTILIZED: JOISTS TO HAVE A 16" O.C. MAXIMUM SPACING

O. FOR STACKING NON-BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS.

6B. PREFABRICATED WOOD TRUSSES:

A. TRUSS MANUFACTURER SHALL FABRICATE, LABEL, AND SUPPLY WOOD TRUSSES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED.

B. TRUSSES SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH CURRENT YEAR IBC REQUIREMENTS, NDS, AFPA, NDSMPCWTC, TPI, BCSI, AND THE FOLLOWING REQUIREMENTS:
1. DESIGN INDIVIDUAL TRUSS MEMBERS USING THE COMPONENTS AND CLADDING LOADS SHOWN IN SECTION 1 FOR THE REQUIRED ZONES AND TRIBUTARY AREA
2. DESIGN OVERALL TRUSS UPLIFT REACTIONS USING THE MAIN WINDFORCE-RESISTING SYSTEM LOADS.

C. TRUSS MANUFACTURER SHALL FURNISH DESIGN DRAWINGS BEARING THE SEAL AND REGISTRATION NUMBER OF THE DESIGN PROFESSIONAL LICENSED IN THE STATE WHERE THE TRUSSES ARE TO BE INSTALLED. DRAWINGS SHALL BE APPROVED BY ARCHITECT AND S.E.R. PRIOR TO FABRICATION.

D. LUMBER USED SHALL BE IDENTIFIED BY THE GRADE MARK OF A LUMBER INSPECTION BUREAU OR AGENCY APPROVED BY BOARD OF REVIEW OF THE AMERICAN LUMBER STANDARDS COMMITTEE.

E. INCLUDED IN THE MANUFACTURER DESIGN SUBMITTAL PACKAGE SHALL BE SIGNED AND SEALED COPIES OF THE FOLLOWING ITEMS:
1. LETTER STATING THAT GOVERNING DESIGN CRITERIA HAS BEEN MET.
2. TRUSS LAYOUT PLAN TO MATCH CONCEPT GENERATED ON THE STRUCTURAL DRAWINGS
3. INDIVIDUAL TRUSS PROFILES THAT SHOW CORRECT LOADING, SPACING, MAXIMUM DEFLECTIONS, MEMBER FORCES, DIMENSIONS, LUMBER GRADE AND SPECIES, AND REACTION/UPLIFT FORCES

F. STEEL FOR CONNECTOR PLATES SHALL MEET OR EXCEED ASTM A653 - "SPECIFICATIONS FOR SHEET STEEL, ZINC COATED BY THE HOT DIPPED PROCESS".

G. TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AT JOB SITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE LATERAL BENDING. ERECTION SHALL BE IN ACCORDANCE WITH CURRENT EDITION OF THE BUILDING COMPONENT SAFETY INFORMATION MANUAL. TRUSSES MUST BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. CUTTING AND/OR ALTERING OF TRUSSES IS NOT PERMITTED.

H. BRACE TRUSSES SUFFICIENTLY DURING ERECTION TO PREVENT TOPPLING OR DOMINOING. INSTALL ALL BRACING BEFORE PLACING CONCENTRATED LOADS ON TRUSSES. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE ALL REQUIRED HANGERS, HOLD DOWN STRAPS, HURRICANE CLIPS, SHEAR PANELS, CRIPPLES, AND ANY ADDITIONAL SPECIAL HARDWARE ARE INSTALLED IN ACCORDANCE TO THE TRUSS MANUFACTURER OR S.E.R. SPECIFICATIONS. ADDITIONAL PERMANENT BRACING MAY BE REQUIRED BY THE S.E.R. NOT SHOWN ON THE SHOP DRAWINGS.

I. FLOOR TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED L/480 UP TO A MAXIMUM OF 1/2". FLOOR TRUSSES SUPPORTING CERAMIC TILE ABOVE SHALL BE LIMITED TO L/720 LIVE LOAD DEFLECTION. IF A 2x RIBBON RATHER THAN A FULL HEIGHT SOLID BAND IS USED AT BEARING WALLS, THEN PRE-CUT CRIPPLE STUDS SHALL BE INSTALLED TO TRANSFER WALL LOADS FROM FLOOR TO FLOOR BETWEEN STUDS.

J. ROOF TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED L/360 UP TO A MAXIMUM OF 0.8". TOTAL LOAD DEFLECTION SHALL NOT EXCEED L/240 UP TO A MAXIMUM OF 1.0". A MINIMUM OF (1) "SIMPSON" H2.5T WILL BE REQUIRED AT EACH TRUSS BEARING POINT. GIRDER TRUSSES SUPPORTING OTHER ROOF TRUSSES SHALL BE ANCHORED AT EACH BEARING POINT WITH A SIMPSON "H6" TIE DOWN. ADDITIONAL UPLIFT FORCE RESISTANCE WILL BE DETERMINED AT THE TIME OF ROOF TRUSS SHOP DRAWING REVIEW. ALL GABLE END ROOF TRUSSES THAT ARE ADJACENT TO A CATHEDRAL OR SLOPED CEILINGS SHALL BE DESIGNED AND FRAMED SUCH THAT THE WALL STUDS SPAN TO THE BOTTOM OF THE CEILING LINE (BALLOON FRAMED).

K. TRUSS MANUFACTURER SHALL DESIGN FOR LOADING FROM SPRINKLER HANGERS. CONTRACTOR TO COORDINATE SPRINKLER PIPE HANGER SPACING AND INSTALLATION. SEE SECTION 1 THIS PAGE

6C. SPECIAL NOTES REGARDING THE WOOD STRUCTURE:

A. THE WOOD PORTIONS OF THIS BUILDING HAVE BEEN DESIGNED FOR XX STORIES WITH UP TO XX STORIES OF BRICK VENEER. DUE TO THE NATURE OF THE MATERIALS BEING USED, THIS CAN LEAD TO LONG TERM MAINTENANCE ISSUES, SETTLEMENT ISSUES, AND LEAKAGE ISSUES. IT IS IMPERATIVE THAT ALL PARTIES TAKE THE PROPER CARE TO MINIMIZE THE RISKS ASSOCIATED WITH THIS WORK.

B. TOP AND BOTTOM PLATES FOR THE WOOD BEARING WALLS SHALL BE SP#2 OR LSL IN ORDER TO REDUCE LONG TERM DEFLECTIONS. SEE WOOD NOTES FOR EXTENT OF LSL PLATE FRAMING.

C. LUMBER, TRUSSES, AND SHEATHING USED ON SITE SHALL BE MAINTAINED IN A DRY AND PROTECTED CONDITION UNTIL INSTALLED. IF MATERIALS ARE TO BE STORED OUTSIDE, THEY SHALL BE STACKED ON A LEVEL SURFACE AND BLOCKED UP OFF THE GROUND UTILIZING A MINIMUM OF THREE SUPPORT POINTS. MATERIALS SHALL NEVER BE LEFT IN DIRECT CONTACT WITH THE GROUND. STACKS SHALL BE COVERED LOOSELY AND OPEN AT THE BASE FOR VENTILATION.

D. WE RECOMMEND THAT INSTALLATION OF BRICK VENEER NOT START UNTIL THE BUILDING HAS BEEN FULLY ENCLOSED AND LOADED WITH DRYWALL IN ORDER TO REDUCE THE LONG TERM SETTLEMENT.

E. IT IS RECOMMENDED THAT MOISTURE CONTENT OF THE WOOD BE CHECKED PRIOR TO BRICK INSTALLATION. WE RECOMMEND A MOISTURE CONTENT NOT TO EXCEED 14% PRIOR TO PLACEMENT OF MASONRY VENEER. THE CONTRACTOR SHOULD PERIODICALLY MONITOR THE MOISTURE CONTENT (M.C.) OF THE BOTTOM PLATES AND STUDS AT EACH FLOOR AND PROVIDE AN M.C. LOG TO S.E.R. PRIOR TO START OF BRICK WORK. S.E.R. RESERVES THE RIGHT TO ADJUST THE GAP SCHEDULE BASED ON INSITU MOISTURE CONTENT.

F. THE CONTRACTOR SHALL VERIFY THAT PROPER TOLERANCES FOR MOVEMENT AND PROPER FLASHING IS INCORPORATED INTO ALL FINISH WORK CONSTRUCTED AT WINDOW SILLS AND TRANSITIONS BETWEEN MASONRY VENEER AND OTHER MATERIALS.

6D. ANCHOR ROD AND TIE DOWN SYSTEM:

A. THE CONTINUOUS ROD TIEDOWN SYSTEM FOR THIS PROJECT SHALL BE THE SIMPSON STRONG-TIE STRONG-ROD ANCHOR TIEDOWN SYSTEM (ATS) FOR SHEARWALL OVERTURNING RESTRAINT.

B. SIMPSON STRONG-TIE SHALL PROVIDE THE ATS TO MEET THE DESIGN FORCES, TOTAL VERTICAL DISPLACEMENT LIMIT, AND SHRINKAGE REQUIREMENTS AS SET FORTH IN THE STRUCTURAL DRAWINGS. ATS CALCULATIONS AND INSTALLATION DETAILS SHALL BE PROVIDED TO THE DESIGNER/ENGINEER OF RECORD FOR REVIEW AND APPROVAL. ALLOWABLE ROD CAPACITIES SHALL BE CALCULATED PER AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

C. BEARING PLATE, WOOD STUD AND FASTENER CAPACITIES SHALL BE CALCULATED PER THE NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION.

D. SHRINKAGE COMPENSATING DEVICES SHALL BE PROVIDED AT EACH RESTRAINT LOCATION AND ACCOUNT FOR THE SHRINKAGE AMOUNT AT EACH STORY AS SET FORTH ON THE STRUCTURAL DRAWINGS. DEVICES SHALL BE CAPABLE OF COMPENSATING FOR A SHRINKAGE AND SETTLEMENT OF AT LEAST 0.50" PER LEVEL.

E. THE TOTAL VERTICAL DISPLACEMENT BETWEEN RESTRAINT LOCATIONS, INCLUDING STEEL ROD ELONGATION AND SHRINKAGE COMPENSATING DEVICE DEFLECTION, SHALL BE LESS THAN 0.20 INCHES OR AS SET FORTH IN THE STRUCTURAL DRAWINGS, USING ALLOWABLE STRESS DESIGN (ASD). STEEL ROD ELONGATION SHALL BE COMPUTED AS THE PRODUCT PL/AE, WHERE P IS THE AXIAL LOAD (LBS), L IS THE INITIAL ROD LENGTH BETWEEN RESTRAINT LOCATIONS AT THE STORY UNDER CONSIDERATION (INCHES), E IS 29,000,000 (PSI(AND A IS THE NET TENSILE AREA OF THE ROD (IN^2). SHRINKAGE COMPENSATING DEVICE DEFLECTION SHALL BE AS SPECIFIED IN ICC-ES ESR-2320 INCLUDING ▲R + ▲A (PD/PA)

F. THE ATS SHALL BE RESTRAINED BY A BEARING PLATE AND NUT AT EACH STORY OF MULTI-STORY SHEARWALLS. NOTE: SKIPPING STORIES, WHERE BEARING PLATES ARE OMITTED AT INTERMEDIATE FLOORS THAT RESULT IN MULTIPLE STORIES BEING TIED TOGETHER, IS PROHIBITED.

G. DO NOT WELD PRODUCTS UNLESS THE ATS INSTALLATION DETAILS SPECIFICALLY IDENTIFY A PRODUCT AS ACCEPTABLE FOR WELDING. SOME STEELS HAVE POOR WELDABILITY AND A TENDENCY TO CRACK WHEN WELDED. RODS, NUTS, AND COUPLER NUTS SHALL NOT BE WELDED.

H. IN THE EVENT OF A DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND ATS INSTALLATION DETAILS, THE STRUCTURAL DRAWINGS SHALL GOVERN.

I. THE STRUCTURAL DRAWINGS ARE SPECIFIC TO THE SIMPSON STRONG-TIE STRONG-ROD ANCHOR TIEDOWN SYSTEM (ATS) AND ARE NOT APPLICABLE TO OTHER MANUFACTUERS' CONTINUOUS ROD TIEDOWN SYSTEMS. PROPOSED SUBSTITUTIONS OF OTHER MANUFACTURERS' CONTINUOUS ROD TIEDOWN SYSTEMS SHALL BE SUBMITTED TO THE DESIGNER/ENGINEER OF RECORD FOR REVIEW AND APPROVAL AT THE CONTRACTOR'S EXPENSE. SUBMITTAL SHALL INCLUDE EVALUATION REPORTS INDICATING COMPLIANCE WITH GOVERNING BUILDING CODES AND TEST DATA PERFORMED IN ACCORDANCE WITH ICC-ES ACCEPTANCE CRITERIA FOR SHRINKAGE COMPENSATING DEVICES (AC316). IN ADDITION, SUBMITTAL SHALL INCLUDE INSTALLATION DETAILS AND INSTRUCTIONS, CALCULATIONS IN ACCORDANCE WITH THE GOVERNING BUILDING CODES, AND CERTIFICATION BY THE MANUFACTURER OF COMPLIANCE WITH THESE ATS SPECIFICATIONS AND THE STRUCTURAL DRAWINGS.

J. ATS RUN START/TERMINATIONS SHALL BE AS SET FORTH ON THE STRUCTURAL DRAWINGS. ALTERNATE RUN START/TERMINATIONS SHALL BE SUBMITTED TO THE DESIGNER/ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF THE CONCRETE AND AT THE CONTRACTOR'S EXPENSE. SUBMITTAL SHALL INCLUDE CALCULATIONS IN COMPLIANCE WITH THE GOVERNING BUILDING CODE, INCLUDING CONCRETE ANCHORAGE IN ACCORDANCE WITH ACI 318 PROVISIONS FOR STRENGTH DESIGN AND CONVERSION TO ASD LOAD LEVELS.

K. THE ATS IS DESIGNED TO BE INSTALLED FLOOR BY FLOOR AS THE STRUCTURE IS BUILT. INSTALLATION IN THIS MANNER, WITH SHEARWALLS, WILL PROVIDE A LATERAL-FORCE RESISTING SYSTEM DURING CONSTRUCTION. THE DESIGN AND EXPENSE OF ALTERNATIVE METHODS OF TEMPORARY-LATERAL-FORCE RESISTING SYSTEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

L. A PRE-CONSTRUCTION MEETING IS RECOMMENDED WITH SIMPSON STRONG-TIE PRIOR TO PLACEMENT OF CONCRETE. THE PURPOSE OF THIS MEETING IS TO ASSIST IN VERIFYING QUANTITIES AND UNDERSTANDING THE INSTALLATION PROCESS. TO COORDINATE THIS MEETING, CALL SIMPSON STRONG-TIE AT (800) 999-5099

7A. ANCHORS IN CONCRETE AND MASONRY:

A. POST INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON STRUCTURAL DRAWINGS.

B. THE POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS SHALL BE APPROVED BY THE ENGINEER OF RECORD.

C. PRIOR TO THE INSTALLATION OF POST INSTALLED ANCHORS, THE CONTRACTOR SHALL LOCATE EXISTING REINFORCING BAR POSITIONS THROUGH GPR, X-RAY, OR OTHER NON-DESTRUCTIVE MEANS.

D. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE THAT CONFLICT WITH THE SPECIFIED ANCHOR LOCATION SHALL NOT BE CUT OR DAMAGED UNLESS APPROVED BY THE S.E.R.

E. SUBMITTAL OF ALL PROPOSED PRODUCTS, WITH TECHNICAL DATA AND CURRENT ICC-ESR REPORTS ARE REQUIRED FOR REVIEW AND APPROVAL BY S.E.R. ADDITIONAL APPLICATION CALCULATIONS MAY BE REQUIRED BY THE EOR.

F. ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS, OTHERWISE COMPLY WITH THE MANUFACTURERS MINIMUM SPACING AND EDGE DISTANCE REQUIREMENTS TO ACHIEVE FULL MANUFACTURER SPECIFIED ANCHOR CAPACITY.

G. ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN HAMMER-DRILLED, CLEANED AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND THE RESPECTIVE ICC ES EVALUATION REPORTS.

H. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON-SITE AND BE MADE AVAILABLE TO THE S.E.R./ IOR AS REQUESTED.

I. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318, SECTION 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE S.E.R. FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

J. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318, SECTION 17.1.2).

K. PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC TABLE 1705.3 NOTE B).

L. ALTERNATE MANUFACTURERS OTHER THAN SPECIFIED ON THE CONTRACT DOCUMENTS MUST BE APPROVED BY THE S.E.R. PRIOR TO CONSTRUCTION.

7B. CONCRETE ANCHORS:

A. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

B. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

C. CAST-IN-PLACE INSERTS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC446 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

7C. MASONRY ANCHORS:

A. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106.

B. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58.

7D. POWDER ACTUATED FASTENERS:

A. POWDER ACTUATED FASTENERS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70

7E. SPECIAL INSPECTION REQUIREMENTS:

A. PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC TABLE 1705.3 NOTE B).

B. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL PER ACI 318, SECTION 17.8.2.4

C. TEST METHODS, LOADS PROCEDURE, FREQUENCY, ACCEPTANCE CRITERIA IN ACCORDANCE WITH ACI-318 EDITION REFERENCED BY THE IBC IN EFFECT.

8. INSPECTIONS:

A. OWNER SHALL RETAIN THE SERVICES OF INDEPENDENT AGENCIES TO PERFORM THE INSPECTION FOR THE ITEMS REFERENCED ON SPECIAL INSPECTION TABLES. AS CONSTRUCTION PROGRESSES, FORWARD COPIES OF INSPECTION REPORTS TO STRUCTURAL ENGINEER FOR REVIEW. CATES ENGINEERING, LTD. CANNOT ISSUE A CERTIFICATE OF SATISFACTORY COMPLETION WITHOUT REVIEWING THE ABOVE REPORTS AND FINAL CERTIFICATES ISSUED BY EACH OF THE ABOVE AGENCIES.

9. SHOP DRAWINGS:

A. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORKS AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS.

B. SHOP DRAWING REVIEW DOES NOT AUTHORIZE CHANGES TO CONTRACT.

C. IN CASES OF CONFLICTING INFORMATION, THE ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE BEFORE APPROVED SHOP DRAWINGS. AT ALL TIME DURING CONSTRUCTION, APPROVED SHOP DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

D. THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS FOR APPROVAL. SHOP DRAWING SUBMITTALS SHALL INDICATE THE REFERENCE STRUCTURAL OR ARCHITECTURAL DRAWINGS, OR SPECIFICATIONS WITH WHICH THE SHOP DRAWINGS WERE PREPARED. THE GENERAL CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER IN WRITING CONCERNING DEVIATIONS AND/OR OMISSIONS FROM THE CONTRACT DOCUMENTS AT THE TIME OF SHOP DRAWING SUBMISSION. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS AND SHALL MAKE ALL CORRECTIONS HE/SHE DEEMS NECESSARY BEFORE SUBMISSION. THE GENERAL CONTRACTOR SHALL STATE ON THE SHOP DRAWINGS THAT CONTRACT DOCUMENT REQUIREMENTS HAVE BEEN MET AND THAT ALL DIMENSIONS, CONDITIONS AND QUANTITIES HAVE BEEN REVIEWED AND VERIFIED AS SHOWN AND/OR CORRECTED ON THE SHOP DRAWINGS.

E. DEFERRED SUBMITTAL: THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

F. CONTRACTOR SHALL SUBMIT PDF VERSION OF SHOP DRAWINGS FOR THE FOLLOWING STRUCTURAL ITEMS:

1. CONCRETE
   - FOUNDATION REBAR DRAWINGS
   - WALL REBAR DRAWINGS
   - CONCRETE MIX DESIGNS (INCLUDING TEST RESULTS AND ADMIXTURES)
   - CONCRETE ACCESSORIES (SEALANTS, GROUTS, ANCHOR BOLTS, EPOXIES)
   - FLOOR FLATNESS AND LEVELNESS CERTIFICATION
   - SLAB ON GRADE CONSTRUCTION AND CONTROL JOINTS
2. STEEL
   - STRUCTURAL STEEL: SEE SECTION 5A STEEL NOTES, PART D
   - MISCELLANEOUS STEEL (LINTELS, HOIST BEAMS, ETC..)
3. WOOD
   - FIRE SPRINKLER LAYOUT SHOP DRAWINGS PRIOR TO TRUSS SHOP REVIEW/APPROVAL
   - LUMBER SUPPLIER SPECS FOR BOTH DIMENSIONAL AND ENGINEERED LUMBER
   - PLYWOOD AND/OR OSB SHEATHING
   - FASTENERS AND ADHESIVES
4. MASONRY
   - MASONRY + GROUT
   - BRICK TIES
   - VERTICAL REBAR AND HORIZONTAL REINFORCEMENT SHOPS/SPECS
5. MISC.
   - PRECAST AND CAST STONE (ONLY IF STRUCTURAL)
   - ELEVATOR SHOP DRAWINGS
   - **COORDINATED SLEEVE PLAN FOR THE ELEVATED SLAB FOR ALL DISCIPLINES**

DEFERRED SUBMITTALS:
1. CONCRETE
   - TOWER CRANE FOUNDATIONS AND SLAB OPENINGS
   - CONCRETE SHORING AND FORMWORK DRAWINGS
2. STEEL
   - STRUCTURAL STEEL: SEE SECTION 5A STEEL NOTES, PART E
3. WOOD
   - FLOOR TRUSSES (WITH CALCS) SIGNED/SEALED
   - ROOF TRUSSES (WITH CALCS) SIGNED/SEALED
   - WOOD STAIRS (WITH CALCS) SIGNED/SEALED
   - TRUSS ROUGH OPENINGS (WITH CALCS) SIGNED/SEALED
5. MISC.
   - PRE-ENGINEERED STRUCTURAL ELEMENTS, STAIRS, HANDRAILS AND GUARDRAILS, SEE SECTION 5B NOTES.
   - KEYSTONE RETAINING OR VERSALOK RETAINING WALLS (WITH CALCS, INCLUDING SPECS ON GEOGRID) SIGNED/SEALED
   - SUPPORT OF EXCAVATION (WITH CALCS) SIGNED/SEALED
   - CONSTRUCTION HOISTS/MATS PLATFORMS WITH DRAWINGS, INCLUDING CONNECTIONS TO THE STRUCTURE
   - SOIL IMPROVEMENT SYSTEMS (RAMMED AGGREGATE PIERS, CMC PIERS)
   - WINDOW WASHING ANCHORS (WITH CALCS) SIGNED/SEALED
   - PREFABRICATED ALUMINUM BALCONY (WITH CALCS) SIGNED/SEALED

PHASE 2 (BUILDING 2/3) SHEET INDEX

SHEET	DESCRIPTION
2S-001	COVER SHEET AND GENERAL NOTES
2S-002	GENERAL SCHEDULES
2S-003	SPECIAL INSPECTION TABLES
2S-004	REBAR DEVELOPMENT SCHEDULES
2S-101	BUILDING 2 FIRST FLOOR FOUNDATION PLAN
3S-101	BUILDING 3 FIRST FLOOR FOUNDATION PLAN
S-201	TYPICAL FOUNDATION DETAILS
S-202	FOUNDATION DETAILS
S-203	TYPICAL MASONRY WALL DETAILS
2S-301	BUILDING 2 SECOND FLOOR FOUNDATION / FRAMING PLAN
2S-302	BUILDING 2 THIRD FLOOR FRAMING PLAN
2S-303	BUILDING 2 FOURTH FLOOR / LOW ROOF FRAMING PLAN
2S-304	BUILDING 2 ROOF FRAMING PLAN
2S-305	BUILDING 2 SHEAR WALL LAYOUT PLAN
3S-301	BUILDING 3 SECOND FLOOR FOUNDATION / FRAMING PLAN
3S-302	BUILDING 3 THIRD FLOOR FRAMING PLAN
3S-303	BUILDING 3 FOURTH FLOOR FRAMING PLAN
3S-304	BUILDING 3 ROOF FRAMING PLAN
3S-305	BUILDING 3 SHEAR WALL LAYOUT PLAN
S-401	SHEAR WALL SCHEDULES
S-402	SHEAR WALL DETAILS
S-403	SHEAR WALL DETAILS
S-501	TYPICAL WOOD FRAMING DETAILS
S-502	TYPICAL WOOD FRAMING DETAILS
S-503	WOOD FRAMING DETAILS
S-504	ROOF FRAMING DETAILS
Grand total: 26	

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GP
#908-132-25

COVER SHEET AND GENERAL NOTES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

2S-001

06/30/2026
CONSTRUCTABILITY REVIEW

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WALL FASTENING SCHEDULE

CONNECTION: (NAIL SIZE AND POSITION EXAGGER FOR ILLUSTRATIVE PURPOSES)			FASTENER: MIN. NOMINAL LENGTH IN INCHES x MIN. NOMINAL NAIL DIA. IN INCHES	QUANTITY PER CONNECTION OR SPACING BETWEEN FASTENERS (INCHES ON CENTER)
TOP OR SOLE PLATE TO STUD (FACE NAIL)			3-1/2" x 0.162" NAIL (16d COMMON)	2
			3" x 0.131" NAILS	3
			3" x 0.120" NAILS	4
DOUBLE 2x4 TOP PLATE			3" x 0.148" NAIL (10d COMMON)	16" O.C.
			3-1/2" x 0.162" NAIL (16d COMMON)	
			3" x 0.131" NAILS	12" O.C.
			3" x 0.120" NAILS	
	INTERIOR WALL SILL PLATE TO CONCRETE	BEARING	SEE WOOD BASE PLATE ATTACHMENT SCHEDULE ON S-402	
		NON BEARING	HILTI "X-CP72P8S22 POWDER ACTUATED FASTENERS W/23MM WASHERS	3'-0" O.C.
	INTERIOR WALL SILL PLATE TO WOOD	BEARING	3" x 0.131" NAIL	SEE WOOD BASE PLATE ATTACHMENT SCHEDULE ON SHEET S-402
		NON BEARING	3" x 0.131" NAIL	1'-0" O.C.
STUD TO TOP OR SOLE PLATE (TOE-NAIL)			3-1/2" x 0.162" NAIL (16d COMMON)	3
			3" x 0.131" NAILS	4
			3" x 0.120" NAILS	
CAP/TOP PLATE LAPS AND INTERSECTIONS			3-1/2" x 0.162" NAIL (16d COMMON)	2 EACH SIDE OF LAP
			3" x 0.131" NAILS	3 EACH SIDE OF LAP
			3" x 0.120" NAILS	
DOUBLE STUD			3" x 0.148" NAIL (10d COMMON)	12" O.C.
			3" x 0.131" NAILS	8" O.C.
			3" x 0.120" NAILS	
CORNER STUDS			3-1/2" x 0.162" NAIL (16d COMMON)	24" O.C.
			3" x 0.131" NAILS	16" O.C.
			3" x 0.120" NAILS	12" O.C.
ROOF TOP PLATES TO HEADER			3" x 0.131" NAILS	(2) ROWS AT 6" O.C. UPPER PLATE TO LOWER PLATE (2) ROWS AT 6" O.C. LOWER PLATE TO HEADER

FLOOR FASTENING SCHEDULE

CONNECTION: (NAIL SIZE AND POSITION EXAGGER FOR ILLUSTRATIVE PURPOSES)		FASTENER: MIN. NOMINAL LENGTH IN INCHES x MIN. NOMINAL NAIL DIA. IN INCHES	QUANTITY PER CONNECTION OR SPACING BETWEEN FASTENERS (INCHES ON CENTER)
JOIST TO SILL OR GIRDER (TOE-NAILED)	FLOOR TRUSS TO TOP PLATE	3" x 0.148" NAIL (10d COMMON)	3
		3" x 0.131" NAILS	4
		3" x 0.120" NAILS	
BLOCKING TO JOIST (LISTED NUMBER OF FASTENERS AT EACH END)		2-1/2" x 0.131" NAIL (0.131"x3" COMMON)	2
		3" x 0.120" NAILS	3
BLOCKING BETWEEN JOIST OR RAFTER TO TOP PLATE (TOE-NAILED)		3" x 0.148" NAIL (10d COMMON)	3
		3" x 0.131" NAILS	4
		3" x 0.120" NAILS	
STRONG BACK W/ 2x4 BLOCK 2x4 BLOCK NAILS AT TOP, BOTTOM, AND WEB CROSSING		3-1/2" x 0.162" NAIL (16d COMMON)	3
		3" x 0.131" NAILS	4
		3" x 0.120" NAILS	
LEDGER STRIP		3-1/2" x 0.162" NAIL (16d COMMON)	3
		3" x 0.131" NAILS	4
		3" x 0.120" NAILS	
JOIST TO RIM JOIST		3-1/2" x 0.162" NAIL (16d COMMON)	3
		3" x 0.131" NAILS	5
		3" x 0.120" NAILS	6
RIM JOIST TO TOP PLATE (TOE-NAILED)		2-1/2" x 0.113" NAIL (0.131"x3" BOX)	6" O.C.
		3-1/2" x 0.162" NAIL (16d COMMON)	8" O.C.
		3" x 0.131" NAILS	6" O.C.

ROOF FASTENING SCHEDULE

CONNECTION: (NAIL SIZE AND POSITION EXAGGER FOR ILLUSTRATIVE PURPOSES)		FASTENER: MIN. NOMINAL LENGTH IN INCHES x MIN. NOMINAL NAIL DIA. IN INCHES	QUANTITY PER CONNECTION OR SPACING BETWEEN FASTENERS (INCHES ON CENTER)
CEILING JOIST TO PLATE		3-1/2" x 0.162" NAIL (16d COMMON)	3
		3" x 0.131" NAILS	5
		3" x 0.120" NAILS	
ROOF RAFTER TO PLATE (TOE-NAILED)	ROOF TRUSS TO PLATE (TOE-NAILED)	2-1/2" x 0.131" NAIL (0.131"x3" COMMON)	3
		3-1/2" x 0.162" NAIL (16d COMMON)	
		3" x 0.131" NAILS	
		3" x 0.120" NAILS	4
JACK RAFTER TO HIP (TOE-NAILED)		3" x 0.148" NAIL (10d COMMON)	3
		3-1/2" x 0.162" NAIL (16d COMMON)	
		3" x 0.131" NAILS	4
		3" x 0.120" NAILS	
JACK RAFTER TO HIP (FACE-NAILED)		3-1/2" x 0.162" NAIL (16d COMMON)	2
		3" x 0.148" NAIL (10d COMMON)	3
		3" x 0.131" NAILS	
		3" x 0.120" NAILS	4
ROOF RAFTER TO RIDGE BEAM (FACE NAILED) (ONLY THE ATTACHMENT OF THE TOP RAFTER IS ILLUSTRATED)		3-1/2" x 0.162" NAIL (16d COMMON)	2
		3" x 0.131" NAILS	3
		3" x 0.120" NAILS	4
ROOF RAFTER TO RIDGE BEAM (TOE NAILED)		3-1/2" x 0.162" NAIL (16d COMMON)	2
		3" x 0.131" NAILS	3
		3" x 0.120" NAILS	4

ALLOWABLE WOOD PRESERVATIVE SYSTEMS AND REQUIRED CORROSION PROTECTION

LOCATION/USE	ALLOWABLE PRESERVATIVE - MIN. RETENTION (PCF)	MIN. CORROSION PROTECTION REQ'D (2)	
		STEEL CONNECTORS	FASTENERS
SILL PLATES (ABOVE GROUND)	DOT AND POLYMER BINDER - 0.50 PCF (3) INORGANIC BORON (SBX) - SEE NOTE 1	STANDARD G90 ZINC GALVANIZED COATING	STANDARD G90 ZINC GALVANIZED COATING
	ALKALINE COPPER QUAT, (ACQ-C&D) (NO AMMONIA) - 0.15 PCF	STEEL LESS THAN 14 GA. ASTM A653, TYPE G185 ZINC GALVANIZED COATING OR STEEL 14 GAUGE AND THICKER HOT-DIPPED GALVANIZED AFTER FABRICATION WITH MINIMUM AVERAGE COATING OF 2.0 oz/sq. ft PER ASTM A123	HOT-DIP GALVANIZED PER ASTM A153 OR EQUIVALENT
	COPPER AZOLE (CA-B) - 0.10 PCF		
	MICRONIZED COPPER QUAT (MCQ) - 0.15 PCF		
EXTERIOR LUMBER ABOVE GROUND (JOISTS, DECKING, LEDGERS, ETC.)	ALKALINE COPPER QUAT, (ACQ-C&D) (NO AMMONIA) - 0.20 PCF		
	COPPER AZOLE (CA-B) - 0.10 PCF		
	MICRONIZED COPPER QUAT (MCQ) - 0.15 PCF		
FIRE RETARDANT TREATED LUMBER (FRT) (4)	FRX AND THERMEX-FR (TM)		
	DRICON (TM)		
	PYRO-GUARD (TM)		
EXTERIOR LUMBER IN CONTACT WITH GROUND OR FRESH WATER OR EXPOSED TO SALT WATER	ALKALINE COPPER QUAT, (ACQ-C&D) (NO AMMONIA) - 0.40 PCF	STAINLESS STEEL TYPES 303,304,305 OR 316	
	COPPER AZOLE (CA-B) - 0.21 PCF		
	MICRONIZED COPPER QUAT (MCQ) - 0.34 PCF		

NOTES:
1. SBX MAY BE USED ABOVE GROUND WHERE CONTINUOUSLY PROTECTED FROM EXPOSURE TO LIQUID WATER IN APPLICATIONS SUCH AS SILL PLATES OR OTHER ENCLOSED STRUCTURAL FRAMING AT RETENTIONS (B2D3 BASIS) OR 0.17 PCF OR 0.28 PCF WHERE FORMOSAN TERMITES ARE CONFIRMED.
2. CORROSION PROTECTION OF FASTENERS SHALL MATCH CORROSION PROTECTION OF STEEL ACCESSORY BEING ATTACHED. DO NOT USE STAINLESS STEEL WITH HDG CORROSION PROTECTION.
3. NOT TO BE USED IN AREAS OF FORMOSAN TERMITES.
4. DESIGN VALUE FOR FASTENERS USED WITH FRT LUMBER SHALL BE MULTIPLIED BY A 0.90 ADJUSTMENT FACTOR.
5. GENERAL CONTRACTOR SHALL PROVIDE LUMBER PRESERVATIVE, STEEL ACCESSORY AND FASTENER SUBMITTALS IN ACCORDANCE WITH THE SCHEDULE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

BUILDING SHRINKAGE AND SETTLEMENT SCHEDULE

FRAMED FLOOR	SECOND	THIRD	FOURTH	ROOF
TOTAL BUILDING MOVEMENT	3/8"	3/4"	1-1/4"	1-1/2"

NOTES:
1. VALUES ARE BASED ON ACCEPTED ENGINEERING PRACTICES AND TOLERANCES FOR WOOD FRAMING CONSTRUCTION. WEATHER AND OTHER ENVIRONMENTAL CONDITIONS MAY AFFECT ACTUAL SHRINKAGE VALUES.
2. VALUES CONSIDER SHRINKAGE OF WOOD FRAMING (STUDS/PLATES). TAKE UP OF FRAMING (CLOSING OF GAPS), AND CREEP (LONG TERM MOVEMENT UNDER SUSTAINED LOADING).
3. PLUMBER TO PROVIDE (1) CODE APPROVED EXPANSION JOINT AT EACH FLOOR ON ALL VERTICAL PVC RISERS WITH A "T" CONNECTION PENETRATING A 2x STUD TO COMPENSATE FOR BUILDING MOVEMENT. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
   S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F	CORRIDOR - F	INTERIOR - P			UNIT SEPARATION - F			WET WALL
		E1 (1)	E2	C1 (1)	I1 (1)	I2	I3	U1 (1)	U2	U3	
ROOF	-8'-1 1/8"	2@16	2@16	2@12	2A/16	--	0	2@16	2@16	2@16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	2@16	2@16	2@12	2A/12D	2@12	2@12	2@16	2@16	2@12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	2@16	2@12	2@12	2A/12D	2@12	2@12	2@16	2@12	2@12D	SEE NOTE 7
ROOF + 3 FLR ABOVE	-9'-11 7/8"	2@16	2@12	2@12	2ZA/12T	2@12	2@12D	2@16	2@12	2@12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	2@16	2@12	2@12	3ZA/12	2@12	2@12D	2@16	2@12	2@12D	

LEGEND:
2A/16 = 2x4 AT 16" O.C.
2A/12 = 2x4 AT 12" O.C.
2A/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
2ZA/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
3ZA/12 = (3) 2x4 AT 12" O.C.
2@16 = 2x6 AT 16" O.C.
2@12 = 2x6 AT 12" O.C.
2@12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C.
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS
F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

CORRIDOR JOIST AND LEDGER ATTACHMENT SCHEDULE

LOCATION (LL+DL)	SPAN LENGTH	JOIST SIZE AND SPACING (P,T, SPW2)	REQUIRED "SIMPSON" JOIST HANGER (4)	REQUIRED LEDGER ATTACHMENT (1) (Cd - 1.0, Cg = 1.0, Cm = 0.7) SIMPSON SDWS 0.220"x5" SCREWS, U.N.O. (3,4)
CORRIDOR JOISTS (60LL+50DL)	UP TO 8'-0"	2x10 AT 16" O.C.	LUS28	3 ROWS AT 12" O.C.
	8'-1" UP TO...	2x10 AT 12" O.C.	LUS28	3 ROWS AT 12" O.C.

NOTES:
1. LEDGER TO MATCH SIZE OF JOISTS, U.N.O.
2. LEDGER TO BE ATTACHED DIRECTLY TO TRUSS WITH NO DRYWALL IN BETWEEN
3. SIMPSON SDWS SCREWS ARE REQUIRED TO HAVE A 1-1/2" EDGE DISTANCE FROM THE TOP OF THE LEDGER AND 3" MINIMUM SPACING BETWEEN SCREWS.
4. 0.148"x1-1/2" NAIL INTO LEDGER, 0.148"x3" NAIL INTO JOIST. ALTERNATE LEDGER FASTENERS AND/OR JOIST HANGERS SHALL BE SUBMITTED BY THE GENERAL CONTRACTOR FOR REVIEW AND APPROVAL.

FLOOR AND ROOF SHEATHING SCHEDULE

SHEATHING	NAILING REQUIREMENTS
	FLOORS
23/32" APA RATED FLOOR SHEATHING	GLUED AND NAILED WITH 0.131"x3" COMMON SMOOTH AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. ALONG INTERMEDIATE SUPPORTS. STAPLES ARE NOT ALLOWED. SEE NOTE 1.
	[ALT.] GLUED AND NAILED WITH 6d RING OR SCREW SHANK NAILS AT 6" O.C. ALONG PANEL EDGES WHICH ALIGN WITH FLOOR TRUSSES AND/ OR RIBBONS AND 12" O.C. ALONG INTERMEDIATE SUPPORTS. SEE NOTE 1.
	FLAT ROOFS
23/32" APA RATED OSB	NAILED WITH 0.131"x3" COMMON SMOOTH OR DEFORMED SHANK NAILS AT 6" O.C. ALONG PANEL EDGES WHICH ALIGN WITH ROOF TRUSSES AND 12" O.C. ALONG INTERMEDIATE SUPPORTS. INSTALL CLIPS AT PANEL EDGES. STAPLES ARE NOT ALLOWED.

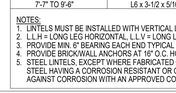
NOTES:
1. USE ONLY ADHESIVES CONFORMING TO APA SPECIFICATION AFG-01 OR ASTM D3498. APPLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. THIS TABLE IS BASED UPON THE APA RECOMMENDATIONS FOR STURD-I-FLOOR AND SHEATHING ATTACHMENT

MASONRY VENEER - LOOSE LINTEL SCHEDULE 9.30.16

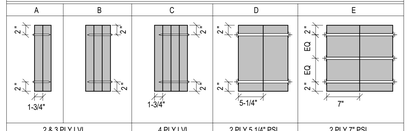
FOR EVERY 4" BRICK VENEER (40 PSF MAX.)

OPENING SIZE	SIZE	MAX GAP	REMARK
UP TO 4'-0"	L3 x 3-1/2 x 1/4"	1/2"	L.L.H.
4'-1" TO 5'-6"	L4 x 3-1/2 x 5/16"	1/2"	L.L.V.
5'-7" TO 7'-6"	L5 x 3-1/2 x 5/16"	1/2"	L.L.V.
7'-7" TO 9'-6"	L6 x 3-1/2 x 5/16"	1/2"	L.L.V.

NOTES:
1. LINTELS MUST BE INSTALLED WITH VERTICAL LEG 1/2" MAX. FROM BACK FACE OR BRICK
2. L.L.H = LONG LEG HORIZONTAL, L.L.V = LONG LEG VERTICAL
3. PROVIDE MIN. 6" BEARING EACH END TYPICAL
4. PROVIDE BRICK/WALL ANCHORS AT 16" O.C. HORIZ. AT FIRST COURSE ABOVE LINTEL
5. STEEL LINTELS, EXCEPT WHERE FABRICATED OF APPROVED CORROSION-RESISTANT STEEL OR OF STEEL HAVING A CORROSION RESISTANT OR OTHER APPROVED COATING, SHALL BE PROTECTED AGAINST CORROSION WITH AN APPROVED COAT OF PAINT, ENAMEL, OR OTHER APPROVED PROTECTION.



MULTIPLE MEMBER BEAM CONNECTIONS 06.27.17



2 & 3 PLY LVL	4 PLY LVL	2 PLY 5 1/4" PSL	2 PLY 7" PSL

BEAM CONFIGURATION	ASSEMBLY TYPE	FASTENER TYPE	# OF ROWS	FASTENERS O.C. SPACING
2 PLY LVL	A	0.131"x3" NAILS	2 ROWS	12" O.C.
3 PLY LVL	B	SIMPSON SDW22500	2 ROWS	16" O.C.
4 PLY LVL	C	SIMPSON SDW22634	2 ROWS	16" O.C.
2 PLY 5 1/4" PSL	D	1/2"Ø A307 THROUGH BOLTS	2 ROWS	16" O.C.
2 PLY 7" PSL	E	1/2"Ø A307 THROUGH BOLTS	3 ROWS	16" O.C.

NOTES:
1. MINIMUM EDGE, END, AND ROW SPACING REQUIREMENTS FOR SCREWS SHALL BE PER MANUFACTURER SPECIFICATIONS.
2. 1/2"Ø BOLTS SHALL HAVE 1/2" MIN., 9/16" MAX. Ø PRE-DRILLED HOLES WITH AN EDGE DISTANCE OF 2" MIN. FROM THE TOP OF BEAM AND 3" MIN. SPACING BETWEEN SCREWS.

CONCRETE STRENGTH AND DURABILITY REQUIREMENTS

LOC.		STRUCTURAL MEMBERS	(1) EXPOSURE CLASS	(3) MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI)	MAXIMUM WATERCEMENT RATIO (PERCENT)	(4) RECOMMENDED MINIMUM SLUMP (INCHES)
				FOOTINGS		
BELOW GRADE		PLACED COMPLETELY BELOW REQUIRED FROST DEPTH	C1 (2)	3500	N/A	3
		WITH BOTTOM OF FOOTING POURED AT REQUIRED FROST DEPTH	F2	4500	0.45	3
				FOUNDATION WALLS		
		PROTECTED FULL HEIGHT,	C0 (2)	3500	N/A	3
		UNPROTECTED WALLS IN CONTACT WITH SOIL	F2	4500	0.45	3
				SLABS ON GRADE		
AT GRADE	NOT EXPOSED TO FREEZING	INTERIOR HEATED, NOT IN DIRECT CONTACT WITH SOIL	C0 (2)	3500	N/A	4
		INTERIOR CONCRETE EXPOSED TO OCCASIONAL MOISTURE AND DE-ICING CHEMICALS	C2	5000	0.40	4
	EXPOSED TO FREEZING	INTERIOR UN-HEATED, NOT IN DIRECT CONTACT WITH SOIL	F0 (2)	3000	N/A	4
		EXTERIOR, NOT IN DIRECT CONTACT WITH SOIL, NOT EXPOSED TO DE-ICING CHEMICALS	F1	3500	0.55	4
		EXTERIOR, IN DIRECT CONTACT WITH SOIL, NOT EXPOSED TO DE-ICING CHEMICALS	F2	4500	0.45	4
		EXTERIOR, IN DIRECT CONTACT WITH SOIL, EXPOSED TO DE-ICING CHEMICALS	F3/C2	5000	0.40	4

1. EXPOSURE CLASS DESCRIPTIONS:
   F0: CONCRETE NOT EXPOSED TO FREEZING AND THAWING CYCLES AND PROTECTED FROM MOISTURE.
   F1: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND OCCASIONAL EXPOSURE TO MOISTURE.
   F2: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND IN CONTINUOUS CONTACT WITH MOISTURE.
   F3: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND IN CONTINUOUS CONTACT WITH MOISTURE AND EXPOSED TO DEICING CHEMICALS
   C0: CONCRETE DRY AND PROTECTED FROM MOISTURE
   C1: CONCRETE EXPOSED TO MOISTURE BUT NOT TO DEICING CHEMICALS.
   C2: CONCRETE EXPOSED TO MOISTURE AND DEICING CHEMICALS.
2. CONCRETE WHICH CAN BE EXPOSED TO CYCLES OF FREEZING-AND-THAWING DURING CONSTRUCTION SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH THE TABLE BELOW WITH THE SAME AIR CONTENT AS FOR EXPOSURE CLASS F1.
3. THE CONCRETE STRENGTHS SPECIFIED ARE THE CODE REQUIRED MINIMUM, SEE THE PLANS AND DETAILS FOR HIGHER CONCRETE STRENGTH REQUIREMENTS
4. RECOMMENDED SLUMP APPLY WHEN VIBRATION IS USED TO CONSOLIDATE THE CONCRETE AND MAY BE INCREASED BY 1" FOR OTHER CONSOLIDATION METHODS. SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED, PROVIDED THAT THE ADMIXTURE TREATED CONCRETE HAS THE SAME OR LOWER WATER/CEMENT RATIO AND DOES NOT SHOW SEGREGATION POTENTIAL OR EXCESSIVE BLEEDING. CONCRETE SLUMP SHALL NOT BE LESS THAN 1 INCH. MEASURED SLUMP TOLERANCE SHALL BE +/- 1.5 MAXIMUM.

TOTAL AIR CONTENT FOR CONCRETE EXPOSED TO CYCLES OF FREEZING-AND-THAWING

NOMINAL MAXIMUM AGGREGATE SIZE, (INCHES)	AIR CONTENT, PERCENT	
	EXPOSURE CLASS, F1	EXPOSURE CLASSES, F2 AND F3
3/8"	6.0%	7.5%
1/2"	5.5%	7.0%
3/4"	5.0%	6.0%
1"	4.5%	6.0%

AGGREGATE SHALL CONFORM TO ASTM C33 AND MAY RANGE FROM 3/8" TO 3/4" IN SIZE. CONCRETE IN EXPOSURE CLASSES F1, F2, OR F3 SHALL BE AIR ENTRAINED ACCORDING TO TABLE 19.3.3.1, ACI-318. THIS TABLE SHOWN IS FOR USUAL MAXIMUM AGGREGATE SIZES USED IN STRUCTURAL CONCRETE. MEASURED AIR CONTENT TOLERANCE SHALL BE +/- 1.5 MAXIMUM.

HEADER AND BEAM SCHEDULE (1,4,6)

MARK	SIZE	MARK	SIZE
2-26 (2,5)	(2) 2x6	3-26 (2,5)	(3) 2x6
2-28 (2,5)	(2) 2x8	3-28 (2,5)	(3) 2x8
2-210 (2,5)	(2) 2x10	3-210 (2,5)	(3) 2x10
2-212 (3,5)	(2) 2x12	3-212 (3,5)	(3) 2x12
2-9SLVL (2,7)	(2) 1-3/4" x 9-1/2" LVL	3-9SLVL (2,7)	(3) 1-3/4" x 9-1/2" LVL
2-12LVL (3,7)	(2) 1-3/4" x 11-7/8" LVL	3-12LVL (3,7)	(3) 1-3/4" x 11-7/8" LVL
2-14LVL (3,7)	(2) 1-3/4" x 14" LVL	3-14LVL (3,7)	(3) 1-3/4" x 14" LVL
2-16LVL (3,7)	(2) 1-3/4" x 16" LVL	3-16LVL (3,7)	(3) 1-3/4" x 16" LVL
2-18LVL (3,7)	(2) 1-3/4" x 18" LVL	3-18LVL (3,7)	(3) 1-3/4" x 18" LVL

NOTES:
1. SEE STRUCTURAL NOTES FOR REQUIRED WOOD SPECIES AND GRADE.
2. FOR TOP LOADED BEAM DEPTHS < 12", NAIL EACH PLY OF MULTIPLE MEMBERS WITH (2) ROWS 0.131"x3" NAILS AT 12" O.C. STAGGER NAILS ON OPPOSITE SIDE OF 3 PLY BEAMS U.N.O.
3. FOR TOP LOADED BEAM DEPTHS > 12", NAIL EACH PLY OF MULTIPLE MEMBERS WITH (3) ROWS 0.131"x3" NAILS AT 12" O.C. STAGGER NAILS ON OPPOSITE SIDE OF 3 PLY BEAMS U.N.O.
4. SIDE LOADED MULTIPLE LVL/PSL BEAMS SHALL BE CONNECTED AS NOTED ON THE FRAMING PLANS OR PER THE MANUFACTURERS REQUIREMENTS FOR THE HIGHEST LOADING CONDITION LISTED.
5. PROVIDE 1/2" WOOD SHIMS BETWEEN EACH PLY OF DIMENSIONAL LUMBER DOOR AND WINDOW HEADERS FRAMED WITHIN WALLS. OMIT SHIMS FOR STRUCTURAL COMPOSITE LUMBER (LVL, PSL) AND DIMENSIONAL LUMBER BEAMS EXPOSED TO WEATHER.
6. ALL WOOD BEAMS EXPOSED TO WEATHER SHALL BE TREATED AND CONNECTED WITH FASTENERS PROPERLY TREATED FOR THE TYPE OF PRESSURE TREATMENT USED. SEE COVER SHEET, SECTION 5, NOTE F FOR ADDITIONAL REQUIREMENTS.
7. ONE PIECE PARALLAM (PSL) BEAMS OF EQUAL WIDTH MAY BE SUBSTITUTED FOR MULTIPLE LVL BEAMS.
8. PRE-ENGINEERED COMPONENT HEADERS MAY BY SUBSTITUTED FOR THE HEADERS SHOWN. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER TO THE S.E.R. FOR APPROVAL PRIOR TO FABRICATION.

WOOD COLUMN SIZE LEGEND

MARK	SIZE	MARK	SIZE
1-44	(1) 4x4	1-66	(1) 6x6
2-24	(2) 2x4	2-26	(2) 2x6
3-24	(3) 2x4	3-26	(3) 2x6
4-24	(4) 2x4	4-26	(4) 2x6
5-24	(5) 2x4	5-26	(5) 2x6
6-24	(6) 2x4	6-26	(6) 2x6

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK			
		C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

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GENERAL SCHEDULES

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ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #:
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

2S-002
06/30/2026
CONSTRUCTABILITY REVIEW

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REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.6-2 - INSPECTION TASKS DURING BOLTING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED		X	Y
2. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION		X	Y
3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING		X	Y
4. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES		X	Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.6-3 - INSPECTION TASKS AFTER BOLTING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X		Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

SECTION N5.8 - OTHER STEEL INSPECTIONS

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL (a)	X		Y
2. FABRICATED STEEL OR ERECTED STEEL FRAME (b)		X	Y

(a) AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OF DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED AND DOCUMENTED PRIOR TO PLACEMENT OF CONCRETE.

(b) THIS INCLUDES SUCH ITEMS AS BRACES, STIFFENERS, MEMBER LOCATIONS AND THE CORRECT APPLICATION OF JOINT DETAILS AT EACH CONNECTION. THE ACCEPTANCE OR REJECTION OF JOINT DETAILS AND THE CORRECT APPLICATION OF JOINT MATERIALS SHALL BE DOCUMENTED.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.4-1 - INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS		X	Y
2. WELDING PROCEDURES (WPS) AVAILABLE	X		Y
3. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X		Y
4. MATERIAL IDENTIFICATION (TYPE/GRADE)		X	Y
5. WELDER IDENTIFICATIONS SYSTEM		X	Y
6. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATIONS • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)		X	Y
7. FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY) • JOINT PREPARATIONS • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)		X	Y
8. CONFIGURATION AND FINISH OF ACCESS HOLES		X	Y
9. FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)		X	Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.4-2 - INSPECTION TASKS DURING WELDING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL		X	Y
2. NO WELDING OVER CRACKED TACK WELDS		X	Y
3. ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE		X	Y
4. WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE / FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)		X	Y
5. WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITH PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS		X	Y
6. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	X		Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.4-3 - INSPECTION TASKS AFTER WELDING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. WELDS CLEANED		X	Y
2. SIZE, LENGTH AND LOCATION OF WELDS	X		Y
3. WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD / BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	X		Y
4. ARC STRIKES	X		Y
5. K - AREA	X		Y
6. WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES	X		Y
7. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X		N
8. REPAIR ACTIVITES	X		N
9. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X		Y
10. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE E.O.R.		X	Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

SECTION N5 - NONDESTRUCTIVE TESTING OF WELDED JOINTS

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. CJP WELDS (RISK CATEGORY II)	X		Y
2. CJP WELDS (RISK CATEGORY III, IV OR V)	X		Y
3. WELDED JOINTS SUBJECT TO FATIGUE (PER TABLE A-3.1)	X		Y

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION AISC 360-16

TABLE N5.6-1 - INSPECTION TASKS PRIOR TO BOLTING

INSPECTION TASK	PERFORM	OBSERVE	REQ. ON PROJ
1. MANUFACTURERS CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X		Y
2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS		X	Y
3. CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)		X	Y
4. CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL		X	Y
5. CONNECTING ELEMENTS, INCLUDING THE APPROPIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS		X	Y
6. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED		X	Y
7. PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS		X	Y

REQUIRED VERIFICATION AND INSPECTION OF SOILS IBC 2021 (TABLE 1705.6)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REQ. ON PROJ
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY	-	X	Y
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	X	Y
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	X	Y
4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	Y
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	X	Y

MASONRY LEVEL 2 SPECIAL INSPECTION TMS 602-16 IBC 2021

MINIMUM VERIFICATION	REQUIRED FOR QUALITY ASSURANCE (a)	REFERENCE FOR CRITERIA
	LEVEL 2	TMS 602
PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS	R	ART. 1.5
PRIOR TO CONSTRUCTION, VERIFICATION OF f'm AND f'aac, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE	R	ART. 1.4B
DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE	R	ART. 1.5, 1.6.3
DURING CONSTRUCTION, VERIFICATION OF f'm AND f'aac FOR EVERY 5,000 sq. ft (465 sq. m)	NR	ART. 1.4B
DURING CONSTRUCTION, VERIFICATION OF PROPORTIONS OF MATERIALS AS DELIVERED TO THE PROJECT SITE FOR PREMIXED OR PREBLENDED MORTAR, PRESTRESSING GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING GROUT.	NR	ART. 1.4B

(a) R = REQUIRED, NR = NOT REQUIRED

MINIMUM SPECIAL INSPECTION (TABLE 4)

INSPECTION TASKS	C	P	REFERENCE FOR CRITERIA: TMS 402	TMS 602	REQ. ON PROJ
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE IN COMPLIANCE:					
a. PROPORTIONS OF SITE PREPARED MORTAR	-	X	-	ART. 2.1, 2.6A AND 2.6C	Y
b. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGE	-	X	-	ART. 2.4B, 2.4H	Y
c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X	-	ART. 3.4, 3.6A	Y
d. PRESTRESSING TECHNIQUE	-	X	-	ART. 3.6B	N
e. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X (b)	X (c)	-	ART. 2.1 C.1	N
f. SAMPLE PANEL CONSTRUCTION	-	X	-	ART. 1.6D	Y
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
a. GROUT SPACE	-	X	-	ART. 3.2D, 3.2F	Y
b. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	-	X	SEC. 10.8, 10.9	ART. 2.4, 3.6	N
c. PLACEMENT OF REINFORCEMENT, CONNECTORS AND ANCHOR BOLTS	-	X	SEC. 6.1, 6.3.1, 6.3.6, 6.3.7	ART. 3.2E, 3.4	Y
d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X	-	ART. 2.6B, 2.4G.1.b	N
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					
a. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	-	X	-	ART. 1.5	Y
b. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	-	X	-	ART. 3.3B	Y
c. SIZE AND LOCATION OF STRUCTURAL MEMBERS	-	X	-	ART. 3.3F	Y
d. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	-	X	SEC. 1.2.1(e), 6.2.1, 6.3.1	-	Y
e. WELDING OF REINFORCEMENT	X	-	SEC. 6.1.6.1.2	-	Y
f. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).	-	X	-	ART. 1.8C, 1.8D	Y
g. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	-	-	ART. 3.6B	N
h. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	-	-	ART. 3.5, 3.6C	N
i. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X (b)	X (c)	-	ART. 3.3B.9, 3.3F.1.b	N
4. OBSERVE PREPARTION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	-	X	-	ART. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4	Y

(a) = FREQUENCY REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE LISTED TASK OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE TABLE
(b) = REQUIRED FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY
(c) = REQUIRED AFTER THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY

C = CONTINUOUS
P = PERIODIC

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION IBC 2021 (TABLE 1705.3)

VERIFICATION AND INSPECTION	C	P	REF. STANDARD	IBC REFERENCE	PERIODIC STAGES	REQ. ON PROJ
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS AND VERIFY PLACEMENT	-	X	ACI 318: CH. 20, 25.2,25.3, 26.6.1-26.6.3	--	PRIOR TO STARTING POURS WHERE CONCRETE IS TO BE SAMPLED	Y
2. REINFORCING BAR WELDING:						N
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	-	X	AWS D1.4 ACI 318: 26.6.4	-	PRIOR TO ENCLOSING	N
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND	-	X				N
c. INSPECT ALL OTHER WELDS	X	-				N
3. INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-		Y
4. INSPECT ANCHORS POST INSTALLED IN HARDENED CONCRETE MEMBERS:						Y
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-	SEE NOTE 1 BELOW	Y
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a	-	X	ACI 318: 17.8.2	-		Y
5. VERIFY USE OF REQUIRED DESIGN MIX	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2	EACH TIME CONCRETE IS SAMPLED	Y
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	--	EACH TIME CONCRETE CYLINDERS TAKEN	Y
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 26.5	--	EACH TIME CONCRETE IS SAMPLED	Y
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 26.5.3-26.5.5	--	(1) UNANNOUNCED INSPECTION FOR EVERY 250 CY. OF CONC. PLACED FOR ENTIRE PROJ.	Y
9. INSPECT PRESTRESSED CONCRETE FOR:						N
a. APPLICATION OF PRESTRESSING FORCE; AND	X	-	ACI 318: 26.10	-		N
b. GROUTING ON BONDED PRESTRESSING TENDONS	X	-				N
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	-	X	ACI 318: CH. 26.9	-	PRIOR TO ENCLOSING	N
11. FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR:						
a. INSTALLATION OF THE EMBEDDED PARTS	X	-	ACI 318: 26.13.1.3	--		N
b. COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS	X	-				N
c. COMPLETTION OF CONNECTIONS IN THE FIELD	X	-	ACI 550.5			N
12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5	-	X	ACI 318: 26.13.1.3	-		N
13. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	-	X	ACI 318: 26.11.2	-		Y
14. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318: 26.11.1.2(b)	-		Y

NOTES:
1. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

C = CONTINUOUS
P = PERIODIC

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SPECIAL INSPECTION TABLES

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	/#
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

2S-003

06/30/2026
CONSTRUCTABILITY REVIEW

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DEVELOPMENT LENGTHS OF STANDARD HOOKS IN TENSION

GRADE 60 UNCOATED REINFORCEMENT, NORMAL-WEIGHT CONCRETE

BAR SIZE	f'c = 3,000 psi		f'c = 4,000 psi		f'c = 5,000 psi		f'c = 6,000 psi	
	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh	Ldh	0.7Ldh
#3	9	6	8	6	7	6	6	6
#4	11	8	10	7	9	6	8	6
#5	14	10	12	9	11	8	10	7
#6	17	12	15	10	13	9	12	9
#7	20	14	17	12	15	11	14	10
#8	22	16	19	14	17	12	16	11
#9	25	18	22	15	20	14	18	13
#10	28	20	25	17	22	16	20	14
#11	31	22	27	19	24	17	22	16

NOTES:
1. Ldh = DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION (INCHES)
2. Ldh = Lhb UNLESS CONDITIONS OF NOTE 3 ARE SATISFIED.
3. Ldh = 0.7 Lhb FOR #11 BARS AND SMALLER WHEN COVER (NORMAL TO PLANE OF HOOK) IS NOT LESS THAN 2-1/2" INCHES AND FOR 90° HOOKS COVER ON BAR EXTENSION BEYOND HOOK IS NOT LESS THAN 2 INCHES.
4. HOOKS ARE NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.

DEVELOPMENT LENGTHS OF STANDARD HOOKS IN TENSION

GRADE 60 EPOXY COATED REINFORCEMENT, NORMAL-WEIGHT CONCRETE

BAR SIZE	f'c = 3,000 psi		f'c = 4,000 psi		f'c = 5,000 psi		f'c = 6,000 psi	
	Lhb	0.7Lhb	Lhb	0.7Lhb	Lhb	0.7Lhb	Lhb	0.7Lhb
#3	10	7	9	6	8	6	7	6
#4	14	10	12	8	11	8	10	7
#5	17	12	15	10	13	9	12	9
#6	20	14	18	12	16	11	14	10
#7	24	17	20	14	18	13	17	12
#8	27	19	23	16	21	15	19	14
#9	30	21	26	18	23	17	21	15
#10	34	24	29	21	26	19	24	17
#11	38	26	33	23	29	21	27	19

NOTES:
1. Ldh = DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION (INCHES)
2. Ldh = Lhb UNLESS CONDITIONS OF NOTE 3 ARE SATISFIED.
3. Ldh = 0.7 Lhb FOR #11 BARS AND SMALLER WHEN COVER (NORMAL TO PLANE OF HOOK) IS NOT LESS THAN 2-1/2" INCHES AND FOR 90° HOOKS COVER ON BAR EXTENSION BEYOND HOOK IS NOT LESS THAN 2 INCHES.
4. HOOKS ARE NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.

DEVELOPMENT LENGTHS IN COMPRESSION (IN INCHES)

BAR SIZE	f'c = 3.0 ksi	f'c = 3.5 ksi	f'c = 4.0 ksi	f'c = 4.5 ksi	f'c = 5.0 ksi	f'c = 6.0 ksi
#4	9	8	8	8	8	8
#5	11	11	10	9	9	9
#6	14	13	12	12	12	12
#7	17	16	15	14	14	14
#8	20	18	17	16	16	16
#9	22	21	19	18	18	18
#10	25	23	22	21	21	21
#11	28	26	25	23	23	23
#14	31	29	27	26	26	26

TENSION DEVELOPMENT AND LAP SPLICE LENGTHS FOR UNCOATED BARS

BAR SIZE	LAP CLASS	f'c = 3,000 psi				f'c = 4,000 psi				f'c = 4,500 psi				f'c = 5,000 psi				f'c = 6,000 psi			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	22	33	17	25	19	28	15	22	18	27	14	21	17	25	13	20	16	23	12	18
	B	28	42	22	33	25	37	19	28	23	35	18	27	22	33	17	25	20	30	16	23
#4	A	29	43	22	33	25	37	19	29	24	35	18	27	23	34	17	26	21	31	16	24
	B	38	56	29	43	33	49	25	37	31	46	24	35	29	44	23	34	27	40	21	31
#5	A	36	54	28	42	31	47	24	36	30	44	23	34	28	42	22	32	26	39	20	30
	B	47	70	36	54	41	61	31	47	38	57	30	44	36	54	28	42	33	50	26	38
#6	A	43	65	33	50	37	56	29	43	35	53	27	41	34	50	26	39	31	46	24	35
	B	56	84	43	65	49	73	37	56	46	69	35	53	44	65	34	50	40	59	31	46
#7	A	63	94	48	72	54	81	42	63	51	77	40	59	49	73	38	56	45	67	34	51
	B	81	122	63	94	71	106	54	81	67	100	51	77	63	95	49	73	58	86	45	67
#8	A	72	107	55	83	62	93	48	72	59	88	45	68	56	83	43	64	51	76	39	59
	B	93	139	72	107	81	121	62	93	76	114	59	88	72	108	56	83	66	99	51	76
#9	A	81	121	62	93	70	105	54	81	66	99	51	76	63	94	48	72	57	86	44	66
	B	105	157	81	121	91	136	70	105	86	128	66	99	81	122	63	94	74	111	57	86
#10	A	91	136	70	105	79	118	61	91	74	111	57	86	71	106	54	81	64	96	50	74
	B	118	177	91	136	102	153	79	118	96	144	74	111	92	137	71	106	84	125	64	96
#11	A	101	151	78	116	87	131	67	101	82	123	64	95	78	117	60	90	71	107	55	82
	B	131	196	101	151	114	170	87	131	107	160	82	123	102	152	78	117	93	139	71	107

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL WEIGHT CONCRETE.
2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE BASED ON ACI-318
3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS:

BEAMS OR COLUMNS	CASE 1	COVER AT LEAST 1db AND c.-c. SPACING AT LEAST 2 db
	CASE 2	COVER LESS THAN 1db AND c.-c. SPACING AT LEAST 2 db
ALL OTHERS	CASE 1	COVER AT LEAST 1db AND c.-c. SPACING AT LEAST 3 db
	CASE 2	COVER LESS THAN 1db AND c.-c. SPACING AT LEAST 3 db

4. LAP CLASS A VALUES ARE THE REQUIRED TENSION DEVELOPMENT LENGTHS, Ld; LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS; CLASS A - 1.0Ld AND CLASS B - 1.3Ld.
5. "TOP BARS" ARE DEFINED PER ACI HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. "OTHER BARS" ARE ALL BARS FOR WHICH THIS DOES NOT APPLY.
6. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
7. WHEN TENSION LAPPING SMALLER DIAMETER BAR WITH LARGER DIAMETER BAR, USE THE LAP LENGTH OF THE LARGER BARS.

TENSION DEVELOPMENT AND LAP SPLICE LENGTHS FOR EPOXY COATED BARS

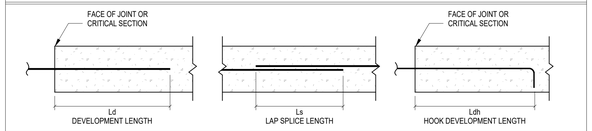
BAR SIZE	LAP CLASS	f'c = 3,000 psi				f'c = 4,000 psi				f'c = 4,500 psi				f'c = 5,000 psi				f'c = 6,000 psi			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	28	42	25	37	25	37	22	33	23	35	21	31	22	33	20	29	20	30	18	27
	B	37	55	33	49	32	48	28	42	30	45	27	40	29	43	25	38	26	39	23	34
#4	A	38	56	33	50	33	49	29	43	31	46	27	41	29	44	26	39	27	40	24	35
	B	49	73	43	65	42	63	37	56	40	60	35	53	38	57	34	50	35	52	31	46
#5	A	47	70	42	62	41	61	36	54	39	58	34	51	37	55	32	48	33	50	30	44
	B	61	91	54	81	53	79	47	70	50	75	44	66	47	71	42	63	43	65	38	57
#6	A	56	84	50	74	49	73	43	65	46	69	41	61	44	65	39	58	40	60	35	53
	B	73	109	65	97	63	95	56	84	60	89	53	79	57	85	50	75	52	78	46	68
#7	A	82	123	72	108	71	106	63	94	67	100	59	89	64	95	56	84	58	87	51	77
	B	106	159	94	141	92	138	81	122	87	130	77	115	83	124	73	109	75	113	67	100
#8	A	94	140	83	124	81	121	72	107	77	115	68	101	73	109	64	96	66	99	59	88
	B	122	182	107	161	105	158	93	139	99	149	88	131	94	141	83	125	86	129	76	114
#9	A	106	158	93	140	91	137	81	121	86	129	76	114	82	123	72	108	75	112	66	99
	B	137	205	121	181	119	178	105	157	112	168	99	148	106	159	94	140	97	145	86	128
#10	A	119	178	105	157	103	154	91	136	97	145	86	128	92	138	81	122	84	126	74	111
	B	154	231	136	204	134	200	118	177	126	189	111	167	120	179	106	158	109	164	96	144
#11	A	132	197	116	174	114	171	101	151	108	161	95	142	102	153	90	135	93	140	82	123
	B	171	257	151	226	148	222	131	196	140	210	123	185	133	199	117	175	121	182	107	160

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL WEIGHT CONCRETE.
2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE BASED ON ACI-318
3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS:

BEAMS OR COLUMNS	CASE 1	COVER AT LEAST 1db AND c.-c. SPACING AT LEAST 2 db
	CASE 2	COVER LESS THAN 1db AND c.-c. SPACING AT LEAST 2 db
ALL OTHERS	CASE 1	COVER AT LEAST 1db AND c.-c. SPACING AT LEAST 3 db
	CASE 2	COVER LESS THAN 1db AND c.-c. SPACING AT LEAST 3 db

4. LAP CLASS A VALUES ARE THE REQUIRED TENSION DEVELOPMENT LENGTHS, Ld; LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS; CLASS A - 1.0Ld AND CLASS B - 1.3Ld.
5. "TOP BARS" ARE DEFINED PER ACI HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. "OTHER BARS" ARE ALL BARS FOR WHICH THIS DOES NOT APPLY.
6. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
7. WHEN TENSION LAPPING SMALLER DIAMETER BAR WITH LARGER DIAMETER BAR, USE THE LAP LENGTH OF THE LARGER BARS.

LAP SPLICE DEVELOPMENT LENGTHS LEGEND



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REBAR DEVELOPMENT SCHEDULES

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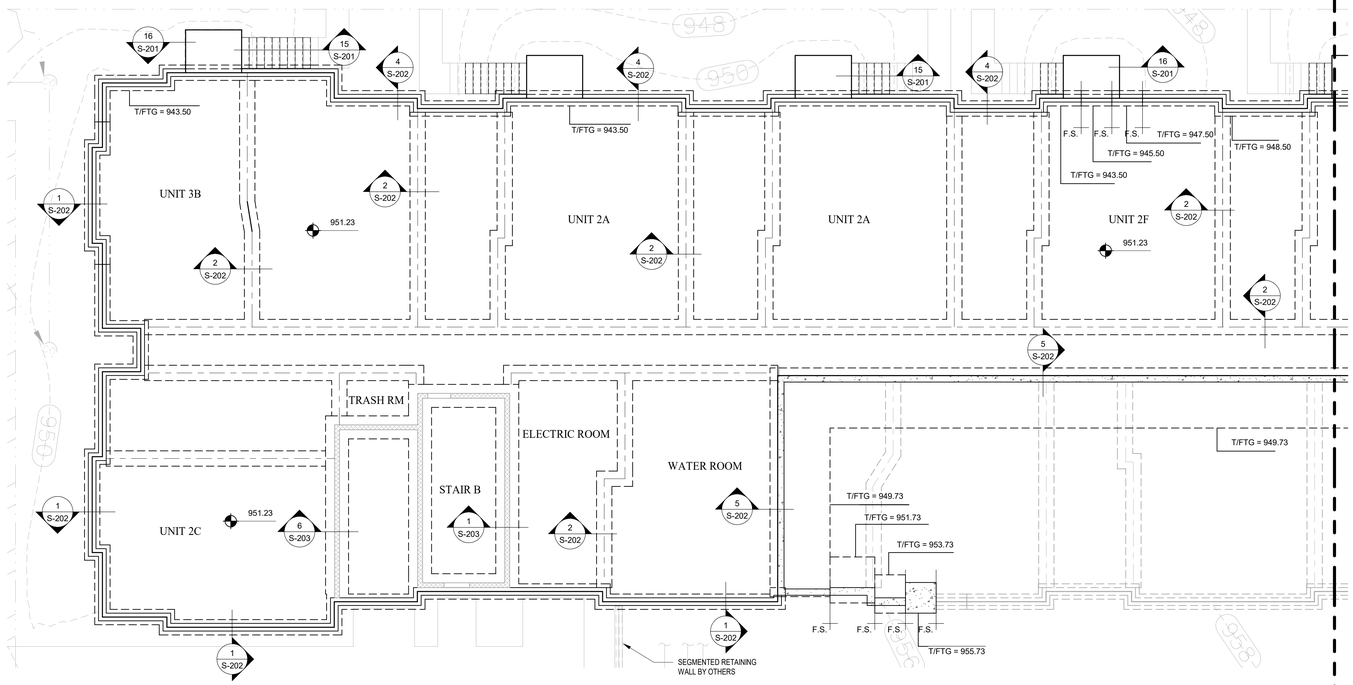
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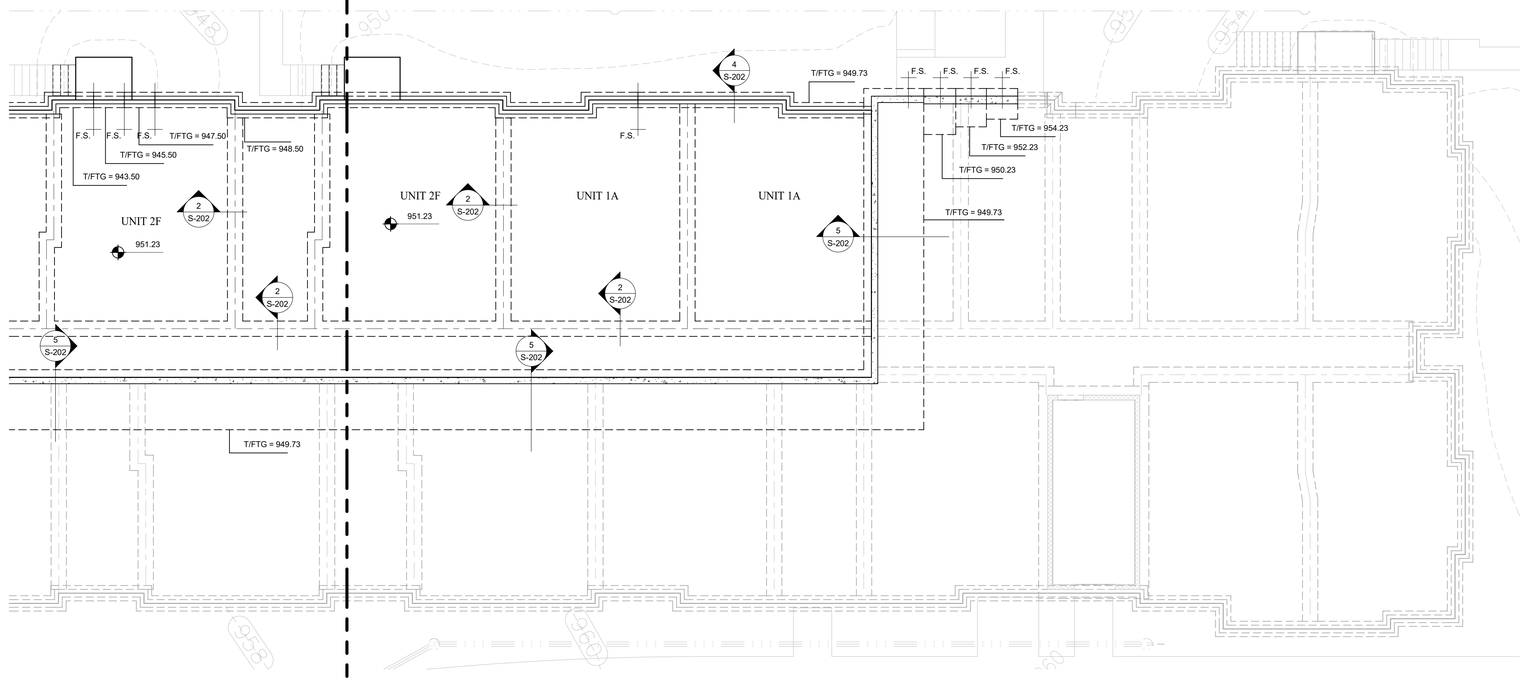
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BUILDING 2 FIRST FLOOR FOUNDATION PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 FIRST FLOOR FOUNDATION PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

FOUNDATION PLAN NOTES (S.O.G.):

1. SEE PLAN FOR TOP OF SLAB ELEVATION. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
2. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. SLAB ON GRADE SHALL BE 3500 psi NORMAL WEIGHT CONCRETE, 4" THICK REINFORCED WITH #3 AT 18"O.C.E.W. PLACED AT MID-DEPTH ON POLYETHYLENE VAPOR BARRIER OVER WASHED CRUSHED STONE PER THE GEOTECHNICAL REPORT. SEE DETAIL 14 / S-201
4. TOP OF FOOTING ELEVATIONS ARE AS NOTED ON THE PLANS, U.N.O. FOOTINGS SHALL BE CENTERED UNDER COLUMNS, U.N.O.
5. COORDINATE ALL UNDERGROUND UTILITIES POINT OF ENTRY INTO BUILDING WITH LATEST ARCHITECTURAL/MEP/CIVIL DRAWINGS PRIOR TO POURING FOOTINGS TO AVOID UNDERMINING FOOTINGS AFTER THEY ARE POURED. UTILITY INVERTS SHALL BE ABOVE TOP OF FOOTING ELEVATIONS, TYPICAL
6. COORDINATE DRAINS, DEPRESSIONS, AND SLAB FOLDS WITH LATEST ARCHITECTURAL DRAWINGS.
7. SEE TYPICAL DETAILS ON S-201 FOR ADDITIONAL INFORMATION.
8. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN SLAB FOR ROLL-IN SHOWERS

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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BUILDING 2 FIRST FLOOR FOUNDATION PLAN

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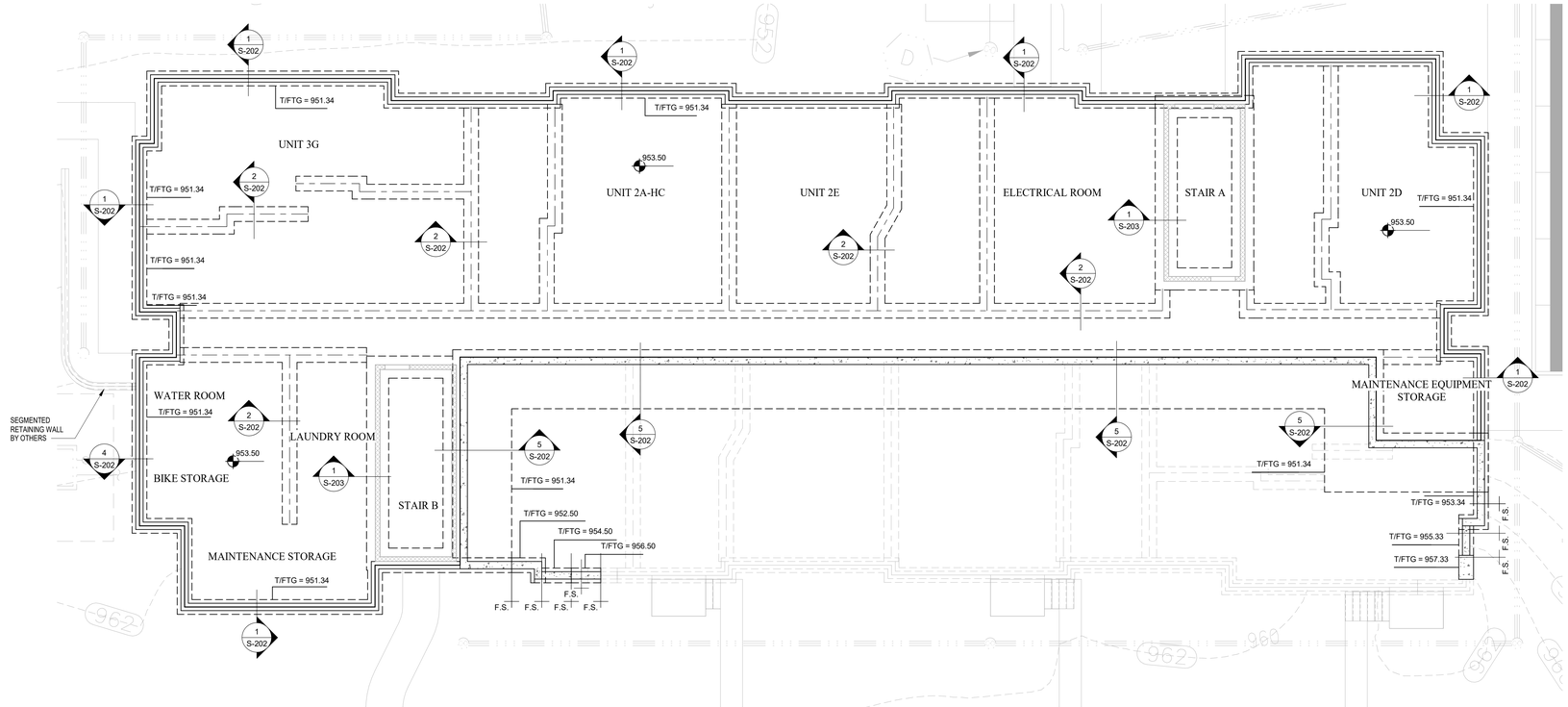
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BUILDING 3 FIRST FLOOR FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

NORTH

FOUNDATION PLAN NOTES (S.O.G.):

1. SEE PLAN FOR TOP OF SLAB ELEVATION, VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
2. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. SLAB ON GRADE SHALL BE 3500 psi NORMAL WEIGHT CONCRETE, 4" THICK REINFORCED WITH #3 AT 18"O.C.E.W. PLACED AT MID-DEPTH ON POLYETHYLENE VAPOR BARRIER OVER WASHED CRUSHED STONE PER THE GEOTECHNICAL REPORT. SEE DETAIL 14 / S-201
4. TOP OF FOOTING ELEVATIONS ARE AS NOTED ON THE PLANS, U.N.O. FOOTINGS SHALL BE CENTERED UNDER COLUMNS, U.N.O.
5. COORDINATE ALL UNDERGROUND UTILITIES POINT OF ENTRY INTO BUILDING WITH LATEST ARCHITECTURAL/MEP/CIVIL DRAWINGS PRIOR TO POURING FOOTINGS TO AVOID UNDERMINING FOOTINGS AFTER THEY ARE POURED. UTILITY INVERTS SHALL BE ABOVE TOP OF FOOTING ELEVATIONS, TYPICAL
6. COORDINATE DRAINS, DEPRESSIONS, AND SLAB FOLDS WITH LATEST ARCHITECTURAL DRAWINGS.
7. SEE TYPICAL DETAILS ON S-201 FOR ADDITIONAL INFORMATION.
8. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN SLAB FOR ROLL-IN SHOWERS

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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BUILDING 3 FIRST FLOOR FOUNDATION PLAN

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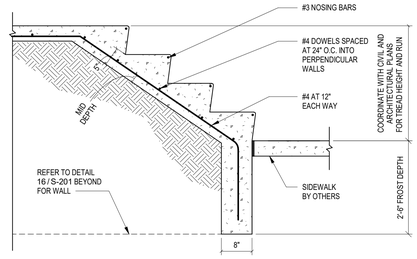
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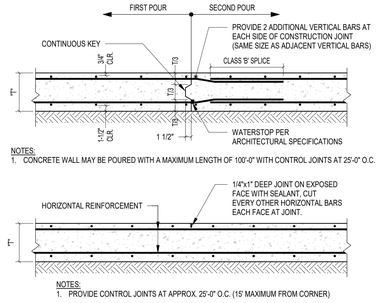
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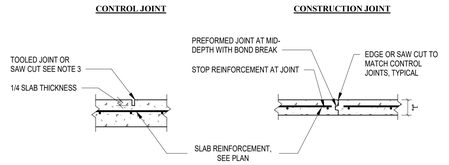
15 S-201 TYPICAL SOIL SUPPORTED STAIR

SCALE: N.T.S. 01.01.01



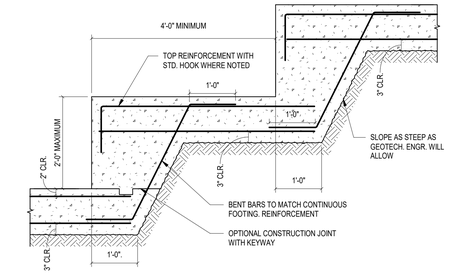
10 S-201 WALL CONSTRUCTION AND CONTROL JOINTS

SCALE: N.T.S. 06.06.24



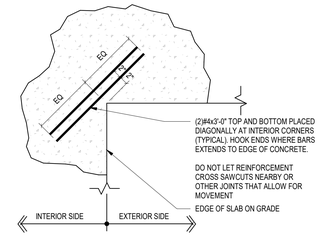
6 S-201 S.O.G. CONSTRUCTION AND CONTROL JOINTS

SCALE: N.T.S. 11.30.23



1 S-201 TYPICAL STEPPED FOOTING

SCALE: N.T.S. 01.01.01

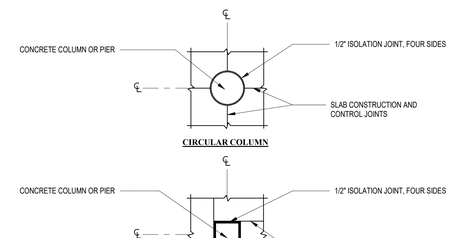


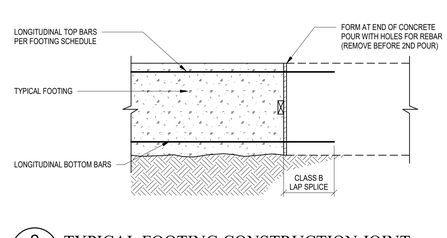
16 S-201 EXTERIOR BALCONY STAIR CROSS SECTION

SCALE: N.T.S.

11 S-201 TYPICAL SLAB ON GRADE CORNER REINFORCING

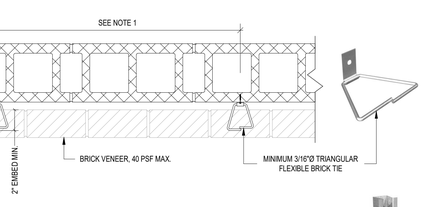
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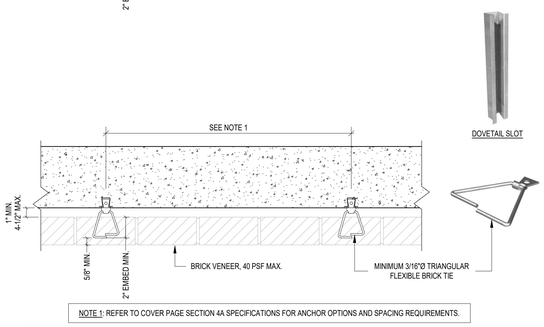




2 S-201 TYPICAL FOOTING CONSTRUCTION JOINT

SCALE: N.T.S. 01.06.21

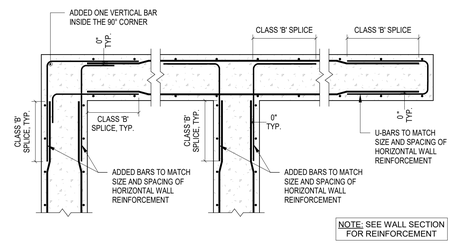




NOTE 1: REFER TO COVER PAGE SECTION 4A SPECIFICATIONS FOR ANCHOR OPTIONS AND SPACING REQUIREMENTS.

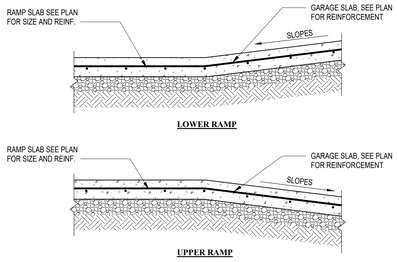
17 S-201 ADJUSTABLE BRICK ANCHOR - CONCRETE/CMU BACKUP

SCALE: N.T.S. 01.27.25



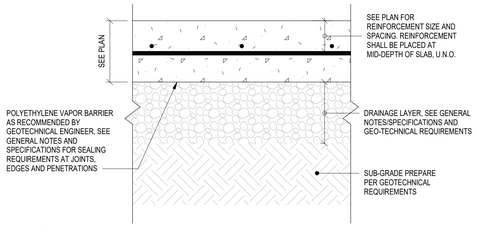
12 S-201 TYPICAL REINFORCING AT WALL CORNERS / ENDS

SCALE: N.T.S. 06.13.24



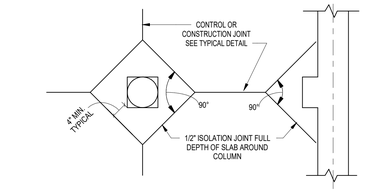
13 S-201 RAMP AT SLAB ON GRADE

SCALE: N.T.S. 05.16.19



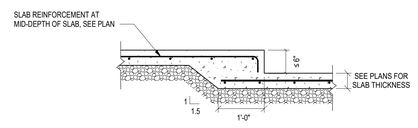
14 S-201 TYPICAL INTERIOR SLAB ON GRADE

SCALE: N.T.S. 05.25.22



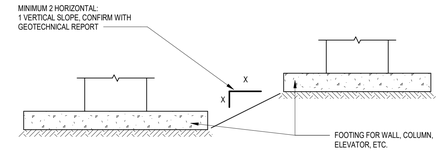
7 S-201 SLAB ON GRADE JOINTS AT COLUMNS AND WALLS

SCALE: N.T.S. 01.01.01



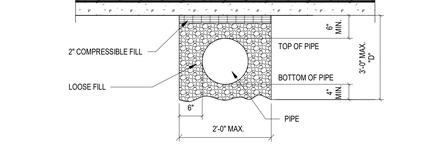
8 S-201 TYPICAL STEP AT SLAB ON GRADE

SCALE: N.T.S. 05.16.19



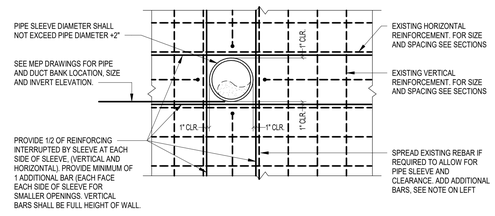
9 S-201 ADJACENT FOOTING AT ELEVATION CHANGE

SCALE: N.T.S. 01.01.01



3 S-201 TYPICAL PIPE UNDER FOOTING

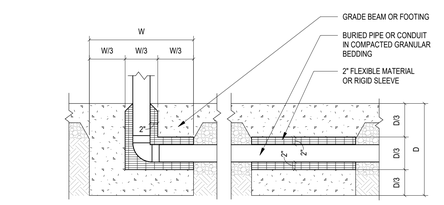
SCALE: N.T.S. 01.01.01



NOTES:
1. ALL PENETRATIONS THROUGH WALL ARE SUBJECT TO APPROVAL BY S.E.R.
2. MINIMUM CLEAR DISTANCE BETWEEN ADJACENT SLEEVES SHALL NOT BE LESS THAN 2'-0"
3. HOOK ALL INTERRUPTED CONTINUOUS BARS

4 S-201 TYPICAL PIPE THROUGH FOUNDATION WALL

SCALE: N.T.S. 06.29.22



NOTES:
1. PIPES OR CONDUITS SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 THE THICKNESS OR WIDTH OF BEAM OR FOOTING IN WHICH THEY ARE EMBEDDED, NOR SHALL THEY BE SPACED CLOSER THAN 3 TIMES THE DIAMETER OF PIPE OR CONDUIT ON CENTER.
2. LOCATE ALL CONDUIT IN THE MIDDLE 1/3 OF THE BEAM/FOOTING DEPTH AND WIDTH.

5 S-201 PIPE THRU INTERIOR FOOTING/GRADE BEAM

SCALE: N.T.S. 07.12.21

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TYPICAL FOUNDATION DETAILS

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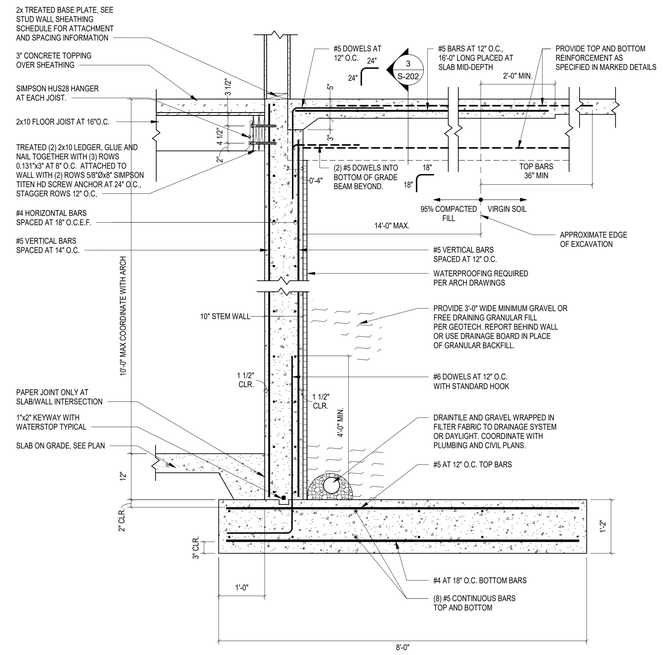
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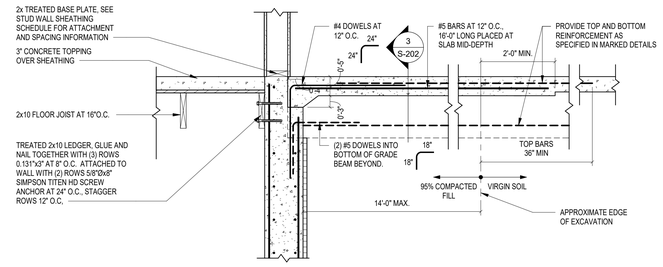
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TRUSSES PERPENDICULAR

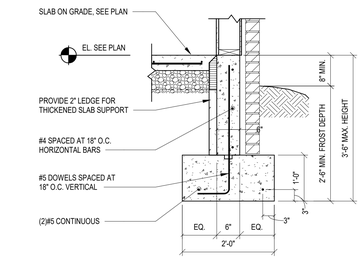


TRUSSES PARALLEL

NOTES:
1. ASSUMED f'c = 3000 PSI CONCRETE DESIGN STRENGTH
2. COORDINATE PLUMBING PENETRATIONS WITH MEP DRAWINGS.
3. UNLESS WALL IS PROPERLY BRACED, 5'-6" MAXIMUM OF BACKFILL MAY BE PLACED AGAINST WALL BEFORE BOTTOM SLAB IS POURED.
4. ASSUMED MAXIMUM ACTIVE SOIL PRESSURE = 45 PCF , ASSUMED MAXIMUM AT-REST SOIL PRESSURE = 60 PCF
5. NO HEAVY EQUIPMENT WITHIN 10'-0" BEHIND WALL, COMPACT THIS AREA BY HAND.
6. ALL SOIL TO BE COMPACTED TO 95% MAXIMUM DENSITY AS VERIFIED BY THE GEOTECHNICAL ENGINEER. COMPACTION REPORTS SHALL BE PROVIDED TO S.E.R. FOR REVIEW.

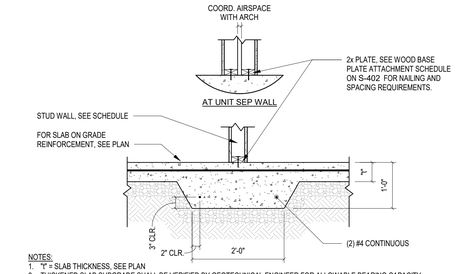
5 S-202 INTERIOR RETAINING WALL

SCALE: N.T.S.



1 S-202 EXTERIOR STEM WALL WITH BRICK LEDGE

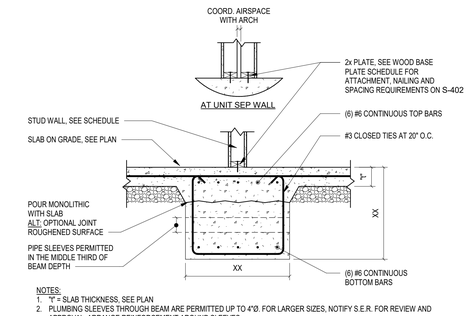
SCALE: N.T.S.



NOTES:
1. "t" = SLAB THICKNESS, SEE PLAN
2. THICKENED SLAB SUBGRADE SHALL BE VERIFIED BY GEOTECHNICAL ENGINEER FOR ALLOWABLE BEARING CAPACITY AND SUBGRADE MODULUS JUST PRIOR TO PLACING CONCRETE. PROVIDE REPORT TO S.E.R. FOR REVIEW AND APPROVAL.
3. SLAB THICKNESS IS BASED ON THE SOIL MODULUS AND THE DESIGN METHODS PROPOSED BY THE U.S.ARMY, DOCUMENT TM-5-809-12.

2 S-202 THICKENED SLAB AT INT. BEARING WALL

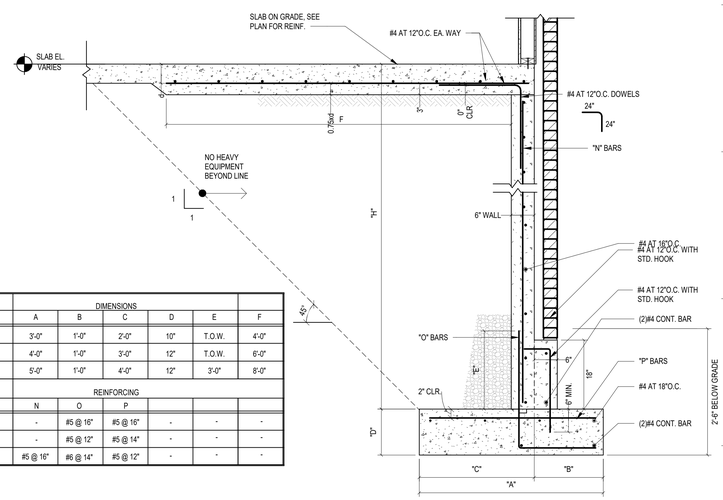
SCALE: N.T.S.



NOTES:
1. "t" = SLAB THICKNESS, SEE PLAN
2. PLUMBING SLEEVES THROUGH BEAM ARE PERMITTED UP TO 4"Ø. FOR LARGER SIZES, NOTIFY S.E.R. FOR REVIEW AND APPROVAL. ARRANGE REINFORCEMENT AROUND SLEEVES.

3 S-202 BEARING WALL GRADE BEAM

SCALE: N.T.S.



WALL HEIGHT	DIMENSIONS					
H	A	B	C	D	E	F
UPTO 3'-6"	3'-0"	1'-0"	2'-0"	10"	T.O.W.	4'-0"
3'-7" TO 5'-6"	4'-0"	1'-0"	3'-0"	12"	T.O.W.	6'-0"
5'-7" TO 7'-6"	5'-0"	1'-0"	4'-0"	12"	3'-0"	8'-0"

WALL HEIGHT	REINFORCING					
H	N	O	P			
UPTO 3'-6"	-	#5 @ 16"	#5 @ 16"	-	-	-
3'-7" TO 5'-6"	-	#5 @ 12"	#5 @ 14"	-	-	-
5'-7" TO 7'-6"	#5 @ 16"	#6 @ 14"	#5 @ 12"	-	-	-

4 S-202 SECTION AT LOW GRADE WALL

SCALE: N.T.S.

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FOUNDATION DETAILS

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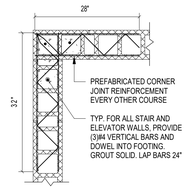
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S-202

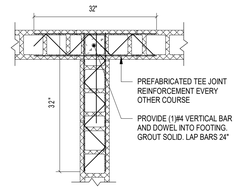
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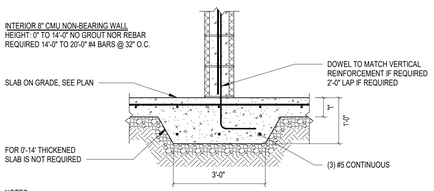
CORNER REINFORCING DETAIL



TEE REINFORCING DETAIL

5 S-203 MASONRY CORNER REINFORCING DETAILS

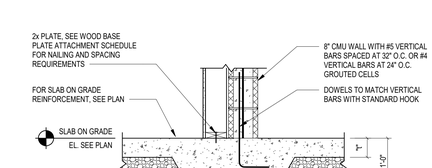
SCALE: N.T.S. 02.20.25



NOTES:
1. SLOPE BOTTOM OF FOOTING 2 HORIZONTAL TO 1 VERTICAL
2. "t" = SLAB THICKNESS, SEE PLAN
3. THICKENED SLAB SUBGRADE SHALL BE VERIFIED BY GEOTECHNICAL ENGINEER FOR ALLOWABLE BEARING CAPACITY AND SUBGRADE MODULUS JUST PRIOR TO PLACING CONCRETE. PROVIDE REPORT TO S.E.R. FOR REVIEW AND APPROVAL.
4. SLAB THICKNESS IS BASED ON THE SOIL MODULUS AND THE DESIGN METHODS PROPOSED BY THE U.S. ARMY DOCUMENT TM-5-809-12.

1 S-203 CMU WALL BOTTOM (NON-LOAD BEARING)

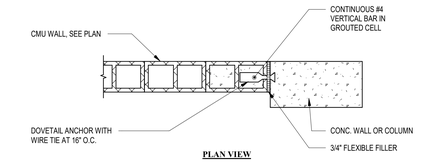
SCALE: N.T.S. 05.16.19



NOTES:
1. "t" = SLAB THICKNESS, SEE PLAN
2. THICKENED SLAB SUBGRADE SHALL BE VERIFIED BY GEOTECHNICAL ENGINEER FOR ALLOWABLE BEARING CAPACITY AND SUBGRADE MODULUS JUST PRIOR TO PLACING CONCRETE. PROVIDE REPORT TO S.E.R. FOR REVIEW AND APPROVAL.
3. SLAB THICKNESS IS BASED ON THE SOIL MODULUS AND THE DESIGN METHODS PROPOSED BY THE U.S.ARMY, DOCUMENT TM-5-809-12.

6 S-203 THICKENED SLAB AT INT. BEARING WALL

SCALE: N.T.S.

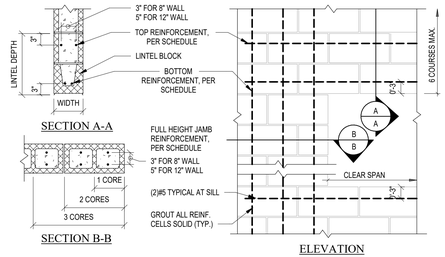


PLAN VIEW

NOTE: SEE TYPICAL DETAIL FOR ANCHOR AT TOP OF CMU WALL

2 S-203 TYPICAL MASONRY CONNECTION

SCALE: N.T.S.



NON-LOAD BEARING CMU LINTEL SCHEDULE

CLEAR SPAN	WIDTH	DEPTH	HORIZ. REINF.	VERT. JAMB REINF. EACH END
LESS THAN 6'-0"	8" OR 12"	8"	(1)#5 BOT.	1 CORE WITH (2)#5
6'-1" - 8'-0"	8" OR 12"	16"	(2)#5 BOT.	1 CORE WITH (2)#5
8'-1" - 10'-0"	8" OR 12"	16"	(2)#5 BOT.	2 CORES WITH (2)#5 IN EACH CORE
10'-1" - 16'-0"	8" OR 12"	24"	(2)#5 BOT.	2 CORES WITH (2)#5 IN EACH CORE

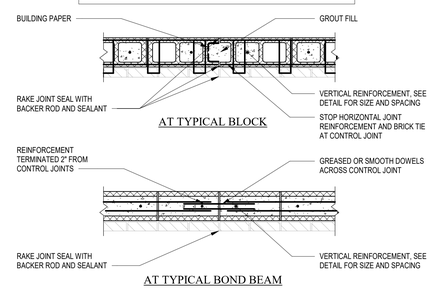
NOTES:
1. LINTELS SUPPORT WEIGHT OF WALL ONLY, NO SUPERIMPOSED LOADS (7 COURSES MAX.)
2. USE MIN. 2500 PSI GROUT IN LINTEL BLOCK AND VERTICAL JAM CORES
3. CMU WALL WEIGHTS 8" = 84 PSF, 12" = 133 PSF

3 S-203 NON-LOAD BEARING CMU LINTEL

SCALE: N.T.S. 12.04.17

MASONRY SIZE	MAXIMUM LENGTH TO HEIGHT RATIO OF CONCRETE MASONRY PANEL	MAXIMUM SPACING (ft.)
NOMINAL UNIT HEIGHT (8 in)	1.5 TO 1	25 ft

1. LOCATE JOINTS AT MAXIMUM OF ONE-HALF CONTROL JOINT SPACING FROM CORNERS
2. G.C. TO SUBMIT ALTERNATE JOINT DETAILS FOR A/E REVIEW
3. REFER TO NCMA TEK NOTE 10-02D



4 S-203 CMU WALL CONTROL JOINT

SCALE: N.T.S. 04.22.21

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TYPICAL MASONRY WALL DETAILS

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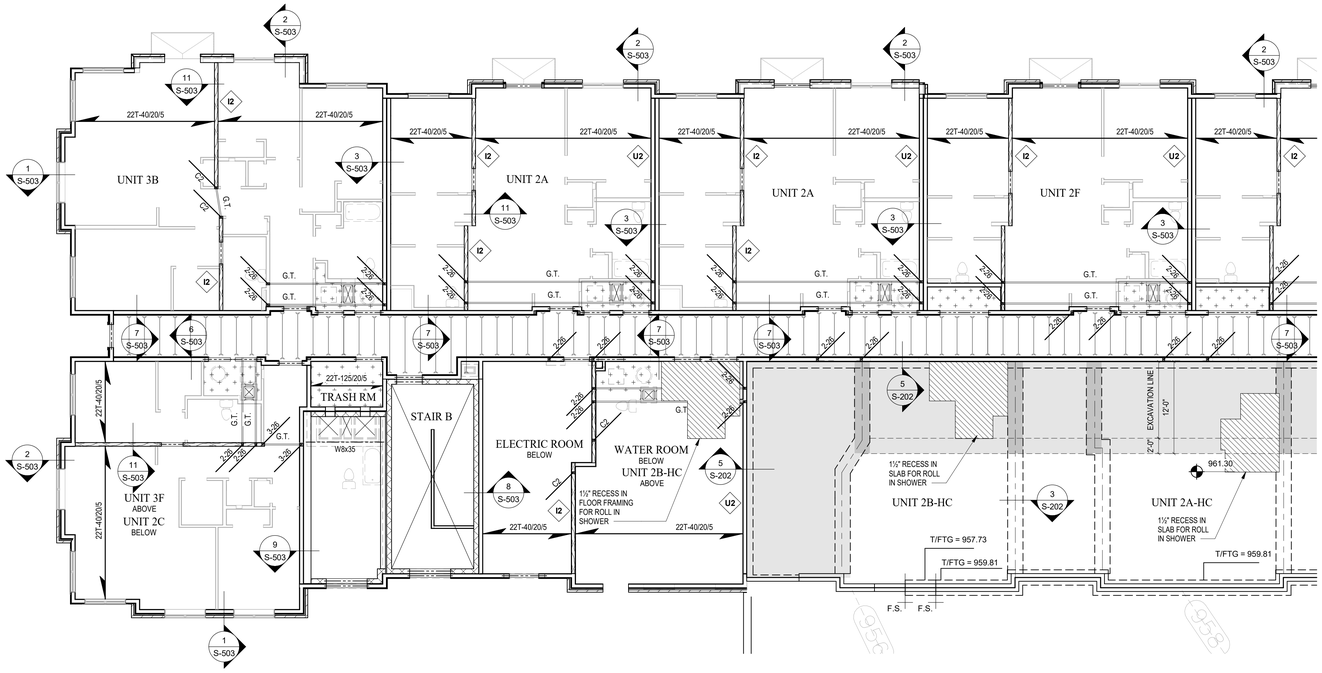
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S-203

06/30/2026
CONSTRUCTABILITY REVIEW

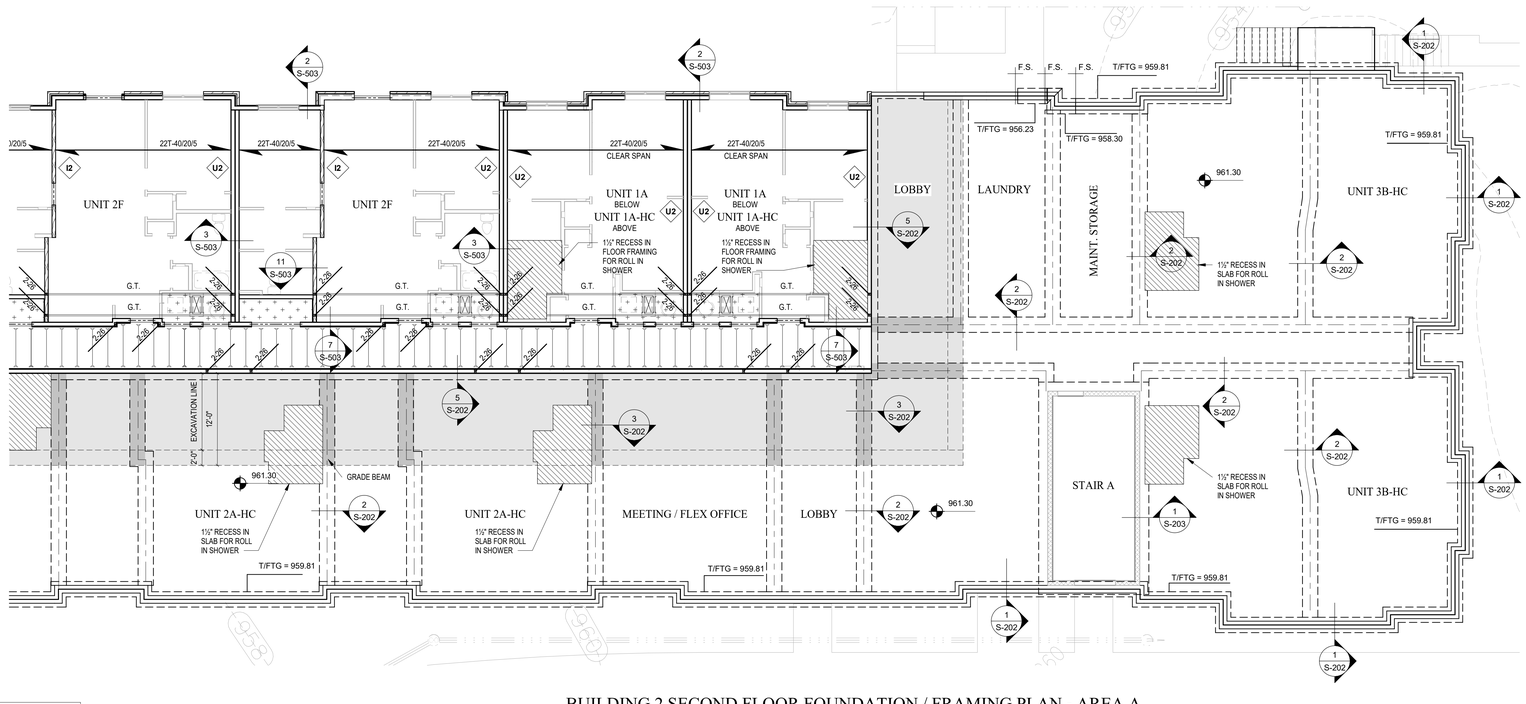
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BUILDING 2 SECOND FLOOR FOUNDATION / FRAMING PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 SECOND FLOOR FOUNDATION / FRAMING PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

FOUNDATION PLAN NOTES (S.O.G.):

1. SEE PLAN FOR TOP OF SLAB ELEVATION. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
2. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. SLAB ON GRADE SHALL BE 3500 psi NORMAL WEIGHT CONCRETE, 4" THICK REINFORCED WITH #3 AT 18"O.C.E.W. PLACED AT MID-DEPTH ON POLYETHYLENE VAPOR BARRIER OVER WASHED CRUSHED STONE PER THE GEOTECHNICAL REPORT. SEE DETAIL 14 / S-201
4. TOP OF FOOTING ELEVATIONS ARE AS NOTED ON THE PLANS, U.N.O. FOOTINGS SHALL BE CENTERED UNDER COLUMNS, U.N.O.
5. COORDINATE ALL UNDERGROUND UTILITIES POINT OF ENTRY INTO BUILDING WITH LATEST ARCHITECTURAL/MEP/CIVIL DRAWINGS PRIOR TO POURING FOOTINGS TO AVOID UNDERMINING FOOTINGS AFTER THEY ARE POURED. UTILITY INVERTS SHALL BE ABOVE TOP OF FOOTING ELEVATIONS, TYPICAL
6. COORDINATE DRAINS, DEPRESSIONS, AND SLAB FOLDS WITH LATEST ARCHITECTURAL DRAWINGS.
7. SEE TYPICAL DETAILS ON S-201 FOR ADDITIONAL INFORMATION.
8. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN SLAB FOR ROLL-IN SHOWERS

NORTH

FLOOR FRAMING NOTES (WOOD):

1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX. U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SPI#2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O., CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

DROPPED 2x HEADER	GIRDER TRUSS
FLUSH 2x HEADER	G.T. TRUSS SPAN DIRECTION
INTERIOR UNIT BEARING WALL	X WALL TYPE
	ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

XXT-XX/XX/X
- TRUSS DEPTH(in.)
- LIVE LOAD (PSF)
- B/C DEAD LOAD (PSF)
- T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:
1. ▨ AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR HEIGHT	MARK C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
   S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F E1 (1)	E2	CORRIDOR - F C1 (1)	INTERIOR - P I1 (1)	I2	I3	UNIT SEPARATION - F U1 (1)	U2	U3	WET WALL
ROOF	-8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE
ROOF + 3 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	NOTE 7
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS
F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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BUILDING 2 SECOND FLOOR FOUNDATION / FRAMING PLAN

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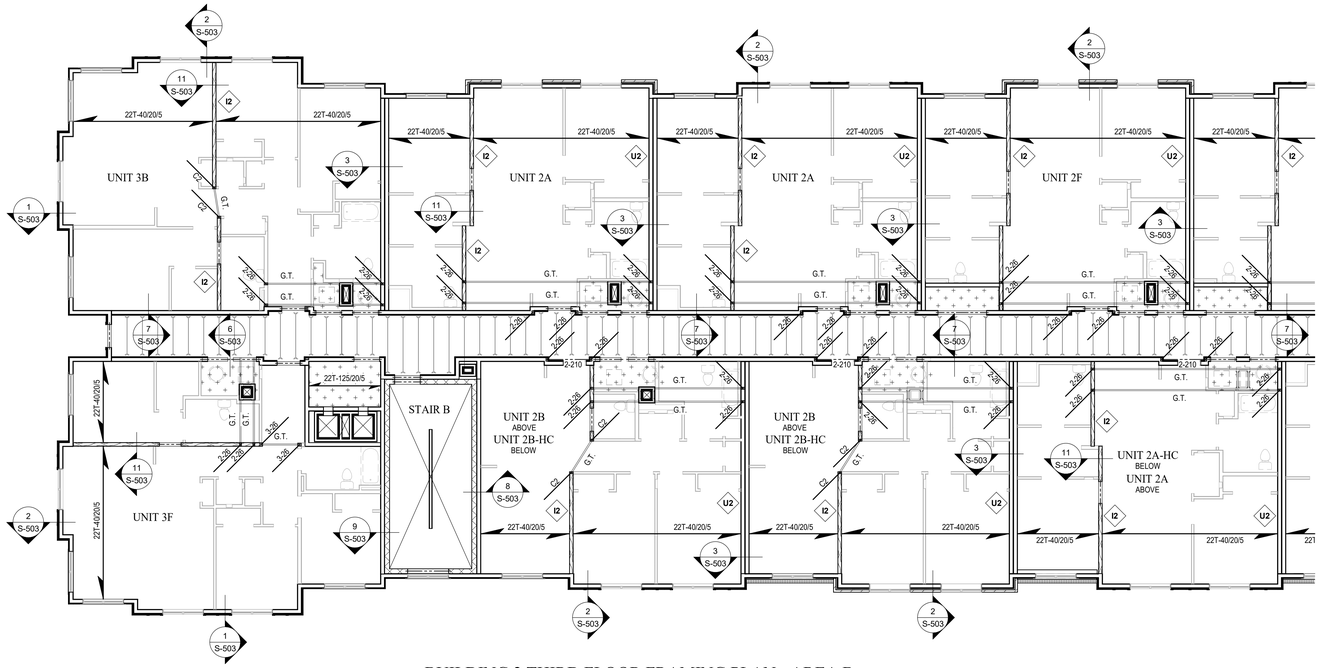
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06/30/2026
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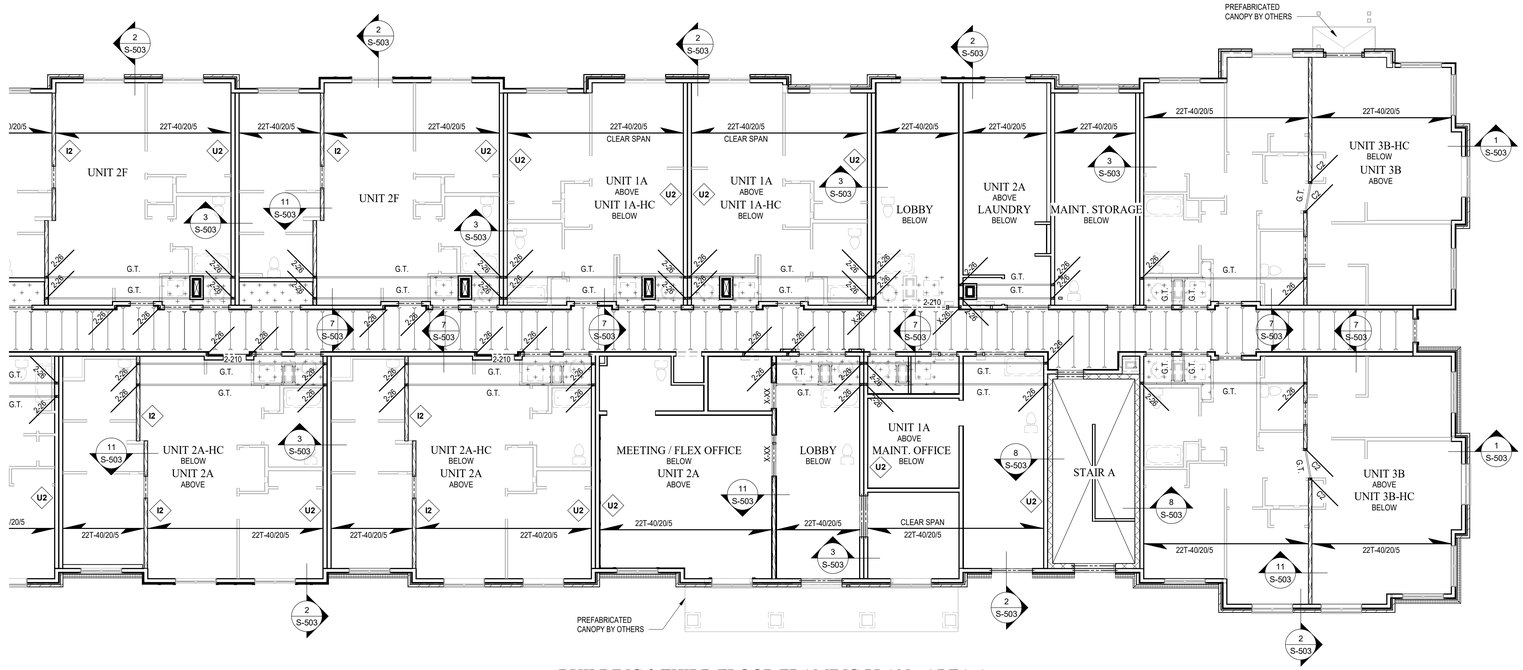
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BUILDING 2 THIRD FLOOR FRAMING PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 THIRD FLOOR FRAMING PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

FLOOR FRAMING NOTES (WOOD):

1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX, U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SP#2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O., CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

DROPPED 2x HEADER	G.T. GIRDER TRUSS
FLUSH 2x HEADER	TRUSS SPAN DIRECTION
INTERIOR UNIT BEARING WALL	X WALL TYPE
	ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

XXT-XX/XX/X
- TRUSS DEPTH(in.)
- LIVE LOAD (PSF)
- B/C DEAD LOAD (PSF)
- T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:
1. ▨ AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK C1	C2	C3	C4
ROOF	~8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	~9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	~9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	~9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
   S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F E1 (1)	E2	CORRIDOR - F C1 (1)	INTERIOR - P I1 (1)	I2	I3	UNIT SEPARATION - F U1 (1)	U2	U3	WET WALL
ROOF	~8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	~9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE NOTE 7
ROOF + 3 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/16	26/12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:
- 24/16 = 2x4 AT 16" O.C.
- 24/12 = 2x4 AT 12" O.C.
- 24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
- 224/12 = (2) 2x4 AT 12" O.C.
- 224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
- 324/12 = (3) 2x4 AT 12" O.C.
- 26/16 = 2x6 AT 16" O.C.
- 26/12 = 2x6 AT 12" O.C.
- 26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC. WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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BUILDING 2 THIRD FLOOR FRAMING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

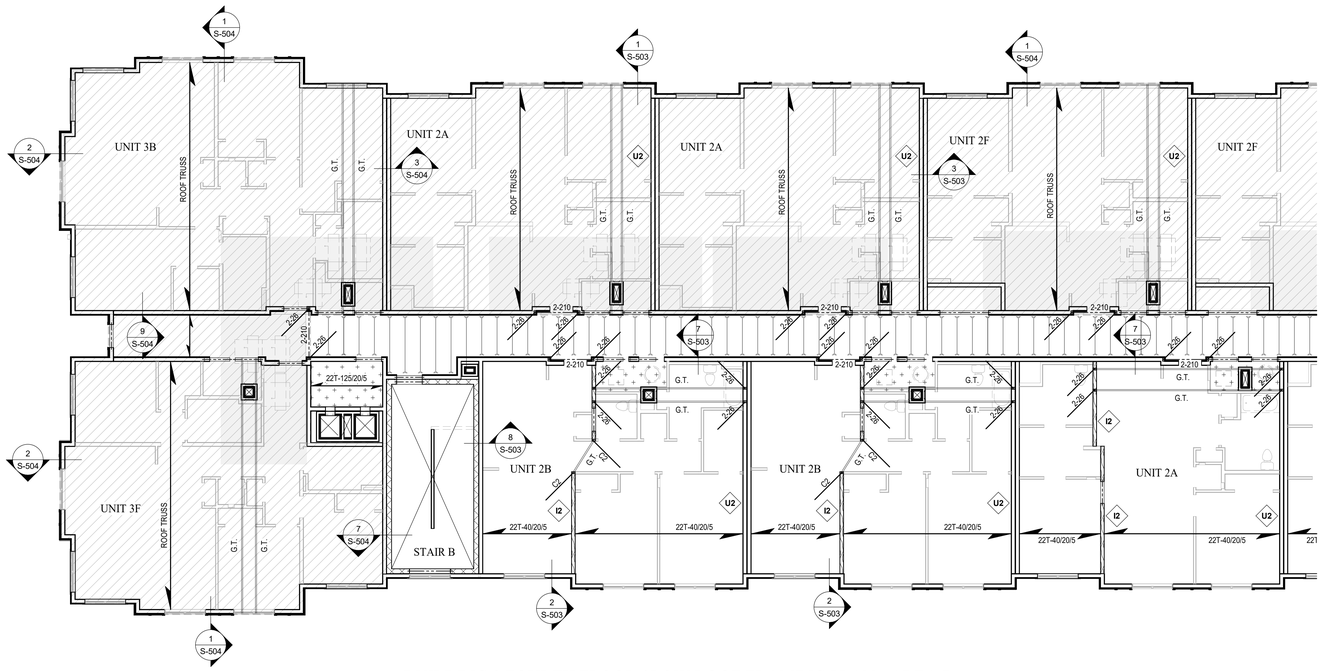
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06/30/2026	CONSTRUCTABILITY REVIEW	

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06/30/2026
CONSTRUCTABILITY REVIEW

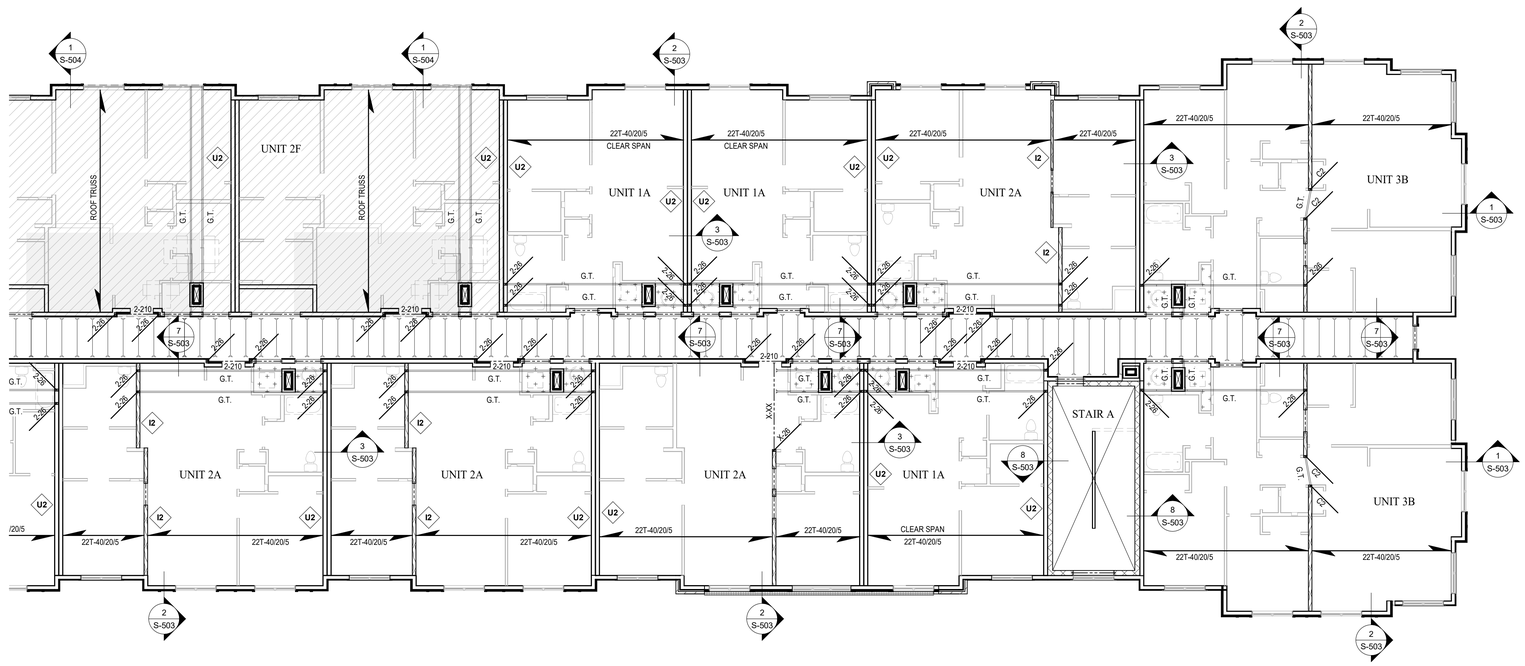
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BUILDING 2 FOURTH FLOOR / LOW ROOF FRAMING PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 FOURTH FLOOR / LOW ROOF FRAMING PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

FLOOR FRAMING NOTES (WOOD):

1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX, U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SP#2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O., CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE.
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. ▨ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

DROPPED 2x HEADER	GIRDER TRUSS (G.T.)
FLUSH 2x HEADER	TRUSS SPAN DIRECTION
INTERIOR UNIT BEARING WALL	WALL TYPE (X)
	ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

XXT-XX/XX/X
- TRUSS DEPTH(in.)
- LIVE LOAD (PSF)
- B/C DEAD LOAD (PSF)
- T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:
1. ▨ AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK C1	C2	C3	C4
ROOF	~8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	~9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	~9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	~9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F E1 (1)	E2	CORRIDOR - F C1 (1)	INTERIOR - P I1 (1)	I2	I3	UNIT SEPARATION - F U1 (1)	U2	U3	WET WALL
ROOF	~8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	SEE NOTE 7
ROOF + 1 FLR ABOVE	~9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/16	26/12D	
ROOF + 3 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

NORTH

ROOF FRAMING NOTES (WOOD):

1. ALL ROOF FRAMING SHALL BE PRE-ENGINEERED ROOF TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT **24" O.C. MAX** FOR THE DESIGN LOADS, INCLUDING ROOF TOP MECHANICAL UNITS AS REQUIRED. ROOF TRUSSES TO HAVE MINIMUM **24"** DEPTH.
2. ALL ROOF TRUSS BEARING POINTS SHALL BE ATTACHED TO THE BUILDING WITH TOE-NAILS PER THE SCHEDULE AND SIMPSON "H2.5T" HURRICANE CLIPS OR EQUIVALENT. ADDITIONAL HOLDOWN ANCHORS MAY BE REQUIRED FOR GIRDER TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW.
3. HOLDOWN ANCHORS ARE REQUIRED ON FLUSH BEAMS SUPPORTING ROOF TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW. U.N.O. USE EITHER SIMPSON H6 OR TWO SIMPSON H2.5T ANCHORS AT EACH END OF BEAM.
4. SEE ARCHITECTURAL PLANS FOR LOCATION OF DRAFTSTOPPING WHERE REQUIRED.
5. ALL DOUBLE TOP PLATES WITH ROOF TRUSSES BEARING TO BE SP#1.
6. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
7. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING.
8. TRUSS TO TRUSS CONNECTION TO BE SPECIFIED BY TRUSS MANUFACTURER.
9. SEE ROOF FRAMING DETAILS ON S-504

ROOF FRAMING LEGEND

DROPPED 2x HEADER	GIRDER TRUSS (G.T.)
FLUSH 2x HEADER	TRUSS SPAN DIRECTION
INTERIOR UNIT BEARING WALL	WALL TYPE (X)
	MECHANICAL AREAS, SEE SHEET S-001 FOR LOADING

TYPICAL ROOF HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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GRIMM AND PARKER

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#908-132-25

BUILDING 2 FOURTH FLOOR / LOW ROOF FRAMING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

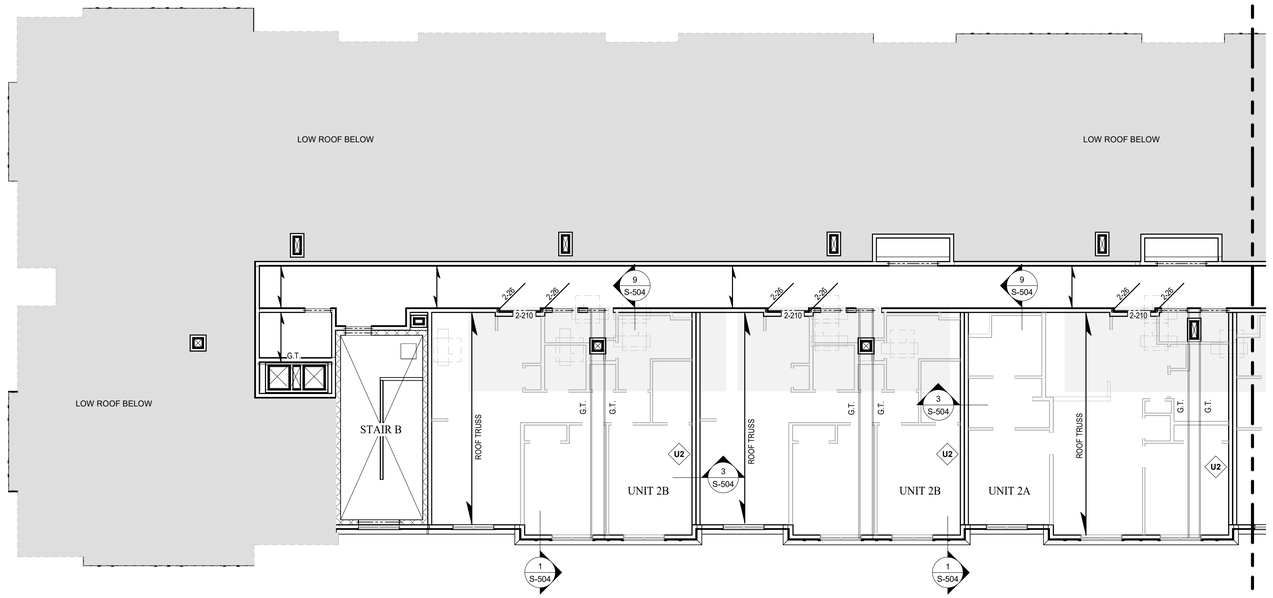
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06/30/2026	CONSTRUCTABILITY REVIEW	

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06/30/2026
CONSTRUCTABILITY REVIEW

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BUILDING 2 ROOF FRAMING PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 ROOF FRAMING PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

ROOF FRAMING NOTES (WOOD):

1. ALL ROOF FRAMING SHALL BE PRE-ENGINEERED ROOF TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT **24" O.C. MAX** FOR THE DESIGN LOADS, INCLUDING ROOF TOP MECHANICAL UNITS AS REQUIRED. ROOF TRUSSES TO HAVE MINIMUM **24"** DEPTH.
2. ALL ROOF TRUSS BEARING POINTS SHALL BE ATTACHED TO THE BUILDING WITH TOE NAILS PER THE SCHEDULE AND SIMPSON "H2.5T" HURRICANE CLIPS OR EQUIVALENT. ADDITIONAL HOLDOWN ANCHORS MAY BE REQUIRED FOR GIRDER TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW.
3. HOLDOWN ANCHORS ARE REQUIRED ON FLUSH BEAMS SUPPORTING ROOF TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW. U.N.O. USE EITHER SIMPSON H6 OR TWO SIMPSON H2.5T ANCHORS AT EACH END OF BEAM.
4. SEE ARCHITECTURAL PLANS FOR LOCATION OF DRAFTSTOPPING WHERE REQUIRED.
5. ALL DOUBLE TOP PLATES WITH ROOF TRUSSES BEARING TO BE SPI#1.
6. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
7. PROVIDE 6"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING.
8. TRUSS TO TRUSS CONNECTION TO BE SPECIFIED BY TRUSS MANUFACTURER.
9. SEE ROOF FRAMING DETAILS ON S-504

ROOF FRAMING LEGEND

DROPPED 2x HEADER	GIRDER TRUSS (G.T.)
FLUSH 2x HEADER	TRUSS SPAN DIRECTION
INTERIOR UNIT BEARING WALL	WALL TYPE (X)
	MECHANICAL AREAS, SEE SHEET S-001 FOR LOADING

TYPICAL ROOF HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-2I8	UP TO 5'-0"
		3-2I0	5'-1" UP TO 6'-6"
2	CORRIDOR	3-2I8	UP TO 4'-0"
		3-2I0	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
   S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F E1 (1)	E2	CORRIDOR - F C1 (1)	INTERIOR - P I1 (1)	I2	I3	UNIT SEPARATION - F U1 (1)	U2	U3	WET WALL
ROOF	-8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE
ROOF + 3 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	NOTE 7
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC. WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

CATES ENGINEERING STRUCTURAL CONSULTING
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GRIMM AND PARKER

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#908-132-25

BUILDING 2 ROOF FRAMING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

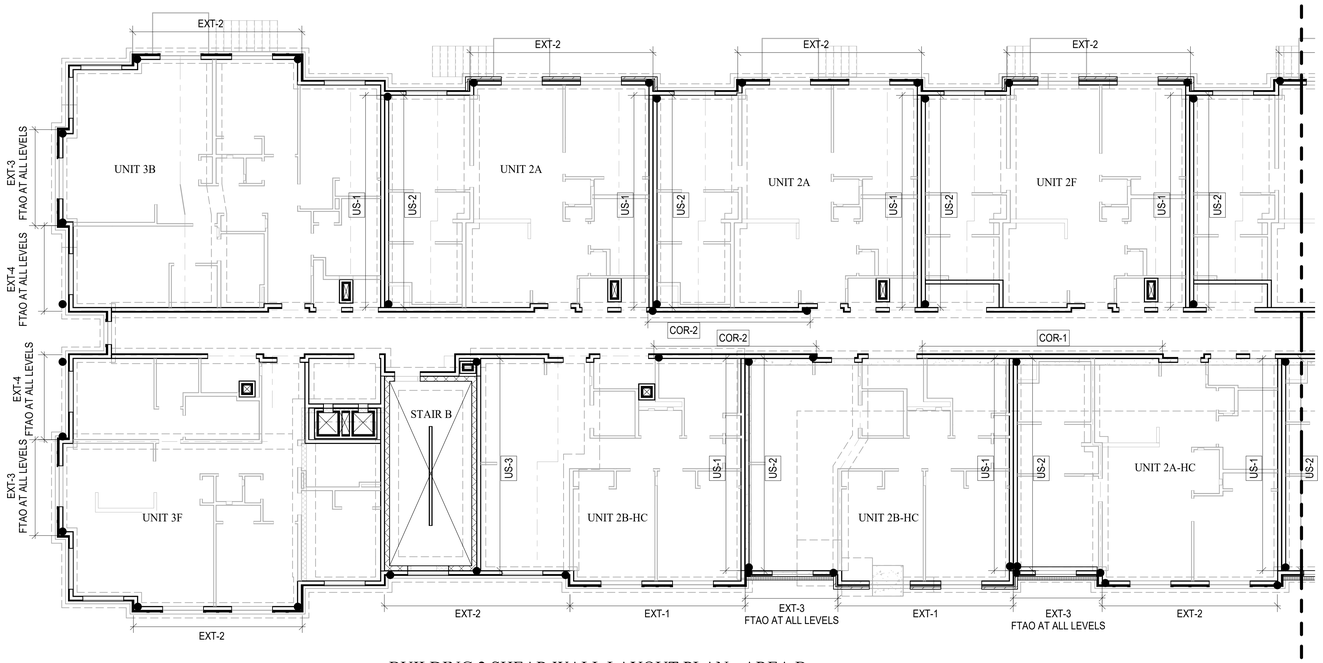
DATE	SUBMISSION / REVISION / #
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

2S-304

06/30/2026
CONSTRUCTABILITY REVIEW

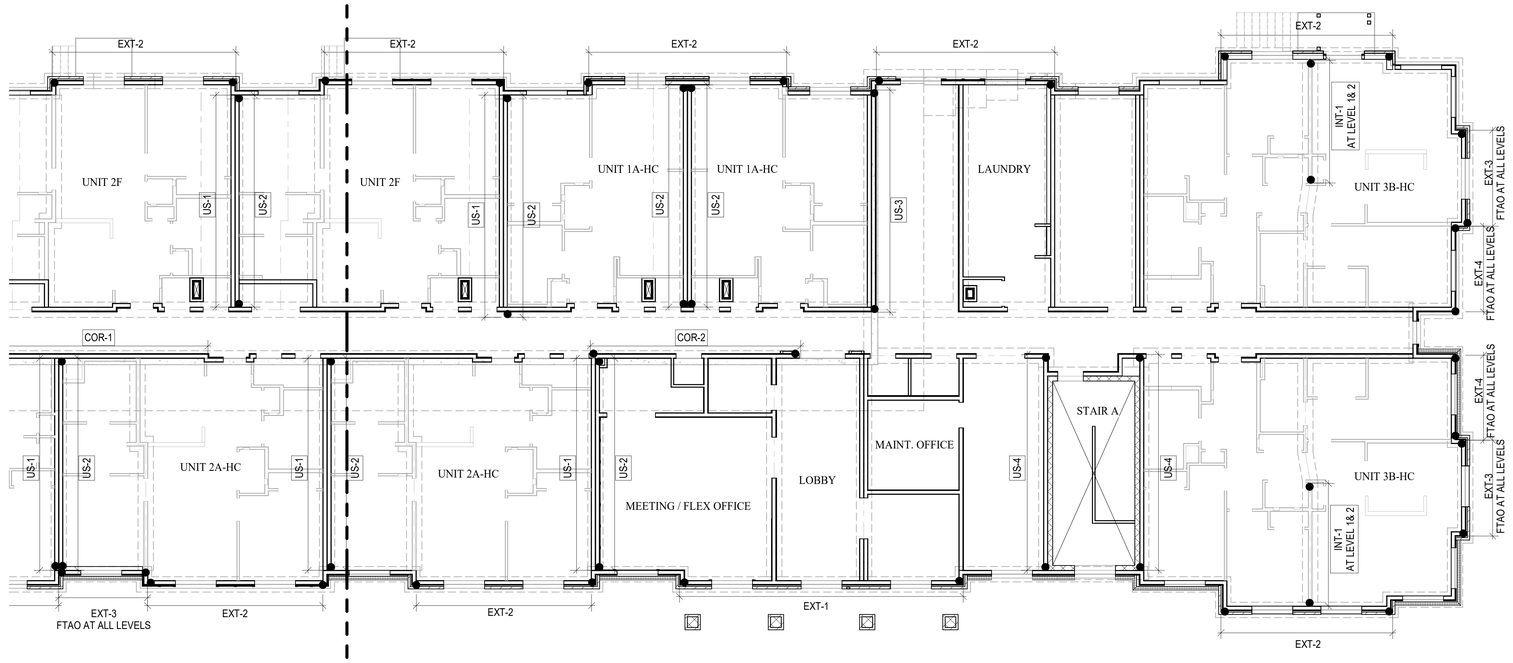
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BUILDING 2 SHEAR WALL LAYOUT PLAN - AREA B

SCALE: 1/8" = 1'-0"



BUILDING 2 SHEAR WALL LAYOUT PLAN - AREA A

SCALE: 1/8" = 1'-0"

NORTH

SHEAR WALL PLAN NOTES (WOOD):

1. EXT-X, INT-X, US-X, COR-X REFERS TO SHEAR WALL DESIGNATION ON LAYOUT PLAN. WALLS WITHOUT DESIGNATION HAVE NOT BEEN DESIGNED AS LATERAL FORCE RESISTING ELEMENTS.
2. EACH "HD" OR "AR" CALLOUT REPRESENTS A HOLDDOWN OR ANCHOR ROD LOCATION. RESPECTIVELY AT UNIT SEPARATION WALLS WHERE TWO "HD" CALLOUTS ARE INDICATED FOR ONE LOCATION, INSTALL (1) HOLDDOWN AT EACH OF THE TWO UNIT SEPARATION WALLS.
3. 'a' DIMENSION IS SHOWN FOR WALL CORNER AND END ZONE COMPONENT AND CLADDING LOADS. REFER TO SHEET 1S-001R LOADING.
4. "FTAO" INDICATES WALL DESIGNED FOR FORCE TRANSFER AROUND OPENINGS METHOD PER NATIONAL DESIGN SPECIFICATION.

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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BUILDING 2 SHEAR WALL LAYOUT PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

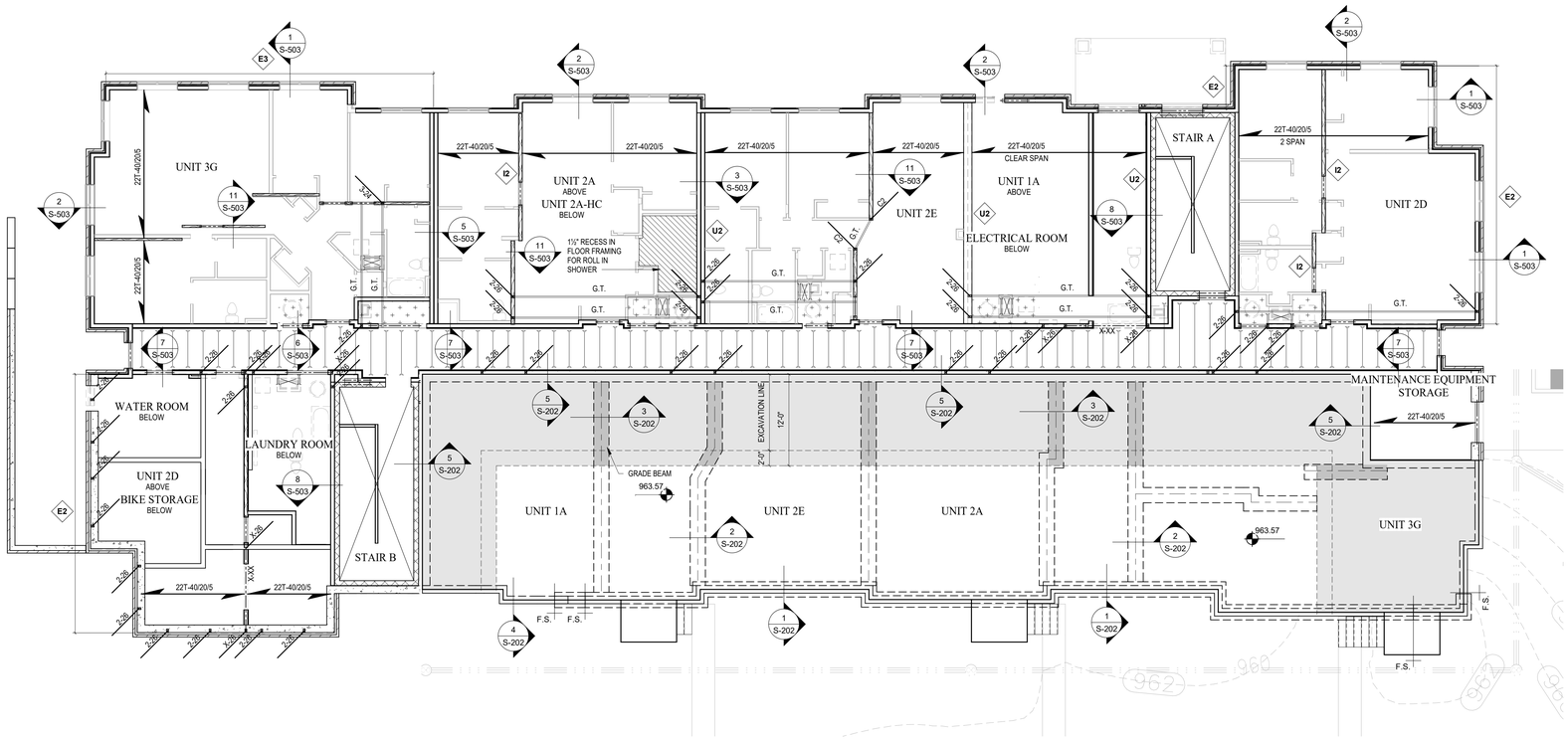
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06/30/2026	CONSTRUCTABILITY REVIEW

2S-305

06/30/2026
CONSTRUCTABILITY REVIEW

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BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F		CORRIDOR - F	INTERIOR - P			UNIT SEPARATION - F			WET WALL
		E1 (1)	E2	C1 (1)	I1 (1)	I2	I3	U1 (1)	U2	U3	
ROOF	-8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE NOTE 7
ROOF + 3 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK			
		C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(5)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1 TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BUILDING 3 SECOND FLOOR FOUNDATION / FRAMING PLAN

SCALE: 1/8" = 1'-0"

NORTH

FOUNDATION PLAN NOTES (S.O.G.):
1. SEE PLAN FOR TOP OF SLAB ELEVATION. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
2. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. SLAB ON GRADE SHALL BE 3500 psi NORMAL WEIGHT CONCRETE, 4" THICK REINFORCED WITH #3 AT 18"O.C.E.W. PLACED AT MID-DEPTH ON POLYETHYLENE VAPOR BARRIER OVER WASHED CRUSHED STONE PER THE GEOTECHNICAL REPORT. SEE DETAIL 1/4 / S-201
4. TOP OF FOOTING ELEVATIONS ARE AS NOTED ON THE PLANS, U.N.O. FOOTINGS SHALL BE CENTERED UNDER COLUMNS, U.N.O.
5. COORDINATE ALL UNDERGROUND UTILITIES POINT OF ENTRY INTO BUILDING WITH LATEST ARCHITECTURAL/MEP/CIVIL DRAWINGS PRIOR TO POURING FOOTINGS TO AVOID UNDERMINING FOOTINGS AFTER THEY ARE POURED. UTILITY INVERTS SHALL BE ABOVE TOP OF FOOTING ELEVATIONS, TYPICAL.
6. COORDINATE DRAINS, DEPRESSIONS, AND SLAB FOLDS WITH LATEST ARCHITECTURAL DRAWINGS.
7. SEE TYPICAL DETAILS ON S-201 FOR ADDITIONAL INFORMATION.
8. [ ] - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN SLAB FOR ROLL-IN SHOWERS

NORTH

FLOOR FRAMING NOTES (WOOD):
1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX, U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SPH2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O. CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. [ ] - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

DROPPED 2x HEADER	G.T. GIRDER TRUSS
FLUSH 2x HEADER	TRUSS SPAN DIRECTION
	X WALL TYPE
INTERIOR UNIT BEARING WALL	ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

XXT-XX/XX/X
- TRUSS DEPTH(in.)
- LIVE LOAD (PSF)
- B/C DEAD LOAD (PSF)
- T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:
1 [ ] AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

DISCLAIMER NOTES

A. THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL AND CIVIL DRAWINGS. IF ANY DISCREPANCIES ARE NOTICED, IMMEDIATELY NOTIFY THE SER/ARCHITECT, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE SER/ARCHITECT.

B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

CATES ENGINEERING STRUCTURAL CONSULTING
13571 Heathcote Blvd, Suite 170 Gainesville, VA 20155
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CATES ENGINEERING, LLC RESERVES ITS LAWFUL RIGHTS TO THESE DRAWINGS AND SPECIFICATIONS IN THE EVENT THEY ARE USED ON ANY ACT NOT BE USED FOR ANOTHER PROJECT WITHOUT THE WRITTEN CONSENT OF CATES ENGINEERING, LLC. DO NOT SCALE DRAWINGS, USE DIMENSIONS.

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G+P GRIMM AND PARKER

GP #908-132-25

BUILDING 3 SECOND FLOOR FOUNDATION / FRAMING PLAN
ROANOKE GATEWAY
ROANOKE, VA 24022

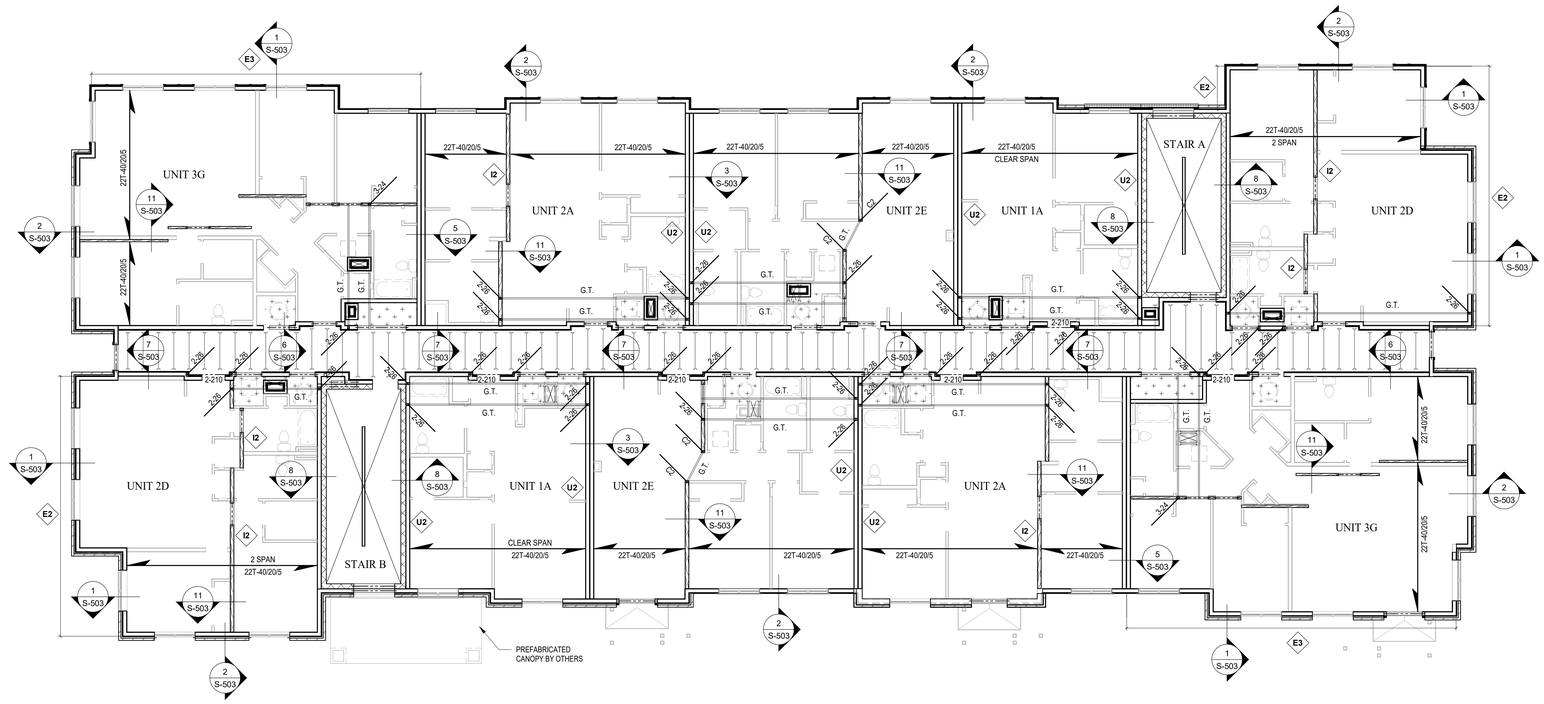
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06/30/2026	CONSTRUCTABILITY REVIEW

3S-301

06/30/2026
CONSTRUCTABILITY REVIEW

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BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F		CORRIDOR - F	INTERIOR - P			UNIT SEPARATION - F			WET WALL
		E1 (1)	E2	C1 (1)	I1 (1)	I2	I3	U1 (1)	U2	U3	
ROOF	-8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE NOTE 7
ROOF + 3 FLR ABOVE	-9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:

1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS.

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK			
		C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:

1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:

1 TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

NORTH

BUILDING 3 THIRD FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"

FLOOR FRAMING NOTES (WOOD):

1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX, U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SPI#2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O., CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. ▭ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

- DROPPED 2x HEADER
- FLUSH 2x HEADER
- INTERIOR UNIT BEARING WALL
- G.T. — GIRDER TRUSS
- TRUSS SPAN DIRECTION
- WALL TYPE
- ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

TRUSS DEPTH(in.)
LIVE LOAD (PSF)
XXT-XX/XX/X
B/C DEAD LOAD (PSF)
T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:

1. ▭ AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:

1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

DISCLAIMER NOTES

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B. THE CONTRACTOR SHALL REFER TO THE SER/ARCHITECT FOR ANY DIMENSION NOT GIVEN ON OR NOT OBTAINABLE FROM THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

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GRIMM AND PARKER

GP
#908-132-25

BUILDING 3 THIRD FLOOR FRAMING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

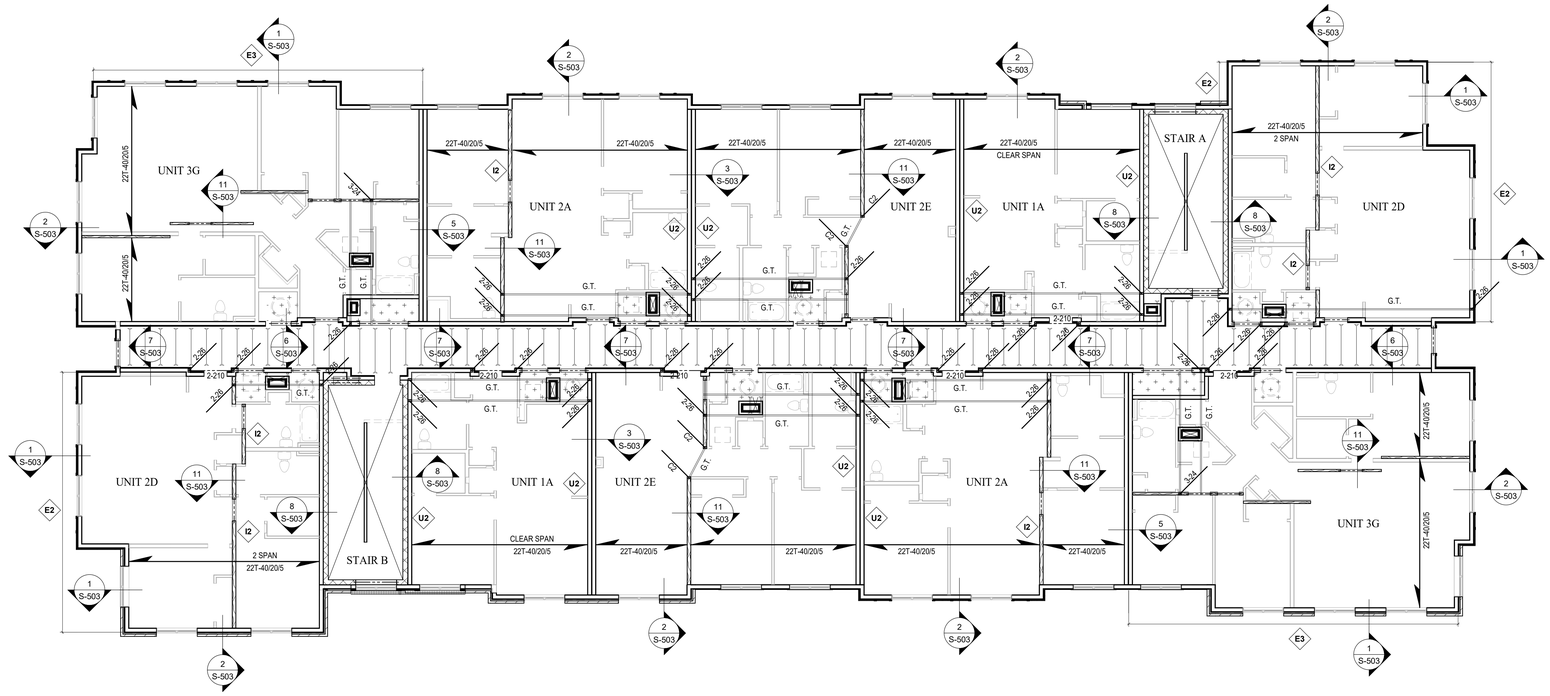
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06/30/2026	CONSTRUCTABILITY REVIEW	

3S-302

06/30/2026
CONSTRUCTABILITY REVIEW

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BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F		CORRIDOR - F	INTERIOR - P			UNIT SEPARATION - F			WET WALL
		E1 (1)	E2	C1 (1)	I1 (1)	I2	I3	U1 (1)	U2	U3	
ROOF	-8'-1 1/8"	2I6/16	2I6/16	2I6/12	2A/16	--	0	2I6/16	2I6/16	2I6/16	
ROOF + 1 FLR ABOVE	-9'-11 7/8"	2I6/16	2I6/16	2I6/12	2A/12D	2I6/12	2I6/12	2I6/16	2I6/16	2I6/12	
ROOF + 2 FLR ABOVE	-9'-11 7/8"	2I6/16	2I6/12	2I6/12	2A/12D	2I6/12	2I6/12	2I6/16	2I6/12	2I6/12D	SEE
ROOF + 3 FLR ABOVE	-9'-11 7/8"	2I6/16	2I6/12	2I6/12	224/12T	2I6/12	2I6/12D	2I6/16	2I6/12	2I6/12D	NOTE 7
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	2I6/16	2I6/12	2I6/12	324/12	2I6/12	2I6/12D	2I6/16	2I6/12	2I6/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
2I6/16 = 2x6 AT 16" O.C.
2I6/12 = 2x6 AT 12" O.C.
2I6/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:

1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS.

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK			
		C1	C2	C3	C4
ROOF	-8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	-9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	-9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	-9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	-9'-11 7/8" TO 12'-8"	(6)2x4	(4)2x6		

NOTES:

1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:

1 TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
   S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BUILDING 3 FOURTH FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"

NORTH

FLOOR FRAMING NOTES (WOOD):

1. ALL FLOOR FRAMING SHALL BE 22" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 24" O.C. MAX, U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF FLOOR OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. EXTERIOR DECK MEMBERS SHALL BE P.T. SPI#2 MATERIAL. REFER TO BALCONY FRAMING SCHEDULE FOR JOIST AND LEDGER SIZE AND ATTACHMENT.
5. PROVIDE (1) 2x6 STRONGBACK AT APPROXIMATE MID-SPAN OF THE TRUSSES UNDER 20'-0" OR APPROXIMATE THIRD POINTS OF TRUSSES OVER 20'-0". MAINTAIN 10'-0" MAX. SPACING.
6. FOR STACKING NON BEARING WALLS FRAMED PARALLEL WITH FLOOR TRUSSES, PROVIDE 2x4 CRIPPLE STUDS AT 24" O.C. IN FLOOR PLENUM BETWEEN WALLS. SEE DETAIL 4 / S-501
7. SEE BEARING WALL SCHEDULE ON SHEET S-002 FOR STUD QUANTITY AND SPACING.
8. EXTERIOR WALLS TO BE TYPE "E1, U.N.O., INTERIOR UNIT BEARING WALLS TO BE TYPE "I1", U.N.O., CORRIDOR WALLS TO BE TYPE "C1", U.N.O., UNIT SEPARATION WALLS TO BE TYPE "U1", U.N.O. AND WET WALLS TO BE TYPE "W1" U.N.O.
9. PREFAB METAL PAN STAIRS AND LANDING BY OTHERS. FABRICATOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL BY ARCHITECT AND ENGINEER. STAIRWELL WALLS TO BE 8" CMU. REINFORCE WALLS W/ #5 BARS AT (3) CORNER CORES AND AT 32" O.C. IN BETWEEN.
10. PROVIDE BOND BEAMS W/ (2)#5 BARS AT EACH FLOOR LINE
11. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING
12. REFER TO S-501 FOR TYPICAL FRAMING DETAILS.
13. TRUSS MANUFACTURER TO PROVIDE BOX FOR MECHANICAL DUCTS. REFER TO MECHANICAL PLANS FOR DUCT LOCATIONS.
14. ▭ - HATCHED REGION SHOWN ON PLAN, PROVIDE 1½" RECESS IN FLOOR FRAME FOR ROLL-IN SHOWERS

FLOOR FRAMING LEGEND

- DROPPED 2x HEADER
- FLUSH 2x HEADER
- INTERIOR UNIT BEARING WALL
- G.T. — GIRDER TRUSS
- TRUSS SPAN DIRECTION
- WALL TYPE
- ADDITIONAL LOADING SEE SHEET S-001

WOOD TRUSS LEGEND (U.N.O.)

TRUSS DEPTH(in.)
LIVE LOAD (PSF)
XXT-XX/XX/X
B/C DEAD LOAD (PSF)
T/C DEAD LOAD (PSF)

TYPE	LOADING	HATCH
RESIDENTIAL	22T-40/20/5	NONE
PUBLIC AREA	22T-100/20/5	
LIGHT STORAGE/ MECH.	22T-125/20/5	

NOTES:

1. ▭ AREAS ON PLAN INDICATE DIFFERENCES IN TRUSS DEPTH OR LOADING. SEE PLAN FOR TRUSS DESIGN CRITERIA.

TYPICAL FLOOR HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	INTERIOR	2-28	UP TO 3'-6"
3	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:

1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

DISCLAIMER NOTES

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#908-132-25

BUILDING 3 FOURTH FLOOR FRAMING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

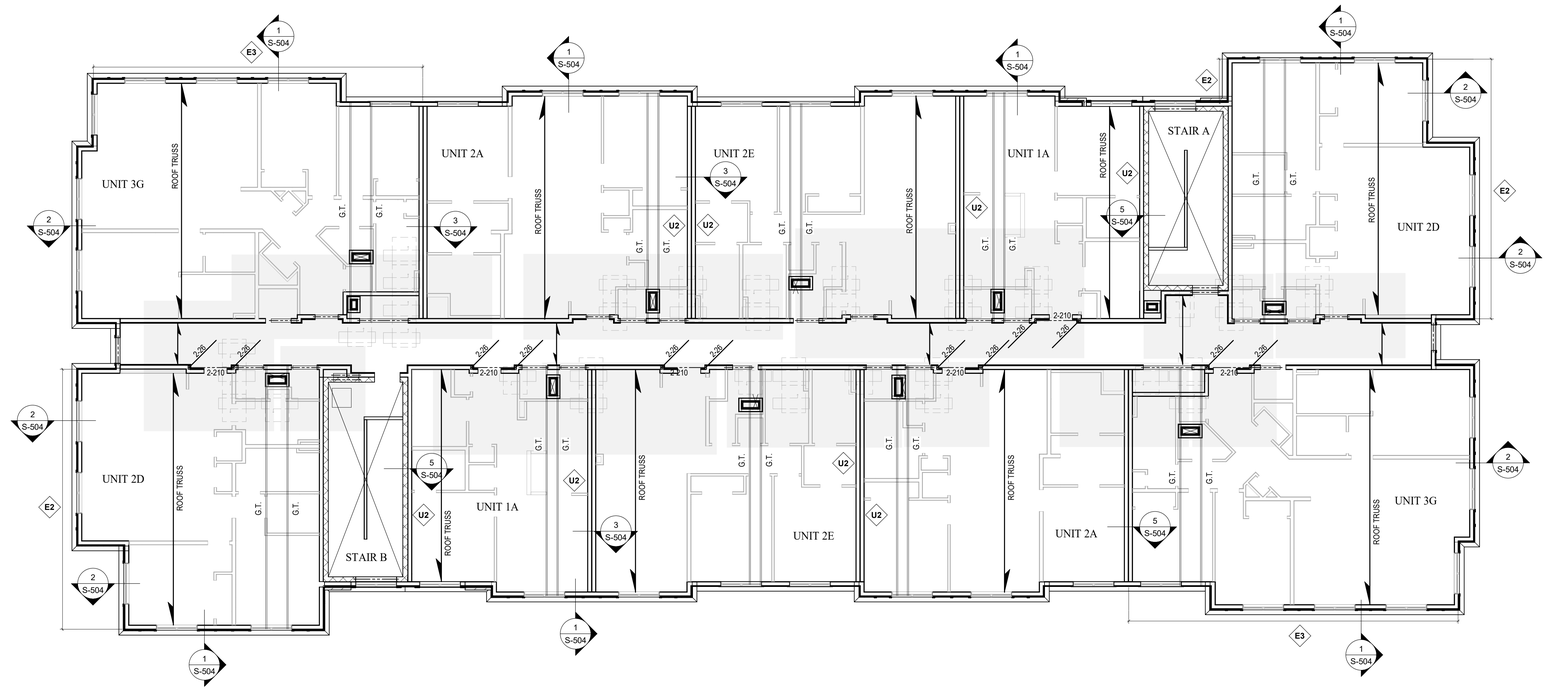
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3S-303

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BEARING WALL STUD SCHEDULE - SPF #1/#2

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	EXTERIOR - F		CORRIDOR - F	INTERIOR - P			UNIT SEPARATION - F			WET WALL
		E1 (1)	E2	C1 (1)	I1 (1)	I2	I3	U1 (1)	U2	U3	
ROOF	~8'-1 1/8"	26/16	26/16	26/12	24/16	--	0	26/16	26/16	26/16	
ROOF + 1 FLR ABOVE	~9'-11 7/8"	26/16	26/16	26/12	24/12D	26/12	26/12	26/16	26/16	26/12	
ROOF + 2 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	24/12D	26/12	26/12	26/16	26/12	26/12D	SEE NOTE 7
ROOF + 3 FLR ABOVE	~9'-11 7/8"	26/16	26/12	26/12	224/12T	26/12	26/12D	26/16	26/12	26/12D	
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	26/16	26/12	26/12	324/12	26/12	26/12D	26/16	26/12	26/12D	

LEGEND:

24/16 = 2x4 AT 16" O.C.
24/12 = 2x4 AT 12" O.C.
24/12D = 2x4 AT 12" O.C., DOUBLE STUD UNDER TRUSS
224/12 = (2) 2x4 AT 12" O.C.
224/12T = 2x4 AT 12" O.C., TRIPLE STUD UNDER TRUSS
324/12 = (3) 2x4 AT 12" O.C.
26/16 = 2x6 AT 16" O.C.
26/12 = 2x6 AT 12" O.C.
26/12D = 2x6 AT 12" O.C., DOUBLE STUD UNDER TRUSS

NOTES:
1. TYPICAL UNLESS NOTED OTHERWISE ON PLANS.
2. SCHEDULE IS BASED ON A NOMINAL 10'-8" FLOOR-TO-FLOOR HEIGHT, UNLESS NOTED OTHERWISE.
3. AT PLATFORM FRAMED WALLS: ALL STUDS SHALL ALIGN WITHIN 2" OF TRUSSES ABOVE WHERE STUDS ARE SPACED AT 12" O.C. AT FULL STORY FRAMED WALLS: IF A DOUBLE EVERY OTHER STUD IS SPECIFIED, DOUBLE STUD SHALL OCCUR CLOSEST TO THE TRUSS
4. DOUBLE AND TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
6. INSTALL BLOCKING WITHIN THE MIDDLE THIRD OF THE STUD HEIGHT AT ALL BEARING WALL PRIOR TO WALL SUPPORTING ANY WEIGHT, COORDINATE LOCATION WITH DRYWALL INSTALLATION.
7. STUD SPACING AT 2x6 WET WALLS TO BE SINGLE STUD TO MATCH ADJACENT 2x4 WALL STUD SPACING.
8. TYPICAL FLOOR STUD HEIGHT IS EQUAL TO = ACTUAL FLOOR-TO-FLOOR HEIGHT - SHEATHING THICKNESS - # OF TOP AND BOTTOM PLATES x PLATE THICKNESS (MINUS FLOOR TRUSS DEPTH, IF PLATFORM FRAMED).
9. TYPICAL TOP LEVEL STUD HEIGHT (SUPPORTING ROOF ONLY) IS EQUAL TO = TRUSS BEARING HEIGHT - # OF TOP PLATES x PLATE THICKNESS

F. FULL STORY FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS
P. PLATFORM FRAMED WALL, UNLESS NOTED OTHERWISE ON PLANS

WOOD COLUMN SCHEDULE

LEVELS SUPPORTED	FLR. TO FLR. HEIGHT	MARK			
		C1	C2	C3	C4
ROOF	~8'-1 1/8"	--	(2)2x6		
ROOF + 1 FLR ABOVE	~9'-11 7/8"	(2)2x4	(2)2x6		
ROOF + 2 FLR ABOVE	~9'-11 7/8"	(3)2x4	(3)2x6		
ROOF + 3 FLR ABOVE	~9'-11 7/8"	(4)2x4	(4)2x6		
ROOF + 3 FLR ABOVE (AT BUILDING-1)	~9'-11 7/8" TO 12'-8"	(5)2x4	(4)2x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF #2 GRADE OR BETTER, U.N.O.
3. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 AT 24" O.C
4. PRE-FAB STRUCTURAL COLUMNS - CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

JACK AND KING STUD SCHEDULE

OPENING	ROOF BEARING ABOVE	ROOF AND 1 FLR BEARING ABOVE	ROOF AND 2 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE	ROOF AND 3 FLR BEARING ABOVE AT BUILDING-1
EXTERIOR WALLS - TYPE E1					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
EXTERIOR WALLS - TYPE E2&E3					
0'-0" UP TO 6'-6"	1J &1 S	1J &1 S	1J &1 S	1J &2 S	1J &2 S
CORRIDOR WALLS - TYPE C1					
0'-0" UP TO 4'-0"	1J &1 S	1J &1 S	1J &1 S	1J &1 S	1J &1 S
4'-1" UP TO 6'-3"	1J &1 S	1J &1 S	1J &2 S	1J &2 S	1J &2 S
INTERIOR WALLS - TYPE I1					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	2J &3 S
INTERIOR WALLS - TYPE I2					
0'-0" UP TO 3'-6"	--	1J &1 S	1J &1 S	1J &1 S	1J &1 S

NOTES:
1 TYPICAL UNLESS NOTED OTHERWISE ON PLANS
2. J = JACK UNDER HEADER
S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK
3. ALL JACKS AND STUDS TO BE 2x SPF #2 GRADE OR BETTER
4. ALL JACKS AND STUDS TO BE NAILED TOGETHER WITH 0.131"x3" NAILS AT 8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE THEM ALL UNDER THE BEAM, BLOCKED AS REQUIRED.

BUILDING 3 ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

NORTH

ROOF FRAMING NOTES (WOOD):
1. ALL ROOF FRAMING SHALL BE PRE-ENGINEERED ROOF TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT **24" O.C. MAX** FOR THE DESIGN LOADS, INCLUDING ROOF TOP MECHANICAL UNITS AS REQUIRED. ROOF TRUSSES TO HAVE MINIMUM **24"** DEPTH
2. ALL ROOF TRUSS BEARING POINTS SHALL BE ATTACHED TO THE BUILDING WITH TOE NAILS PER THE SCHEDULE AND SIMPSON "H2.5T" HURRICANE CLIPS OR EQUIVALENT. ADDITIONAL HOLDOWN ANCHORS MAY BE REQUIRED FOR GIRDER TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW.
3. HOLDOWN ANCHORS ARE REQUIRED ON FLUSH BEAMS SUPPORTING ROOF TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWING REVIEW. U.N.O. USE EITHER SIMPSON H6 OR TWO SIMPSON H2.5T ANCHORS AT EACH END OF BEAM.
4. SEE ARCHITECTURAL PLANS FOR LOCATION OF DRAFTSTOPPING WHERE REQUIRED.
5. ALL DOUBLE TOP PLATES WITH ROOF TRUSSES BEARING TO BE SPH1.
6. SEE BEARING WALL SCHEDULE ON SHEET S-502 FOR STUD QUANTITY AND SPACING.
7. PROVIDE 8"x8" LINTELS WITH (2)#5 BARS AT OPENINGS IN CMU WALLS WITH MINIMUM 8" BEARING.
8. TRUSS TO TRUSS CONNECTION TO BE SPECIFIED BY TRUSS MANUFACTURER.
9. SEE ROOF FRAMING DETAILS ON S-504

ROOF FRAMING LEGEND

	DROPPED 2x HEADER	G.T.	GIRDER TRUSS
	FLUSH 2x HEADER		TRUSS SPAN DIRECTION
	INTERIOR UNIT BEARING WALL	X	WALL TYPE
			MECHANICAL AREAS, SEE SHEET S-001 FOR LOADING

TYPICAL ROOF HEADERS (U.N.O.)

	LOCATION	MARK	MAXIMUM OPENING
1	EXTERIOR	3-28	UP TO 5'-0"
		3-210	5'-1" UP TO 6'-6"
2	CORRIDOR	3-28	UP TO 4'-0"
		3-210	4'-1" UP TO 6'-3"

NOTES:
1. MAXIMUM OPENING CORRELATES TO ROUGH OPENING DIMENSION.

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BUILDING 3 ROOF FRAMING PLAN
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ROANOKE, VA 24022

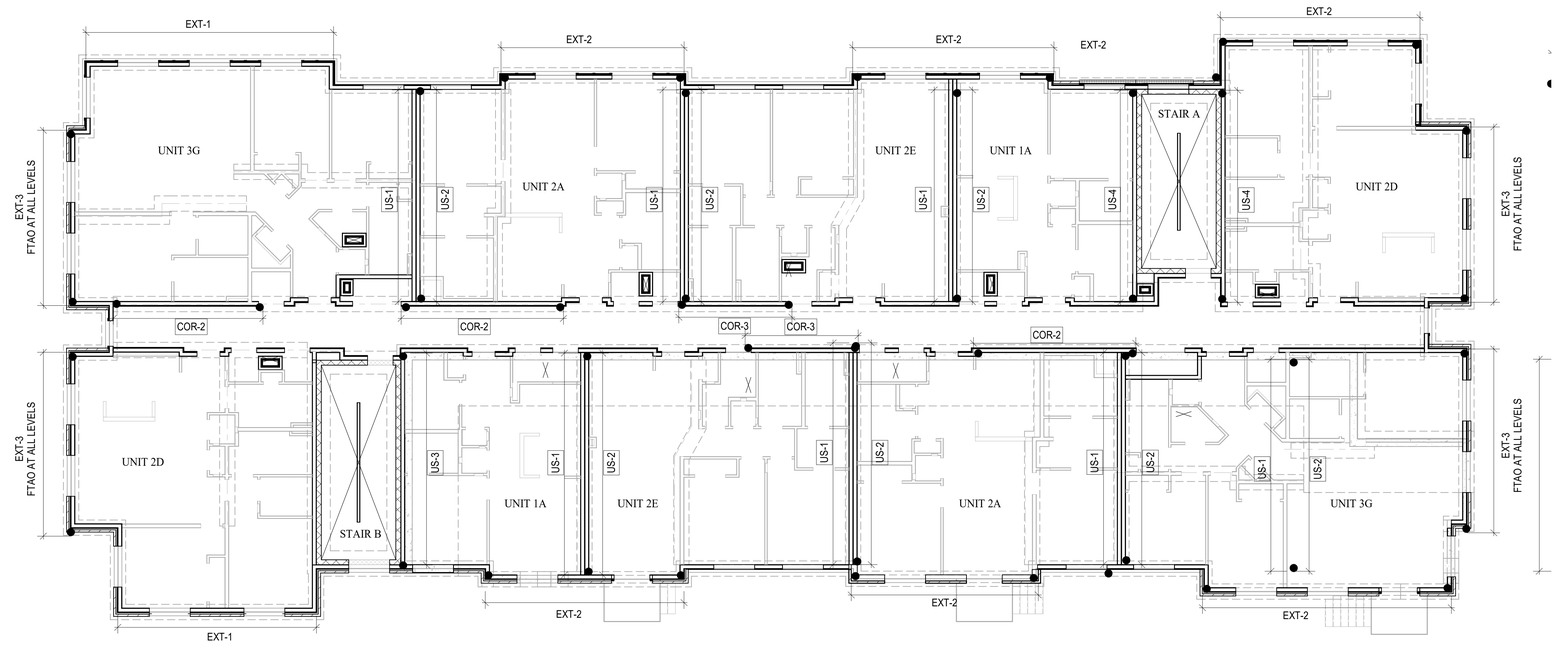
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BUILDING 3 SHEAR WALL LAYOUT PLAN

SCALE: 1/8" = 1'-0"

NORTH

SHEAR WALL PLAN NOTES (WOOD):

1. EXT-X, INT-X, US-X, COR-X REFERS TO SHEAR WALL DESIGNATION ON LAYOUT PLAN. WALLS WITHOUT DESIGNATION HAVE NOT BEEN DESIGNED AS LATERAL FORCE RESISTING ELEMENTS.
2. EACH "HD" OR "AR" CALLOUT REPRESENTS A HOLDDOWN OR ANCHOR ROD LOCATION. RESPECTIVELY AT UNIT SEPARATION WALLS WHERE TWO "HD" CALLOUTS ARE INDICATED FOR ONE LOCATION, INSTALL (1) HOLDDOWN AT EACH OF THE TWO UNIT SEPARATION WALLS.
3. 'v' DIMENSION IS SHOWN FOR WALL CORNER AND END ZONE COMPONENT AND CLADDING LOADS. REFER TO SHEET 1S-001R LOADING.
4. "FTAO" INDICATES WALL DESIGNED FOR FORCE TRANSFER AROUND OPENINGS METHOD PER NATIONAL DESIGN SPECIFICATION.

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BUILDING 3 SHEAR WALL LAYOUT PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

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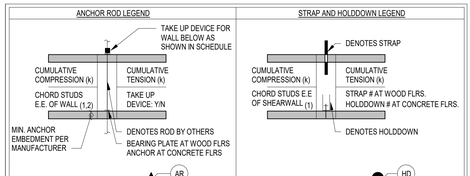
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4 STORY SHEAR WALL CHORD AND HOLDDOWN SCHEDULE

LEVEL	WOOD SETTLEMENT	EXTERIOR EXT-1		EXTERIOR EXT-2		EXTERIOR EXT-3		EXTERIOR EXT-4		CORRIDOR COR-1		CORRIDOR COR-2		UNIT SEPARATION US-1		UNIT SEPARATION US-2		INTERIOR INT-1	
ROOF																			
4	1-3/8"	1.6k	0.0k	1.4k	0.0k	1.5k	0.0k	1.1k	0.0k	1.1k	0.0k	1.1k	0.0k	0.7k	0.0k	0.8k	0.0k		
		-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A		
FLOOR																			
3	1"	3.0k	0.0k	3.2k	0.0k	2.6k	-1.2	2.4k	-1.1	2.4k	0.0k	2.4k	0.0k	2.2k	0.0k	2.1k	-1.3k	3.0k	-0.7k
		-	N/A	-	N/A	-	S1	-	S1	-	N/A	-	N/A	-	N/A	-	S1	-	S1
FLOOR																			
2	5/8"	6.3k	0.0k	6.3k	-1.3k	5.1k	-2.4k	4.9k	-2.2k	4.1k	0.0k	4.1k	-1.1k	4.1k	0.0k	3.8k	-2.5k	6.5k	-2.2k
		-	N/A	-	S1	-	S2	-	S2	-	N/A	-	S1	-	N/A	-	S3	(3) 2x4	S2
FLOOR																			
1	3/8"	11.0k	0.0k	10.4k	-2.7k	8.5k	-4.2k	8.3k	-3.9k	6.1k	0.0k	6.1k	-2.2k	6.2k	0.0k	5.8k	-3.9k	10.6k	-4.5k
		(3) 2x6	N/A	(3) 2X6	HD-2	-	HD-3	-	HD-3	(3) 2x4	N/A	(3) 2x4	HD-2	(3) 2x4	N/A	(3) 2x4	HD-3	(5) 2x4	HD-4
SLAB																			

ANCHOR ROD LEGEND



STRAP AND HOLDDOWN LEGEND

1. CHORD STUDS TO BE TYPICAL BUILT UP POSTS LOCATED EACH END OF SHEARWALL. NUMBER OF STUDS SHOWN IS THE **TOTAL STUD** REQUIREMENT EACH END OF WALL INCLUDING STUDS INSTALLED PER THE TYPICAL STUD WALL CORNER AND INTERSECTION DETAIL. IF CHORD STUD CELL IS BLANK, NO ADDITIONAL STUDS ARE REQUIRED BEYOND THOSE STUDS INSTALLED PER THE TYPICAL STUD WALL CORNER AND INTERSECTION DETAILS.
2. CHORD STUD REQUIREMENTS AT UNIT SEPARATION WALLS REFER TO (1) WALL OF THE (2) WALL ASSEMBLY. REFER TO SHEARWALL LAYOUT PLAN FOR CHORD STUD REQUIREMENTS AT SPECIFIC SHEARWALL DESIGNATIONS.
3. AT ANCHOR ROD CONDITIONS, REFER TO STUD WALL CORNER AND INTERSECTION DETAIL FOR STUD PLACEMENT AROUND ANCHOR ROD.
4. AT LOCATIONS WHERE STRAPS ARE CALLED OUT, BOTTOM OF THE STRAPS SHALL BE ONLY ATTACHED AT THE END OF THE FRAMING PROCESS JUST PRIOR TO INSTALLING DRYWALL.
5. ALL HEX NUTS AT ANCHOR ROD BEARING PLATES TO BE SNUG TIGHTENED AT THE END OF THE FRAMING PROCESS JUST PRIOR TO INSTALLING DRYWALL.
6. NUMBER OF STRAPS CALLED OUT ARE TO BE INSTALLED AT EACH END OF THE WALL, U.N.O.
7. AT ALL EXTERIOR WALLS WHERE VERTICAL STRAPS ARE CALLED OUT, STRAPS SHALL BE INSTALLED ON THE INSIDE FACE OF THE WALL.
8. ALL HOLDDOWNS, ANCHORS, AND STRAPS TO BE "SIMPSON STRONG TIE" PRODUCTS, U.N.O. CONTRACTOR MAY SUBMIT ALTERNATE FOR APPROVAL.

STRAPS

NUMBER	TYPE	NAILING	MAX LOAD	END LENGTHS
S1	CS18	(22) 0.131"Ø x 2-1/2" NAILS	1370 lbs	12 in
S2	CS14	(30) 0.148"Ø x 2-1/2" NAILS	2490 lbs	16 in
S3	CMSTC16	(58) 0.148"Ø x 3-1/4" NAILS	4690 lbs	25 in

HOLDDOWNS

NUMBER	TYPE	FASTENING	HOLDDOWN MAX LOAD	ANCHOR BOLT
HD-1	LTTP2	(12) 0.148"Ø x 1-1/2" NAILS	1965 lbs	5/8"Ø ALL THREAD ROD W/ 6" EMBED SET-3G EPOXY, STANDARD CUT WASHER AT LTTP2
HD-2	HTT4	(18) 0.148"Ø x 1-1/2" NAILS	3105 lbs	
HD-3	HTT5	(26) 0.148"Ø x3" NAILS	4015 lbs	
HD-4	HDU8-S DSS.5	(16) SDS 1/4"x3-1/2" SCREWS	7995 lbs	7/8"Ø ALL THREAD ROD W/ 9" EMBED SET-3G EPOXY

STUD WALL SHEATHING SCHEDULE - 4 STORY

WALL LOCATION	WALL LEVEL 1	2	3	4	WALL FACE	SHEATHING TYPE CODE	SHEATHING(1)	FASTENER SIZE	SPACING EDGE	SPACING FIELD	WALL BLOCKING	SHEAR (1) CAPACITY
EXTERIOR WALLS WHERE NOTED ON SHEARWALL LAYOUT PLAN (1.4.5)												
EXT-1 EXT-2 EXT-3 EXT-4			●	●	OUT...	OSB612	7/16" OSB	OUTER: MIN. GALV. 0.113"Ø x 2-3/8" NAILS	6"	12"	BLOCKED	336 PLF
					INNER	GWB812U...	5/8" GWB		8"	12"	UNBLOCKED	70 PLF
		●			OUT...	OSB412	7/16" OSB		4"	12"	BLOCKED	490 PLF
					INNER	GWB812U...	5/8" GWB	INNER: 1-1/4" TYPE W #6 SCREWS (2)	8"	12"	UNBLOCKED	70 PLF
	●				OUT...	OSB312	7/16" OSB		3"	12"	BLOCKED	630 PLF
					INNER	GWB812U...	5/8" GWB		8"	12"	UNBLOCKED	70 PLF
EXTERIOR WALLS (ALL OTHERS)												
TYPICAL	●	●	●	●	OUT...	OSB612	7/16" OSB	SEE ABOVE	6"	12"	BLOCKED	336 PLF
					INNER	GWB812U...	5/8" GWB		8"	12"	UNBLOCKED	70 PLF
CORRIDOR WALLS WHERE NOTED ON SHEARWALL LAYOUT PLAN (5)												
COR-1 COR-2				●	UNIT SIDE	GWB812U...	5/8" GWB	1-1/4" TYPE W #6 SCREWS (2)	8"	12"	UNBLOCKED	70 PLF
						GWB77UNB			7"	7"	UNBLOCKED	115 PLF
		●	●			GWB44UNB			4"	4"	UNBLOCKED	145 PLF
	●					GWB44B			4"	4"	BLOCKED	175 PLF
CORRIDOR WALLS (ALL OTHERS)												
TYPICAL	●	●	●	●	UNIT SIDE	GWB812UNB	5/8" GWB	SEE ABOVE	8"	12"	UNBLOCKED	70 PLF
UNIT SEPARATION WALLS WHERE NOTED ON SHEARWALL LAYOUT PLAN (5)												
US-1 US-2				●	UNIT SIDE	GWB812U...	5/8" GWB	1-1/4" TYPE W #6 SCREWS (2)	8"	12"	UNBLOCKED	70 PLF
						GWB77UNB			7"	7"	UNBLOCKED	115 PLF
		●	●			GWB44UNB			4"	4"	UNBLOCKED	145 PLF
	●					GWB44B			4"	4"	BLOCKED	175 PLF
UNIT SEPARATION WALLS (ALL OTHERS)												
TYPICAL	●	●	●	●	UNIT SIDE	GWB812UNB	5/8" GWB	1-1/4" TYPE W #6 SCREWS (2)	8"	12"	UNBLOCKED	70 PLF
INTERIOR BEARING WALLS WHERE NOTED ON SHEARWALL LAYOUT PLAN (5)												
INT-1			●	●	EACH SIDE	GWB77UNB	5/8" GWB	1-1/4" TYPE W #6 SCREWS (2)	7"	7"	UNBLOCKED	115 PLF
						GWB44UNB			4"	4"	UNBLOCKED	145 PLF
	●					GWB44B			4"	4"	BLOCKED	175 PLF
INTERIOR BEARING WALLS (ALL OTHERS)												
TYPICAL	●	●	●	●	EACH SIDE	GWB812UNB	5/8" GWB	SEE ABOVE	8"	12"	UNBLOCKED	70 PLF

WOOD BASE PLATE ATTACHMENT SCHEDULE

WALL LOCATION	CONCRETE ATTACHMENT OPTION #1 FASTENER	OPTION #1 SPACING	OPTION #2 FASTENER	OPTION #2 SPACING	WOOD ATTACHMENT FASTENER	WOOD ATTACHMENT SPACING
EXTERIOR WALLS						
EXT-1,2,3,4	1/2"Ø x6" 'SIMPSON' TITEN HD ANCHOR WITH 3x3x0.229" PLAT...	1'-6" O.C.	SIMPSON' MASA STRAP WITH STANDARD INSTALLATION, 8" MAX. FROM WALL ENDS OR CORNERS	1'-6" O.C.	3"x0.131"Ø NAIL	(2) ROWS, 4" O.C.
TYPICAL EXTERIOR	1/2"Ø x6" 'SIMPSON' TITEN HD ANCHOR WITH STANDARD...	3'-0" O.C.		3'-0" O.C.		4" O.C.
INTERIOR WALLS						
COR-1 & 2	HILTI 'X-CP72P8S23' POWER ACTUATED FASTENER w/ 23MM WASHERS, 8" MAX. FROM WALL ENDS OR CORNERS	1'-0" O.C.	1/2"Ø x6" 'SIMPSON' TITEN HD ANCHOR WITH STANDARD WASHER, 12" MAX. FROM WALL ENDS OR CORNERS	5'-0" O.C.	3"x0.131"Ø NAIL	8" O.C.
TYPICAL CORRIDOR		3'-0" O.C.		5'-0" O.C.		8" O.C.
US-1 & 2		1'-0" O.C.		5'-0" O.C.		8" O.C.
INT-1		8" O.C.		3'-0" O.C.		4" O.C.
TYPICAL UNIT SEP.		3'-0" O.C.		5'-0" O.C.		8" O.C.
TYPICAL INT. BRG.		16" O.C.		5'-0" O.C.		8" O.C.

1. REFER TO FRAMING DETAIL SHEETS FOR STRAP REQUIREMENTS FROM FLOOR TO FLOOR AND BEARING WALL STUD SCHEDULE FOR LOCATIONS OF EDGE BLOCKING IN WALLS.
2. ALTERNATE ATTACHMENTS FOR INTERIOR SHEAR WALLS ONLY: 0.120" NAIL, MIN. 3/8" HEAD, 1-3/4" LONG. OR 16 GAGE STAPLES,...
3. n INDICATES NAILING PATTERN TO BE APPLIED AT THAT FLOOR LEVEL.
4. ALL EXTERIOR SHEAR WALLS ARE DESIGNED AS PERFORATED WALLS PER NDS, U.N.O. ON SHEARWALL LAYOUT PLAN. INTERIOR GWB ON EXTERIOR WALLS SHALL NOT BE CONSIDERED IN SHEARWALL CAPACITY FOR SEISMIC DESIGN.
5. SEE SHEARWALL LAYOUT PLAN FOR SHEAR WALL LOCATIONS.
6. SEE SHEARWALL CHORD AND HOLDOWN SCHEDULE FOR SHEARWALL HOLDOWN AND CHORD STUD INFORMATION.
7. VALUES ARE PROVIDED PER FACE OF WALL. WOOD STRUCTURAL PANEL SHEAR CAPACITY TO BE DIVIDED BY 1.4 FOR SEISMIC DESIGN.
8. "GWB" TO BE ATTACHED TO ALL INTERMEDIATE FRAMING MEMBERS BETWEEN PANEL EDGES.
9. ALL WOOD BASE PLATE TO ELEVATED SLAB ATTACHMENTS ARE TO BE CAST IN PLACE AT POST-TENSIONED SLABS.

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SHEAR WALL SCHEDULES

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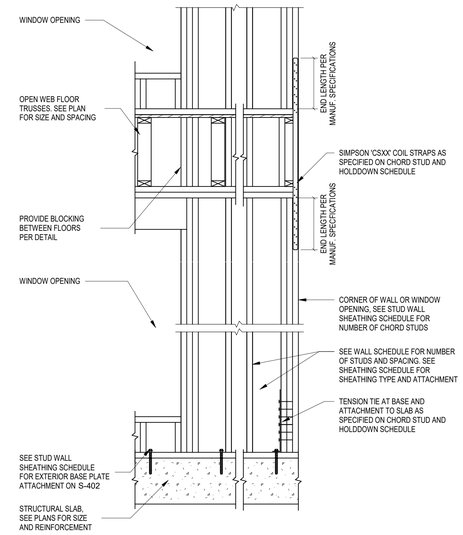
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2 / S-402 EXTERIOR SHEAR PANEL DETAIL

SCALE: N.T.S.

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SHEAR WALL DETAILS

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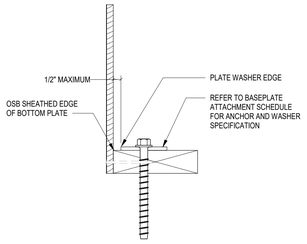
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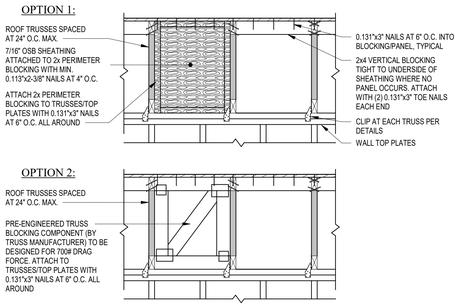
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8 S-403 DISTANCE FROM WASHER TO SHEATHING EDGE

3" = 1'-0"

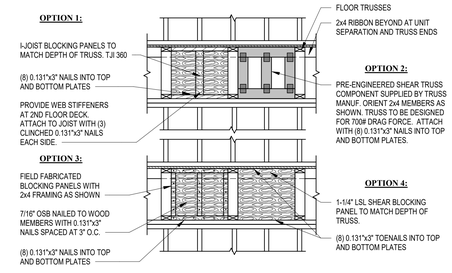


NOTE: SEE SHEAR WALL LAYOUT PLAN AND SHEAR BLOCKING DETAILS FOR SPACING REQUIREMENTS

9 S-403 TYPICAL SHEAR BLOCKING AT ROOF

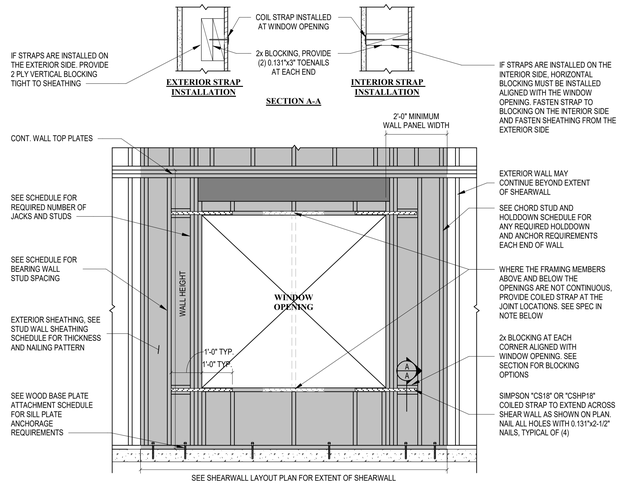
SCALE: N.T.S. — WHERE ROOF TRUSSES BEAR ON WALL

SHEAR BLOCKING SCHEDULE	
	PANEL SPACING AT INTERIOR BEARING WALLS (BW-X)
ROOF LEVEL	XX" O.C. (BETWEEN EVERY FOURTH TRUSS)
5th FL. DECK	XX" O.C. (BETWEEN EVERY THIRD TRUSS)
4th FL. DECK	XX" O.C. (BETWEEN EVERY OTHER TRUSS)
3rd FL. DECK	XX" O.C. (BETWEEN EVERY TRUSS)
2nd FL. DECK	XX" O.C. (BETWEEN EVERY TRUSS)



10 S-403 TYPICAL SHEAR BLOCKING OPTIONS

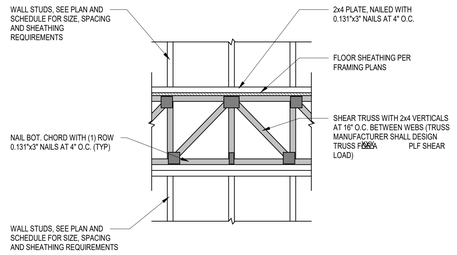
SCALE: N.T.S.



NOTES:
1. NOTED AS **FTAO LEVEL-X** ON LAYOUT PLAN. INSTALL STRAPS AT EACH OPENING WITHIN THE SHEARWALL EXTENT AS SHOWN ON PLAN AND AT EACH LEVEL LISTED.

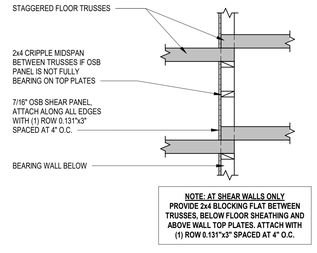
4 S-403 FORCE TRANSFER AROUND OPENING

SCALE: N.T.S. — 10.31.23



5 S-403 CONTINUOUS BEARING SHEAR TRUSS

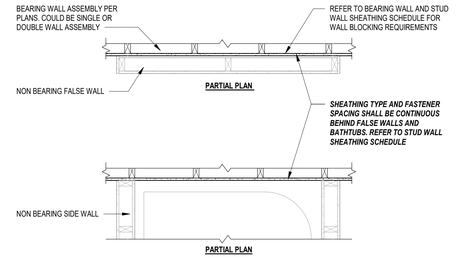
SCALE: N.T.S.



NOTE: AT SHEAR WALLS ONLY PROVIDE 2x4 BLOCKING FLAT BETWEEN TRUSSES, BELOW FLOOR SHEATHING AND ABOVE WALL TOP PLATES. ATTACH WITH (1) ROW 0.131"x3" SPACED AT 4" O.C.

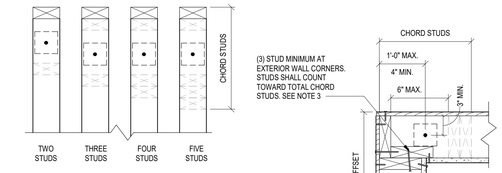
6 S-403 STAGGERED TRUSS BEARING

SCALE: N.T.S. — 08.06.18



7 S-403 SHEATHING ATTACHMENT BEHIND FALSE WALLS / TUBS

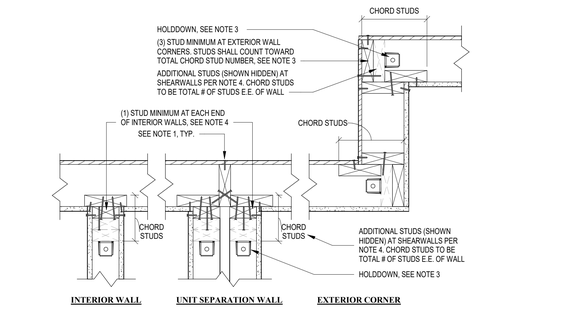
SCALE: N.T.S. — 12.11.24



NOTES:
1. ATTACH EXTERIOR AND INTERIOR SHEATHING TO STUDS PER PLANS AND SCHEDULES
2. NAIL ALL BUILT-UP STUDS WITH 0.131"x3" NAILS SPACED AT 8" O.C.
3. SEE SHEARWALL LAYOUT PLAN AND REFERENCE DETAILS FOR REQUIRED ANCHOR RODS AT THE ENDS OF SHEAR WALLS. ANCHOR RODS SHALL BE CENTERED IN WALL ± 1/2" TOLERANCE
4. SEE SHEARWALL LAYOUT PLAN AND SHEARWALL CHORD AND HOLDDOWN SCHEDULE FOR ADDITIONAL STUD REQUIREMENTS AT SHEAR WALLS. CHORD STUDS TO BE **TOTAL NUMBER OF STUDS** EACH END OF WALL.

1 S-403 STUD WALL CORNER AND INTERSECTION FRAMING

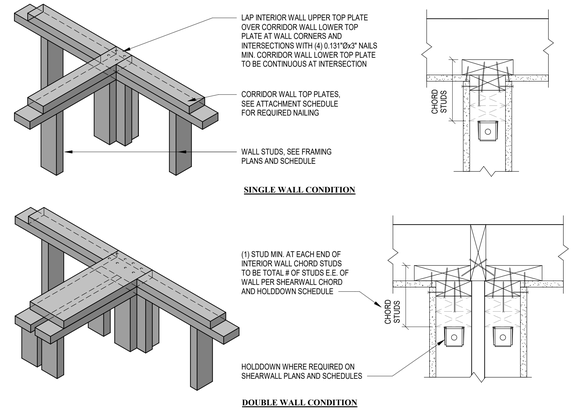
SCALE: N.T.S. — AT ANCHOR ROD CONDITIONS - TYPE 5A — 10.17.22



NOTES:
1. ATTACH EXTERIOR AND INTERIOR SHEATHING TO STUDS PER PLANS AND SCHEDULES
2. NAIL ALL BUILT-UP STUDS WITH 0.131"x3" NAILS SPACED AT 8" O.C.
3. SEE SHEARWALL LAYOUT PLAN AND REFERENCE DETAILS FOR REQUIRED HOLDDOWNS AT THE ENDS OF SHEAR WALLS
4. SEE SHEARWALL LAYOUT PLAN AND SHEARWALL CHORD AND HOLDDOWN SCHEDULE FOR ADDITIONAL STUD REQUIREMENTS AT SHEAR WALLS. CHORD STUDS TO BE **TOTAL NUMBER OF STUDS** EACH END OF WALL.

2 S-403 STUD WALL CORNER AND INTERSECTION FRAMING

SCALE: N.T.S. — AT HOLDDOWN CONDITIONS - TYPE 5A — 01.06.21



3 S-403 TYPICAL INTERIOR SHEAR WALL INTERSECTION

SCALE: N.T.S.

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SHEAR WALL DETAILS

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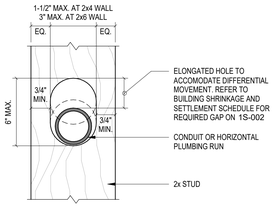
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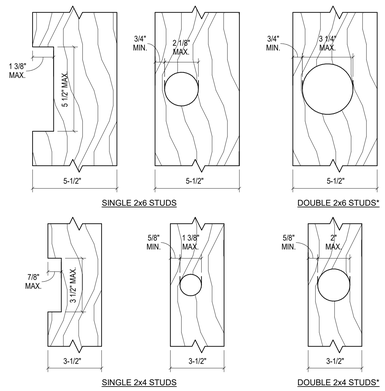


NOTES:
1. ALLOWABLE HOLE SIZES SHOWN PERMIT FULL AXIAL CAPACITY OF STUD

12 S-501 ELONGATED HOLE DETAIL

11.05.17

SCALE: N.T.S.



INTERNATIONAL BUILDING CODE

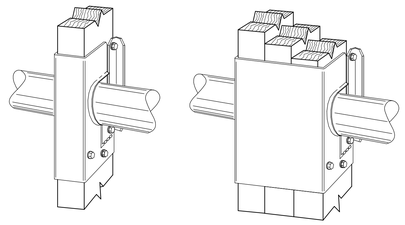
SECTION 2308.5.9 CUTTING AND NOTCHING
IN EXTERIOR WALLS AND BEARING PARTITIONS, A WOOD STUD SHALL NOT BE CUT OR NOTCHED IN EXCESS OF 25 PERCENT OF ITS DEPTH. IN NON BEARING PARTITIONS THAT DO NOT SUPPORT LOADS OTHER THAN THE WEIGHT OF THE PARTITION, A STUD SHALL NOT BE CUT OR NOTCHED IN EXCESS OF 40 PERCENT OF ITS DEPTH.

*SECTION 2308.5.10 BORED HOLES
THE DIAMETER OF BORED GOLES IN WOOD STUDS SHALL NOT EXCEED 40 PERCENT OF THE STUD DEPTH. THE DIAMETER OF BORED HOLES IN WOOD STUDS SHALL NOT EXCEED 60 PERCENT OF THE STUD DEPTH IN NON BEARING PARTITIONS. THE DIAMETER OF BORED HOLES IN WOOD STUDS SHALL NOT EXCEED 60 PERCENT OF THE STUD DEPTH IN ANY WALL WHERE EACH STUD IS DOUBLED, PROVIDED THAT NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLE STUDS ARE SO BORED. THE EDGE OF THE BORED HOLE SHALL NOT BE CLOSER THAN 5/8 INCH TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

9 S-501 ALLOWABLE STUD NOTCH AND BORINGS

SCALE: N.T.S.

STUDS	SIMPSON MODEL NUMBER	FASTENERS
2x	HSS2-SDWS1.5	12-SDS 1/4"x1-1/2"
(2) 2x	HSS2-2-SDWS3	12-SDS 1/4"x3"
(3) 2x	HSS2-3-SDWS3	12-SDS 1/4"x3"



HSS2 HSS2-3 (HSS2-2-SIM)

NOTES:
1. SS STUD SHOES MAY BE ACCEPTABLE IN LIMITED CIRCUMSTANCES. CONTACT SER FOR EVALUATION PRIOR TO INSTALLATION.
2. STUD SHOES ARE NEEDED WHERE LIMITS OF STUD BORING ARE EXCEEDED.
3. SHOES SHALL BE INSTALLED PER MANUFACTURERS GUIDELINES
4. IF MORE THAN 2 ADJACENT STUDS ARE OVERBORED, CONTACT SER FOR EVALUATION
5. **FOR USE AT BOTTOM TWO LEVELS OF FRAMING ONLY**

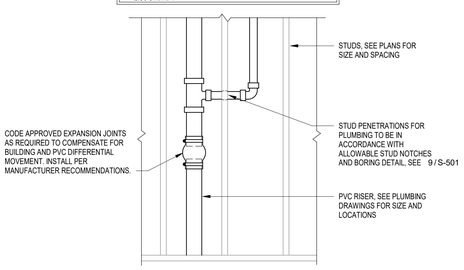
10 S-501 STRUCTURAL REPAIR FOR OVERBORED STUDS

02.01.18

SCALE: N.T.S.

PVC THERMAL MOVEMENT SCHEDULE		
FRAMED LEVEL	REFERENCE ELEVATION (FT.)	EXPANSION/ CONTRACTION (IN.)
ROOF	52.1	1.27
4TH/ROOF	43.1	1.05
3RD	32.4	0.79
2ND	21.4	0.52
1ST	10.7	0.26

NOTES:
1. VALUES BASED ON 70 DEGREE TEMPERATURE DIFFERENCE
2. VALUES BASED ON COEFFICIENT OF THERMAL EXPANSION OF 2.9e-5in./in./°F

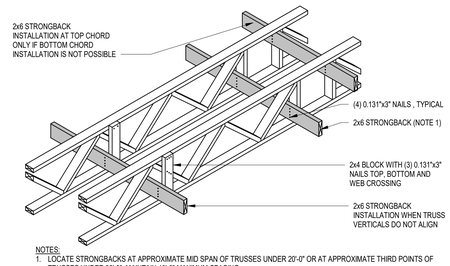


CONTRACTOR OPTION: THE CONTRACTOR MAY ROUTE THE PVC PIPING IN THE CEILING TRUSS SPACE AND/OR PROVIDE ELONGATED HOLES AND OMIT THE EXPANSION FITTINGS, SEE 12 / S-501

11 S-501 PVC PIPE/BLDG SETTLEMENT DETAIL

11.14.22

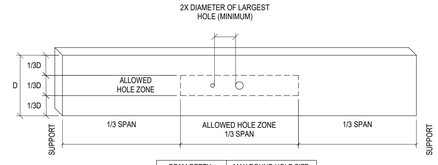
SCALE: N.T.S.



NOTES:
1. LOCATE STRONGBACKS AT APPROXIMATE MID SPAN OF TRUSSES UNDER 20'-0" OR AT APPROXIMATE THIRD POINTS OF TRUSSES UNDER 30'-0". MAINTAIN 10'-0" MAXIMUM SPACING.
2. WHERE REQUIRED, SPLICE STRONGBACKS 4'-0" MINIMUM AND ATTACH TOGETHER WITH (12) 0.131"x3" NAILS EQUALLY SPACED.
3. CONTINUE STRONGBACKS TO PERPENDICULAR WALLS AND ATTACH TO VERTICAL 2x4 BLOCKS.
4. INSTALL STRONGBACKS TIGHT TO BOTTOM CHORD WHENEVER POSSIBLE.

5 S-501 TYPICAL STRONGBACK DETAIL

SCALE: N.T.S.

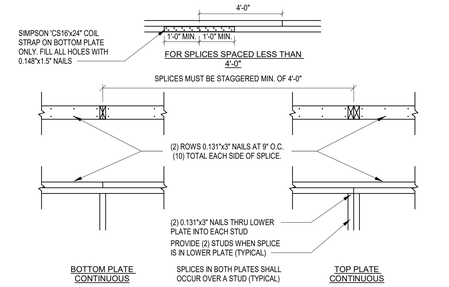


BEAM DEPTH	MAX ROUND HOLE SIZE
5 1/2"	1 3/4"
7 1/2" TO 18"	2"

GENERAL NOTES:
1. DIAGRAM IS FOR UNIFORMLY LOADED BEAM ONLY.
2. RECTANGULAR HOLES ARE NOT ALLOWED

6 S-501 ALLOWABLE HOLE GUIDE FOR BEAM OR HEADER

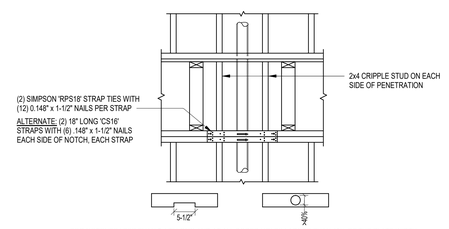
SCALE: N.T.S.



7 S-501 TYPICAL TOP PLATE SPLICE

02.22.17

SCALE: N.T.S.



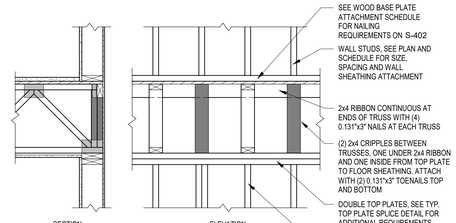
FOR NOTCHES LESS THAN 5-1/2" LONG AND AT ALL BORED HOLES LARGER THAN 40% OF THE PLATE WIDTH

8 S-501 TOP PLATE PENETRATIONS

11.21.22

SCALE: N.T.S.

AT BEARING WALLS AND SHEAR WALLS

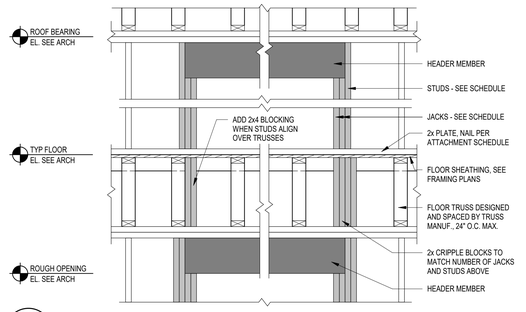


NOTE: CRIPPLES ARE NOT REQUIRED AT TOP FLOOR TRUSS PLENUM UNLESS ROOF TRUSSES BEAR ON WALL ABOVE.

1 S-501 EXTERIOR WALL CRIPPLE AT TRUSS ENDS

02.01.18

SCALE: N.T.S.

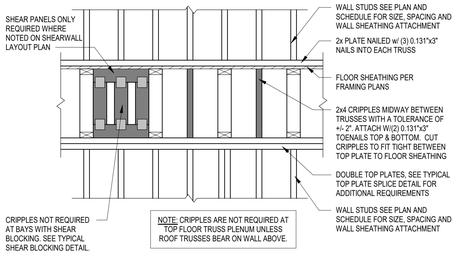


2 S-501 TYPICAL HEADER FRAMING DETAIL

01.06.21

SCALE: N.T.S.

AT INTERIOR UNIT BEARING WALLS

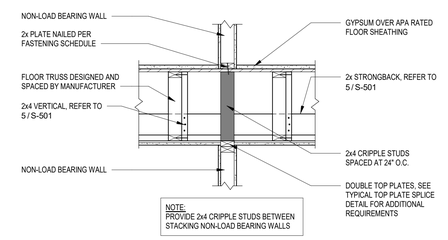


NOTE: CRIPPLES ARE NOT REQUIRED AT TOP FLOOR TRUSS PLENUM UNLESS ROOF TRUSSES BEAR ON WALL ABOVE.

3 S-501 INT. UNIT BEARING WALL CRIPPLE DETAIL

SCALE: N.T.S.

10.17.17



NOTE:
PROVIDE 2x4 CRIPPLE STUDS BETWEEN STACKING NON-LOAD BEARING WALLS

4 S-501 NON-BEARING WALL CRIPPLE DETAIL

SCALE: N.T.S.

10.31.23

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TYPICAL WOOD FRAMING DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

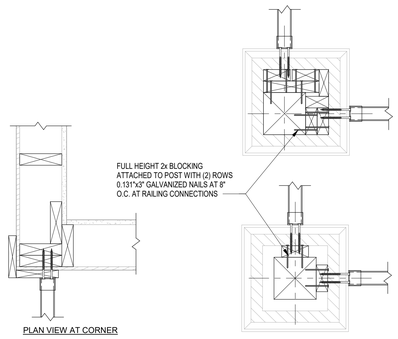
DATE	SUBMISSION / REVISION / IP
05/14/2026	VH 4% HOTC APP.
06/30/2026	CONSTRUCTABILITY REVIEW

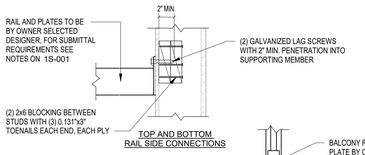
S-501

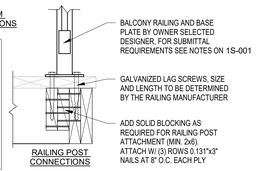
06/30/2026
CONSTRUCTABILITY REVIEW

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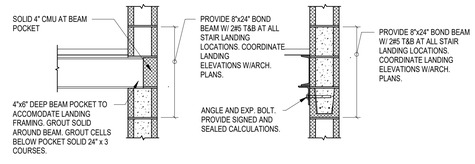


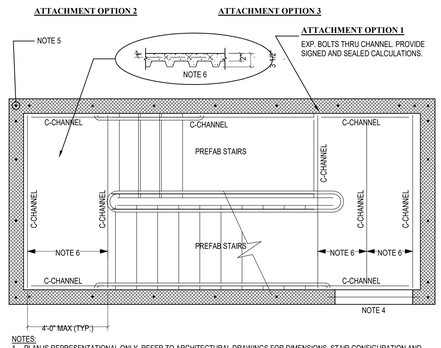


IBC GUARDRAIL LOADING REQUIREMENTS:
1. HANDRAILS AND GUARDS: HANDRAILS AND GUARDS SHALL BE DESIGNED TO RESIST A LOAD OF 50 POUNDS PER LINEAR FOOT (PLF) APPLIED IN ANY DIRECTION AT THE TOP AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE.
2. CONCENTRATED LOAD: HANDRAILS AND GUARDS SHALL BE ABLE TO RESIST A SINGLE CONCENTRATED LOAD OF 200 POUNDS, APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP, AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE. THIS LOAD NEED NOT BE ASSUMED TO ACT CONCURRENTLY WITH THE LOADS SPECIFIED ABOVE.

12 S-502 BALCONY GUARDRAIL CONNECTION DETAIL

SCALE: N.T.S. 01.06.21

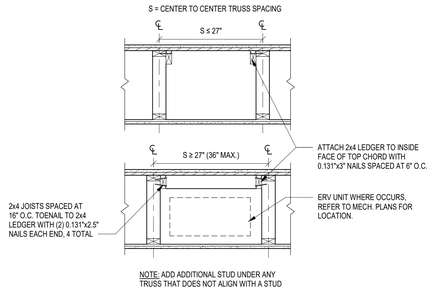




NOTES:
1. PLAN IS REPRESENTATIONAL ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, STAIR CONFIGURATION AND LOCATION OF OPENINGS.
2. STAIR MANUFACTURER TO PROVIDE COMPLETE DESIGN AND DETAIL OF STAIR FOR STRUCURAL ENGINEERS APPROVAL. PROVIDE CALCULATIONS SIGNED AND SEALED BY A REGISTERED ENGINEER.
3. STRINGERS TO HAVE FULL MOMENT CONNECTION AT ALL FOLDS AND BENDS.
4. MASONRY LINTELS FOR DOOR OPENINGS LESS THAN 4'-0" IN 8" WALLS SHALL BE 5"x8" DEEP W/ 2#5 T&B CONT. BARS
5. STAIR TOWER WALLS SHALL BE 8" CMU W/ #5 @ 32" O.C. VERT. REINF. AND 3#5 BARS IN 3 SOLID CELLS AT CORNERS. PROVIDE HORIZ. JOINT REINF. EVERY OTHER COURSE.
6. TYPICAL LANDING: 3 1/2" TOTAL DEPTH 3500 psi CONCRETE SLAB ON 1-5/16" 24 GAGE FORM DECK, WITH (1) LAYER W2.0 6x6 WWF OR (2) LAYERS OF W1.4 6x6 WWF PLACED 1" FROM TOP OF CONCRETE. 4'-0" MAX SPAN. ADD CHANNELS IF SPAN EXCEEDS MAXIMUM. STAIR MANUFACTURER MAY PROVIDE ALTERNATE ALONG WITH SIGNED AND SEALED CALCULATIONS

9 S-502 TYPICAL CMU STAIR TOWER

SCALE: N.T.S.

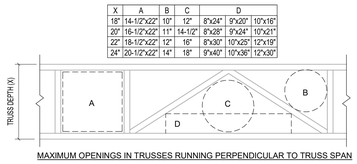


NOTE: ADD ADDITIONAL STUD UNDER ANY TRUSS THAT DOES NOT ALIGN WITH A STUD

10 S-502 TRUSSES SPACED AT GREATER THAN 24" O.C.

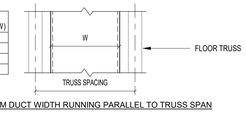
SCALE: N.T.S. 10.12.18

X	A	B	C	D	
18"	14-1/2"x22"	10"	12"	8"x24"	9"x20" 10"x16"
20"	16-1/2"x22"	11"	14-1/2"	8"x28"	9"x24" 10"x21"
22"	18-1/2"x22"	12"	16"	8"x30"	10"x25" 12"x19"
24"	20-1/2"x22"	14"	18"	9"x40"	10"x36" 12"x30"



MAXIMUM OPENINGS IN TRUSSES RUNNING PERPENDICULAR TO TRUSS SPAN

TRUSS SPACING	MAX. WIDTH (W)
24" O.C.	19.5"
19.2" O.C.	14.7"
16" O.C.	11.5"
12" O.C.	7.5"

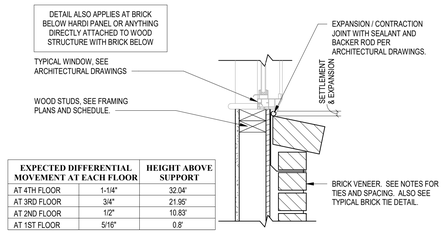


MAXIMUM DUCT WIDTH RUNNING PARALLEL TO TRUSS SPAN

NOTES:
1. DUCT SIZES SHOWN ARE BASED ON TYPICAL MAXIMUM PANEL SIZES AND COULD VARY FROM ACTUAL TRUSS DESIGN. DUCT SIZES AND LOCATIONS WILL NEED TO BE COORDINATED WITH TRUSS MANUFACTURER DURING SHOP DRAWING REVIEW.

11 S-502 TRUSS OPENING GUIDELINES

SCALE: N.T.S. 09.01.2020



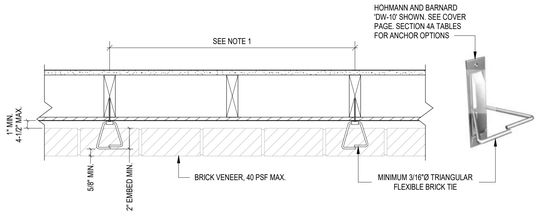
EXPECTED DIFFERENTIAL MOVEMENT AT EACH FLOOR	HEIGHT ABOVE SUPPORT
AT 4TH FLOOR	1-1/4"	32.04'
AT 3RD FLOOR	3/4"	21.95'
AT 2ND FLOOR	1/2"	10.83'
AT 1ST FLOOR	5/16"	0.8'

TYPICAL NOTE TO ARCHITECT/CONTRACTOR:

1. FOR BRICK VENEER CONSTRUCTION OVER 25'-0", CARE MUST BE TAKEN TO ALLOW FOR EXPANSION OF BRICK AND SETTLEMENT OF WOOD FRAMING. THE DIFFERENTIAL SETTLEMENT BETWEEN BRICK AND WOOD FRAMING VARIES PER FLOOR IN A WOOD FRAMED STRUCTURE. SEE REQUIRED GAP SCHEDULE. WHERE WINDOWS OVERLAP BRICK VENEER, AN ADEQUATE EXPANSION JOINT MUST BE PROVIDED.
2. WE RECOMMEND THAT THE JOINTS SHOULD NOT BE CAULKED UNTIL THE ENTIRE BUILDING IS LOADED WITH THE DEAD LOAD FROM THE DRYWALL AND GYPCRETE.
3. ARCHITECT SHALL PROVIDE NECCESSARY DETAILS TO ACCOMODATE THE ANTICIPATED DIFFERENTIAL MOVEMENTS. THESE DETAILS MAY REQUIRE LARGER GAPS BETWEEN BRICK AND ANY ELEMENTS ATTACHED TO WOOD STRUCTURE TO ACCOUNT FOR CAULK COMPRESSIBILITY.

5 S-502 EXPECTED SETTLEMENT AND EXPANSION JOINT

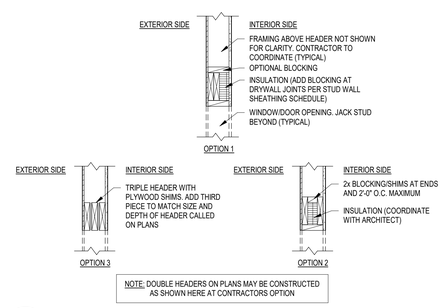
SCALE: N.T.S.



NOTE 1: REFER TO COVER PAGE SECTION 4A SPECIFICATIONS FOR ANCHOR OPTIONS AND SPACING REQUIREMENTS.

6 S-502 ADJUSTABLE BRICK ANCHOR - WOOD STUD BACKUP

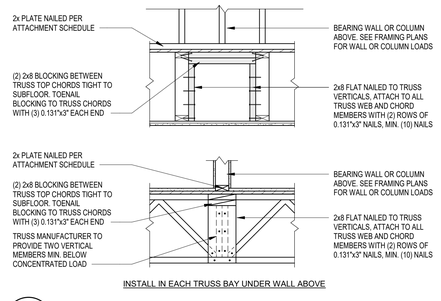
SCALE: N.T.S. 01.27.25



NOTE: DOUBLE HEADERS ON PLANS MAY BE CONSTRUCTED AS SHOWN HERE AT CONTRACTORS OPTION

7 S-502 2-PLY HEADER OPTIONS FOR 2x6 WALLS

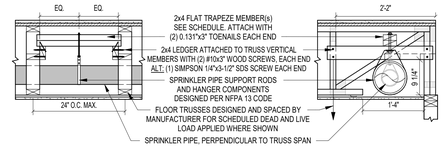
SCALE: N.T.S. 01.06.21



INSTALL IN EACH TRUSS BAY UNDER WALL ABOVE

8 S-502 TRUSS SUPPORTING BEARING WALL ABOVE

SCALE: N.T.S. 05.09.17



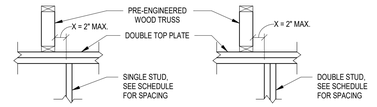
SCHEDULE 40/10 - SPRINKLER PIPE LOADING										
PIPE INSIDE DIA. (INCHES)	WET PIPE WT. (PLF)		HANGER SPACING (FEET)	DEAD LOAD REACTION (1) (LBS)		LIVE LOAD REACTION (2) (LBS)	TOTAL LOAD REACTION		TRAPEZE MEMBER		POINT LOAD ON TRUSS	
	SCH. 40	SCH. 10		SCH. 40	SCH. 10		SCH. 40	SCH. 10	SCH. 40	SCH. 10	LIVE LOAD	DEAD LOAD
												SCH. 40 SCH. 10
4.0	16.40	11.78	14.0	230	165	250	480	415	2x4	2x4	65	60 40
5.0	23.47	17.30	14.0	329	242	250	579	492	2x4	2x4	65	85 60
6.0	31.69	23.03	14.0	444	322	250	694	572	(2)2x4	2x4	65	110 80
8.0	47.70	40.08	14.0	668	561	250	918	811	(2)2x4	(2)2x4	65	170 140

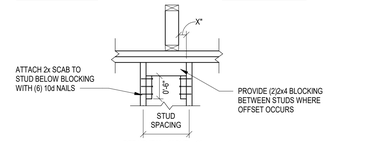
NOTES:
1. THE DEAD LOADS FROM THE SPRINKLER HANGERS SHALL BE APPLIED ANYWHERE ALONG THE TOP OR BOTTOM CHORD MEMBER AND ARE IN ADDITION TO ALL OTHER LOADING REQUIREMENTS.
2. IN ADDITION, TRUSSES SHALL ALSO BE DESIGNED FOR A SHORT TERM (Cd=2.0), 250 POUND LIVE LOAD APPLIED AT THE HANGER LOCATION ANYWHERE ALONG THE TOP OR BOTTOM CHORD MEMBERS, NON-CONCURRENT WITH ANY OTHER LIVE LOADS.
3. TRAPEZE AND LEDGER MEMBERS SHALL BE SPF#2 OR BETTER.
4. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE, NOTIFY AND OBTAIN ANY REQUIRED DESIGN MODIFICATIONS FROM THE TRUSS MANUFACTURER FOR HANGER LOADS OR CONDITIONS WHERE PIPES RUN PARALLEL WITH TRUSSES WHICH WILL REQUIRE MORE THAN ONE HANGER ALONG ITS LENGTH.

1 S-502 SPRINKLER PIPE MAIN LINE LOADING

SCALE: N.T.S. 09.30.21

FOR PIPES PERPENDICULAR TO TRUSS SPAN

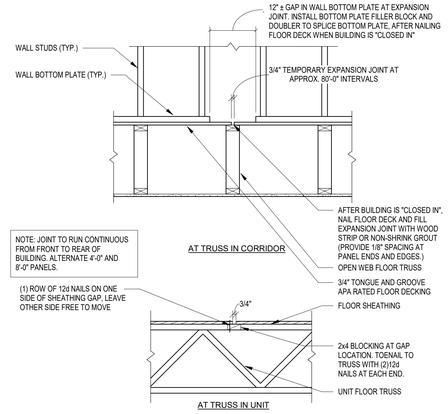




REPAIR IF X > 2" BUT < 6"
IF X > 6" PROVIDE FULL HEIGHT STUD BELOW (STUD QUANTITY SHOULD BE BASED UPON STUD SCHEDULE)

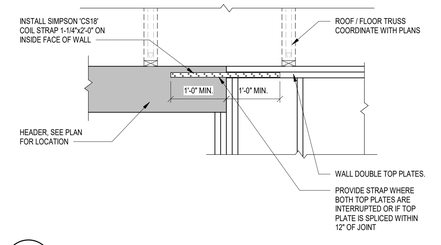
2 S-502 GUIDE FOR MAXIMUM TRUSS OFFSET

SCALE: N.T.S. WHERE STUDS SPACED AT 12" O.C.



3 S-502 TEMPORARY FLOOR SHEATHING EXPANSION JOINT

SCALE: N.T.S.



4 S-502 STRAP WHERE EXT. WALL TOP PLATES INTERRUPTED

SCALE: N.T.S. 04.08.24

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TYPICAL WOOD FRAMING DETAILS

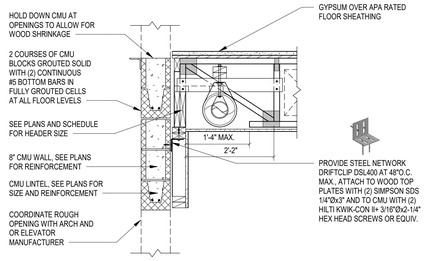
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ROANOKE, VA 24022

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06/30/2026	CONSTRUCTABILITY REVIEW	

S-502
06/30/2026
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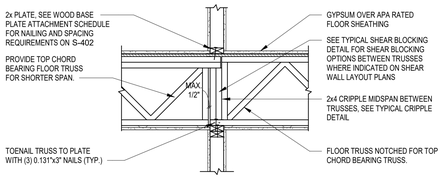


10 S-503 FLOOR TRUSS AT CMU WALL OPENING

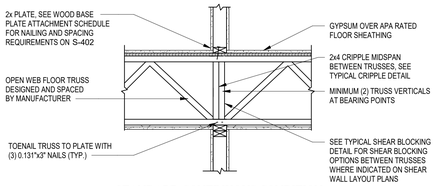
3/4" = 1'-0"

12.11.24

TRUSSES PERPENDICULAR



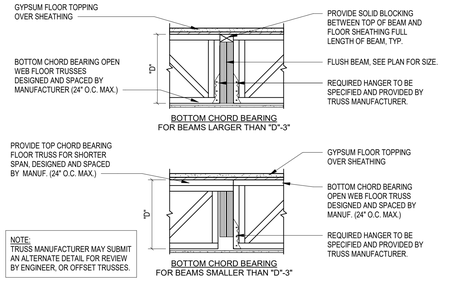
ALTERNATE PIGGYBACK TRUSS CONDITION



STANDARD CONTINUOUS CONDITION

11 S-503 TYPICAL INTERIOR LOAD BEARING WALL

3/4" = 1'-0"



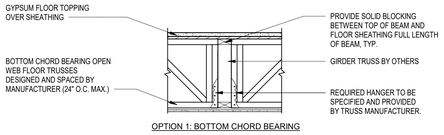
BOTTOM CHORD BEARING
FOR BEAMS LARGER THAN "D"-3"

NOTE:
TRUSS MANUFACTURER MAY SUBMIT AN ALTERNATE DETAIL FOR REVIEW BY ENGINEER, OR OFFSET TRUSSES.

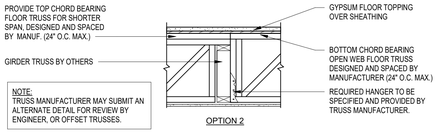
BOTTOM CHORD BEARING
FOR BEAMS SMALLER THAN "D"-3"

12 S-503 TYPICAL FLUSH BEAM

SCALE: N.T.S.



OPTION 1: BOTTOM CHORD BEARING

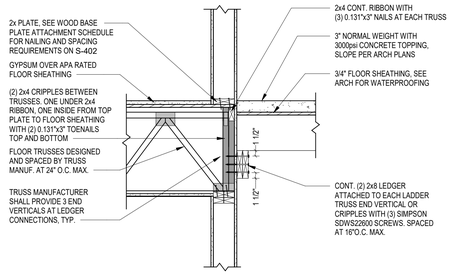


NOTE:
TRUSS MANUFACTURER MAY SUBMIT AN ALTERNATE DETAIL FOR REVIEW BY ENGINEER, OR OFFSET TRUSSES.

OPTION 2

13 S-503 TYPICAL FLUSH GIRDER TRUSS

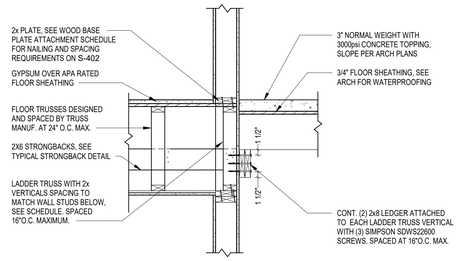
SCALE: N.T.S.



6 S-503 TYPICAL CORRIDOR BREEZEWAY - NW CONC.

3/4" = 1'-0"

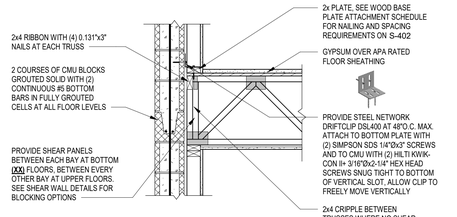
TRUSSES PERPENDICULAR



7 S-503 TYPICAL CORRIDOR BREEZEWAY - NW CONC

3/4" = 1'-0"

TRUSSES PARALLEL

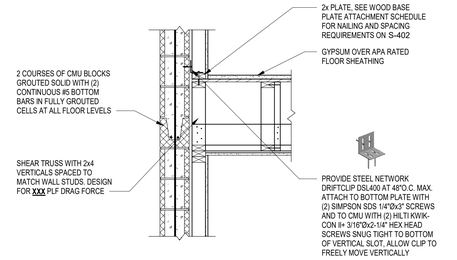


8 S-503 FLOOR TRUSS AT CMU WALL

3/4" = 1'-0"

06.08.23

TRUSSES PERPENDICULAR

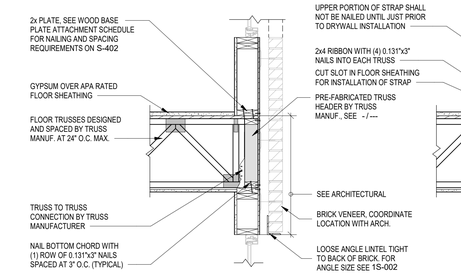


9 S-503 FLOOR TRUSS AT CMU WALL

3/4" = 1'-0"

06.08.23

TRUSSES PARALLEL



AT OPENING

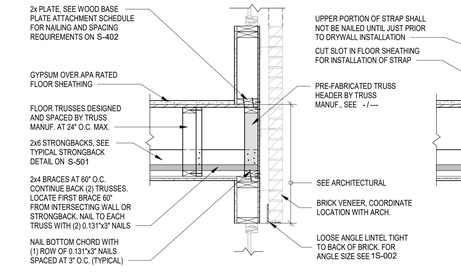
AT WALL

1 S-503 PLATFORM FRAMED EXTERIOR WALL - STRAP OPTION

3/4" = 1'-0"

TRUSSES PERPENDICULAR

05.17.23



AT OPENING

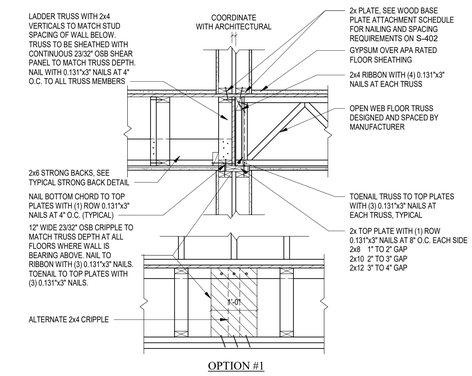
AT WALL

2 S-503 PLATFORM FRAMED EXTERIOR WALL - STRAP OPTION

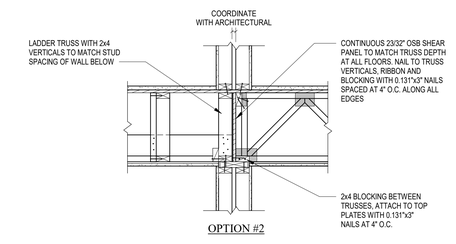
3/4" = 1'-0"

TRUSSES PARALLEL

05.17.23



OPTION #1



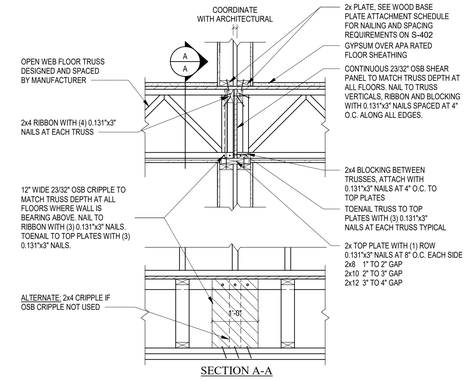
OPTION #2

5 S-503 TYPICAL UNIT SEPARATION WALL

3/4" = 1'-0"

ONE SIDE BEARING

03.03.21



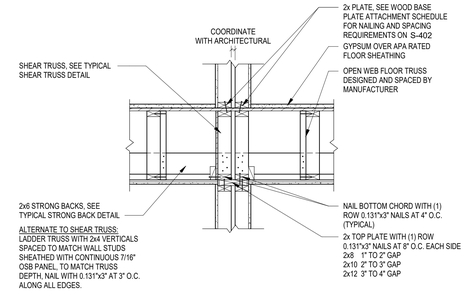
SECTION A-A

3 S-503 TYPICAL UNIT SEPARATION WALL

3/4" = 1'-0"

BOTH SIDES BEARING

03.03.21



4 S-503 TYPICAL UNIT SEPARATION WALL

3/4" = 1'-0"

NON BEARING

03.03.21

CATES ENGINEERING STRUCTURAL CONSULTING
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GRIMM AND PARKER

GP
#908-132-25

WOOD FRAMING DETAILS

ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	BY
05/14/2026	VH 4% HOTC APP.	
06/30/2026	CONSTRUCTABILITY REVIEW	

S-503
06/30/2026
CONSTRUCTABILITY REVIEW

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ROUGH OPENING	ENDNAILS FROM KING STUDS TO ROOF HEADER	HARDWARE FROM TOP PLATES TO KING STUDS	FIGURE
≤4'-4"	(4) 0.131x3"	N/A	
≤6'-4"	(6) 0.131x3"	N/A	
≤9'-4"	(8) 0.131x3"	SIMPSON H8 **OR** (2) 'SIMPSON' SDWC15600 SCREWS	3 OR 4

NOTES: SEE 1S-002HEDULE FOR TOP PLATE TO HEADER NAILING REQUIREMENTS

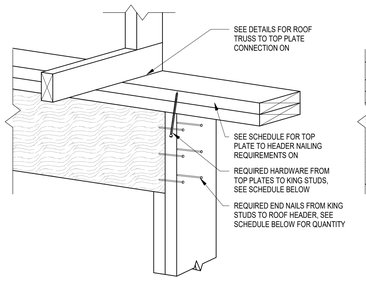


FIGURE 2

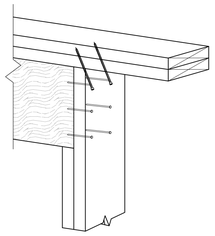


FIGURE 4

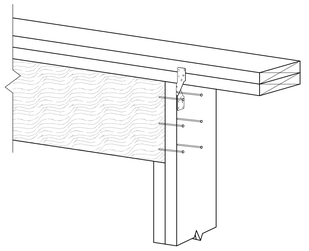


FIGURE 1

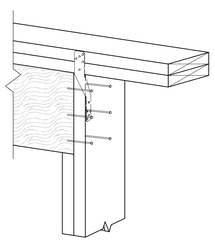
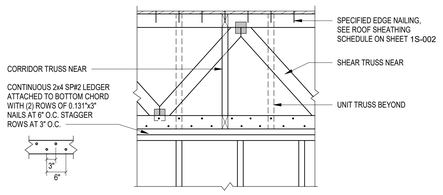


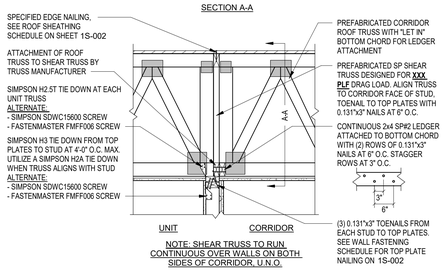
FIGURE 3

11 S-504 ROOF TRUSS UPLIFT CONDITIONS

SCALE: N.T.S.



SECTION A-A



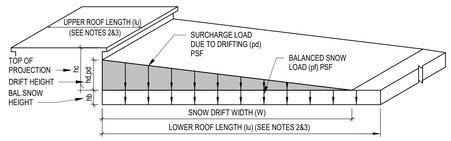
NOTE: SHEAR TRUSS TO RUN CONTINUOUS OVER WALLS ON BOTH SIDES OF CORRIDOR, U.N.O.

9 S-504 ROOF FRAMING AT 2x4 CORRIDOR WALL

03.02.2020

3/4" = 1'-0"

WITH SHEAR TRUSS



SNOW DRIFT LOADING[1] - Pg = 25 PSF

ROOF LENGTH FEET lu	DRIFT LOAD - PSF pd LEEWARD[3]	WINDWARD[4]	DRIFT HEIGHT-INCHES[2] hd LEEWARD[3]	WINDWARD[4]	DRIFT WIDTH-FEET[5] W LEEWARD[3]	WINDWARD[4]
25	26.9	20.2	18.7	14.0	6.2	4.7
30	30.2	22.6	21.0	15.7	7.0	5.2
35	33.1	24.9	23.1	17.3	7.7	5.8
40	35.8	26.9	24.9	18.7	8.3	6.2
50	40.6	30.4	28.2	21.2	9.4	7.1
60	44.8	33.6	31.1	23.4	10.4	7.8

DESIGN BASED ON ASCE 7-10, SECTIONS 7.7 AND 7.8
SURFACE ROUGHNESS CATEGORY: B (SEE ASCE 7, SECTION 26.7.2)
EXPOSURE FACTOR, TABLE 7-2, Ce: 1.0 PARTIALLY EXPOSED
THERMAL FACTOR, TABLE 7-3, Ct: 1.1; JUST ABOVE FREEZING
RISK CATEGORY, PER TABLE 1.5-1: II = IMPORTANCE FACTOR: 1.0
BALANCED SNOW LOAD, Pf = 0.7 x Ce x Ct x Is x Pg = 20 PSF
SNOW DENSITY, Y = 0.13xPg+14 = 17.25 pcf (30pcf MAX.)
BALANCED SNOW HEIGHT, hb = (Pf x12)/Y = 13.9 INCHES

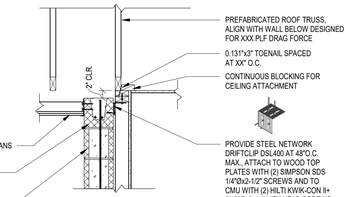
NOTES:
1. IF hc/hb IS LESS THAN 0.2, DRIFT LOADS ARE NOT REQUIRED TO BE APPLIED.
2. **FOR PARAPET WALLS**: USE WINDWARD DRIFT LOADS WITH Lu EQUAL TO THE LENGTH OF THE LOWER ROOF.
   FOR ROOF PROJECTIONS: Lu SHALL BE TAKEN EQUAL TO THE GREATER OF THE LENGTH OF THE ROOF ON EITHER SIDE OF THE PROJECTION.
3. **FOR LOWER ROOF STRUCTURES**: USE Lu EQUAL TO THE UPPER ROOF FOR LEEWARD DRIFTS AND Lu EQUAL TO THE LOWER ROOF FOR WINDWARD DRIFTS. LARGER OF THE 2 DRIFT HEIGHTS SHALL BE USED FOR DESIGN. SEE SECTION 7.7.1
4. THIS CHART ASSUMES hd IS EQUAL TO OR LESS THAN hc.
   IF hd EXCEEDS hc, THE DRIFT WIDTH, W, SHALL EQUAL 4hd*2/hc AND THE DRIFT HEIGHT SHALL EQUAL hc. HOWEVER, THE DRIFT WIDTH SHALL NOT BE GREATER THAN 8hc.
5. IF THE DRIFT WIDTH, W, EXCEEDS THE WIDTH OF THE LOWER ROOF, THE DRIFT SHALL BE TRUNCATED AT THE FAR EDGE OF THE ROOF AND NOT REDUCED TO ZERO THREE.
6. SEE ASCE 7, FIGURE 7-9 FOR CALCULATION OF DRIFT HEIGHT, hd.

10 S-504 SNOW DRIFT LOADING - LOWER ROOFS AND PARAPETS

SCALE: N.T.S.

GROUND SNOW LOAD, Pg = 25 PSF

TWO - HOUR EXIT CORRIDOR CEILING AND STAIR SOFFITS	
DOUBLE - LAYER 1/2" GYPSUM PANELS	MAX. SPAN
212CH25-18	7'-10"
212CH20-34	9'-8"
400CH25-18	7'-7"
400CH20-34	14'-0"
600CH20-34	19'-7"

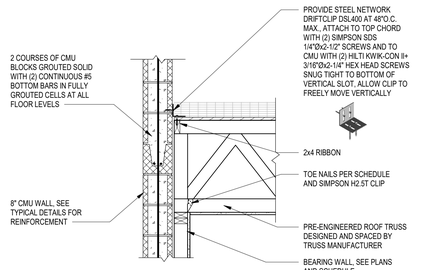


5 S-504 ROOF TRUSS AT CMU STAIR SHAFT

06.08.23

3/4" = 1'-0"

TRUSSES PARALLEL

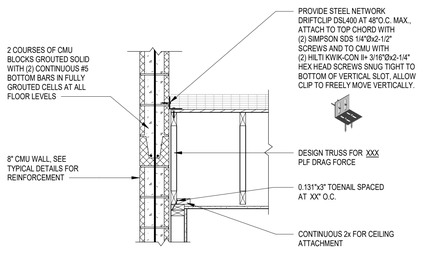


6 S-504 ROOF TRUSS TO CMU WALL

02.17.25

3/4" = 1'-0"

TRUSSES PERPENDICULAR



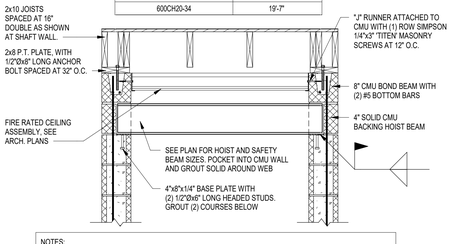
7 S-504 ROOF TRUSS TO CMU WALL

02.17.25

3/4" = 1'-0"

TRUSSES PARALLEL

TWO - HOUR EXIT CORRIDOR CEILING AND STAIR SOFFITS	
DOUBLE - LAYER 1/2" GYPSUM PANELS	MAX. SPAN
212CH25-18	7'-10"
212CH20-34	9'-8"
400CH25-18	7'-7"
400CH20-34	14'-0"
600CH20-34	19'-7"

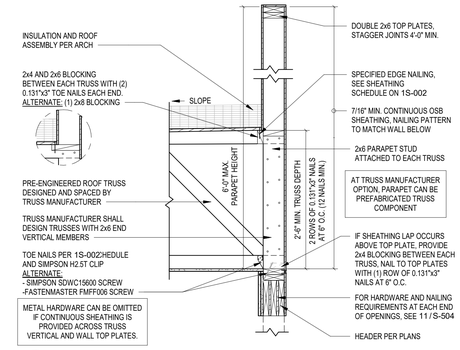


NOTES:
1. COORDINATE ELEVATOR SHAFT CAP WITH ARCHITECTURAL DRAWINGS
2. HOIST AND SAFETY BEAMS DESIGNED FOR 7500 LB GRAVITY LOAD APPLIED ANYWHERE ALONG LENGTH.

8 S-504 TYPICAL ELEVATOR SHAFT CAP

06.17.26

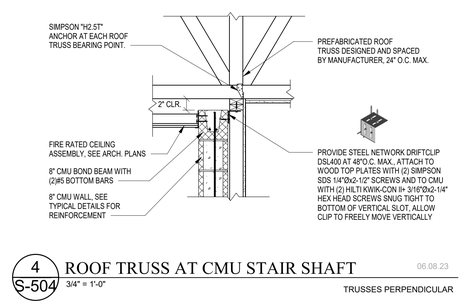
3/4" = 1'-0"



1 S-504 TYPICAL ROOF PARAPET

3/4" = 1'-0"

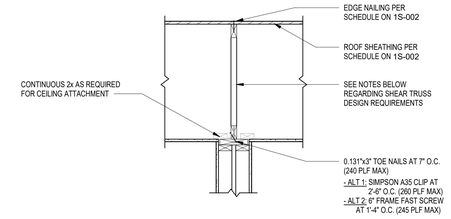
TRUSSES PERPENDICULAR



2 S-504 TYPICAL ROOF PARAPET

3/4" = 1'-0"

TRUSSES PARALLEL



NOTES:
1. TRUSS MANUFACTURER TO DESIGN TRUSS FOR **XXX PLF** SHEAR FORCE
2. SHEAR TRUSS TO OCCUR AT EVERY UNIT SEPARATION WALL ASSEMBLY UNLESS NOTED OTHERWISE.

ALTERNATE: GABLE TRUSS WITH VERTICALS AT 24" O.C. AND SHEATHED WITH 5/8" GWB WITH NAILS AT 4" O.C. EDGE/FIELD OR 7/16" OSB WITH NAILS AT 6" O.C. EDGE/12" O.C. FIELD

3 S-504 SHEAR TRUSS AT UNIT SEPARATION WALL

3/4" = 1'-0"

TWO - HOUR EXIT CORRIDOR CEILING AND STAIR SOFFITS	
DOUBLE - LAYER 1/2" GYPSUM PANELS	MAX. SPAN
212CH25-18	7'-10"
212CH20-34	9'-8"
400CH25-18	7'-7"
400CH20-34	14'-0"
600CH20-34	19'-7"

4 S-504 ROOF TRUSS AT CMU STAIR SHAFT

06.08.23

3/4" = 1'-0"

TRUSSES PERPENDICULAR

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HVAC SPECIFICATIONS

1. GENERAL

1.1 DESCRIPTION OF WORK:

A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL HVAC SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
1. HEATING SYSTEM
2. COOLING SYSTEM
3. VENTILATION SYSTEM
4. EXHAUST SYSTEMS
5. DRYER VENT SYSTEMS

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THE CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE HVAC WORK IN-SO-FAR AS THEY APPLY TO THE HVAC WORK AND ARE REQUIRED FOR COORDINATION.

1.3 JOB CONDITIONS:

A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.

B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, CONTROL TRANSFORMERS AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.

C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, FILTERS AND SPECIALTIES.

D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, MOT. DAMPERS, ETC. CONCEALED BEHIND FINISHED SURFACES. DOOR TO HAVE SAME FIRERATING AS FINISHED SURFACE.

E. MODIFY DUCT DIMENSIONS AS REQUIRED BY BUILDING STRUCTURE OR OTHER WORK AT NO ADDITIONAL COSTS TO THE OWNER. MAINTAIN EQUIVALENT FREE AREA SIZES.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2021 VIRGINIA MECHANICAL CODE, NFPA, AND LOCAL ORDINANCES.

B. WORK SHALL CONFORM WITH 2026 VIRGINIA HOUSING MDCR, 2026 UNIVERSAL DESIGN 2020 ENTERPRISE GREEN COMMUNITIES, DOE EFFICIENT NEW HOMES PROGRAM MULTIFAMILY VERSION 2, REV. 1, ENERGY STAR MULTIFAMILY MFNC 1.1, EPA INDOOR AIR PLUS VERSION 2.

1.5 QUALITY ASSURANCE:

A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.

B. COMPLY WITH REQUIREMENTS OF SMACNA AND ASHRAE.

1.6 MATERIALS AND EQUIPMENT:

A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.

B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.

C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.

D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.

E. IF HVAC EQUIPMENT IS OPERATED DURING CONSTRUCTION, PROVIDE TEMPORARY FILTERS TO PROTECT AIR HANDLING EQUIPMENT.

1.7 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATIONS ON DRAWINGS, SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT IN .PDF FORMAT VIA EMAIL.

B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.

C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

1.8 PROJECT CLOSEOUT:

A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.

B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.

C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL. MINIMUM INSTRUCTION PERIOD SHALL BE TWO HOURS.

D. REPLACE FILTERS IN AIR HANDLING EQUIPMENT AT TIME OF PROJECT TURNOVER TO OWNER.

E. VACUUM INTERIORS OF DUCTWORK AND EQUIPMENT WHICH BECOMES DIRTY, PRIOR TO PROJECT TURNOVER TO OWNER. CLEAN ANY DIRTY EQUIPMENT COILS.

2. PRODUCTS

2.1 PIPING SYSTEMS:

A. CONDENSATE DRAIN - SCH. 40 PVC WITH SOLVENT WELD FITTINGS

B. REFRIGERANT - TYPE C&C OR ARC COPPER, SILVER SOLDER FITTINGS.

2.2 HVAC EQUIPMENT:

A. REFER TO SCHEDULE SHEETS AND EQUIPMENT LIST FOR MANUFACTURERS AND MODEL NUMBERS.

B. ALTERNATE MANUFACTURER'S ARE: LENNOX, YORK, MCQUAY, TITUS, CARRIER, SANYO, MITSUBISHI, TRANE, COOK, CARNES, TWIN CITY, ACME, METALAIRE

C. PROVIDE MINIMUM MERV 11 RETURN AIR FILTERS FOR AIR HANDLING EQUIPMENT.

2.3 AIR DISTRIBUTION:

A. METAL DUCTWORK: SHOP FABRICATED AS FOLLOWS.
1. MATERIALS: GALVANIZED STEEL SHEET, ASTM A 527-85.
2. CONSTRUCTION: PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR LOW PRESSURE SYSTEM UP TO 2" W.C. CONSTRUCTION.
3. JOINT SEALANT: UL LISTED FOSTER MASTIC, HARDCAST FTA-20, KINGCO 18-136.
4. SUPPLY AIR BRANCH DUCTS RUN IN CONCEALED AREAS MAY BE PRE-INSULATED, UL CLASS 1, FLEXIBLE DUCT.
5. DRYER VENT SHALL BE RIGID GALVANIZED STEEL WITH LONG RADIUS ELBOWS AND NO SCREWS PROTRUDING INTO VENT. USE RIVETS AT JOINT AND FITTING CONNECTIONS. USE FLEXIBLE METAL VENT AT CONNECTION TO DRYER. MINIMUM THICKNESS OF VENT TO BE 26 GAUGE. FIRESTOP VENT PENETRATIONS THRU FIRE RATED CONSTRUCTION PER UL 263 (SEE DETAILS)
6. EXHAUST VENT SHALL BE RIGID GALVANIZED 26 GAUGE FIRESTOP VENT PENETRATIONS THROUGH FIRE RATED CONSTRUCTION PER UL 263 (SEE DETAILS)
7. CAPS AND DOUBLE WALL CAPS TO BE CONSTRUCTED OF HIGH TEMPERATURE PLASTIC POLYMER, SUITABLE FOR USE WITH ELECTRIC DRYER OPERATION. REMOVABLE FRONT LOUVER. BIRDSCREEN NOT BE USED FOR DRYERS. USE X-VENT OR SIMILAR. SELECT MODEL TO MATCH BUILDING MATERIALS AND COLOR.

B. DAMPERS - AS MANUF. BY RUSKIN, CESCO, ARROW, CREATIVE METALS, PREFCO
1. VOLUME DAMPERS SHALL BE GALVANIZED STEEL, 16 GAUGE, BLADE HEIGHT SHALL NOT EXCEED 12". DAMPER LINKAGE AND LOCKING QUADRANT SHALL BE OUTSIDE OF AIRSTREAM.
2. MOTORIZED DAMPERS - REFER TO EQUIPMENT LIST ON DRAWINGS.
3. FIRE DAMPERS SHALL BE UL LISTED TYPE "B" WITH BLADE POCKET OUTSIDE OF AIRSTREAM, DYNAMIC TYPE WITH 212F RATED LINK, PTTORF OR EQUAL. DAMPERS IN CEILING TO BE RADIATION TYPE WITH THERMAL BLANKET. SECURE DAMPER TO STRUCTURE SO IN CASE OF DUCT COLLAPSE, DAMPER WILL REMAIN INTACT IN FIRERATED ASSEMBLY. PROVIDE INSTALLATION INSTRUCTIONS ON SITE FOR INSPECTORS.

C. ACCESS DOORS -
1. FACTORY BUILT WITH SASH LOCKS, BUTT HINGE, GASKET, 24 GA. DOOR AND 22 GA. FRAME.
2. ACCESS DOOR IN INSULATED DUCT SHALL BE DOUBLE CONSTRUCTION, WITH INSULATION ENCASED.
3. MINIMUM SIZE TO BE 75% SIZE OF DUCT IN WHICH INSTALLED, OR 10" X 10".
4. CESCO MODEL HAD-10, LOUVERS AND DAMPERS, KEES, INC. OR AIR BALANCE.

2.4 CONTROLS:

A. PROVIDE ALL RELAYS, TRANSFORMERS, CONTROL WIRING, TERMINAL BLOCKS, ETC. FOR A COMPLETE SYSTEM.

1. COMPONENT MANUFACTURER'S AND MODEL NUMBERS AS SPECIFIED ON DRAWINGS.

B. THE WARRANTY PERIOD SHALL COMMENCE AFTER 60 DAYS OF BENEFICIAL USE, MEASURED FROM THE DATE OF ACCEPTANCE FROM THE OWNER.

3.1 EXECUTION

PIPING SYSTEMS:

A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION.

B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.

C. VERIFY EXACT LOCATION OF EQUIPMENT PRIOR TO ROUGH-IN.

D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.

E. INSULATE PIPING SYSTEMS AS FOLLOWS:
1. REFRIGERANT - CLOSED CELLULAR RUBBER, THICKNESS PER CODE/EARTHCRAFT REQUIREMENTS.
2. HORIZONTAL CONDENSATE DRAIN - 1/2" THICK FIBERGLASS WITH ASJ.
3. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
4. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
5. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
6. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
7. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.
8. PROVIDE 2 COATS OF GREY WEATHERPROOF FINISH ON EXTERIOR REFRIGERANT PIPING.

F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.

G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.

H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.

I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.

J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.

K. DO NOT USE PLASTIC PIPING IN RETURN AIR PLENUM SPACES.

L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS.

M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.

N. CLEAN AND FLUSH PIPING THEN TEST PIPING SYSTEMS AS FOLLOWS:
1. REFRIGERANT PIPING - DEEP VACUUM METHOD. PULL A VACUUM TO 500 MICRONS BREAK VACUUM THREE TIMES WITH DRY NITROGEN SYSTEM TO HOLD BELOW 500 MICRONS FOR SEVEN MINUTES. REPEAT AS NECESSARY.
2. CONDENSATE DRAIN PIPING - W/ 10 FT. WATER COLUMN OR 5 PSI COMPRESSED AIR FOR 12 HOURS.
3. TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.
4. PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.
5. SUBMIT WRITTEN REPORT OF TEST RESULTS.

3.2 HVAC EQUIPMENT:

A. PROVIDE PERMANENT TAG ON EQUIPMENT INDICATING EXPIRATION DATE OF WARRANTIES. LOCATE TAG IN A READILY VISIBLE LOCATION.

B. PROVIDE FACTORY AUTHORIZED START-UP OF EQUIPMENT AND SUBMIT TEST REPORTS. (INCLUDE IN O&M MANUAL). COMPLY WITH MANUFACTURER REQUIREMENTS AND NOTES STATED ON THE CONSTRUCTION DOCUMENTS FOR INSTALLATION OF EQUIPMENT. BALANCE THE OUTSIDE AIR CFM TO QUANTITIES LISTED.

D. SPLIT SYSTEM UNITS:
1. SUPPORT INDOOR UNIT FROM STRUCTURE WITH ALL THREAD STEEL RODS AND SPRING TYPE VIBRATION ISOLATORS - INSTALL LEVEL. CONNECT DUCTWORK WITH FLEXIBLE DUCT CONNECTIONS. INSTALL TO ALLOW PROPER SERVICE ACCESS.
2. PROVIDE DRAIN PAN BENEATH UNITS.
3. PROVIDE CONDENSATE DRAIN PIPING AND EXTEND TO HUB DRAIN OR TO EXTERIOR VERIFY TERMINATION POINT WITH LOCAL CODE OFFICIAL AND ARCHITECH.
4. CONNECT REFRIGERANT PIPING AND CONTROL WIRING.

3.3 AIR DISTRIBUTION:

A. DUCTWORK:
1. SEAL JOINTS IN DUCTWORK WITH COATING OF HARDCAST SEALANT OR UL LISTED FSK DUCT TAPE. FOLLOW EARTHCRAFT GUIDELINES FOR DUCT SEALING.
2. INSTALL INTERNAL ENDS OF SLIP JOINTS IN DIRECTION OF AIRFLOWS.
3. MAXIMUM ANGLE OF OFFSETS AND TRANSITIONS SHALL NOT EXCEED 30 DEGREES.
4. ADEQUATELY SUPPORT DUCT AS PER CODE REQUIREMENTS - ELIMINATE SAGGING AND COMPRESSION OF DUCT.
5. TRANSITION DUCTS TO FIT EQUIPMENT. PROVIDE FLEXIBLE DUCT CONNECTIONS TO AIR HANDLERS AND PACKAGED UNITS.
6. USE LONG RADIUS RIGID DUCT FITTINGS AT ELBOWS IN FLEXIBLE DUCT FLEXIBLE DUCT EXCEEDING 60 DEGREE ANGLE. ELBOWS IN FLEXIBLE DUCT LESS THAN 60 DEGREE ANGLE SHALL BE LONG SWEEP TYPE.

B. INSULATE DUCT SYSTEMS PER CODE OR AS FOLLOWS, WHICHEVER IS MORE STRINGENT:
1. WITHIN BUILDING STRUCTURE AND INSIDE OF BUILDING INSULATION ENVELOPE (OUTSIDE AIR, SUPPLY AND RETURN AIR DUCTS): WITH 3/8" THICK FOIL FACED AIR CELL INSULATION, REFLECTIX OR EQUAL. MINIMUM R=6.
2. INSULATE SUPPLY AIR AND RETURN AIR DUCTS OUTSIDE OF BUILDING INSULATION WITH FOIL FACED AIR CELL INSULATION - MINIMUM R = 8.0 INSTALLED.
3. EXHAUST AND EXPOSED SPIRAL AIR DUCTS: DO NOT INSULATE.
4. SECURE INSULATION TO DUCTS W/ ADHESIVE AT 60% COVERAGE AND SECURE WITH MECHANICAL FASTENERS AND WASHERS AT 18" CENTERS - SEAL VAPOR BARRIER.
5. INSULATE EXTERIOR SA AND RA DUCTS WITH TWO-1" THICK LAYERS OF CLOSED CELL RUBBER-SEAL JOINTS WEATHERTIGHT. PROVIDE BLOCKING TO PITCH TOP AT 4% SLOPE. TOP LAYER SHALL OVERLAP SIDES. PROVIDE EPDM RUBBER JACKET OVER INSULATION WITH SEAMS AND JOINTS SEALED WEATHERTIGHT.

C. DAMPERS: ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
1. ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
2. PROVIDE COMBINATION DAMPER/EXTRACTOR/SPIN-IN FOR ROUND DUCT CONNECTIONS TO TRUNK DUCTS. PROVIDE 45 DEGREE BEVEL INLET WITH BALANCE DAMPER FOR RECTANGULAR DUCT CONNECTIONS TO TRUNK DUCT. DAMPER ADJUSTMENT TO BE LOCATED ON BOTTOM SIDE OF DUCT.

D. ACCESS DOORS - PROVIDE IN DUCT FOR ACCESS TO COILS, FILTERS, FIRE & MOTORIZED DAMPERS, AND ALL OTHER EQUIPMENT NOT OTHERWISE ACCESSIBLE. INSTALL TO ALLOW SERVICE ACCESS. PROVIDE LABEL ON ACCESS DOOR INDICATING DEVICE SERVED.

E. BALANCE AIR DISTRIBUTION TO WITHIN 10% OF DESIGN AND SUBMIT REPORT.
1. REPORT SHALL IDENTIFY ZONES, DESIGN AIRFLOWS AND FINAL AIRFLOWS (SUPPLY AIR, RETURN AIR AND OUTSIDE AIR), SUPPLY AND RETURN STATIC PRESSURES, ENTERING AND LEAVING AIR TEMPERATURES.
2. INCLUDE EXHAUST FAN SYSTEMS, AND HVAC EQUIPMENT.
3. COMPLY WITH NEBB AND AABC REQUIREMENTS.

3.4 CONTROLS:

A. SEAL PROBE PENETRATIONS FOR DUCT MOUNTED SENSORS.

B. PROVIDE JUNCTION BOX HOUSING FOR CONTROL WIRING INTERLOCK TO COMPONENTS.

C. ROUTE CONDUCTORS NEATLY AND PARALLEL OR PERPENDICULAR TO BUILDING CONSTRUCTION. WIRING AND CONDUCTORS IN FINISHED SPACES TO BE RUN CONCEALED.

D. SEQUENCE OF CONTROL
1. ON A CALL FOR COOLING - BLOWER AND COOL COMPRESSOR SHALL BE ENABLED.
2. ON A CALL FOR HEAT - BLOWER AND HEAT COMPRESSOR SHALL BE ENABLED. ON A CALL FOR ADDITIONAL HEAT, AUX. ELECTRIC STRIP HEAT SHALL BE ENABLED AND STAGED.
3. OA TO BE INTRODUCED INTO APARTMENTS BY ERVS IN UNITS.
5. PROGRAM THERMOSTATS PER OWNER'S SCHEDULING.
6. FLOAT SWITCH IN DRAIN PAN TO DISABLE HVAC UNIT IN CASE OF WATER IN PAN.
7. IN COMMON AND COMMERCIAL SPACES, OUTSIDE AIR TO BE INTRODUCED WHEN BLOWER RUNS. FOR UNITS WITH AIR QUALITY SENSOR, THERMOSTAT TO ENABLE SENSOR TO OPEN MOTORIZED OA DAMPER TO SETPOINT IN CASE OF POOR RA QUALITY (1000 PPM IN OCCUPIED MODES ONLY), OTHERWISE OA DAMPER TO CLOSE.

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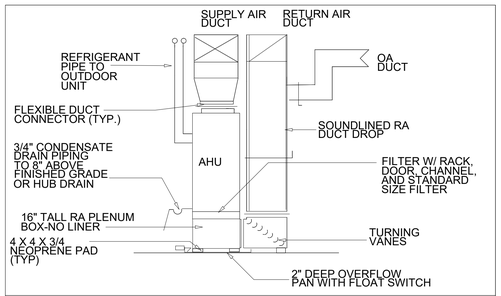
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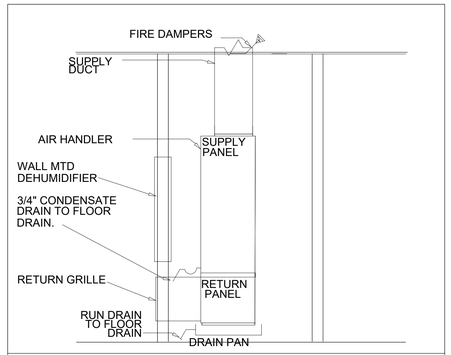
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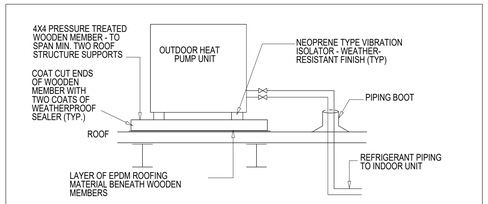


UPFLOW AIR HANDLER UNIT DIAGRAM



APARTMENT AIR HANDLING UNIT DETAIL

NOT TO SCALE



OUTDOOR HEAT PUMP ON ROOF DIAGRAM

SYMBOLS

- SUPPLY DUCT
- RETURN OR EXHAUST DUCT
- (T) THERMOSTAT-MTD. 48" AFF
- (A) / 100 INDICATES AIR OUTLET OR INLET TOP LETTER INDICATES G.R&D TYPE (SEE SCHEDULE); BOTTOM NUMERAL INDICATES CFM FOR BALANCING
- DUCT TRANSITION
- (M) MOTORIZED DAMPER (MOD)
- EXHAUST FAN (EF)
- VOLUME DAMPER (VD)
- FIRE DAMPER
- POINT OF CONNECTION OF NEW TO EXISTING WORK

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
CD	CEILING DIFFUSER
DN	DOWN
DVC	DRYER VENT CAP
DV	DRYER VENT
EA	EXHAUST AIR
EXC	EXHAUST AIR CAP
MTD.	MOUNTED
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
TYP	TYPICAL
WC	WALL CAP

GENERAL NOTES

-ALL MECHANICAL SHALL BE INSTALLED IN ACCORDANCE WITH ASCE 24-05, ASCE 24-14, AND FEMA REGULATIONS REGARDING FLOODPROOFING AND MITIGATING FLOOD DAMAGES. THE ATTENDANT UTILITIES SHALL BE WATERTIGHT TO THE FLOODPROOFED DESIGN ELEVATION OF THIS BUILDING, AND SHALL BE SUBSTANTIALLY IMPERMEABLE TO THE PASSAGE OF WATER, AND SHALL PERFORM IN ACCORDANCE WITH THE 44 CODE OF FEDERAL REGULATIONS (44 CFR 60.3(c)(3)). CONTRACTOR IS RESPONSIBLE FOR MEETING ALL REQUIREMENTS ALONG WITH ANY RELATED INSPECTIONS & CERTIFICATIONS REQUIRED BY THE GOVERNING AGENCIES.

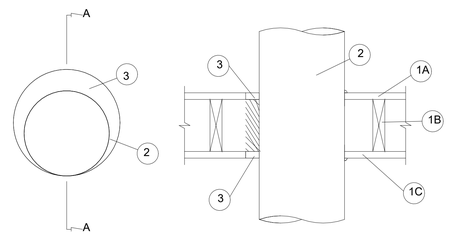
DRYER EXHAUST NOTE

1. INSTALL A PLACARD TO DISPLAY TOTAL DEVELOPED LENGTH OF THE DRYER VENT DUCT AND MOUNT NEAR DRYER LOCATION CONTRACTOR TO SUPPLY A DRYER CAPABLE OF EXHAUSTING WITH THE TOTAL DEVELOPED LENGTH.

SYSTEM NO. F-C-7022

F RATINGS - 1 HR

T RATING - 1/4 HR



Section A-A

1. FLOOR-CEILING ASSEMBLY - THE 1 HR FIRE RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES FLOOR CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION DETAILS OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:
   A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OR LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE, AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS 11 IN.
   B. WOOD JOIST - NOM. 10 IN. DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIED AND WITH ENDS FIRESTOPPED.
   C. GYPSUM BOARD* - NOM 4FT WIDE BY 5/8 IN. THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS 11 IN.
2. STEEL DUCT - NOM 10 IN. (OR SMALLER) NO. 26 GAUGE (OR HEAVIER) STEEL DUCT. STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN OPENING. THE ANNULAR SPACE BETWEEN DUCT AND PERIPHERY OF OPENING SHALL BE MIN 0IN. (POINT CONTACT), TO MAX 1 IN. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 3/4 IN. THICKNESS OR CAULK APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. MIN 5/8 IN. THICKNESS OF CAULK APPLIED WITHIN ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING. MIN 1/4 IN. DIAM BEAD OF CAULK APPLIED AT POINT CONTACT LOCATIONS AT DUCT/FLOOR INTERFACE ON TOP SURFACE OF FLOOR AND AT DUCT/CEILING INTERFACE.

3M COMPANY - CP25WB+, 1C 15WB+ CAULK OR FB-3000 WT SEALANT

*BEARING THE UL CLASSIFICATION MARK

EQUIPMENT LIST

EQUIPMENT: EQUIVALENT MANUFACTURERS MAY BE SUBSTITUTED. EQUIPMENT TO BE UL OR ETL LISTED.

(T)- THERMOSTAT- SHALL BE 24 VAC, HEATING-COOLING AUTO-CHANGEOVER TYPE, 7 DAY PROGRAMMABLE, (SUITABLE FOR HEAT PUMP USE) OVERRIDE TIMER W/ AUX. CONTACT TO CONTROL OA MOD, MULTI-STAGE HEAT/COOL, VOICE ACTIVATED CONTROL ECOBEE OR EQUAL.

CO2 SENSOR - CARBON DIOXIDE TYPE, 350 TO 2250 PPM RANGE, NON-GROUNDING, 24V TRANSFORMER, DUCT MOUNT BOX, 2 POSITION CONTROL. HONEYWELL OR EQUAL.

MOD - 24VAC MOTORIZED DAMPER, 2 POSITION TYPE, W/ ACTUATOR AND LINKAGE MTD. OUTSIDE OF AIRSTREAM, NORMALLY CLOSED, SIZE TO FIT DUCT, COMPATIBLE W/ CO2 SENSOR, HONEYWELL OR EQUAL.

FLOAT SWITCH - LOCATED IN OVERFLOW PAN, SPST, WITH FLOAT, 24 VAC CONTACTS, LITTLE GIANT MDL. ACF-3 OR EQUAL.

DVB - DRYER VENT BOX, DOWN/UP VENT CONNECTION, TO FIT IN A 2X6 WALL. CONSTRUCTION SOLUTIONS DBX1000. ALL DRYER VENT CONNECTIONS SHALL HAVE A DRYER VENT BOX

DH-1 IN WALL DEHUMIDIFIER, 37 PINTS PER DAY, 155 CFM, R45B REFRIGERANT, 120 VOLT, 2.2 AMPS, 260 WATTS, 15A MOCP, WITH 2X4 WALL MOUNT BEZEL KIT, SANTA FE ULTRAMD33, UNIT TO BE HARDWIRED REMOVE CORD AND PLUG. DO NOT INSTALL UNIT ELECTRICAL AND PLUMBING ROUGH IN ONLY.

ERV-1 CEILING MOUNTED ENERGY RECOVERY VENTILATOR, 150 CFM SUPPLY AND EXHAUST, SRE 84%, MERV 13 FILTERS, 120 VOLT, 170 WATTS, 2.4A MCA, 15A MOCP, HARDWIRED, WITH ADVANCED TOUCH SCREEN CONTROLLER, BROAN MDL, BLP150E75NS-HW UNIT TO RUN 20 MINUTES PER HOUR.

REFRIGERANT PIPING NOTES

1 REFRIGERANT PIPING FOR HVAC UNITS LOCATED ON 3RD AND 4TH FLOORS CAN BE RUN IN WALL CAVITIES.

2 REFRIGERANT PIPING FOR HVAC UNITS LOCATED ON 1ST AND 2ND FLOORS MUST BE RUN IN FIRE RATED SHAFTS AS INDICATED ON DRAWINGS. SHAFTS TO BE VENTED AT THE TOP AND BOTTOM WITH 4" VENT PIPE.

3 FIRE RATED SHAFTS MUST HAVE A 4" VENT AT THE ROOF TERMINATING AT A GOOSENECK. THE BOTTOM OF THE SHAFT MUST HAVE A 4" VENT TO THE EXTERIOR OF THE BUILDING TERMINATING AT A WALL CAP.

FAN SCHEDULE

NO.	DESCRIPTION	CFM	E.S.P.	HP	RPM	VOLT/ PHASE	MFR. MDL.	REMARKS
EF-1	BATHROOM VENTILATION FAN	80	0.375	N/A	N/A	120/1	BROAN QTXEG080	(1) (2)
EF-2	TRASH VENTILATION FAN	710	0.500	1/4	1725	115/230	DAYTON 2RB60	(1) (2) (3)

NOTES

(1) WITH SAFETY SWITCH
(2) WITH BACKDRAFT DAMPER
(3) PROVIDE MATCHING CURB

HEAT PUMP EQUIPMENT SCHEDULE

ZONE	OUTDOOR HEAT PUMP	NOMINAL TONS	TOTAL COOLING	SEER2	O.U. VOLTS	O.U. MCA/ MOCP	HSPF2	INDOOR UNIT KW HEAT	INDOOR UNIT MODEL NO.	CFM (2)	ESP.	MIN. OA CFM	BLOWER SPEED	HP	I.U. VOLTS	I.U. (1) MCA / MOCP	I.U. (2) MCA / MOCP	I.U. WEIGHT	REMARKS
AH-1/ OHP-1	CARRIER 37MAHAQ18AA3	1.5	18,000	21.5	208/1	19 / 20	11	3.8	CARRIER 45MBAAQ18XA3	600	0.50	37	5	1/3	208/1	23 / 25	NA	200	(1) (2) (3) (4)
AH-2/ OHP-2	CARRIER 37MAHAQ24AA3	2.0	24,000	21.2	208/1	24.9 / 25	13.5	3.8	CARRIER 45MBAAQ24AA3	800	0.50	57	5	1/3	208/1	23 / 25	NA	200	(1) (2) (3) (4)
AH-3/ OHP-3	CARRIER 37MAHAQ33AA3	3.0	33,000	19.6	208/1	34 / 35	12	7.5	CARRIER 45MBAAQ36AA3	1200	0.50	98	5	1/2	208/1	46.1 / 50	NA	200	(1) (2) (3) (4)

NOTES:

(1) COOLING CAPACITIES AT 95F DB/67F EWB TEMPERATURES. PROVIDE BLOWER TIME DELAY RELAYS. R-454B REFRIGERANT.
(2) REFER TO DRAWINGS FOR EXACT AIRFLOW QUANTITIES.
(3) W/ COMPRESSOR TIME DELAY, COMPRESSOR CRANKCASE HEATER, REFRIGERANT LINE FILTER DRIER, HIGH AND LOW PRESSURE SWITCHES, RA FILTER.
(4) ELECTRIC HEAT REQUIRES IT OWN CIRCUITS. VOLTAGE TO BLOWER FROM OUT SIDE UNIT.

INVERTER HEAT PUMP SCHEDULE

ZONE	OUTDOOR PUMP	NOMINAL TONS	RATED COOLING	RATED HEATING	SEER2	HSPF2	O.U.	O.U. MCA / MOCP	INDOOR UNIT I.U. NAME	I.U. MODEL NO.	CFM	MIN. OA	ESP.	RATED COOLING TOTAL	RATED HEATING	BLOWER SPEED	VOLTS	FLA
IHP-1	CARRIER 37MAHAQ18AA3	1.5	18,000 BTUH	18,000 BTUH	21.5	11.0	208/1	19 / 20	FCU-1	CARRIER 45MAHAQ18AA3	448	NA	NA	18,000 BTUH	18,000 BTUH	HIGH	208/1	.81
IHP-1	CARRIER 37MGRAQ24DA3	2.0	24,000 BTUH	24,000 BTUH	23	7.5	208/1	23 / 25	FCU-1	CARRIER 45MAHAQ12AA3	441	NA	NA	12,000 BTUH	12,000 BTUH	TURBO	208/1	0.6
									FCU-2	CARRIER 45MAHAQ12AA3	441	NA	NA	12,000 BTUH	12,000 BTUH	TURBO	208/1	0.6

PROVIDE ALL PIPING, CONTROL KIT, W/ WIRED WALL MOUNTED ROOM THERMOSTAT. WYE FITTINGS, ETC. AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.
(NOTE) POWER TO INDOOR UNIT SUPPLIED FROM THE OUTDOOR UNIT. POWER TO ELECTRIC HEAT IS FROM A SEPERATE SOURCE.

PROVIDE CONDESATE PUMP AND PUMP TO HUB DRAIN OR DAY LIGHT.

GRILLES, REGISTERS, DIFFUSERS AND LOUVERS

TYPE	DESCRIPTION	NECK	FRAME	FINISH	MFR. MDL.	REMARKS
D1	2-WAY REGISTER CEILING/WALLS	12X4	FLANGE	WHITE	PROSELECT PS2WW12P	FRAME
D2	2-WAY REGISTER CEILING/WALLS	12X6	FLANGE	WHITE	PROSELECT PS2WW12U	FRAME
D3	4-WAY CEILING DIFFUSER	10X10	FLANGE	WHITE	PROSELECT PSSQCDW10	FRAME
R1	RETURN AIR GRILLE	14X8	FLANGE	WHITE	PROSELECT PSAH45W14X	FRAME
R2	RETURN AIR GRILLE	18X18	FLANGE	WHITE	PROSELECT PSAH45W1818	FRAME
R3	OUTSIDE AIR GRILLE	8X8	FLANGE	SEL. BY ARCH.	HART AND COOLEY RH45	ALUMINUM WITH BUG SCREEN
R4	RETURN AIR GRILLE	8X8	FLANGE	SEL. BY ARCH.	PROSELECT PSAH45W88	
L1	OUTSIDE AIR LOUVER	18X18	FLANGE	SEL. BY ARCH.	DAYTON 2OUA08	DRAINABLE/LOVERS WITH 1/4 MESH

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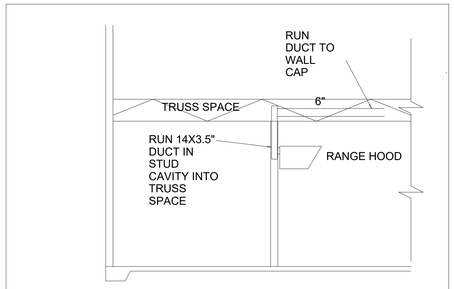
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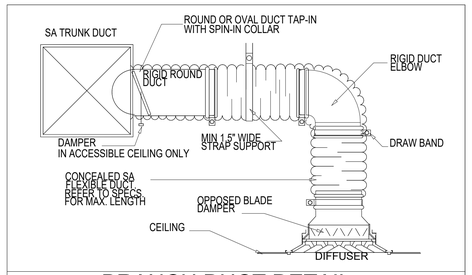
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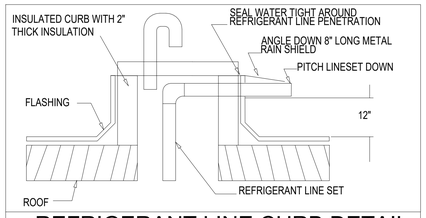
KITCHEN HOOD VENT DETAIL

NOT TO SCALE



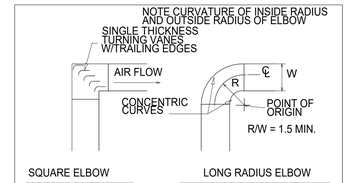
BRANCH DUCT DETAIL

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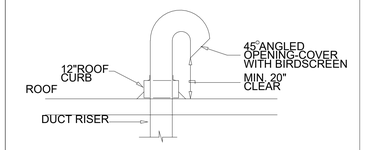


REFRIGERANT LINE CURB DETAIL

NOT TO SCALE



DUCTWORK ELBOW DETAILS



GOOSENECK ON ROOF DIAGRAM

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HVAC SPECIFICATIONS

1. GENERAL

1.1 DESCRIPTION OF WORK:

A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL HVAC SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
   1. HEATING SYSTEM
   2. COOLING SYSTEM
   3. VENTILATION SYSTEM
   4. EXHAUST SYSTEMS
   5. DRYER VENT SYSTEMS

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THE CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE HVAC WORK IN-SO-FAR AS THEY APPLY TO THE HVAC WORK AND ARE REQUIRED FOR COORDINATION.

1.3 JOB CONDITIONS:

A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.

B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, CONTROL TRANSFORMERS AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.

C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, FILTERS AND SPECIALTIES.

D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, MOT. DAMPERS, ETC. CONCEALED BEHIND FINISHED SURFACES. DOOR TO HAVE SAME FIRERATING AS FINISHED SURFACE.

E. MODIFY DUCT DIMENSIONS AS REQUIRED BY BUILDING STRUCTURE OR OTHER WORK AT NO ADDITIONAL COSTS TO THE OWNER. MAINTAIN EQUIVALENT FREE AREA SIZES.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2021 VIRGINIA MECHANICAL CODE, NFPA, AND LOCAL ORDINANCES.

B. WORK SHALL CONFORM WITH 2026 VIRGINIA HOUSING MDCR, 2026 UNIVERSAL DESIGN 2020 ENTERPRISE GREEN COMMUNITIES, DOE EFFICIENT NEW HOMES PROGRAM MULTIFAMILY VERSION 2, REV. 1, ENERGY STAR MULTIFAMILY MFNC 1.1, EPA INDOOR AIR PLUS VERSION 2.

1.5 QUALITY ASSURANCE:

A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.

B. COMPLY WITH REQUIREMENTS OF SMACNA AND ASHRAE.

1.6 MATERIALS AND EQUIPMENT:

A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.

B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.

C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.

D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.

E. IF HVAC EQUIPMENT IS OPERATED DURING CONSTRUCTION, PROVIDE TEMPORARY FILTERS TO PROTECT AIR HANDLING EQUIPMENT.

1.7 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATIONS ON DRAWINGS, SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT IN .PDF FORMAT VIA EMAIL.

B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.

C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

1.8 PROJECT CLOSEOUT:

A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.

B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.

C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL. MINIMUM INSTRUCTION PERIOD SHALL BE TWO HOURS.

D. REPLACE FILTERS IN AIR HANDLING EQUIPMENT AT TIME OF PROJECT TURNOVER TO OWNER.

E. VACUUM INTERIORS OF DUCTWORK AND EQUIPMENT WHICH BECOMES DIRTY, PRIOR TO PROJECT TURNOVER TO OWNER. CLEAN ANY DIRTY EQUIPMENT COILS.

2. PRODUCTS

2.1 PIPING SYSTEMS:

A. CONDENSATE DRAIN - SCH. 40 PVC WITH SOLVENT WELD FITTINGS

B. REFRIGERANT - TYPE C&C OR ARC COPPER, SILVER SOLDER FITTINGS.

2.2 HVAC EQUIPMENT:

A. REFER TO SCHEDULE SHEETS AND EQUIPMENT LIST FOR MANUFACTURERS AND MODEL NUMBERS.

B. ALTERNATE MANUFACTURER'S ARE: LENNOX, YORK, MCQUAY, TITUS, CARRIER, SANYO, MITSUBISHI, TRANE, COOK, CARNES, TWIN CITY, ACME, METALAIRE

C. PROVIDE MINIMUM MERV 11 RETURN AIR FILTERS FOR AIR HANDLING EQUIPMENT.

2.3 AIR DISTRIBUTION:

A. METAL DUCTWORK: SHOP FABRICATED AS FOLLOWS.
   1. MATERIALS: GALVANIZED STEEL SHEET, ASTM A 527-85.
   2. CONSTRUCTION: PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR LOW PRESSURE SYSTEM UP TO 2" W.C. CONSTRUCTION.
   3. JOINT SEALANT: UL LISTED FOSTER MASTIC, HARDCAST FTA-20, KINGCO 18-136.
   4. SUPPLY AIR BRANCH DUCTS RUN IN CONCEALED AREAS MAY BE PRE-INSULATED, UL CLASS 1, FLEXIBLE DUCT.
   5. DRYER VENT SHALL BE RIGID GALVANIZED STEEL WITH LONG RADIUS ELBOWS AND NO SCREWS PROTRUDING INTO VENT. USE RIVETS AT JOINT AND FITTING CONNECTIONS. USE FLEXIBLE METAL VENT AT CONNECTION TO DRYER. MINIMUM THICKNESS OF VENT TO BE 26 GAUGE. FIRESTOP VENT PENETRATIONS THRU FIRE RATED CONSTRUCTION PER UL 263 (SEE DETAILS)
   6. EXHAUST VENT SHALL BE RIGID GALVANIZED 26 GAUGE FIRESTOP VENT PENETRATIONS THROUGH FIRE RATED CONSTRUCTION PER UL 263 (SEE DETAILS)
   7. CAPS AND DOUBLE WALL CAPS TO BE CONSTRUCTED OF HIGH TEMPERATURE PLASTIC POLYMER, SUITABLE FOR USE WITH ELECTRIC DRYER OPERATION. REMOVABLE FRONT LOUVER. BIRDSCREEN NOT BE USED FOR DRYERS. USE X-VENT OR SIMILAR. SELECT MODEL TO MATCH BUILDING MATERIALS AND COLOR.

B. DAMPERS - AS MANUF. BY RUSKIN, CESCO, ARROW, CREATIVE METALS, PREFCO
   1. VOLUME DAMPERS SHALL BE GALVANIZED STEEL, 16 GAUGE, BLADE HEIGHT SHALL NOT EXCEED 12". DAMPER LINKAGE AND LOCKING QUADRANT SHALL BE OUTSIDE OF AIRSTREAM.
   2. MOTORIZED DAMPERS - REFER TO EQUIPMENT LIST ON DRAWINGS.
   3. FIRE DAMPERS SHALL BE UL LISTED TYPE "B" WITH BLADE POCKET OUTSIDE OF AIRSTREAM, DYNAMIC TYPE WITH 212F RATED LINK, PottorF OR EQUAL. DAMPERS IN CEILING TO BE RADIATION TYPE WITH THERMAL BLANKET. SECURE DAMPER TO STRUCTURE SO IN CASE OF DUCT COLLAPSE, DAMPER WILL REMAIN INTACT IN FIRERATED ASSEMBLY. PROVIDE INSTALLATION INSTRUCTIONS ON SITE FOR INSPECTORS.

C. ACCESS DOORS -
   1. FACTORY BUILT WITH SASH LOCKS, BUTT HINGE, GASKET, 24 GA. DOOR AND 22 GA. FRAME.
   2. ACCESS DOOR IN INSULATED DUCT SHALL BE DOUBLE CONSTRUCTION, WITH INSULATION ENCASED.
   3. MINIMUM SIZE TO BE 75% SIZE OF DUCT IN WHICH INSTALLED, OR 10" X 10".
   4. CESCO MODEL HAD-10, LOUVERS AND DAMPERS, KEES, INC. OR AIR BALANCE.

2.4 CONTROLS:

A. PROVIDE ALL RELAYS, TRANSFORMERS, CONTROL WIRING, TERMINAL BLOCKS, ETC. FOR A COMPLETE SYSTEM.

1. COMPONENT MANUFACTURER'S AND MODEL NUMBERS AS SPECIFIED ON DRAWINGS.

B. THE WARRANTY PERIOD SHALL COMMENCE AFTER 60 DAYS OF BENEFICIAL USE, MEASURED FROM THE DATE OF ACCEPTANCE FROM THE OWNER.

3. 3.1 EXECUTION

PIPING SYSTEMS:

A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION.

B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.

C. VERIFY EXACT LOCATION OF EQUIPMENT PRIOR TO ROUGH-IN.

D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.

E. INSULATE PIPING SYSTEMS AS FOLLOWS:
   1. REFRIGERANT - CLOSED CELLULAR RUBBER, THICKNESS PER CODE/EARTHCRAFT REQUIREMENTS.
   2. HORIZONTAL CONDENSATE DRAIN - 1/2" THICK FIBERGLASS WITH ASJ.
   3. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
   4. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
   5. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
   6. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
   7. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.
   8. PROVIDE 2 COATS OF GREY WEATHERPROOFING FINISH ON EXTERIOR REFRIGERANT PIPING.

F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.

G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.

H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.

I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.

J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.

K. DO NOT USE PLASTIC PIPING IN RETURN AIR PLENUM SPACES.

L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS.

M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.

N. CLEAN AND FLUSH PIPING THEN TEST PIPING SYSTEMS AS FOLLOWS:
   1. REFRIGERANT PIPING - DEEP VACUUM METHOD. PULL A VACUUM TO 500 MICRONS BREAK VACUUM THREE TIMES WITH DRY NITROGEN SYSTEM TO HOLD BELOW 500 MICRONS FOR SEVEN MINUTES .REPEAT AS NECESSARY.
   2. CONDENSATE DRAIN PIPING - W/ 10 FT. WATER COLUMN OR 5 PSI COMPRESSED AIR FOR 12 HOURS.
   3. TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.
   4. PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.
   5. SUBMIT WRITTEN REPORT OF TEST RESULTS.

3.2 HVAC EQUIPMENT:

A. PROVIDE PERMANENT TAG ON EQUIPMENT INDICATING EXPIRATION DATE OF WARRANTIES. LOCATE TAG IN A READILY VISIBLE LOCATION.

B. PROVIDE FACTORY AUTHORIZED START-UP OF EQUIPMENT AND SUBMIT TEST REPORTS. (INCLUDE IN O&M MANUAL). COMPLY WITH MANUFACTURER REQUIREMENTS AND NOTES STATED ON THE CONSTRUCTION DOCUMENTS FOR INSTALLATION OF EQUIPMENT. BALANCE THE OUTSIDE AIR CFM TO QUANTITIES LISTED.

D. SPLIT SYSTEM UNITS:
   1. SUPPORT INDOOR UNIT FROM STRUCTURE WITH ALL THREAD STEEL RODS AND SPRING TYPE VIBRATION ISOLATORS - INSTALL LEVEL. CONNECT DUCTWORK WITH FLEXIBLE DUCT CONNECTIONS. INSTALL TO ALLOW PROPER SERVICE ACCESS.
   2. PROVIDE DRAIN PAN BENEATH UNITS.
   3. PROVIDE CONDENSATE DRAIN PIPING AND EXTEND TO HUB DRAIN OR TO EXTERIOR VERIFY TERMINATION POINT WITH LOCAL CODE OFFICIAL AND ARCHITECH.
   4. CONNECT REFRIGERANT PIPING AND CONTROL WIRING.

3.3 AIR DISTRIBUTION:

A. DUCTWORK:
   1. SEAL JOINTS IN DUCTWORK WITH COATING OF HARDCAST SEALANT OR UL LISTED FSK DUCT TAPE. FOLLOW EARTHCRAFT GUIDELINES FOR DUCT SEALING.
   2. INSTALL INTERNAL ENDS OF SLIP JOINTS IN DIRECTION OF AIRFLOWS.
   3. MAXIMUM ANGLE OF OFFSETS AND TRANSITIONS SHALL NOT EXCEED 30 DEGREES.
   4. ADEQUATELY SUPPORT DUCT AS PER CODE REQUIREMENTS - ELIMINATE SAGGING AND COMPRESSION OF DUCT.
   5. TRANSITION DUCTS TO FIT EQUIPMENT. PROVIDE FLEXIBLE DUCT CONNECTIONS TO AIR HANDLERS AND PACKAGED UNITS.
   6. USE LONG RADIUS RIGID DUCT FITTINGS AT ELBOWS IN FLEXIBLE DUCT FLEXIBLE DUCT EXCEEDING 60 DEGREE ANGLE. ELBOWS IN FLEXIBLE DUCT LESS THAN 60 DEGREE ANGLE SHALL BE LONG SWEEP TYPE.

B. INSULATE DUCT SYSTEMS PER CODE OR AS FOLLOWS, WHICHEVER IS MORE STRINGENT:
   1. WITHIN BUILDING STRUCTURE AND INSIDE OF BUILDING INSULATION ENVELOPE (OUTSIDE AIR, SUPPLY AND RETURN AIR DUCTS): WITH 3/8" THICK FOIL FACED AIR CELL INSULATION, REFLECTIX OR EQUAL. MINIMUM R=6.
   2. INSULATE SUPPLY AIR AND RETURN AIR DUCTS OUTSIDE OF BUILDING INSULATION WITH FOIL FACED AIR CELL INSULATION - MINIMUM R = 8.0 INSTALLED.
   3. EXHAUST AND EXPOSED SPIRAL AIR DUCTS: DO NOT INSULATE.
   4. SECURE INSULATION TO DUCTS W/ ADHESIVE AT 60% COVERAGE AND SECURE WITH MECHANICAL FASTENERS AND WASHERS AT 18" CENTERS - SEAL VAPOR BARRIER.
   5. INSULATE EXTERIOR SA AND RA DUCTS WITH TWO-1" THICK LAYERS OF CLOSED CELL RUBBER-SEAL JOINTS WEATHERTIGHT. PROVIDE BLOCKING TO PITCH TOP AT 4% SLOPE. TOP LAYER SHALL OVERLAP SIDES. PROVIDE EPDM RUBBER JACKET OVER INSULATION WITH SEAMS AND JOINTS SEALED WEATHERTIGHT.

C. DAMPERS: ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
   1. ACTUATORS AND PUSH-RODS SHALL BE ACCESSIBLE.
   2. PROVIDE COMBINATION DAMPER/EXTRACTOR/SPIN-IN FOR ROUND DUCT CONNECTIONS TO TRUNK DUCTS. PROVIDE 45 DEGREE BEVEL INLET WITH BALANCE DAMPER FOR RECTANGULAR DUCT CONNECTIONS TO TRUNK DUCT. DAMPER ADJUSTMENT TO BE LOCATED ON BOTTOM SIDE OF DUCT.

D. ACCESS DOORS - PROVIDE IN DUCT FOR ACCESS TO COILS, FILTERS, FIRE & MOTORIZED DAMPERS, AND ALL OTHER EQUIPMENT NOT OTHERWISE ACCESSIBLE. INSTALL TO ALLOW SERVICE ACCESS. PROVIDE LABEL ON ACCESS DOOR INDICATING DEVICE SERVED.

E. BALANCE AIR DISTRIBUTION TO WITHIN 10% OF DESIGN AND SUBMIT REPORT.
   1. REPORT SHALL IDENTIFY ZONES, DESIGN AIRFLOWS AND FINAL AIRFLOWS (SUPPLY AIR, RETURN AIR AND OUTSIDE AIR), SUPPLY AND RETURN STATIC PRESSURES, ENTERING AND LEAVING AIR TEMPERATURES.
   2. INCLUDE EXHAUST FAN SYSTEMS, AND HVAC EQUIPMENT.
   3. COMPLY WITH NEBB AND AABC REQUIREMENTS.

3.4 CONTROLS:

A. SEAL PROBE PENETRATIONS FOR DUCT MOUNTED SENSORS.

B. PROVIDE JUNCTION BOX HOUSING FOR CONTROL WIRING INTERLOCK TO COMPONENTS.

C. ROUTE CONDUCTORS NEATLY AND PARALLEL OR PERPENDICULAR TO BUILDING CONSTRUCTION. WIRING AND CONDUCTORS IN FINISHED SPACES TO BE RUN CONCEALED.

D. SEQUENCE OF CONTROL
   1. ON A CALL FOR COOLING - BLOWER AND COOL COMPRESSOR SHALL BE ENABLED.
   2. ON A CALL FOR HEAT - BLOWER AND HEAT COMPRESSOR SHALL BE ENABLED. ON A CALL FOR ADDITIONAL HEAT, AUX. ELECTRIC STRIP HEAT SHALL BE ENABLED AND STAGED.
   3. OA TO BE INTRODUCED INTO APARTMENTS BY ERVS IN UNITS.
   5. PROGRAM THERMOSTATS PER OWNER'S SCHEDULING.
   6. FLOAT SWITCH IN DRAIN PAN TO DISABLE HVAC UNIT IN CASE OF WATER IN PAN.
   7. IN COMMON AND COMMERCIAL SPACES, OUTSIDE AIR TO BE INTRODUCED WHEN BLOWER RUNS. FOR UNITS WITH AIR QUALITY SENSOR, THERMOSTAT TO ENABLE SENSOR TO OPEN MOTORIZED OA DAMPER TO SETPOINT IN CASE OF POOR RA QUALITY (1000 PPM IN OCCUPIED MODES ONLY), OTHERWISE OA DAMPER TO CLOSE.

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GRIMM AND PARKER

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B3 MECHANICAL SPECIFICATIONS

ROANOKE GATEWAY
ROANOKE, VA 24022

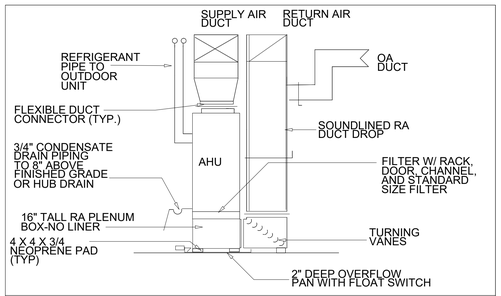
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6/30/2026	CONSTRUCTABILITY REVIEW	2

3M-001

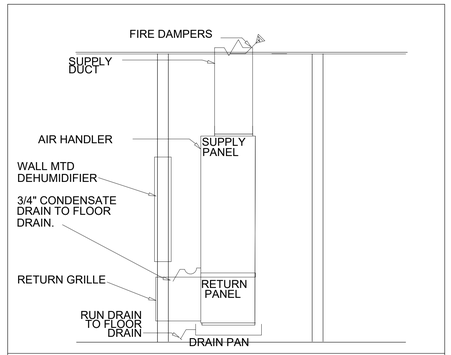
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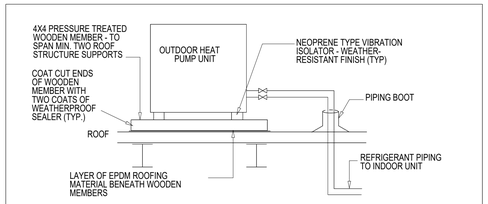


UPFLOW AIR HANDLER UNIT DIAGRAM



APARTMENT AIR HANDLING UNIT DETAIL

NOT TO SCALE



OUTDOOR HEAT PUMP ON ROOF DIAGRAM

SYMBOLS

- SUPPLY DUCT
- RETURN OR EXHAUST DUCT
- (T) THERMOSTAT-MTD. 48" AFF
- (A) / 100 INDICATES AIR OUTLET OR INLET TOP LETTER INDICATES G.R&D TYPE (SEE SCHEDULE); BOTTOM NUMERAL INDICATES CFM FOR BALANCING
- DUCT TRANSITION
- (M) MOTORIZED DAMPER (MOD)
- EXHAUST FAN (EF)
- VOLUME DAMPER (VD)
- FIRE DAMPER
- POINT OF CONNECTION OF NEW TO EXISTING WORK

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
CD	CEILING DIFFUSER
DN	DOWN
DVC	DRYER VENT CAP
DV	DRYER VENT
EA	EXHAUST AIR
EXC	EXHAUST AIR CAP
MTD.	MOUNTED
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
TYP	TYPICAL
WC	WALL CAP

GENERAL NOTES

-ALL MECHANICAL SHALL BE INSTALLED IN ACCORDANCE WITH ASCE 24-05, ASCE 24-14, AND FEMA REGULATIONS REGARDING FLOODPROOFING AND MITIGATING FLOOD DAMAGES. THE ATTENDANT UTILITIES SHALL BE WATERTIGHT TO THE FLOODPROOFED DESIGN ELEVATION OF THIS BUILDING, AND SHALL BE SUBSTANTIALLY IMPERMEABLE TO THE PASSAGE OF WATER, AND SHALL PERFORM IN ACCORDANCE WITH THE 44 CODE OF FEDERAL REGULATIONS (44 CFR 60.3(c)(3)). CONTRACTOR IS RESPONSIBLE FOR MEETING ALL REQUIREMENTS ALONG WITH ANY RELATED INSPECTIONS & CERTIFICATIONS REQUIRED BY THE GOVERNING AGENCIES.

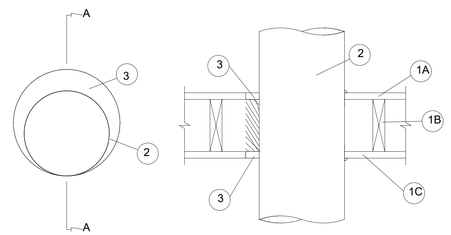
DRYER EXHAUST NOTE

1. INSTALL A PLACARD TO DISPLAY TOTAL DEVELOPED LENGTH OF THE DRYER VENT DUCT AND MOUNT NEAR DRYER LOCATION CONTRACTOR TO SUPPLY A DRYER CAPABLE OF EXHAUSTING WITH THE TOTAL DEVELOPED LENGTH.

SYSTEM NO. F-C-7022

F RATINGS - 1 HR

T RATING - 1/4 HR



Section A-A

1. FLOOR-CEILING ASSEMBLY - THE 1 HR FIRE RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES FLOOR CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION DETAILS OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:
   A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OR LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE, AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS 11 IN.
   B. WOOD JOIST - NOM. 10 IN. DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIED AND WITH ENDS FIRESTOPPED.
   C. GYPSUM BOARD* - NOM 4FT WIDE BY 5/8 IN. THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS 11 IN.
2. STEEL DUCT - NOM 10 IN. (OR SMALLER) NO. 26 GAUGE (OR HEAVIER) STEEL DUCT. STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN OPENING. THE ANNULAR SPACE BETWEEN DUCT AND PERIPHERY OF OPENING SHALL BE MIN 0IN. (POINT CONTACT), TO MAX 1 IN. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 3/4 IN. THICKNESS OR CAULK APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. MIN 5/8 IN. THICKNESS OF CAULK APPLIED WITHIN ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING. MIN 1/4 IN. DIAM BEAD OF CAULK APPLIED AT POINT CONTACT LOCATIONS AT DUCT/FLOOR INTERFACE ON TOP SURFACE OF FLOOR AND AT DUCT/CEILING INTERFACE.

3M COMPANY - CP25WB+, 1C 15WB+ CAULK OR FB-3000 WT SEALANT

*BEARING THE UL CLASSIFICATION MARK

EQUIPMENT LIST

EQUIPMENT: EQUIVALENT MANUFACTURERS MAY BE SUBSTITUTED. EQUIPMENT TO BE UL OR ETL LISTED.

(T)- THERMOSTAT- SHALL BE 24 VAC, HEATING-COOLING AUTO-CHANGEOVER TYPE, 7 DAY PROGRAMMABLE, (SUITABLE FOR HEAT PUMP USE) OVERRIDE TIMER W/ AUX. CONTACT TO CONTROL OA MOD, MULTI-STAGE HEAT/COOL, VOICE ACTIVATED CONTROL ECOBEE OR EQUAL.

CO2 SENSOR - CARBON DIOXIDE TYPE, 350 TO 2250 PPM RANGE, NON-GROUNDING, 24V TRANSFORMER, DUCT MOUNT BOX, 2 POSITION CONTROL. HONEYWELL OR EQUAL.

MOD - 24VAC MOTORIZED DAMPER, 2 POSITION TYPE, W/ ACTUATOR AND LINKAGE MTD, OUTSIDE OF AIRSTREAM, NORMALLY CLOSED, SIZE TO FIT DUCT, COMPATIBLE W/ CO2 SENSOR, HONEYWELL OR EQUAL.

FLOAT SWITCH - LOCATED IN OVERFLOW PAN, SPST, WITH FLOAT, 24 VAC CONTACTS, LITTLE GIANT MDL. ACF-3 OR EQUAL.

DVB - DRYER VENT BOX, DOWN/UP VENT CONNECTION, TO FIT IN A 2X6 WALL. CONSTRUCTION SOLUTIONS DBX1000. ALL DRYER VENT CONNECTIONS SHALL HAVE A DRYER VENT BOX

DH-1 IN WALL DEHUMIDIFIER, 37 PINTS PER DAY, 155 CFM, R45B REFRIGERANT, 120 VOLT, 2.2 AMPS, 260 WATTS, 15A MOCP, WITH 2X4 WALL MOUNT BEZEL KIT, SANTA FE ULTRAMD33, UNIT TO BE HARDWIRED REMOVE CORD AND PLUG. DO NOT INSTALL UNIT ELECTRICAL AND PLUMBING ROUGH IN ONLY.

ERV-1 CEILING MOUNTED ENERGY RECOVERY VENTILATOR, 150 CFM SUPPLY AND EXHAUST, SRE 84%, MERV 13 FILTERS, 120 VOLT, 170 WATTS, 2.4A MCA, 15A MOCP, HARDWIRED, WITH ADVANCED TOUCH SCREEN CONTROLLER, BROAN MDL, BLP150E75NS-HW UNIT TO RUN 20 MINUTES PER HOUR.

REFRIGERANT PIPING NOTES

1 REFRIGERANT PIPING FOR HVAC UNITS LOCATED ON 3RD AND 4TH FLOORS CAN BE RUN IN WALL CAVITIES.

2 REFRIGERANT PIPING FOR HVAC UNITS LOCATED ON 1ST AND 2ND FLOORS MUST BE RUN IN FIRE RATED SHAFTS AS INDICATED ON DRAWINGS. SHAFTS TO BE VENTED AT THE TOP AND BOTTOM WITH 4" VENT PIPE.

3 FIRE RATED SHAFTS MUST HAVE A 4" VENT AT THE ROOF TERMINATING AT A GOOSENECK. THE BOTTOM OF THE SHAFT MUST HAVE A 4" VENT TO THE EXTERIOR OF THE BUILDING TERMINATING AT A WALL CAP.

FAN SCHEDULE

NO.	DESCRIPTION	CFM	E.S.P.	HP	RPM	VOLT/ PHASE	MFR. MDL.	REMARKS
EF-1	BATHROOM VENTILATION FAN	80	0.375	N/A	N/A	120/1	BROAN QTXEG080	(1) (2)
EF-2	TRASH VENTILATION FAN	710	0.500	1/4	1725	115/230	DAYTON 2RB60	(1) (2) (3)

NOTES

(1) WITH SAFETY SWITCH
(2) WITH BACKDRAFT DAMPER
(3) PROVIDE MATCHING CURB

HEAT PUMP EQUIPMENT SCHEDULE

ZONE	OUTDOOR HEAT PUMP	NOMINAL TONS	TOTAL COOLING	SEER2	O.U. VOLTS	O.U. MCA / MOCP	HSPF2	INDOOR UNIT KW HEAT	INDOOR UNIT MODEL NO.	CFM (2)	ESP.	MIN. OA CFM	BLOWER SPEED	HP	I.U. VOLTS	I.U. (1) MCA / MOCP	I.U. (2) MCA / MOCP	I.U. WEIGHT	REMARKS
AH-1/ OHP-1	CARRIER 37MAHAQ18AA3	1.5	18,000	21.5	208/1	19 / 20	11	3.8	CARRIER 45MBAAQ18XA3	600	0.50	37	5	1/3	208/1	23 / 25	NA	200	(1) (2) (3) (4)
AH-2/ OHP-2	CARRIER 37MAHAQ24AA3	2.0	24,000	21.2	208/1	24.9 / 25	13.5	3.8	CARRIER 45MBAAQ24AA3	800	0.50	57	5	1/3	208/1	23 / 25	NA	200	(1) (2) (3) (4)
AH-3/ OHP-3	CARRIER 37MAHAQ33AA3	3.0	33,000	19.6	208/1	34 / 35	12	7.5	CARRIER 45MBAAQ36AA3	1200	0.50	98	5	1/2	208/1	46.1 / 50	NA	200	(1) (2) (3) (4)

NOTES:

(1) COOLING CAPACITIES AT 95F DB/67F EWB TEMPERATURES. PROVIDE BLOWER TIME DELAY RELAYS. R-454B REFRIGERANT.
(2) REFER TO DRAWINGS FOR EXACT AIRFLOW QUANTITIES.
(3) W/ COMPRESSOR TIME DELAY, COMPRESSOR CRANKCASE HEATER, REFRIGERANT LINE FILTER DRIER, HIGH AND LOW PRESSURE SWITCHES, RA FILTER.
(4) ELECTRIC HEAT REQUIRES IT OWN CIRCUITS. VOLTAGE TO BLOWER FROM OUT SIDE UNIT.

INVERTER HEAT PUMP SCHEDULE

ZONE	OUTDOOR PUMP	NOMINAL TONS	RATED COOLING	RATED HEATING	SEER2	HSPF2	O.U.	O.U. MCA / MOCP
IHP-1	CARRIER 37MAHAQ18AA3	1.5	18,000 BTUH	18,000 BTUH	21.5	11.0	208/1	19 / 20
IHP-1	CARRIER 37MGRAQ24DA3	2.0	24,000 BTUH	24,000 BTUH	23	7.5	208/1	23 / 25

INDOOR UNIT I.U. NAME	I.U. MODEL NO.	CFM	MIN. OA	ESP.	RATED COOLING TOTAL	RATED HEATING	BLOWER SPEED	VOLTS	FLA
FCU-1	CARRIER 45MAHAQ18AA3	448	NA	NA	18,000 BTUH	18,000 BTUH	HIGH	208/1	.81
FCU-1	CARRIER 45MAHAQ12AA3	441	NA	NA	12,000 BTUH	12,000 BTUH	TURBO	208/1	0.6
FCU-2	CARRIER 45MAHAQ12AA3	441	NA	NA	12,000 BTUH	12,000 BTUH	TURBO	208/1	0.6

PROVIDE ALL PIPING, CONTROL KIT, W/ WIRED WALL MOUNTED ROOM THERMOSTAT. WYE FITTINGS, ETC. AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.
(NOTE) POWER TO INDOOR UNIT SUPPLIED FROM THE OUTDOOR UNIT. POWER TO ELECTRIC HEAT IS FROM A SEPERATE SOURCE.

PROVIDE CONDESATE PUMP AND PUMP TO HUB DRAIN OR DAY LIGHT.

GRILLES, REGISTERS, DIFFUSERS AND LOUVERS

TYPE	DESCRIPTION	NECK	FRAME	FINISH	MFR. MDL.	REMARKS
D1	2-WAY REGISTER CEILING/WALLS	12X4	FLANGE	WHITE	PROSELECT PS2WW12P	FRAME
D2	2-WAY REGISTER CEILING/WALLS	12X6	FLANGE	WHITE	PROSELECT PS2WW12U	FRAME
D3	4-WAY CEILING DIFFUSER	10X10	FLANGE	WHITE	PROSELECT PSSQCDW10	FRAME
R1	RETURN AIR GRILLE	14X8	FLANGE	WHITE	PROSELECT PSAH45W14X	FRAME
R2	RETURN AIR GRILLE	18X18	FLANGE	WHITE	PROSELECT PSAH45W1818	FRAME
R3	OUTSIDE AIR GRILLE	8X8	FLANGE	SEL. BY ARCH.	HART AND COOLEY RH45	ALUMINUM WITH BUG SCREEN
R4	RETURN AIR GRILLE	8X8	FLANGE	SEL. BY ARCH.	PROSELECT PSAH45W88	
L1	OUTSIDE AIR LOUVER	18X18	FLANGE	SEL. BY ARCH.	DAYTON 2OUA08	DRAINABLE/LOVERS WITH 1/4 MESH

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B3 MECHANICAL SCHEDULES & DETAILS

ROANOKE GATEWAY
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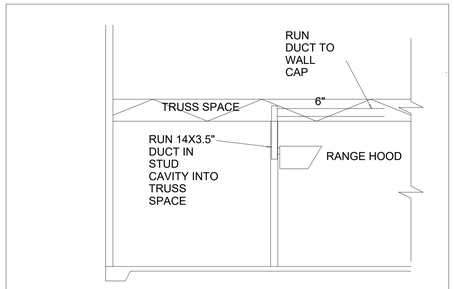
DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	1
6/30/2026	CONSTRUCTABILITY REVIEW	2

3M-002

05/14/2026
VH 4% HOTC APP.

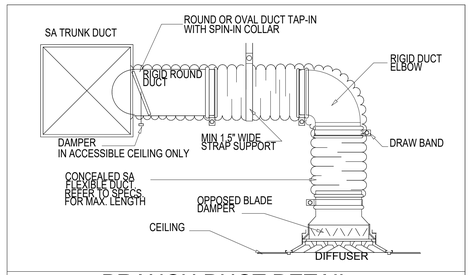
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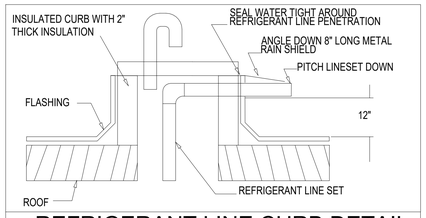
KITCHEN HOOD VENT DETAIL

NOT TO SCALE



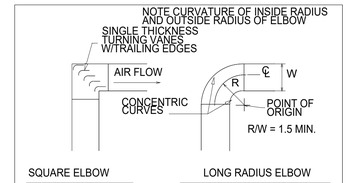
BRANCH DUCT DETAIL

NOT TO SCALE

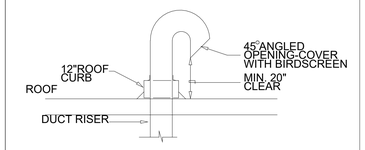


REFRIGERANT LINE CURB DETAIL

NOT TO SCALE



DUCTWORK ELBOW DETAILS



GOOSENECK ON ROOF DIAGRAM

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B3 MECHANICAL SCHEDULES & DETAILS

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ROANOKE, VA 24022

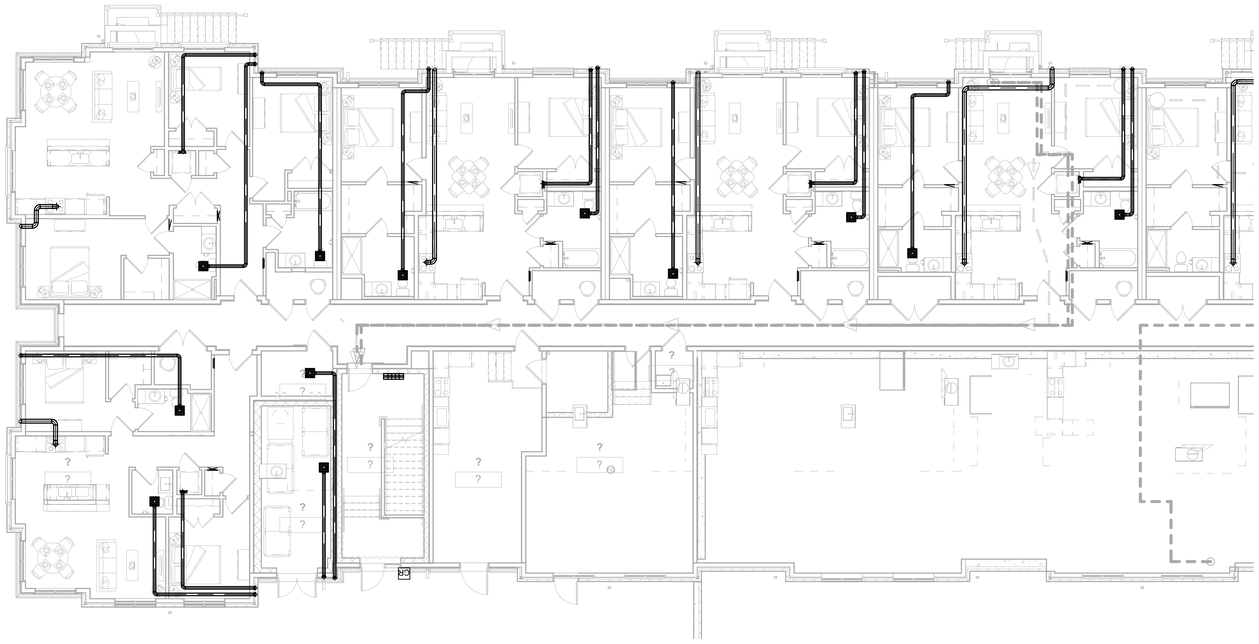
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3M-003

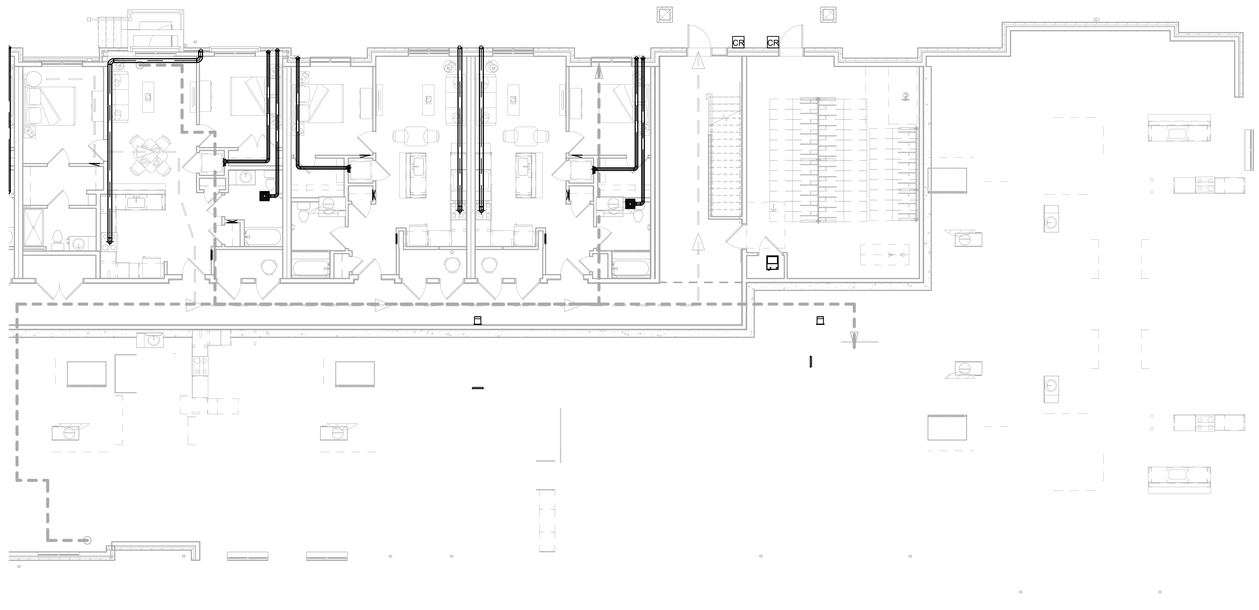
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2 B2 - FIRST FLOOR AREA B - HVAC PLAN
1/8" = 1'-0"



1 B2 - FIRST FLOOR AREA A - HVAC PLAN
1/8" = 1'-0"

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B2 FIRST FLOOR - HVAC PLAN

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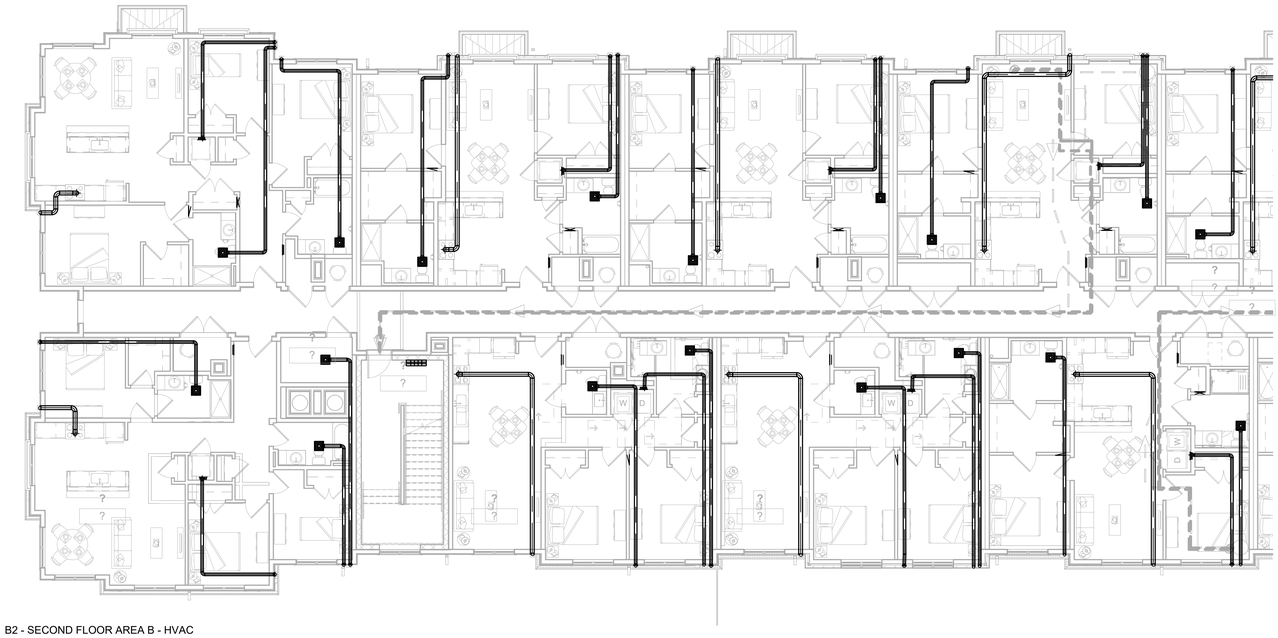
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6/30/2026	CONSTRUCTABILITY REVIEW	2

2M-101

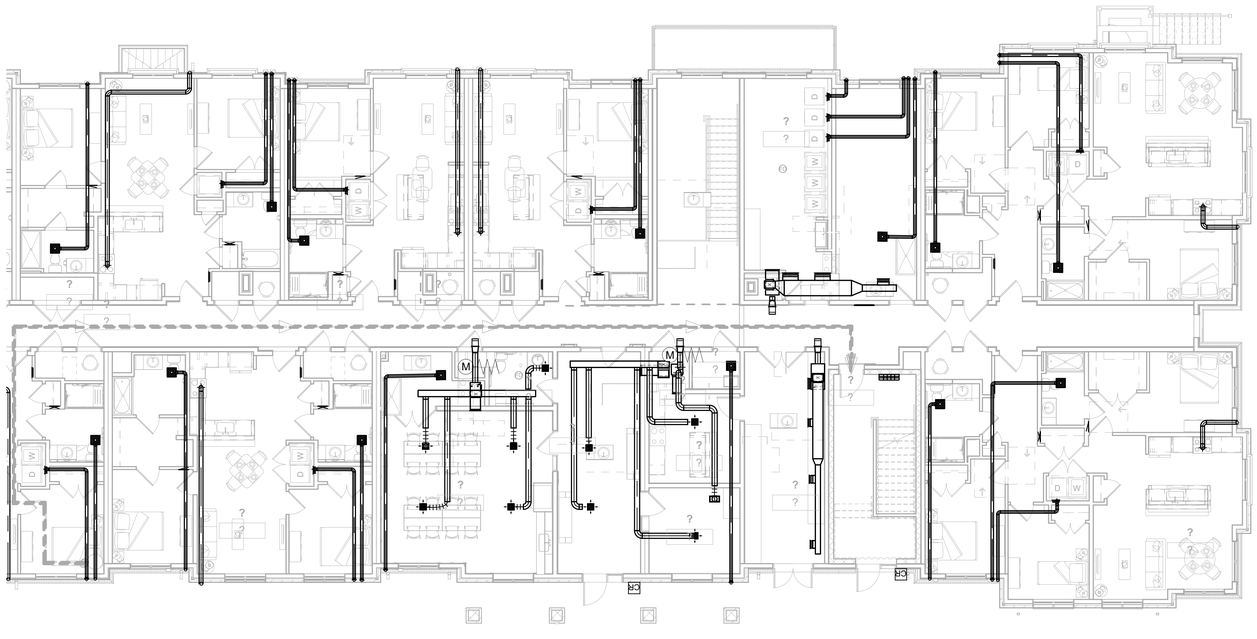
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B2 - SECOND FLOOR AREA B - HVAC PLAN
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B2 - SECOND FLOOR AREA A - HVAC PLAN
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B2 SECOND FLOOR - HVAC PLAN

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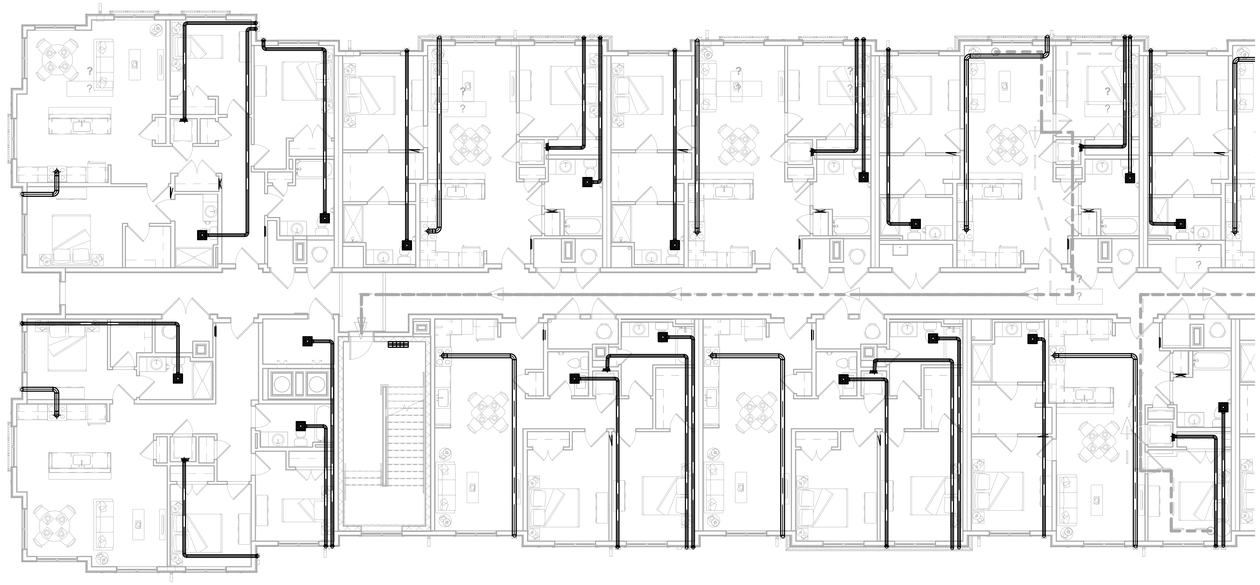
DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	1
6/30/2026	CONSTRUCTABILITY REVIEW	2

2M-102

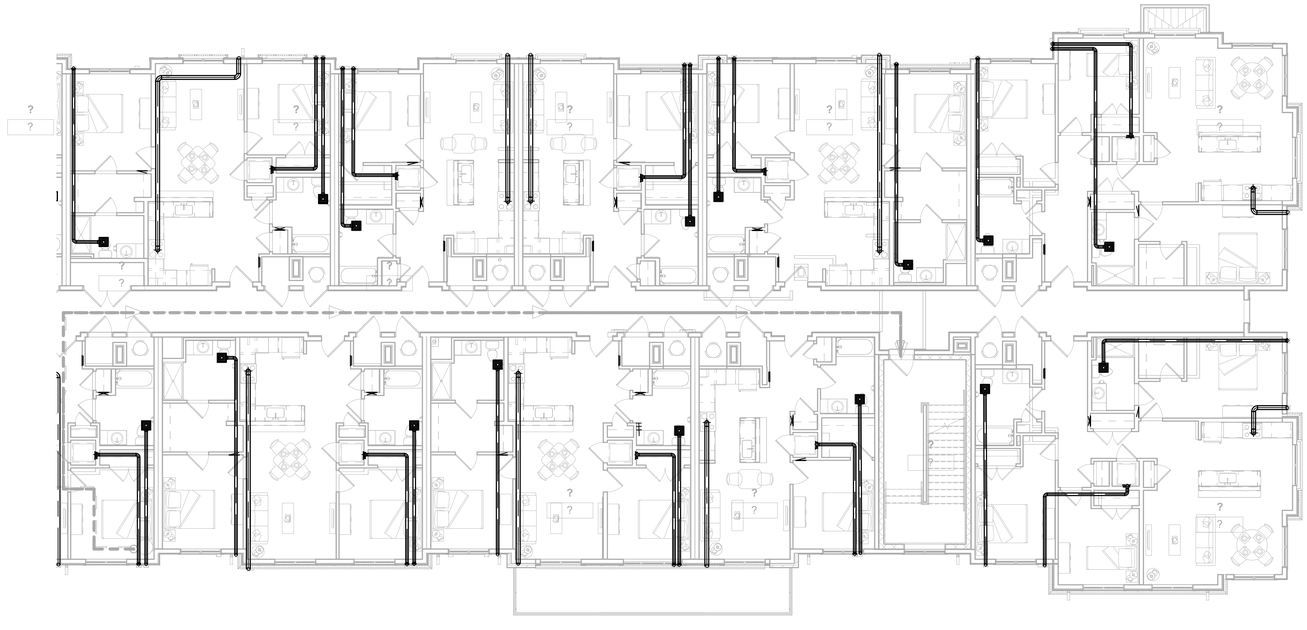
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2 B2 - THIRD FLOOR AREA B - HVAC PLAN
1/8" = 1'-0"



1 B2 - THIRD FLOOR AREA A - HVAC PLAN
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B2 THIRD FLOOR - HVAC PLAN

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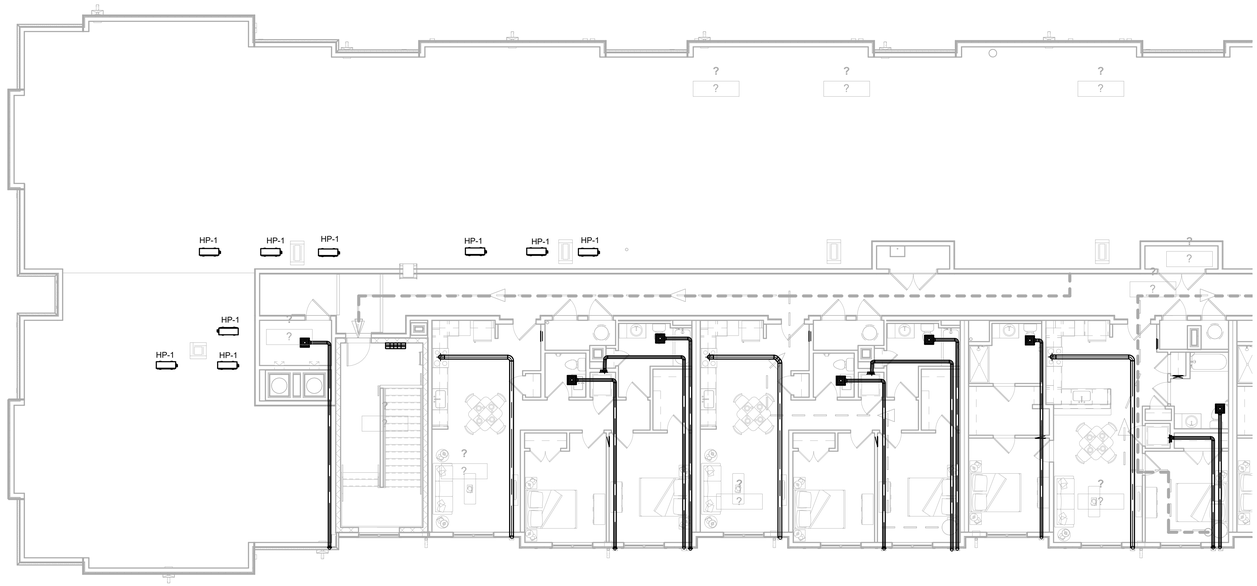
DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	1
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2M-103

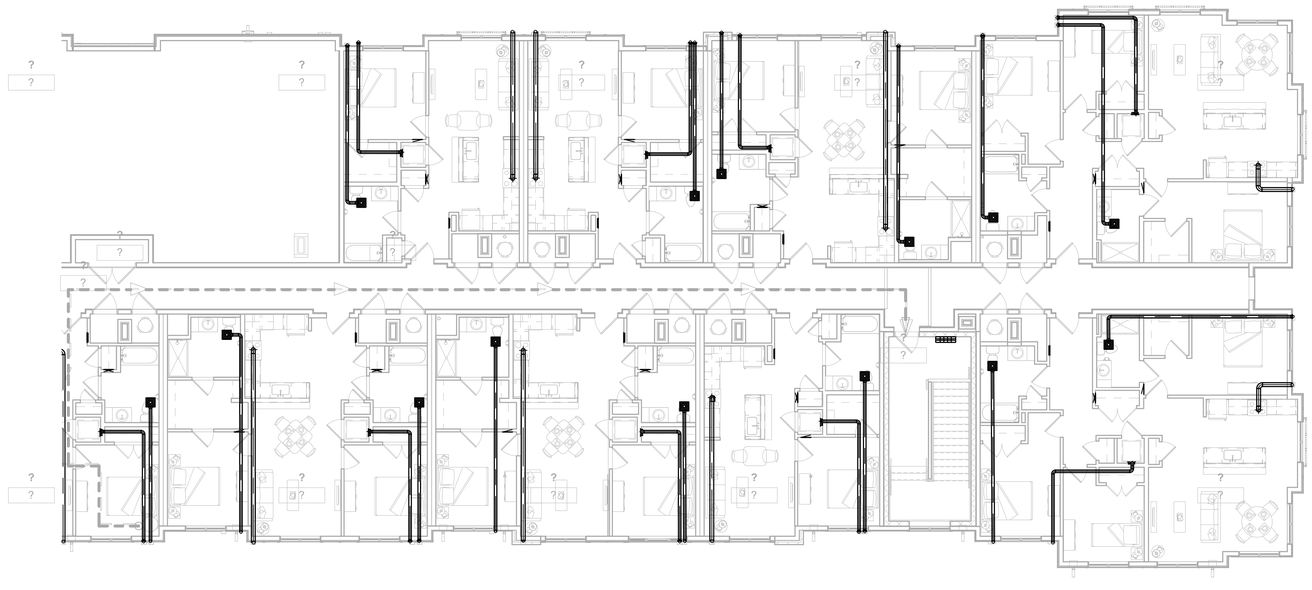
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2 B2 - FOURTH FLOOR AREA B - HVAC PLAN
1/8" = 1'-0"



1 B2 - FOURTH FLOOR AREA A - HVAC PLAN
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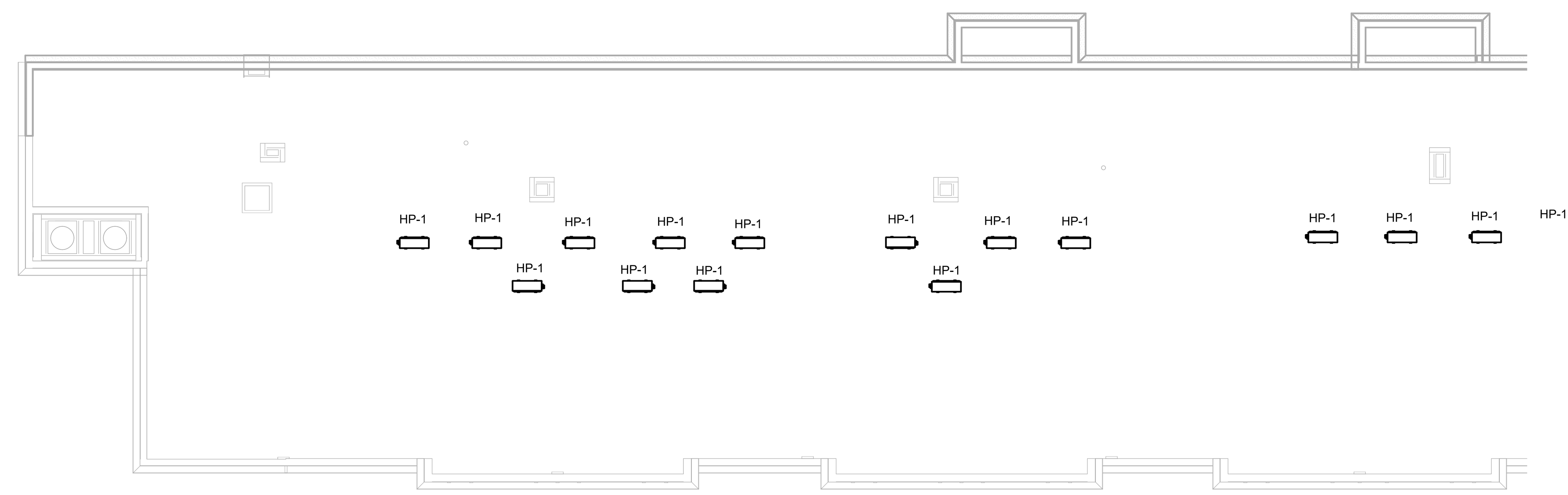
DATE	SUBMISSION / REVISION	#
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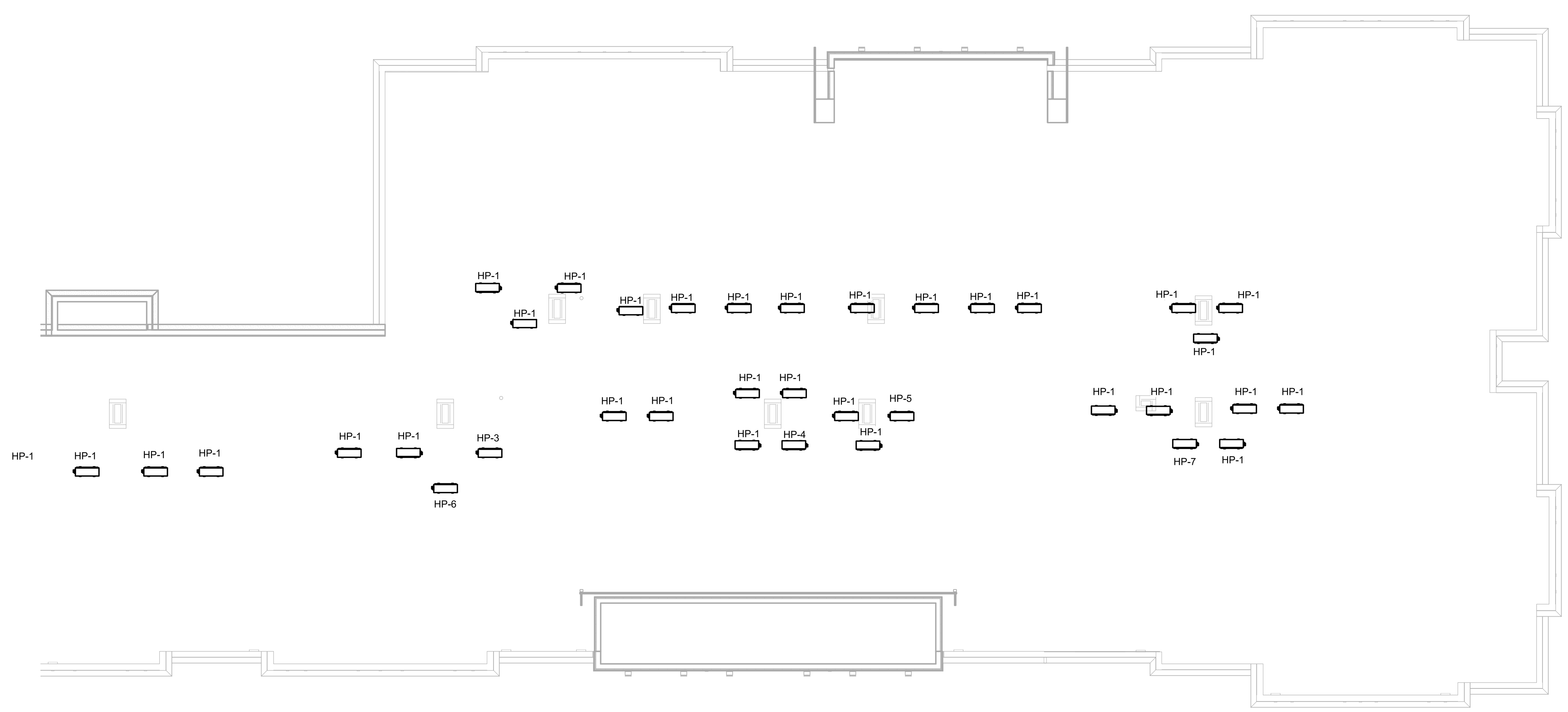
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2 B2 - ROOF AREA B - HVAC PLAN
1/8" = 1'-0"



1 B2 - ROOF AREA A - HVAC PLAN
1/8" = 1'-0"

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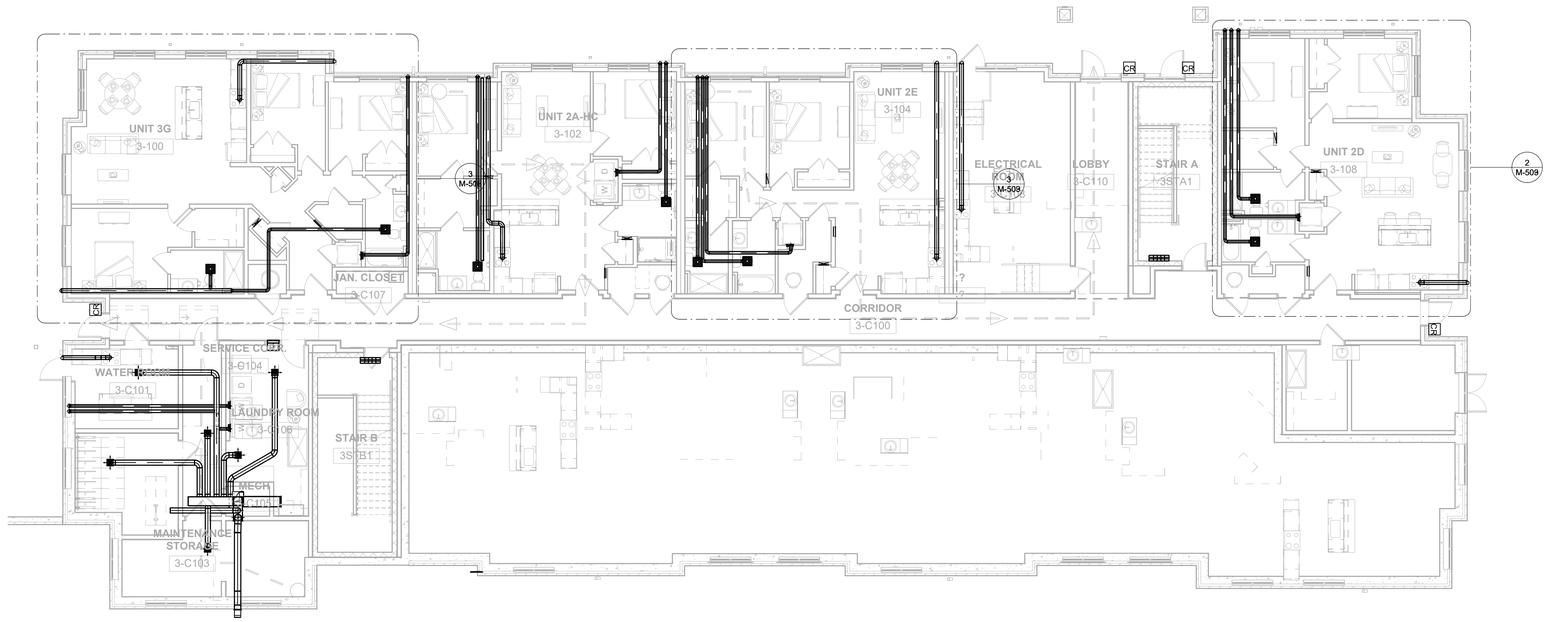
DATE	SUBMISSION / REVISION	#
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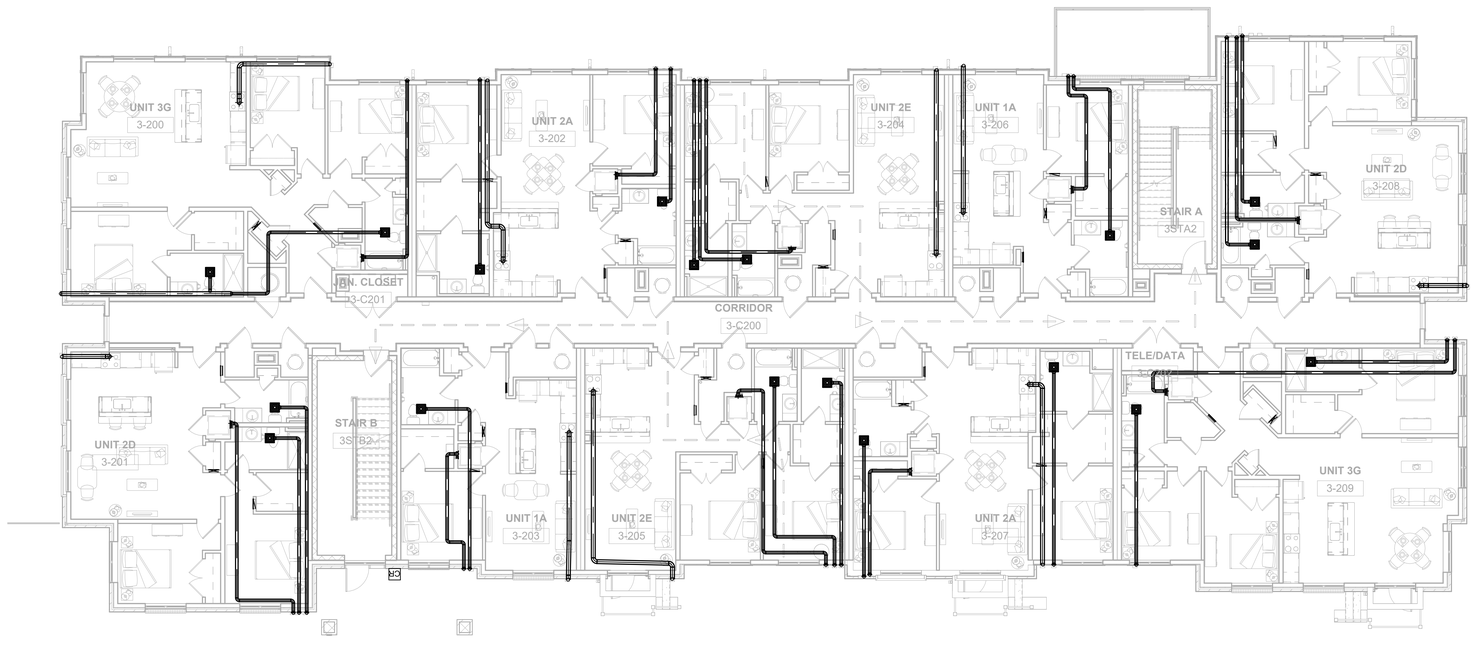
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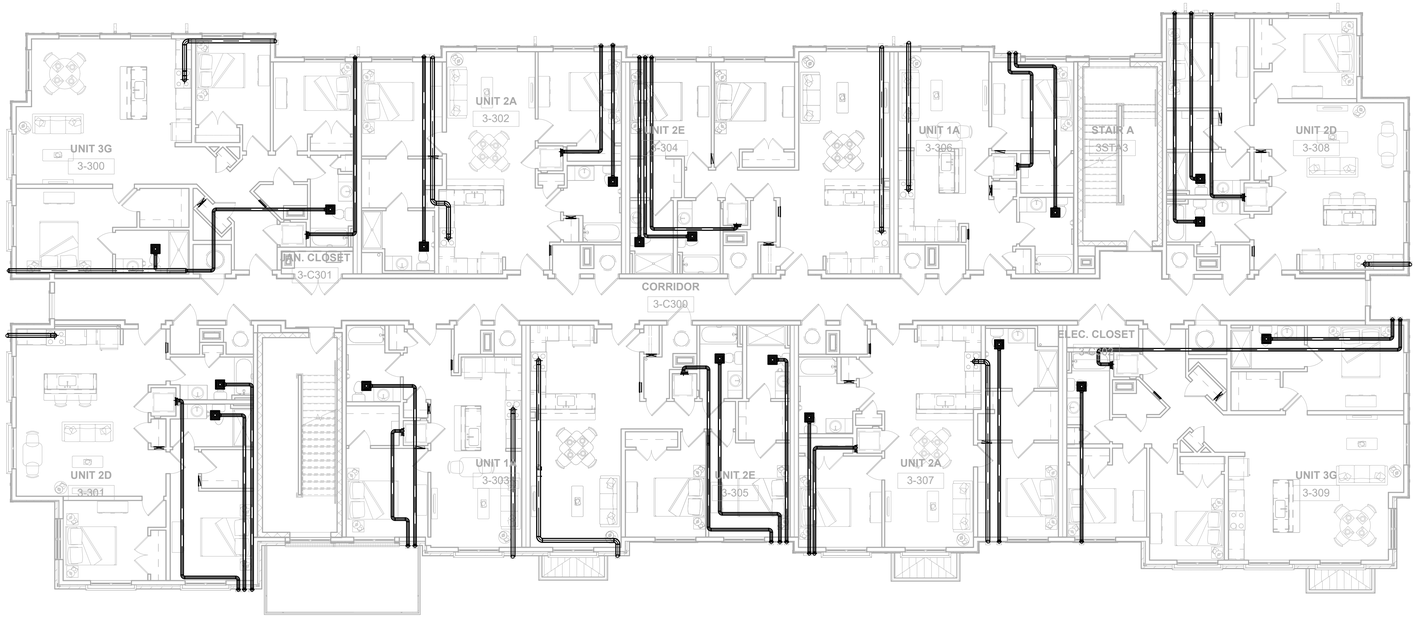
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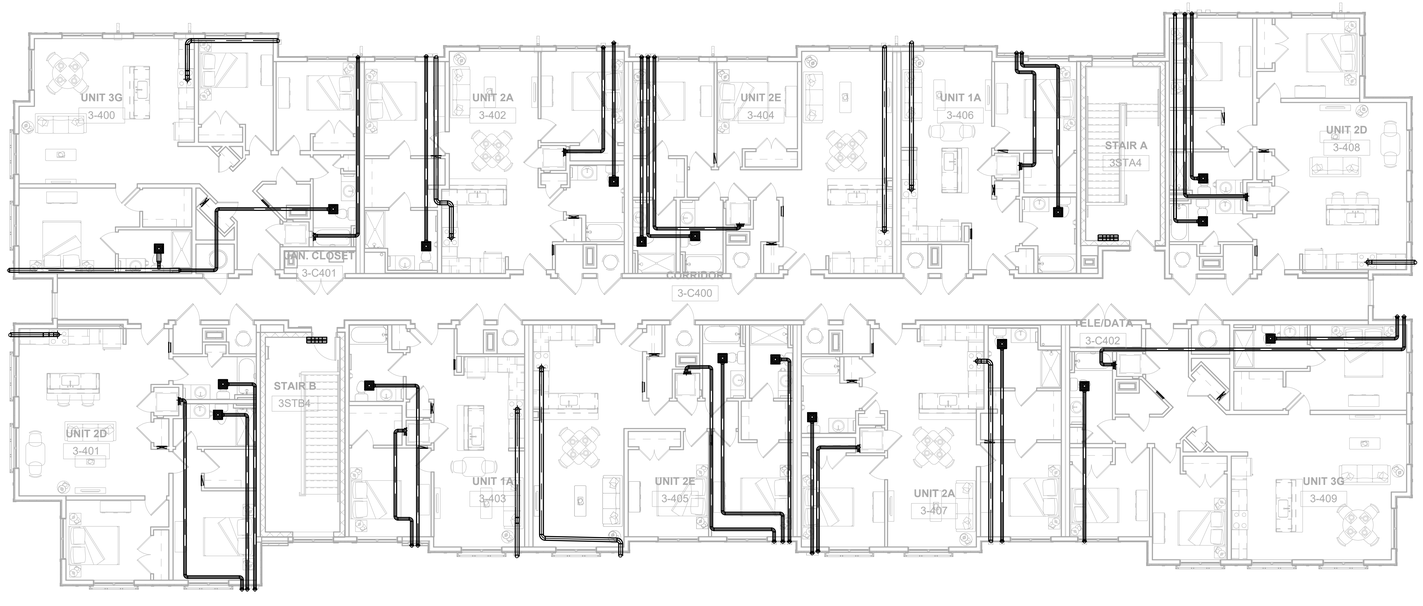
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05/14/2026
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B3 FOURTH FLOOR - HVAC PLAN

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DATE	SUBMISSION / REVISION	#
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05/14/2026
VH 4% HOTC APP.

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1 B3 - ROOF HVAC PLAN
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B3 ROOF - HVAC PLAN

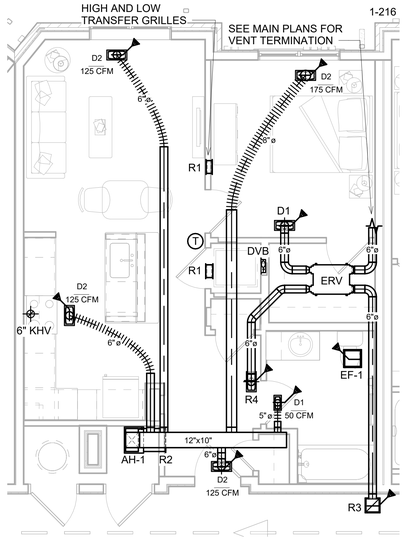
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DATE	SUBMISSION / REVISION / #.	
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6/30/2026	CONSTRUCTABILITY REVIEW	2

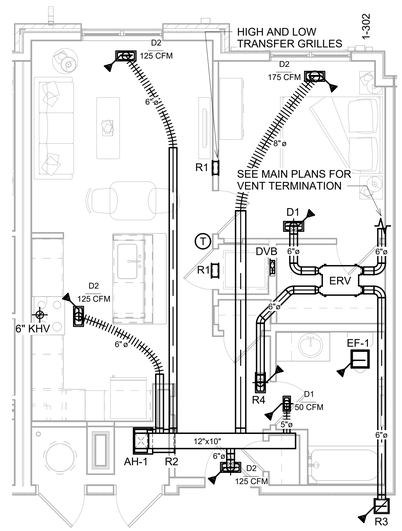
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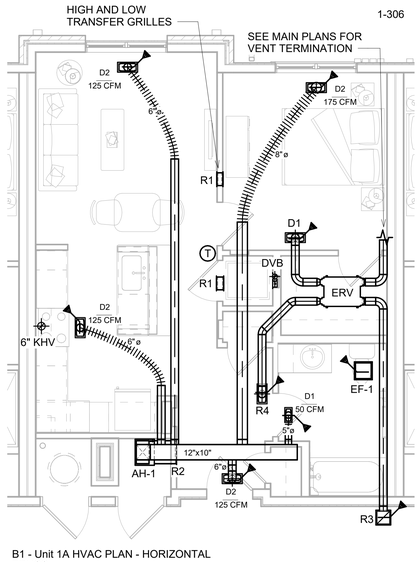
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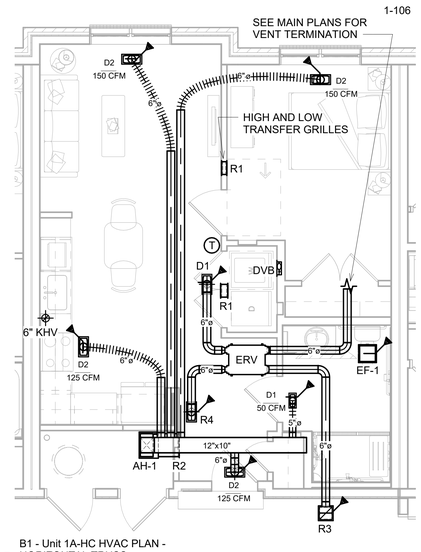
B1 - Unit 1B HVAC PLAN - HORIZONTAL TRUSS
3 1/4" = 1'-0"



B1 - Unit 1C HVAC PLAN - HORIZONTAL TRUSS
4 1/4" = 1'-0"



B1 - Unit 1A HVAC PLAN - HORIZONTAL TRUSS
1 1/4" = 1'-0"



B1 - Unit 1A-HC HVAC PLAN - HORIZONTAL TRUSS
2 1/4" = 1'-0"

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UNIT HVAC PLANS - HORIZONTAL TRUSS

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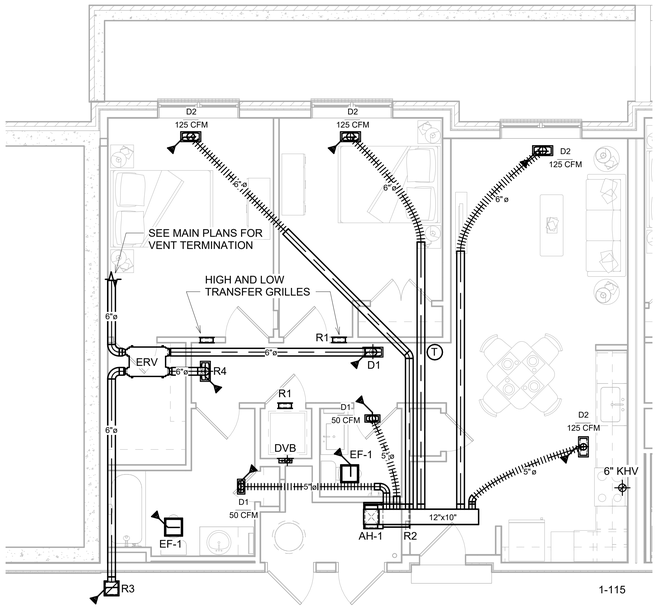
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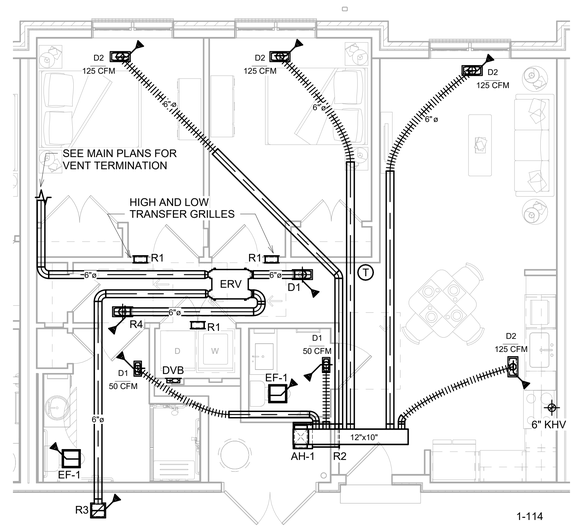
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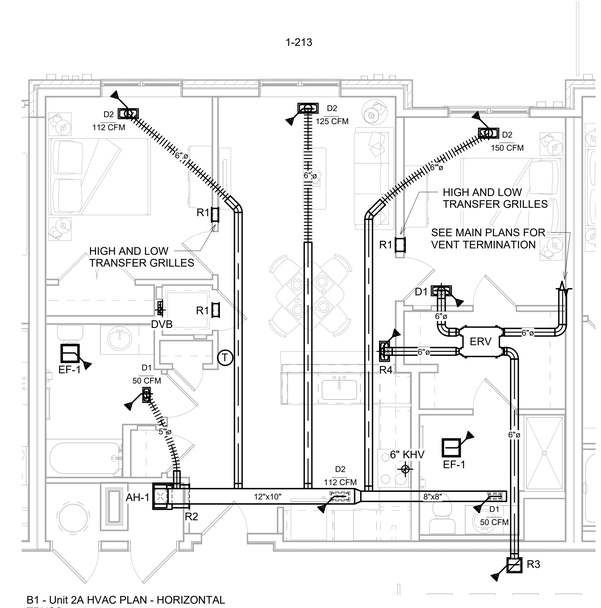
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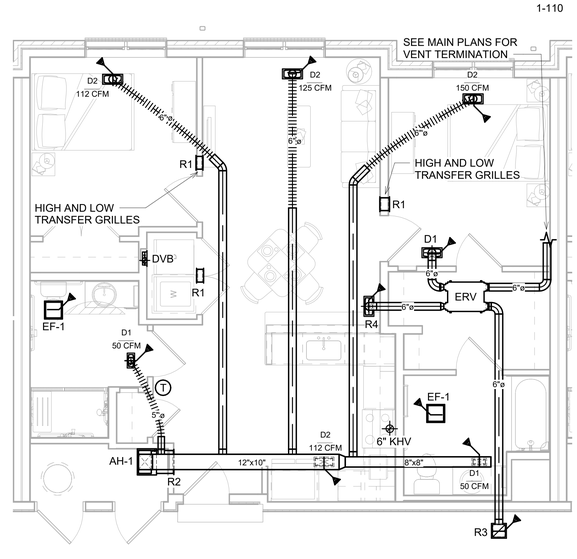
3 B1 - Unit 2B HVAC PLAN - HORIZONTAL TRUSS
1/4" = 1'-0"



4 B1 - Unit 2B-HC HVAC PLAN - HORIZONTAL TRUSS
1/4" = 1'-0"



1 B1 - Unit 2A HVAC PLAN - HORIZONTAL TRUSS
1/4" = 1'-0"



2 B1 - Unit 2A-HC HVAC PLAN - HORIZONTAL TRUSS
1/4" = 1'-0"

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UNIT HVAC PLANS - HORIZONTAL TRUSS

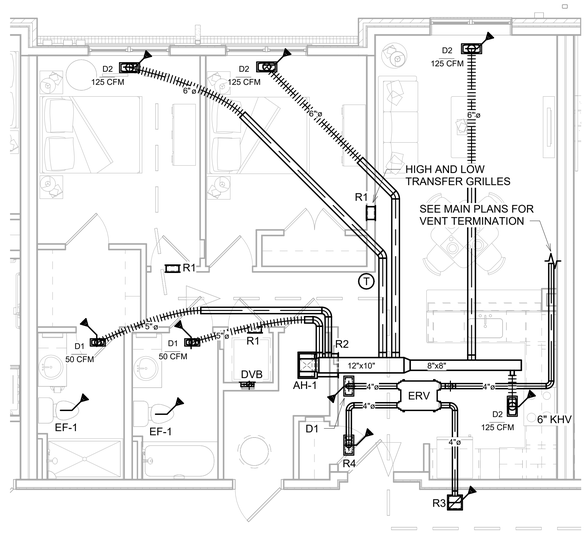
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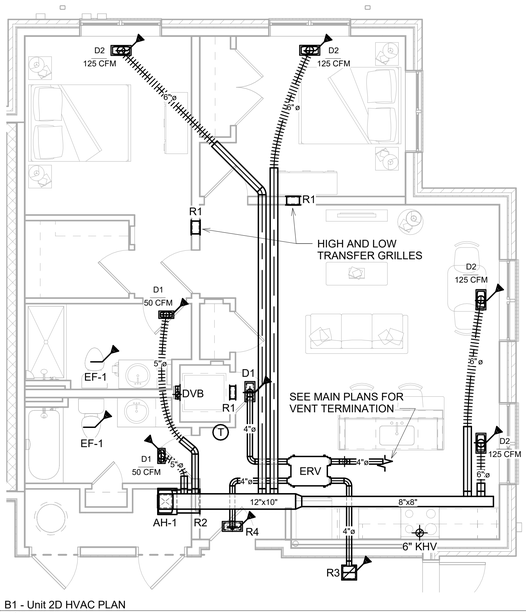
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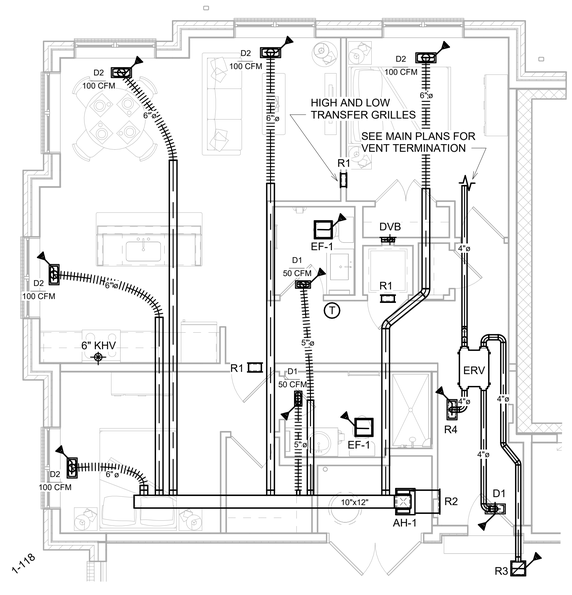
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3 B1 - Unit 2E HVAC PLAN
1/4" = 1'-0"



2 B1 - Unit 2D HVAC PLAN
1/4" = 1'-0"



1 B1 - Unit 2C HVAC PLAN
1/4" = 1'-0"

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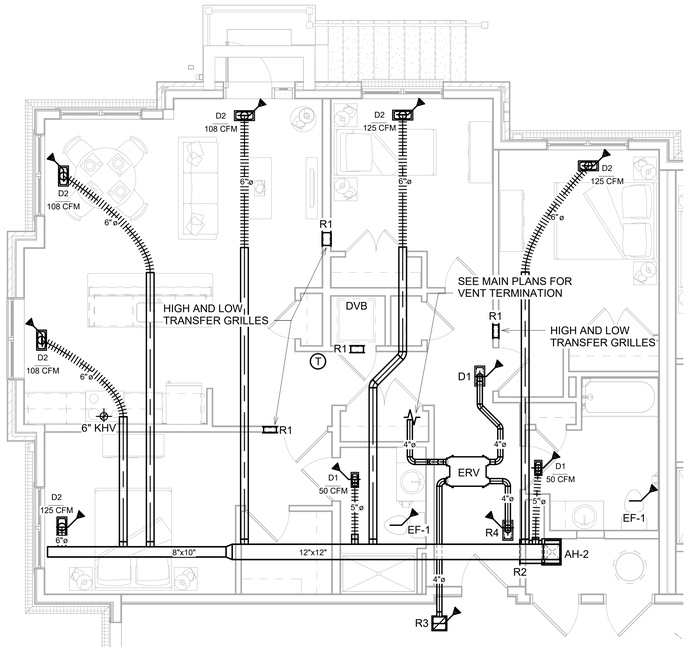
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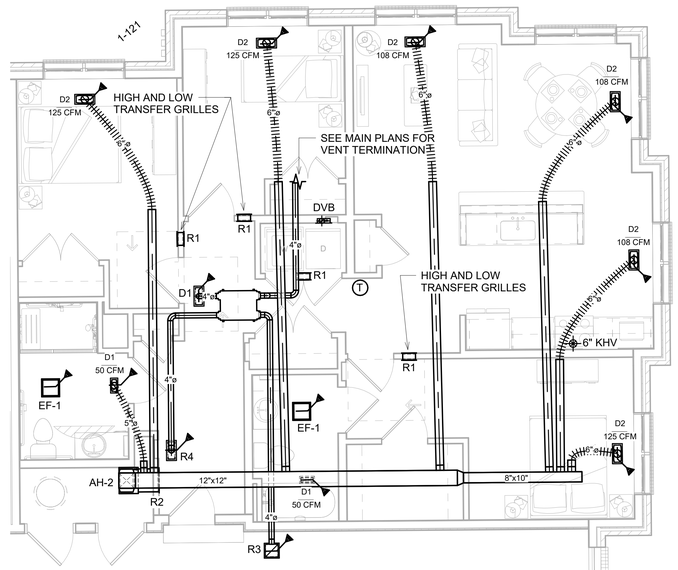
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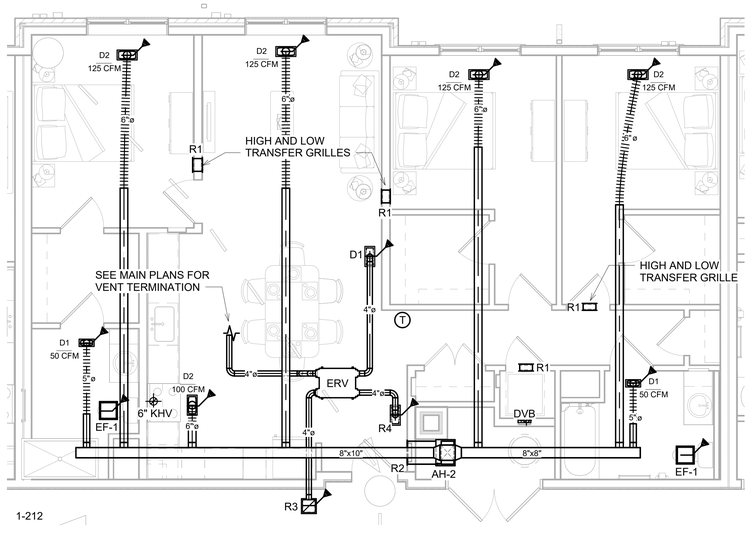
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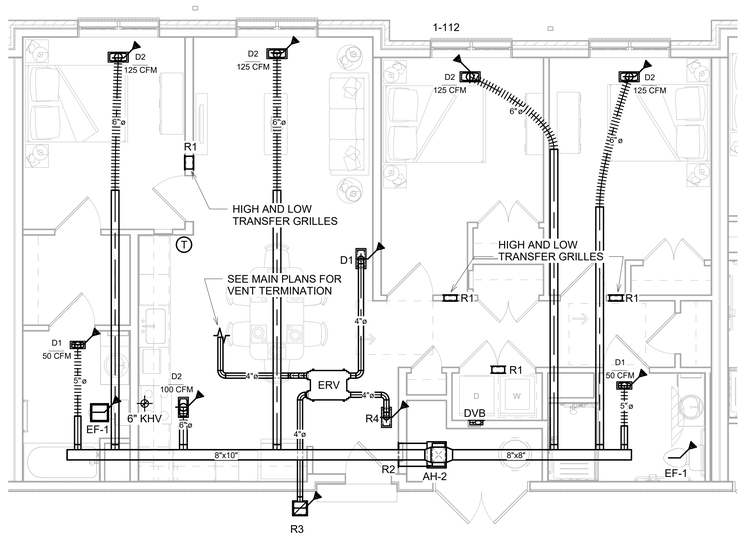
4 B1 - Unit 3B HVAC PLAN
1/4" = 1'-0"



3 B1 - Unit 3B-HC HVAC PLAN
1/4" = 1'-0"



1 B1 - Unit 3A HVAC PLAN
1/4" = 1'-0"



2 B1 - Unit 3A-HC HVAC PLAN
1/4" = 1'-0"

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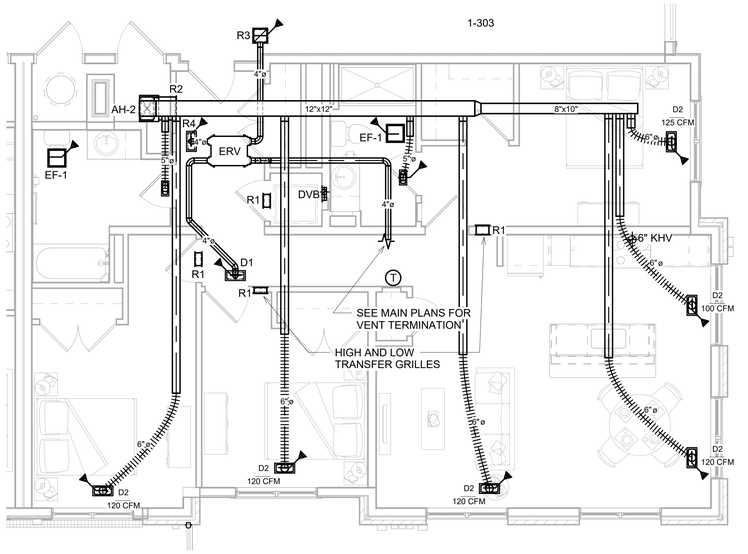
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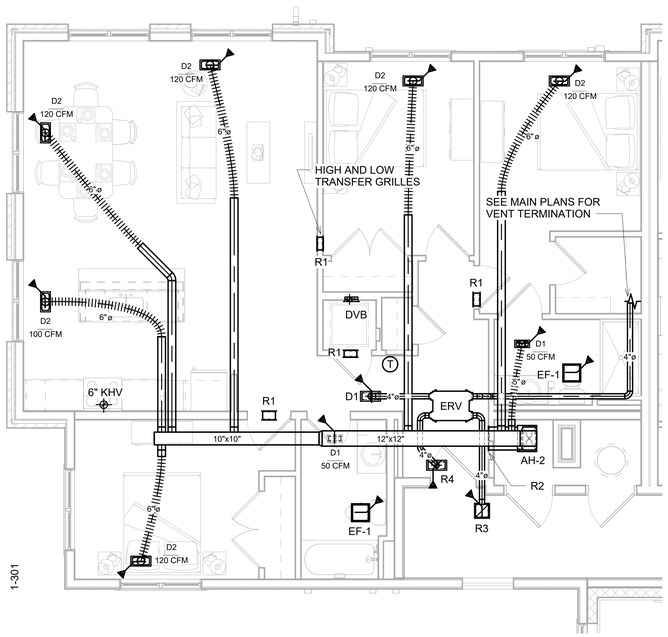
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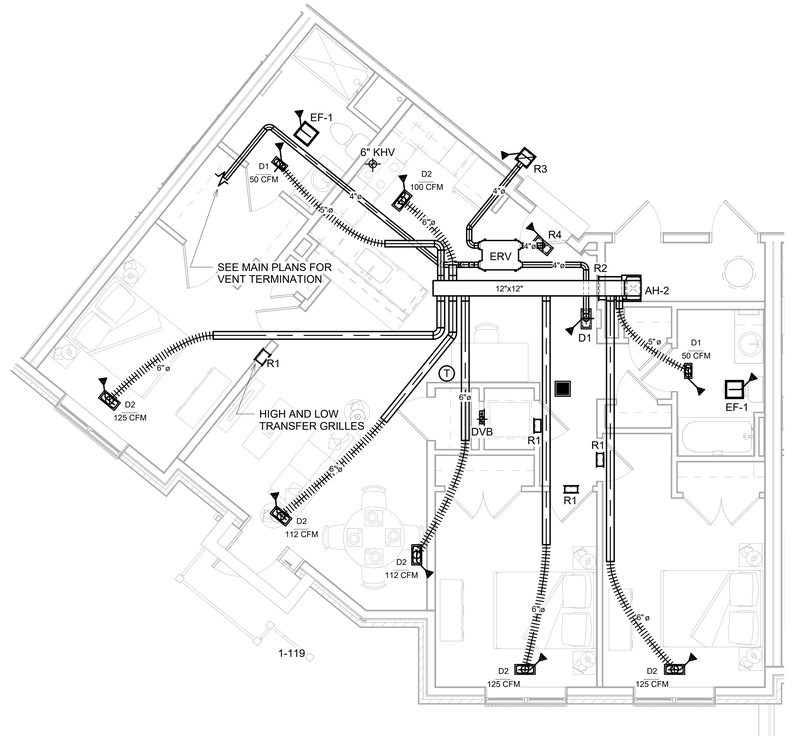
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1 B1 - Unit 3E HVAC PLAN
1/4" = 1'-0"



3 B1 - Unit 3D HVAC PLAN
1/4" = 1'-0"



2 B1 - Unit 3C HVAC PLAN
1/4" = 1'-0"

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UNIT HVAC PLANS - HORIZONTAL TRUSS

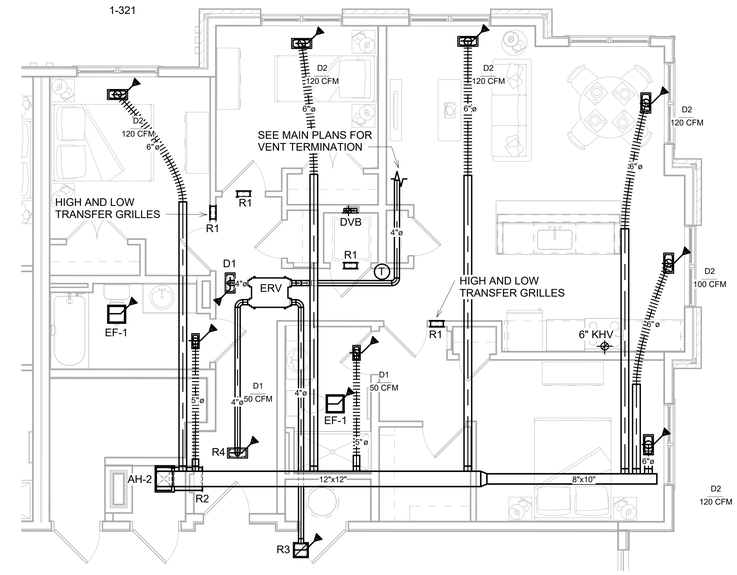
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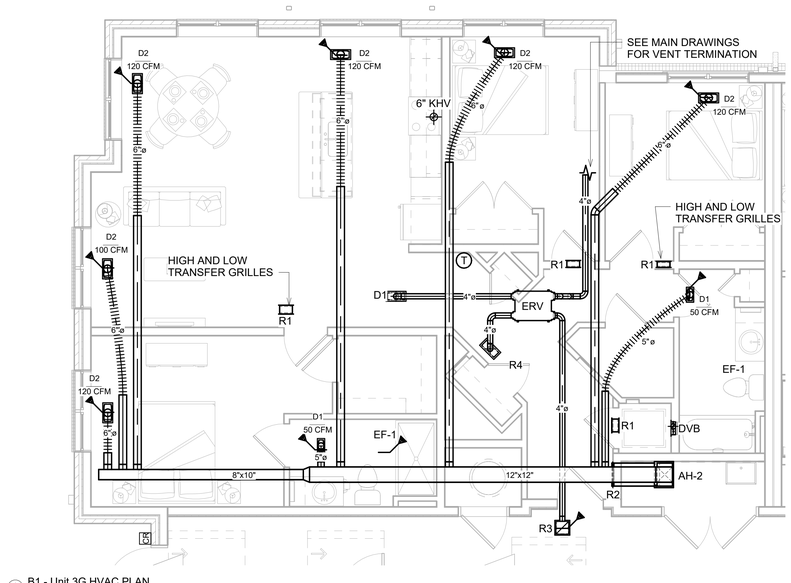
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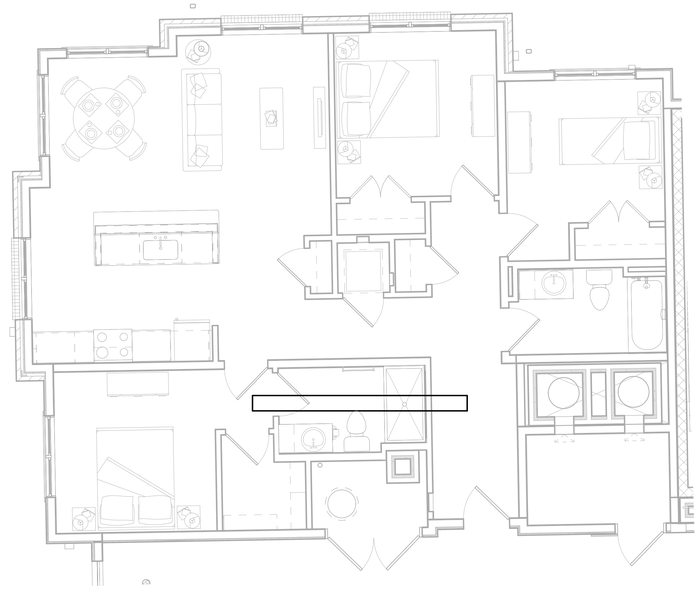
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1 B2 - Unit 3H HVAC PLAN
1/4" = 1'-0"



3 B1 - Unit 3G HVAC PLAN
1/4" = 1'-0"



2 B1 - Unit 3F HVAC PLAN
1/4" = 1'-0"

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UNIT HVAC PLANS - HORIZONTAL TRUSS

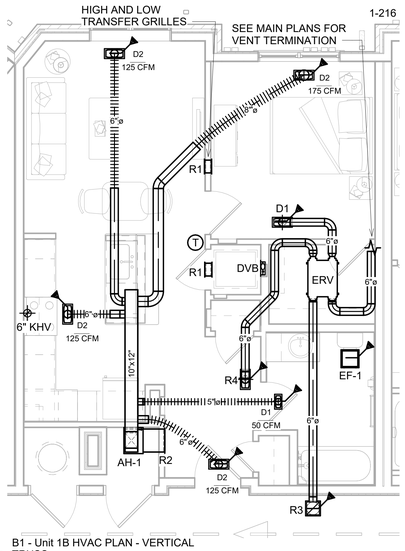
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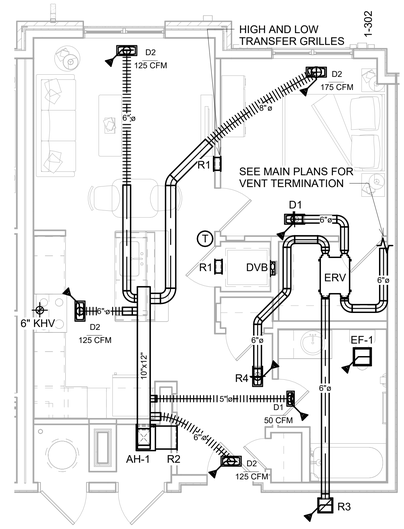
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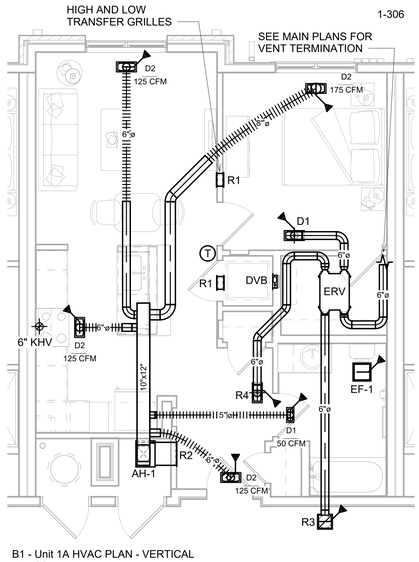
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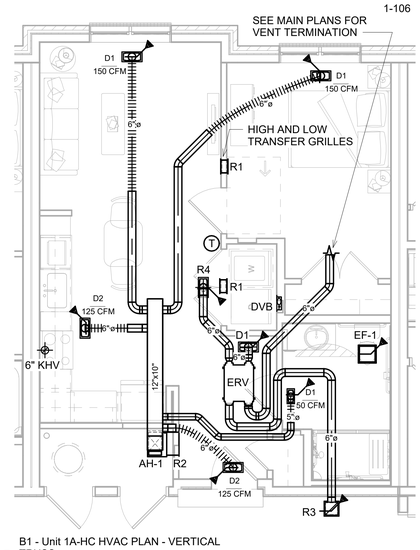
B1 - Unit 1B HVAC PLAN - VERTICAL
TRUSS
3 1/4" = 1'-0"



B1 - Unit 1C HVAC PLAN - VERTICAL
TRUSS
4 1/4" = 1'-0"



B1 - Unit 1A HVAC PLAN - VERTICAL
TRUSS
1 1/4" = 1'-0"



B1 - Unit 1A-HC HVAC PLAN - VERTICAL
TRUSS
2 1/4" = 1'-0"

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UNIT HVAC PLANS - VERTICAL TRUSS

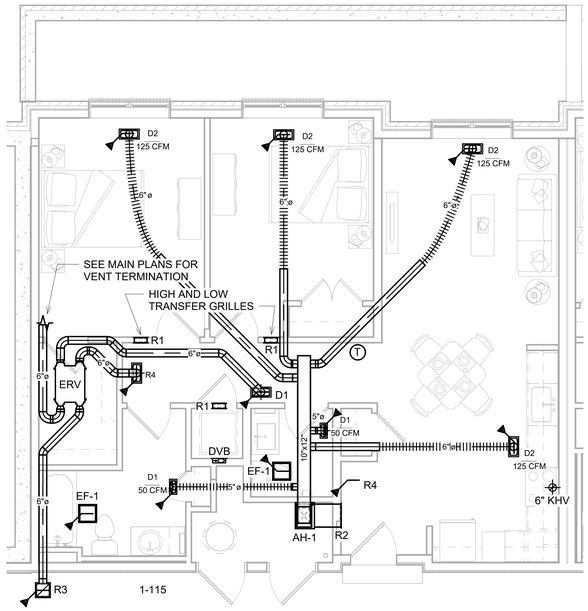
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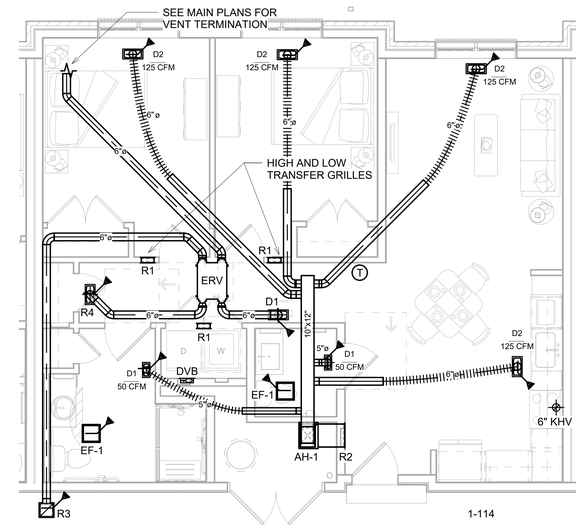
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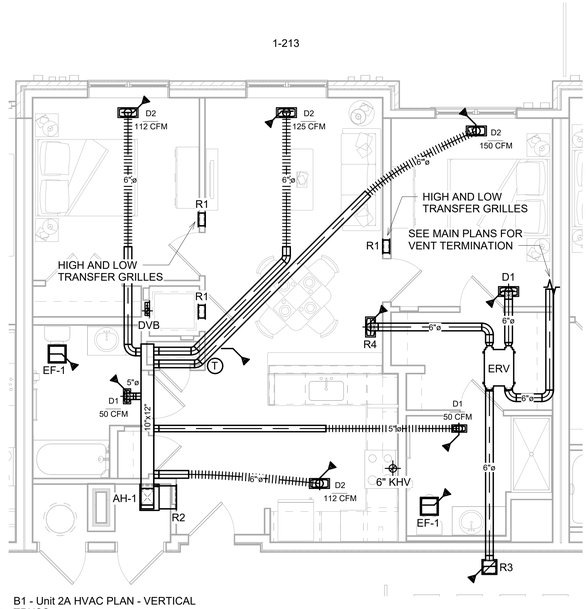
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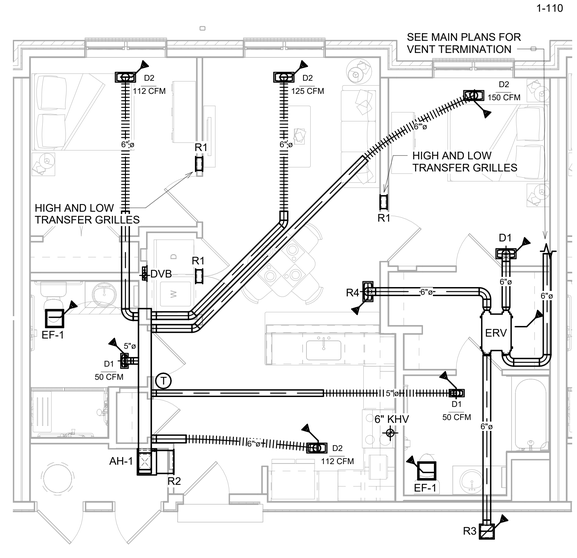
3 B1 - Unit 2B HVAC PLAN - VERTICAL TRUSS
1/4" = 1'-0"



4 B1 - Unit 2B-HC HVAC PLAN - VERTICAL TRUSS
1/4" = 1'-0"



1 B1 - Unit 2A HVAC PLAN - VERTICAL TRUSS
1/4" = 1'-0"



2 B1 - Unit 2A-HC HVAC PLAN - VERTICAL TRUSS
1/4" = 1'-0"

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UNIT HVAC PLANS - VERTICAL TRUSS

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PLUMBING SPECIFICATIONS

1. GENERAL

1.1 DESCRIPTION OF WORK:

A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL PLUMBING SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
1. SANITARY SEWER
2. ROOF STORM WATER
3. FIRE SUPPRESSION
4. DOMESTIC WATER

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THE CIVIL, ARCHITECTURAL, STRUCTURAL, HVAC, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE PLUMBING WORK IN-SO-FAR AS THEY APPLY TO THE PLUMBING WORK AND ARE REQUIRED FOR COORDINATION.

B. SEE PROVIDED BOOK SPEC FOR FURTHER INFORMATION & SPECIFICATIONS.

1.3 JOB CONDITIONS:

A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.

B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.

C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, AND SPECIALTIES.

D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, ETC. CONCEALED BEHIND FINISHED SURFACES.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, LOCAL ORDINANCES AND INTERNATIONAL PLUMBING CODE 2018.

B. WORK SHALL CONFORM WITH ENTERPRISE GREEN COMMUNITIES, UNIVERSAL DESIGN, AND VIRGINIA HOUSING, GUIDELINES AND STANDARDS.

1.5 QUALITY ASSURANCE:

A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.

1.6 MATERIALS AND EQUIPMENT:

A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.

B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.

C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.

D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.

1.7 UTILITIES AND CONNECTIONS:

A. OWNER WILL PAY FOR ALL WATER, GAS AND SEWER UTILITY CONNECTION FEES.

B. COORDINATE CONNECTIONS WITH SITE UTILITY DRAWINGS. WORK TO LOCATIONS AND INVERTS INDICATED ON SITE DRAWINGS. PROVIDE TRANSITIONS IN SIZE AND MATERIAL AT POINT OF CONNECTION.

1.8 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR FIXTURES AND EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATIONS ON DRAWINGS. SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT.

B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.

C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

1.9 PROJECT CLOSEOUT:

A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.

B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.

C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL.

2. PRODUCTS

2.1 PIPING SYSTEMS:

A. DOMESTIC WATER PIPING - CPVC OR PEX.
UNDERSLAB WATER - PEX W/ NO JOINTS.

B. WATER SERVICE - DUCTILE IRON.

C. SANITARY DRAINAGE - SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS, OR NO-HUB CAST IRON PIPING. SCHEDULE 40 PVC TO BE SOLID CORE TYPE. NO CELLULAR CORE PIPE IS PERMITTED. NO SUBSTITUTIONS FOR CELLULAR CORE PIPE TO BE MADE.

D. VENT PIPING - SCHEDULE 40 PVC W/ SOLVENT WELD FITTINGS, OR COPPER DWV COPPER DMV WITH 50/50 SOLDER FITTINGS. SCHEDULE 40 PVC TO BE SOLID CORE. NO CELLULAR CORE PIPE IS PERMITTED. NO SUBSTITUTIONS FOR CELLULAR CORE PIPE TO BE MADE.

2.2 PLUMBING FIXTURES AND EQUIPMENT:

A. REFER TO FIXTURE SCHEDULE AND EQUIPMENT LIST ON DRAWINGS FOR MANUFACTURER'S AND MODEL NUMBERS.

3. EXECUTION

3.1 PIPING SYSTEMS

A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION AND ROUGH-INS.

B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.

C. VERIFY EXACT LOCATION OF EQUIPMENT AND FIXTURES PRIOR TO ROUGH-IN.

D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.

E. INSULATE PIPING SYSTEMS AS FOLLOWS:
1. DOMESTIC WATER - 1/2" FIBERGLASS W/ ASJ UP TO 1.5"; 1" FIBERGLASS W/ ASJ OVER 1.5" PIPE SIZE. UNDERSLAB WATER - 3/4" THICK CLOSED CELL RUBBER. HOT WATER - 1" FIBERGLASS W/ ASJ
WHERE DOMESTIC WATER PIPING IS LOCATED WITHIN INTERIOR WALL & CEILINGS WITH CAVITY BATT INSULATION INSTALLED TO RESNET GRADE 1, PIPING INSULATION JACKET CAN BE OMITTED. WALL INSULATION BATTS SHALL BE CUT TO FIT AROUND PIPING SO THAT INSULATION CAN COMPLETELY FILL THE WALL CAVITY, WHILE FULLY SURROUNDING THE PIPING. AT ALL OTHER LOCATIONS, PROVIDE WATER PIPING INSULATION AS DESCRIBED ABOVE.
2. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
3. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
4. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
5. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
6. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.

F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.

G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.

H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.

I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.

J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.

K. PROVIDE CHROME PLATED ESCUTCHEON FOR EXPOSED PIPING PENETRATING A FINISHED SURFACE.

L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS. PROVIDE STOPS FOR ALL PLUMBING EQUIPMENT AND FIXTURES.

M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.

N. PROVIDE VACUUM BREAKERS AT WALL HYDRANTS.

O. TEST PIPING SYSTEMS AS FOLLOWS:
1. WATER PIPING - TEST AT PRESSURE NOT LESS THAN WORKING PRESSURE OF THE SYSTEM. MAINTAIN SUCH PRESSURE FOR MINIMUM OF 1 HOUR.
2. SANITARY, STORM AND VENT PIPING - W/ 10 FT. HEAD OF WATER, MAINTAINING SUCH PRESSURE FOR MINIMUM OF 1 HOUR.
3. TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.
4. PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.

3.2 PLUMBING FIXTURES

A. PROVIDE CHROME PLATED STOPS FOR FIXTURES.

B. PROVIDE TAILPIECE AND TRAP WITH CLEANOUT FOR LAVATORIES AND SINKS.

C. PROVIDE REMOVABLE CHROME PLATED BASKET STRAINER FOR SINKS.

D. CAULK BETWEEN FIXTURE AND FINISHED SURFACES WITH WHITE SILICONE CAULKING.

E. PROVIDE BOLT CAPS FOR WATER CLOSETS.

F. MOUNT WALL CLEANOUTS AND PLUGGED OUTLETS AT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.

G. PROVIDE AND INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES.

H. ALL FLOOR DRAINS SERVING WASHERS, AND WATER HEATERS TO BE INSTALLED IN READILY ACCESSIBLE LOCATIONS. COORDINATE WITH EQUIPMENT.

DOMESTIC WATER BOOSTER PUMP

1. DOMESTIC WATER BOOSTER PUMP - GRUNDFOS MODEL NUMBER Hydro MPC-EC (CUE) 2CR 15-2, 1 PH 240V 60Hz, 2 STAGE 80.89 DIFFERENTIAL HEAD PRESSURE. 75 GPM FLOW PER PUMP. DUPLEX 2 DUTY OPERATION. DRAWDOWN BLADDER TANK TO BE ARMSTRONG NON ASME FX-60V - 16 GALLON.

WOOD SHRINKAGE NOTE

WHEN INSTALLING MECHANICAL ELECTRICAL AND PLUMING SYSTEMS TAKE INTO CONSIDERATION WOOD SHRINKAGE AS THE BUILDING DRIES. ALLOW FOR MOVEMENT IN PIPING, DUCTS, AND CONDUIT BY INSTALLING WITH ADDITIONAL SPACE AROUND WALL, FLOOR, AND STUD PENETRATIONS.

PLUMBING FIXTURE SCHEDULE

NO.	DESCRIPTION	W	V	CW	HW	MFR. MODEL			NTS
						FIXTURE	FITTINGS	ACCESS.	
W1	ACCESSIBLE TANK TYPE WATER CLOSET	3	1.5	1/2	--	NIAGARA SHADOW C|3.900.11 OR C|38.301.11	PROVIDE CORRECT HANDLE ORIENTATION	SEAT: CHURCH 130EC	1
W2	TANK TYPE WATER CLOSET	3	1.5	1/2	--	NIAGARA SHADOW C|3.900.11 OR C|38.301.11		SEAT: CHURCH 130EC	
L1	ACCESSIBLE COUNT. MTD. LAVATORY	1.5	1.5	1/2	1/2	VA MARBLE LARGE WAVE OR EQUAL INTEGRAL CULTURED	MOEN CORNERSTONE CA40711BN		1,3
L2	COUNTER MTD. LAVATORY	1.5	1.5	1/2	1/2	VA MARBLE LARGE WAVE OR EQUAL INTEGRAL CULTURED	MOEN CORNERSTONE CA40711BN		
S1	ACCESSIBLE SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC520N	1,3
S2	SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC520N	
SH1	ACCESSIBLE SHOWER	2	1.5	1/2	1/2	SCHLUTER KERDI-LINE LINEAR S/S DRAIN	MOEN T8342EP15CBN	W/ MOEN T8346EP15CBN	1,2,8
SH2	SHOWER	2	1.5	1/2	1/2	KOHLER SHOWER BASIN K-9055	MOEN T8342EP15CBN		2,8
TS	TUB/SHOWER	2	1.5	1/2	1/2	AMER. STD. PRINCETON RECESSED TUB W/ OVERFLOW	MOEN 40311CBNGR		2,8
MB1	MOP BASIN	3	1.5	1/2	1/2	FIAT MSB-2424 W/ 2-E-77-AA	FIAT 830-AA, 832-AA, 889C		2
MB2	MOP BASIN	3	1.5	1/2	1/2	ADVANCE TABCO PACKAGE 19-18-40-ADA-F			2
WM	WASHING MACHINE	2	1.5	1/2	1/2		OATEY 38103	W/ BUILT-IN SHOCK ARRESTERS, SIT WM IN 3" DEEP DRAIN PAN	2,7
EWH1	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-30L-30	240V, 1PH, 4.5kW 30 GALLON	EXPAN. TANK	
EWH2	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-40L-40	240V, 1PH, 4.5kW 40 GALLON	EXPAN. TANK	
EWH3	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-50L-50	240V, 1PH, 4.5kW 50 GALLON	EXPAN. TANK	
EWH4	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE31-20	240V, 1PH, 4.5kW 20 GALLON	EXPAN. TANK	
EWH5	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-50L-50	240V, 1PH, 6.1kW 50 GALLON	EXPAN. TANK	
RH	ROOF HYDRANT	--	--	3/4	--	PRIER P-RH4			
HB	HOSE BIBB	--	--	3/4	--	PRIER P-164			2
WH	WALL HYDRANT	--	--	3/4	--	PRIER C-634	W/ BOX BX1		2
WCO	WALL CLEANOUT	X	--	--	--	WADE 8480R			6
FCO	FLOOR CLEANOUT	X	--	--	--	WADE SERIES 6000			6
COTG	CLEANOUT TO GRADE	4	--	--	--	WADE 6000-Z-5			5
FD	FLOOR DRAIN	X	X	--	--	WADE 110XSTD6-27		W/ TRAP PRIMER	6
TV	TEMPERING VALVE	--	--	1/2	1/2	POWERS LFe480			4
RIM	REFRIGERATOR ICE MAKER BOX	--	--	3/8	--	SIOUX CHIEF 696-1010MR		W/ BACKFLOW PREVENTER	2,7
DW	DISHWASHER	1	--	--	1/2	PROVIDE PLUMBING CONNECTIONS			
DSB	DOWNSPOUT BOOT W/ CLEANOUT	4	--	--	--	ZURN Z191-RD-CA			

NOTES:
1. INSTALL FIXTURES IN ACCORDANCE WITH APPLICABLE STANDARDS.
2. PROVIDE PROPER ACCESSORIES FOR WALL THICKNESS & CONSTRUCTION.
3. PROVIDE PIPE INSULATION KIT, TRUEBRO MODEL 105W OR EQUAL.
4. PROVIDE TEMPERING VALVE AT FIXTURES AS INDICATED ON PLAN OR RISERS.
5. MOUNT IN 16" ROUND CONCRETE RING FLUSH W/ PAVEMENT OR GRADE.
6. SIZE TO MATCH SEWER SERVED.
7. CONNECTION BOX TO HAVE BUILT-IN WATER HAMMER ARRESTORS.

SPRINKLER SYSTEM SPECS

1. PROVIDE A COMPLETE SPRINKLER SYSTEM FOR THE BUILDING IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, THE NATIONAL FIRE CODES, AND LOCAL ORDINANCES AND REGULATIONS.
2. PROVIDE A DRY TYPE SYSTEM WHERE PIPING AND/OR HEADS MUST BE INSTALLED IN AREAS SUBJECT TO FREEZING SUCH AS ATTICS OR CANOPYS. ALLOWING FOR SOMEONE ELSE TO PROVIDE MEANS TO KEEP PIPING FROM FREEZING IS NOT ACCEPTABLE. IT IS THE SPRINKLER CONTRACTORS RESPONSIBILITY TO PROVIDE A SYSTEM THAT WILL INSURE THAT PIPING WILL NOT FREEZE.
3. PROVIDE CALCULATIONS, PLANS, AND EQUIPMENT CUTS AS REQUIRED BY NFPA AND BY THE AUTHORITY HAVING JURISDICTION. SUBMIT TO OWNER'S REPRESENTATIVE FOR COORDINATION, MAKE REQUIRED ADJUSTMENTS, SUBMIT TO AUTHORITY HAVING JURISDICTION, AND OBTAIN STAMPED AND APPROVED DRAWINGS. SUBMIT APPROVED DRAWINGS TO OWNER'S REPRESENTATIVE FOR FINAL COORDINATION.
4. PIPING AND EQUIPMENT GENERALLY SHALL BE PER APPLICABLE CODES EXCEPT AS FOLLOWS:
   A. SPRINKLER HEADS IN FINISHED AREAS SHALL BE SEMI-RECESSED, WHITE FINISH.
   B. AIR COMPRESSORS FOR A DRY SYSTEM SHALL BE BASE MOUNTED TYPE WITH A MINIMUM 10 GALLON STORAGE TANK. UNIT SHALL BE INSTALLED ON SPRING TYPE VIBRATION ISOLATORS AND CONNECTED TO SPRINKLER PIPING WITH FLEXIBLE CONNECTORS.
5. SPRINKLER SYSTEM INSTALLER SHALL NOTE THAT THE BUILDING HAS A MANUAL FIRE ALARM SYSTEM. PROVIDE ALL ALARM DEVICES, FLOW SWITCHES, AND TAMPER SWITCHES REQUIRED. CONNECTIONS BETWEEN THESE DEVICES AND THE FIRE ALARM SYSTEM WILL BE BY THE FIRE ALARM SYSTEM INSTALLER. COORDINATE EXACT REQUIREMENTS OF ALARM DEVICES FOR CONNECTION TO THE FIRE ALARM SYSTEM.
6. COORDINATE ROUTING OF PIPING WITH BUILDING STRUCTURE AND WITH OTHER TRADES. INSURE THAT HEIGHT SELECTED FOR PIPING MAINS WILL ALLOW FOR INSTALLATION OF DUCTS, LIGHTS, AND EQUIPMENT.
7. DO NOT INSTALL PIPING BENEATH AIR HANDLING DEVICES OR IN MANNER THAT WILL INTERFERE WITH ANY TYPE OF ACCESS PANEL. INSTALL PIPING AT LEAST 2" ABOVE LIGHT FIXTURES TO ALLOW FOR FUTURE RELOCATION OF LIGHT FIXTURES WITHOUT REVISION TO PIPING ELEVATIONS.
8. IN SPECIFIC AREAS WHERE ARCHITECT HAS INDICATED SPRINKLER HEADS, INSTALL HEADS IN THOSE LOCATIONS. PRIOR TO DEVELOPMENT OF SHOP DRAWINGS, NOTIFY ARCHITECT IF SPRINKLER HEAD LOCATIONS SHOWN DO NOT SATISFY COVERAGE REQUIREMENTS OF NFPA-13.
9. INSTALL HEADS IN THE CENTER OF CEILING TILES IN SMALLER ROOMS AND CENTERED ONE WAY IN CEILING TILES IN LARGE OPEN AREAS.
10. SEE ARCHITECTURAL DRAWINGS FOR SPRINKLER STAND-PIPE LOCATIONS IN STAIRWELLS.
11. FIRE PUMP SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH INTEGRAL WITH FIRE PUMP CONTROLLER.

LEGEND

- SOIL OR WASTE PIPING
- W — WATER SERVICE PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RECIRC PIPING
- G — GAS PIPING
- ST — STORM PIPING
- S — SPRINKLER PIPING
- BALL OR GATE VALVE
- CHECK VALVE
- RPZ BACKFLOW PREVENTER
- PRESSURE REDUCING VALVE
- M — REMOTE READ WATER METER
- DROP IN PIPING
- W-1 — RISER MARK - SEE DIAGRAM

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
WCO	WALL CLEANOUT
FCO	FLOOR CLEANOUT
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
VTR	VENT THRU ROOF
WH	WALL HYDRANT
HB	HOSE BIBB W/ VACUUM BREAKER
EWH	ELECTRIC WATER HEATER
CW	COLD WATER
HW	HOT WATER
TW	TEMPERED WATER
DN	DOWN
WC	WATER CLOSET
LAV	LAVATORY
FD	FLOOR DRAIN
DSB	DOWNSPOUT BOOT
DFU	DRAINAGE FIXTURE UNIT
SFU	SUPPLY FIXTURE UNIT

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PLUMBING SPECS., AND SCHEDULES
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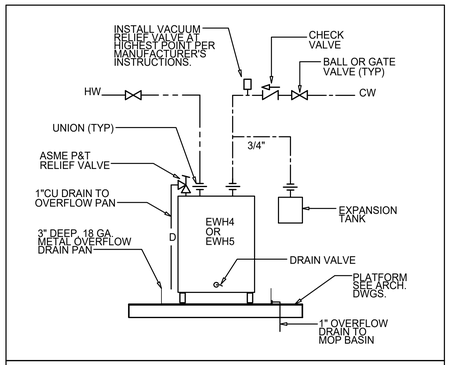
DATE	SUBMISSION / REVISION
05/14/2026	VH 4% APPLICATION
06/30/2026	CONSTRUCTABILITY REVIEW

2P-001

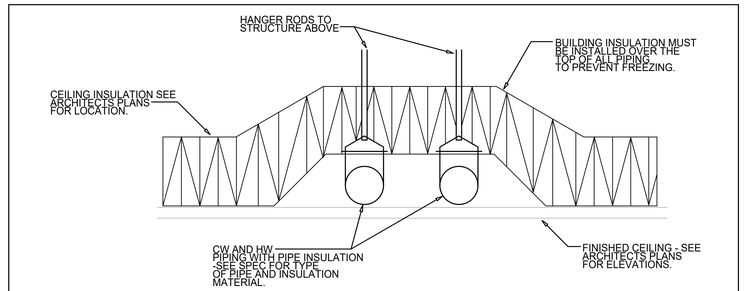
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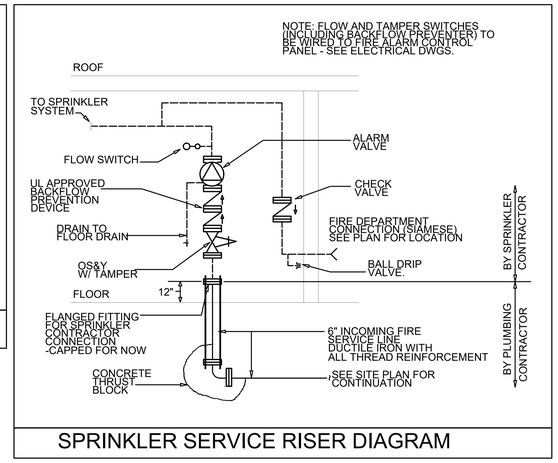
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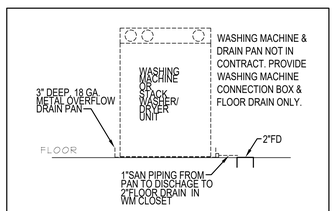
COMMON AREA WATER HEATER DIAGRAM



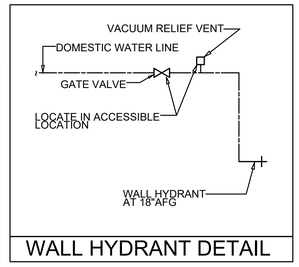
DETAIL OF PIPING IN CEILING SPACE



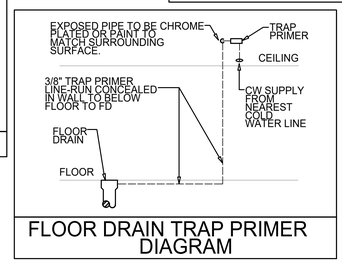
SPRINKLER SERVICE RISER DIAGRAM



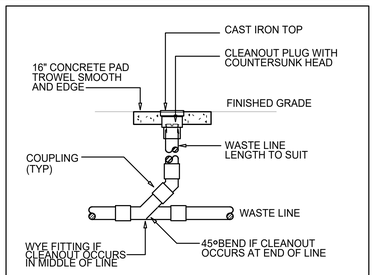
APT. UNIT WASHING MACHINE DRAIN PAN DIAGRAM



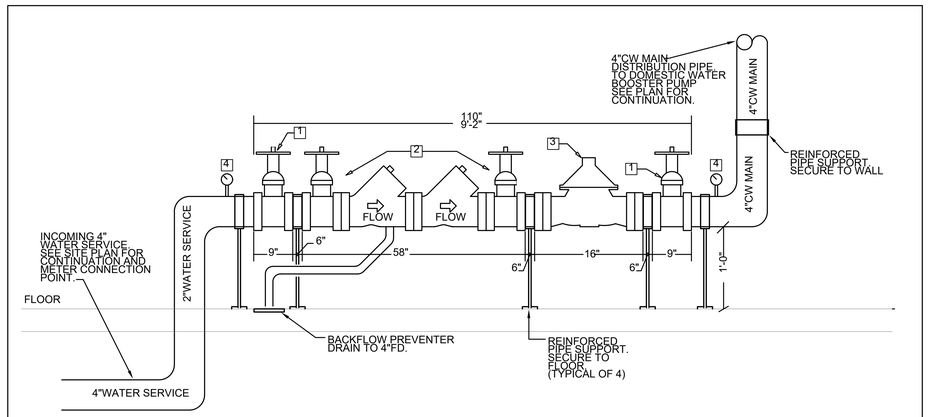
WALL HYDRANT DETAIL



FLOOR DRAIN TRAP PRIMER DIAGRAM

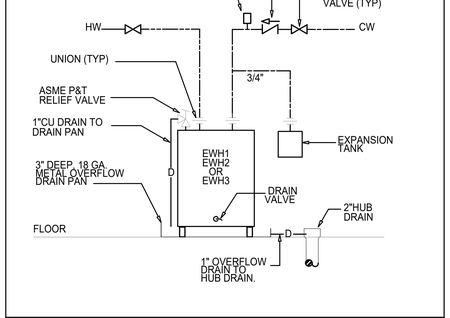


CLEANOUT TO GRADE DIAGRAM

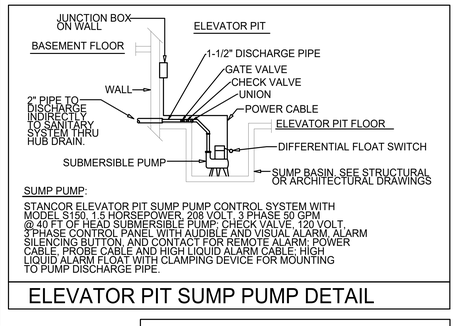


DOMESTIC WATER SERVICE DETAIL

1. 4" GATE VALVE DUCTILE IRON, NON-RISING, BOLTED BONNET, CLASS 125 CLASS, 3 INLET PIPE SIZE. 9" INLET TO OUTLET. GAMUT 337Z409 OR EQUAL.
2. 4" REDUCED PRESSURE ZONE BACKFLOW PREVENTER, FLANGED CONNECTION, CAST IRON WATTS 909 OR EQUAL.
3. 4" PRESSURE REDUCING VALVE, FLANGED CONNECTION, DUCTILE IRON, ZORO G1567501 OR EQUAL.
4. ZURN MODEL 25 PRESSURE GAUGE 2010-25L-400, 1/4" NPT.



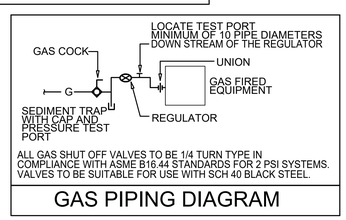
APT. WATER HEATER DIAGRAM



SUMP PUMP:

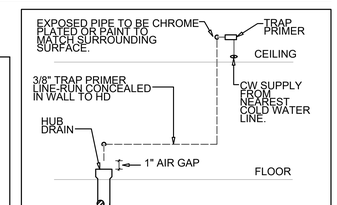
STANCOR ELEVATOR PIT SUMP PUMP CONTROL SYSTEM WITH MODEL S150, 1.5 HORSEPOWER, 208 VOLT, 3 PHASE 50 GPM @ 40 FT OF HEAD SUBMERSIBLE PUMP; CHECK VALVE, 120 VOLT, 3 PHASE CONTROL PANEL WITH AUDIBLE AND VISUAL ALARM, ALARM SILENCING BUTTON, AND CONTACT FOR REMOTE ALARM; POWER CABLE, PROBE CABLE AND HIGH LIQUID ALARM CABLE; HIGH LIQUID ALARM FLOAT WITH CLAMPING DEVICE FOR MOUNTING TO PUMP DISCHARGE PIPE.

ELEVATOR PIT SUMP PUMP DETAIL



ALL GAS SHUT OFF VALVES TO BE 1/4 TURN TYPE IN COMPLIANCE WITH ASME B16.44 STANDARDS FOR 2 PSI SYSTEMS. VALVES TO BE SUITABLE FOR USE WITH SCH 40 BLACK STEEL.

GAS PIPING DIAGRAM



HUB DRAIN TRAP PRIMER DIAGRAM

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MEI #25144

PLUMBING DETAILS
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION
05/14/2026	VH 4% APPLICATION
06/30/2026	CONSTRUCTABILITY REVIEW

2P-002

06/30/2026
CONSTRUCTABILITY REVIEW

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PLUMBING SPECIFICATIONS

1. GENERAL

1.1 DESCRIPTION OF WORK:

A. ALL FIXTURES, EQUIPMENT, ACCESSORIES, MATERIALS, AND LABOR REQUIRED TO PROVIDE COMPLETE, COORDINATED, AND FULLY FUNCTIONAL PLUMBING SYSTEMS GENERALLY AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
1. SANITARY SEWER
2. ROOF STORM WATER
3. FIRE SUPPRESSION
4. DOMESTIC WATER

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THE CIVIL, ARCHITECTURAL, STRUCTURAL, HVAC, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL APPLY TO AND BE CONSIDERED A PART OF THE PLUMBING WORK IN-SO-FAR AS THEY APPLY TO THE PLUMBING WORK AND ARE REQUIRED FOR COORDINATION.

B. SEE PROVIDED BOOK SPEC FOR FURTHER INFORMATION & SPECIFICATIONS.

1.3 JOB CONDITIONS:

A. DUE TO THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF THE WORK DESCRIBED AND INDICATED.

B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.

C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, AND SPECIALTIES.

D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, ETC. CONCEALED BEHIND FINISHED SURFACES.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, LOCAL ORDINANCES AND INTERNATIONAL PLUMBING CODE 2018.

B. WORK SHALL CONFORM WITH ENTERPRISE GREEN COMMUNITIES, UNIVERSAL DESIGN, AND VIRGINIA HOUSING, GUIDELINES AND STANDARDS.

1.5 QUALITY ASSURANCE:

A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.

1.6 MATERIALS AND EQUIPMENT:

A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.

B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.

C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.

D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.

1.7 UTILITIES AND CONNECTIONS:

A. OWNER WILL PAY FOR ALL WATER, GAS AND SEWER UTILITY CONNECTION FEES.

B. COORDINATE CONNECTIONS WITH SITE UTILITY DRAWINGS. WORK TO LOCATIONS AND INVERTS INDICATED ON SITE DRAWINGS. PROVIDE TRANSITIONS IN SIZE AND MATERIAL AT POINT OF CONNECTION.

1.8 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR FIXTURES AND EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTIFIED PER INDICATIONS ON DRAWINGS, SHALL BE MARKED TO INDICATED SPECIFIC ITEM BE PROPOSED, AND SHALL BE ORGANIZED IN AN ORDERLY MANNER. SUBMIT SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT.

B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.

C. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH TWO COPIES OF AS-BUILT DOCUMENTATION. ALL CHANGES TO THE BIDDING DOCUMENTS SHALL BE NEATLY AND CLEARLY IDENTIFIED ON THE AS-BUILT DOCUMENTATION.

1.9 PROJECT CLOSEOUT:

A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.

B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.

C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL.

2. PRODUCTS

2.1 PIPING SYSTEMS:

A. DOMESTIC WATER PIPING - CPVC OR PEX.
UNDERSLAB WATER - PEX W/ NO JOINTS.

B. WATER SERVICE - DUCTILE IRON.

C. SANITARY DRAINAGE - SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS, OR NO-HUB CAST IRON PIPING. SCHEDULE 40 PVC TO BE SOLID CORE TYPE. NO CELLULAR CORE PIPE IS PERMITTED. NO SUBSTITUTIONS FOR CELLULAR CORE PIPE TO BE MADE.

D. VENT PIPING - SCHEDULE 40 PVC W/ SOLVENT WELD FITTINGS, OR COPPER DWV COPPER DWV WITH 50/50 SOLDER FITTINGS. SCHEDULE 40 PVC TO BE SOLID CORE. NO CELLULAR CORE PIPE IS PERMITTED. NO SUBSTITUTIONS FOR CELLULAR CORE PIPE TO BE MADE.

2.2 PLUMBING FIXTURES AND EQUIPMENT:

A. REFER TO FIXTURE SCHEDULE AND EQUIPMENT LIST ON DRAWINGS FOR MANUFACTURER'S AND MODEL NUMBERS.

3. EXECUTION

3.1 PIPING SYSTEMS

A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION AND ROUGH-INS.

B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.

C. VERIFY EXACT LOCATION OF EQUIPMENT AND FIXTURES PRIOR TO ROUGH-IN.

D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.

E. INSULATE PIPING SYSTEMS AS FOLLOWS:
1. DOMESTIC WATER - 1/2" FIBERGLASS W/ ASJ UP TO 1.5"; 1" FIBERGLASS W/ ASJ OVER 1.5" PIPE SIZE. UNDERSLAB WATER - 3/4" THICK CLOSED CELL RUBBER.
HOT WATER - 1" FIBERGLASS W/ ASJ.
WHERE DOMESTIC WATER PIPING IS LOCATED WITHIN INTERIOR WALL & CEILINGS WITH CAVITY BATT INSULATION INSTALLED TO RESNET GRADE 1, PIPING INSULATION JACKET CAN BE OMITTED. WALL INSULATION BATTS SHALL BE CUT TO FIT AROUND PIPING SO THAT INSULATION CAN COMPLETELY FILL THE WALL CAVITY, WHILE FULLY SURROUNDING THE PIPING. AT ALL OTHER LOCATIONS, PROVIDE WATER PIPING INSULATION AS DESCRIBED ABOVE.
2. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.
3. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.
4. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.
5. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.
6. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.

F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.

G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.

H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.

I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.

J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.

K. PROVIDE CHROME PLATED ESCUTCHEON FOR EXPOSED PIPING PENETRATING A FINISHED SURFACE.

L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS. PROVIDE STOPS FOR ALL PLUMBING EQUIPMENT AND FIXTURES.

M. HANGERS SUPPORTING COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COVERED. HANGERS SUPPORTING INSULATED PIPING SHALL BE SIZED TO SURROUND INSULATION AND STEEL SADDLE.

N. PROVIDE VACUUM BREAKERS AT WALL HYDRANTS.

O. TEST PIPING SYSTEMS AS FOLLOWS:
1. WATER PIPING - TEST AT PRESSURE NOT LESS THAN WORKING PRESSURE OF THE SYSTEM. MAINTAIN SUCH PRESSURE FOR MINIMUM OF 1 HOUR.
2. SANITARY, STORM AND VENT PIPING - W/ 10 FT. HEAD OF WATER, MAINTAINING SUCH PRESSURE FOR MINIMUM OF 1 HOUR.
3. TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.
4. PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.

3.2 PLUMBING FIXTURES

A. PROVIDE CHROME PLATED STOPS FOR FIXTURES.

B. PROVIDE TAILPIECE AND TRAP WITH CLEANOUT FOR LAVATORIES AND SINKS.

C. PROVIDE REMOVABLE CHROME PLATED BASKET STRAINER FOR SINKS.

D. CAULK BETWEEN FIXTURE AND FINISHED SURFACES WITH WHITE SILICONE CAULKING.

E. PROVIDE BOLT CAPS FOR WATER CLOSETS.

F. MOUNT WALL CLEANOUTS AND PLUGGED OUTLETS AT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.

G. PROVIDE AND INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES.

H. ALL FLOOR DRAINS SERVING WASHERS, AND WATER HEATERS TO BE INSTALLED IN READILY ACCESSIBLE LOCATIONS. COORDINATE WITH EQUIPMENT.

DOMESTIC WATER BOOSTER PUMP

1. DOMESTIC WATER BOOSTER PUMP - GRUNDFOS MODEL NUMBER Hydro MPC-EC (CUE) 2CR 15-2, 1 PH 240V 60Hz. 2 STAGE 80.89 DIFFERENTIAL HEAD PRESSURE. 75 GPM FLOW PER PUMP. DUPLEX 2 DUTY OPERATION. DRAWDOWN BLADDER TANK TO BE ARMSTRONG NON ASME FX-60V - 16 GALLON.

WOOD SHRINKAGE NOTE

WHEN INSTALLING MECHANICAL ELECTRICAL AND PLUMING SYSTEMS TAKE INTO CONSIDERATION WOOD SHRINKAGE AS THE BUILDING DRIES. ALLOW FOR MOVEMENT IN PIPING, DUCTS, AND CONDUIT BY INSTALLING WITH ADDITIONAL SPACE AROUND WALL, FLOOR, AND STUD PENETRATIONS.

PLUMBING FIXTURE SCHEDULE

NO.	DESCRIPTION	W	V	CW	HW	MFR. MODEL			NTS
						FIXTURE	FITTINGS	ACCESS.	
W1	ACCESSIBLE TANK TYPE WATER CLOSET	3	1.5	1/2	--	NIAGARA SHADOW C33,300,11 OR C33,301,11	PROVIDE CORRECT HANDLE ORIENTATION	SEAT: CHURCH 130EC	1
W2	TANK TYPE WATER CLOSET	3	1.5	1/2	--	NIAGARA SHADOW C33,300,11 OR C33,301,11		SEAT: CHURCH 130EC	
L1	ACCESSIBLE COUNT. MTD. LAVATORY	1.5	1.5	1/2	1/2	VA MARBLE LARGE WAVE OR EQUAL INTEGRAL CULTURED	MOEN CORNERSTONE CA40711BN		1,3
L2	COUNTER MTD. LAVATORY	1.5	1.5	1/2	1/2	VA MARBLE LARGE WAVE OR EQUAL INTEGRAL CULTURED	MOEN CORNERSTONE CA40711BN		
S1	ACCESSIBLE SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC520N	1,3
S2	SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC520N	
SH1	ACCESSIBLE SHOWER	2	1.5	1/2	1/2	SCHLUTER KERDI-LINE LINEAR S/S DRAIN	MOEN T8342EP15CBN	W/ MOEN T8346EP15CBN	1,2,8
SH2	SHOWER	2	1.5	1/2	1/2	KOHLER SHOWER BASIN K-9055	MOEN T8342EP15CBN		2,8
TS	TUB/SHOWER	2	1.5	1/2	1/2	AMER. STD. PRINCETON RECESSED TUB W/ OVERFLOW	MOEN 40311CBNGR		2,8
MB1	MOP BASIN	3	1.5	1/2	1/2	FIAT MSB-2424 W/ 2-E-77-AA	FIAT 830-AA, 832-AA, 889C		2
MB2	MOP BASIN	3	1.5	1/2	1/2	ADVANCE TABCO PACKAGE 19-18-40-ADA-F			2
WM	WASHING MACHINE	2	1.5	1/2	1/2		OATEY 38103	W/ BUILT-IN SHOCK ARRESTERS. SIT WM IN 5" DEEP DRAIN PAN	2,7
EWH1	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-30L-30	240V, 1PH, 4.5KW 30 GALLON	EXPAN. TANK	
EWH2	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-40L-40	240V, 1PH, 4.5KW 40 GALLON	EXPAN. TANK	
EWH3	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-50L-50	240V, 1PH, 4.5KW 50 GALLON	EXPAN. TANK	
EWH4	ELEC. WATER HEATER	--	--	3/4	3/4	AMERICAN LDCE32-50L-50	240V, 1PH, 6.1KW 50 GALLON	EXPAN. TANK	
RH	ROOF HYDRANT	--	--	3/4	--	PRIER P-RH4			
HB	HOSE BIBB	--	--	3/4	--	PRIER P-164			2
WH	WALL HYDRANT	--	--	3/4	--	PRIER C-634	W/ BOX BX1		2
WCO	WALL CLEANOUT	X	--	--	--	WADE 8480R			6
FCO	FLOOR CLEANOUT	X	--	--	--	WADE SERIES 6000			6
COTG	CLEANOUT TO GRADE	4	--	--	--	WADE 6000-Z-5			5
FD	FLOOR DRAIN	X	X	--	--	WADE 110XSTD6-27		W/ TRAP PRIMER	6
TV	TEMPERING VALVE	--	--	1/2	1/2	POWERS LFe480			4
RIM	REFRIGERATOR ICE MAKER BOX	--	--	3/8	--	SIOUX CHIEF 696-1010MR		W/ BACKFLOW PREVENTER	2,7
DW	DISHWASHER	1	--	--	1/2	PROVIDE PLUMBING CONNECTIONS			
DSB	DOWNSPOUT BOOT W/ CLEANOUT	4	--	--	--	ZURN Z191-RD-CA			

NOTES:
1. INSTALL FIXTURES IN ACCORDANCE WITH APPLICABLE STANDARDS.
2. PROVIDE PROPER ACCESSORIES FOR WALL THICKNESS & CONSTRUCTION.
3. PROVIDE PIPE INSULATION KIT. TRUEBRO MODEL 105W OR EQUAL.
4. PROVIDE TEMPERING VALVE AT FIXTURES AS INDICATED ON PLAN OR RISERS.
5. MOUNT IN 16" ROUND CONCRETE RING FLUSH W/ PAVEMENT OR GRADE.
6. SIZE TO MATCH SEWER SERVED.
7. CONNECTION BOX TO HAVE BUILT-IN WATER HAMMER ARRESTORS.
8. W/ SLIP RESISTANT BOTTOM.

SPRINKLER SYSTEM SPECS

1. PROVIDE A COMPLETE SPRINKLER SYSTEM FOR THE BUILDING IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, THE NATIONAL FIRE CODES, AND LOCAL ORDINANCES AND REGULATIONS.
2. PROVIDE A DRY TYPE SYSTEM WHERE PIPING AND/OR HEADS MUST BE INSTALLED IN AREAS SUBJECT TO FREEZING SUCH AS ATTICS OR CANOPYS. ALLOWING FOR SOMEONE ELSE TO PROVIDE MEANS TO KEEP PIPING FROM FREEZING IS NOT ACCEPTABLE. IT IS THE SPRINKLER CONTRACTORS RESPONSIBILITY TO PROVIDE A SYSTEM THAT WILL INSURE THAT PIPING WILL NOT FREEZE.
3. PROVIDE CALCULATIONS, PLANS, AND EQUIPMENT CUTS AS REQUIRED BY NFPA AND BY THE AUTHORITY HAVING JURISDICTION. SUBMIT TO OWNER'S REPRESENTATIVE FOR COORDINATION. MAKE REQUIRED ADJUSTMENTS, SUBMIT TO AUTHORITY HAVING JURISDICTION, AND OBTAIN STAMPED AND APPROVED DRAWINGS. SUBMIT APPROVED DRAWINGS TO OWNER'S REPRESENTATIVE FOR FINAL COORDINATION.
4. PIPING AND EQUIPMENT GENERALLY SHALL BE PER APPLICABLE CODES EXCEPT AS FOLLOWS:
   A. SPRINKLER HEADS IN FINISHED AREAS SHALL BE SEMI-RECESSED, WHITE FINISH.
   B. AIR COMPRESSORS FOR A DRY SYSTEM SHALL BE BASE MOUNTED TYPE WITH A MINIMUM 10 GALLON STORAGE TANK. UNIT SHALL BE INSTALLED ON SPRING TYPE VIBRATION ISOLATORS AND CONNECTED TO SPRINKLER PIPING WITH FLEXIBLE CONNECTORS.
5. SPRINKLER SYSTEM INSTALLER SHALL NOTE THAT THE BUILDING HAS A MANUAL FIRE ALARM SYSTEM. PROVIDE ALL ALARM DEVICES, FLOW SWITCHES, AND TAMPER SWITCHES REQUIRED. CONNECTIONS BETWEEN THESE DEVICES AND THE FIRE ALARM SYSTEM WILL BE BY THE FIRE ALARM SYSTEM INSTALLER. COORDINATE EXACT REQUIREMENTS OF ALARM DEVICES FOR CONNECTION TO THE FIRE ALARM SYSTEM.
6. COORDINATE ROUTING OF PIPING WITH BUILDING STRUCTURE AND WITH OTHER TRADES. INSURE THAT HEIGHT SELECTED FOR PIPING MAINS WILL ALLOW FOR INSTALLATION OF DUCTS, LIGHTS, AND EQUIPMENT.
7. DO NOT INSTALL PIPING BENEATH AIR HANDLING DEVICES OR IN MANNER THAT WILL INTERFERE WITH ANY TYPE OF ACCESS PANEL. INSTALL PIPING AT LEAST 2" ABOVE LIGHT FIXTURES TO ALLOW FOR FUTURE RELOCATION OF LIGHT FIXTURES WITHOUT REVISION TO PIPING ELEVATIONS.
8. IN SPECIFIC AREAS WHERE ARCHITECT HAS INDICATED SPRINKLER HEADS, INSTALL HEADS IN THOSE LOCATIONS. PRIOR TO DEVELOPMENT OF SHOP DRAWINGS, NOTIFY ARCHITECT IF SPRINKLER HEAD LOCATIONS SHOWN DO NOT SATISFY COVERAGE REQUIREMENTS OF NFPA-13.
9. INSTALL HEADS IN THE CENTER OF CEILING TILES IN SMALLER ROOMS AND CENTERED ONE WAY IN CEILING TILES IN LARGE OPEN AREAS.
10. SEE ARCHITECTURAL DRAWINGS FOR SPRINKLER STAND-PIPE LOCATIONS IN STAIRWELLS.
11. FIRE PUMP SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH INTEGRAL WITH FIRE PUMP CONTROLLER.

LEGEND

- SOIL OR WASTE PIPING
- WATER SERVICE PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RECIRC PIPING
- G — GAS PIPING
- ST — STORM PIPING
- S — SPRINKLER PIPING
- BALL OR GATE VALVE
- CHECK VALVE
- RPZ BACKFLOW PREVENTER
- PRESSURE REDUCING VALVE
- M — REMOTE READ WATER METER
- DROP IN PIPING
- W 1 — RISER MARK - SEE DIAGRAM

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
WCO	WALL CLEANOUT
FCO	FLOOR CLEANOUT
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
VTR	VENT THRU ROOF
WH	WALL HYDRANT
HB	HOSE BIBB W/ VACUUM BREAKER
EWH	ELECTRIC WATER HEATER
CW	COLD WATER
HW	HOT WATER
TW	TEMPERED WATER
DN	DOWN
WC	WATER CLOSET
LAV	LAVATORY
FD	FLOOR DRAIN
DSB	DOWNSPOUT BOOT
DFU	DRAINAGE FIXTURE UNIT
SFU	SUPPLY FIXTURE UNIT

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PLUMBING SPECS., AND SCHEDULES
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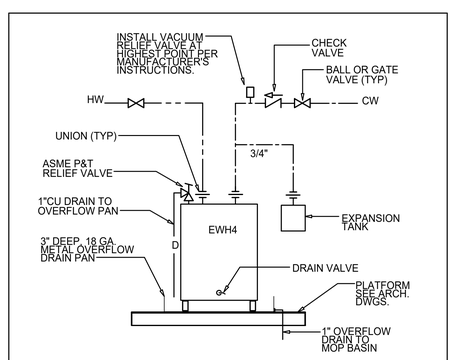
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3P-001

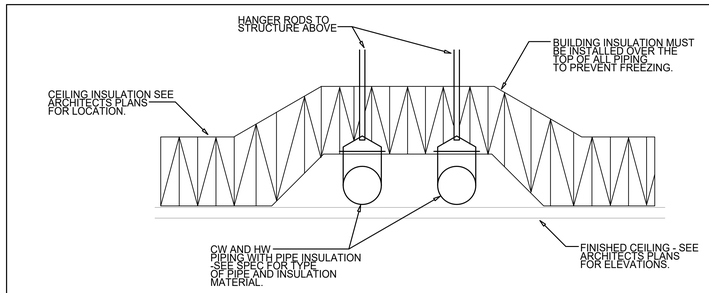
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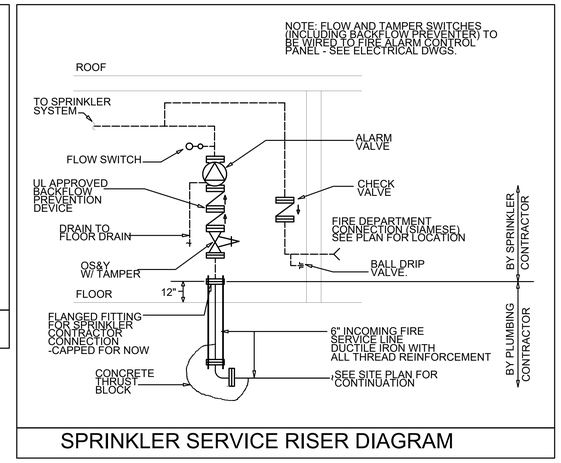
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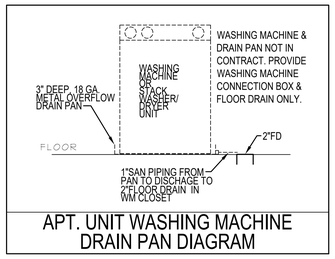
COMMON AREA WATER HEATER DIAGRAM



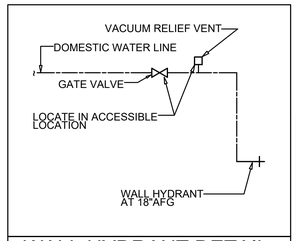
DETAIL OF PIPING IN CEILING SPACE



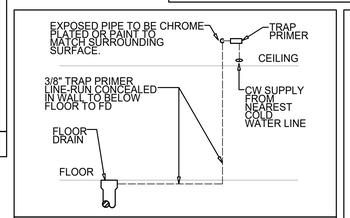
SPRINKLER SERVICE RISER DIAGRAM



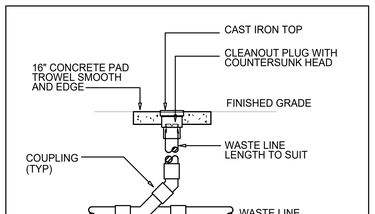
APT. UNIT WASHING MACHINE DRAIN PAN DIAGRAM



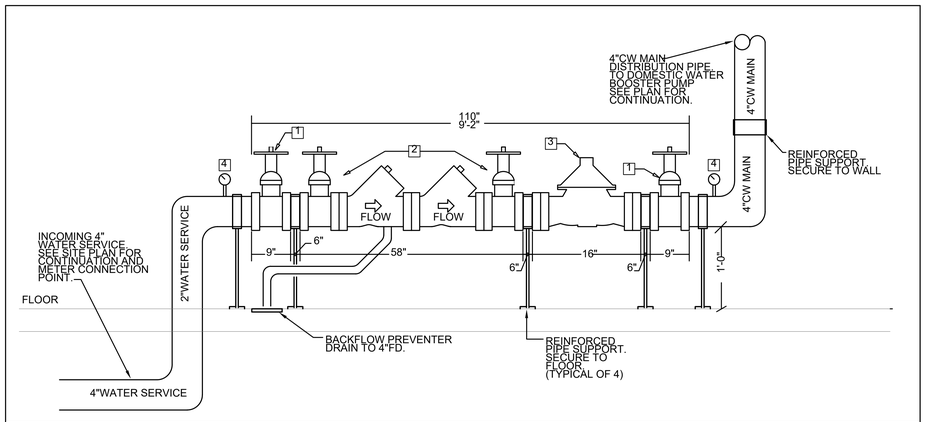
WALL HYDRANT DETAIL



FLOOR DRAIN TRAP PRIMER DIAGRAM

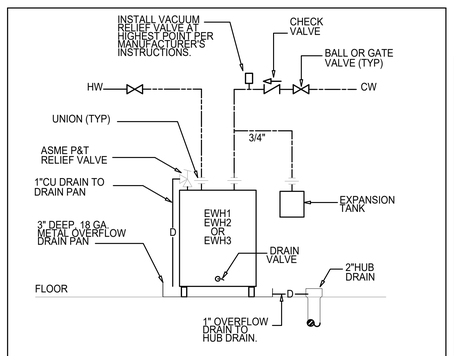


CLEANOUT TO GRADE DIAGRAM

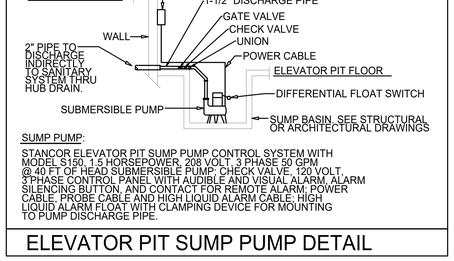


DOMESTIC WATER SERVICE DETAIL

1. 4" GATE VALVE DUCTILE IRON, NON-RISING, BOLTED BONNET, CLASS 125 CLASS, 3 INLET PIPE SIZE. 9" INLET TO OUTLET. GAMUT 337Z409 OR EQUAL.
2. 4" REDUCED PRESSURE ZONE BACKFLOW PREVENTER, FLANGED CONNECTION, CAST IRON WATTS 909 OR EQUAL.
3. 4" PRESSURE REDUCING VALVE, FLANGED CONNECTION, DUCTILE IRON, ZORO G1567501 OR EQUAL.
4. ZURN MODEL 25 PRESSURE GAUGE 2010-25L-400, 1/4" NPT.



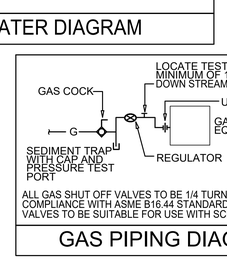
APT. WATER HEATER DIAGRAM



SUMP PUMP:

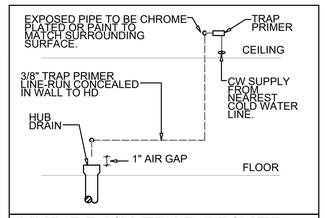
STANCOR ELEVATOR PIT SUMP PUMP CONTROL SYSTEM WITH MODEL S150, 1.5 HORSEPOWER, 208 VOLT, 3 PHASE 50 GPM @ 40 FT OF HEAD SUBMERSIBLE PUMP; CHECK VALVE, 120 VOLT, 3 PHASE CONTROL PANEL WITH AUDIBLE AND VISUAL ALARM, ALARM SILENCING BUTTON, AND CONTACT FOR REMOTE ALARM; POWER CABLE, PROBE CABLE AND HIGH LIQUID ALARM CABLE; HIGH LIQUID ALARM FLOAT WITH CLAMPING DEVICE FOR MOUNTING TO PUMP DISCHARGE PIPE.

ELEVATOR PIT SUMP PUMP DETAIL



ALL GAS SHUT OFF VALVES TO BE 1/4 TURN TYPE IN COMPLIANCE WITH ASME B16.44 STANDARDS FOR 2 PSI SYSTEMS. VALVES TO BE SUITABLE FOR USE WITH SCH 40 BLACK STEEL.

GAS PIPING DIAGRAM



HUB DRAIN TRAP PRIMER DIAGRAM

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PLUMBING DETAILS

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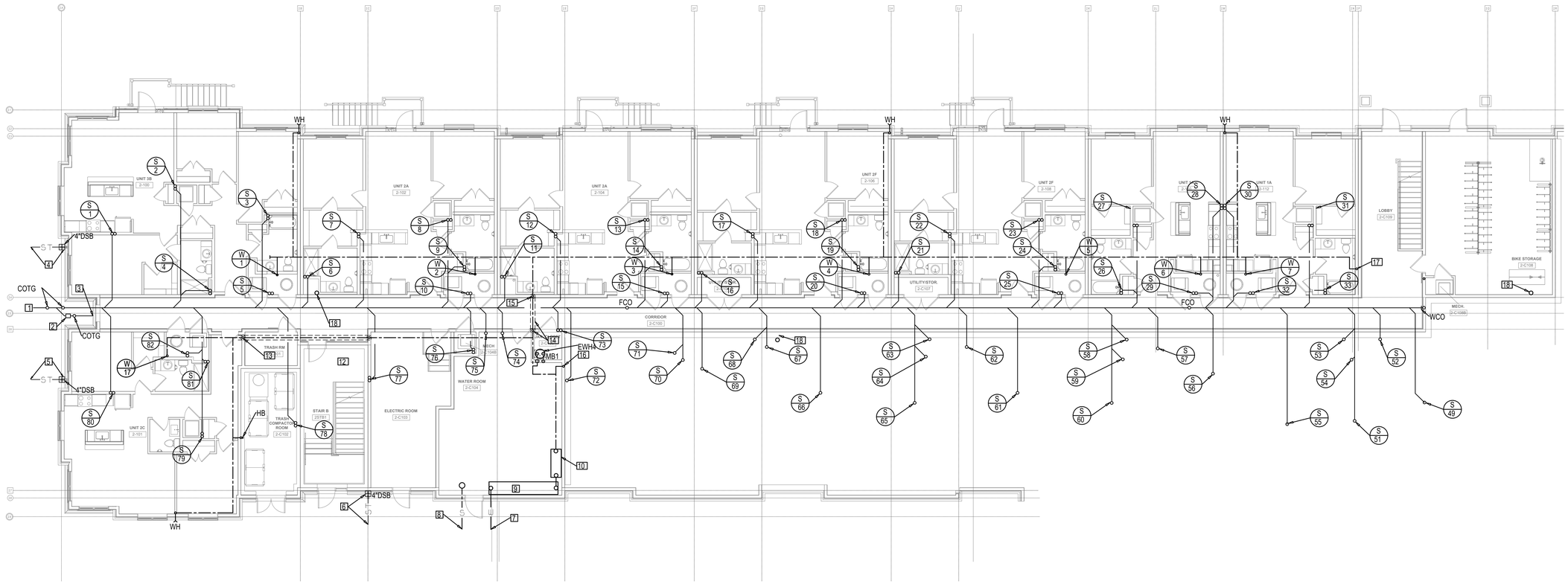
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06/30/2026
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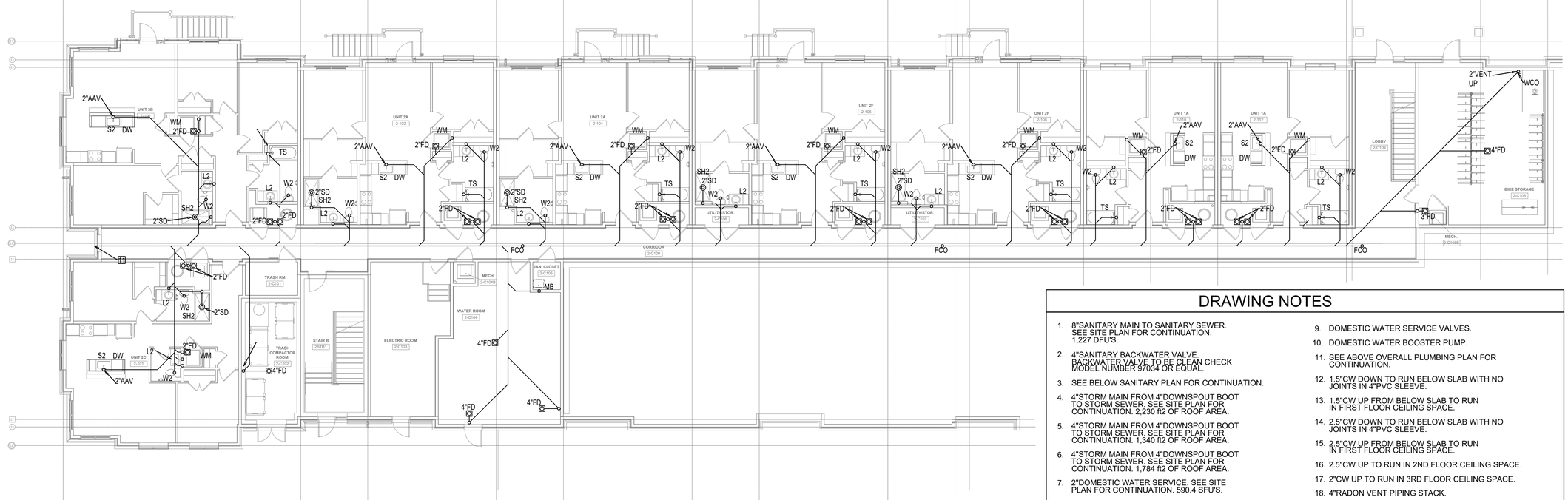
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FIRST FLOOR PLUMBING PLAN

SCALE: 1/8" = 1'-0"



FIRST FLOOR SANITARY TO BACKWATER VALVE PLAN

SCALE: 1/8" = 1'-0"

DRAWING NOTES

1. 8"SANITARY MAIN TO SANITARY SEWER. SEE SITE PLAN FOR CONTINUATION. 1,227 DFU'S.
2. 4"SANITARY BACKWATER VALVE. BACKWATER VALVE TO BE CLEAN CHECK MODEL NUMBER 97034 OR EQUAL.
3. SEE BELOW SANITARY PLAN FOR CONTINUATION.
4. 4"STORM MAIN FROM 4"DOWNSPOUT BOOT TO STORM SEWER. SEE SITE PLAN FOR CONTINUATION. 2,230 ft2 OF ROOF AREA.
5. 4"STORM MAIN FROM 4"DOWNSPOUT BOOT TO STORM SEWER. SEE SITE PLAN FOR CONTINUATION. 1,340 ft2 OF ROOF AREA.
6. 4"STORM MAIN FROM 4"DOWNSPOUT BOOT TO STORM SEWER. SEE SITE PLAN FOR CONTINUATION. 1,784 ft2 OF ROOF AREA.
7. 2"DOMESTIC WATER SERVICE. SEE SITE PLAN FOR CONTINUATION. 590.4 SFU'S.
8. 6"SPRINKLER SERVICE. SEE SITE PLAN FOR CONTINUATION.
9. DOMESTIC WATER SERVICE VALVES.
10. DOMESTIC WATER BOOSTER PUMP.
11. SEE ABOVE OVERALL PLUMBING PLAN FOR CONTINUATION.
12. 1.5"CW DOWN TO RUN BELOW SLAB WITH NO JOINTS IN 4"PVC SLEEVE.
13. 1.5"CW UP FROM BELOW SLAB TO RUN IN FIRST FLOOR CEILING SPACE.
14. 2.5"CW DOWN TO RUN BELOW SLAB WITH NO JOINTS IN 4"PVC SLEEVE.
15. 2.5"CW UP FROM BELOW SLAB TO RUN IN FIRST FLOOR CEILING SPACE.
16. 2.5"CW UP TO RUN IN 2ND FLOOR CEILING SPACE.
17. 2"CW UP TO RUN IN 3RD FLOOR CEILING SPACE.
18. 4"RADON VENT PIPING STACK.

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FIRST FLOOR PLUMBING PLANS
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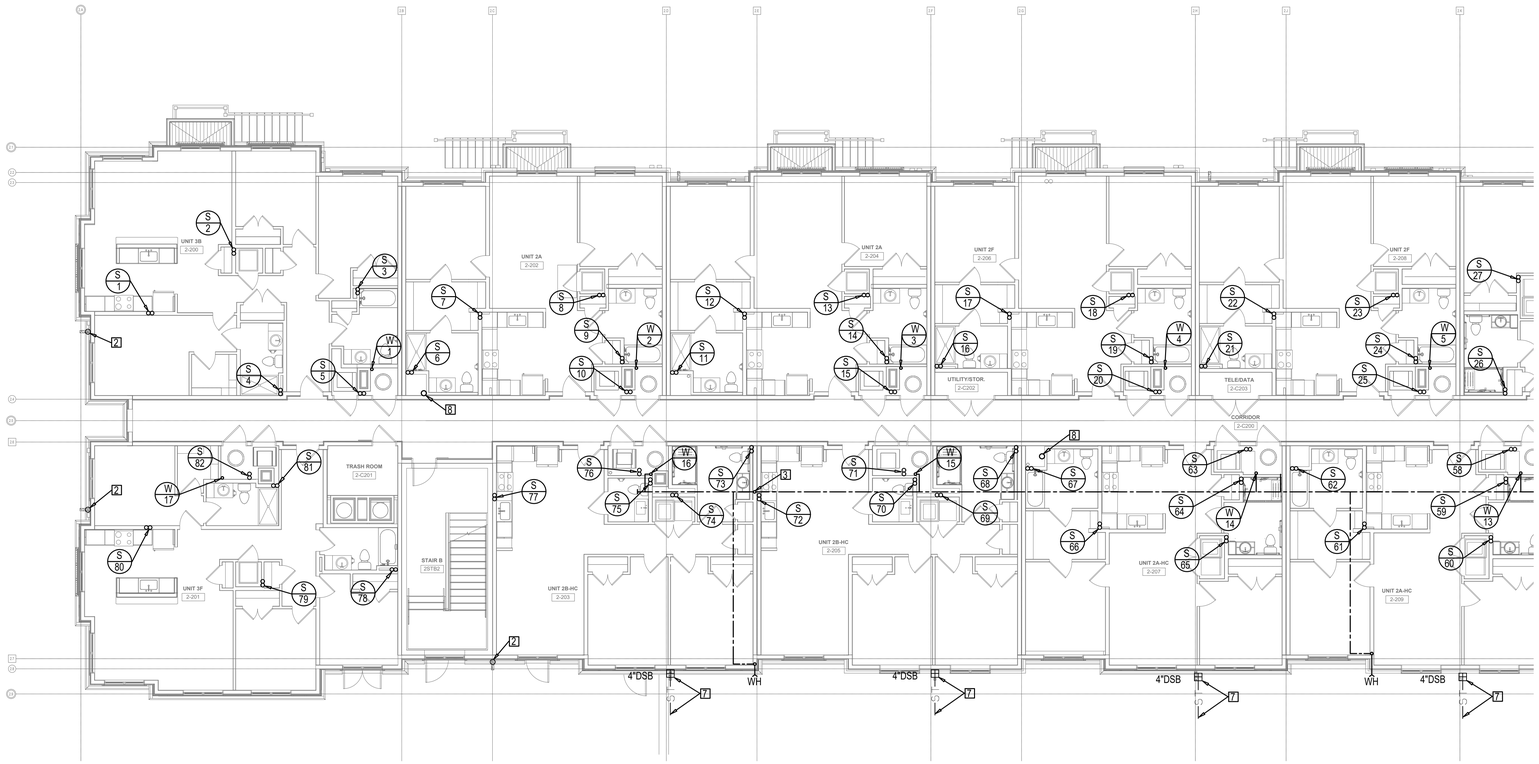
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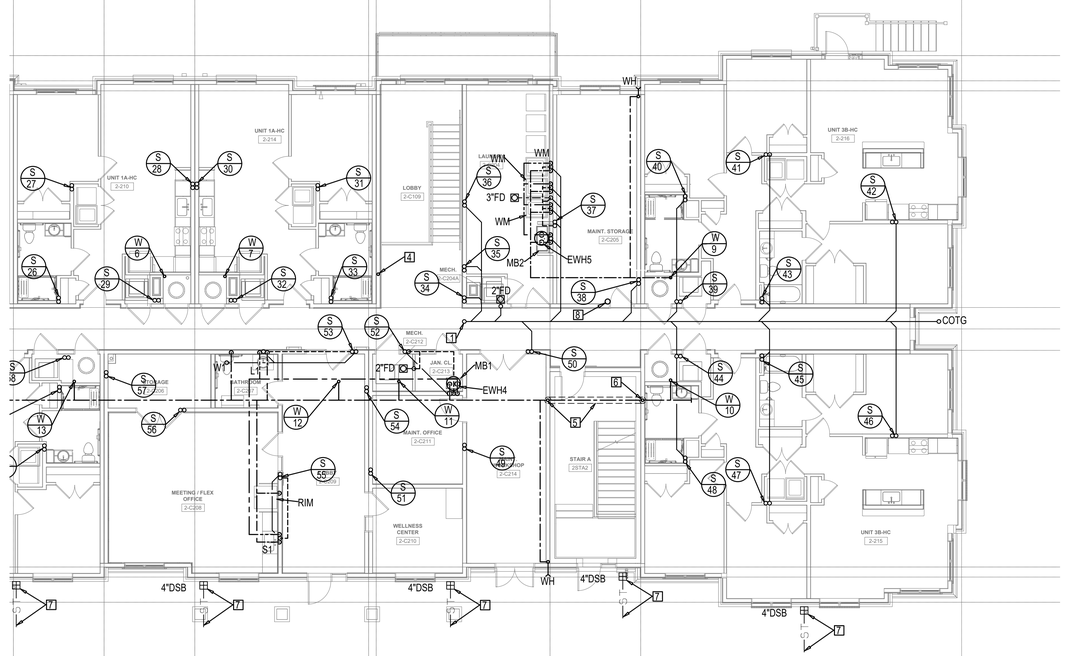


SECOND FLOOR AREA A PLUMBING PLAN

SCALE: 1/8" = 1'-0"

DRAWING NOTES

1. 6"SAN DOWN.
2. 4"STORM DOWN FROM ABOVE TO DOWNSPOUT BOOT.
3. 2.5"CW UP FROM BELOW TO RUN IN CEILING SPACE.
4. 2"CW UP FROM BELOW AND UP TO 3RD FLOOR.
5. 2.5"CW DOWN TO RUN BELOW SLAB IN 4"PVC SLEEVE WITH NO JOINTS.
6. 2.5"CW UP TO RUN IN CEILING SPACE.
7. 4"STORM MAIN FROM 4"DOWNSPOUT BOOT TO STORM SEWER. SEE SITE PLAN FOR CONTINUATION. 1,784 ft2 OF ROOF AREA.
8. 4"RADON VENT PIPING STACK.



SECOND FLOOR AREA B PLUMBING PLAN

SCALE: 1/8" = 1'-0"

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05-05-26

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SECOND FLOOR
PLUMBING PLANS

ROANOKE GATEWAY
ROANOKE, VA 24022

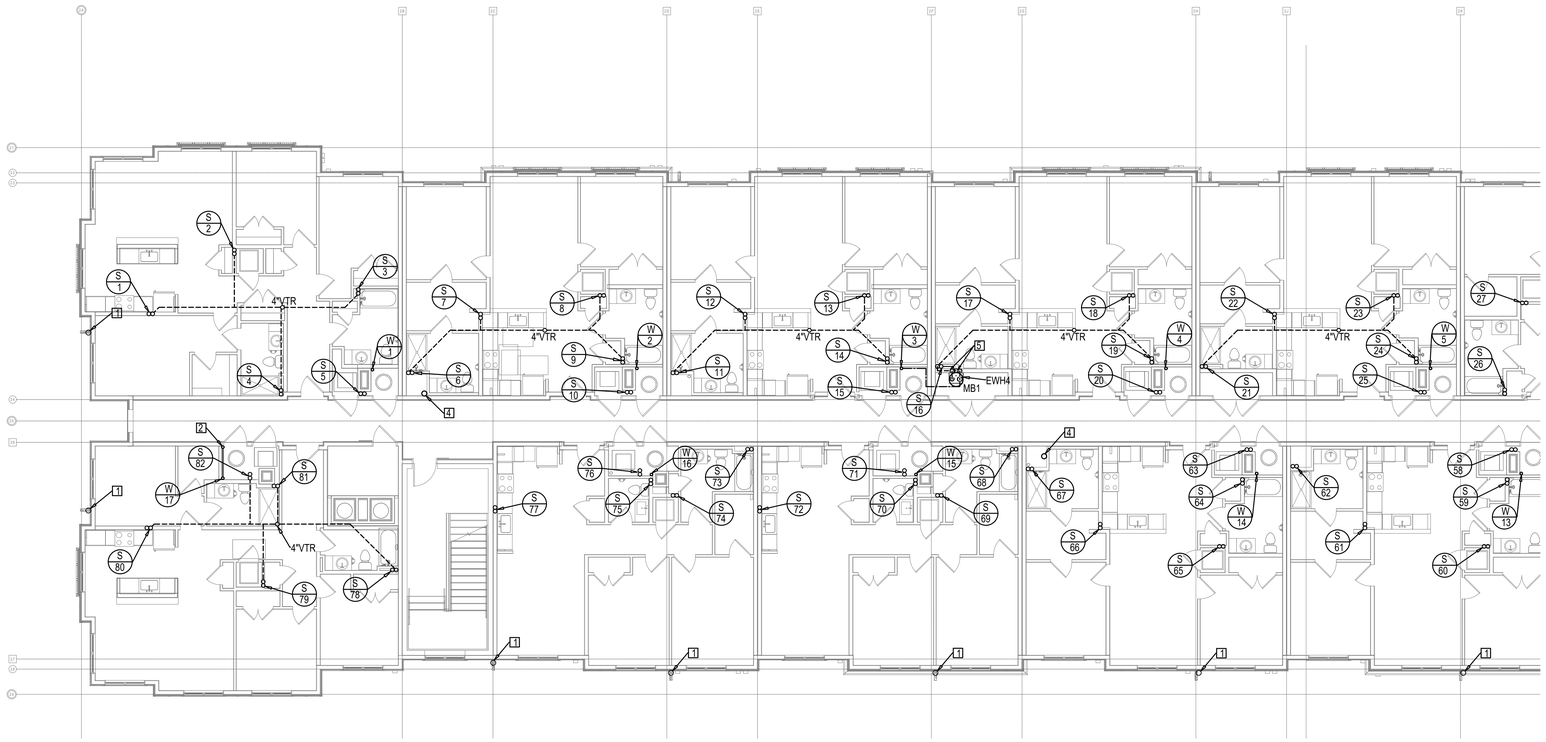
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2P-102

06/30/2026
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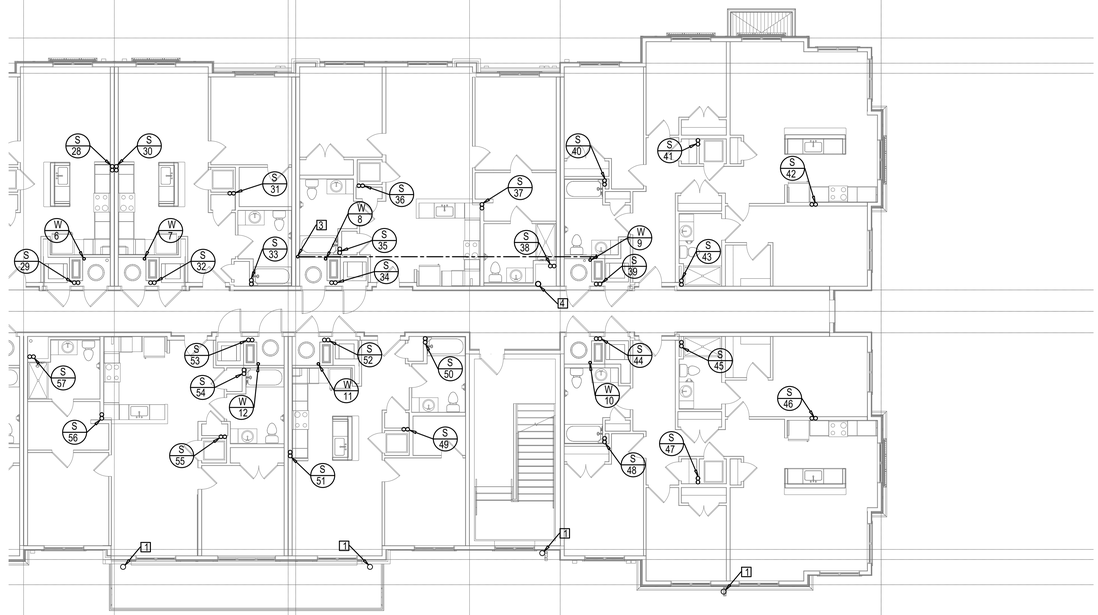


THIRD FLOOR AREA A PLUMBING PLAN

SCALE: 1/8" = 1'-0"

DRAWING NOTES

1. 4"STORM DOWN FROM ABOVE TO DOWNSPOUT BOOT.
2. 3/4"CW UP TO SERVE ROOF HYDRANT.
3. 2"CW UP FROM BELOW TO RUN IN 3RD FLOOR CEILING SPACE.
4. 4"RADON VENT PIPING STACK.
5. 3"SAN & 2"VENT THIS AREA TO SERVE 3RD & 4TH FLOOR MOP BASINS. 3/4"CW & HW TO SERVE 3RD & 4TH FLOOR MOP BASINS.



THIRD FLOOR AREA B PLUMBING PLAN

SCALE: 1/8" = 1'-0"

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THIRD FLOOR PLUMBING PLANS
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ROANOKE, VA 24022

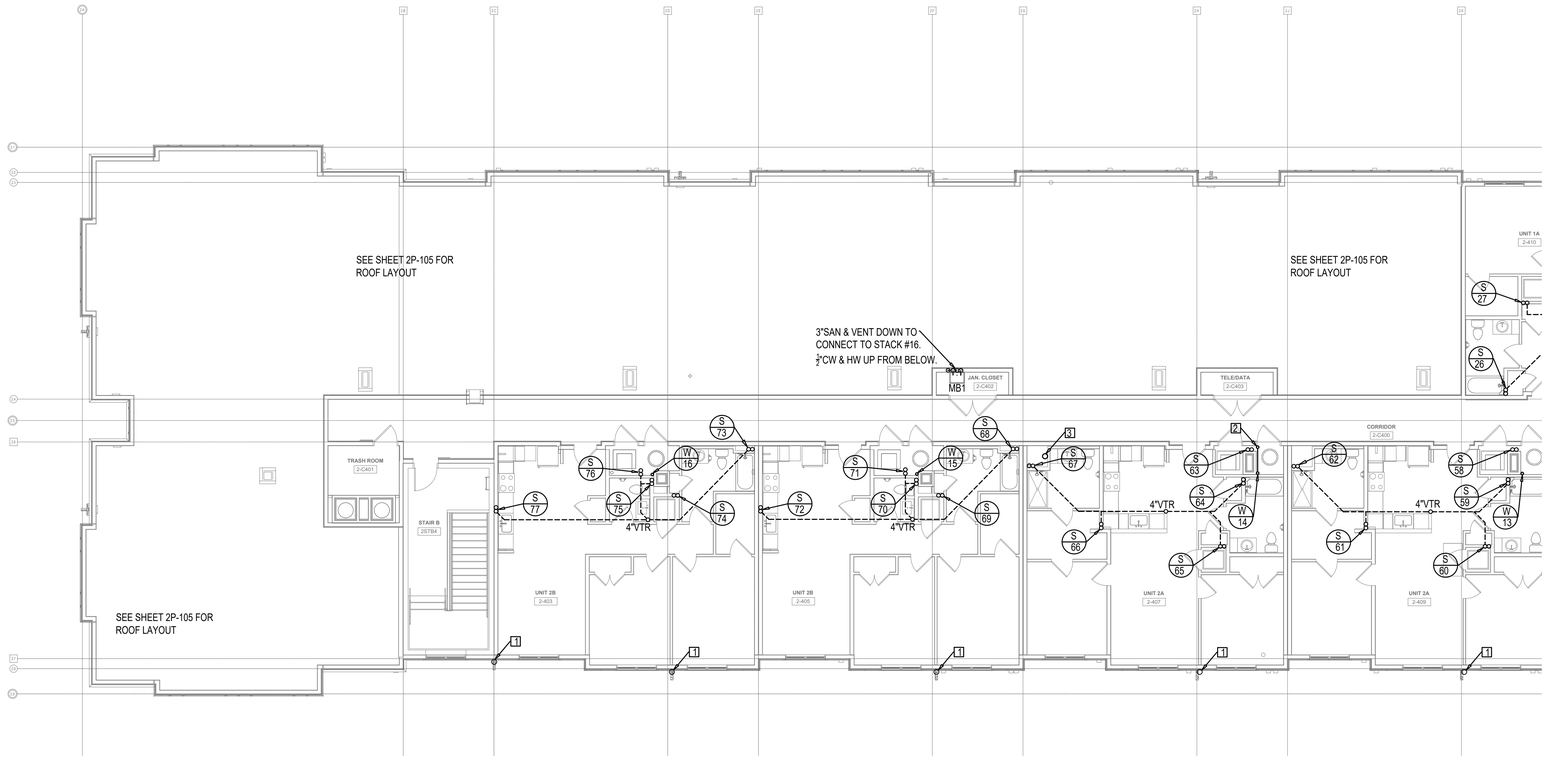
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06/30/2026
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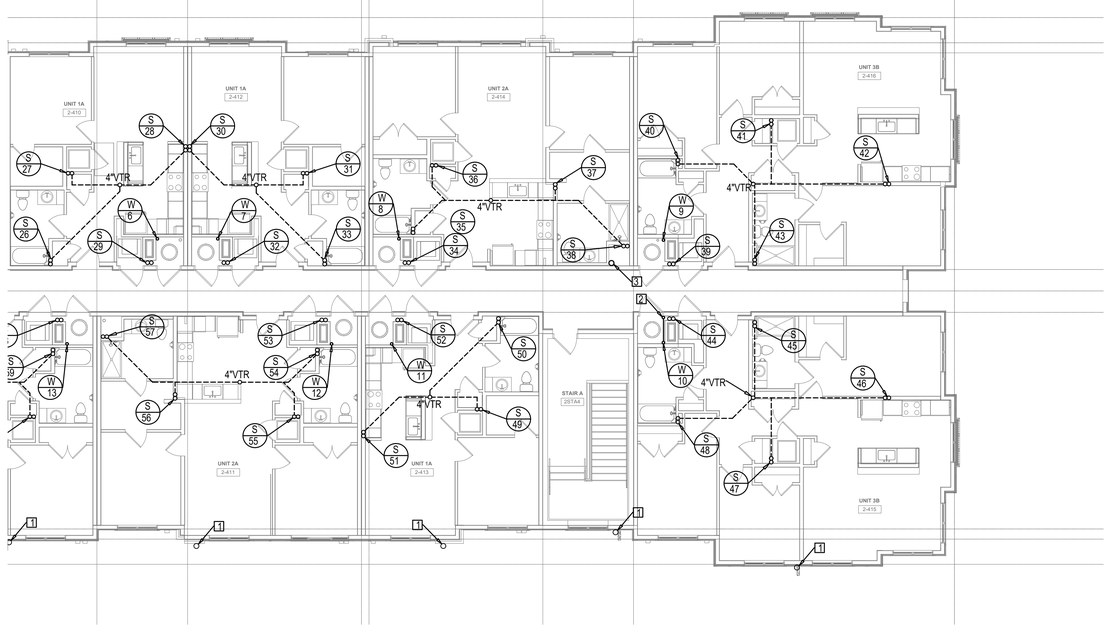


FOURTH FLOOR AREA A PLUMBING PLAN

SCALE: 1/8" = 1'-0"

DRAWING NOTES

1. 4"STORM DOWN FROM ABOVE TO DOWNSPOUT BOOT.
2. 3/4"CW UP TO SERVE ROOF HYDRANT.
3. 4"RADON VENT PIPING STACK.



FOURTH FLOOR AREA B PLUMBING PLAN

SCALE: 1/8" = 1'-0"

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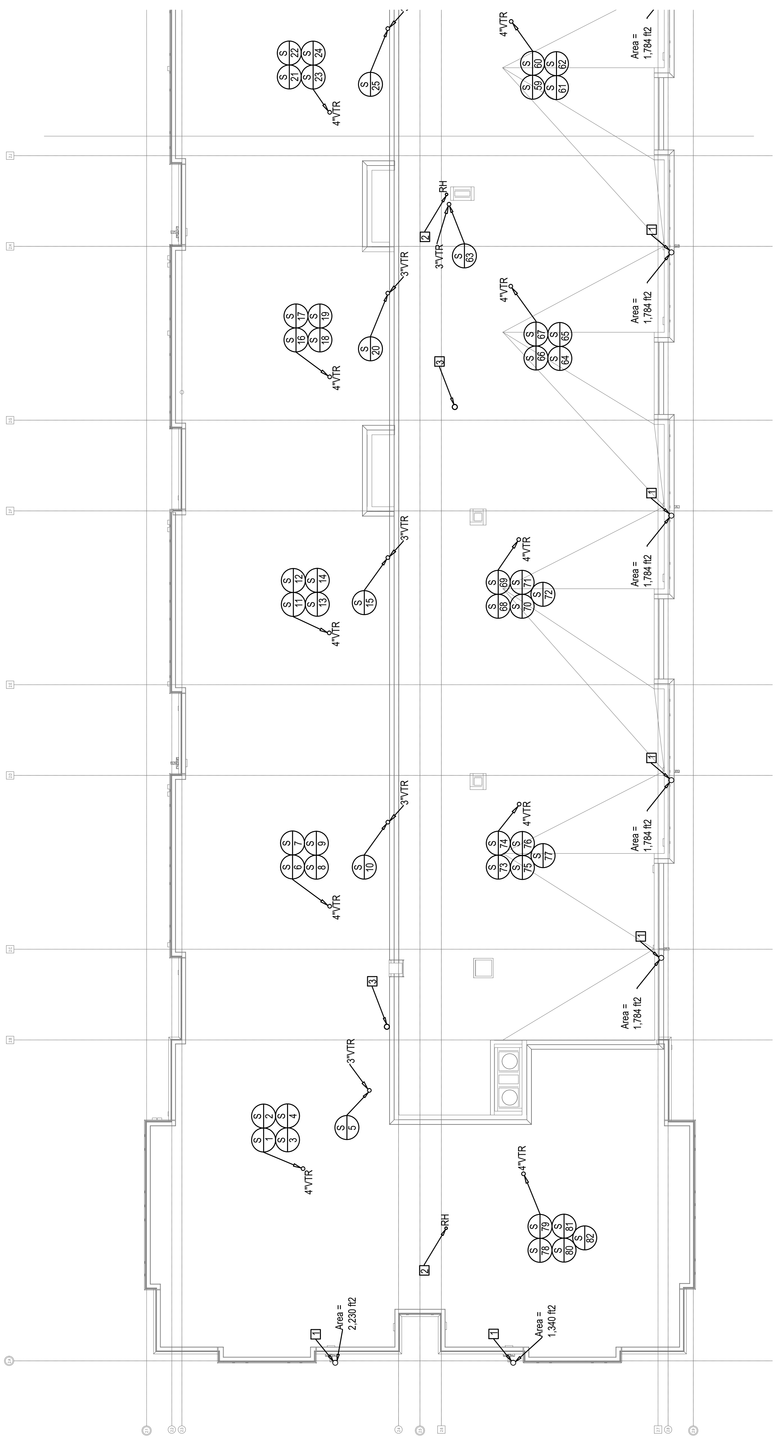
FOURTH FLOOR
PLUMBING PLANS
ROANOKE GATEWAY
ROANOKE, VA 24022

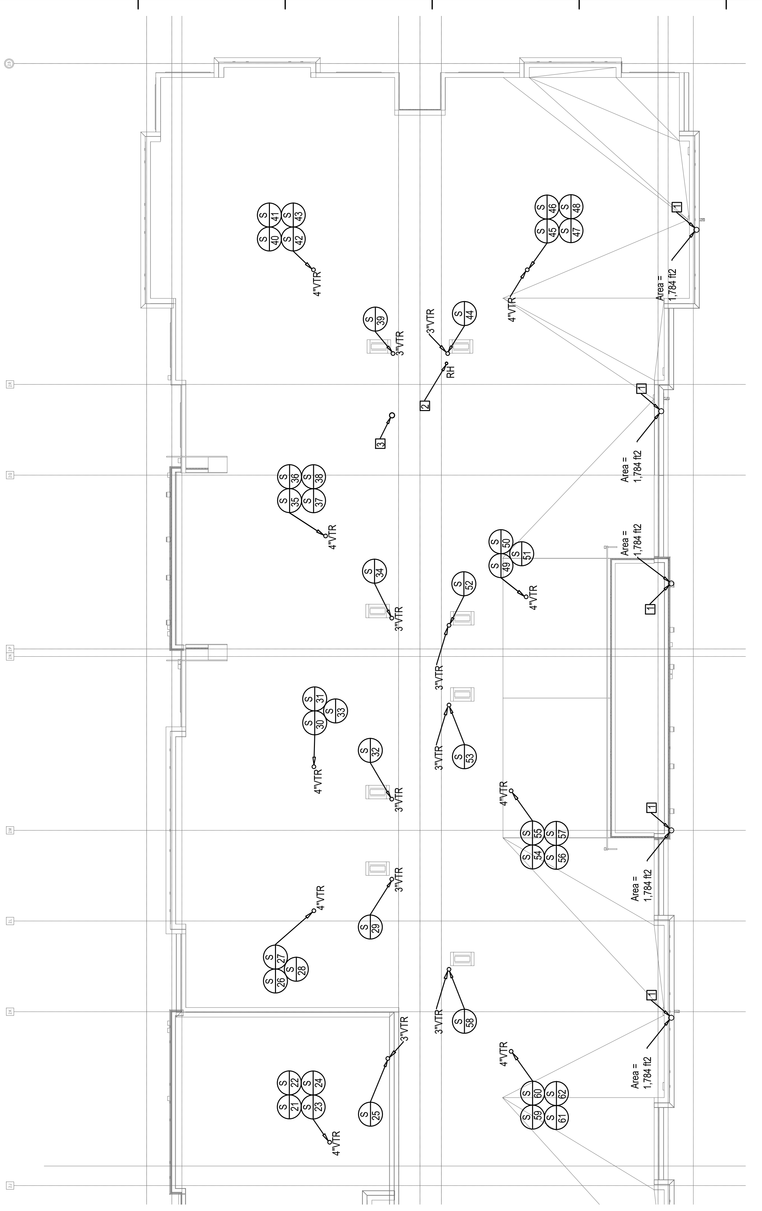
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06/30/2026	CONSTRUCTABILITY REVIEW

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DRAWING NOTES

1. 4"SCUPPER DRAIN FOR ROOF STORM DRAINAGE DOWN TO DOWNSPOUT BOOT.
2. 3/4"CW UP FROM BELOW TO SERVE ROOF HYDRANT.
3. 4"RADON VENT PIPING STACK.

ROOF
PLUMBING PLANS
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	DESCRIPTION / REVISION
04/13/2026	CONSTR.C.FIABILITY REVIEW
06/30/2026	CONSTR.C.FIABILITY REVIEW

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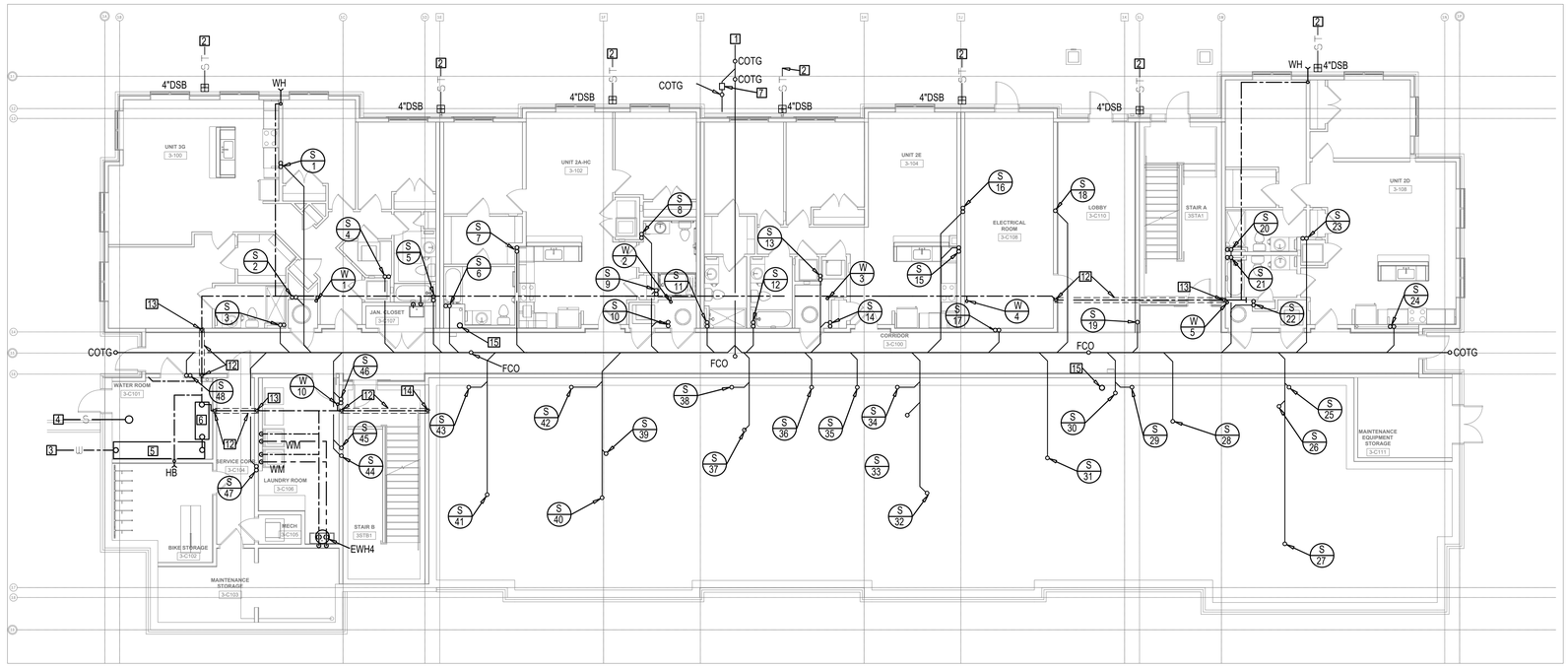
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06/30/2026
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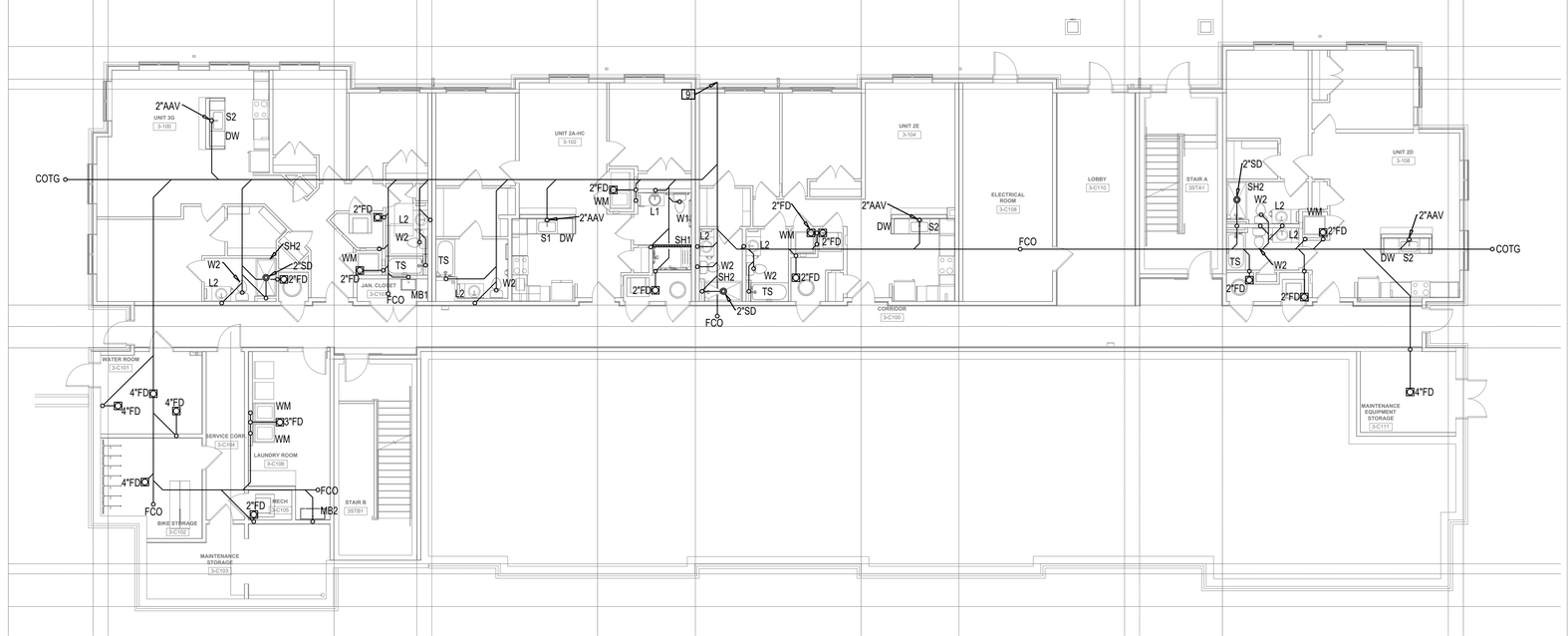
DRAWING NOTES

1. 8"SANITARY MAIN TO SANITARY SEWER. SEE SITE PLAN FOR CONTINUATION. 812 DFU'S.
2. 4"STORM MAIN FROM 4"DOWNSPOUT BOOT TO STORM SEWER. SEE SITE PLAN FOR CONTINUATION.
3. 2"DOMESTIC WATER SERVICE. SEE SITE PLAN FOR CONTINUATION. 408 SFU'S.
4. 6"SPRINKLER SERVICE. SEE SITE PLAN FOR CONTINUATION.
5. DOMESTIC WATER SERVICE VALVES.
6. DOMESTIC WATER BOOSTER PUMP.
7. 4"SANITARY BACKWATER VALVE. BACKWATER VALVE TO BE CLEAN CHECK MODEL NUMBER 97034 OR EQUAL.
8. SEE BELOW SANITARY PLAN FOR CONTINUATION.
9. SEE ABOVE OVERALL PLUMBING PLAN FOR CONTINUATION.
12. 2.5"CW DOWN TO RUN BELOW SLAB WITH NO JOINTS IN 4"PVC SLEEVE.
13. 2.5"CW UP FROM BELOW SLAB TO RUN IN FIRST FLOOR CEILING SPACE.
14. 2.5"CW UP FROM BELOW SLAB TO RUN IN SECOND FLOOR CEILING SPACE.
15. 4"RADON PIPING UP FOR PASSIVE RADON SYSTEM.



FIRST FLOOR PLUMBING PLAN

SCALE: 1/8" = 1'-0"



FIRST FLOOR SANITARY TO BACKWATER VALVE PLAN

SCALE: 1/8" = 1'-0"

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FIRST FLOOR PLUMBING PLAN

ROANOKE GATEWAY
ROANOKE, VA 24022

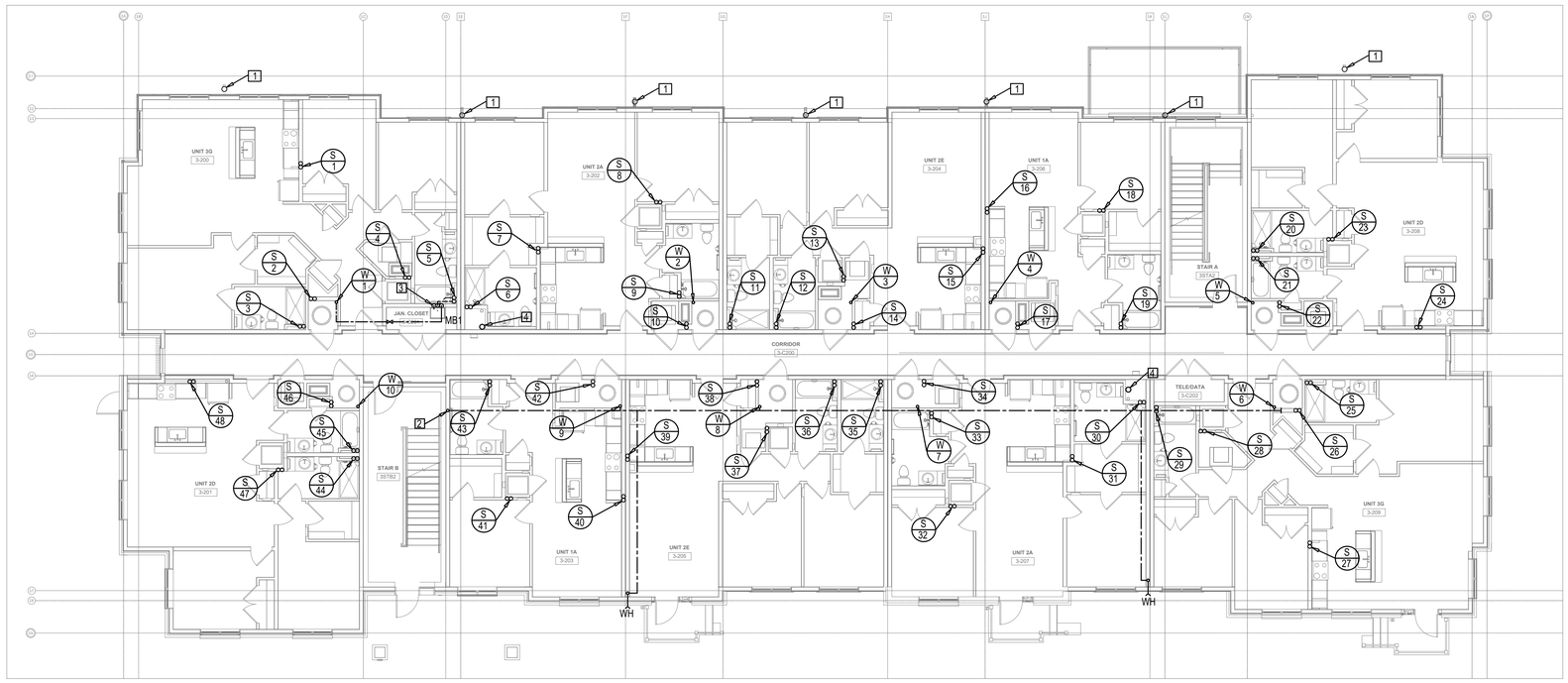
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06/30/2026	CONSTRUCTABILITY REVIEW

3P-101

06/30/2026
CONSTRUCTABILITY REVIEW

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DRAWING NOTES

1. 4"STORM FROM ABOVE AND DOWN TO DOWNSPOUT BOOT.
2. 2.5"CW UP FROM BELOW TO RUN IN CEILING SPACE.
3. 1"HW STACK TO SERVE MOP BASINS. PROVIDE PROVIDE 1/2"HW TAP AT EACH FLOOR MB.
4. 4"RADON VENT PIPE STACK.

SECON FLOOR PLUMBING PLAN

SCALE: 1/8" = 1'-0"

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SECOND FLOOR PLUMBING PLAN
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06/30/2026	CONSTRUCTABILITY REVIEW

3P-102

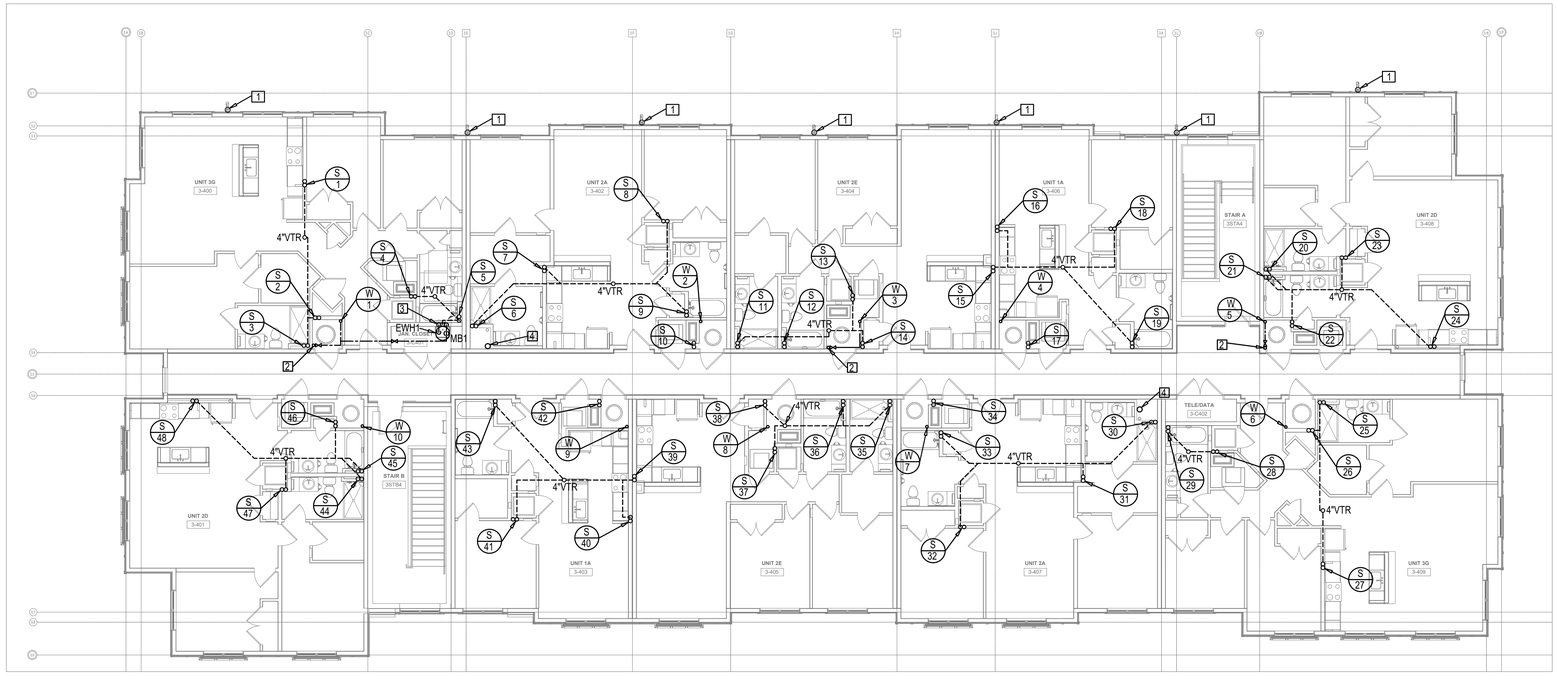
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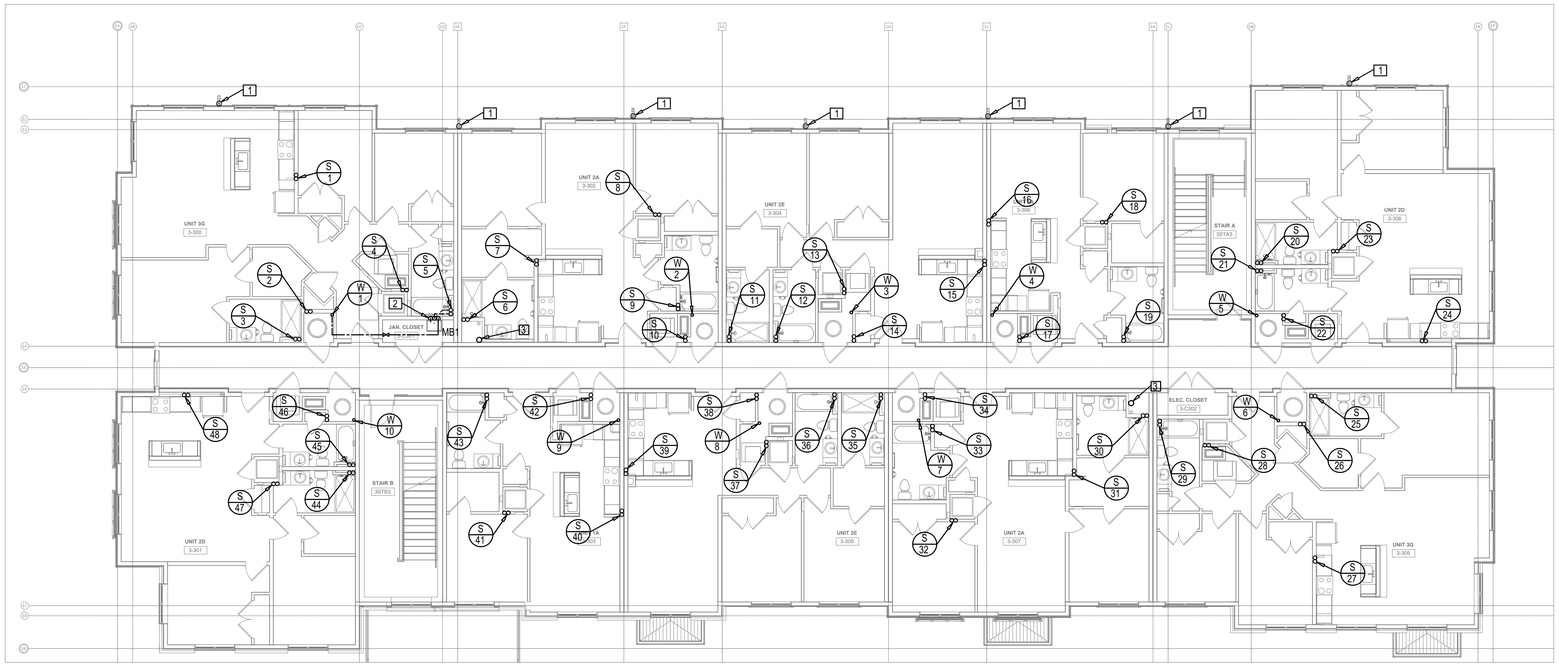
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DRAWING NOTES

1. 4"STORM FROM ABOVE AND DOWN TO DOWNSPOUT BOOT.
2. 3/4"CW UP TO SERVE ROOF HYDRANT.
3. 1"HW STACK TO SERVE MOP BASINS. PROVIDE PROVIDE 1/2"HW TAP AT EACH FLOOR MB.
4. 4"RADON VENT PIPE STACK.



FOURTH FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"



THIRD FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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THIRD AND FOURTH FLOOR PLUMBING PLAN
ROANOKE GATEWAY
ROANOKE, VA 24022

DATE	SUBMISSION / REVISION
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06/30/2026	CONSTRUCTABILITY REVIEW

3P-103

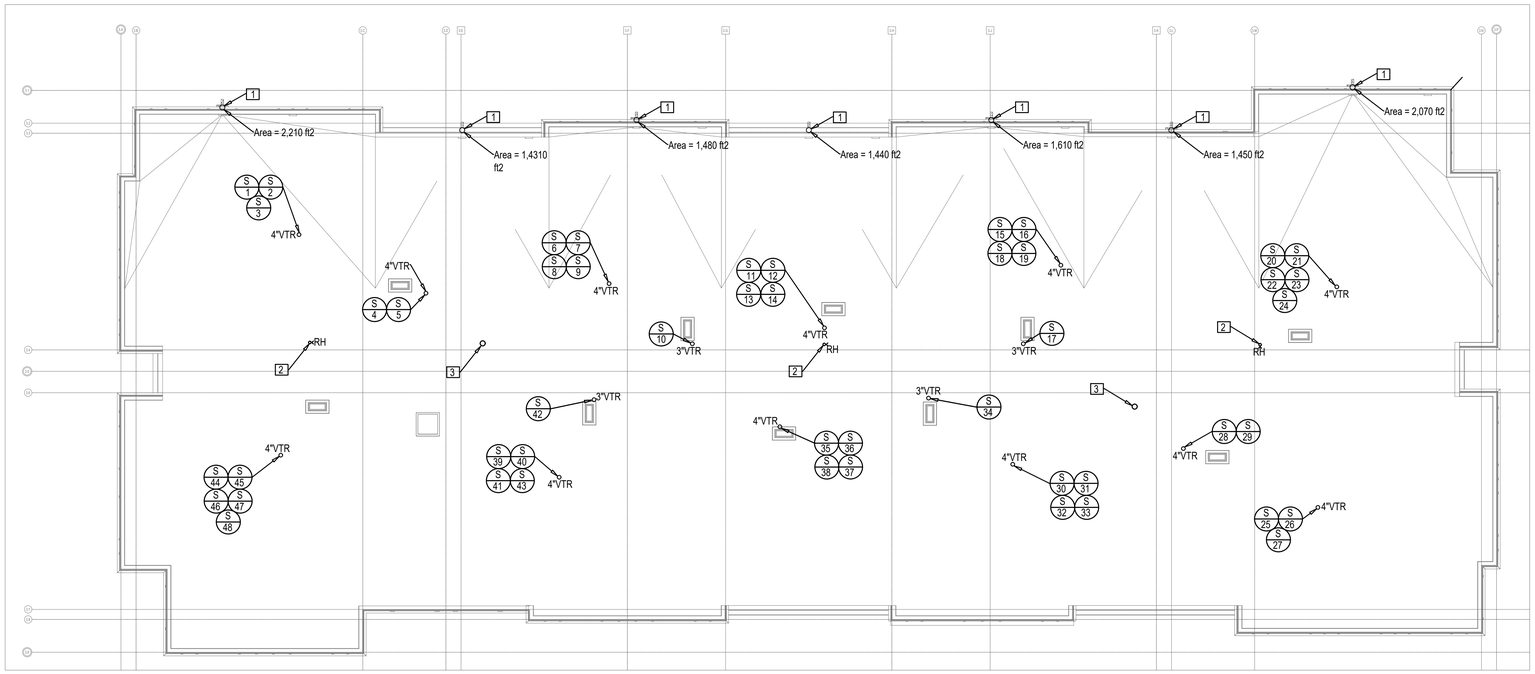
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DRAWING NOTES

1. 4"STORM THROUGH SCUPPER AND DOWN TO DOWNSPOUT BOOT.
2. 3/4"CW UP FROM BELOW TO SERVE ROOF HYDRANT.
3. 4"VTR FOR PASSIVE RADON VENT SYSTEM.



ROOF PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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ROOF PLUMBING PLAN
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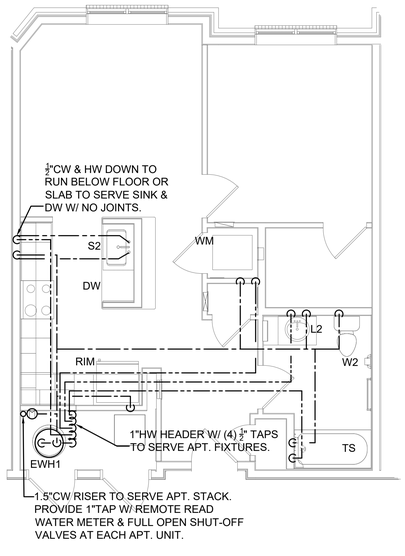
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06/30/2026
CONSTRUCTABILITY REVIEW

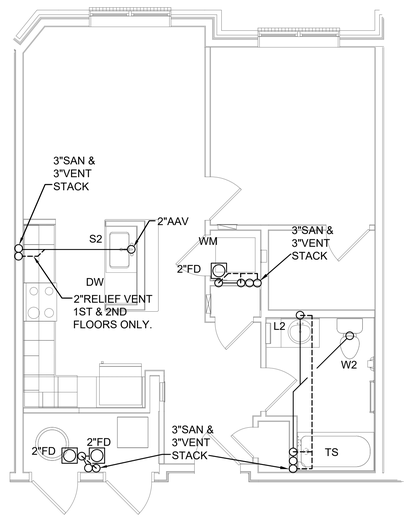
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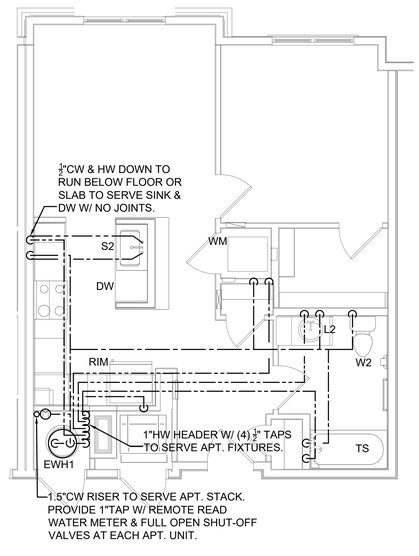
UNIT IB WATER PLAN

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



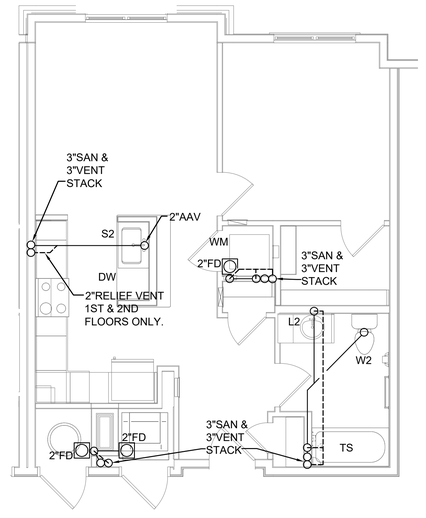
UNIT IB SANITARY/VENT PLAN

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



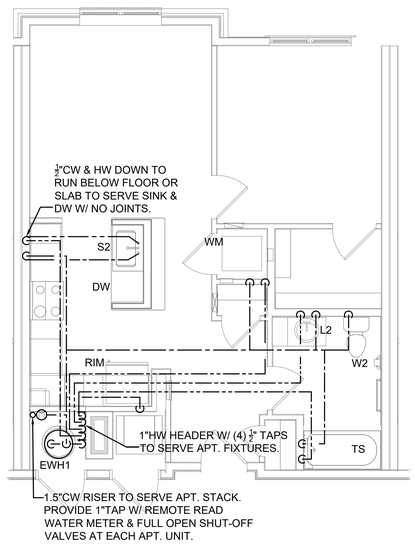
UNIT IC WATER PLAN

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



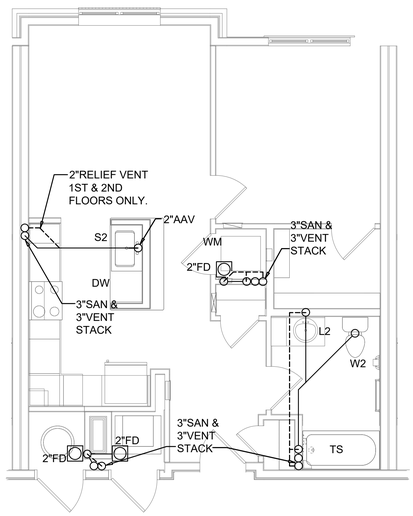
UNIT IC SANITARY/VENT PLAN

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



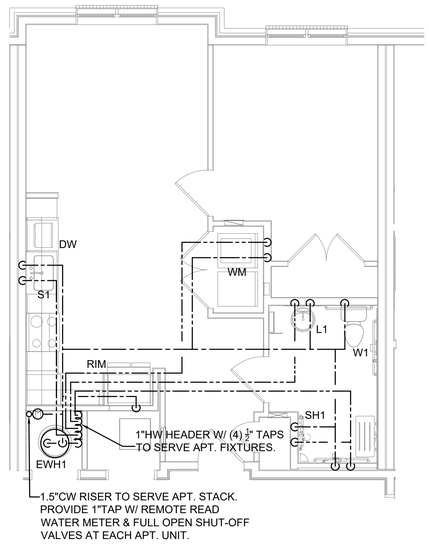
UNIT IA WATER PLAN

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



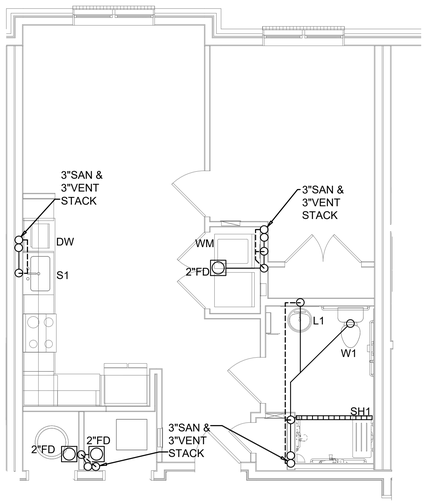
UNIT IA SANITARY/VENT PLAN

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



UNIT IA-HC WATER PLAN

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



UNIT IA-HC SANITARY/VENT PLAN

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

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UNIT PLUMBING PLANS

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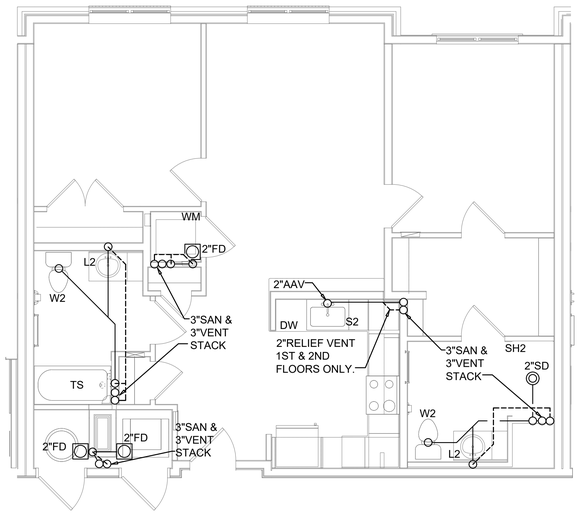
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06/30/2026
CONSTRUCTABILITY REVIEW

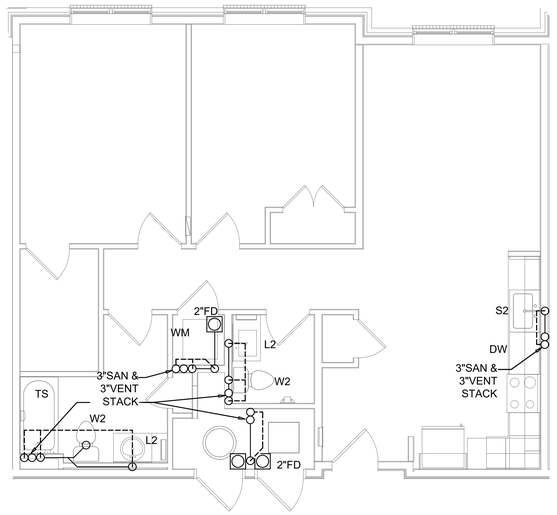
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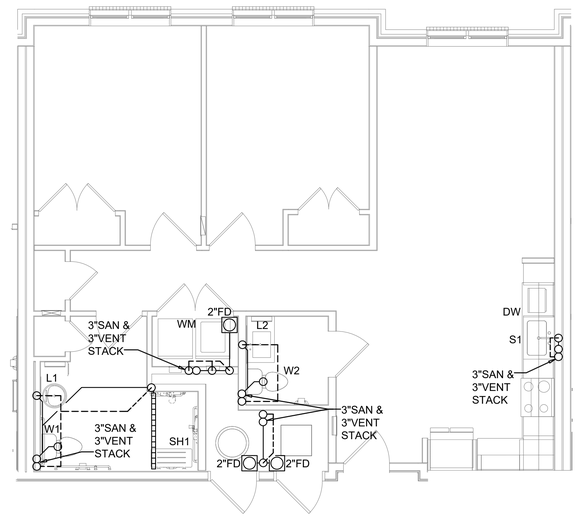
UNIT 2A SANITARY/VENT PLAN

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



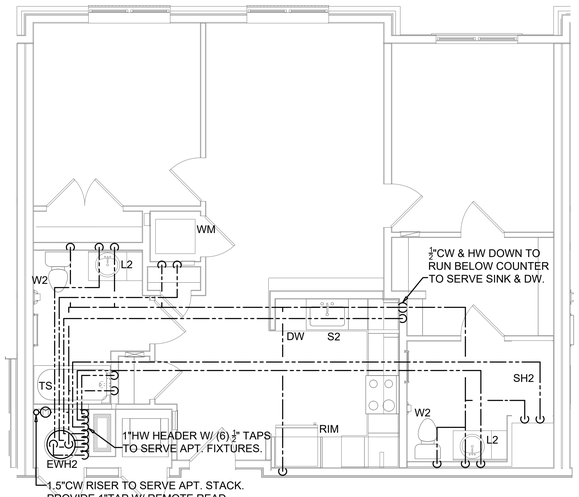
UNIT 2B SANITARY/VENT PLAN

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



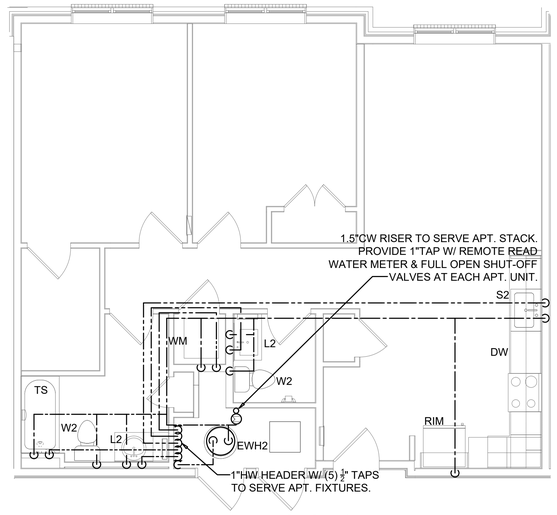
UNIT 2B-HC SANITARY/VENT PLAN

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



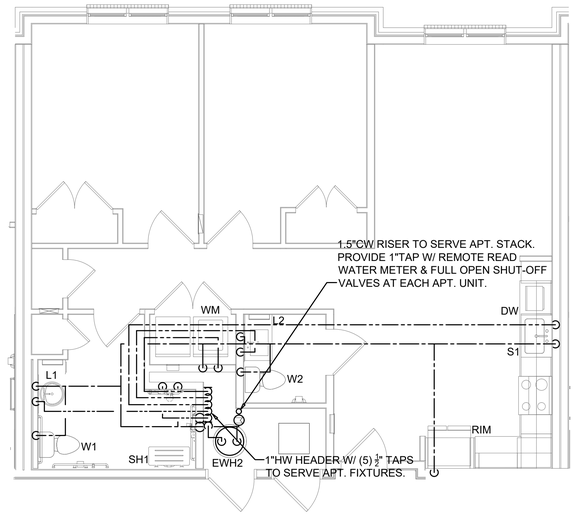
UNIT 2A WATER PLAN

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



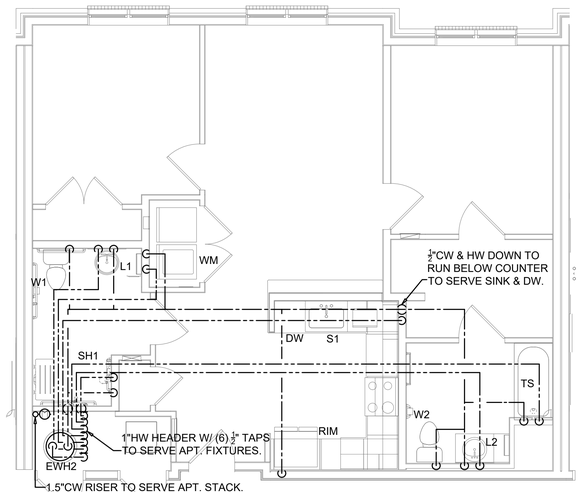
UNIT 2B WATER PLAN

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



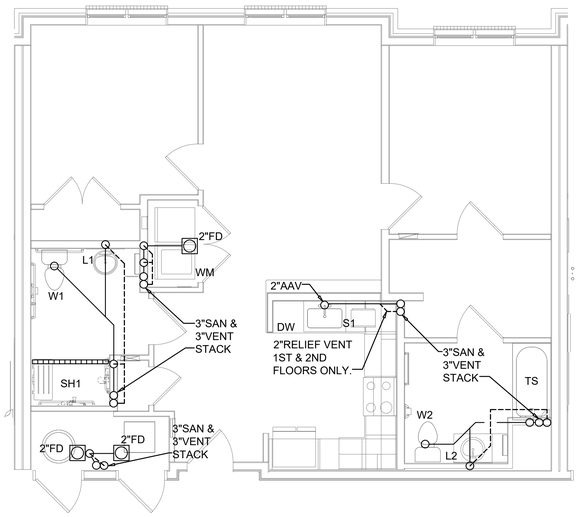
UNIT 2B-HC WATER PLAN

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



UNIT 2A-HC WATER PLAN

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



UNIT 2A-HC SANITARY/VENT PLAN

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

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UNIT PLUMBING PLANS

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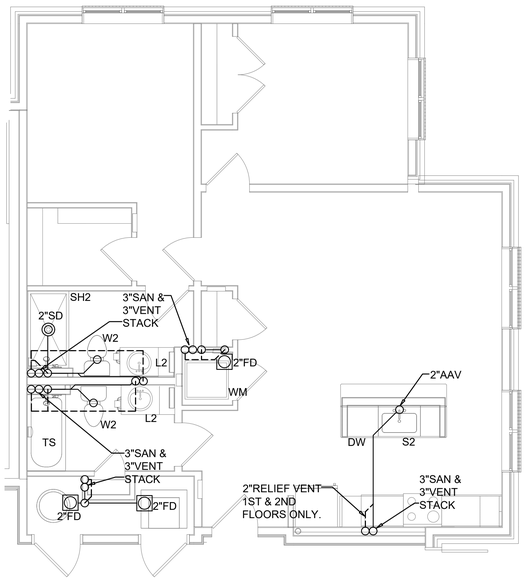
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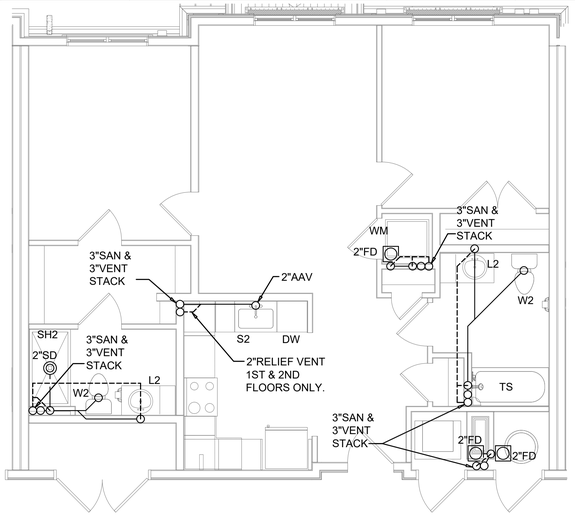
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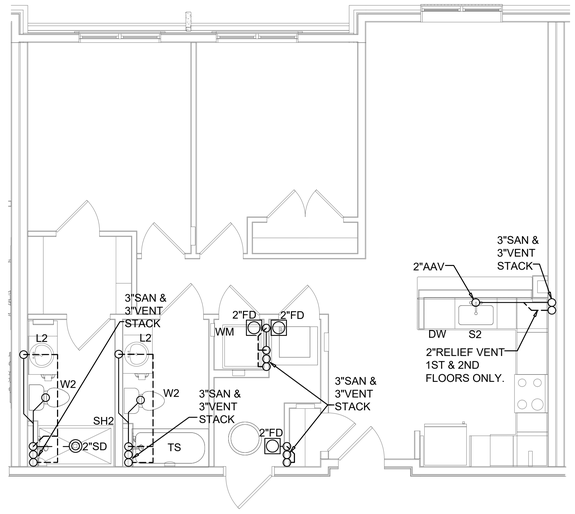
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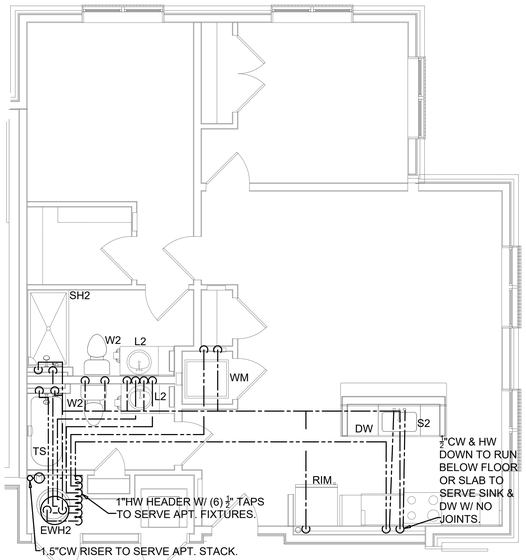
UNIT 2D SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"



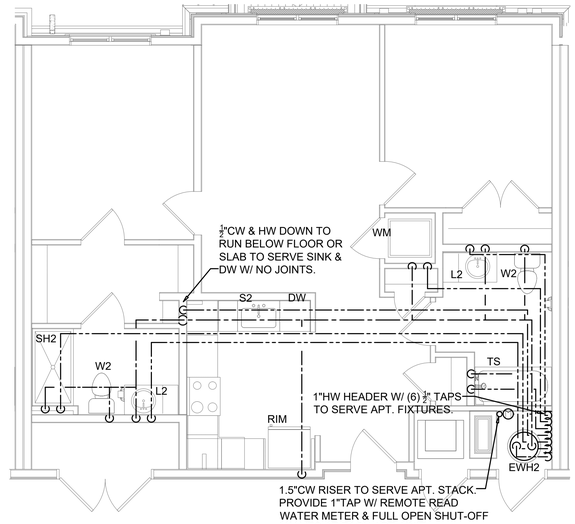
UNIT 2F SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"



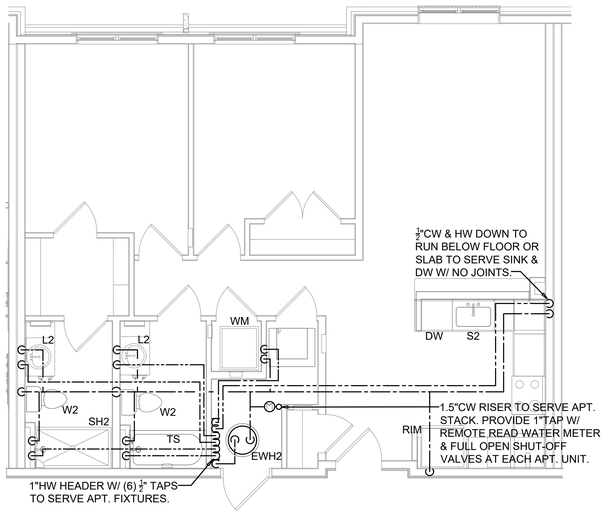
UNIT 2E SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"



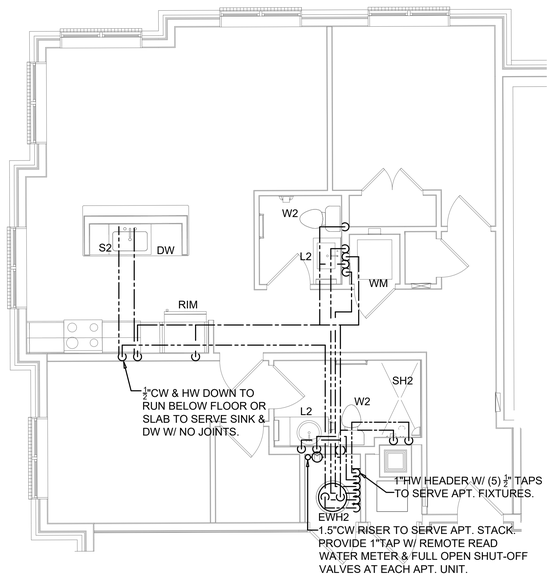
UNIT 2D WATER PLAN
SCALE: 1/4" = 1'-0"



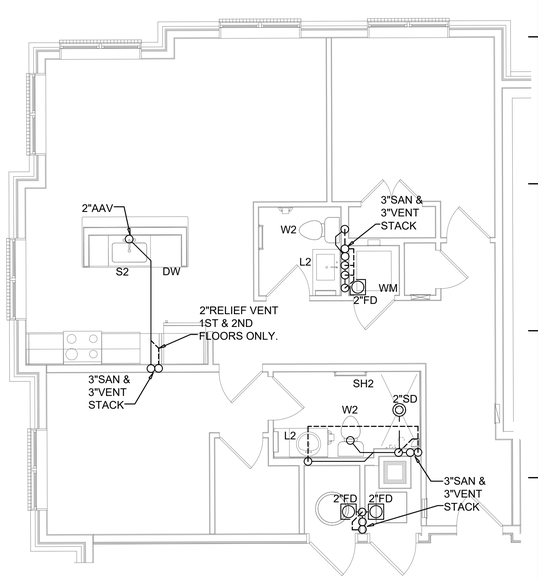
UNIT 2F WATER PLAN
SCALE: 1/4" = 1'-0"



UNIT 2E WATER PLAN
SCALE: 1/4" = 1'-0"



UNIT 2C WATER PLAN
SCALE: 1/4" = 1'-0"



UNIT 2C SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"

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UNIT PLUMBING PLANS

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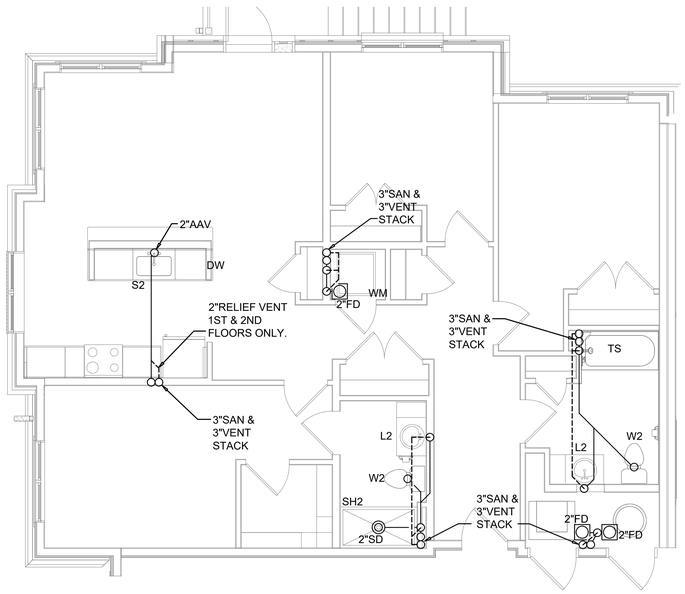
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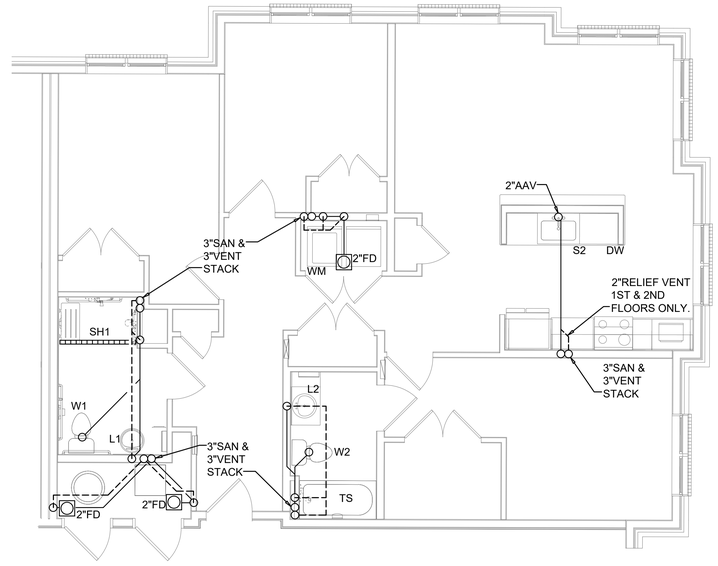
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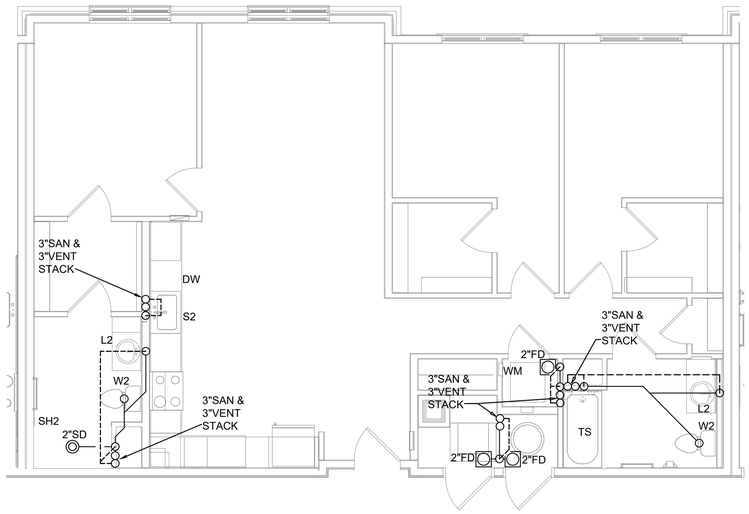
UNIT 3B SANITARY/VENT PLAN

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



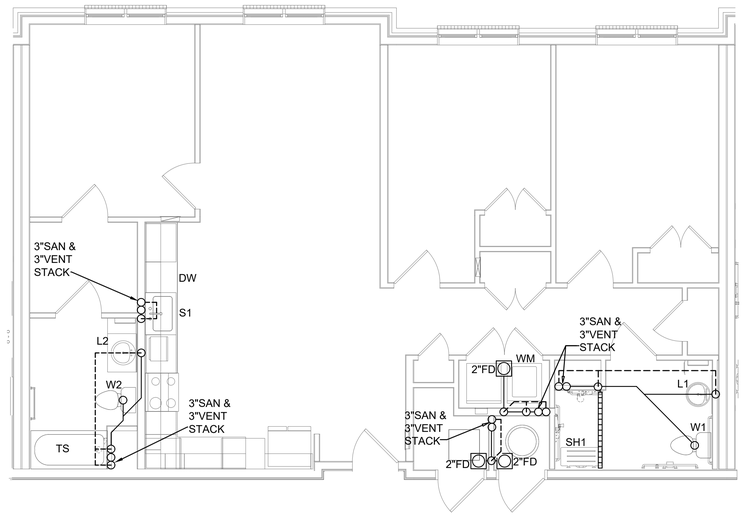
UNIT 3B-HC SANITARY/VENT PLAN

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



UNIT 3A SANITARY/VENT PLAN

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



UNIT 3A-HC SANITARY/VENT PLAN

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

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UNIT SANITARY/VENT PLANS

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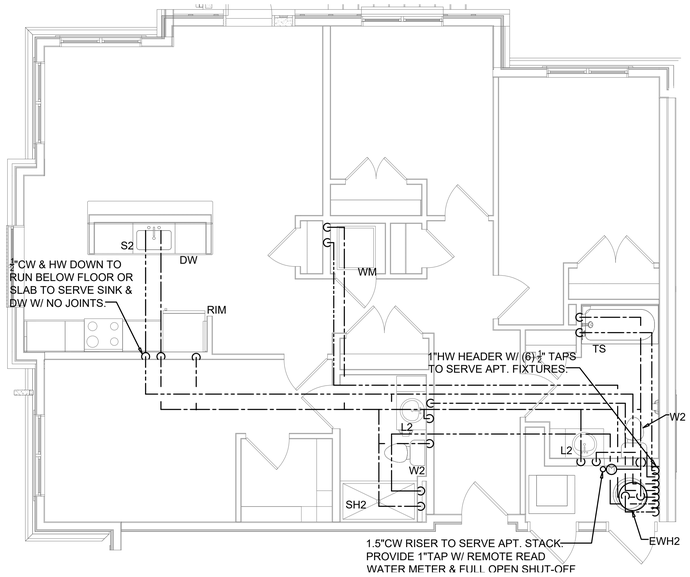
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05/14/2026	VH 4% APPLICATION
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06/30/2026
CONSTRUCTABILITY REVIEW

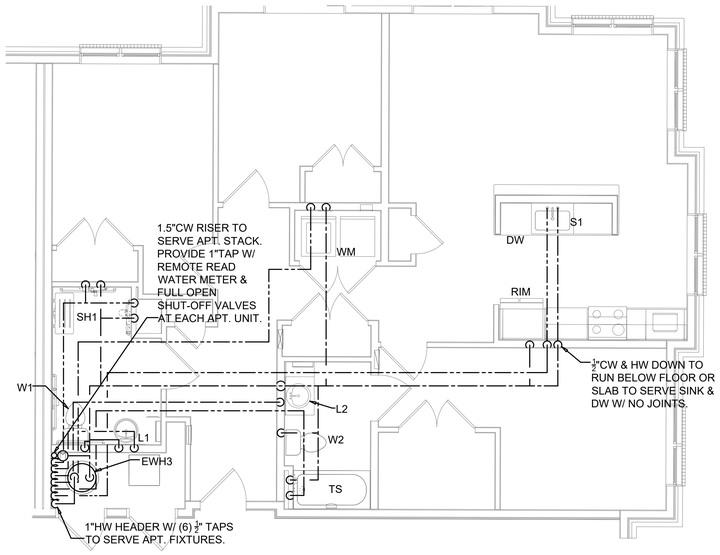
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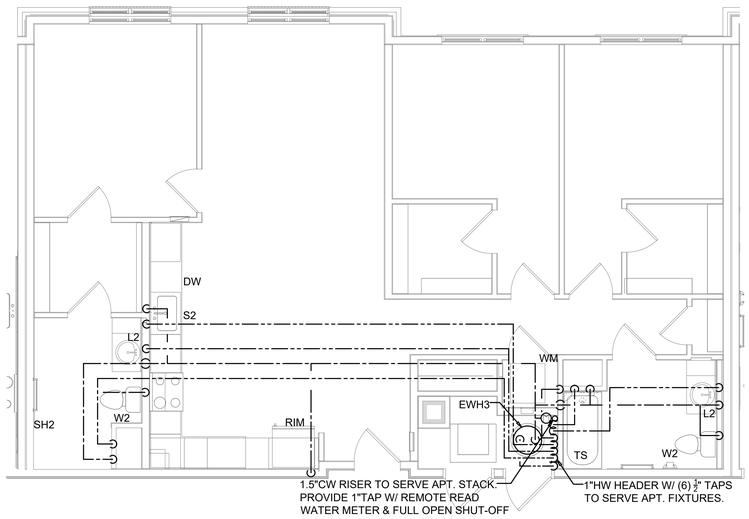
UNIT 3B WATER PLAN

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



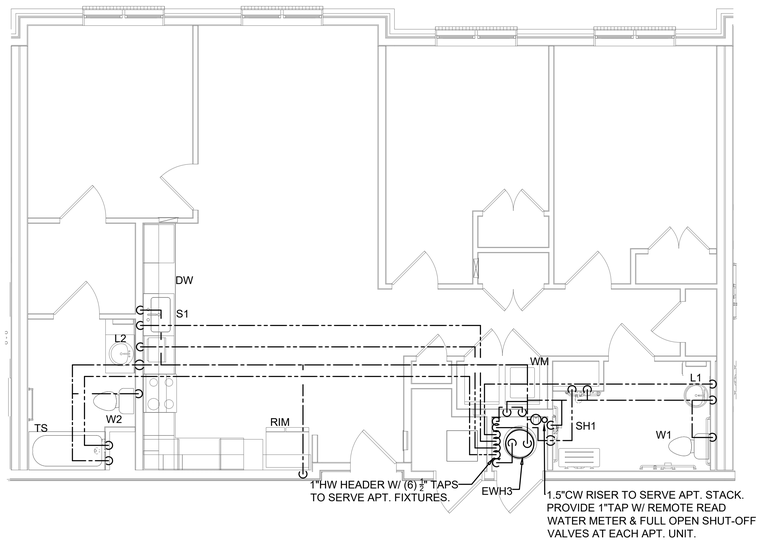
UNIT 3B-HC WATER PLAN

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



UNIT 3A WATER PLAN

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



UNIT 3A-HC WATER PLAN

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

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UNIT WATER PLANS

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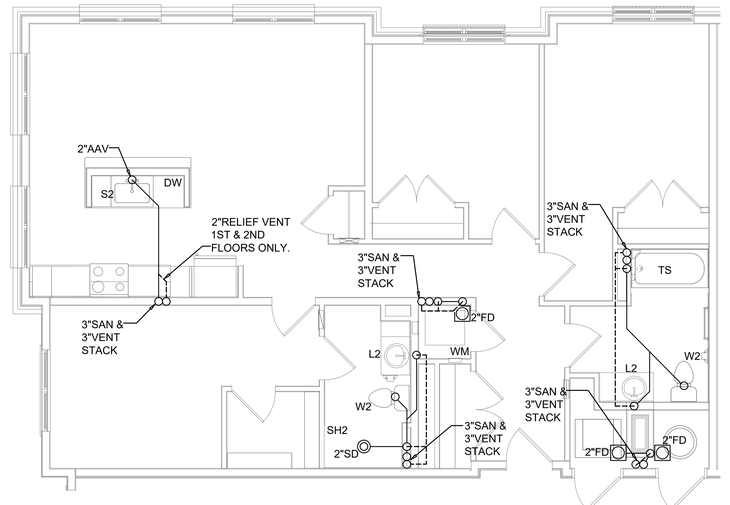
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05/14/2026	VH 4% APPLICATION
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CONSTRUCTABILITY REVIEW

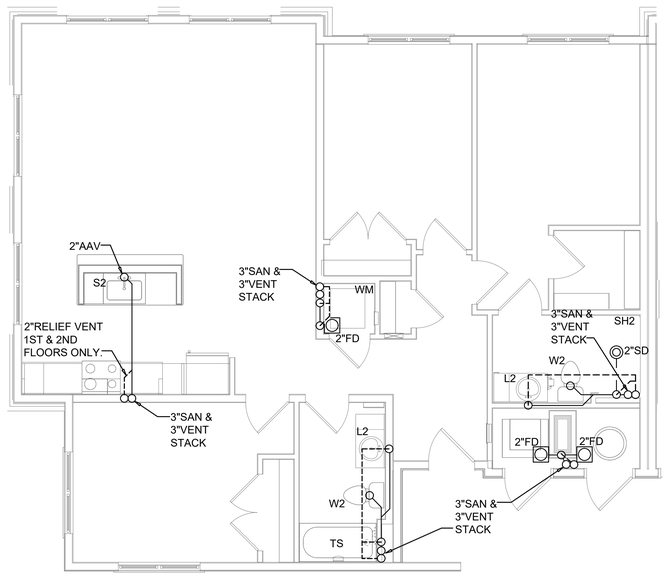
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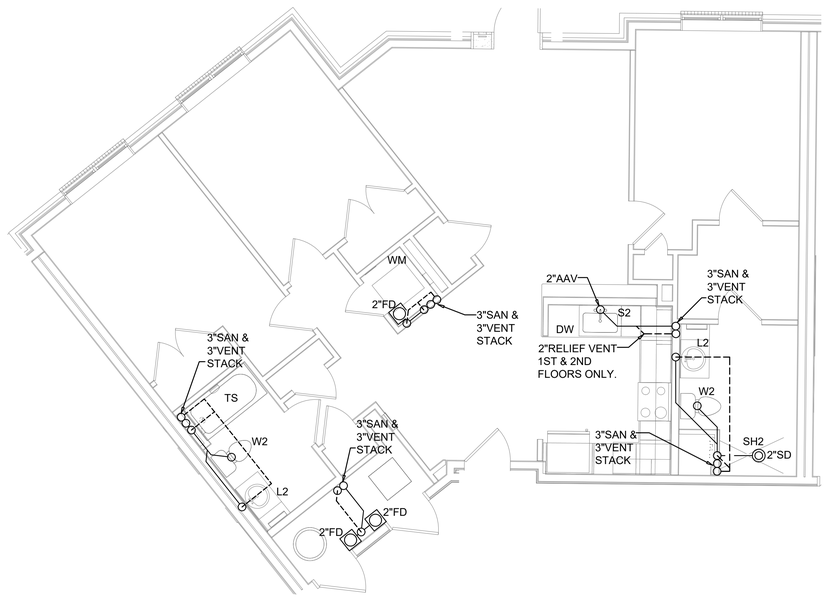
UNIT 3E SANITARY/VENT PLAN

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



UNIT 3D SANITARY/VENT PLAN

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



UNIT 3C SANITARY/VENT PLAN

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

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UNIT SANITARY/VENT PLANS

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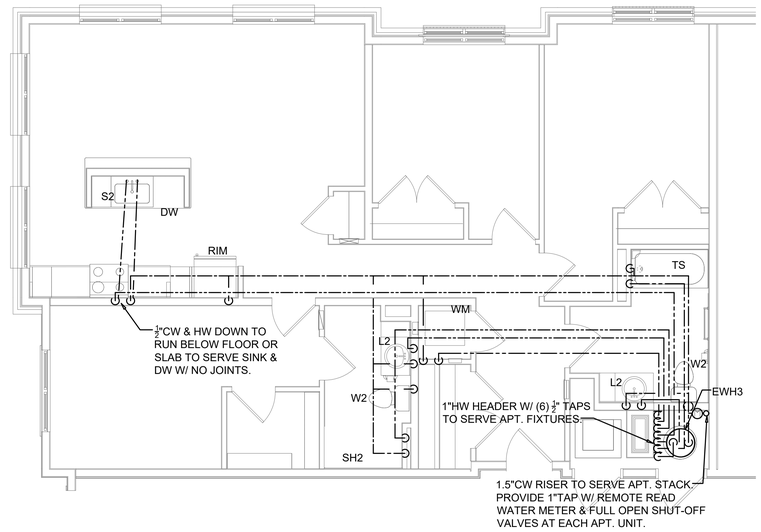
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05/14/2026	VH 4% APPLICATION
06/30/2026	CONSTRUCTABILITY REVIEW

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CONSTRUCTABILITY REVIEW

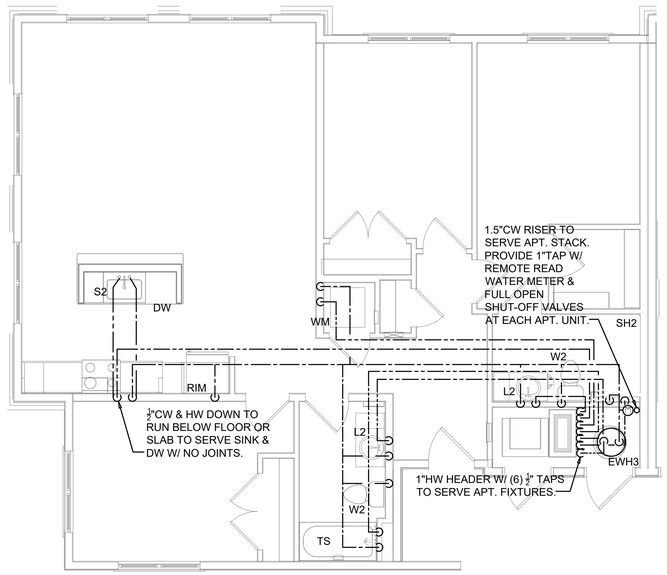
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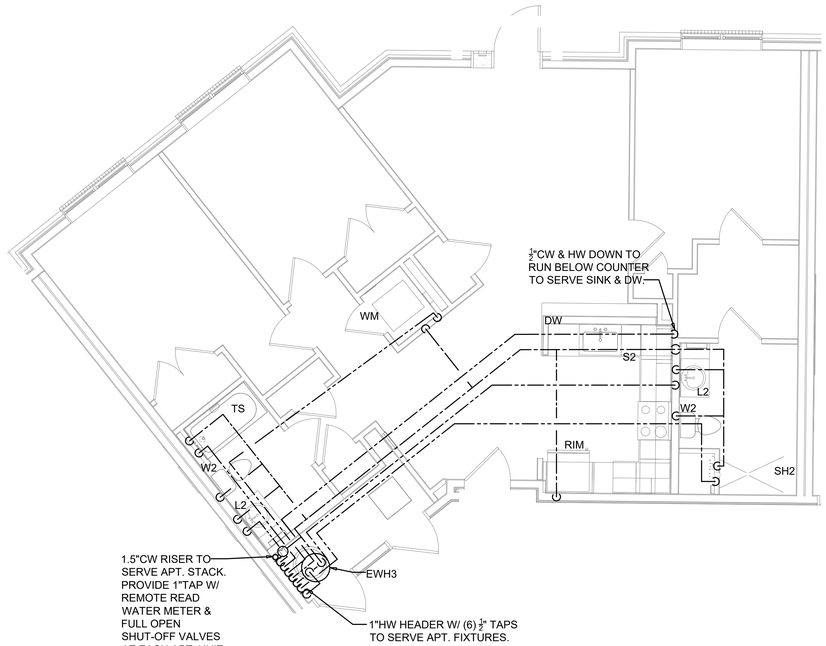
UNIT 3E SANITARY/VENT PLAN

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



UNIT 3D SANITARY/VENT PLAN

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



UNIT 3C WATER PLAN

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

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UNIT WATER PLANS

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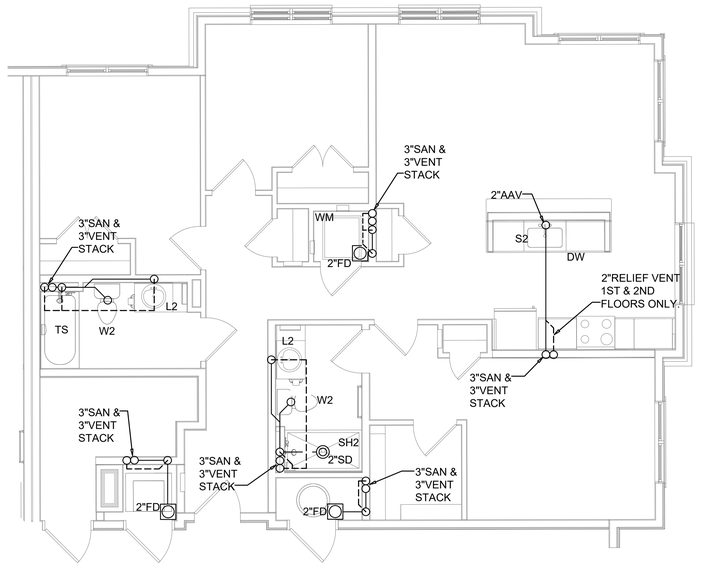
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CONSTRUCTABILITY REVIEW

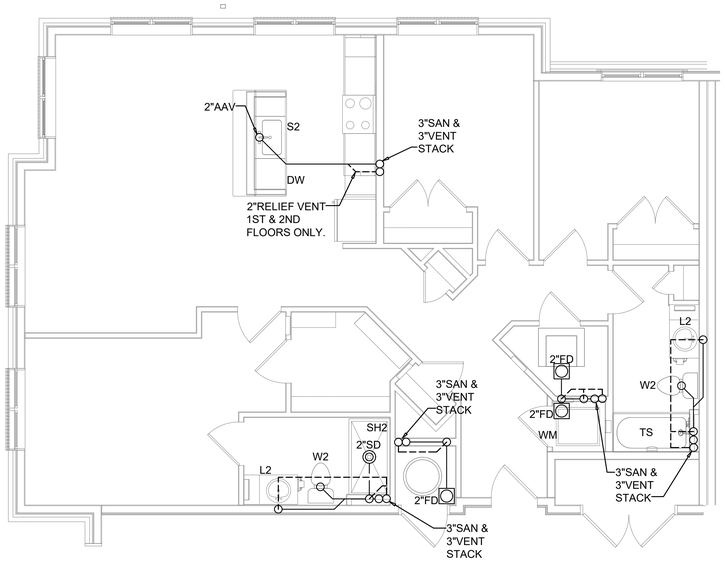
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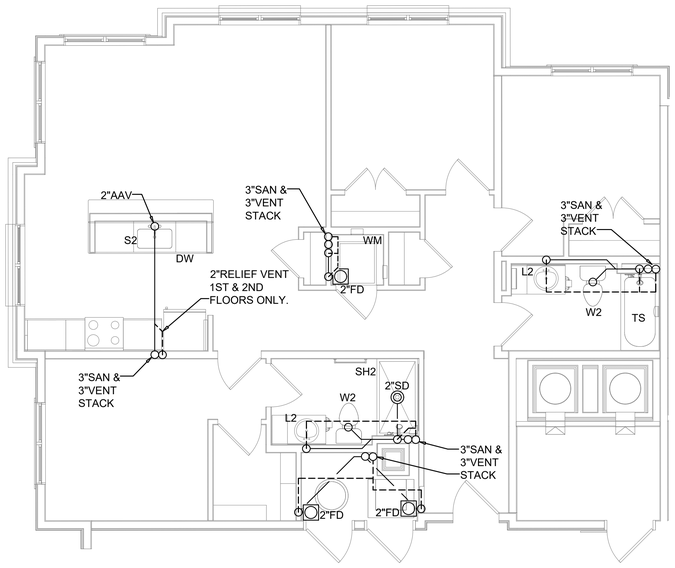
UNIT 3H SANITARY/VENT PLAN

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



UNIT 3G SANITARY/VENT PLAN

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



UNIT 3F SANITARY/VENT PLAN

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

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UNIT SANITARY/VENT PLANS

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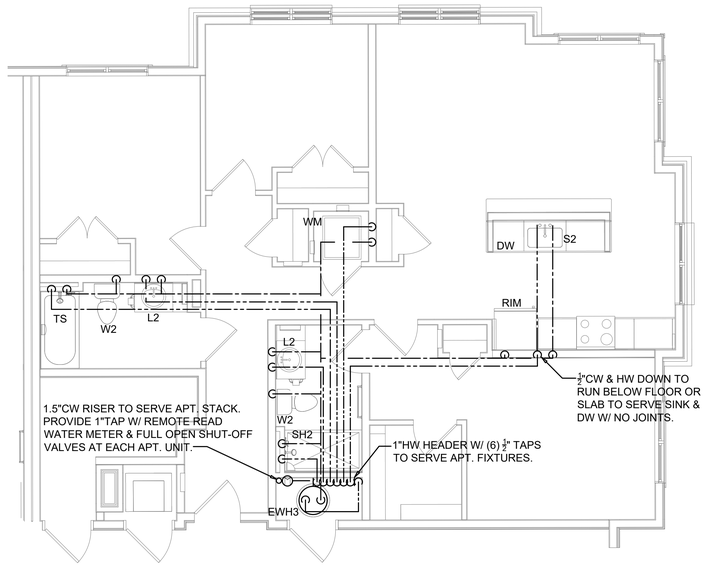
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CONSTRUCTABILITY REVIEW

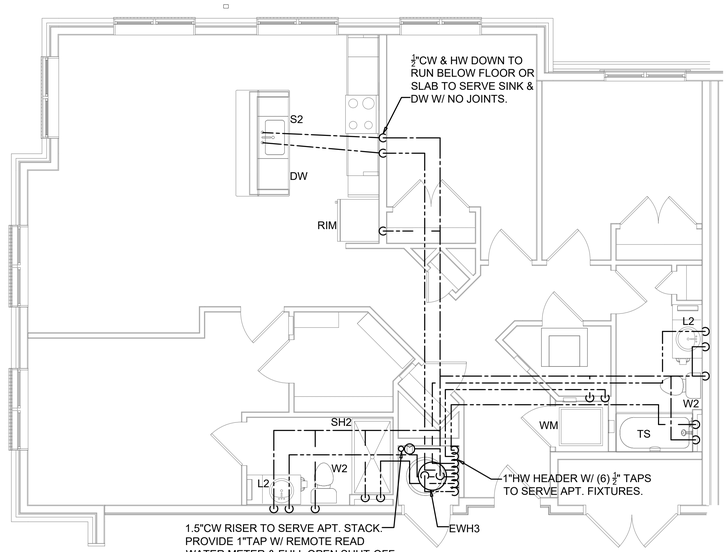
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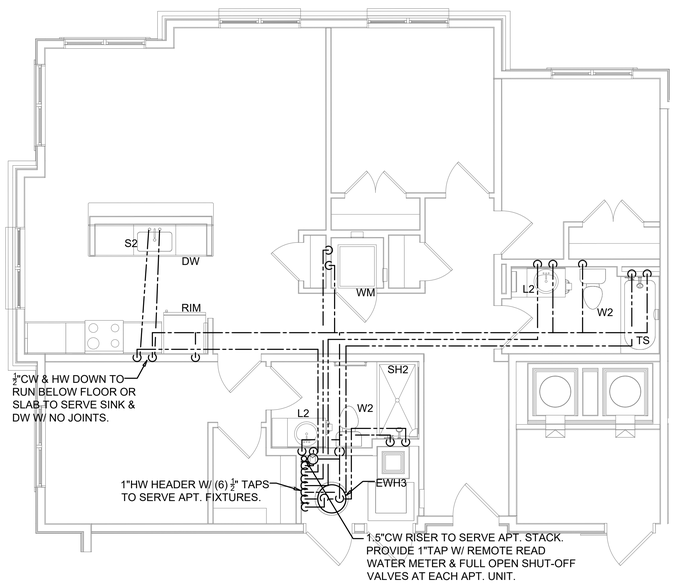
UNIT 3H WATER PLAN

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



UNIT 3G WATER PLAN

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



UNIT 3F WATER PLAN

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

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UNIT WATER PLANS

ROANOKE GATEWAY
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ELECTRICAL SPECIFICATIONS

1. GENERAL

1.1 RELATED DOCUMENTS:

A. REQUIREMENTS OF THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND SPECIAL CONDITIONS APPLY TO THIS SECTION.
B. ARCHITECTURAL, STRUCTURAL, MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS.

1.2 WORK INCLUDED:

A. ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
B. PERMITS AND INSPECTIONS REQUIRED FOR WORK.
C. TEMPORARY ELECTRIC FOR SITE DURING CONSTRUCTION AS REQUIRED.

1.3 JOB CONDITIONS:

A. COORDINATE WITH BUILDING CONSTRUCTION AND WITH OTHER TRADES.
B. IN CASE OF CONFLICT BETWEEN SPECIFICATIONS AND DRAWINGS, CONSULT ARCHITECT IMMEDIATELY FOR DETERMINATION OF PROCEDURE METHOD.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, 2026 VH MDCR, 2026 UNIVERSAL DESIGN, 2020 ENTERPRISE GREEN COMMUNITIES, DOE EFFICIENT NEW HOMES PROGRAM; MULTIFAMILY VERSION 2, REV. 2., ENERGY STAR MFNC 1.1, EPA INDOOR AIRPLUS V2, AND LOCAL ORDINANCES AND THE RULES AND REGULATIONS OF THE UTILITIES.
B. WORK SHALL BE IN ACCORDANCE WITH THE OWNER'S BUILDING CRITERIA AND TENANT BUILD-OUT REQUIREMENTS.

1.5 QUALITY ASSURANCE:

A. MEET OR EXCEED RECOMMENDATIONS OF: IEEE, IES, NEMA AND UL.
B. NOTIFY ARCHITECT IMMEDIATELY OF CONFLICTS AND DEFICIENCIES. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN RESOLVED.

1.6 MATERIALS AND EQUIPMENT:

A. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS OTHERWISE NOTED.
B. FURNISH (INCLUDING FREIGHT AND UNLOADING) AND INSTALL UNLESS OTHERWISE NOTED.
C. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE NEW UNLESS NOTED OTHERWISE.

1.7 UTILITIES AND CONNECTIONS:

A. OWNER WILL PAY ANY UTILITY SERVICE FEES DIRECTLY TO THE RESPECTIVE UTILITY COMPANIES.
B. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED BUT NOT PROVIDED OR FURNISHED BY THE UTILITY COMPANIES TO BRING SERVICE INTO THE BUILDING.

1.8 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT IN ACCORDANCE WITH THE ARCHITECT'S REQUIREMENTS.
B. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH AS-BUILT DOCUMENTATION AND O&M MANUALS IN ACCORDANCE WITH THE ARCHITECT'S REQUIREMENTS.
C. PROVIDE WIRING DIAGRAMS SPECIFIC TO THIS PROJECT FOR ALL ROOMS WITH LOW VOLTAGE DEVICES SHOWING INTERCONNECTIONS BETWEEN POWER PACK, SWITCHES, AND OCCUPANCY SENSORS.

1.9 PROJECT CLOSEOUT:

A. REPAIR DAMAGED AND DEFECTIVE EQUIPMENT AND MATERIALS. REPLACE ITEMS THAT CANNOT BE PROPERLY REPAIRED.
B. CLEAN EXPOSED AND SEMI-EXPOSED SURFACES OF EQUIPMENT AND MATERIALS.
C. TOUCH-UP SHOP-APPLIED FINISHES TO RESTORE DAMAGED AND SOILED AREAS.
D. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS UTILIZING THE OPERATION AND MAINTENANCE MANUAL.
E. INSTRUCTION PERIOD SHALL OCCUR AFTER SUBSTANTIAL COMPLETION OF ELECTRICAL SYSTEMS AND PRIOR TO COMPLETION OF THE PROJECT. COORDINATE WITH THE ARCHITECT AND OWNER.

2. PRODUCTS

2.1 RACEWAYS & FITTINGS:

A. CONDUIT SIZES SHALL BE AS REQUIRED BY THE CODE (UNLESS INDICATED OR SPECIFIED OTHERWISE) FOR THE NUMBER AND SIZE OF WIRE INDICATED. MINIMUM SIZE CONDUIT SHALL BE 1/2" ELECTRICAL TRADE SIZE. FLEXIBLE METAL CONDUIT USED FOR LIGHTING FIXTURE WHIPS MAY BE 3/8" WHERE ALLOWED BY THE CODE.
B. USE ELECTRICAL METALLIC TUBING EXCEPT AS FOLLOWS: USE RIGID NONMETALLIC CONDUIT IN OR UNDER ON GRADE CONCRETE SLABS. USE FLEXIBLE METAL CONDUIT FOR MOTOR AND EQUIPMENT CONNECTIONS IN DRY LOCATIONS. USE LIQUIDTIGHT FLEXIBLE METAL CONDUIT IN WET OR DAMP LOCATIONS.

2.2 WIRE AND CABLE:

A. CONDUCTORS SHALL BE COPPER, MINIMUM SIZE NO. 12 AWG. OTHER WIRE SIZES SHALL BE AS NOTED OR AS REQUIRED FOR THE CIRCUIT SIZE. CONDUCTOR INSULATION SHALL BE THHN/THWN.
B. BRANCH CIRCUIT WIRING WHERE CONCEALED IN WALLS AND ABOVE CEILINGS MAY BE TYPE MC (METAL CLAD) CABLE WHERE ALLOWED BY THE CODE.
C. SERVICE ENTRANCE CABLE (SE) MAY BE USED WHERE ALLOWED AND INSTALLED IN ACCORDANCE WITH NEC ARITCLE 338. FOR APARTMENT PANEL FEEDERS, USE MC FEEDERS OR CONDUIT & WIRE FOR APARTMENT FEEDERS WHERE SE CABLE IS NOT ALLOWED.
D. NM CABLE (ROMEX) MAY BE USED WHERE ALLOWED AND INSTALLED IN ACCORDANCE WITH NEC ARTICLE 334.

2.3 BOXES:

A. GALVANIZED SHEET STEEL TYPE. SINGLE DEVICE BOX SHALL BE "NON-GANGABLE" TYPE AND FOR MULTIPLE DEVICES "GANGABLE" TYPE SHALL BE USED. BOXES FOR EXPOSED WORK SHALL BE 4" SQUARE TYPE. BOXES FOR EXPOSED WORK IN WET LOCATIONS SHALL BE DIE CAST TYPE WITH THREADED HUBS. SECTIONAL BOXES SHALL NOT BE USED IN MASONRY OR CONCRETE. SIZED FOR NUMBER OF CONDUCTORS, FITTINGS AND DEVICES AS REQUIRED BY THE CODE.

2.4 WIRING DEVICES:

A. 20 AMPERE SPECIFICATION GRADE.
B. COVERPLATES SHALL BE AS FOLLOWS: INTERIOR RECESSED - SMOOTH UNBREAKABLE NYLON; SURFACE - 4" SQUARE RAISED COVER. GALVANIZED; WEATHERPROOF - DIE CAST ALUMINUM, GFCI TYPE, WATERTIGHT WHILE IN USE TYPE, USE EXTERNAL OPERATING TYPE FOR WEATHERPROOF SWITCHES.
C. DEVICE AND PLATE COLOR SHALL BE AS SELECTED BY ARCHITECT.
D. GFCI OUTLETS TO BE SELF-TESTING TYPE.

2.5 DISCONNECT SWITCHES:

A. SAME MANUFACTURER AS THE PANELBOARDS, NEMA 3R FOR OUTDOOR USE.
B. DISCONNECT SWITCHES SHALL BE FUSED OR NON-FUSED AS INDICATED AND BE VISIBLE BLADE TYPE WITH EXTERNAL OPERATING HANDLE AND COVER INTERLOCK AND PAD LOCKING.

2.6 GROUNDING:

A. CONNECTIONS TO BUILDING STEEL, GROUND RODS AND PIPING SYSTEMS SHALL BE MADE WITH BRONZE OR BRASS BOLTED TYPE FITTINGS DESIGNED FOR THE USE.
B. GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZE AS INDICATED ON THE DRAWINGS AND AS DESCRIBED IN ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.

2.7 PANELBOARDS (OR GEAR):

A. PANELBOARDS SHALL BE AS SCHEDULED OR BY: SQUARE-D, EATON, OR SIEMENS. PANELS TO HAVE MINIMUM 20" WIDE CABINETS AND COPPER BUS BARS.
B. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, MOLDED CASE, BOLT-ON TYPE. MULTI-POLE SHALL BE COMMON TRIP TYPE. BREAKERS FOR HVAC EQUIPMENT SHALL BE "HACR" RATED WHERE REQUIRED.
C. PANELBOARDS SHALL HAVE LOCKABLE DOORS, LOCKS SHALL BE KEYED ALIKE.
D. PANELBOARDS AND SWITCHBOARDS SHALL BE FULLY RATED OR HAVE A UL LISTED SERIES CONNECTED RATING OF A MINIMUM 65,000 AIC. OBTAIN AND SUBMIT FAULT CURRENT VERIFICATION LETTER FROM THE POWER COMPANY TO THE LOCAL AUTHORITY HAVING JURISDICTION IF REQUIRED.
E. ELECTRIC GEAR SHALL COMPLY WITH NEC 240.87.
F. METER STACKS SHALL BE THE SAME MANUFACTURER AS PANELBOARDS AND SHALL BE TYPE APPROVED BY THE POWER COMPANY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO POWER COMPANY FOR APPROVAL AS REQUIRED.
G. ALL LABELING ON EXTERIOR GEAR SHALL BE UV RESISTANT.
H. METER STACKS SHALL BE THE SAME MANUFACTURER AS PANELBOARDS AND SHALL BE TYPE APPROVED BY THE POWER COMPANY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO POWER COMPANY FOR APPROVAL AS REQUIRED.
I. ELECTRICIAN SHALL PROVIDE A COORDINATION STUDY FOR ALL GEAR IF REQUIRED BY LOCAL AUTHORITY. PROVIDE ADJUSTABLE BREAKERS AS REQUIRED FOR A FULLY COORDINATED SYSTEM.
J. PROVIDE ADD-ALTERNATE IN BID FOR 100KAIC RATED METER STACK.

2.8 FUSES:

A. BRANCH CIRCUIT FUSES SHALL BE TIME-DELAY, DUAL ELEMENT, CURRENT LIMITING, CLASS RK-5.

2.9 ELECTRIC SERVICE:

A. SERVICE SHALL BE 120/208 VOLT, 1 PHASE, 3 WIRE.

2.10 DRIVERS & ACCESSORIES:

A. LED DRIVERS SHALL BE ELECTRONIC TYPE WITH EQUAL TO OR LESS THAN 10% THD AND A 3 YEAR WARRANTY, VOLTAGE TO MATCH SYSTEM VOLTAGE.
B. ACCESSORIES SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING FOR A COMPLETE LIGHTING FIXTURE INSTALLATION: PLASTER FRAMES, TEE BAR HANGERS, FIXTURE STUDS AND HOLD DOWN CLIPS FOR SUSPENDED CEILINGS.

2.11 LIGHTING FIXTURES:

A. LIGHTING FIXTURES SHALL BE AS SPECIFIED ON THE DRAWINGS.
B. PHOTOCELLS: SWIVEL MOUNT, 1800 WATT, TORK SERIES 2020 OR EQUAL.
C. TIMECLOCKS: ASTRONOMIC, 7 DAY, 100 HOUR BATTERY BACKUP, TORK SERIES EWZ100 OR EQUAL.
D. CONTACTOR: MECHANICALLY HELD, ELECTRICALLY OPERATED, NUMBER OF POLES AS REQUIRED.

2.12 EMPTY CONDUIT SYSTEMS:

A. PROVIDE FOR USE BY THE OWNER'S CABLING CONTRACTOR. CONDUIT SYSTEM SHALL BE AS DESCRIBED ON THE DRAWINGS FOR DATA, TELEPHONE, TELEVISION, SOUND SECURITY ETC.

2.13 FIRE ALARM SYSTEM:

A. PROVIDE A COMPLETE ADDRESSABLE FIRE ALARM SYSTEM FOR BUILDING AS INDICATED ON THE PLANS AND NOTED HEREIN.
B. PROVIDE PROPERLY SIZED BATTERY TO BACK UP PANEL UPON LOSS OF NORMAL POWER.
C. PROVIDE CONTROL PANEL WITH INTEGRAL DACT (DIGITAL ALARM COMMUNICATING TRANSMITTER) TO PROVIDE OFF-SITE MONITORING OF THE SYSTEMS. MONITORING SHALL BE AS APPROVED BY THE LOCAL AUTHORITY. POTS LINES SHALL BE PROVIDED AS REQUIRED FOR THIS MONITORING.
D. FIRE ALARM CONTRACTOR SHALL PROVIDE ALL DRAWINGS, CALCULATIONS, PRODUCT DATA, ETC. TO THE LOCAL AUTHORITY REQUIRED FOR PERMITTING AND INSPECTIONS OF THE SYSTEM.
E. SIGNALING DEVICES SHALL BE ADA COMPLIANT.
F. CABLE SHALL BE FIRE PROTECTIVE SIGNALING TYPE.
G. ALL ACCESSORIES, EXPANDERS, ANNUNCIATORS, GRAPHIC PANELS, ETC. SHALL BE INCLUDED AS REQUIRED FOR A COMPLETE FULLY FUNCTIONING SYSTEM MEETING STATE AND LOCAL CODE REQUIREMENTS.
H. FIRE PUMP CONTROLLER SHALL HAVE INTEGRAL AUTOMATIC TRANSFER SWITCH, SERVICE ENTRANCE RATED.

3. EXECUTION:

3.1 RACEWAYS & FITTINGS:

A. INSTALL CONDUITS CONCEALED IN WALLS, CEILINGS OR FLOORS UNLESS INDICATED OR SPECIFIED OTHERWISE. CONDUITS MAY BE INSTALLED EXPOSED IN UNFINISHED AREAS (IE: EQUIPMENT ROOMS). INSTALL EXPOSED CONDUITS IN RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES OR CEILINGS. EXPOSED AND CONCEALED CONDUITS SHALL PASS THROUGH WALLS, FLOORS OR CEILINGS AT RIGHT ANGLES. UNDERGROUND CONDUITS SHALL HAVE BURY DEPTH AS REQUIRED BY THE CODE.
B. ENSURE THAT CONDUITS ARE IN ALIGNMENT BETWEEN BENDS, ELBOWS AND TERMINATIONS; THAT BENDS ARE FREE OF CRIMPS, THAT JOINTS AND TERMINATIONS ARE TIGHT AND SECURE; THAT INTERIORS ARE SMOOTH AND FREE OF BURRS AND FOREIGN OBJECTS; AND THAT INTERIORS ARE FULL SIZE ENTIRE LENGTH. DURING CONSTRUCTION, CLOSE ENDS OF CONDUITS WITH METAL OR PLASTIC CAPS INTENDED FOR THE PURPOSE.
C. FIELD BENDING OF CONDUITS AND TUBING SHALL BE MADE WITH HAND OR POWERED EQUIPMENT APPROVED FOR THE PURPOSE. USE OF TORCHES TO BEND NONMETALLIC CONDUIT IS NOT APPROVED. RADIUS OF BENDS SHALL BE AS PER THE CODE FOR TYPE OF CONDUIT AND TUBING USED. CONDUITS PASSING THROUGH A FIRE RATED WALL OR FLOOR SHALL NOT LESSEN THE RATING OF THE STRUCTURE THROUGH WHICH THEY PASS. FINAL INSTALLATION OF CONDUITS PENETRATING WATERPROOF CONSTRUCTION SHALL BE COMPLETELY WATERTIGHT.
D. SLEEVE CONDUITS PASSING THROUGH CONCRETE FLOOR SLABS AND CONCRETE, MASONRY, TILE AND GYPSUM WALLS.
E. CONDUIT SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE AT INTERVALS REQUIRED BY THE CODE. USE STANDARD CONDUIT HANGERS, ONE HOLE SNAP STRAPS, THIN WALL CONDUIT CLAMPS, MALLEABLE IRON PIPE STRAPS, STRUT CHANNEL, BEAM CLAMPS, U-BOLTS AND ALL-THREAD RODS. DO NOT USE WIRE TIES, STAB-ON CLIPS OR PERFORATED STRAP IRON.
F. PAINT ANY EXPOSED CONDUITS NOT WITHIN UTILITY ROOMS TO MATCH SURROUNDINGS.

3.2 WIRE AND CABLE:

A. SPLICE CONDUCTORS NO. 10 AND SMALLER WITH STEEL SPRING WIRE CONNECTOR WITH THERMOPLASTIC SHELL. SPLICE CONDUCTORS NO.8 AND LARGER WITH MECHANICAL TYPE, TAP CONNECTORS WITH INSULATED COVERS OR SPLIT BOLTS TAPED TO CONDUCTOR INSULATION VALUE.
B. INSTALL CONDUCTORS IN RACEWAYS. CONDUCTORS SHALL BE CONTINUOUS FROM POINT OF ORIGIN TO PANEL OR EQUIPMENT TERMINATION WITHOUT RUNNING SPLICES IN INTERMEDIATE BOXES. CONDUCTORS OF DIFFERENT VOLTAGES SHALL NOT BE PULLED INTO SAME RACEWAY.
C. CABLE SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE WITH STAPLES OR ONE-HOLE STRAPS AT INTERVALS REQUIRED BY THE CODE. BORED HOLES SHALL NOT EXCEED 1" DIAMETER AND SHALL BE A MINIMUM OF 2'-0" FROM STRUCTURAL BEARING POINTS, NOTCHING OF STRUCTURAL MEMBERS IS PROHIBITED. PROVIDE GUARD STRIPS AT LEAST AS HIGH AS CABLE WHERE RUN ACROSS TOP OF STRUCTURE IN ACCESSIBLE ATTIC SPACES.
D. DO NOT RUN ANY WIRE OR CABLE IN PLUMBING WALLS UNTIL PIPING SYSTEMS HAVE BEEN COMPLETED.PLUMBING SHALL PRESIDE IN THESE WALLS.
E. DO NOT SHARE NEUTRAL CONDUCTORS FOR 120 VOLT CIRCUITS.
F. COLOR CODE CONDUCTORS TO INDUSTRY STANDARDS.
G. INCREASE WIRE SIZES AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP BASED ON FEEDER/BRANCH CIRCUIT LENGTH.

3.3 BOXES:

A. SECURE BOXES TO STRUCTURE BY MEANS OF SCREWS, BOLTS, ROD HANGERS OR OTHER APPROVED MEANS. RACEWAYS ENTERING OR LEAVING BOX SHALL NOT BE USED AS SUPPORT. BOXES SHALL BE LEVEL AND PLUMB. BOXES FOR FLUSH EQUIPMENT SHALL BE PLACED TO WITHIN 1/4" OF THE FINISHED SURFACE, PROVIDE EXTENSIONS OR PLASTER RINGS AS REQUIRED. JUNCTION AND PULL BOXES SHALL BE INSTALLED READILY ACCESSIBLE, UNOBSTRUCTED BY PIPING, DUCTS OR OTHER EQUIPMENT.
B. BOXES SHALL BE MOUNTED AT HEIGHT INDICATED ON THE DRAWINGS OR DIRECTLY ADJACENT TO PIECE OF EQUIPMENT SERVED. SEAL SPARE OR UNUSED OPENINGS IN BOXES WITH APPROVED FITTINGS. FOR BOXES INSTALLED IN WET LOCATIONS PROVIDE CLEAR SILICONE CAULK BETWEEN BOX AND SURROUNDING SURFACE TO PREVENT WATER ENTRY.
C. BOXES IN RATED CONSTRUCTION SHALL BE SUITABLE FOR THE USE AND INSTALLED IN ACCORDANCE WITH THE CODE.

3.4 WIRING DEVICES:

A. INSTALL DEVICES APPROXIMATELY AT THE LOCATIONS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATION BY CONDITIONS OF CONSTRUCTION. COORDINATE LOCATIONS TO AVOID CONFLICT WITH OTHER EQUIPMENT BEING INSTALLED. INSTALL DEVICES STRAIGHT AND SOLID TO BOX. MOUNTING HEIGHTS OF WALL OUTLETS SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE OUTLET. WHERE DEVICES ARE SHOWN GROUPED TOGETHER, PROVIDE A SINGLE, MULTIPLE GANG PLATE.
B. COORDINATE PLACEMENT IN AND AROUND KNEE SPACES, LAVATORIES AND OTHER EQUIPMENT TO AVOID CONFLICTS WITH MIRRORS AND OTHER APPURTENANCES, REFER TO ARCHITECTURAL DRAWINGS. SWITCHES SHALL BE LOCATED TO STRIKE SIDE OF THE DOOR, VERIFY FINAL DOOR SWINGS.
C. WHERE GFCI OUTLETS ARE USED TO PROVIDE FEED-THRU PROTECTION FOR DOWNSTREAM OUTLETS ON SAME CIRCUIT, DO NOT FEED-THRU WIRE ACROSS PARTITIONS, USE A SEPARATE DEVICE.
D. VERIFY THE NEMA CONFIGURATIONS OF ALL OUTLETS WITH OWNER.

3.5 DISCONNECT SWITCHES:

A. MOUNT SWITCHES ON WALL OR AT ASSOCIATED PIECE OF EQUIPMENT. WALL MOUNTED SWITCHES SHALL BE 48 INCHES ABOVE FINISHED FLOOR. PROVIDE ENGRAVED PLASTIC LAMINATE NAMEPLATE FOR EACH DISCONNECT SWITCH LOCATED ON FRONT OUTSIDE COVER, NAMEPLATE SHALL INDICATE ITEM SERVED.
B. SWITCHES SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE SWITCH TO MATCH EQUIPMENT SUPPLIED.

3.6 GROUNDING:

A. CONDUIT SYSTEM SHALL NOT BE USED FOR GROUNDING.
B. FOR BONDING OF SERVICE EQUIPMENT PROVIDE BONDING BUSHINGS AND JUMPERS WHERE REQUIRED. WELDING OF CONDUIT AND FITTINGS WILL NOT BE CONSIDERED ACCEPTABLE FOR THE PURPOSE OF BONDING.
C. PROVIDE PROTECTION FROM PHYSICAL DAMAGE FOR ANY EXPOSED SECTION OF THE GROUNDING ELECTRODE CONDUCTOR SYSTEM.

3.7 PANELBOARDS:

A. NEATLY PRINT CIRCUIT DESIGNATIONS ON DIRECTORY CARD. NOTATIONS SHALL INDICATE THE NATURE AND LOCATION OF LOADS SERVED.
B. PROVIDE ENGRAVED LAMINATE NAMEPLATE FOR EACH NEW PANELBOARD LOCATED ON OUTSIDE OF DOOR, NAMEPLATE SHALL INCLUDE PANELBOARD DESIGNATION ON THE DRAWINGS, SERVICE VOLTAGE, PHASE AND AMPERAGE.
C. BREAKERS SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE BREAKERS TO MATCH EQUIPMENT SUPPLIED.
D. LABEL METER STACKS WITH ENGRAVED LAMINATE PLATES AS TO APARTMENT NUMBER THAT IS APPROVED BY THE POWER CO. AND THE OWNER'S MATRIX.
E. ASSEMBLE METER STACK SECTIONS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

3.8 ELECTRIC SERVICE:

A. PROVIDE LABOR AND MATERIALS NOT FURNISHED BY THE POWER COMPANY. DO WORK REGARDING THE ELECTRICAL SERVICE AND ITS EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE POWER COMPANY. IF THE CONTRACT DOCUMENTS INDICATE WORK THAT IS TO EXCEED THESE REQUIREMENTS, FOLLOW THE CONTRACT DOCUMENTS.
B. LABEL EQUIPMENT FOR THE ELECTRIC SERVICE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THIS DIVISION. MAIN SWITCHES OR BREAKERS ARE TO BE IDENTIFIED AS SUCH IN ADDITION TO IDENTIFYING THE ITEM FED.
C. NOTIFY THE POWER COMPANY OF THE TIMING REQUIREMENTS FOR THE PROJECT AND ARRANGE FOR METERING EQUIPMENT, CONNECTIONS AND SERVICE.

3.9 FUSES:

A. INSTALL FUSES IN SWITCHES.
B. BRANCH CIRCUIT FUSES SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE FUSES TO MATCH EQUIPMENT SUPPLIED.

3.10 LIGHTING FIXTURES:

A. INSTALLATION OF FIXTURES SHALL BE IN A NEAT, WORKMANLIKE MANNER. PROVIDE STRAPS, SUPPORTS, HANGERS AND OTHER MATERIALS REQUIRED FOR PROPER INSTALLATION.
B. SURFACE MOUNTED FIXTURES SHALL NOT HAVE GAPS BETWEEN THE FIXTURE AND ATTACHING SURFACE UNLESS MOUNTING IS DESIGNED TO HOLD FIXTURE OFF CEILING, OR EXCEPT WHERE REQUIRED BY THE CODE REGULATION. CONTINUOUS ROWS OF FIXTURES SHALL BE INSTALLED SO AS TO PROVIDE PERFECT ALIGNMENT.
C. SUPPORT SURFACE MOUNTED FIXTURES DIRECTLY FROM THE BUILDING STRUCTURE AND NOT FROM THE CEILING GRID SYSTEM. USE ALL-THREAD RODS, BEAM CLAMPS, PIPE CLAMPS AND PIPE OR PERFORATED STEEL CHANNEL FOR SUPPORT. WIRE TIES AND STAB-ON CLIPS WILL NOT BE ACCEPTED. THE SUPPORT ASSEMBLY SHALL BE CAPABLE OF SUPPORTING 150 POUNDS IN ADDITION TO THE FIXTURE WEIGHT INDEFINITELY.
D. RECESSED FIXTURES SHALL NOT HAVE GAPS BETWEEN THE FIXTURE TRIM AND ADJACENT SURFACE. WHERE LIGHT LEAKS OCCUR, SUITABLE GASKETS SHALL BE INSTALLED.
E. RECESSED LIGHTING FIXTURES INSTALLED IN MODULAR OR INTEGRATED CEILINGS SHALL BE OF THE PROPER TYPE FOR THE TYPE OF CEILING BEING INSTALLED. VERIFY TYPE OF CONSTRUCTION PRIOR TO ORDERING OF FIXTURES. ADDITIONAL CEILING TIES SHALL BE INSTALLED AT EACH CORNER OF THE LIGHTING FIXTURE TO REINFORCE THE CEILING SYSTEM.
F. CONNECT EXIT AND EMERGENCY LIGHTING FIXTURES TO BRANCH CIRCUIT SERVING NORMAL LIGHTING IN AREA AHEAD OF LOCAL SWITCHING OR TO NIGHT LIGHTING CIRCUIT AS SHOWN.
G. MOUNT CONTACTORS AND TIMECLOCKS ADJACENT TO PANELBOARD AND SET TIMECLOCK TO HOURS DIRECTED BY THE OWNER. PHOTOCELLS SHALL BE LOCATED IN AN ACCESSIBLE LOCATION EITHER BELOW SOFFIT OR ABOVE ROOF LINE FACING NORTH, DO NOT ATTACH PHOTOCELLS ON FACE OF BUILDING.
H. PERMANENT FIXTURES SHALL NOT BE USED AS TEMPORARY LIGHTING DURING CONSTRUCTION.

3.11 EMPTY CONDUIT SYSTEMS:

A. LEAVE CONDUITS WITH PULL CORDS. AT COMPLETION OF THE PROJECT, PROVIDE BLANK COVERPLATES FOR ANY OUTLET BOXES NOT UTILIZED AND LEFT SPARE BY THE OWNER'S CABLING CONTRACTOR.
B. PAINT ALL SIDES AND EDGES OF EQUIPMENT SPACE BACKBOARD WITH 2 COATS OF GRAY ENAMEL PAINT PRIOR TO INSTALLATION.
C. COORDINATE WITH THE UTILITIES SELECTED BY THE OWNER AND PROVIDE ALL MEANS REQUIRED FOR SERVICES TO THE BUILDING.

3.12 FIRE ALARM SYSTEM:

A. ON CALL FROM INITIATING DEVICE, SYSTEM SHALL SOUND EVACUATION THROUGHOUT BUILDING AND NOTIFY CENTRAL STATION. SPRINKLER TAMPER SWITCHES TO SOUND TROUBLE SIGNAL.
B. COORDINATE FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR AND SHUTDOWN OF ROOF TOP UNITS WITH HVAC CONTRACTOR. VERIFY EXACT QUANTITIES AND LOCATIONS OF FLOW AND TAMPER SWITCHES WITH THE SPRINKLER CONTRACTOR REQUIRED FOR RISER, STANDPIPES, PIV'S, AND FIRE SERVICE LINE.
C. DUCT MOUNTED SMOKE DETECTORS SHALL BE TIED TO FIRE ALARM SYSTEM. COORDINATE WITH HVAC CONTRACTOR.
D. TEST SYSTEM TO INDUSTRY STANDARDS AND PROVIDE WRITTEN DOCUMENTATION TO THE ARCHITECT OF SYSTEM ACCEPTANCE.
E. COORDINATE FINAL FIRE PUMP GENERATOR + TRANSFER SWITCH CHARACTERISTICS WITH FIRE PUMP DESIGN DRAWINGS. INCREASE SIZES, OVER CURRENT PROTECTION, WIRING, ETC. AS REQUIRED.

NOTE: REFER TO APARTMENT UNIT SPECIFICATIONS ON SHEET E-500 FOR ADDITIONAL REQUIREMENTS IN APARTMENT UNITS.

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ELECTRICAL SPECIFICATIONS

ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

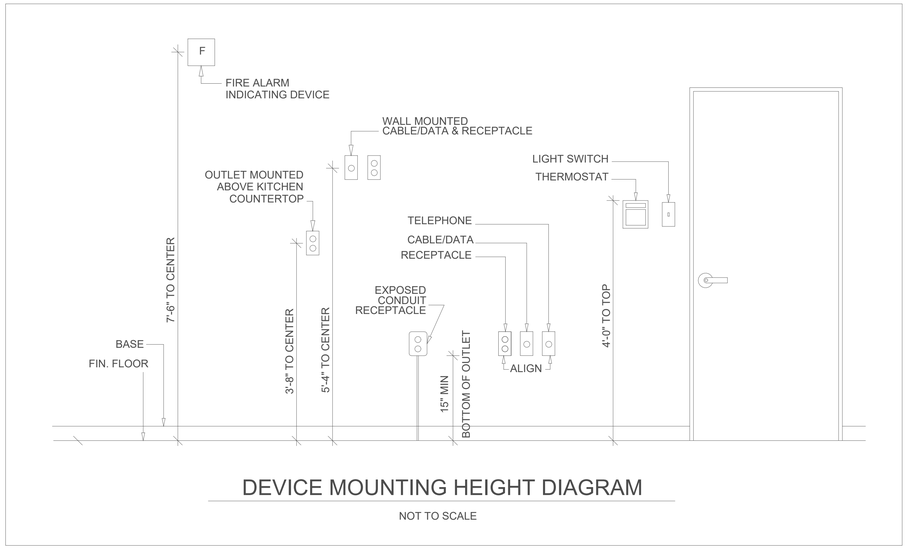
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06/30/2026	CONSTRUCTION ABILITY REVIEW	

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06/30/2026
CONSTRUCTABILITY REVIEW

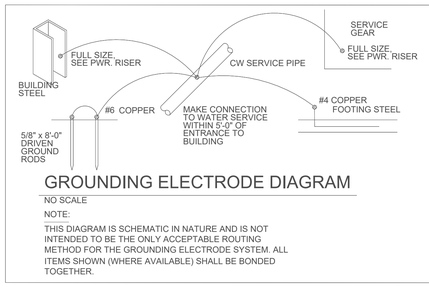
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DEVICE MOUNTING HEIGHT DIAGRAM

NOT TO SCALE



GROUNDING ELECTRODE DIAGRAM

NO SCALE

NOTE:

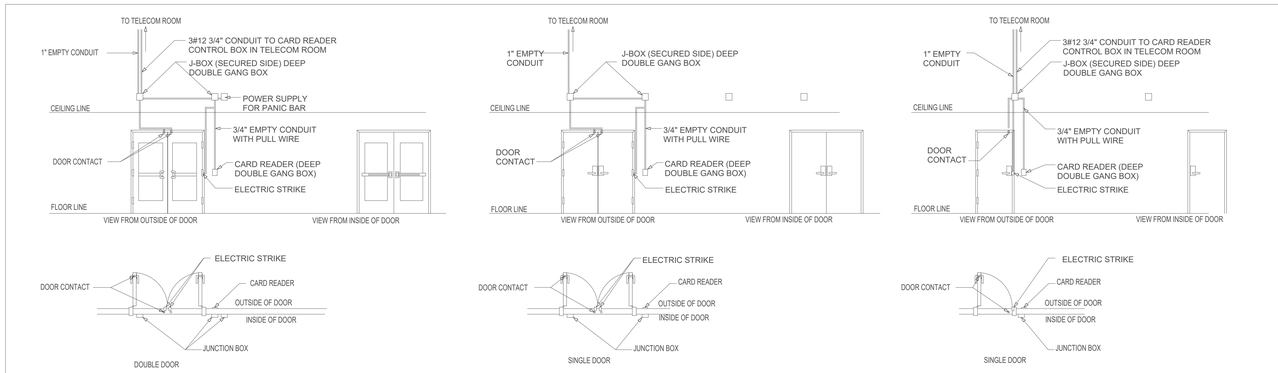
THIS DIAGRAM IS SCHEMATIC IN NATURE AND IS NOT INTENDED TO BE THE ONLY ACCEPTABLE ROUTING METHOD FOR THE GROUNDING ELECTRODE SYSTEM. ALL ITEMS SHOWN (WHERE AVAILABLE) SHALL BE BONDED TOGETHER.

LIGHTING FIXTURE CONTROLS SYMBOLS LIST

S	SINGLE POLE WALL SWITCH AT 48" AFF TO TOP OF BOX.
S3	3-WAY DIMMER SWITCH AT 48" AFF TO TOP OF BOX.
SOC	SENSOR SWITCH WSX-PDT-SA PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LINE VOLTAGE WALL MOUNT SENSOR AT 48" AFF. MANUAL ON/AUTO OFF.
M	SENSOR SWITCH CM-PDT-10 PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LOW VOLTAGE CEILING MOUNT SENSOR WIRE TO REPECTIVE POWER PACK, WIDE AREA TYPE.
CM	SENSOR SWITCH CM-PDT-11 PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LOW VOLTAGE CEILING MOUNT SENSOR WIRE TO REPECTIVE POWER PACK.
PP	SENSOR SWITCH PP-20 POWER PACK LOCATED ABOVE ACCESSIBLE CEILING. UTILIZE ACCESS PANEL WHERE LOCATED ABOVE HARD CEILING.
PC	PHOTOCELL, LOCATE IN ACCESSIBLE LOCATION AND SHIELD FROM SURROUNDING LIGHT SOURCES. WITH CIRCUIT

LIST NOTES:

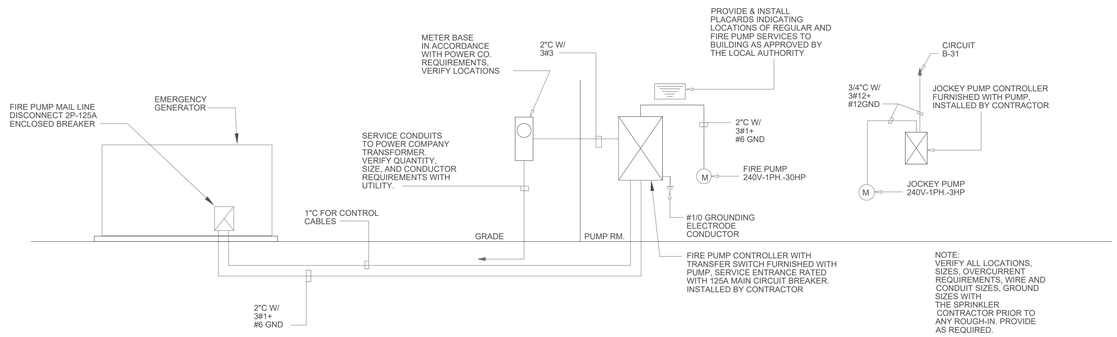
1. ALL SENSORS SWITCH COMPONENTS AND WIRING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
2. ADJUST SENSITIVITY, OVERRIDE SWITCHES (WHERE APPLICABLE AND TIME DELAYS TO THE SATISFACTION OF THE OWNER.
3. ALTERNATE MANUFACTURERS: LEVITON, LUTRON, DOUGLAS.
4. PROVIDE ACCESS PANELS FOR POWER PACKS WHERE INSTALLED ABOVE HARD CEILINGS.



CARD READER ELECTRIC STRIKE DETAIL

NO SCALE

NOTE: DIAGRAMS ARE GENERAL IN NATURE. COORDINATE WITH FINAL EQUIPMENT SUPPLIER'S INSTALLATION GUIDELINES PRIOR TO ROUGH-IN.



FIRE PUMP RISER DIAGRAM

NO SCALE

NOTE:
INSTALL FIRE PUMP EQUIPMENT IN ACCORDANCE WITH NFPA 20. PROVIDE AND INSTALL ACCESSORIES, DEVICES, FIRE ALARM INTERLOCKS/MONITORING, WIRING TRANSITION BOXES, ETC. AS REQUIRED FOR A COMPLETE SYSTEM. VERIFY SERVICE REQUIREMENTS AND METER LOCATION WITH POWER COMPANY.

ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AL	ALUMINUM
ALT	ALTERNATIVE
AUTO	AUTOMATIC
BR	BED ROOM
C	CONDUIT
CL	CLOSET
CU	COPPER
CW	WASHER
D	DRYER
DISP	DISPOSER
DW	DISHWASHER
DTL/DTS	DOWN TO LIGHT/SWITCH
EC	EMPTY CONDUIT
EH	EXHAUST HOOD
ELEC	ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
ER	ELEVATOR RECALL
EXT	EXTERIOR
FSS/INFSS	FUSIBLE/NON-FUSIBLE SAFETY SWITCH
GEC	GROUNDING ELECTRODE CONDUCTOR
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GND	GROUND
HP	HORSEPOWER
HR	HOUR
IM	ICE MACHINE
I.T.	INFORMATION TECHNOLOGY
JAN	JANITOR
KAIC	KILO-AMPERE INTERRUPT CURRENT
KIT	KITCHEN
KV	KILO-VOLT
L	LAUNDRY
LT	LIGHT
M/E	MICROWAVE/EXHAUST COMBINATION
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NL	NIGHT LIGHT (UNSWITCHED)
NO.	NUMBER
O.C.	ON CENTER
P	POLE
PH	PHASE (AFTER NUMBER 1 OR 3)
PNL	PANEL
REC	RECEPTACLE
REF	REFRIGERATOR
SER	SERVICE ENTRANCE RATED
STOR	STORAGE
UTL	UP TO LIGHT
DTL	DOWN TO LIGHT
V	VOLT
W	WIRE
W/	WITH
W.I.C.	WALK-IN CLOSET
W/D	COMBINATION WASHER/DRYER
WH	WALL HEATER
WP	WEATHERPROOF

SYMBOLS LIST

A-1	OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE WITH CIRCUIT NUMBER
A-1	OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE WITH CIRCUIT NUMBER
A-1	OUTLET FOR CEILING OR WALL MOUNTED EXIT LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
A-1	OUTLET FOR CEILING OR WALL MOUNTED COMBINATION EXIT/EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
A-1	OUTLET FOR CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER WITH CIRCUIT NUMBER
A-1	GENERAL PURPOSE DUPLEX RECEPTACLE AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
A-1	GENERAL PURPOSE DUPLEX RECEPTACLE AT 48" AFF TO TOP OF BOX, WITH CIRCUIT NUMBER
GFCI A-1	GROUND FAULT CIRCUIT INTERRUPTER AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
GFCI A-1	GROUND FAULT CIRCUIT INTERRUPTER AT 48" AFF TO TOP OF BOX, WITH CIRCUIT NUMBER
USB A-1	GENERAL PURPOSE DUPLEX RECEPTACLE WITH (2) INTEGRATED USB PORTS ABOVE COUNTER/DESK, MOUNTED HORIZONTALLY AND CENTERED 6" ABOVE THE FINISHED SURFACE OR 2" ABOVE BACK SPLASH UNLESS NOTED OTHERWISE. WITH CIRCUIT NUMBER, HUBBEL USB20AC OR EQUAL. USB PORTS CONFIGURED AS (1) USB-A AND (1) USB-C
	DEEP DOUBLE GANG JUNCTION BOX FOR DOOR CONTROL DEVICES AT 48" AFF. ROUTE 1" EMPTY CONDUIT (EC) TO CONTROL PANEL. ROUTE 3/4" EC TO DOOR ACCESS DEVICE, A 3/4" EC TO DOOR CONTACTS, AND A 3/4" EC TO ELECTRIC STRIKE. COORDINATE ALL REQUIREMENTS WITH OWNER AND SECURITY SYSTEM PROVIDER PRIOR TO ANY ROUGH-IN. PROVIDE ADDITIONAL 120V CONNECTION FOR CONTROLLERS, TRANSFORMERS, ETC. AS REQUIRED. WIRE TO CIRCUIT INDICATED. SEE CARD READER DETAIL.
A-1	GENERAL PURPOSE QUADRAPLEX RECEPTACLE AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
EWC A-1	OUTLET FOR ELECTRIC WATER COOLER COORDINATE LOCATION WITH PLUMBING ROUGH-IN DRAWINGS, WITH CIRCUIT NUMBER
UC REF. A-1	OUTLET FOR UNDERCOUNTER REFRIGERATOR HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
REF. A-1	OUTLET FOR REFRIGERATOR HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
DISP. A-1	SWITCHED OUTLET FOR DISPOSER HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
A-1	FLUSH FLOOR OUTLET WITH DUPLEX RECEPTACLE WITH CIRCUIT NUMBER WITH BRASS COVERPLATE
A-1	DUAL SERVICE FLUSH FLOOR OUTLET WITH DUPLEX RECEPTACLE WITH CIRCUIT NUMBER AND A 1" EC STUBBED INTO ACCESSIBLE CEILING SPACE FOR LOW VOLTAGE CABLE (DATA, TELEPHONE OR TELEVISION), WITH BRASS COVERPLATE
	OUTLET FOR LOW VOLTAGE CABLE (DATA OR TELEPHONE) AT 18" AFF TO BOTTOM OF BOX WITH A 3/4" EC STUBBED INTO ACCESSIBLE CEILING SPACE
	OUTLET FOR LOW VOLTAGE CABLE (TELEVISION) AT 48" AFF TO TOP OF BOX WITH A 3/4" EC STUBBED INTO ACCESSIBLE CEILING SPACE
TV	JUNCTION BOX FOR HDMI CABLE AT TELEVISION LOCATION
J	JUNCTION BOX AT 18" AFF TO BOTTOM OF BOX OR AT ASSOCIATED PIECE OF EQUIPMENT
AQ	AIR QUALITY SENSOR (120V-1PH) FURNISHED AND INSTALLED BY HVAC, WIRED BY ELECTRICIAN
	FIRE ALARM PULL STATION AT 48" AFF TO TOP OF BOX
F	AUDIO/VISUAL FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF
V	VISUAL ONLY FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF
S	CEILING MOUNTED SMOKE DETECTOR
FS	SPRINKLER WATER FLOW SWITCH
TS	SPRINKLER TAMPERPROOF SWITCH
C/CO	COMBINATION CEILING MOUNTED SINGLE STATION AC/BATTERY CARBON MONOXIDE AND SMOKE DETECTOR
FAA	FIRE ALARM ANNUNCIATOR PANEL
FAC	FIRE ALARM CONTROL PANEL
EXP	FIRE ALARM EXPANDER PANEL
H	CEILING MOUNTED HEAT DETECTOR
A-1	SAFETY SWITCH AT 48" AFF TO TOP OF BOX OR AT ASSOCIATED PIECE OF EQUIPMENT, CIRCUIT NUMBER SHOWN WHERE APPLICABLE
M	MOTOR OUTLET
	EXHAUST FAN (120V-1PH) FURNISHED AND INSTALLED BY DIVISION 15 WIRED UNDER THIS DIVISION
A-1	PHOTOCELL, LOCATE IN ACCESSIBLE LOCATION AND SHIELD FROM SURROUNDING LIGHT SOURCES, WITH CIRCUIT NUMBER
	PANELBOARD
EQ	EQUIPMENT EQUIPMENT DESIGNATION SEE SCHEDULE
	SWITCH LEG WIRING, 2 #12 - CROSS MARKS INDICATE NUMBER OF CONDUCTORS IF MORE THAN TWO
A	LIGHTING FIXTURE TYPE, SEE SCHEDULE.
1	KEYED DRAWING NOTE
	EQUIPMENT TAG

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GRIMM AND PARKER

GP #25144

ELECTRICAL DETAILS

ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	A
06/30/2026	CONSTRUCTION ABILITY REVIEW	

2E-002

06/30/2026
CONSTRUCTABILITY REVIEW

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PANEL A

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS:600 | MAIN: LUGS ONLY

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
1	20	RECS. CORRIDOR 1ST FLOOR (1)	6.0	100%	1	29.5		2	125%	18.8	ELEC. WATER HEATER 4	25	2
1	20	RECS. BIKE STORAGE	6.0	100%	3		29.5	4	125%	18.8	----	--	-
1	20	RECS. CORRIDOR 2ND FLOOR (1)	0.0	100%	5	6.0		6	100%	6.0	RECS. LOBBY	20	1
1	20	RECS. CORRIDOR 2ND FLOOR (1)	0.0	100%	7		6.0	8	100%	6.0	RECS. OFFICE	20	1
1	20	RECS. MAINT RM.	3.0	100%	9	9.0		10	100%	6.0	MAINT. OFFICE	20	1
1	20	RECS. MAINT RM.	3.0	100%	11		6.0	12	100%	3.0	MAINT. WORKSHOP	20	1
1	20	RECS. LAUNDRY ROOM	4.5	100%	13	10.5		14	100%	6.0	MAINT. WORKSHOP	20	1
2	30	DRYER	23.0	100%	15		27.5	16	100%	4.5	MAINT. WORKSHOP	20	1
-	--	----	23.0	100%	17	29.0		18	100%	6.0	RECS. 3RD FLR. CORRIDOR (1)	20	1
2	30	DRYER	23.0	100%	19		26.0	20	100%	3.0	RECS. 3RD FLR. CORRIDOR (1)	20	1
-	--	----	23.0	100%	21	29.0		22	100%	6.0	RECS. 4TH FLR. CORRIDOR (1)	201	1
2	30	DRYER	23.0	100%	23		26.0	24	100%	3.0	RECS. 4TH FLR. CORRIDOR (1)	20	1
-	--	----	23.0	100%	25	26.0		26	100%	3.0	DATA BOARD RECS. THIRD FLOOR	20	1
1	15	WASHER	10.0	100%	27		11.5	28	100%	1.5	REC. BATHROOM	20	1
1	15	WASHER	10.0	100%	29	6.0		30	100%	6.0	ROOFTOP RECS.	20	1
1	15	WASHER	10.0	100%	31		16.0	32	100%	6.0	ROOFTOP RECS.	20	1
1	20	RECS MEETING AREAS.	6.0	100%	33	23.3		34	125%	13.8	LIGHTS 1ST FLR.	20	1
1	20	RECS MEETING AREAS.	4.5	100%	35		24.5	36	125%	16.0	EXTERIOR LIGHTS	20	1
1	20	RECS. FLEX KITCHEN COUNTERS	4.5	100%	37	21.8		38	125%	13.8	LIGHTS 1ST FLR.	20	1
1	20	RECS. FLEX KITCHEN COUNTERS	3.0	100%	39		20.3	40	125%	13.8	LIGHTS 2ND FLR.	20	1
1	20	REFRIGERATOR	10.0	100%	41	27.3		42	125%	13.8	LIGHTS 3RD/4TH FLR.	20	1
1	20	SECURITY SYSTEM PANEL (2)	10.0	100%	43		33.0	44	100%	23.0	AH-3 BIKE RM.	25	2
1	20	SITE LIGHTING	2.0	125%	45	25.5		46	100%	23.0	----	--	-
1	20	SPARE	0.0	100%	47		19.0	48	100%	19.0	OHP-3 BIKE RM.	20	2
1	20	SPARE	0.0	100%	49	19.0		50	100%	19.0	----	--	-
1	20	SPARE	0.0	100%	51		19.8	52	100%	19.8	IHP STAIR A	20	2
1	20	SPARE	0.0	100%	53	19.8		54	100%	19.8	----	--	-
1	20	SPARE	0.0	100%	55		46.1	56	100%	46.1	AH-7 MAINT. SHOP	50	2
1	20	SPARE	0.0	100%	57	46.1		58	100%	46.1	----	--	-
1	20	SPARE	0.0	100%	59		24.9	60	100%	24.9	OHP-7 MAINT. SHOP	25	2
1	20	SPARE	0.0	100%	61	24.9		62	100%	24.9	----	--	-
1	20	SPARE	0.0	100%	63		46.1	64	100%	46.1	AH-5 MECH. RM	50	2
1	20	SPARE	0.0	100%	65	46.1		66	100%	46.1	----	--	-
1	20	SPARE	0.0	100%	67		25.0	68	100%	25.0	OHP-5 MECH. RM	25	2
1	20	SPARE	0.0	100%	69	25.0		70	100%	25.0	----	--	-
1	20	SPARE	0.0	100%	71		46.1	72	100%	46.1	AH-6 LAUNDRY	50	2
1	20	SPARE	0.0	100%	73	46.1		74	100%	46.1	----	--	-
1	20	SPARE	0.0	100%	75		34.0	76	100%	34.0	OHP-6 LAUNDRY	35	2
1	20	SPARE	0.0	100%	77	34.0		78	100%	34.0	----	--	-
1	20	SPARE	0.0	100%	79		0.0	80	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	81	31.8		82	125%	25.4	ELEC. WATER HEATER 5	35	2
1	20	SPARE	0.0	100%	84		31.8	84	125%	25.4	----	--	-
						535.5	519.0						

[1] - GFCI BREAKER.
[2] - PROVIDE BREAKER WITH RED HANDLE LOCK.
--WITH INTEGRAL 160KA TVSS.
SQUARE-D NQ OR EQUAL
SEE SPEC. NOTES

PANEL B

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 400 | MAIN: LUGS ONLY

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
1	20	RECS. ELEC. RM.	3.0	100%	1	26.5		2	125%	18.8	ELEC. WATER HEATER 4	25	2
1	20	RECS. WATER RM.	3.0	100%	3		26.5	4	125%	18.8	----	--	-
1	20	RECS 1ST FLR. CORRIDOR (1)	6.0	100%	5	72.0		6	100%	66.0	WATER BOOSTER PUMP	90	2
1	20	RECS 1ST FLR. CORRIDOR (1)	6.0	100%	7		72.0	8	100%	66.0	----	--	-
1	20	RECS. LAUNDRY ROOM	4.5	100%	9	14.5		10	100%	10.0	SPRNK. AIR COMP.	20	1
1	20	RECS 2ND FLR. CORRIDOR (1)	6.0	100%	11		11.0	12	100%	5.0	TRASH SHUTE CONTRLLER	20	1
1	20	RECS 2ND/3RD FLR. CORRIDOR (1)	6.0	100%	13	38.8		14	125%	26.3	TRASH COMPACTOR	30	2
1	20	RECS 3RD FLR. CORRIDOR (1)	6.0	100%	15		38.8	16	125%	26.3	----	--	-
1	20	RECS 4TH FLR. CORRIDOR (1)	6.0	100%	17	12.0		18	100%	6.0	DATA BOARD QUAD RECS.	20	1
1	20	RECS 4TH FLR. CORRIDOR (1)	0.0	100%	19		19.8	20	100%	19.8	IHP/FCU STAIRS B	25	2
1	20	RADON FAN RECEPTACLE ON ROOF	1.5	100%	21	21.3		22	100%	19.8	----	--	-
1	20	ROOF	1.5	100%	23		11.5	24	100%	10.0	FIRE ALARM CONTROL PANEL	20	1
1	20	SPARE	0.0	100%	25	20.0		26	100%	20.0	DATA BOARD 240V REC.	30	2
1	20	ROOFTOP RECS.	6.0	100%	27		26.0	28	100%	20.0	----	--	-
1	20	ROOFTOP RECS.	6.0	100%	29	20.0		30	100%	20.0	DATA BOARD REC.	30	1
2	20	FIRE JOCKEY PUMP	12.4	100%	31		15.4	32	100%	3.0	DATA BOARD RECS. THIRD FLOOR	20	1
-	--	----	12.4	100%	33	17.4		34	100%	5.0	FIRE ALARM EXPANDER PANEL (2)	20	1
1	20	SITE LIGHTING	2.0	125%	35		22.5	36	125%	16.0	LIGHTING INVERTER BOX (3)	30	1
1	20	SPARE	0.0	100%	37	13.8		38	125%	11.0	EXTERIOR LIGHTS	20	1
1	20	SPARE	0.0	100%	39		17.3	40	125%	13.8	LIGHTS 1ST/2ND FLR.	20	1
1	20	SPARE	0.0	100%	41	17.3		42	125%	13.8	LIGHTS 3RD/4TH FLR.	20	1
1	20	SPARE	0.0	100%	43		19.8	44	100%	19.8	IHP/FCU WATER RM.	20	2
1	20	SPARE	0.0	100%	45	19.8		46	100%	19.8	----	--	-
1	20	SPARE	0.0	100%	47		19.8	48	100%	19.8	IHP/FCU ELEC RM.	20	2
1	20	SPARE	0.0	100%	49	19.8		50	100%	19.8	----	--	-
1	20	SPARE	0.0	100%	51		19.8	52	100%	19.8	IHP/FCU TRASH RM.	20	2
1	20	SPARE	0.0	100%	53	19.8		54	100%	19.8	----	--	-
						332.9	320.2						

[1] - GFCI BREAKER.
[2] - PROVIDE BREAKER WITH RED HANDLE LOCK.
[3] - WIRE CIRCUIT THROUGH PHOTOCELL. COORINATE WITH ZONE INVERTER DETAIL ON SHEET 2E-004.
--WITH INTEGRAL 160KA TVSS.
SQUARE-D NQ OR EQUAL
SEE SPEC. NOTES

SEVICE LOAD SUMMARY

52 UNITS

TYPE		LOAD (KW)
TOTAL APT. LIGHTING/RECEPTACLE LOAD		155.87
SMALL APPLIANCES		156.00
ELEC. RANGE		416.00
LAUNDRY		312.00
ELEC. WATER HEATER		234.00
DISPOSER		41.60
DISHWASHER		62.40
REFRIGERATOR		62.40
HVAC		415.80
TOTAL	=	1,851.07
DEMAND FACTOR OF 25%		
PER NEC TABLE 220-84	=	462.77
HOUSE LOADS	=	183.62
AT 240 VOLT, SINGLE PHASE	=	2693.28 AMPS

FIRST FLOOR METER STACK LOAD CALC.

36 UNITS

TYPE		LOAD (KW)
TOTAL APT. LIGHTING LOAD		106.25
SMALL APPLIANCES		108.00
ELEC. RANGE		288.00
LAUNDRY		216.00
ELEC. WATER HEATER		162.00
DISPOSER		28.80
DISHWASHER		43.20
REFRIGERATOR		43.20
HVAC		284.40
TOTAL	=	1,279.85
DEMAND FACTOR OF 30%		
PER NEC TABLE 220-84	=	383.95
AT 240 VOLT, SINGLE PHASE	=	1599.8 AMPS

2ND FLOOR METER STACK LOAD CALC.

16 UNITS

TYPE		LOAD (KW)
TOTAL APT. LIGHTING LOAD		49.62
SMALL APPLIANCES		48.00
ELEC. RANGE		128.00
LAUNDRY		96.00
ELEC. WATER HEATER		72.00
DISPOSER		12.80
DISHWASHER		19.20
REFRIGERATOR		19.20
HVAC		126.40
TOTAL	=	571.22
DEMAND FACTOR OF 32%		
PER NEC TABLE 220-84	=	182.79
AT 240 VOLT, SINGLE PHASE	=	761.62 AMPS

B2 HOUSE SWBD SECTION

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 1000 | MAIN: 1000A MAIN BREAKER

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
2	600	PANEL A	510.0	100%	1	510.0		2	100%	0.0	PROVISIONAL	--	1
-	--	----	506.0	100%	3		506.0	4	100%	0.0	PROVISIONAL	--	1
2	400	PANEL B	313.1	100%	5	313.1		6	100%	0.0	PROVISIONAL	--	1
-	--	----	297.9	100%	7		297.9	8	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	9	0.0		10	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	11		0.0	12	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	13	0.0		14	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	15		0.0	16	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	17	0.0		18	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	19		0.0	20	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	21	0.0		22	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	23		0.0	24	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	25	0.0		26	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	27		0.0	28	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	29	0.0		30	100%	0.0	PROVISIONAL	--	1
						823.1	803.9						

SEE SPEC. NOTES

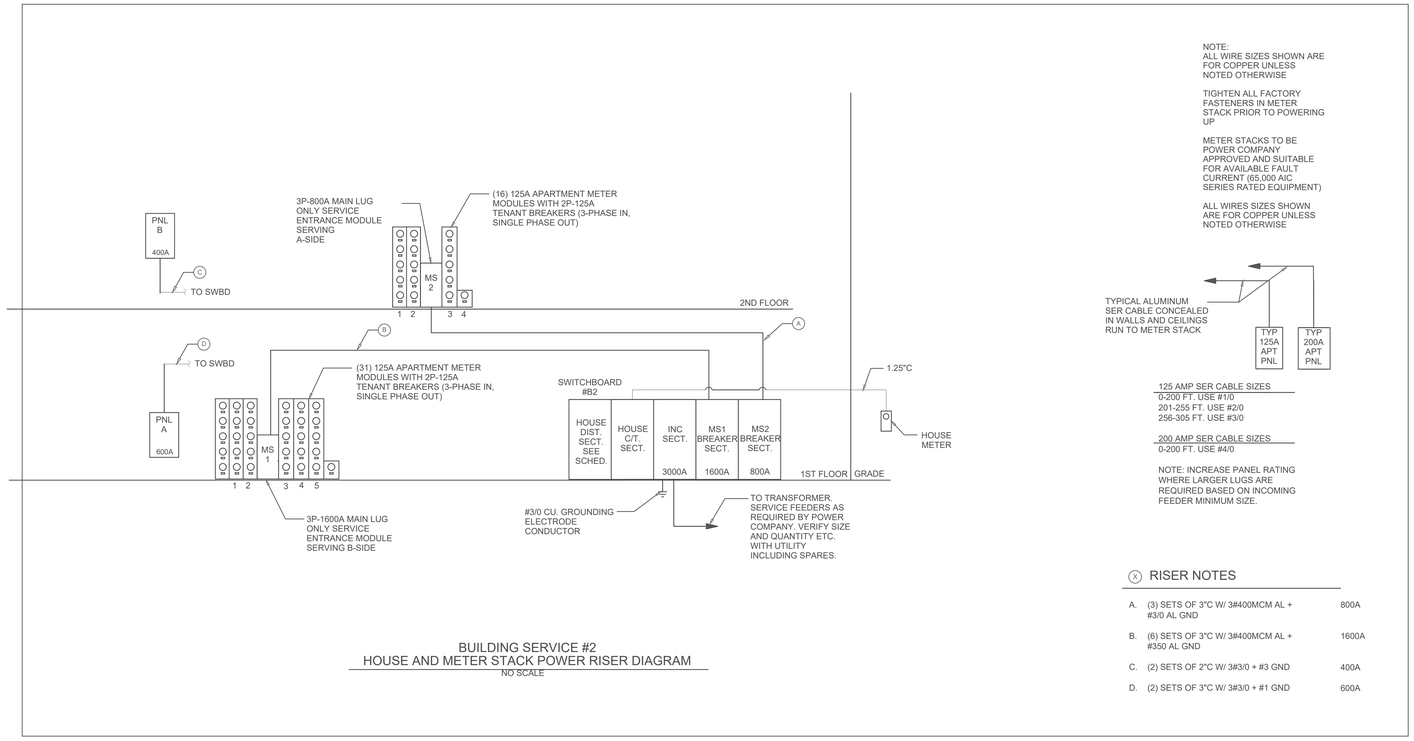
B2 EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	VOLTS	PH	FLA	WIRE	GND	MOCP	DISCONNECT	PNL.&CKT.	REMARKS
IHP/FCU 1	INDOOR/OUTDOOR HEAT PUMP	240	1	20.8	#10	#10	25	2P-30A-NFSS NEMA 3R	SEE PANEL SCHEDULES	NOTE 1
IHP/FCU 2	INDOOR/OUTDOOR HEAT PUMP	240	1	19.8	#12	#12	20	2P-30A-NFSS NEMA 3R		NOTE 1
OHP-3	OUTDOOR HEAT PUMP 3	240	1	19.0	#12	#12	20	2P-30A-NFSS NEMA 3R		
AH-3	AIR HANDLER 3	240	1	23.0	#10	#10	25	2P-30A-NFSS		
OHP-4	OUTDOOR HEAT PUMP 4	240	1	24.9	#10	#10	25	2P-30A-NFSS NEMA 3R		
AH-4	AIR HANDLER 4	240	1	46.1	#8	#10	50	2P-60A-NFSS		
OHP-5	OUTDOOR HEAT PUMP 5	240	1	24.9	#10	#10	25	2P-30A-NFSS NEMA 3R		
AH-5	AIR HANDLER 5	240	1	46.1	#8	#10	50	2P-60A-NFSS		
OHP-6	OUTDOOR HEAT PUMP 6	240	1	34.0	#8	#10	35	2P-60A-NFSS NEMA 3R		
AH-6	AIR HANDLER 6	240	1	46.1	#8	#10	50	2P-60A-NFSS		
OHP-7	OUTDOOR HEAT PUMP 7	240	1	24.9	#10	#10	25	2P-30A-NFSS NEMA 3R		
AH-7	AIR HANDLER 7	240	1	46.1	#8	#10	50	2P-60A-NFSS		
EWH-4	ELEC. WATER HEATER 4	240	1	18.8	#10	#10	25A	2P-30A-NFSS		
EWH-5	ELEC. WATER HEATER 5	240	1	25.4	#8	#10	35A	2P-60A-NFSS		
WBP	WATER BOOSTER PUMP	240	1	66.0	#3	#8	90A	2P-100A-NFSS		

SCHEDULE NOTES

-- VERIFY FINAL CONNECTIONS, ELECTRICAL CHARACTERISTICS, ETC. WITH FINAL EQUIPMENT SELECTIONS. CONTRACTOR IS RESPONSIBLE FOR CORRECTNESS OF ALL BREAKERS, WIRES, ETC.

NOTE 1: WIRE THROUGH CONTROLLER AS REQUIRED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. INDOOR UNIT WIRED THROUGH OUTDOOR UNIT.



BUILDING SERVICE #2
HOUSE AND METER STACK POWER RISER DIAGRAM
NO SCALE

NOTE:
ALL WIRE SIZES SHOWN ARE FOR COPPER UNLESS NOTED OTHERWISE

TIGHTEN ALL FACTORY FASTENERS IN METER STACK PRIOR TO POWERING UP.

METER STACKS TO BE POWER COMPANY APPROVED AND SUITABLE FOR AVAILABLE FAULT CURRENT (65,000 AIC SERIES RATED EQUIPMENT)

ALL WIRES SIZES SHOWN ARE FOR COPPER UNLESS NOTED OTHERWISE

125 AMP SER CABLE SIZES
0-200 FT. USE #1/0
201-255 FT. USE #2/0
256-305 FT. USE #3/0

200 AMP SER CABLE SIZES
0-200 FT. USE #4/0

NOTE: INCREASE PANEL RATING WHERE LARGER LUGS ARE REQUIRED BASED ON INCOMING FEEDER MINIMUM SIZE.

RISER NOTES

A.	(3) SETS OF 3"C W/ 3#400MCM AL + #3/0 AL GND	800A
B.	(6) SETS OF 3"C W/ 3#400MCM AL + #350 AL GND	1600A
C.	(2) SETS OF 2"C W/ 3#3/0 + #3 GND	400A
D.	(2) SETS OF 3"C W/ 3#3/0 + #1 GND	600A

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GP #25144

POWER RISER & SCHEDULES

ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

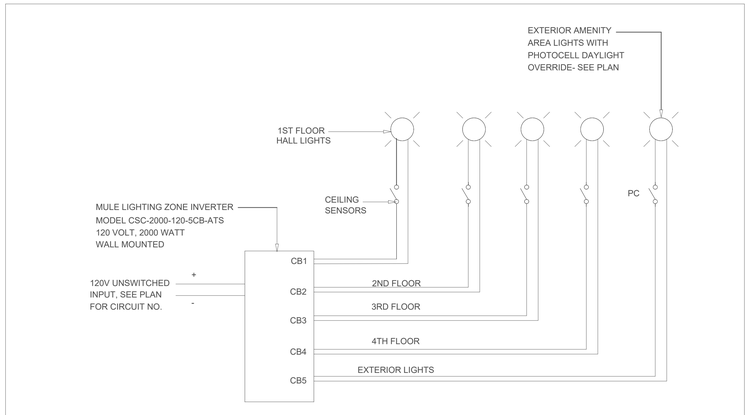
DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	A
06/30/2026	CONSTRUCTION ABILITY REVIEW	

2E-003
06/30/2026
CONSTRUCTABILITY REVIEW

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	Fixture Type	WATTS/AMPS	Product	
	Interior - Common Areas			
F1	LF-Can_Light-US-GP (Corridor - Common Area)	12	BEGA Surface Mounted Downlight	4 3/8" D | 4" W | 8.00W LED| Finish: White
F2	LF-Troffer_Light-FB - 2'x4' (2 lamp) - 120V	45	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x4' | 30K | Finish: White
F2E	LF-Troffer_Light-FB - 2'x4' (2 lamp) - 120V	45	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x4' | 30K | Finish: White WITH EM. BATTERY BACKUP
F3	LF-Utility Sconce-NH		TBD	
F4	Res-1x4 NonHosted Light - Adjustable - 1x4	40	Globalux SLP Surface Mounted Flat Panel	1x4' | 3000K | Finish: White
F4E	Res-1x4 NonHosted Light - Adjustable - 1x4	40	Globalux SLP Surface Mounted Flat Panel	1x4' | 3000K | Finish: White WITH EM. BATTERY BACKUP
F5	Downlight - Recessed Can - 4" Fluorescent - 120V		Eterna Light Prima 3 Round Baffle	60W equivalent LED medium base A19, 120V, 08 or 15W. Air tight IC rating | 3" Dia | 3000K | Energy Star | Damp location listed | Finish: White | Baffle
F6	LF-Linear-Recessed - 3"x6'	36	Axis Lighting Sculpt Recessed Mount	3" W| 6' L| Finish: White
F7	LF-Linear-Recessed - 3"x4'	32.7	Axis Lighting Sculpt Recessed Mount	3" W| 4' L| Finish: White
F8	LF-Pendant-Globe (Laundry)	14	Axis Lighting Luna Orb Pendant	Pendant Fixture | Acrylic Globe | Finish: White
F9	LF-Can_Light-US-GP (Fitness Room)	18	Utopia MCR Metal Cylinder Round	4" | Finish: White w/White or Chrome Interior
F10	LF-Pendant-Dining_Maker-LED - Opta 28 LED (Community Room)		Axis Lighting Shade Big Dome	Sloped ceiling compatible. Acrylic | Finish: White 22W LED
F11	Lighting-Wall-Sconce-Tech_Lighting-Ellis_24 (bathroom vanity)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Polished Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
F12	LF-Troffer_Light-FB - 2'x2' (1 lamp) - 120V	35	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x2' | 30K | Finish: White
E1	EM EXIT DEVICE W/BATTERY BACKUP			
E2	EM EGRESS DEVICE W/BATTERY BACKUP			
	Interior - Unit			
	LF-Flat Round-CH - WIC/BATH 7 1/2"		Globalux RDL LED Found Low Profile Flush	7" | Finish: White 15W LED 3000K Motion activated.
	LF-Linear-Surface_Mount - 6"x2' (Bath)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Satin Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
	LF-Round-Pendant (Kitchen Island)		Visual Comfort Entra 3" Cylinder	8" H x 3" diameter Finish: White or Polished Nickel 10W | 3000K | Energy Star | Cable to match.
	LF-Linear-Suface_Mount - 1"x4" (Kitchen)		Globalux SLP Surface Mounted Flat Panel	1'x4' | 3/4" H Finish: White w/ Acrylic Lense LED 3000K | Energy Star | Rated Note \VH requires a 4' long fixture in the kitchen.
	LF-Flat Round-CH - Foyer/BR 14"		Globalux DCR LED Ringed Decorative Ceiling Mount - 14"	Provide switched outlet 14" diameter | 4" H Finish: Brushed Nickle and White Acrylic LED 3000K | Energy Star Rated
	LF-Flat Round-CH - Dining/Public Corridor 16"		Globalux DCR LED Ringed Decorative Ceiling Mount - 16"	Provide switched outlet 16" diameter | 4" H Finish: Brushed Nickle and White Acrylic LED 3000K | Energy Star Rated
	LF-Utility Sconce-NH (W/D)			
	LF-3_vanity-UH-GP (bathroom vanity)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Satin Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
	Exterior			
F12	LF-Linear-Recessed - 3"x6' (Corridor/Lobby Spaces)	60	Axis Lighting Extend 4 Surface	3" W| 6' L| Finish: White | Surface or Recessed as Required
F13	LF-Linear-Recessed - 3"x4' (Corridor/Lobby Spaces)	40	Axis Lighting Extend 4 Surface	3" W| 4' L| Finish: White | Surface or Recessed as Required
F14	LF-Wall Sconce - InterGlobal-WH (Ext. Corridor)	10	WAC Lighting Dot Ceiling Mount (Wall Mount)	2.5" Thick | 12" Diameter | Exterior Grade Stainless Steel, Glass 27W LED | 3000K
F15	LF-Wall Sconce - Shade On (Unit Entry, corridor)	11	WAC Lighting Caliber Outdoor Wall Sconce 3000K	14" T | 4" D (Max.) | 4.5" W | 3" Diameter Lens ADA Compliant | Exterior Grade Brushed Aluminum, Glass 11W LED | 3000K
F16	Exterior Sconces at Main Entries		A WE Lighting Helion	5"W | 31"H | 3.39"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
F17	Exterior Sconces above Back-Of-House Doors		A WE Lighting Bloc	6"W | 5.5"H | 6"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
F18	Exterior Sconces at Side + Residence Entries (exterior wall)		A WE Lighting Pillar	4"W | 7"H | 5"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
F19	Exterior Wall Packs		TBD	



ZONE INVERTER #1 WIRING SCHEMATIC

NO SCALE

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GRIMM AND PARKER

GP #25144

LIGHTING SCHEDULE & DIAGRAM

ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

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ELECTRICAL SPECIFICATIONS

1. GENERAL

1.1 RELATED DOCUMENTS:

A. REQUIREMENTS OF THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND SPECIAL CONDITIONS APPLY TO THIS SECTION.
B. ARCHITECTURAL, STRUCTURAL, MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS.

1.2 WORK INCLUDED:

A. ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
B. PERMITS AND INSPECTIONS REQUIRED FOR WORK.
C. TEMPORARY ELECTRIC FOR SITE DURING CONSTRUCTION AS REQUIRED.

1.3 JOB CONDITIONS:

A. COORDINATE WITH BUILDING CONSTRUCTION AND WITH OTHER TRADES.
B. IN CASE OF CONFLICT BETWEEN SPECIFICATIONS AND DRAWINGS, CONSULT ARCHITECT IMMEDIATELY FOR DETERMINATION OF PROCEDURE METHOD.

1.4 CONFORMANCE TO REGULATIONS:

A. WORK SHALL CONFORM WITH 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, 2026 VH MDCR, 2026 UNIVERSAL DESIGN, 2020 ENTERPRISE GREEN COMMUNITIES, DOE EFFICIENT NEW HOMES PROGRAM; MULTIFAMILY VERSION 2, REV. 2., ENERGY STAR MFNC 1.1, EPA INDOOR AIRPLUS V2, AND LOCAL ORDINANCES AND THE RULES AND REGULATIONS OF THE UTILITIES.
B. WORK SHALL BE IN ACCORDANCE WITH THE OWNER'S BUILDING CRITERIA AND TENANT BUILD-OUT REQUIREMENTS.

1.5 QUALITY ASSURANCE:

A. MEET OR EXCEED RECOMMENDATIONS OF: IEEE, IES, NEMA AND UL.
B. NOTIFY ARCHITECT IMMEDIATELY OF CONFLICTS AND DEFICIENCIES. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN RESOLVED.

1.6 MATERIALS AND EQUIPMENT:

A. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS OTHERWISE NOTED.
B. FURNISH (INCLUDING FREIGHT AND UNLOADING) AND INSTALL UNLESS OTHERWISE NOTED.
C. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE NEW UNLESS NOTED OTHERWISE.

1.7 UTILITIES AND CONNECTIONS:

A. OWNER WILL PAY ANY UTILITY SERVICE FEES DIRECTLY TO THE RESPECTIVE UTILITY COMPANIES.
B. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED BUT NOT PROVIDED OR FURNISHED BY THE UTILITY COMPANIES TO BRING SERVICE INTO THE BUILDING.

1.8 SUBMITTALS:

A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT IN ACCORDANCE WITH THE ARCHITECT'S REQUIREMENTS.
B. UPON COMPLETION OF THE INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE OWNER, CONTRACTOR SHALL FURNISH AS-BUILT DOCUMENTATION AND O&M MANUALS IN ACCORDANCE WITH THE ARCHITECT'S REQUIREMENTS.
C. PROVIDE WIRING DIAGRAMS SPECIFIC TO THIS PROJECT FOR ALL ROOMS WITH LOW VOLTAGE DEVICES SHOWING INTERCONNECTIONS BETWEEN POWER PACK, SWITCHES, AND OCCUPANCY SENSORS.

1.9 PROJECT CLOSEOUT:

A. REPAIR DAMAGED AND DEFECTIVE EQUIPMENT AND MATERIALS. REPLACE ITEMS THAT CANNOT BE PROPERLY REPAIRED.
B. CLEAN EXPOSED AND SEMI-EXPOSED SURFACES OF EQUIPMENT AND MATERIALS.
C. TOUCH-UP SHOP-APPLIED FINISHES TO RESTORE DAMAGED AND SOILED AREAS.
D. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS UTILIZING THE OPERATION AND MAINTENANCE MANUAL.
E. INSTRUCTION PERIOD SHALL OCCUR AFTER SUBSTANTIAL COMPLETION OF ELECTRICAL SYSTEMS AND PRIOR TO COMPLETION OF THE PROJECT. COORDINATE WITH THE ARCHITECT AND OWNER.

2. PRODUCTS

2.1 RACEWAYS & FITTINGS:

A. CONDUIT SIZES SHALL BE AS REQUIRED BY THE CODE (UNLESS INDICATED OR SPECIFIED OTHERWISE) FOR THE NUMBER AND SIZE OF WIRE INDICATED. MINIMUM SIZE CONDUIT SHALL BE 1/2" ELECTRICAL TRADE SIZE. FLEXIBLE METAL CONDUIT USED FOR LIGHTING FIXTURE WHIPS MAY BE 3/8" WHERE ALLOWED BY THE CODE.
B. USE ELECTRICAL METALLIC TUBING EXCEPT AS FOLLOWS: USE RIGID NONMETALLIC CONDUIT IN OR UNDER ON GRADE CONCRETE SLABS. USE FLEXIBLE METAL CONDUIT FOR MOTOR AND EQUIPMENT CONNECTIONS IN DRY LOCATIONS. USE LIQUIDTIGHT FLEXIBLE METAL CONDUIT IN WET OR DAMP LOCATIONS.

2.2 WIRE AND CABLE:

A. CONDUCTORS SHALL BE COPPER, MINIMUM SIZE NO. 12 AWG. OTHER WIRE SIZES SHALL BE AS NOTED OR AS REQUIRED FOR THE CIRCUIT SIZE. CONDUCTOR INSULATION SHALL BE THHN/THWN.
B. BRANCH CIRCUIT WIRING WHERE CONCEALED IN WALLS AND ABOVE CEILINGS MAY BE TYPE MC (METAL CLAD) CABLE WHERE ALLOWED BY THE CODE.
C. SERVICE ENTRANCE CABLE (SE) MAY BE USED WHERE ALLOWED AND INSTALLED IN ACCORDANCE WITH NEC ARITCLE 338. FOR APARTMENT PANEL FEEDERS, USE MC FEEDERS OR CONDUIT & WIRE FOR APARTMENT FEEDERS WHERE SE CABLE IS NOT ALLOWED.
D. NM CABLE (ROMEX) MAY BE USED WHERE ALLOWED AND INSTALLED IN ACCORDANCE WITH NEC ARTICLE 334.

2.3 BOXES:

A. GALVANIZED SHEET STEEL TYPE. SINGLE DEVICE BOX SHALL BE "NON-GANGABLE" TYPE AND FOR MULTIPLE DEVICES "GANGABLE" TYPE SHALL BE USED. BOXES FOR EXPOSED WORK SHALL BE 4" SQUARE TYPE. BOXES FOR EXPOSED WORK IN WET LOCATIONS SHALL BE DIE CAST TYPE WITH THREADED HUBS. SECTIONAL BOXES SHALL NOT BE USED IN MASONRY OR CONCRETE. SIZED FOR NUMBER OF CONDUCTORS, FITTINGS AND DEVICES AS REQUIRED BY THE CODE.

2.4 WIRING DEVICES:

A. 20 AMPERE SPECIFICATION GRADE.
B. COVERPLATES SHALL BE AS FOLLOWS: INTERIOR RECESSED - SMOOTH UNBREAKABLE NYLON; SURFACE - 4" SQUARE RAISED COVER. GALVANIZED; WEATHERPROOF - DIE CAST ALUMINUM, GFCI TYPE, WATERTIGHT WHILE IN USE TYPE, USE EXTERNAL OPERATING TYPE FOR WEATHERPROOF SWITCHES.
C. DEVICE AND PLATE COLOR SHALL BE AS SELECTED BY ARCHITECT.
D. GFCI OUTLETS TO BE SELF-TESTING TYPE.

2.5 DISCONNECT SWITCHES:

A. SAME MANUFACTURER AS THE PANELBOARDS, NEMA 3R FOR OUTDOOR USE.
B. DISCONNECT SWITCHES SHALL BE FUSED OR NON-FUSED AS INDICATED AND BE VISIBLE BLADE TYPE WITH EXTERNAL OPERATING HANDLE AND COVER INTERLOCK AND PAD LOCKING.

2.6 GROUNDING:

A. CONNECTIONS TO BUILDING STEEL, GROUND RODS AND PIPING SYSTEMS SHALL BE MADE WITH BRONZE OR BRASS BOLTED TYPE FITTINGS DESIGNED FOR THE USE.
B. GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZE AS INDICATED ON THE DRAWINGS AND AS DESCRIBED IN ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.

2.7 PANELBOARDS (OR GEAR):

A. PANELBOARDS SHALL BE AS SCHEDULED OR BY: SQUARE-D, EATON, OR SIEMENS. PANELS TO HAVE MINIMUM 20" WIDE CABINETS AND COPPER BUS BARS.
B. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, MOLDED CASE, BOLT-ON TYPE. MULTI-POLE SHALL BE COMMON TRIP TYPE, BREAKERS FOR HVAC EQUIPMENT SHALL BE "HACR" RATED WHERE REQUIRED.
C. PANELBOARDS SHALL HAVE LOCKABLE DOORS, LOCKS SHALL BE KEYED ALIKE.
D. PANELBOARDS AND SWITCHBOARDS SHALL BE FULLY RATED OR HAVE A UL LISTED SERIES CONNECTED RATING OF A MINIMUM 65,000 AIC. OBTAIN AND SUBMIT FAULT CURRENT VERIFICATION LETTER FROM THE POWER COMPANY TO THE LOCAL AUTHORITY HAVING JURISDICTION IF REQUIRED.
E. ELECTRIC GEAR SHALL COMPLY WITH NEC 240.87.
F. METER STACKS SHALL BE THE SAME MANUFACTURER AS PANELBOARDS AND SHALL BE TYPE APPROVED BY THE POWER COMPANY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO POWER COMPANY FOR APPROVAL AS REQUIRED.
G. ALL LABELING ON EXTERIOR GEAR SHALL BE UV RESISTANT.
H. METER STACKS SHALL BE THE SAME MANUFACTURER AS PANELBOARDS AND SHALL BE TYPE APPROVED BY THE POWER COMPANY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO POWER COMPANY FOR APPROVAL AS REQUIRED.
I. ELECTRICIAN SHALL PROVIDE A COORDINATION STUDY FOR ALL GEAR IF REQUIRED BY LOCAL AUTHORITY. PROVIDE ADJUSTABLE BREAKERS AS REQUIRED FOR A FULLY COORDINATED SYSTEM.
J. PROVIDE ADD-ALTERNATE IN BID FOR 100KAIC RATED METER STACK.

2.8 FUSES:

A. BRANCH CIRCUIT FUSES SHALL BE TIME-DELAY, DUAL ELEMENT, CURRENT LIMITING, CLASS RK-5.

2.9 ELECTRIC SERVICE:

A. SERVICE SHALL BE 120/208 VOLT, 1 PHASE, 3 WIRE.

2.10 DRIVERS & ACCESSORIES:

A. LED DRIVERS SHALL BE ELECTRONIC TYPE WITH EQUAL TO OR LESS THAN 10% THD AND A 3 YEAR WARRANTY, VOLTAGE TO MATCH SYSTEM VOLTAGE.
B. ACCESSORIES SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING FOR A COMPLETE LIGHTING FIXTURE INSTALLATION: PLASTER FRAMES, TEE BAR HANGERS, FIXTURE STUDS AND HOLD DOWN CLIPS FOR SUSPENDED CEILINGS.

2.11 LIGHTING FIXTURES:

A. LIGHTING FIXTURES SHALL BE AS SPECIFIED ON THE DRAWINGS.
B. PHOTOCELLS: SWIVEL MOUNT, 1800 WATT, TORK SERIES 2020 OR EQUAL.
C. TIMECLOCKS: ASTRONOMIC, 7 DAY, 100 HOUR BATTERY BACKUP, TORK SERIES EWZ100 OR EQUAL.
D. CONTACTOR: MECHANICALLY HELD, ELECTRICALLY OPERATED, NUMBER OF POLES AS REQUIRED.

2.12 EMPTY CONDUIT SYSTEMS:

A. PROVIDE FOR USE BY THE OWNER'S CABLING CONTRACTOR. CONDUIT SYSTEM SHALL BE AS DESCRIBED ON THE DRAWINGS FOR DATA, TELEPHONE, TELEVISION, SOUND SECURITY ETC.

2.13 FIRE ALARM SYSTEM:

A. PROVIDE A COMPLETE ADDRESSABLE FIRE ALARM SYSTEM FOR BUILDING AS INDICATED ON THE PLANS AND NOTED HEREIN.
B. PROVIDE PROPERLY SIZED BATTERY TO BACK UP PANEL UPON LOSS OF NORMAL POWER.
C. PROVIDE CONTROL PANEL WITH INTEGRAL DACT (DIGITAL ALARM COMMUNICATING TRANSMITTER) TO PROVIDE OFF-SITE MONITORING OF THE SYSTEMS. MONITORING SHALL BE AS APPROVED BY THE LOCAL AUTHORITY. POTS LINES SHALL BE PROVIDED AS REQUIRED FOR THIS MONITORING.
D. FIRE ALARM CONTRACTOR SHALL PROVIDE ALL DRAWINGS, CALCULATIONS, PRODUCT DATA, ETC. TO THE LOCAL AUTHORITY REQUIRED FOR PERMITTING AND INSPECTIONS OF THE SYSTEM.
E. SIGNALING DEVICES SHALL BE ADA COMPLIANT.
F. CABLE SHALL BE FIRE PROTECTIVE SIGNALING TYPE.
G. ALL ACCESSORIES, EXPANDERS, ANNUNCIATORS, GRAPHIC PANELS, ETC. SHALL BE INCLUDED AS REQUIRED FOR A COMPLETE FULLY FUNCTIONING SYSTEM MEETING STATE AND LOCAL CODE REQUIREMENTS.
H. FIRE PUMP CONTROLLER SHALL HAVE INTEGRAL AUTOMATIC TRANSFER SWITCH, SERVICE ENTRANCE RATED.

3. EXECUTION:

3.1 RACEWAYS & FITTINGS:

A. INSTALL CONDUITS CONCEALED IN WALLS, CEILINGS OR FLOORS UNLESS INDICATED OR SPECIFIED OTHERWISE. CONDUITS MAY BE INSTALLED EXPOSED IN UNFINISHED AREAS (IE: EQUIPMENT ROOMS). INSTALL EXPOSED CONDUITS IN RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES OR CEILINGS. EXPOSED AND CONCEALED CONDUITS SHALL PASS THROUGH WALLS, FLOORS OR CEILINGS AT RIGHT ANGLES. UNDERGROUND CONDUITS SHALL HAVE BURY DEPTH AS REQUIRED BY THE CODE.
B. ENSURE THAT CONDUITS ARE IN ALIGNMENT BETWEEN BENDS, ELBOWS AND TERMINATIONS; THAT BENDS ARE FREE OF CRIMPS, THAT JOINTS AND TERMINATIONS ARE TIGHT AND SECURE; THAT INTERIORS ARE SMOOTH AND FREE OF BURRS AND FOREIGN OBJECTS; AND THAT INTERIORS ARE FULL SIZE ENTIRE LENGTH. DURING CONSTRUCTION, CLOSE ENDS OF CONDUITS WITH METAL OR PLASTIC CAPS INTENDED FOR THE PURPOSE.
C. FIELD BENDING OF CONDUITS AND TUBING SHALL BE MADE WITH HAND OR POWERED EQUIPMENT APPROVED FOR THE PURPOSE. USE OF TORCHES TO BEND NONMETALLIC CONDUIT IS NOT APPROVED. RADIUS OF BENDS SHALL BE AS PER THE CODE FOR TYPE OF CONDUIT AND TUBING USED. CONDUITS PASSING THROUGH A FIRE RATED WALL OR FLOOR SHALL NOT LESSEN THE RATING OF THE STRUCTURE THROUGH WHICH THEY PASS. FINAL INSTALLATION OF CONDUITS PENETRATING WATERPROOF CONSTRUCTION SHALL BE COMPLETELY WATERTIGHT.
D. SLEEVE CONDUITS PASSING THROUGH CONCRETE FLOOR SLABS AND CONCRETE, MASONRY, TILE AND GYPSUM WALLS.
E. CONDUIT SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE AT INTERVALS REQUIRED BY THE CODE. USE STANDARD CONDUIT HANGERS, ONE HOLE SNAP STRAPS, THIN WALL CONDUIT CLAMPS, MALLEABLE IRON PIPE STRAPS, STRUT CHANNEL, BEAM CLAMPS, U-BOLTS AND ALL-THREAD RODS. DO NOT USE WIRE TIES, STAB-ON CLIPS OR PERFORATED STRAP IRON.
F. PAINT ANY EXPOSED CONDUITS NOT WITHIN UTILITY ROOMS TO MATCH SURROUNDINGS.

3.2 WIRE AND CABLE:

A. SPLICE CONDUCTORS NO. 10 AND SMALLER WITH STEEL SPRING WIRE CONNECTOR WITH THERMOPLASTIC SHELL. SPLICE CONDUCTORS NO.8 AND LARGER WITH MECHANICAL TYPE, TAP CONNECTORS WITH INSULATED COVERS OR SPLIT BOLTS TAPED TO CONDUCTOR INSULATION VALUE.
B. INSTALL CONDUCTORS IN RACEWAYS. CONDUCTORS SHALL BE CONTINUOUS FROM POINT OF ORIGIN TO PANEL OR EQUIPMENT TERMINATION WITHOUT RUNNING SPLICES IN INTERMEDIATE BOXES. CONDUCTORS OF DIFFERENT VOLTAGES SHALL NOT BE PULLED INTO SAME RACEWAY.
C. CABLE SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE WITH STAPLES OR ONE-HOLE STRAPS AT INTERVALS REQUIRED BY THE CODE. BORED HOLES SHALL NOT EXCEED 1" DIAMETER AND SHALL BE A MINIMUM OF 2'-0" FROM STRUCTURAL BEARING POINTS, NOTCHING OF STRUCTURAL MEMBERS IS PROHIBITED. PROVIDE GUARD STRIPS AT LEAST AS HIGH AS CABLE WHERE RUN ACROSS TOP OF STRUCTURE IN ACCESSIBLE ATTIC SPACES.
D. DO NOT RUN ANY WIRE OR CABLE IN PLUMBING WALLS UNTIL PIPING SYSTEMS HAVE BEEN COMPLETED.PLUMBING SHALL PRESIDE IN THESE WALLS.
E. DO NOT SHARE NEUTRAL CONDUCTORS FOR 120 VOLT CIRCUITS.
F. COLOR CODE CONDUCTORS TO INDUSTRY STANDARDS.
G. INCREASE WIRE SIZES AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP BASED ON FEEDER/BRANCH CIRCUIT LENGTH.

3.3 BOXES:

A. SECURE BOXES TO STRUCTURE BY MEANS OF SCREWS, BOLTS, ROD HANGERS OR OTHER APPROVED MEANS. RACEWAYS ENTERING OR LEAVING BOX SHALL NOT BE USED AS SUPPORT. BOXES SHALL BE LEVEL AND PLUMB. BOXES FOR FLUSH EQUIPMENT SHALL BE PLACED TO WITHIN 1/4" OF THE FINISHED SURFACE, PROVIDE EXTENSIONS OR PLASTER RINGS AS REQUIRED. JUNCTION AND PULL BOXES SHALL BE INSTALLED READILY ACCESSIBLE, UNOBSTRUCTED BY PIPING, DUCTS OR OTHER EQUIPMENT.
B. BOXES SHALL BE MOUNTED AT HEIGHT INDICATED ON THE DRAWINGS OR DIRECTLY ADJACENT TO PIECE OF EQUIPMENT SERVED. SEAL SPARE OR UNUSED OPENINGS IN BOXES WITH APPROVED FITTINGS. FOR BOXES INSTALLED IN WET LOCATIONS PROVIDE CLEAR SILICONE CAULK BETWEEN BOX AND SURROUNDING SURFACE TO PREVENT WATER ENTRY.
C. BOXES IN RATED CONSTRUCTION SHALL BE SUITABLE FOR THE USE AND INSTALLED IN ACCORDANCE WITH THE CODE.

3.4 WIRING DEVICES:

A. INSTALL DEVICES APPROXIMATELY AT THE LOCATIONS INDICATED ON THE DRAWINGS. DETERMINE EXACT LOCATION BY CONDITIONS OF CONSTRUCTION. COORDINATE LOCATIONS TO AVOID CONFLICT WITH OTHER EQUIPMENT BEING INSTALLED. INSTALL DEVICES STRAIGHT AND SOLID TO BOX. MOUNTING HEIGHTS OF WALL OUTLETS SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE OUTLET. WHERE DEVICES ARE SHOWN GROUPED TOGETHER, PROVIDE A SINGLE, MULTIPLE GANG PLATE.
B. COORDINATE PLACEMENT IN AND AROUND KNEE SPACES, LAVATORIES AND OTHER EQUIPMENT TO AVOID CONFLICTS WITH MIRRORS AND OTHER APPURTENANCES, REFER TO ARCHITECTURAL DRAWINGS. SWITCHES SHALL BE LOCATED TO STRIKE SIDE OF THE DOOR, VERIFY FINAL DOOR SWINGS.
C. WHERE GFCI OUTLETS ARE USED TO PROVIDE FEED-THRU PROTECTION FOR DOWNSTREAM OUTLETS ON SAME CIRCUIT, DO NOT FEED-THRU WIRE ACROSS PARTITIONS, USE A SEPARATE DEVICE.
D. VERIFY THE NEMA CONFIGURATIONS OF ALL OUTLETS WITH OWNER.

3.5 DISCONNECT SWITCHES:

A. MOUNT SWITCHES ON WALL OR AT ASSOCIATED PIECE OF EQUIPMENT. WALL MOUNTED SWITCHES SHALL BE 48 INCHES ABOVE FINISHED FLOOR. PROVIDE ENGRAVED PLASTIC LAMINATE NAMEPLATE FOR EACH DISCONNECT SWITCH LOCATED ON FRONT OUTSIDE COVER, NAMEPLATE SHALL INDICATE ITEM SERVED.
B. SWITCHES SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE SWITCH TO MATCH EQUIPMENT SUPPLIED.

3.6 GROUNDING:

A. CONDUIT SYSTEM SHALL NOT BE USED FOR GROUNDING.
B. FOR BONDING OF SERVICE EQUIPMENT PROVIDE BONDING BUSHINGS AND JUMPERS WHERE REQUIRED. WELDING OF CONDUIT AND FITTINGS WILL NOT BE CONSIDERED ACCEPTABLE FOR THE PURPOSE OF BONDING.
C. PROVIDE PROTECTION FROM PHYSICAL DAMAGE FOR ANY EXPOSED SECTION OF THE GROUNDING ELECTRODE CONDUCTOR SYSTEM.

3.7 PANELBOARDS:

A. NEATLY PRINT CIRCUIT DESIGNATIONS ON DIRECTORY CARD. NOTATIONS SHALL INDICATE THE NATURE AND LOCATION OF LOADS SERVED.
B. PROVIDE ENGRAVED LAMINATE NAMEPLATE FOR EACH NEW PANELBOARD LOCATED ON OUTSIDE OF DOOR, NAMEPLATE SHALL INCLUDE PANELBOARD DESIGNATION ON THE DRAWINGS, SERVICE VOLTAGE, PHASE AND AMPERAGE.
C. BREAKERS SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE BREAKERS TO MATCH EQUIPMENT SUPPLIED.
D. LABEL METER STACKS WITH ENGRAVED LAMINATE PLATES AS TO APARTMENT NUMBER THAT IS APPROVED BY THE POWER CO. AND THE OWNER'S MATRIX.
E. ASSEMBLE METER STACK SECTIONS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

3.8 ELECTRIC SERVICE:

A. PROVIDE LABOR AND MATERIALS NOT FURNISHED BY THE POWER COMPANY. DO WORK REGARDING THE ELECTRICAL SERVICE AND ITS EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE POWER COMPANY. IF THE CONTRACT DOCUMENTS INDICATE WORK THAT IS TO EXCEED THESE REQUIREMENTS, FOLLOW THE CONTRACT DOCUMENTS.
B. LABEL EQUIPMENT FOR THE ELECTRIC SERVICE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THIS DIVISION. MAIN SWITCHES OR BREAKERS ARE TO BE IDENTIFIED AS SUCH IN ADDITION TO IDENTIFYING THE ITEM FED.
C. NOTIFY THE POWER COMPANY OF THE TIMING REQUIREMENTS FOR THE PROJECT AND ARRANGE FOR METERING EQUIPMENT, CONNECTIONS AND SERVICE.

3.9 FUSES:

A. INSTALL FUSES IN SWITCHES.
B. BRANCH CIRCUIT FUSES SCHEDULED ARE FOR DESIGN BASED EQUIPMENT, REVIEW OTHER TRADES' SUBMITTALS TO DETERMINE IF SUBSTITUTIONS HAVE BEEN MADE, PROVIDE FUSES TO MATCH EQUIPMENT SUPPLIED.

3.10 LIGHTING FIXTURES:

A. INSTALLATION OF FIXTURES SHALL BE IN A NEAT, WORKMANLIKE MANNER. PROVIDE STRAPS, SUPPORTS, HANGERS AND OTHER MATERIALS REQUIRED FOR PROPER INSTALLATION.
B. SURFACE MOUNTED FIXTURES SHALL NOT HAVE GAPS BETWEEN THE FIXTURE AND ATTACHING SURFACE UNLESS MOUNTING IS DESIGNED TO HOLD FIXTURE OFF CEILING, OR EXCEPT WHERE REQUIRED BY THE CODE REGULATION. CONTINUOUS ROWS OF FIXTURES SHALL BE INSTALLED SO AS TO PROVIDE PERFECT ALIGNMENT.
C. SUPPORT SURFACE MOUNTED FIXTURES DIRECTLY FROM THE BUILDING STRUCTURE AND NOT FROM THE CEILING GRID SYSTEM. USE ALL-THREAD RODS, BEAM CLAMPS, PIPE CLAMPS AND PIPE OR PERFORATED STEEL CHANNEL FOR SUPPORT. WIRE TIES AND STAB-ON CLIPS WILL NOT BE ACCEPTED. THE SUPPORT ASSEMBLY SHALL BE CAPABLE OF SUPPORTING 150 POUNDS IN ADDITION TO THE FIXTURE WEIGHT INDEFINITELY.
D. RECESSED FIXTURES SHALL NOT HAVE GAPS BETWEEN THE FIXTURE TRIM AND ADJACENT SURFACE. WHERE LIGHT LEAKS OCCUR, SUITABLE GASKETS SHALL BE INSTALLED.
E. RECESSED LIGHTING FIXTURES INSTALLED IN MODULAR OR INTEGRATED CEILINGS SHALL BE OF THE PROPER TYPE FOR THE TYPE OF CEILING BEING INSTALLED. VERIFY TYPE OF CONSTRUCTION PRIOR TO ORDERING OF FIXTURES. ADDITIONAL CEILING TIES SHALL BE INSTALLED AT EACH CORNER OF THE LIGHTING FIXTURE TO REINFORCE THE CEILING SYSTEM.
F. CONNECT EXIT AND EMERGENCY LIGHTING FIXTURES TO BRANCH CIRCUIT SERVING NORMAL LIGHTING IN AREA AHEAD OF LOCAL SWITCHING OR TO NIGHT LIGHTING CIRCUIT AS SHOWN.
G. MOUNT CONTACTORS AND TIMECLOCKS ADJACENT TO PANELBOARD AND SET TIMECLOCK TO HOURS DIRECTED BY THE OWNER. PHOTOCELLS SHALL BE LOCATED IN AN ACCESSIBLE LOCATION EITHER BELOW SOFFIT OR ABOVE ROOF LINE FACING NORTH, DO NOT ATTACH PHOTOCELLS ON FACE OF BUILDING.
H. PERMANENT FIXTURES SHALL NOT BE USED AS TEMPORARY LIGHTING DURING CONSTRUCTION.

3.11 EMPTY CONDUIT SYSTEMS:

A. LEAVE CONDUITS WITH PULL CORDS. AT COMPLETION OF THE PROJECT, PROVIDE BLANK COVERPLATES FOR ANY OUTLET BOXES NOT UTILIZED AND LEFT SPARE BY THE OWNER'S CABLING CONTRACTOR.
B. PAINT ALL SIDES AND EDGES OF EQUIPMENT SPACE BACKBOARD WITH 2 COATS OF GRAY ENAMEL PAINT PRIOR TO INSTALLATION.
C. COORDINATE WITH THE UTILITIES SELECTED BY THE OWNER AND PROVIDE ALL MEANS REQUIRED FOR SERVICES TO THE BUILDING.

3.12 FIRE ALARM SYSTEM:

A. ON CALL FROM INITIATING DEVICE, SYSTEM SHALL SOUND EVACUATION THROUGHOUT BUILDING AND NOTIFY CENTRAL STATION. SPRINKLER TAMPER SWITCHES TO SOUND TROUBLE SIGNAL.
B. COORDINATE FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR AND SHUTDOWN OF ROOF TOP UNITS WITH HVAC CONTRACTOR. VERIFY EXACT QUANTITIES AND LOCATIONS OF FLOW AND TAMPER SWITCHES WITH THE SPRINKLER CONTRACTOR REQUIRED FOR RISER, STANDPIPES, PIV'S, AND FIRE SERVICE LINE.
C. DUCT MOUNTED SMOKE DETECTORS SHALL BE TIED TO FIRE ALARM SYSTEM. COORDINATE WITH HVAC CONTRACTOR.
D. TEST SYSTEM TO INDUSTRY STANDARDS AND PROVIDE WRITTEN DOCUMENTATION TO THE ARCHITECT OF SYSTEM ACCEPTANCE.
E. COORDINATE FINAL FIRE PUMP GENERATOR + TRANSFER SWITCH CHARACTERISTICS WITH FIRE PUMP DESIGN DRAWINGS. INCREASE SIZES, OVER CURRENT PROTECTION, WIRING, ETC. AS REQUIRED.

NOTE: REFER TO APARTMENT UNIT SPECIFICATIONS ON SHEET E-500 FOR ADDITIONAL REQUIREMENTS IN APARTMENT UNITS.

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GP #25144

ELECTRICAL SPECIFICATIONS

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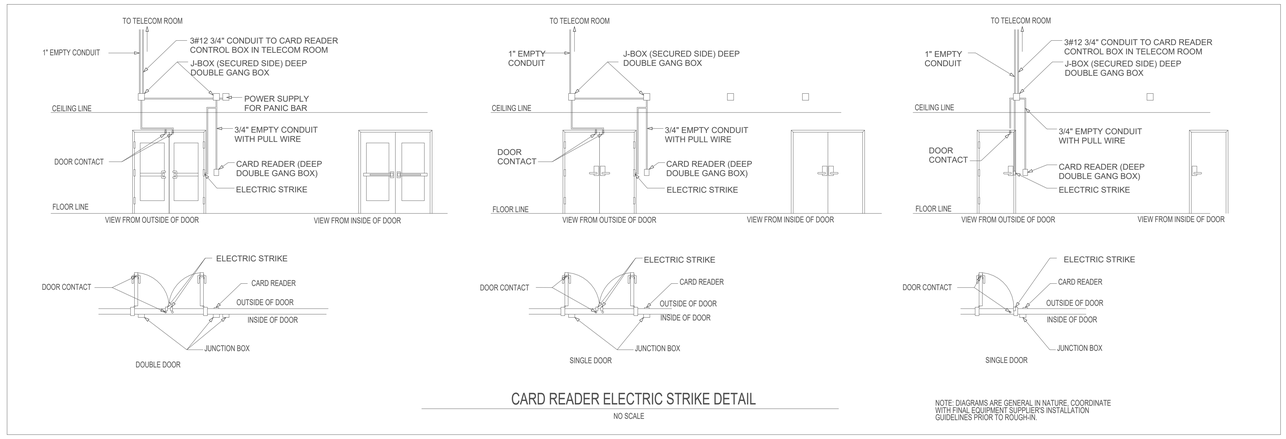
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06/30/2026	CONSTRUCTION ABILITY REVIEW

3E-001

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CONSTRUCTABILITY REVIEW

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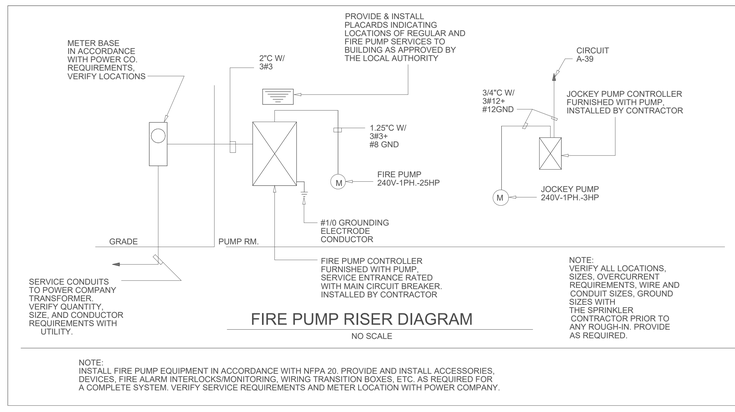
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CARD READER ELECTRIC STRIKE DETAIL

NO SCALE

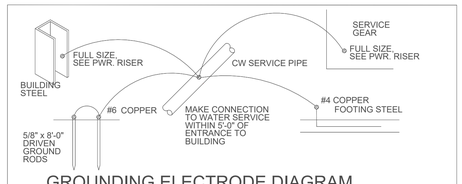
NOTE: DIAGRAMS ARE GENERAL IN NATURE. COORDINATE WITH FINAL EQUIPMENT SUPPLIER'S INSTALLATION GUIDELINES PRIOR TO ROUGH-IN.



FIRE PUMP RISER DIAGRAM

NO SCALE

NOTE:
INSTALL FIRE PUMP EQUIPMENT IN ACCORDANCE WITH NFPA 20. PROVIDE AND INSTALL ACCESSORIES, DEVICES, FIRE ALARM INTERLOCKS/MONITORING, WIRING TRANSITION BOXES, ETC. AS REQUIRED FOR A COMPLETE SYSTEM. VERIFY SERVICE REQUIREMENTS AND METER LOCATION WITH POWER COMPANY.



GROUNDING ELECTRODE DIAGRAM

NO SCALE

NOTE:
THIS DIAGRAM IS SCHEMATIC IN NATURE AND IS NOT INTENDED TO BE THE ONLY ACCEPTABLE ROUTING METHOD FOR THE GROUNDING ELECTRODE SYSTEM. ALL ITEMS SHOWN (WHERE AVAILABLE) SHALL BE BONDED TOGETHER.

LIGHTING FIXTURE CONTROLS SYMBOLS LIST

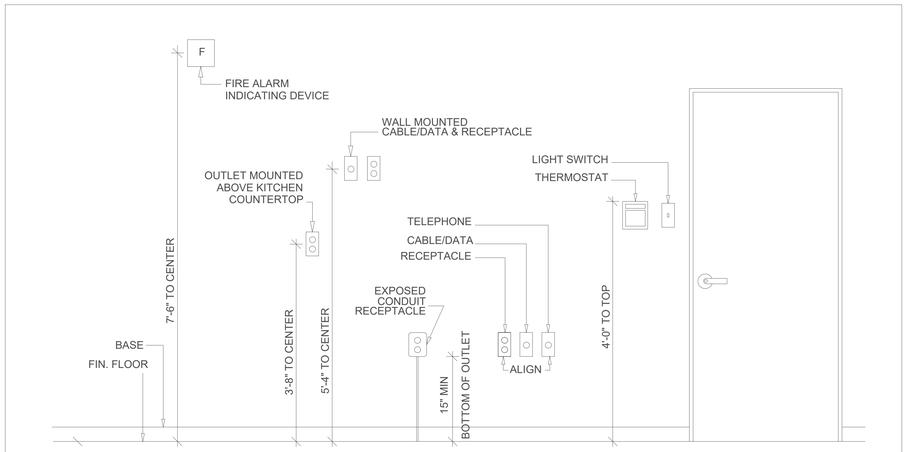
- S — SINGLE POLE WALL SWITCH AT 48" AFF TO TOP OF BOX.
- S3 — 3-WAY DIMMER SWITCH AT 48" AFF TO TOP OF BOX.
- SOC — SENSOR SWITCH WSX-PDT-SA PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LINE VOLTAGE WALL MOUNT SENSOR AT 48" AFF. MANUAL ON/AUTO OFF.
- CM — SENSOR SWITCH CM-PDT-10 PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LOW VOLTAGE CEILING MOUNT SENSOR WIRE TO REPECTIVE POWER PACK, WIDE AREA TYPE.
- CM — SENSOR SWITCH CM-PDT-11 PASSIVE INFRARED DUAL TECHNOLOGY MICROPHONIC LOW VOLTAGE CEILING MOUNT SENSOR WIRE TO REPECTIVE POWER PACK.
- PP — SENSOR SWITCH PP-20 POWER PACK LOCATED ABOVE ACCESSIBLE CEILING. UTILIZE ACCESS PANEL WHERE LOCATED ABOVE HARD CEILING.
- PC — PHOTOCELL, LOCATE IN ACCESSIBLE LOCATION AND SHIELD FROM SURROUNDING LIGHT SOURCES. WITH CIRCUIT

LIST NOTES:

1. ALL SENSORS SWITCH COMPONENTS AND WIRING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
2. ADJUST SENSITIVITY, OVERRIDE SWITCHES (WHERE APPLICABLE AND TIME DELAYS TO THE SATISFACTION OF THE OWNER.
3. ALTERNATE MANUFACTURERS: LEVITON, LUTRON, DOUGLAS.
4. PROVIDE ACCESS PANELS FOR POWER PACKS WHERE INSTALLED ABOVE HARD CEILINGS.

ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLER
AL	ALUMINUM
ALT	ALTERNATIVE
AUTO	AUTOMATIC
BR	BED ROOM
C	CONDUIT
CL	CLOSET
CU	COPPER
CW	WASHER
D	DRYER
DISP	DISPOSER
DW	DISHWASHER
DTL/DTS	DOWN TO LIGHT/SWITCH
EC	EMPTY CONDUIT
EH	EXHAUST HOOD
ELEC	ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
ER	ELEVATOR RECALL
EXT	EXTERIOR
FSS/NFSS	FUSIBLE/NON-FUSIBLE SAFETY SWITCH
GEC	GROUNDING ELECTRODE CONDUCTOR
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GND	GROUND
HP	HORSEPOWER
HR	HOUR
IM	ICE MACHINE
I.T.	INFORMATION TECHNOLOGY
JAN	JANITOR
KAIC	KILO-AMPERE INTERRUPT CURRENT
KIT	KITCHEN
KV	KILO-VOLT
L	LAUNDRY
LT	LIGHT
ME	MICROWAVE/EXHAUST COMBINATION
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NL	NIGHT LIGHT (UNSWITCHED)
NO.	NUMBER
O.C.	ON CENTER
P	POLE
PH	PHASE (AFTER NUMBER 1 OR 3)
PNL	PANEL
REC	RECEPTACLE
REF	REFRIGERATOR
SER	SERVICE ENTRANCE RATED
STOR	STORAGE
UTL	UP TO LIGHT
DTL	DOWN TO LIGHT
V	VOLT
W	WIRE
WI	WITH
W.I.C.	WALK-IN CLOSET
W/D	COMBINATION WASHER/DRYER
WH	WALL HEATER
WP	WEATHERPROOF



DEVICE MOUNTING HEIGHT DIAGRAM

NOT TO SCALE

SYMBOLS LIST

- A-1 — OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE WITH CIRCUIT NUMBER
- A-1 — OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE WITH CIRCUIT NUMBER
- A-1 — OUTLET FOR CEILING OR WALL MOUNTED EXIT LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
- A-1 — OUTLET FOR CEILING OR WALL MOUNTED COMBINATION EXIT/EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER
- A-1 — OUTLET FOR CEILING OR WALL MOUNTED EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY BACKUP WITH CIRCUIT NUMBER WITH CIRCUIT NUMBER
- A-1 — GENERAL PURPOSE DUPLEX RECEPTACLE AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
- A-1 — GENERAL PURPOSE DUPLEX RECEPTACLE AT 48" AFF TO TOP OF BOX, WITH CIRCUIT NUMBER
- GFCI A-1 — GROUND FAULT CIRCUIT INTERRUPTER AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
- GFCI A-1 — GROUND FAULT CIRCUIT INTERRUPTER AT 48" AFF TO TOP OF BOX, WITH CIRCUIT NUMBER
- USB A-1 — GENERAL PURPOSE DUPLEX RECEPTACLE WITH (2) INTEGRATED USB PORTS ABOVE COUNTER/DESK, MOUNTED HORIZONTALLY AND CENTERED 6" ABOVE THE FINISHED SURFACE OR 2" ABOVE BACK SPLASH UNLESS NOTED OTHERWISE, WITH CIRCUIT NUMBER, HUBBEL USB20AC OR EQUAL. USB PORTS CONFIGURED AS (1) USB-A AND (1) USB-C
- CR — DEEP DOUBLE GANG JUNCTION BOX FOR DOOR CONTROL DEVICES AT 48" AFF. ROUTE 1" EMPTY CONDUIT (EC) TO CONTROL PANEL. ROUTE 3/4" EC TO DOOR ACCESS DEVICE, A 3/4" EC TO DOOR CONTACTS, AND A 3/4" EC TO ELECTRIC STRIKE. COORDINATE ALL REQUIREMENTS WITH OWNER AND SECURITY SYSTEM PROVIDER PRIOR TO ANY ROUGH-IN. PROVIDE ADDITIONAL 120V CONNECTION FOR CONTROLLERS, TRANSFORMERS, ETC. AS REQUIRED. WIRE TO CIRCUIT INDICATED. SEE CARD READER DETAIL.
- A-1 — GENERAL PURPOSE QUADRAPLEX RECEPTACLE AT 18" AFF TO BOTTOM OF BOX, WITH CIRCUIT NUMBER
- EWC A-1 — OUTLET FOR ELECTRIC WATER COOLER COORDINATE LOCATION WITH PLUMBING ROUGH-IN DRAWINGS, WITH CIRCUIT NUMBER
- UC REF A-1 — OUTLET FOR UNDERCOUNTER REFRIGERATOR HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
- REF. A-1 — OUTLET FOR REFRIGERATOR HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
- DISP. A-1 — SWITCHED OUTLET FOR DISPOSER HEIGHT TO SUIT APPLIANCE SERVED WITH CIRCUIT NUMBER
- A-1 — FLUSH FLOOR OUTLET WITH DUPLEX RECEPTACLE WITH CIRCUIT NUMBER WITH BRASS COVERPLATE
- A-1 C — DUAL SERVICE FLUSH FLOOR OUTLET WITH DUPLEX RECEPTACLE WITH CIRCUIT NUMBER AND A 1" EC STUBBED INTO ACCESSIBLE CEILING SPACE FOR LOW VOLTAGE CABLE (DATA, TELEPHONE OR TELEVISION), WITH BRASS COVERPLATE
- OUTLET FOR LOW VOLTAGE CABLE (DATA OR TELEPHONE) AT 18" AFF TO BOTTOM OF BOX WITH A 3/4" EC STUBBED INTO ACCESSIBLE CEILING SPACE
- OUTLET FOR LOW VOLTAGE CABLE (TELEVISION) AT 48" AFF TO TOP OF BOX WITH A 3/4" EC STUBBED INTO ACCESSIBLE CEILING SPACE
- TV — JUNCTION BOX FOR HDMI CABLE AT TELEVISION LOCATION
- J — JUNCTION BOX AT 18" AFF TO BOTTOM OF BOX OR AT ASSOCIATED PIECE OF EQUIPMENT
- AQ — AIR QUALITY SENSOR (120V-1PH) FURNISHED AND INSTALLED BY HVAC, WIRED BY ELECTRICIAN
- M — FIRE ALARM PULL STATION AT 48" AFF TO TOP OF BOX
- F — AUDIO/VISUAL FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF
- V — VISUAL ONLY FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF
- S — CEILING MOUNTED SMOKE DETECTOR
- SF — SPRINKLER WATER FLOW SWITCH
- ST — SPRINKLER TAMPERPROOF SWITCH
- S/CO — COMBINATION CEILING MOUNTED SINGLE STATION AC/BATTERY CARBON MONOXIDE AND SMOKE DETECTOR
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- FACP — FIRE ALARM CONTROL PANEL
- FEXP — FIRE ALARM EXPANDER PANEL
- CEILING MOUNTED HEAT DETECTOR
- A-1 — SAFETY SWITCH AT 48" AFF TO TOP OF BOX OR AT ASSOCIATED PIECE OF EQUIPMENT, CIRCUIT NUMBER SHOWN WHERE APPLICABLE
- MOTOR OUTLET
- EXHAUST FAN (120V-1PH) FURNISHED AND INSTALLED BY DIVISION 15 WIRED UNDER THIS DIVISION
- A-1 — PHOTOCELL, LOCATE IN ACCESSIBLE LOCATION AND SHIELD FROM SURROUNDING LIGHT SOURCES, WITH CIRCUIT NUMBER
- PANELBOARD
- EQUIPMENT EQUIPMENT DESIGNATION SEE SCHEDULE
- SWITCH LEG WIRING, 2 #12 - CROSS MARKS INDICATE NUMBER OF CONDUCTORS IF MORE THAN TWO
- 1 — LIGHTING FIXTURE TYPE, SEE SCHEDULE.
- 1 — KEYED DRAWING NOTE
- EQUIPMENT TAG

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GP #25144

ELECTRICAL DETAILS

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624 BULLITT AVE SE ROANOKE, VA 24022

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HOUSE SWBD SECTION

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 800 | MAIN: 800A MAIN BREAKER

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
2	400	PANEL A	220.7	100%	1	220.7		2	100%	0.0	PROVISIONAL	--	1
-	--	----	236.4	100%	3		236.4	4	100%	0.0	PROVISIONAL	--	1
2	225	PANEL B	129.4	100%	5	129.4		6	100%	0.0	PROVISIONAL	--	1
-	--	----	116.9	100%	7		116.9	8	100%	0.0	PROVISIONAL	--	1
2	400	PANEL EV	280.0	100%	9	280.0		10	100%	0.0	PROVISIONAL	--	1
-	--	----	280.0	100%	11		280.0	12	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	13	0.0		14	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	15		0.0	16	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	17	0.0		18	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	19		0.0	20	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	21	0.0		22	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	23		0.0	24	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	25	0.0		26	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	27		0.0	28	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	29	0.0		30	100%	0.0	PROVISIONAL	--	1
						630.0	633.3						

SEE SPEC. NOTES

PANEL A

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 400 | MAIN: MLO

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
1	20	RECS. WATER RM.	4.5	100%	1	34.5		2	100%	30.0	WATER BOOSTER PUMP	40	2
1	20	RECS. MAINT. STORAGE	4.5	100%	3		34.5	4	100%	30.0	----	--	-
1	20	RECS. BIKE STORAGE	3.0	100%	5	26.0		6	100%	23.0	AH-3	25	2
1	20	RECS. 1ST FLR CORRIDOR	6.0	100%	7		29.0	8	100%	23.0	----	--	-
1	20	RECS. LAUNDRY RM.	4.5	100%	9	10.5		10	100%	6.0	DATA BOARD QUAD RECS.	20	1
1	20	RECS. 1ST FLR CORRIDOR (1)	6.0	100%	11		26.0	12	100%	20.0	DATA BOARD 240V REC.	30	2
1	20	RECS. GAS RM	4.5	100%	13	24.5		14	100%	20.0	----	--	-
2	30	DRYER	23.0	100%	15		43.0	16	100%	20.0	DATA BOARD REC.	30	1
-	--	----	23.0	100%	17	24.0		18	100%	1.0	EXHAUST FAN GAS STORAGE	15	1
2	30	DRYER	23.0	100%	19		33.0	20	100%	10.0	FACP (2)	20	1
-	--	----	23.0	100%	21	43.0		22	125%	16.0	LIGHTING INVERTER BOX (3)	30	1
1	15	WASHER	10.0	100%	23		27.3	24	125%	13.8	LIGHTS 1ST FLOOR	20	1
1	15	WASHER	10.0	100%	25	23.8		26	125%	11.0	LIGHTS 2ND/3RD FLOORS	20	1
1	20	RECS. 1ST FLR (1)	1.5	100%	27		7.8	28	125%	5.0	LIGHTS 4TH FLOOR	20	1
1	20	RECS. ELEC. RM.	3.0	100%	29	13.0		30	100%	10.0	SPRNK. AIR COMP.	20	1
1	20	SECURITY PANEL	10.0	100%	31		10.0	32	100%	0.0	EWH4	20	1
1	20	EXTERIOR RECS.	4.5	100%	33	4.5		34	100%	0.0	LIGHTS 1ST FLOOR	20	1
1	20	RECS. 2ND FLR CORRIDOR (1)	6.0	100%	35		13.5	36	125%	6.0	SITE LIGHTING	20	1
1	20	RECS. 2ND FLR CORRIDOR (1)	4.5	100%	37	4.5		38	100%	0.0	SPARE	20	1
2	20	SPRINKLER JOCKEY PUMP	12.4	100%	39		12.4	40	100%	0.0	SPARE	20	1
-	--	----	12.4	100%	41	12.4		42	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	43		0.0	44	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	45	0.0		46	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	47		0.0	48	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	49	0.0		50	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	51		0.0	52	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	53	0.0		54	100%	0.0	SPARE	20	1
						220.7	236.4						

[1] - GFCI BREAKER
[2] - PROVIDE BREAKER WITH RED HANDLE LOCK.
[3] - WIRE CIRCUIT THROUGH PHOTOCELL. COORINATE WITH ZONE INVERTER DETAIL ON SHEET 3E-005.
--WITH INTEGRAL 160KA TVSS.
SQUARE-D NQ OR EQUAL
SEE SPEC. NOTES

PANEL B

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 225 | MAIN: MLO

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
1	20	RECS 3RD FLR. CORRIDOR (1)	6.0	100%	1	40.0		2	100%	34.0	CHP-3	35	2
1	20	RECS 3RD FLR. CORRIDOR (1)	4.5	100%	3		38.5	4	100%	34.0	----	--	-
1	20	RECS 4TH FLR. CORRIDOR (1)	6.0	100%	5	26.8		6	100%	20.8	IHP STAIR B	25	2
1	20	RECS 4TH FLR. CORRIDOR (1)	4.5	100%	7		25.3	8	100%	20.8	----	--	-
1	20	EXTERIOR RECS.	6.0	100%	9	26.8		10	100%	20.8	IHP STAIR A	25	2
1	20	ROOFTOP RECS.	6.0	100%	11		26.8	12	100%	20.8	----	--	-
1	20	RADON FAN RECEPTACLE ON ROOF	6.0	100%	13	30.8		14	125%	19.8	IHP ELEC. RM.	20	2
1	20	(1)	1.5	100%	15		26.3	16	125%	19.8	----	--	-
1	20	SPARE	0.0	100%	17	5.0		18	100%	5.0	FIRE ALARM EXPANDER PANEL (2)	20	1
1	20	SPARE	0.0	100%	19		0.0	20	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	21	0.0		22	125%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	23		0.0	24	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	25	0.0		26	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	27		0.0	28	100%	0.0	SPARE	20	1
1	20	SPARE	0.0	100%	29	0.0		30	100%	0.0	SPARE	20	1
						129.4	116.9						

[1] - GFCI BREAKER.
[2] - PROVIDE BREAKER WITH RED HANDLE LOCK.

--WITH INTEGRAL 160KA TVSS.
SQUARE-D NQ OR EQUAL
SEE SPEC. NOTES

PANEL EV

VOLTS: 120/240 | PHASE: 1 | WIRES: 3 | MOUNTING: SURFACE
AMPS: 400 | MAIN: MLO

BRKR P	BRKR A	DESCRIPTION	CIRCUIT AMPS	CIRCUIT DEMAND	CIRCUIT NO.	PHASE LOAD A	PHASE LOAD B	CIRCUIT NO.	CIRCUIT DEMAND	CIRCUIT AMPS	DESCRIPTION	BRKR A	BRKR P
2	40	EV CHARGER #1	32.0	125%	1	80.0		2	125%	32.0	EV CHARGER #3	40	2
-	--	----	32.0	125%	3		80.0	4	125%	32.0	----	--	-
2	40	EV CHARGER #2	32.0	125%	5	80.0		6	125%	32.0	EV CHARGER #4	40	2
-	--	----	32.0	125%	7		80.0	8	125%	32.0	----	--	-
2	40	PROVISIONAL EV CHARGER #1	32.0	125%	9	80.0		10	125%	32.0	PROVISIONAL EV CHARGER #3	40	2
-	--	----	32.0	125%	11		80.0	12	125%	32.0	----	--	-
2	40	PROVISIONAL EV CHARGER #2	32.0	125%	13	40.0		14	100%	0.0	PROVISIONAL	--	1
-	--	----	32.0	125%	15		40.0	16	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	17	0.0		18	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	19		0.0	20	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	21	0.0		22	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	23		0.0	24	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	25	0.0		26	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	27		0.0	28	100%	0.0	PROVISIONAL	--	1
1	--	PROVISIONAL	0.0	100%	29	0.0		30	100%	0.0	PROVISIONAL	--	1
						280.0	280.0						

SQUARE-D NQ OR EQUAL
SEE SPEC. NOTES

EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	VOLTS	PH	FLA	WIRE	GND	MOCP	DISCONNECT	PNL.&CKT.	REMARKS
IHP/FCU	INDOOR/OUTDOOR HEAT PUMP	240	1	19.8	#12	#12	20	2P-30A-NFSS NEMA 3R		NOTE 1
OHP-3	OUTDOOR HEAT PUMP 3	240	1	34.0	#10	#10	35	2P-60A-NFSS NEMA 3R		
AH-3	AIR HANDLER 3	240	1	23.0	#10	#10	25	2P-30A-NFSS NEMA 3R	SEE PANEL SCHEDULES	
EWH-4	ELEC. WATER HEATER 4	240	1	18.8	#12	#12	20A	2P-30A-NFSS		
EWH-5	ELEC. WATER HEATER 5	240	1	25.4	#10	#10	30A	2P-30A-NFSS		
EF-2	EXHAUST FAN	120	1	1.0	#12	#12	15A	TOGGLE SWITCH		

SCHEDULE NOTES

-- VERIFY FINAL CONNECTIONS, ELECTRICAL CHARACTERISTICS, ETC. WITH FINAL EQUIPMENT SELECTIONS. CONTRACTOR IS RESPONSIBLE FOR CORRECTNESS OF ALL BREAKERS, WIRES, ETC.

NOTE 1: WIRE THROUGH CONTROLLER AS REQUIRED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. INDOOR UNIT WIRED THROUGH OUTDOOR UNIT.

METER STACK LOAD CALC

34 UNITS

TYPE		LOAD (KW)
TOTAL APT. LIGHTING/RECEPTACLE LOAD		102.29
SMALL APPLIANCES		102.00
ELEC. RANGE		272.00
LAUNDRY		204.00
ELEC. WATER HEATER		153.00
DISPOSER		27.20
DISHWASHER		40.80
REFRIGERATOR		40.80
HVAC		268.60
TOTAL	=	1,210.69
DEMAND FACTOR OF 30% PER NEC TABLE 220-84	=	363.21
AT 240 VOLT, SINGLE PHASE	=	1513.35 AMPS

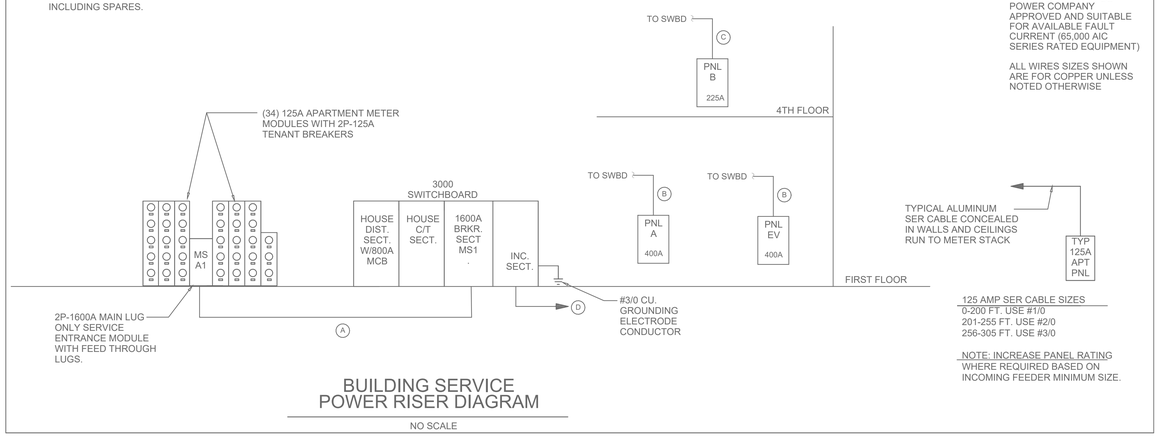
SEVICE LOAD CALC

34 UNITS

TYPE		LOAD (KW)
TOTAL APT. LIGHTING/RECEPTACLE LOAD		102.29
SMALL APPLIANCES		102.00
ELEC. RANGE		272.00
LAUNDRY		204.00
ELEC. WATER HEATER		153.00
DISPOSER		27.20
DISHWASHER		40.80
REFRIGERATOR		40.80
HVAC		268.60
TOTAL	=	1,210.69
DEMAND FACTOR OF 30% PER NEC TABLE 220-84	=	363.21
HOUSE LOADS	=	151.59
AT 240 VOLT, SINGLE PHASE	=	2144.98 AMPS

Ⓐ FEEDER NOTES

A. (6) SETS OF 3"C W/ 3#400MCM AL + #350MCM AL GND. — 1600A
B. (2) SETS OF 2"C W/ 3#3/0 CU + #3 CU GND. — 400A
C. 2.5"C W/ 3#4/0 CU + #4 CU GND. — 225A
D. ROUTE SERVICE FEEDER CONDUITS TO POWER CO. TRANSFORMER AS DIRECTED BY UTILITY. VERIFY QUANTITY, SIZES, ETC. WITH POWER CO. INCLUDING SPARES.



NOTE:
TIGHTEN ALL FACTORY FASTENERS IN METER STACK PRIOR TO POWERING UP

METER STACKS TO BE POWER COMPANY APPROVED AND SUITABLE FOR AVAILABLE FAULT CURRENT (65,000 AIC SERIES RATED EQUIPMENT)

ALL WIRES SIZES SHOWN ARE FOR COPPER UNLESS NOTED OTHERWISE

125 AMP SER CABLE SIZES
0-200 FT. USE #1/0
201-255 FT. USE #2/0
256-305 FT. USE #3/0

NOTE: INCREASE PANEL RATING WHERE REQUIRED BASED ON INCOMING FEEDER MINIMUM SIZE.

BUILDING SERVICE POWER RISER DIAGRAM

NO SCALE

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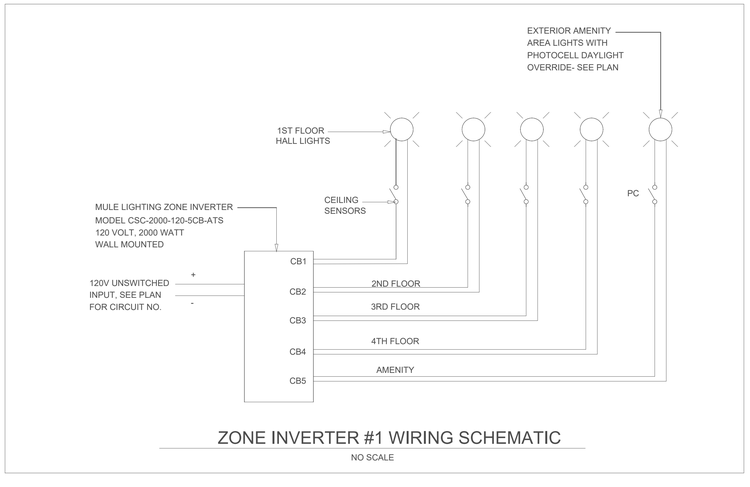
POWER RISER & SCHEDULES
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ZONE INVERTER #1 WIRING SCHEMATIC

NO SCALE

Fixture Type	WATTS/AMPS	Product	
Interior - Common Areas			
LF-Can_Light-US-GP (Corridor - Common Area)	12	BEGA Surface Mounted Downlight	4 3/8" D | 4" W | 8.00W LED| Finish: White
LF-Troffer_Light-FB - 2'x4' (2 lamp) - 120V	45	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x4' | 30K | Finish: White
LF-Troffer_Light-FB - 2'x4' (2 lamp) - 120V	45	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x4' | 30K | Finish: White WITH EM. BATTERY BACKUP
LF-Utility Sconce-NH		TBD	
Res-1x4 NonHosted Light - Adjustable - 1x4	40	Globalux SLP Surface Mounted Flat Panel	1x4' | 3000K | Finish: White
Downlight - Recessed Can - 4" Fluorescent - 120V		Eterna Light Prima 3 Round Baffle	60W equivalent LED medium base A19, 120V, 08 or 15W, Air tight IC rating | 3" Dia.| 3000K | Energy Star | Damp location listed | Finish: White | Baffle
LF-Linear-Recessed - 3"x6'	36	Axis Lighting Sculpt Recessed Mount	3" W| 6' L| Finish: White
LF-Linear-Recessed - 3"x4'	32.7	Axis Lighting Sculpt Recessed Mount	3" W| 4' L| Finish: White
LF-Pendant-Globe (Laundry)	14	Axis Lighting Luna Orb Pendant	Pendant Fixture | Acrylic Globe | Finish: White
LF-Can_Light-US-GP (Fitness Room)	18	Utopia MCR Metal Cylinder Round	4" | Finish: White w/White or Chrome Interior
LF-Pendant-Dining_Maker-LED - Opta 28 LED (Community Room)		Axis Lighting Shade Big Dome	Sloped ceiling compatible. Acrylic | Finish: White 22W LED
Lighting-Wall-Sconce-Tech_Lighting-Ellis_24 (bathroom vanity)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Polished Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
LF-Troffer_Light-FB - 2'x2' (1 lamp) - 120V	35	Eralux Mont Blanc Commercial LED Lighting | Center Basked Troffer	2x2' | 30K | Finish: White
EM EXIT DEVICE W/BATTERY BACKUP			
EM EGRESS DEVICE W/BATTERY BACKUP			
Interior - Unit			
LF-Flat Round-CH - WIC/BATH 7 1/2"		Globalux RDL LED Found Low Profile Flush	7" | Finish: White 15W LED 3000K Motion activated.
LF-Linear-Surface_Mount - 6"x2' (Bath)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Satin Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
LF-Round-Pendant (Kitchen Island)		Visual Comfort Entra 3" Cylinder	8" H x 3" diameter Finish: White or Polished Nickel 10W | 3000K | Energy Star | Cable to match.
LF-Linear-Suface_Mount - 1"x4" (Kitchen)		Globalux SLP Surface Mounted Flat Panel	1'x4' | 3/4" H Finish: White w/ Acrylic Lense LED 3000K | Energy Star | Rated Note VH requires a 4' long fixture in the kitchen.
LF-Flat Round-CH - Foyer/BR 14"		Globalux DCR LED Ringed Decorative Ceiling Mount - 14"	Provide switched outlet 14" diameter | 4" H Finish: Brushed Nickle and White Acrylic LED 3000K | Energy Star Rated
LF-Flat Round-CH - Dining/Public Corridor 16"		Globalux DCR LED Ringed Decorative Ceiling Mount - 16"	Provide switched outlet 16" diameter | 4" H Finish: Brushed Nickle and White Acrylic LED 3000K | Energy Star Rated
LF-Utility Sconce-NH (W/D)			
LF-3_vanity-UH-GP (bathroom vanity)		Visual Comfort Ellis 24 Bath OR Visual Comfort Ellis 36 Bath	24 or 36" L | 5" H - Size dependant on location. Finish: Satin Nickel & White Acrylic LED 3000K | Energy Star Rated Warm color temperature
Exterior			
LF-Linear-Recessed - 3"x6' (Corridor/Lobby Spaces)	60	Axis Lighting Extend 4 Surface	3" W| 6' L| Finish: White | Surface or Recessed as Required
LF-Linear-Recessed - 3"x4' (Corridor/Lobby Spaces)	40	Axis Lighting Extend 4 Surface	3" W| 4' L| Finish: White | Surface or Recessed as Required
LF-Wall Sconce - InterGlobal-WH (Ext. Corridor)	10	WAC Lighting Dot Ceiling Mount (Wall Mount)	2.5" Thick | 12" Diameter | Exterior Grade Stainless Steel, Glass 27W LED | 3000K
LF-Wall Sconce - Shade On (Unit Entry, corridor)	11	WAC Lighting Caliber Outdoor Wall Sconce 3000K	14" T | 4" D (Max.) | 4.5" W | 3" Diameter Lens ADA Compliant | Exterior Grade Brushed Aluminum, Glass 11W LED | 3000K
Exterior Sconces at Main Entries		A WE Lighting Helion	5"W | 31"H | 3.39"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
Exterior Sconces above Back-Of-House Doors		A WE Lighting Bloc	6"W | 5.5"H | 6"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
Exterior Sconces at Side + Residence Entries (exterior wall)		A WE Lighting Pillar	4"W | 7"H | 5"D Finish: White Acrylic, Silver and White | Mounted above 6'-8" AFF to base. 3000K | 26W LED
Exterior Wall Packs		TBD	
Parking Lighting		Eralux Genesys SA4 and SA5	20' tall post | Finish: Bronze or Aluminum

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GP #25144

LIGHTING SCHEDULE & DIAGRAM

ROANOKE GATEWAY
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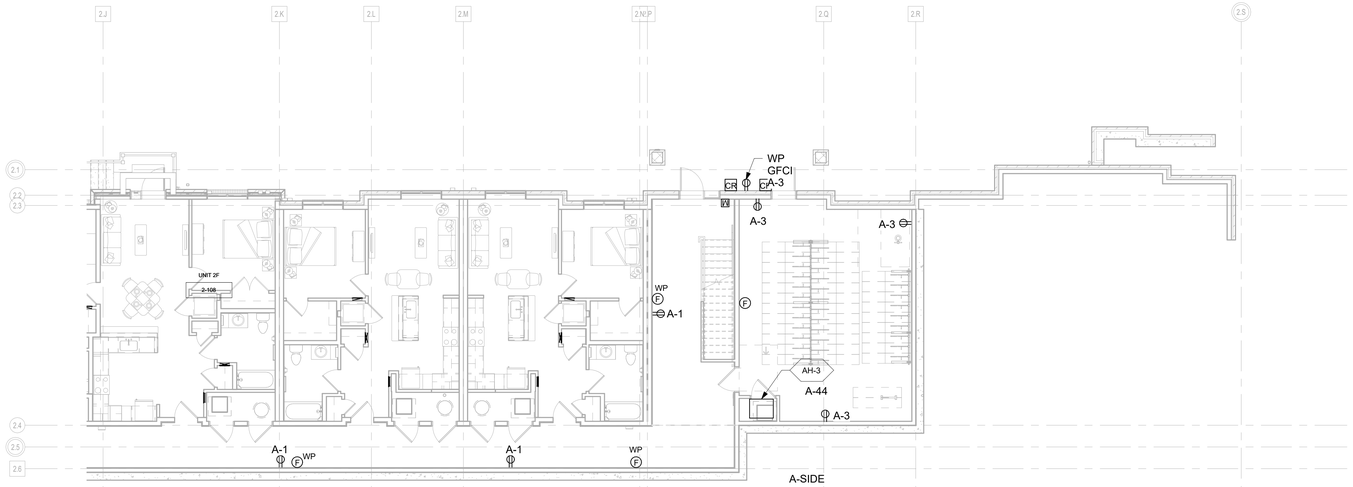
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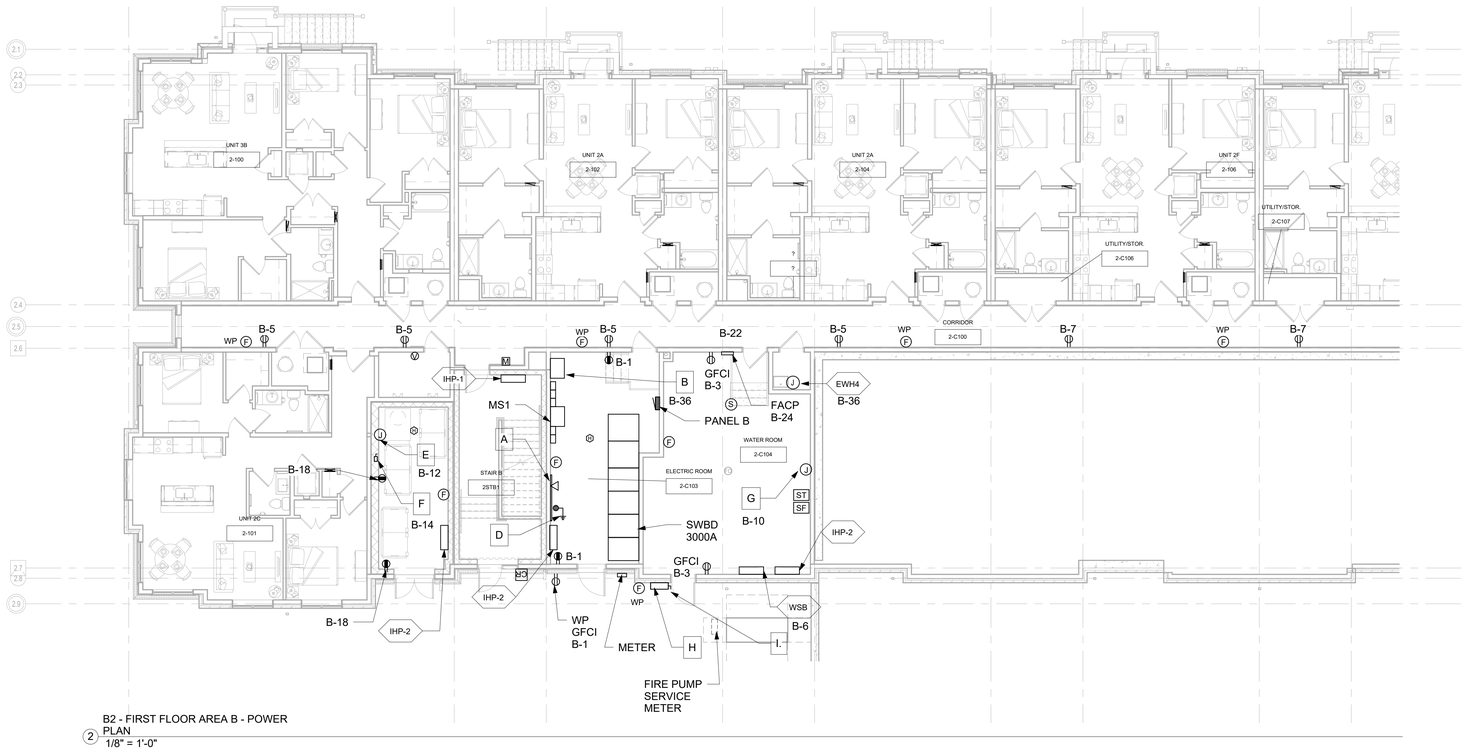
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CONSTRUCTABILITY REVIEW

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B2 - FIRST FLOOR AREA A - POWER PLAN
1/8" = 1'-0"



B2 - FIRST FLOOR AREA B - POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. 6'x8' 3/4" FRT PLYWOOD BACKBOARD FOR COMMUNICATIONS SPACE WITH (2) 4" CONDUITS TO BUILDING INTERFACE, WITH (2) QUAD RECEPTACLES WIRED TO CIRCUIT B-18, AND (1) 2P-30A RECEPTACLE TO CIRCUIT B-26, AND 1P-30A RECEPTACLE TO CIRCUIT B-30. (VERIFY CONDUIT QUANTITY, TERMINATION & REQUIREMENTS WITH UTILITIES).

B. EMERGENCY LIGHTING INVERTER. MULE LIGHTING CEPS-EM OR EQUAL. 2800WATTS, 120V INPUT, 120V OUTPUT, (6) 20A OUTPUT CIRCUIT BREAKERS.

C. NOT USED.

D. 2"X10" GROUNDING BUS BAR WITH #6 GND TO SWITCHBOARD.

E. TRASH CHUTE CONTROLLER. WIRE TRASH CHUTE EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES. VERIFY EXACT POINT OF CONNECTION PRIOR TO ROUGH-IN.

F. FINAL CONNECTION TO TRASH COMPACTOR WILL BE FUTURE. ELECTRICIAN SHALL IN STALL ALL INFRASTRUCTURE UNDER BASE BID.

G. FOR SPRINKLER AIR COMPRESSOR. VERIFY ROUGH-IN LOCATION WITH SPRINKLER CONTRACTOR.

H. WATER FLOW NOTIFICATION DEVICE. VERIFY FINAL LOCATION WITH FIRE MARSHAL.

I. 2P-400A-FSS FOR FUTURE PV SYSTEM. RUN WITH 3" CONDUIT TO HOUSE DISTRIBUTION PANEL.

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B2 FIRST FLOOR AREA A/B - POWER PLAN

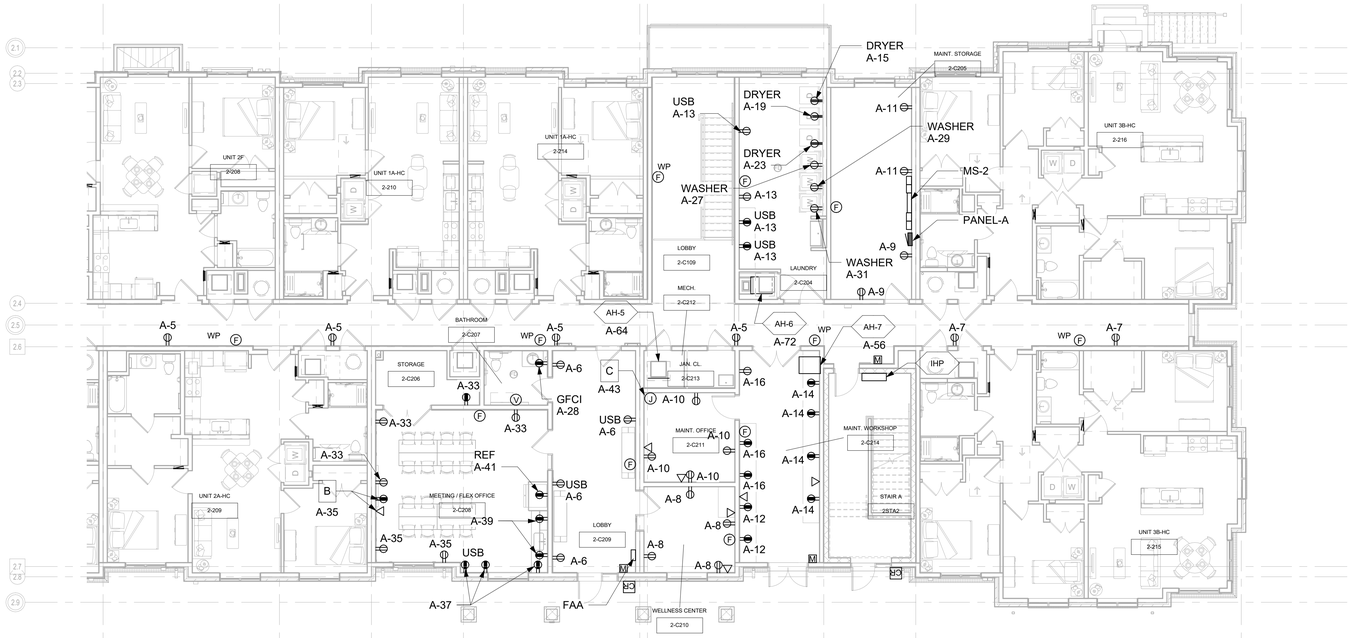
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1 B2 - SECOND FLOOR AREA A - POWER PLAN
1/8" = 1'-0"



2 B2 - SECOND FLOOR AREA B - POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. TRASH CHUTE INTERLOCK WIRING. WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES. INTERLOCK WITH CONTROLLER, AND OTHER FLOORS. VERIFY EXACT LOCATION WITH CHUTE SUPPLIER PRIOR TO THE ROUGH-IN.

B. FOR WALL MOUNTED TELEVISION. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO TOUGH-IN. COORDINATE WITH MOUNTING HARDWARE.

C. SECURITY SYSTEM CONTROL PANEL. VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.

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B2 SECOND FLOOR AREA A/B - POWER PLAN

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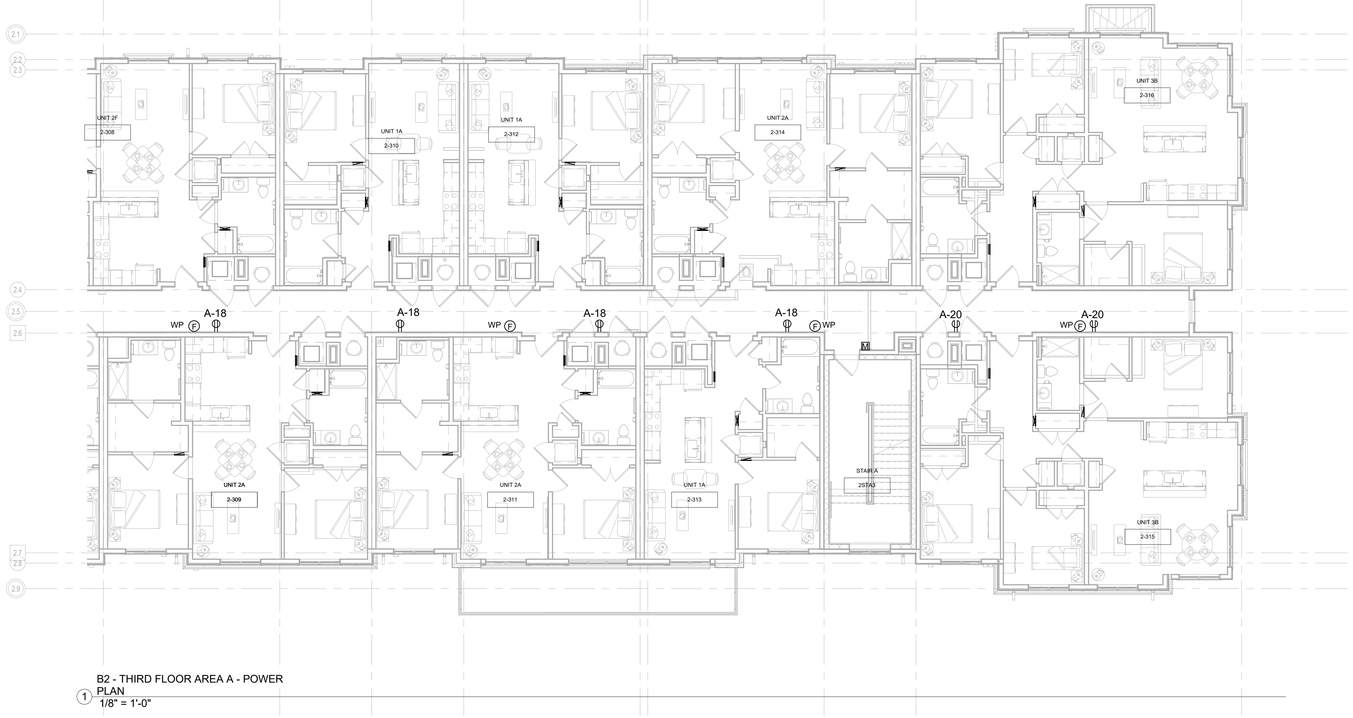
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1 B2 - THIRD FLOOR AREA A - POWER PLAN
1/8" = 1'-0"



2 B2 - THIRD FLOOR AREA B - POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. TRASH CHUTE INTERLOCK WIRING. WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES. INTERLOCK WITH CONTROLLER, AND OTHER FLOORS. VERIFY EXACT LOCATION WITH CHUTE SUPPLIER PRIOR TO THE ROUGH-IN.

B. 6'X8'X3/4" FRT PLYWOOD BACKBOARD FOR COMMUNICATIONS SPACE (2) 3" CONDUITS TO MAIN COMMUNICATIONS BOARD IN ELEC. ROOM. (VERIFY TERMINATION & REQUIREMENTS WITH UTILITIES). PROVIDE & INSTALL (2) DUPLEX RECEPTACLES TO BACKBOARD WIRED TO CIRCUITS B-32.

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B2 THIRD FLOOR AREA A/B - POWER PLAN

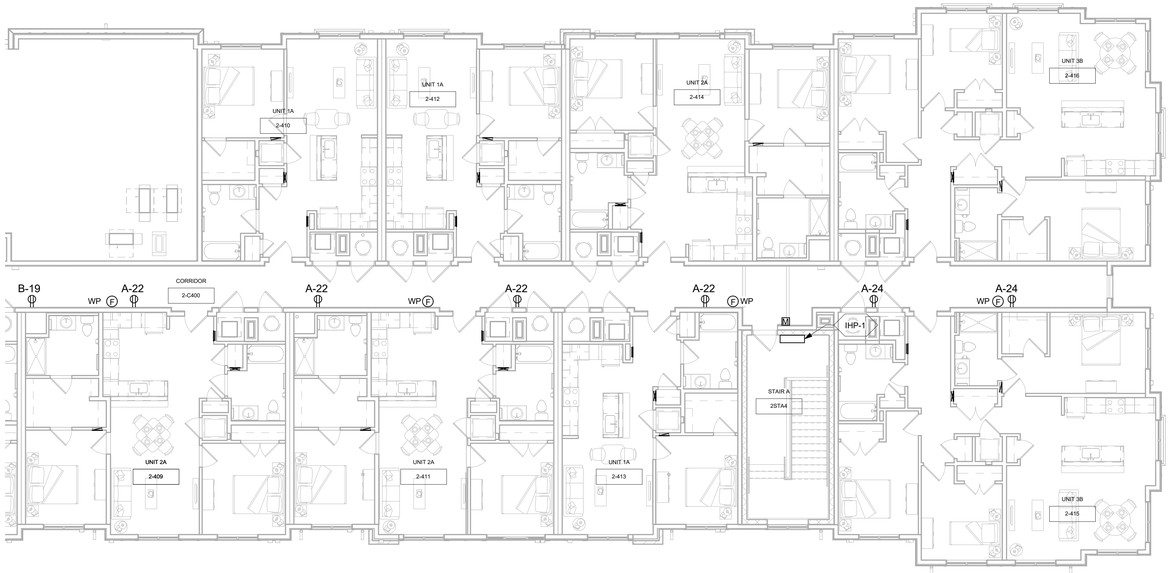
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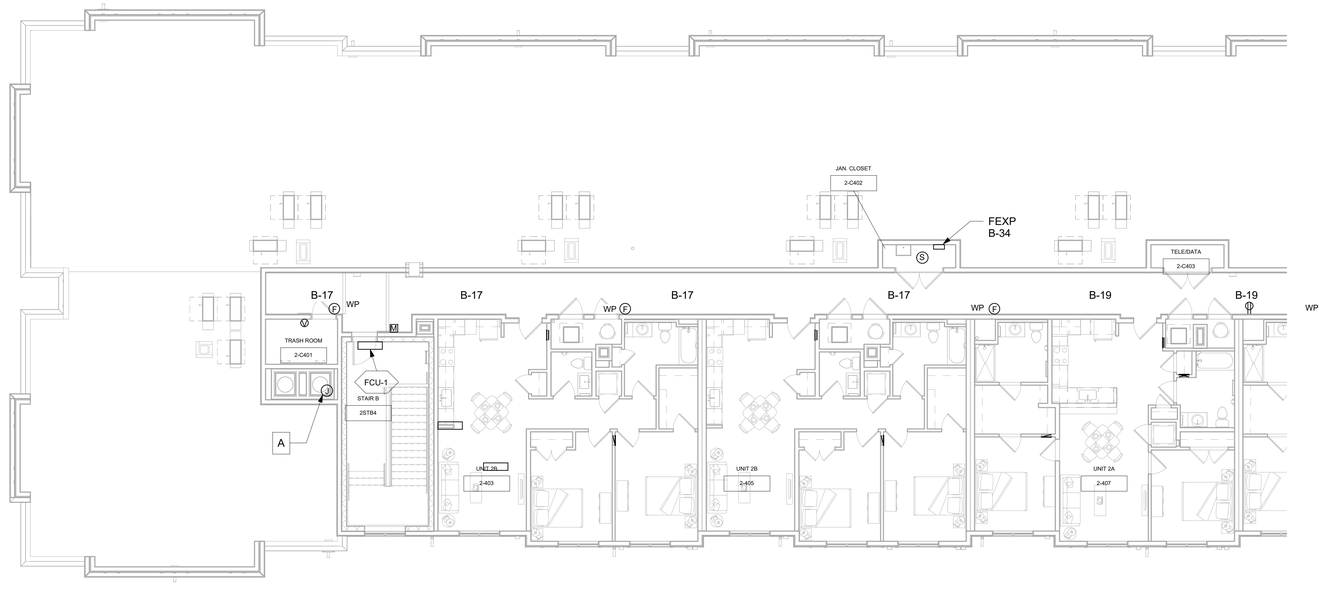
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B2 - FOURTH FLOOR AREA B - POWER PLAN
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--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. TRASH CHUTE INTERLOCK WIRING. WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES. INTERLOCK WITH CONTROLLER, AND OTHER FLOORS. VERIFY EXACT LOCATION WITH CHUTE SUPPLIER PRIOR TO THE ROUGH-IN.

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B2 FOURTH FLOOR AREA A/B - POWER PLAN

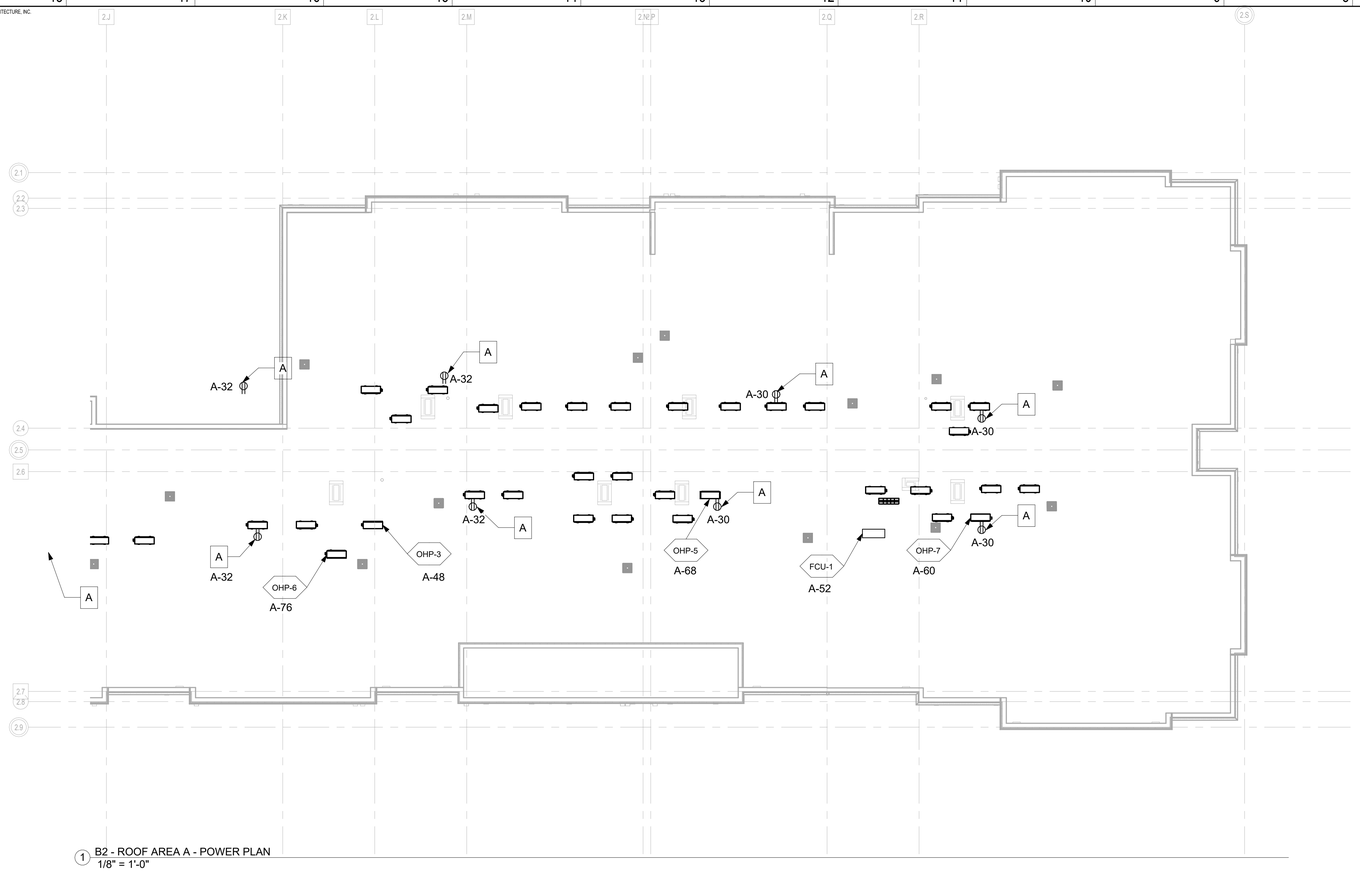
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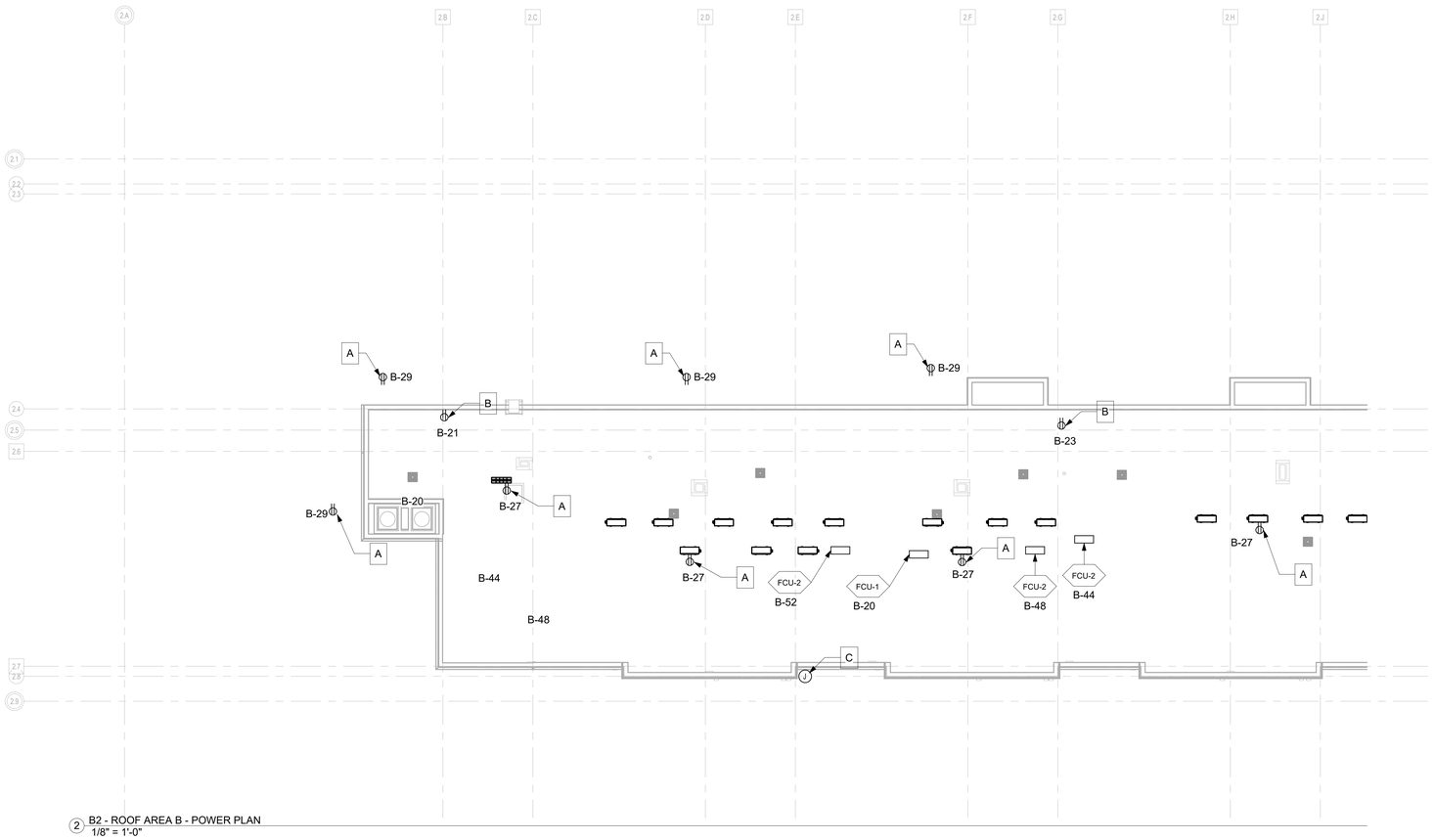
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1 B2 - ROOF AREA A - POWER PLAN
1/8" = 1'-0"



2 B2 - ROOF AREA B - POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. WEATHERPROOF, GFCI RECEPTACLE MOUNTED ON SIDE OF UNIT.

B. WEATHERPROOF, GFCI RECEPTACLE FOR RADON FAN, LOCATE RECEPTACLE IN BOX AS DIRECTED BY OWNER. SEE PLUMBING PLANS FOR RADON VENT PIPING STACKS. VERIFY FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

C. JUNCTION BOX TO 4" CONDUIT FOR FUTURE PHOTOVOLTAIC EQUIPMENT. SEE SHEET 2E-101 FOR FIRST FLOOR LOCATION.

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B2 ROOF AREA A/B - POWER PLAN

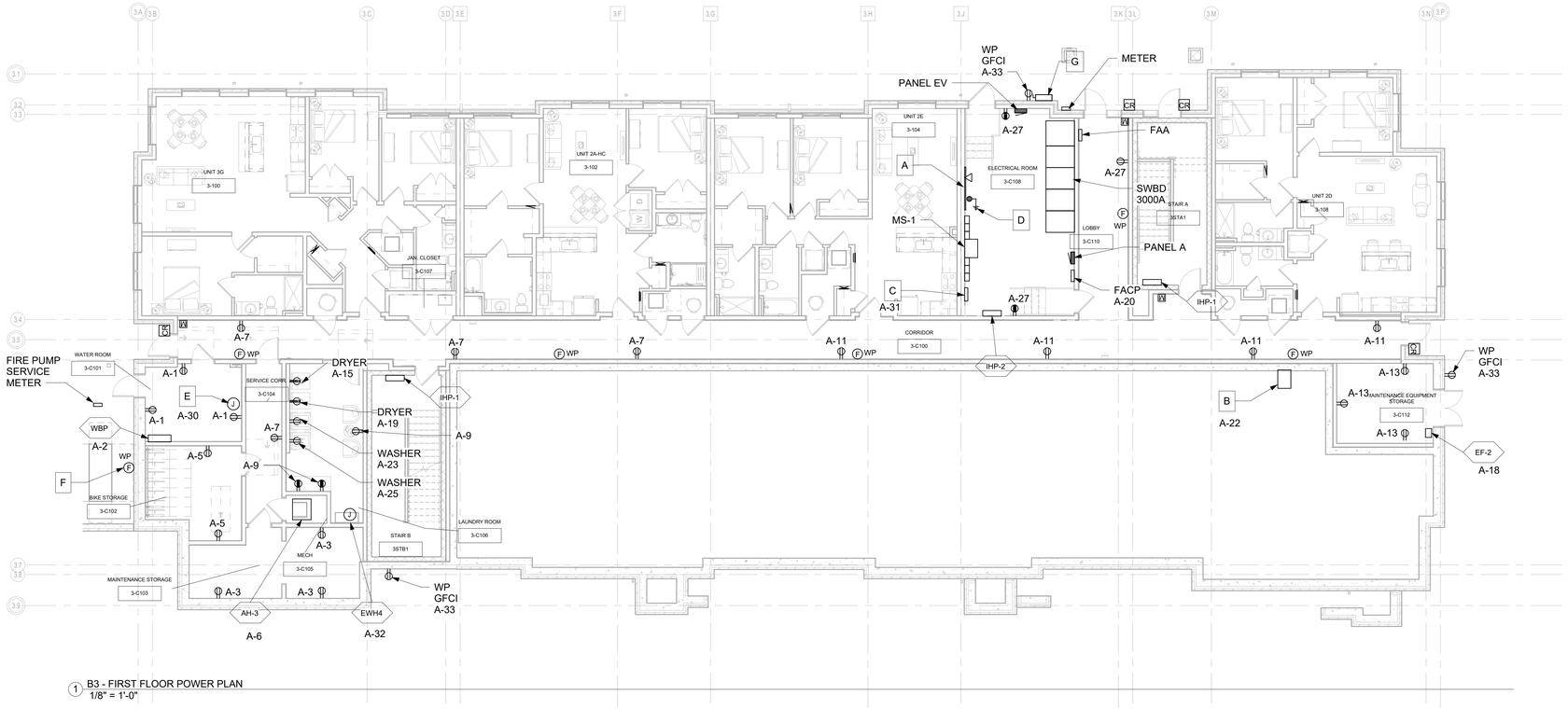
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06/30/2026	CONSTRUCTION ABILITY REVIEW

2E-105
06/30/2026
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1 B3 - FIRST FLOOR POWER PLAN
1/8" = 1'-0"



2 B3 - SECOND FLOOR POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. 6'x8' 3/4" FRT PLYWOOD BACKBOARD FOR COMMUNICATIONS SPACE WITH 4" CONDUITS TO BUILDING INTERFACE, WITH (2) QUAD RECEPTACLES WIRED TO CIRCUIT A-26, AND (1) 2P-30A RECEPTACLE TO CIRCUIT A-28, AND 1P-30A RECEPTACLE TO CIRCUIT A-32. (VERIFY CONDUIT QUANTITY, TERMINATION & REQUIREMENTS WITH UTILITIES).

B. EMERGENCY LIGHTING INVERTER. MULE LIGHTING CEPS-EM OR EQUAL. 2800WATTS, 120V INPUT, 120V OUTPUT, (10) 20A OUTPUT CIRCUIT BREAKERS.

C. SECURITY SYSTEM CONTROL PANEL. VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.

D. 2"X10" GROUNDING BUS BAR WITH #6 GND TO SWITCHBOARD.

E. FOR SPRINKLER AIR COMPRESSOR. VERIFY ROUGH-IN WITH FIRE MARSHAL.

F. WATER FLOW NOTIFICATION DEVICE. VERIFY FINAL LOCATION WITH FIRE MARSHAL.

G. 2P-400A-FSS FOR FUTURE PV SYSTEM. RUN WITH 3" CONDUIT TO HOUSE DISTRIBUTION PANEL.

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B3 FIRST & SECOND FLOOR - POWER PLAN

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3E-101
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1 B3 - THIRD FLOOR POWER PLAN
1/8" = 1'-0"



2 B3 - FOURTH FLOOR POWER
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. xxx

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B3 THIRD & FOURTH FLOOR - POWER PLAN

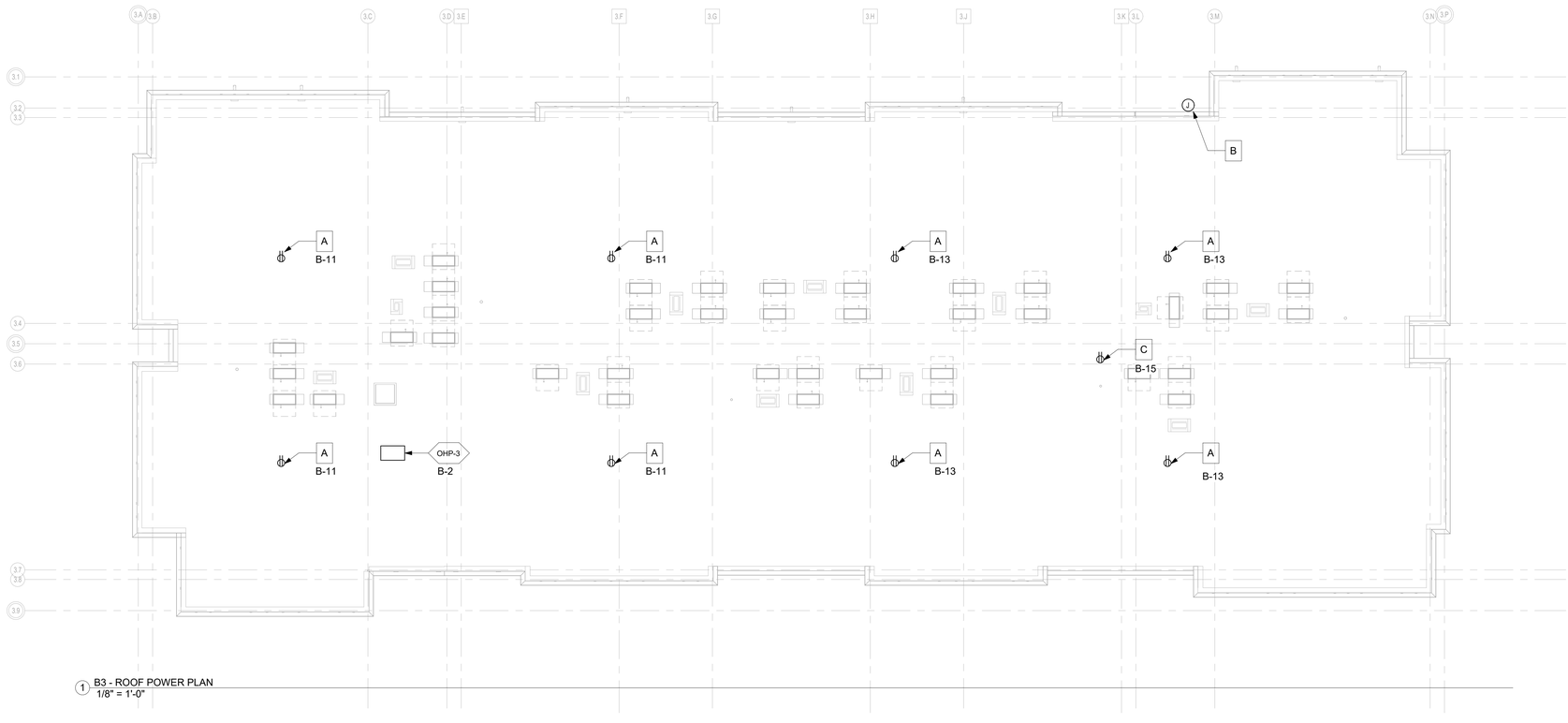
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1 B3 - ROOF POWER PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. WEATHERPROOF, GFCI RECEPTACLE MOUNTED ON SIDE OF UNIT.

B. JUNCTION BOX TO 4" CONDUIT FOR FUTURE PHOTOVOLTAIC EQUIPMENT. SEE SHEET 2E-101 FOR FIRST FLOOR LOCATION.

C. WEATHERPROOF, GFCI RECEPTACLE FOR RADON FAN, LOCATE RECEPTACLE IN BOX AS DIRECTED BY OWNER. SEE PLUMBING PLANS FOR RADON VENT PIPING STACKS. VERIFY FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

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B3 ROOF - POWER PLAN

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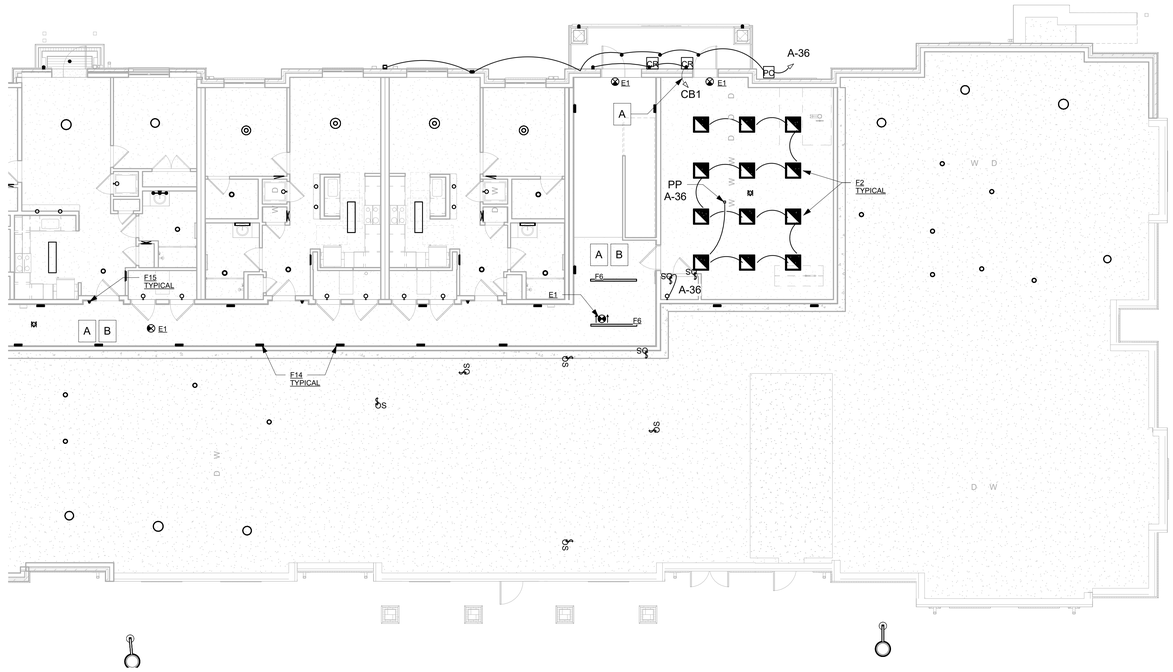
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3E-103

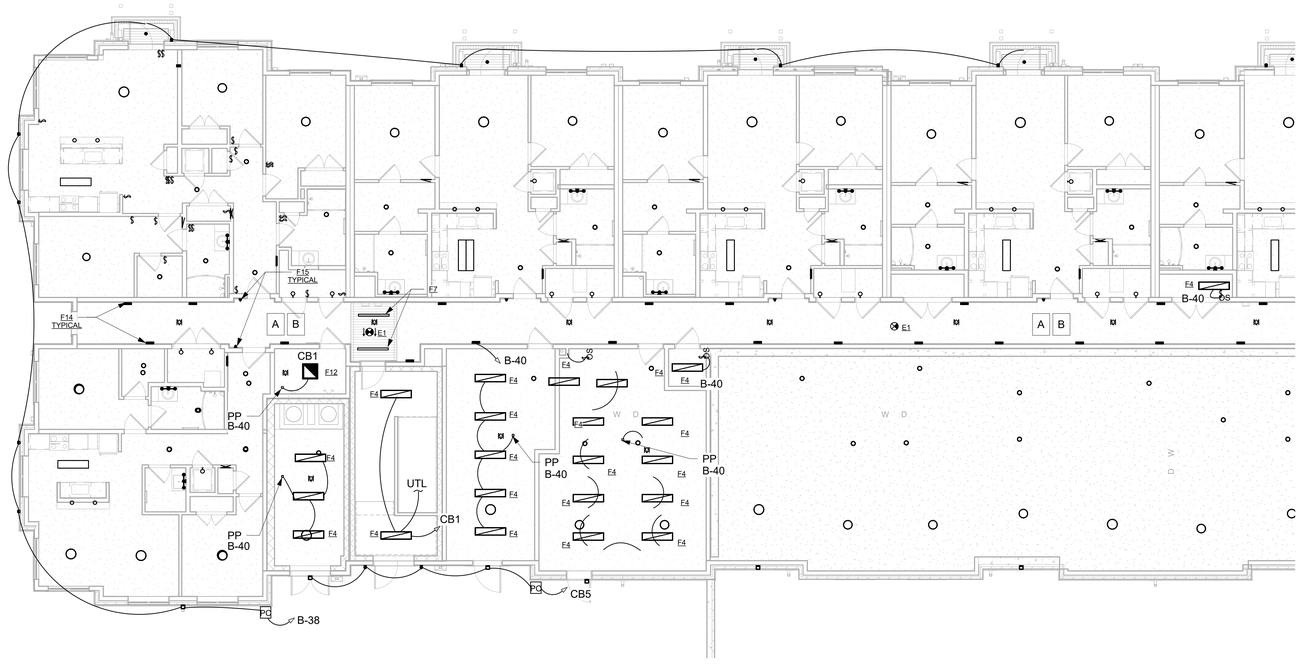
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B2 - FIRST FLOOR AREA A - LIGHTING PLAN
1/8" = 1'-0"



B2 - FIRST FLOOR AREA B - LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B2 FIRST FLOOR AREA A/B - LIGHTING PLAN

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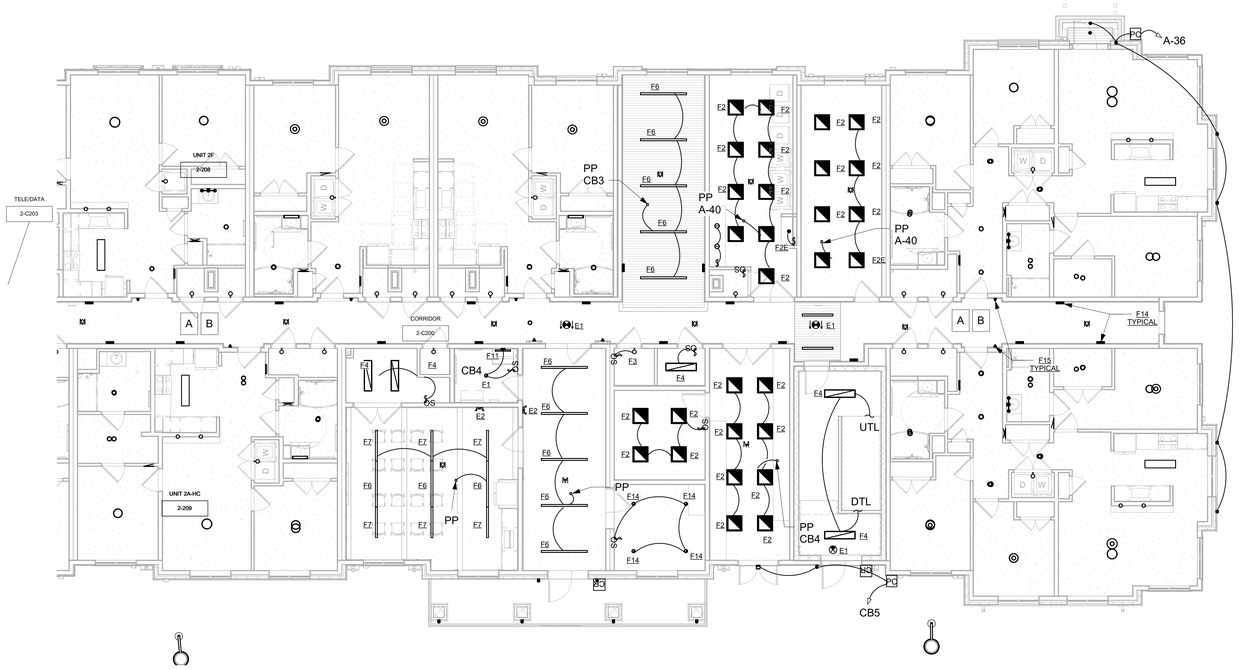
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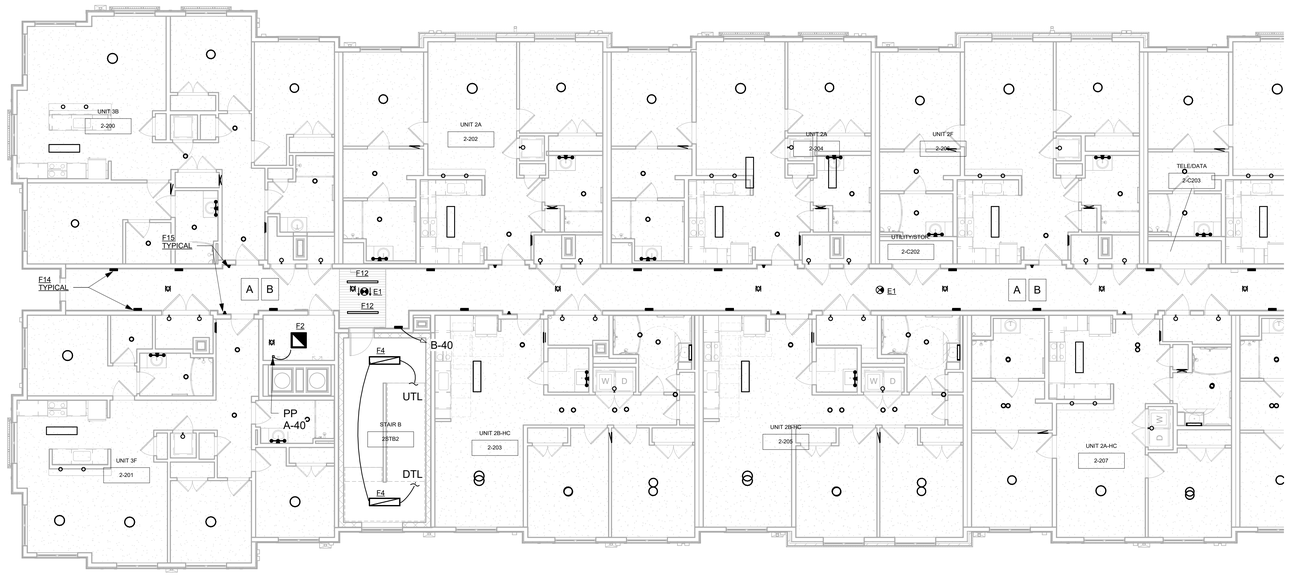
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1 B2 - SECOND FLOOR AREA A - LIGHTING PLAN
1/8" = 1'-0"



2 B2 - SECOND FLOOR AREA B - LIGHTING PLANS
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B2 SECOND FLOOR AREA A/B - LIGHTING PLAN

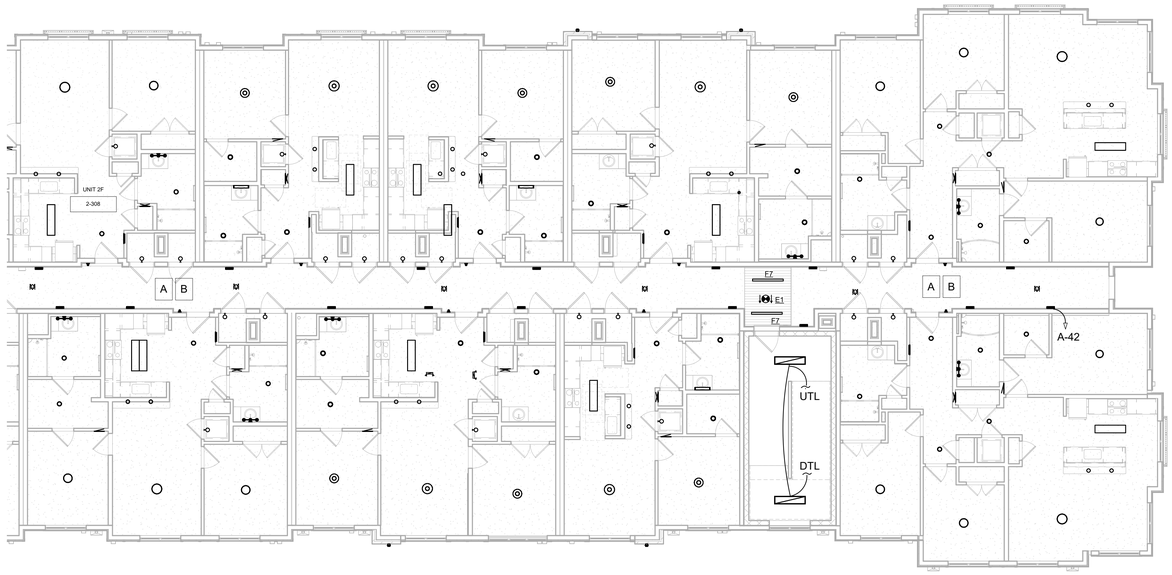
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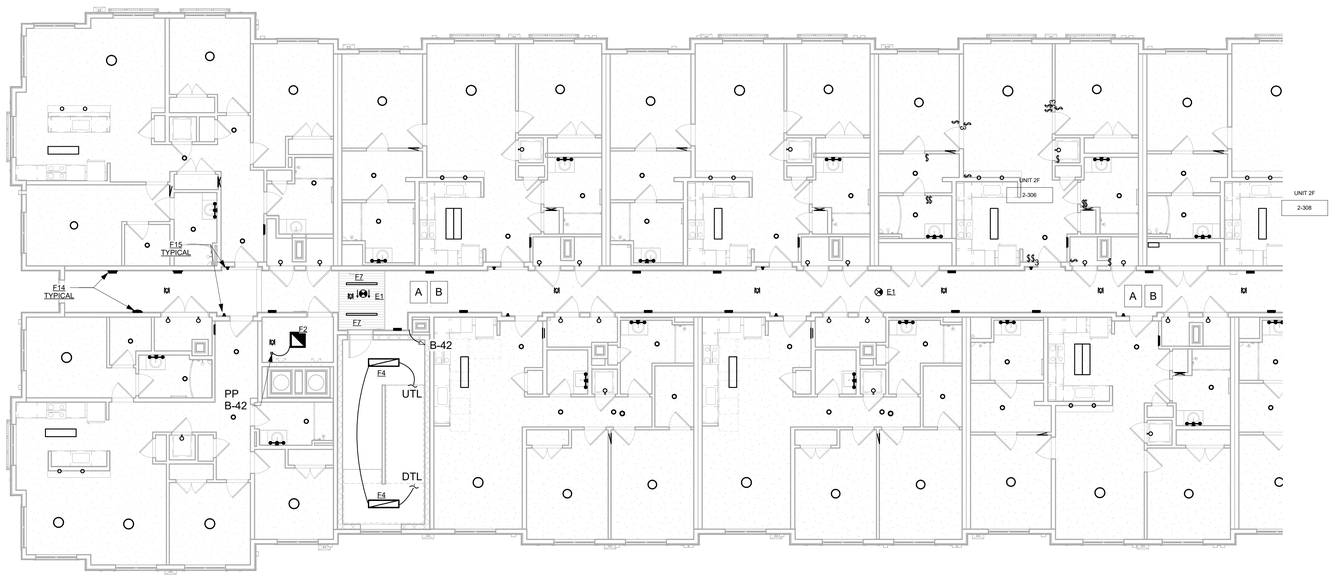
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1 B2 - THIRD FLOOR AREA A - LIGHTING PLANS
1/8" = 1'-0"



2 B2 - THIRD FLOOR AREA B - LIGHTING PLANS
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B2 THIRD FLOOR AREA A/B - LIGHTING PLAN

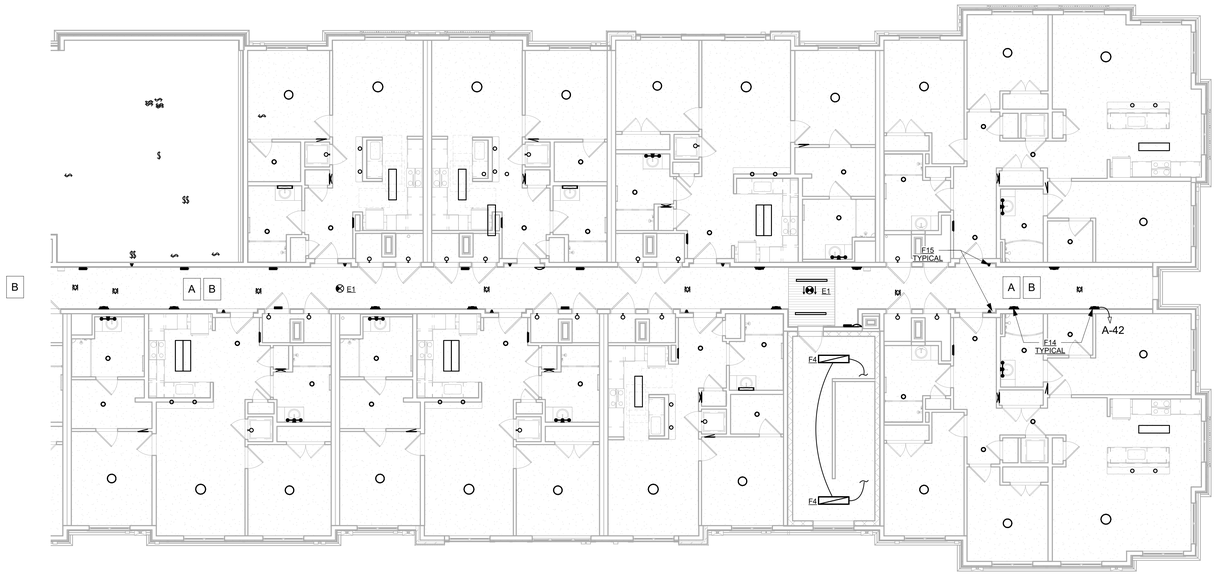
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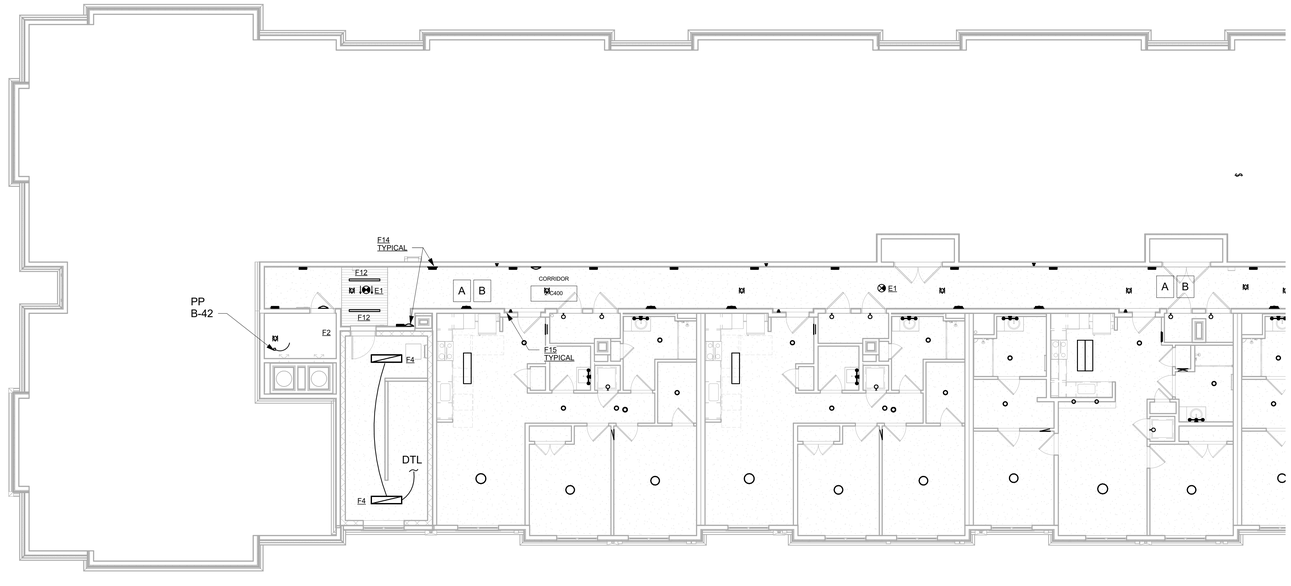
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B2 - FOURTH FLOOR AREA A - LIGHTING PLANS
1/8" = 1'-0"



B2 - FOURTH FLOOR AREA B - LIGHTING PLANS
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B2 FOURTH FLOOR AREA A/B - LIGHTING PLAN

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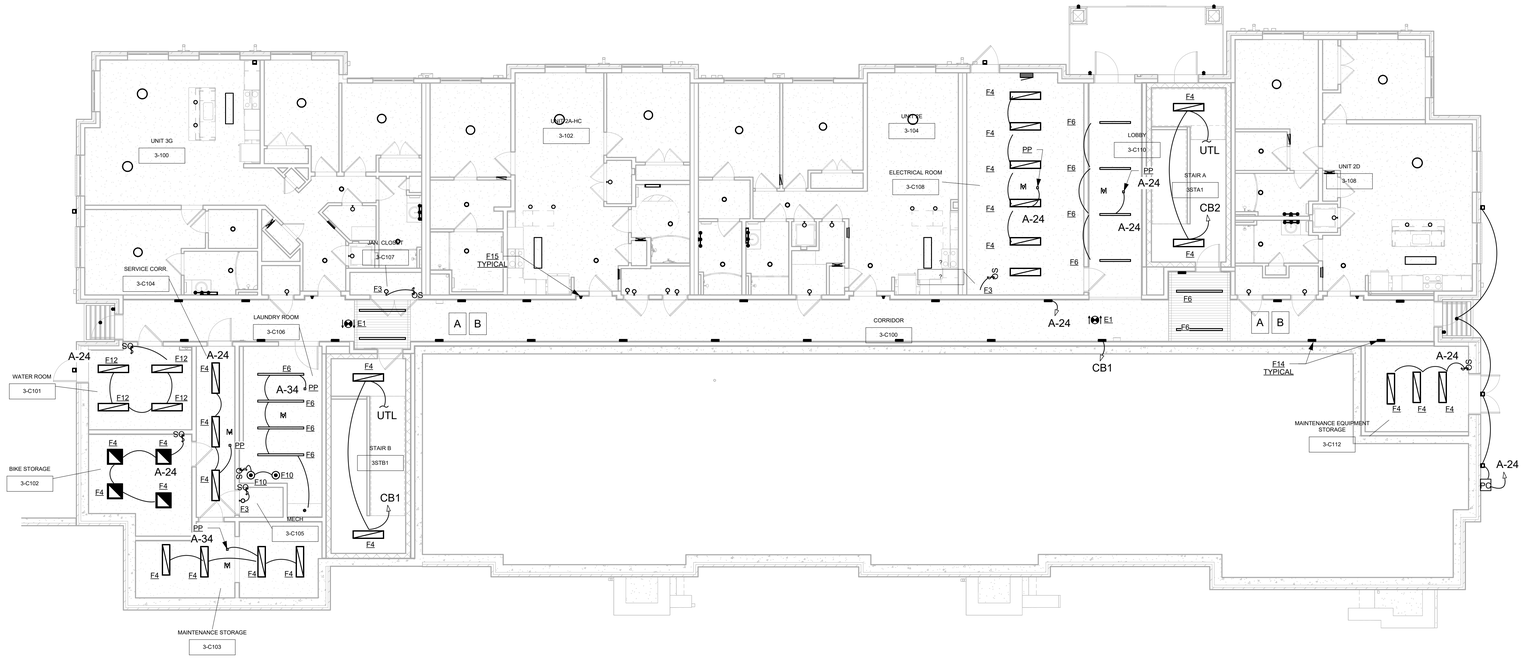
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1 B3 - FIRST FLOOR LIGHTING PLAN
1/8" = 1'-0"



2 B3 - SECOND FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B3 FIRST & SECOND FLOOR - LIGHTING PLAN

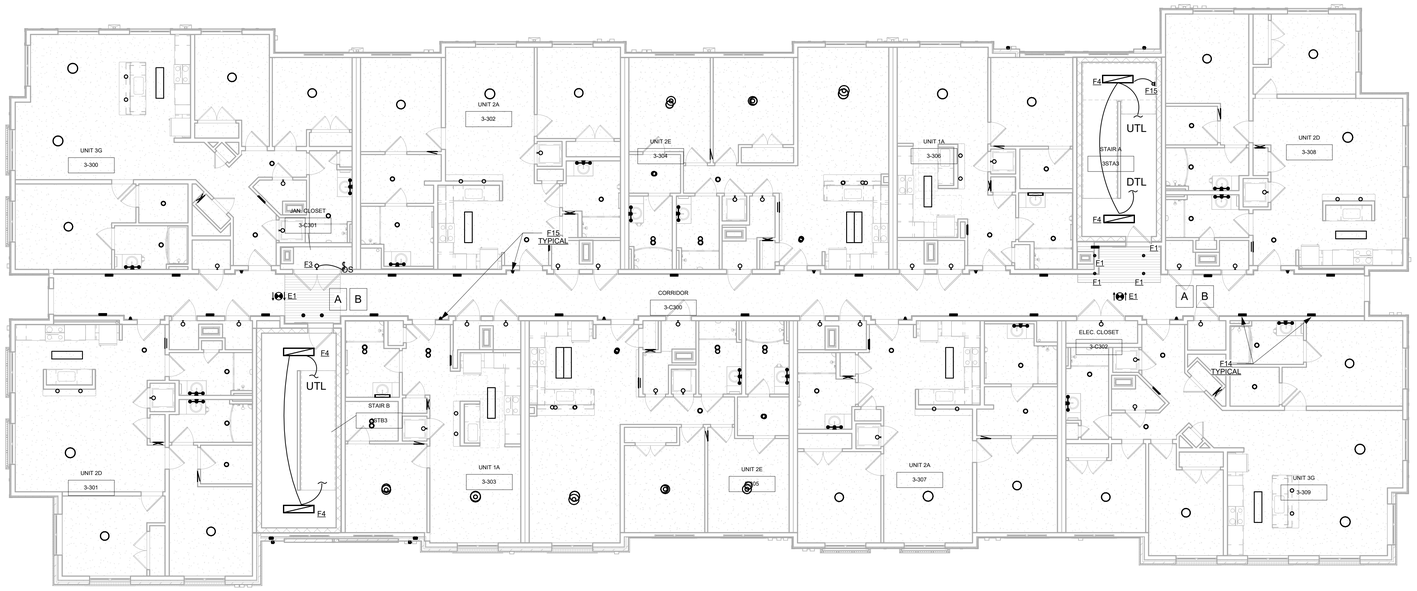
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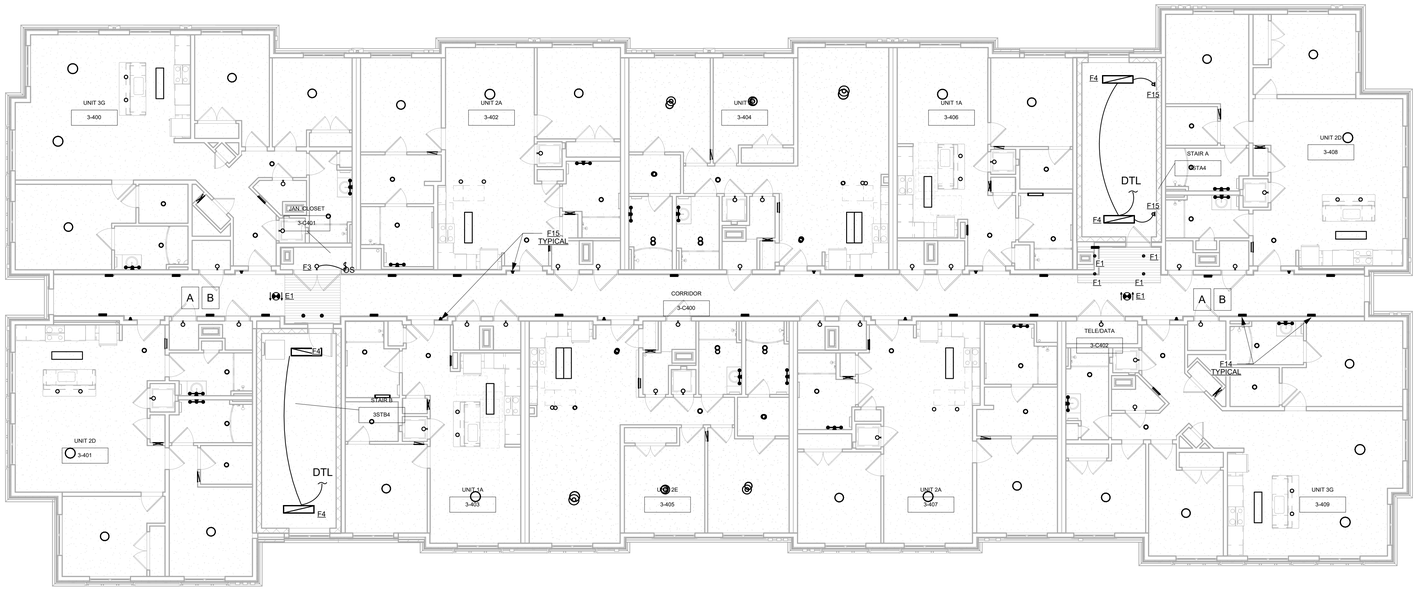
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1 B3 - THIRD FLOOR LIGHTING PLAN
1/8" = 1'-0"



2 B3 - FOURTH FLOOR HVAC PLAN
1/8" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--WIRE EMERGENCY EXIT/EGRESS FIXTURES TO LIGHTING CIRCUIT SERVING THAT AREA AHEAD OF ALL SWITCHING.

KEYED NOTES

A. WIRE 50% OF CORRIDOR LIGHTS IN AN ALTERNATING PATTERN THROUGH EMERGENCY POWER LIGHTING INVERTER. WIRE THE SAME FIXTURES THROUGH OCCUPANCY CONTROLLED DIMMER TO 50% DIMMING WHILE UNOCCUPIED.

B. ALL CORRIDOR OCCUPANCY SENSORS TO BE 'LT' OUTDOOR RATED WITH 50% DIMMING.

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B3 THIRD & FOURTH FLOOR - LIGHTING PLAN

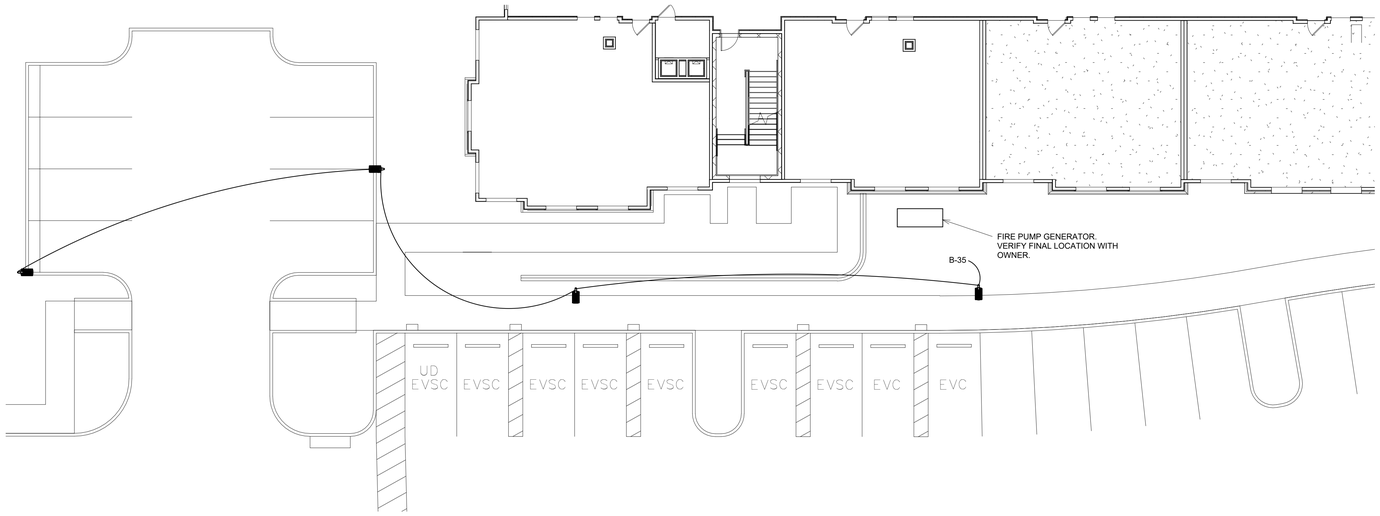
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1 B2 - SITE ELECTRICAL PLAN 1
3/32" = 1'-0"



2 B2 - SITE ELECTRICAL PLAN 2
3/32" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

KEYED NOTES

A. RECEPTACLE AND DATA OUTLET FOR MAIL KIOSK. WEATHERPROOF AND GFCI RATED. VERIFY ALL REQUIREMENTS AND LOCATION WITH OWNER/MANUFACTURER PRIOR TO ROUGH-IN.

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B2 SITE ELECTRICAL PLAN

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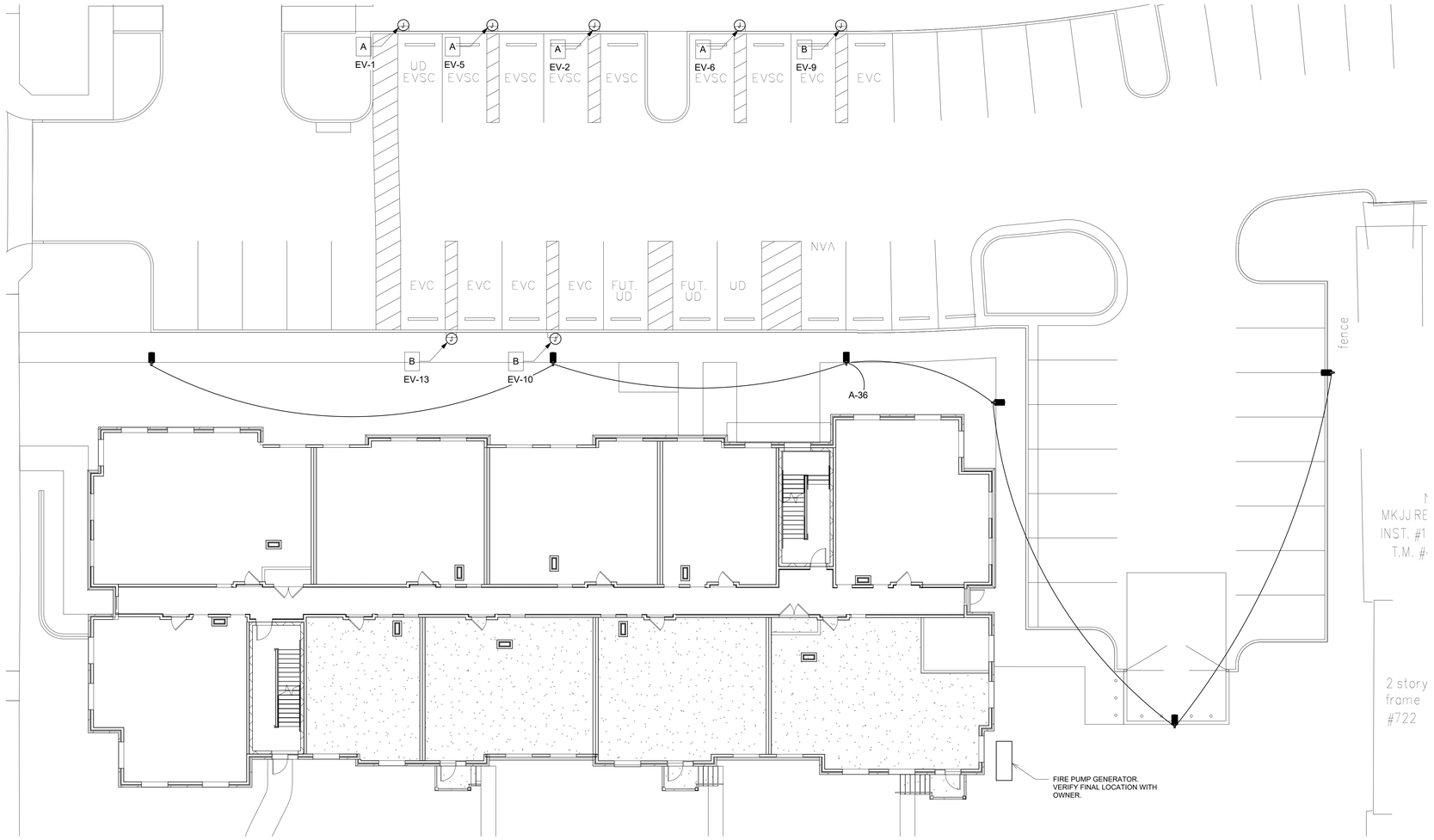
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B2 SITE ELECTRICAL PLAN



1 B3 - SITE ELECTRICAL PLAN
3/32" = 1'-0"

GENERAL NOTES

--FOR ALL 1P-20A CIRCUITS OVER 100 FEET, INCREASE WIRE SIZE AS REQUIRED FOR VOLTAGE DROP.

--SITE LIGHTING SHOWN FOR CIRCUITING PURPOSES ONLY. SITE LIGHTING DESIGN BY CIVIL ENGINEER, SEE CIVIL PLANS FOR EXACT LOCATIONS AND FIXTURE TYPES.

KEYED NOTES

A. STUB UP AND CAP OFF 1.5" CONDUIT FOR ELECTRIC VEHICLE CHARGING STATION. CONDUIT RUN FROM PANEL 'EV' LOCATED IN ELECTRICAL ROOM. VERIFY FINAL LOCATION WITH OWNER.

B. STUB UP AND CAP OFF 1.5" CONDUIT WITH PULL STRING RUN FROM PANEL 'EV' LOCATED IN ELECTRICAL ROOM FOR FUTURE ELECTRIC VEHICLE CHARGING STATION. VERIFY FINAL LOCATION WITH OWNER.

C. CONNECTION FOR MAIL KIOSK. VERIFY ALL REQUIREMENTS AND LOCATION WITH OWNER/MANUFACTURER PRIOR TO ROUGH-IN.

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B3 SITE ELECTRICAL PLAN

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624 BULLITT AVE SE ROANOKE, VA 24022

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5/14/2026	VH 4% HOTC APP.	A
06/30/2026	CONSTRUCTION ABILITY REVIEW	

3E-301

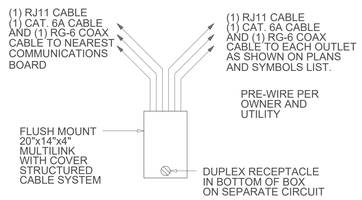
06/30/2026
CONSTRUCTABILITY REVIEW

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SYMBOLS LIST - APARTMENTS

- OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE
- OUTLET FOR CEILING OR WALL MOUNTED LED LIGHTING FIXTURE
- OUTLET FOR CEILING MOUNTED PADDLE FAN
- S — SINGLE POLE WALL SWITCH AT 48" AFF
- S_3 — THREE-WAY WALL SWITCH AT 48" AFF
- GENERAL PURPOSE DUPLEX RECEPTACLE AT 18" AFF
- GENERAL PURPOSE DUPLEX RECEPTACLE AT 44" AFF
- USB / USB — GENERAL PURPOSE DUPLEX RECEPTACLE WITH (2) INTEGRATED USB PORTS. MOUNTED HORIZONTALLY AND CENTERED 6" ABOVE THE FINISHED SURFACE OR 2" ABOVE BACK SPLASH UNLESS NOTED OTHERWISE. USB PORTS CONFIGURED AS (1) USB-A AND (1) USB-C
- ED — OUTLET FOR DRYER HEIGHT TO SUIT APPLIANCE SERVED
- W — OUTLET FOR LAUNDRY OR WASHER HEIGHT TO SUIT APPLIANCE SERVED
- SWD — 250 VOLT DEVICE FOR STACKED WASHER/ DRYER, HEIGHT TO SUIT APPLIANCE SERVED
- REF. — OUTLET FOR REFRIGERATOR HEIGHT TO SUIT APPLIANCE SERVED
- ER — 250 VOLT DEVICE FOR ELECTRIC RANGE HEIGHT TO SUIT APPLIANCE SERVED
- PD — OUTLET FOR TELEPHONE/DATA LINES ROUGH-IN AND PREWIRE AT 18" AFF UNLESS NOTED
- TV — OUTLET FOR TELEVISION LINE. ROUGH-IN AND PREWIRE AT 18" AFF UNLESS NOTED
- MW/EH — OUTLET FOR CONNECTION TO MICROWAVE HOOD OUTLET TO SUIT APPLIANCE SERVED
- EH (J) — OUTLET FOR EXHAUST HOOD WITH WALL MOUNTED CONTROL SWITCH
- DW — OUTLET FOR CONNECTION TO DISHWASHER
- DISP. — SWITCHED OUTLET FOR DISPOSER HEIGHT TO SUIT APPLIANCE SERVED
- (FL) — EXHAUST FAN/LIGHT COMBO FURNISHED BY HVAC, WIRED BY ELECTRICIAN
- (WH) — ELECTRIC WATER HEATER
- [S] — CEILING MOUNTED SINGLE STATION AC/BATTERY SMOKE DETECTOR
- [S/CO] — COMBINATION CEILING MOUNTED SINGLE STATION AC/BATTERY CARBON MONOXIDE AND SMOKE DETECTOR
- (F) — AUDIO/VISUAL FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF.
- (V) — VISUAL ONLY FIRE ALARM SIGNAL DEVICE AT 6'-8" AFF
- R (V) — REMOTE STROBE DEVICE WIRED TO SINGLE STATION SMOKE DETECTORS SERVING THIS UNIT.
- STRUCTURED CABLE UNIT DISTRIBUTION FLUSH MOUNT BOX, SEE DETAIL ON SHEET E-300
- SCB — PANELBOARD/LOAD CENTER
- SWITCH LEG WIRING
- AFF — ABOVE FINISHED FLOOR
- C/EC — CONDUIT/EMPTY CONDUIT
- WP — WEATHERPROOF
- GFCI — GROUND FAULT CIRCUIT INTERRUPTOR TYPE DEVICE



NOTE: WIRE ADDITIONAL S-ONE BOXES WHERE REQUIRED. COORDINATE WITH OWNER AND COMMUNICATIONS SUPPLIERS.

UNIT STRUCTURED CABLE WIRING DETAIL

NO SCALE

APARTMENT ELEC. SPECS.

A1. RECEPTACLE AND LIGHTING OUTLETS SHOWN AT THIS SCALE ARE GENERAL IN NATURE. FINAL FIELD PLACEMENT OF OUTLETS SHALL NOT EXCEED CODE REQUIREMENTS. OUTLETS ABOVE COUNTER IN KITCHENS SHALL BE MOUNTED ALONG CENTERLINE OF SPACE BETWEEN BACKSPLASH AND BOTTOM OF OVERHEAD CABINETS. BELOW COUNTER PENINSULA RECEPTACLE SHALL BE NO LESS THAN 12" BELOW COUNTERTOP. COORDINATE LOCATIONS OF OUTLETS IN AND AROUND LAVATORIES, COUNTERS, MIRRORS, AND OTHER ARCHITECTURAL ELEMENTS. DO NOT INSTALL OUTLETS BACK-TO-BACK IN SHARED PARTITION WALLS BETWEEN UNITS.

A2. BRANCH CIRCUIT WIRING CONCEALED IN WALLS OR CEILING SPACES MAY BE TYPE NM (ROMEX) COPPER WHERE ALLOWED BY CODE, MINIMUM SIZE #14 FOR 15 AMP CIRCUITS, #12 FOR 20 AMP CIRCUITS, #10 FOR 30 AMP CIRCUITS. FOR BRANCH CIRCUITS LARGER THAN 30A USE PROPER SER OR SEU ALUMINUM CABLE. HVAC/WATER HEATER CLOSETS ARE USED AS RETURN AIR PLENUM SPACES, USE APPROVED WIRING METHODS IN THESE CLOSETS.

A3. PROVIDE QUANTITY OF WIRES IN RUNS TO PROVIDE A COMPLETE INSTALLATION.

A4. CABLE PASSING THRU FIRE RATED CONSTRUCTION SHALL NOT LESSEN THE RATING OF THE CONSTRUCTION. CABLES PENETRATING EXTERIOR WALLS SHALL BE COMPLETELY WATERTIGHT. GIVE SPECIAL CONSIDERATIONS TO OUTLETS IN SHEER WALLS WHERE WIRING OCCURS ON BOTH SIDES OF THE WALL.

A5. SUPPORT CABLE DIRECTLY FROM THE BUILDING STRUCTURE.

A6. BOXES SHALL BE FIBERGLASS, PLASTIC OR STEEL, SIZED FOR NUMBER OF CONDUCTORS AND DEVICES. BOXES IN RATED CONSTRUCTION WHERE REQUIRED SHALL BE PLACED A MINIMUM OF 24" ON CENTER IF ON ONE SIDE OF ASSEMBLY AND STAGGERED A MINIMUM OF 24" ON CENTER IF ON BOTH SIDES OF ASSEMBLY, IF SPACING CANNOT BE MAINTAINED PROVIDE PROPER BOX PROTECTION.

A7. WIRING DEVICES SHALL BE RESIDENTIAL GRADE TYPE, COVERPLATES SHALL BE HIGH-IMPACT PLASTIC, MID-SIZED. WEATHERPROOF COVERPLATES SHALL BE WATERTIGHT IN USE TYPE. DEVICE/PLATE COLOR SHALL BE AS DIRECTED BY THE OWNER OR ARCHITECT. USE TAMPER-RESISTANT RECEPTACLES IN ALL ROOMS. SWITCHES SHALL BE DECORA TYPE.

A8. PROVIDE LOCAL DISCONNECTS FOR EQUIPMENT. DISCONNECT SWITCHES SHALL BE GENERAL DUTY NON-FUSED AND RATED FOR EQUIPMENT SERVED.

A9. PROVIDE GROUND FAULT PROTECTION FOR OUTLETS IN ACCORDANCE WITH NEC 210.8. FEED-THRU PROTECTION CAN BE USED IF DEVICES ARE IN THE SAME ROOM. DO NOT CROSS PARTITIONS WITH FEED THRU WIRING. PROVIDE SEPARATE DEVICES.

A10. PROVIDE ARC-FAULT PROTECTION FOR ALL OUTLETS (INCLUDING LIGHTING, SMOKE DETECTORS, ETC.) IN ACCORDANCE WITH NEC 210.12. PROVIDE AFCI BREAKERS FOR SUCH CIRCUITS IN PANELBOARDS.

A11. WIRE SMOKE AND COMBINATION DETECTORS IN TANDEM TO PROVIDE COMMON ALARM WITHIN INDIVIDUAL APARTMENT UNIT. SMOKE DETECTORS SHALL BE DUAL SENSOR PHOTOELECTRIC/IONIZATION TYPE HARD-WIRED WITH BATTERY BACKUP. SMOKE DETECTORS SHALL BE LOCATED A MINIMUM OF 36" FROM HVAC REGISTERS AND CEILING FANS.

A12. PANEL SCHEDULES INDICATE A MINIMUM NUMBER OF CIRCUITS TO PROVIDE, CONTRACTOR MAY PROVIDE ADDITIONAL CIRCUITS TO SIMPLIFY ROUGH-IN.

A13. PRE-WIRE BUILDING FOR TELEPHONE, INTERNET AND TELEVISION TO OWNER'S SPECIFICATIONS.

A14. VERIFY EXACT LOCATION, CHARACTERISTICS AND CONFIGURATION OF CONNECTIONS REQUIRED FOR OWNER FURNISHED EQUIPMENT AND EQUIPMENT SPECIFIED UNDER OTHER DIVISIONS. IF ALTERNATE EQUIPMENT IS USED PROVIDE PROPER OVERCURRENT PROTECTION, DEVICES AND CIRCUIT REQUIRED. EQUIVALENT EQUIPMENT TO THAT SPECIFIED MAY BE SUBSTITUTED, HOWEVER, THE CONTRACTOR SHALL MAKE ANY ADJUSTMENTS AND CHANGES REQUIRED TO ACCOMMODATE THE SUBSTITUTIONS AT NO COST TO THE OWNER. CONTRACTOR SHALL GUARANTEE EQUIVALENCE OF SUBSTITUTED EQUIPMENT.

A15. RESIDENT UNIT LOAD CENTERS SHALL BE AS SCHEDULED OR BY SQUARE-D, EATON OR SIEMENS, AND BE PROVIDED WITH A SURGE SUPPRESSOR.

A16. ALL ACCESSIBLE OR CONVERTIBLE APARTMENTS SHALL ALSO COMPLY WITH THE FOLLOWING ACCESSIBILITY REQUIREMENTS:

A. MAXIMUM HEIGHT OF CIRCUIT BREAKERS IN PANELBOARD SHALL BE 48" AFF.

B. PROVIDE A SWITCH ABOVE KITCHEN COUNTER FOR EXHAUST HOOD TO OVERRIDE FRONT MOUNT CONTROLS.

C. SINGLE STATION SMOKE AND COMBINATION DETECTORS SHALL BE AUDIO/VISUAL TYPE. PROVIDE AND INSTALL A REMOTE STROBE DEVICE IN BATHROOMS.

D. INSTALL RECEPTACLES, SWITCHES, CONTROLS, ELECTRIC PANELS AT 15" AFF MINIMUM TO BOTTOM AND 48" AFF MAXIMUM TO TOP OF THE DEVICE AS MEASURED FROM FINISHED FLOOR, UNLESS NOTED. WHEN ELECTRICAL DEVICES ARE INSTALLED ABOVE A COUNTER AND THE INSTALLATION HEIGHT EXCEEDS 2'-10" PROVIDE A DUPLICATE ALTERNATE DEVICE LOCATED AS FOR EXAMPLE, FOR A DISPOSAL SWITCH ABOVE A 3'-0" HEIGHT COUNTER (THE PRIMARY LOCATION) PROVIDE A 3-WAY SWITCH SYSTEM AND LOCATE THE OTHER SWITCH (SECONDARY) IN AN ACCESSIBLE LOCATION. NOTE THAT THE PLANS SHOW THE LOCATION OF THE PRIMARY ELECTRICAL DEVICE BUT NOT THE SECONDARY DEVICE.

E. KITCHEN COUNTERTOP RECEPTACLES AND SWITCHES SHALL BE PROVIDED IN BACKSPLASH OF COUNTER OR IN BOXES PROTRUDING 1.5" FROM WALL AS REQUIRED. MAXIMUM OBSTRUCTION TO DEVICES SHALL NOT EXCEED 24".

TYPICAL 1BD UNIT PANEL A

VOLTS: 120/240 — PHASE:1 WIRE:3 — MOUNTING: FLUSH
AMPS: 125 — MAIN: LUGS ONLY

BRKR P	BRKR A	DESCRIPTION	CKT NO.	CKT NO.	DESCRIPTION	BRKR A	BRKR P
2	20	OHP	1	2	GEN.LTS. & RECS. (A)	15	1
-	--	----	3	4	GEN.LTS. & RECS. (A)	15	1
2	25	INDOOR UNIT	5	6	GEN.LTS. & RECS. (A)	15	1
-	--	----	7	8	GEN.LTS. & RECS. (A)	15	1
2	30	ELEC. WATER HEATER	9	10	REFRIGERATOR (A)(G)	20	1
-	--	----	11	12	DISPOSER (A)(G)	20	1
2	50	ELECTRIC RANGE (A)(G)	13	14	SMALL APPLIANCE (A)	20	1
-	--	----	15	16	SMALL APPLIANCE (A)	20	1
2	30	DRYER/SWD (G)	17	18	MICROWAVE-HOOD (A)	15	1
-	--	----	19	20	STRUCTURED CABLE (A)	15	1
1	20	LAUNDRY (A)(G)	21	22	DISHWASHER (A)(G)	20	1
1	20	BATH OUTLET (A)	23	24	OUTDOOR REC	15	1
1	15	SMOKE DETECTOR (A)	25	26	SPARE (A)	15	1
1	15	SPARE (A)	27	28	SURGE SUPRESSOR	--	2
1	15	GEN.LTS. & RECS. (A)	29	30	--	--	-
1	20	SPARE (A)	31	32	DEHUMIDIFIER (A)	15	1
1	20	SPARE (A)	33	34	ERV	15	1
1	20	SPARE (A)	35	36	SPARE (A)	15	1
1	20	SPARE (A)	37	38	SPARE (A)	15	1

(A) = AFCI BREAKER
(G) = GFCI BREAKER

SEE SPEC NOTES

LOAD SUMMARY

	LOAD (KW)
GEN. LTS/REC. LOAD 660SQ. FT. X 3W	2.24
SMALL APPLIANCES	3.00
ELEC. RANGE	8.00
LAUNDRY	6.20
ELEC. WATER HEATER	4.50
DISPOSER	1.50
DISHWASHER	1.20
REFRIGERATOR	1.20
DEHUMIDIFIER	0.50
ERV	0.17
TOTAL =	28.51
1ST 10KVA AT 100%	10.00
REMAINDER AT 40%	7.41
HVAC SYSTEM	6.28
STRIP HEAT AT 65%	2.47
TOTAL =	26.16
TOTAL AT 240V 1PHASE = =	108.90 AMPS

TYPICAL 2BD/3BD UNIT PANEL B

VOLTS: 120/240 — PHASE:1 WIRE:3 — MOUNTING: FLUSH
AMPS: 125 — MAIN: LUGS ONLY

BRKR P	BRKR A	DESCRIPTION	CKT NO.	CKT NO.	DESCRIPTION	BRKR A	BRKR P
2	20	OHP	1	2	GEN.LTS. & RECS (A)	15	1
-	--	----	3	4	GEN.LTS. & RECS (A)	15	1
2	25	INDOOR UNIT	5	6	GEN.LTS. & RECS (A)	15	1
-	--	----	7	8	GEN.LTS. & RECS (A)	15	1
2	30	ELEC. WATER HEATER	9	10	GEN.LTS. & RECS (A)	15	1
-	--	----	11	12	REFRIGERATOR (A)(G)	20	1
2	50	ELECTRIC RANGE (A)(G)	13	14	DISPOSER (A)(G)	20	1
-	--	----	15	16	SMALL APPLIANCE (A)	20	1
2	30	DRYER/SWD (G)	17	18	SMALL APPLIANCE (A)	15	1
-	--	----	19	20	MICROWAVE/HOOD (A)	15	1
1	20	LAUNDRY (A)(G)	21	22	STRUCTURED CABLE (A)	20	1
1	20	BATH OUTLET (A)	23	24	DISHWASHER (A)(G)	20	1
1	20	BATH OUTLET (A)	25	26	SMOKE DETECTORS (A)	15	1
1	15	OUTDOOR REC	27	28	SURGE SUPRESSOR	--	2
1	15	SPARE (A)	29	30	--	--	-
1	20	GEN.LTS. & RECS (A)	31	32	DEHUMIDIFIER (A)	15	1
1	15	SPARE (A)	33	34	ERV	15	1
1	15	SPARE (A)	35	36	SPARE (A)	15	1
1	15	SPARE (A)	37	38	SPARE (A)	15	1

(A) = AFCI BREAKER
(G) = GFCI BREAKER

SEE SPEC NOTES

LOAD SUMMARY

	LOAD (KW)
GEN. LTS/REC LOAD 1305 SQ. FT. X 3W	3.92
SMALL APPLIANCES	3.00
ELEC. RANGE	8.00
LAUNDRY	6.20
ELEC. WATER HEATER	4.50
DISPOSER	0.75
DISHWASHER	1.20
REFRIGERATOR	1.20
DEHUMIDIFIER	0.50
ERV	0.17
TOTAL =	29.44
1ST 10KVA AT 100%	10.00
REMAINDER AT 40%	7.77
HVAC SYSTEM	6.28
STRIP HEAT AT 65%	2.47
TOTAL =	26.52
TOTAL AT 240V 1PHASE = =	110.51 AMPS

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GP #25144

APARTMENT SPECIFICATIONS
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

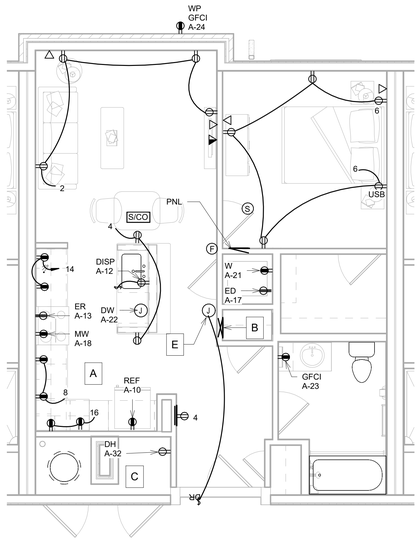
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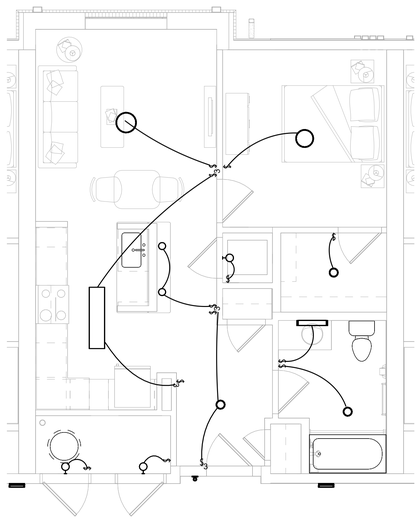
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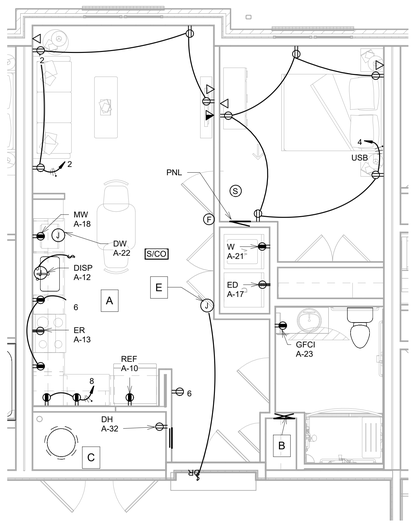
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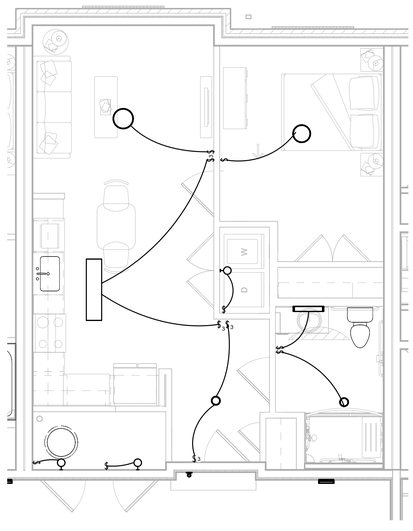
1 B1 - Unit 1A Power
1/4" = 1'-0"



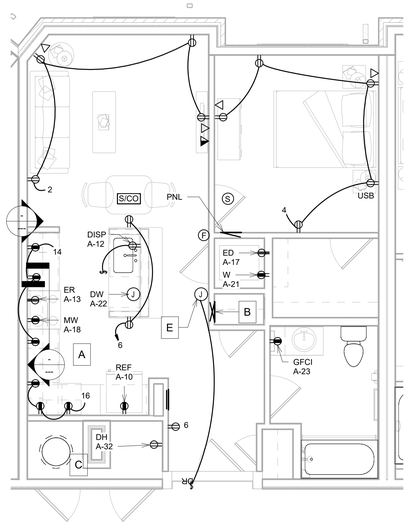
2 B1 - Unit 1A Lighting
1/4" = 1'-0"



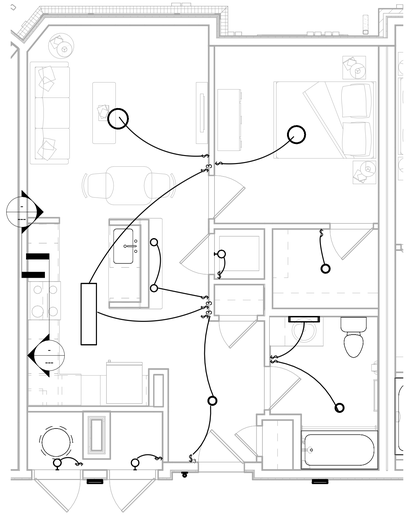
3 B1 - Unit 1A-HC Power
1/4" = 1'-0"



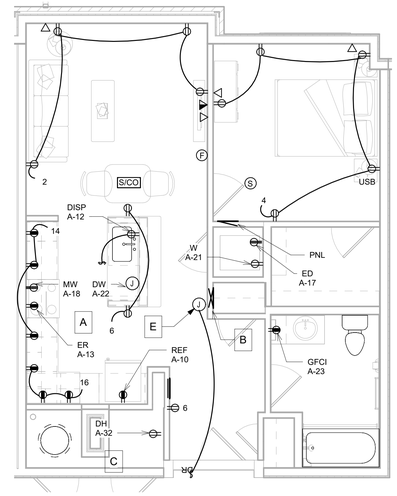
4 B1 - Unit 1A-HC Lighting
1/4" = 1'-0"



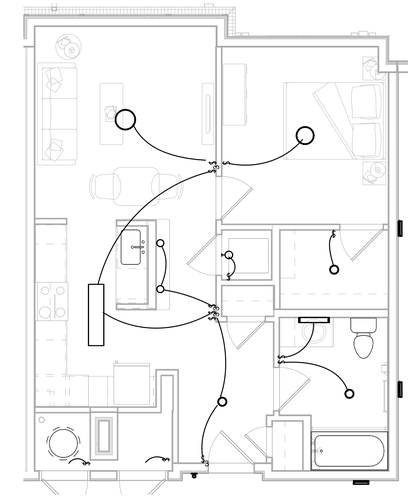
5 B1 - Unit 1B Power
1/4" = 1'-0"



6 B1 - Unit 1B Lighting
1/4" = 1'-0"



7 B1 - Unit 1C Power
1/4" = 1'-0"



8 B1 - Unit 1C Lighting
1/4" = 1'-0"

GENERAL NOTES

--SEE ARCHITECTURAL PLANS FOR EXACT LIGHTING FIXTURE LAYOUTS, SPECIFICATIONS, QUANTITIES, ETC. FIXTURES SHOWN ON THIS SHEET ARE FOR GENERAL SWITCHING PURPOSES ONLY.

--REFER TO HVAC DRAWINGS FOR INDOOR/OUTDOOR UNIT AND REQUIREMENTS. PROVIDE AND INSTALL DISCONNECTS AND WIRING FOR EACH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

--REFER TO PLUMBING DRAWINGS FOR WATER HEATER LOCATIONS AND REQUIREMENTS. PROVIDE AND INSTALL DISCONNECTS AND WIRING IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

--INSTALL ALL UNIT WASHERS LEFT OF UNIT DRYERS.

KEYED NOTES

A. ALL RECEPTACLES SERVING COUNTERTOPS IN KITCHEN AREA, AND ALL BATHROOM RECEPTACLES TO BE GFCI TYPE.
B. STRUCTURED CABLE BOX. SEE SHEET E-300 FOR DETAIL.
C. MECHANICAL CLOSET WITH HVAC EQUIPMENT AND WATER HEATER (SEE HVAC & PLUMBING PLANS). WIRE OUTSIDE AIR FAN. OA CONTROLLER, AND DAMPER IN THIS CLOSET TO 120V CIRCUIT THROUGH TIMER AND RELAY PROVIDED BY HVAC CONTRACTOR. (SEE OUTSIDE AIR SYSTEM DETAIL ON SHEET E300). COORDINATE WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. COORDINATE DEHUMIDIFIER OUTLET WITH EQUIPMENT & DUCT WORK FOR ACCESSIBILITY PRIOR TO ROUGH-IN.
D. WEATHER PROOF GFCI RECEPTACLE. LOCATE ABOVE BALCONY RAILING HEIGHT AT OPERABLE DOOR.
E. DOOR BELL SYSTEM. WIRE TO CIRCUIT SERVING GENERAL RECEPTACLES IN THIS AREA. VERIFY ALL REQUIREMENTS PRIOR TO ROUGH-IN.

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UNIT 1A, 1A-HC, 1B, 1C

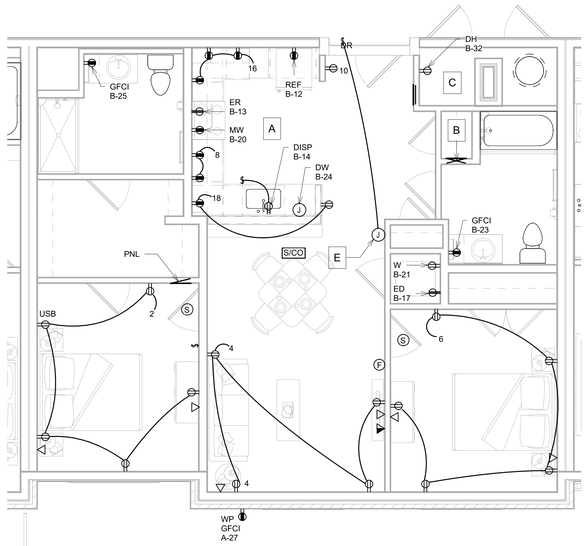
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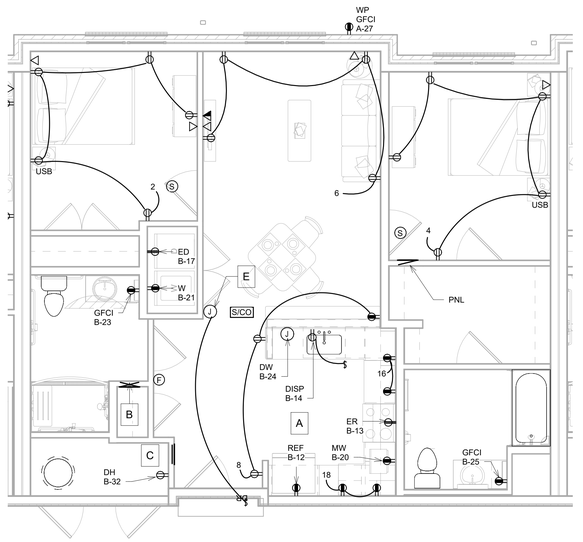
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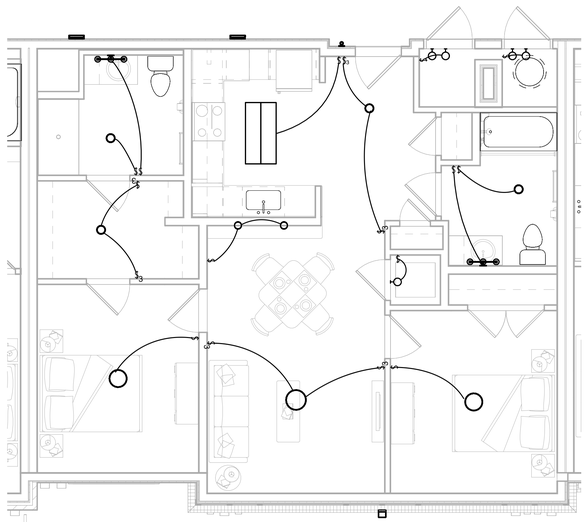
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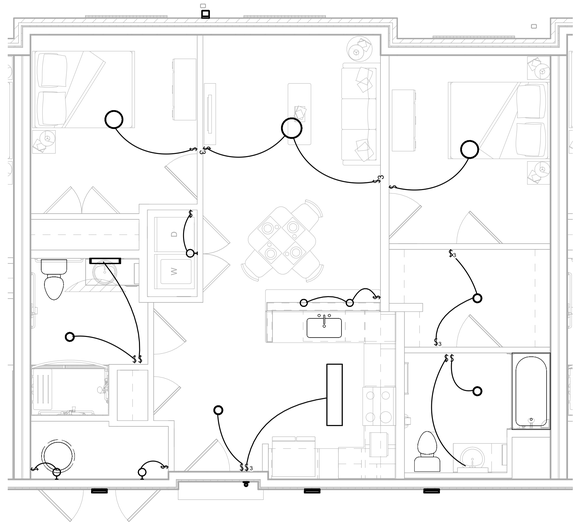
1 B1 - Unit 2A Power
1/4" = 1'-0"



3 B1 - Unit 2A-HC Power
1/4" = 1'-0"



2 B1 - Unit 2A Lighting
1/4" = 1'-0"



4 B1 - Unit 2A-HC Lighting
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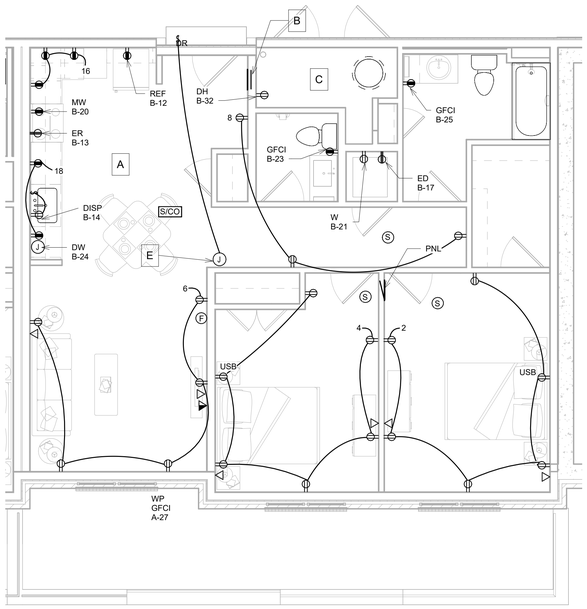
UNIT 2A, 2A-HC
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	A
06/30/2026	CONSTRUCTION ABILITY REVIEW	

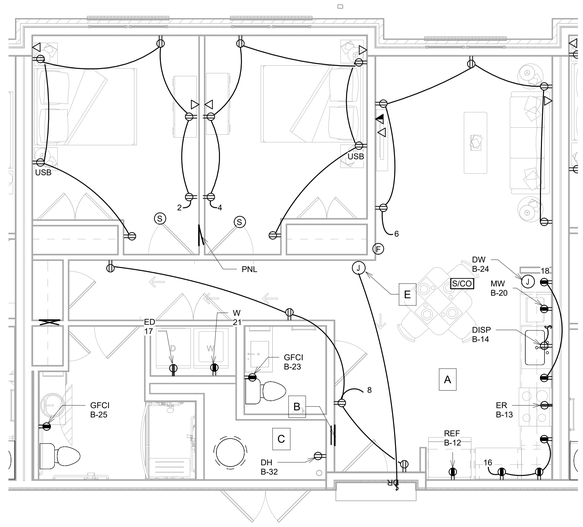
E-502
06/30/2026
CONSTRUCTABILITY REVIEW

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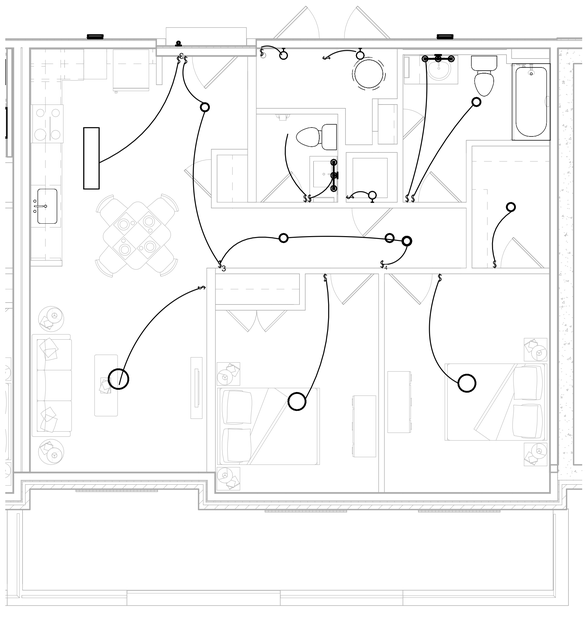
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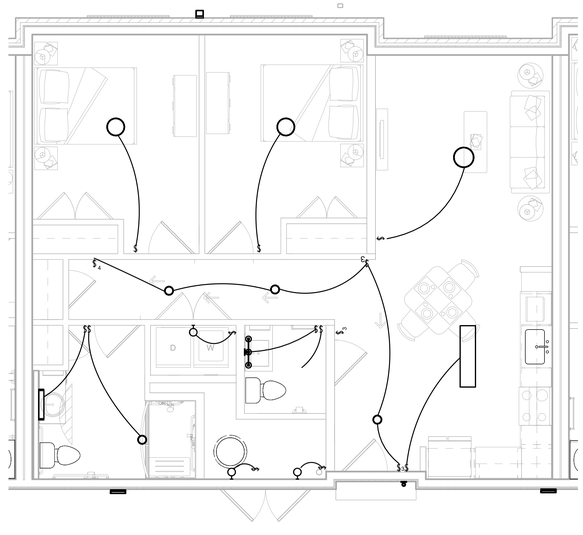
1 B1 - Unit 2B Power
1/4" = 1'-0"



5 B1 - Unit 2B-HC Power
1/4" = 1'-0"



2 B1 - Unit 2B Lighting
1/4" = 1'-0"



6 B1 - Unit 2B-HC Lighting
1/4" = 1'-0"

GENERAL NOTES

--SEE ARCHITECTURAL PLANS FOR EXACT LIGHTING FIXTURE LAYOUTS, SPECIFICATIONS, QUANTITIES, ETC. FIXTURES SHOWN ON THIS SHEET ARE FOR GENERAL SWITCHING PURPOSES ONLY.

--REFER TO HVAC DRAWINGS FOR INDOOR/OUTDOOR UNIT AND REQUIREMENTS. PROVIDE AND INSTALL DISCONNECTS AND WIRING FOR EACH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

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--INSTALL ALL UNIT WASHERS LEFT OF UNIT DRYERS.

KEYED NOTES

A. ALL RECEPTACLES SERVING COUNTERTOPS IN KITCHEN AREA, AND ALL BATHROOM RECEPTACLES TO BE GFCI TYPE.
B. STRUCTURED CABLE BOX. SEE SHEET E-300 FOR DETAIL.
C. MECHANICAL CLOSET WITH HVAC EQUIPMENT AND WATER HEATER (SEE HVAC & PLUMBING PLANS). WIRE OUTSIDE AIR FAN, OA CONTROLLER, AND DAMPER IN THIS CLOSET TO 120V CIRCUIT THROUGH TIMER AND RELAY PROVIDED BY HVAC CONTRACTOR. (SEE OUTSIDE AIR SYSTEM DETAIL ON SHEET E300). COORDINATE WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. COORDINATE DEHUMIDIFIER OUTLET WITH EQUIPMENT & DUCT WORK FOR ACCESSIBILITY PRIOR TO ROUGH-IN.
D. WEATHER PROOF GFCI RECEPTACLE. LOCATE ABOVE BALCONY RAILING HEIGHT AT OPERABLE DOOR.
E. DOOR BELL SYSTEM. WIRE TO CIRCUIT SERVING GENERAL RECEPTACLES IN THIS AREA. VERIFY ALL REQUIREMENTS PRIOR TO ROUGH-IN.

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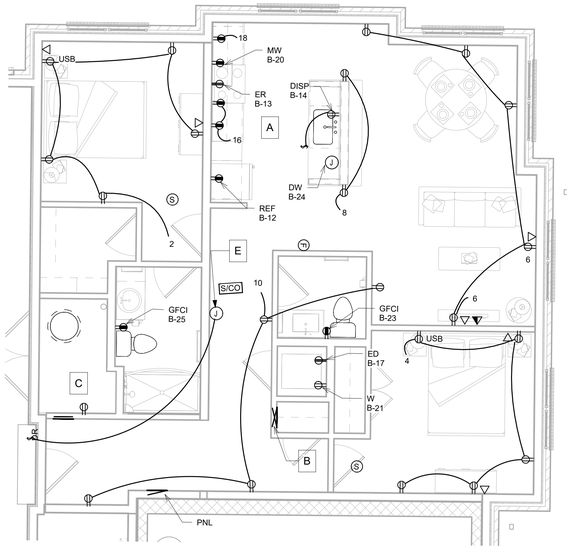
UNIT 2B, 2B-HC
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / IS...
5/14/2026	VH 4% HOTC APP. A
06/30/2026	CONSTRUCTION ABILITY REVIEW

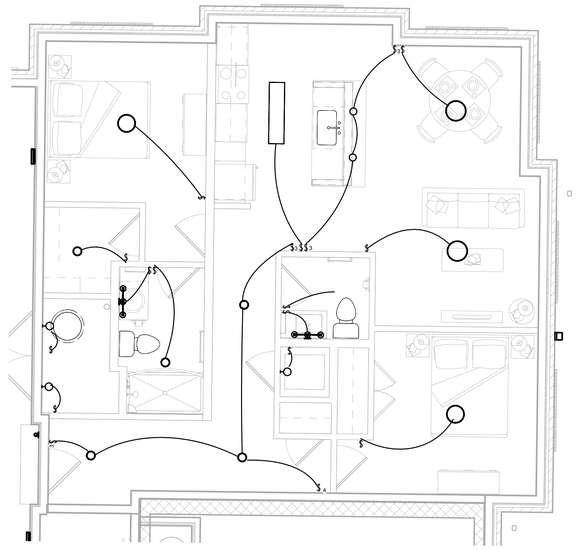
E-503
06/30/2026
CONSTRUCTABILITY REVIEW

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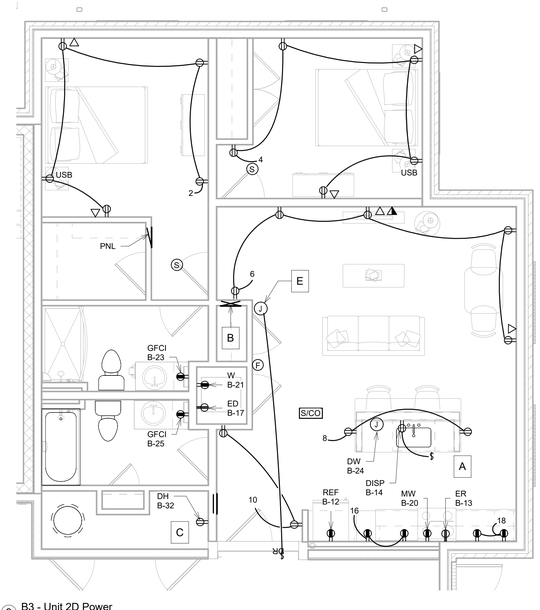
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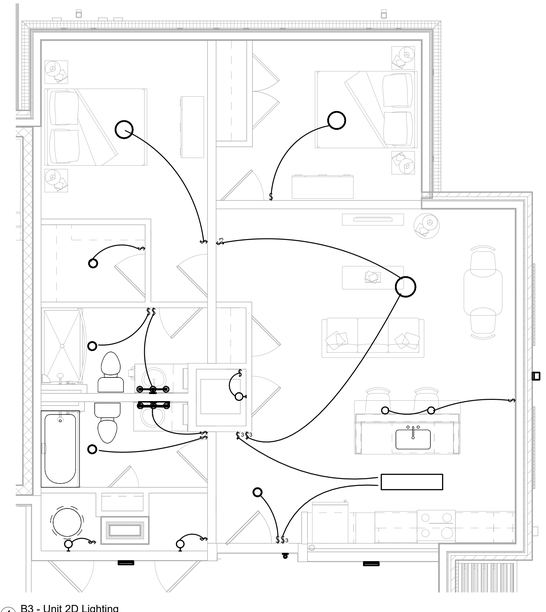
1 B1 - Unit 2C Power
1/4" = 1'-0"



2 B1 - Unit 2C Lighting
1/4" = 1'-0"



3 B3 - Unit 2D Power
1/4" = 1'-0"



4 B3 - Unit 2D Lighting
1/4" = 1'-0"

GENERAL NOTES

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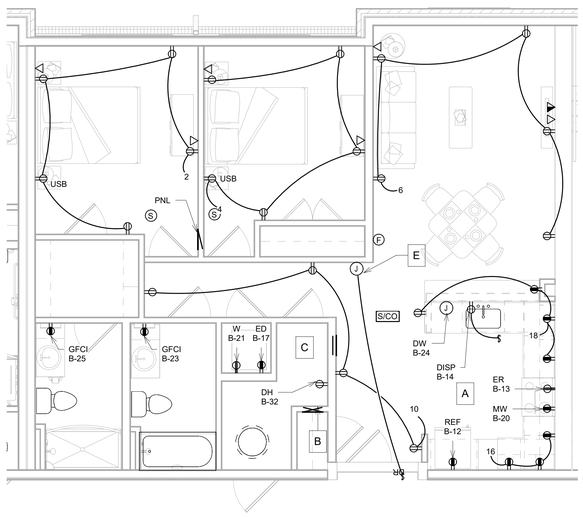
UNIT 2C, 2D
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #:
5/14/2026	VH 4% HOTC APP. A
06/30/2026	CONSTRUCTION ABILITY REVIEW

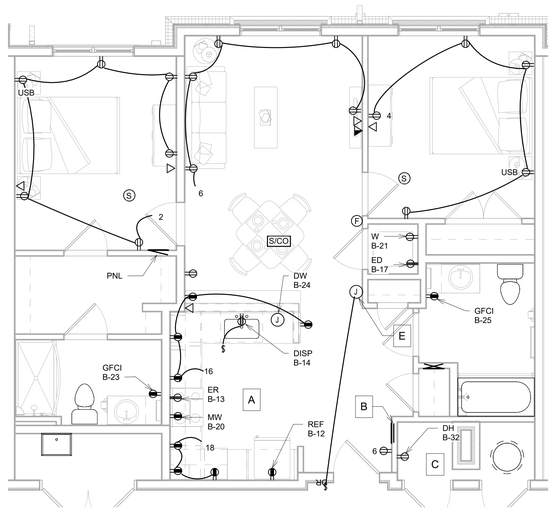
E-504
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CONSTRUCTABILITY REVIEW

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1 B3 - Unit 2E Power
1/4" = 1'-0"



3 B2 - Unit 2F Power
1/4" = 1'-0"

2 B3 - Unit 2E Lighting
1/4" = 1'-0"

4 B2 - Unit 2F Lighting
1/4" = 1'-0"

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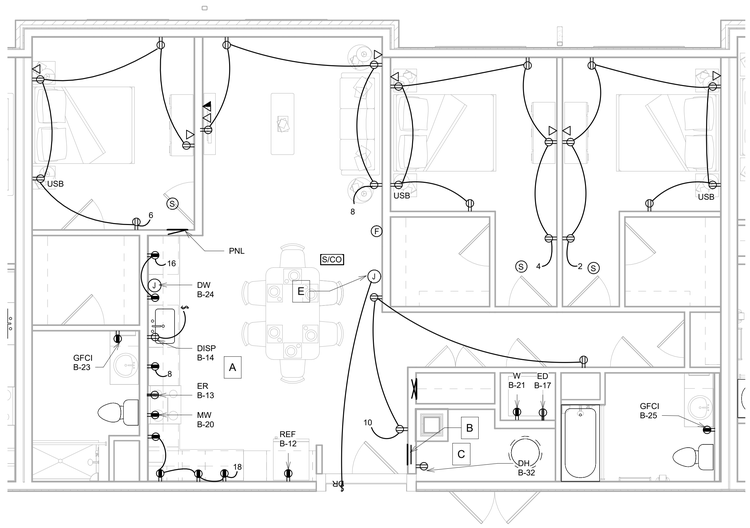
UNIT 2E, 2F
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	A
06/30/2026	CONSTRUCTION ABILITY REVIEW	

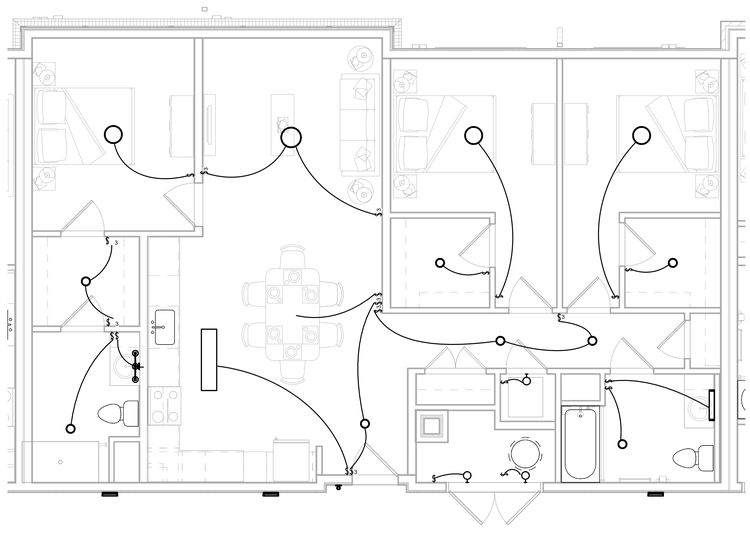
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06/30/2026
CONSTRUCTABILITY REVIEW

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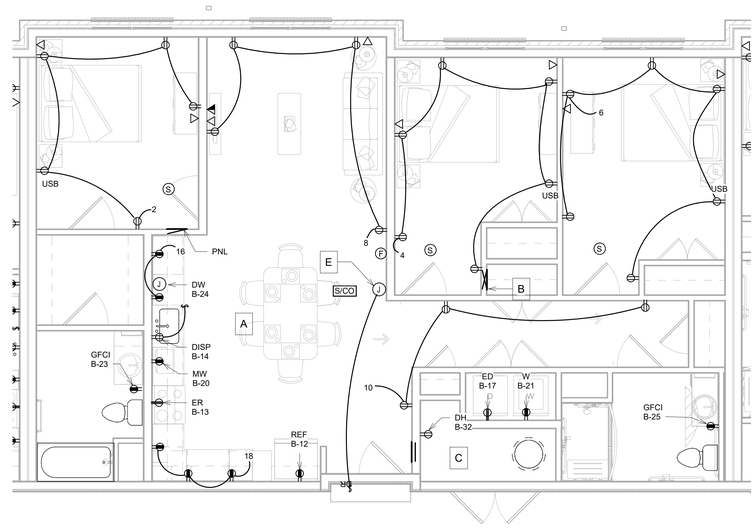
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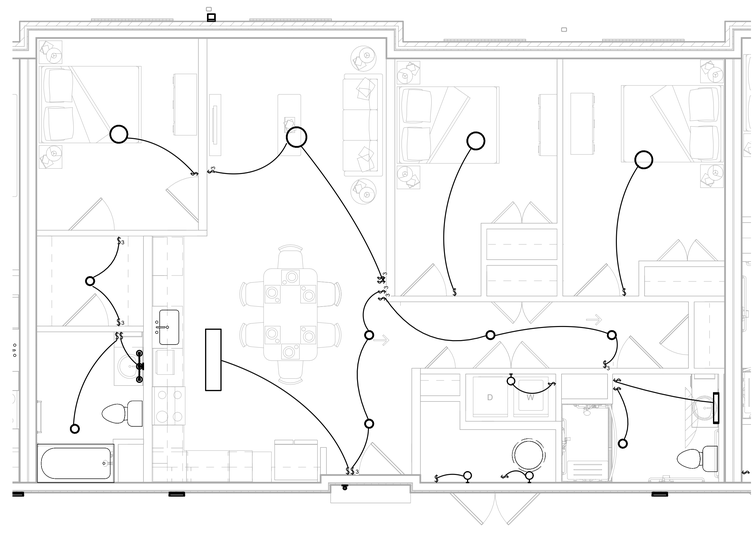
1 B1 - Unit 3A Power
1/4" = 1'-0"



2 B1 - Unit 3A Lighting
1/4" = 1'-0"



3 B1 - Unit 3A-HC Power
1/4" = 1'-0"



4 B1 - Unit 3A-HC Lighting
1/4" = 1'-0"

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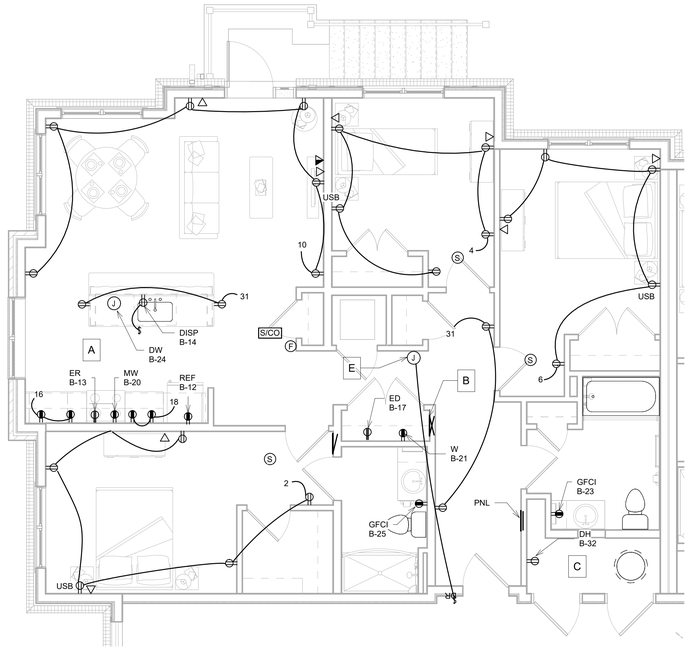
UNIT 3A, 3A-HC
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION	#
5/14/2026	VH 4% HOTC APP.	A
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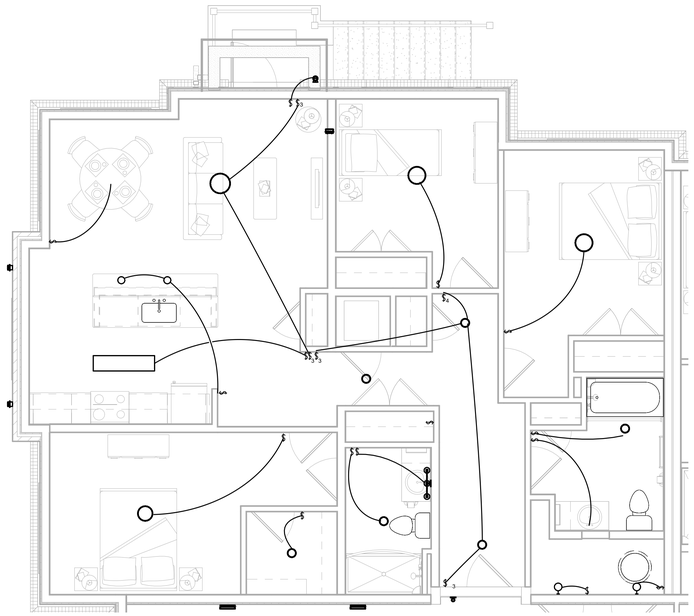
E-506
06/30/2026
CONSTRUCTABILITY REVIEW

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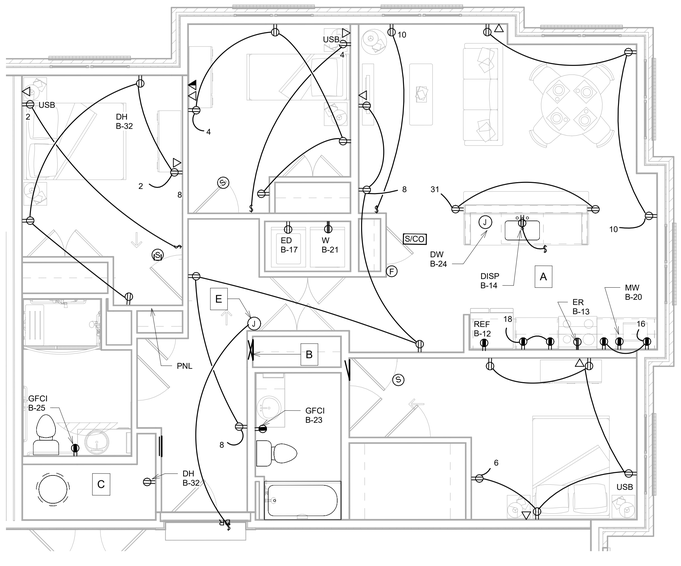
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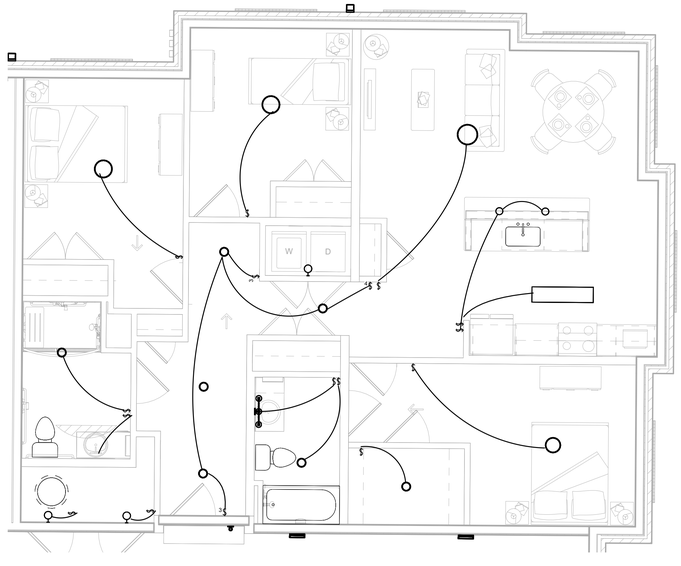
1 B2 - Unit 3B Power
1/4" = 1'-0"



2 B2 - Unit 3B Lighting
1/4" = 1'-0"



3 B1 - Unit 3B-HC Power
1/4" = 1'-0"



4 B1 - Unit 3B-HC Lighting
1/4" = 1'-0"

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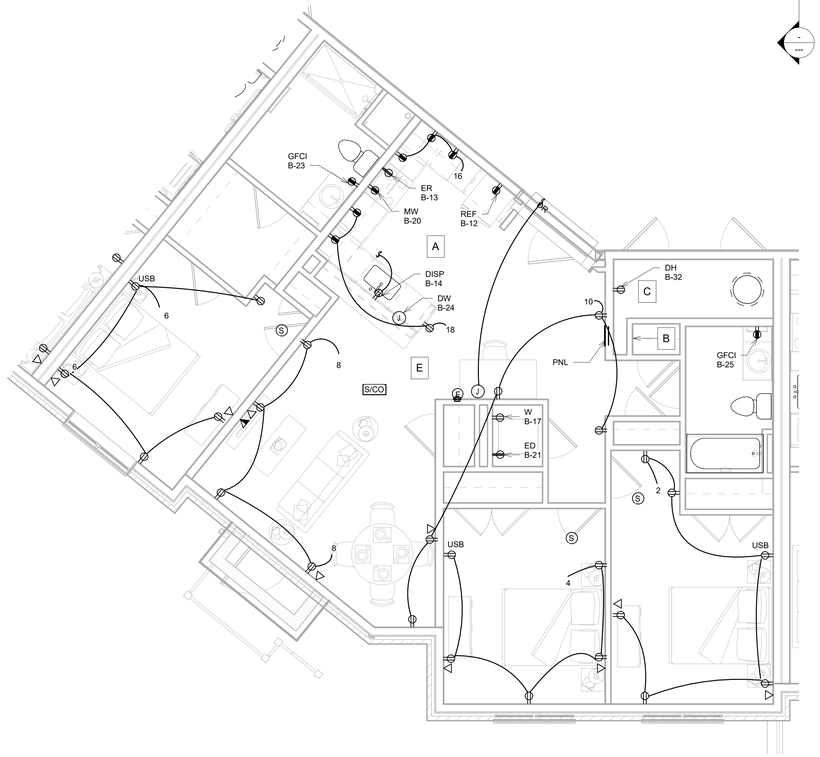
UNIT 3B, 3B-HC
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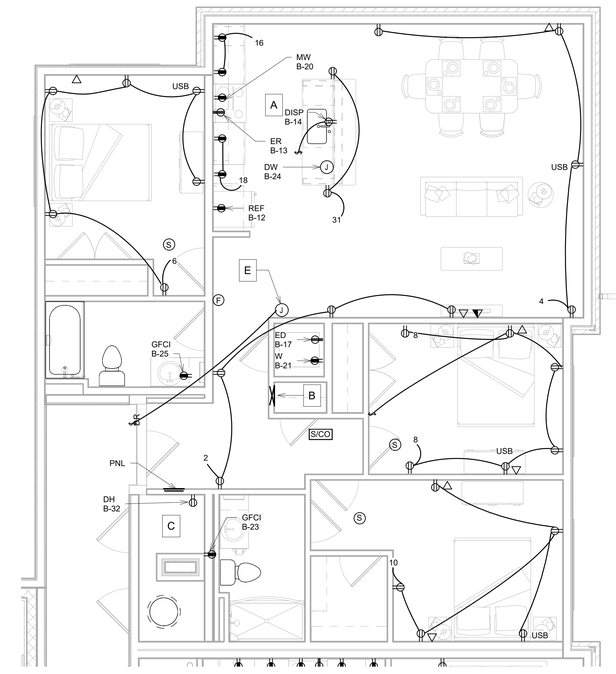
E-507
06/30/2026
CONSTRUCTABILITY REVIEW

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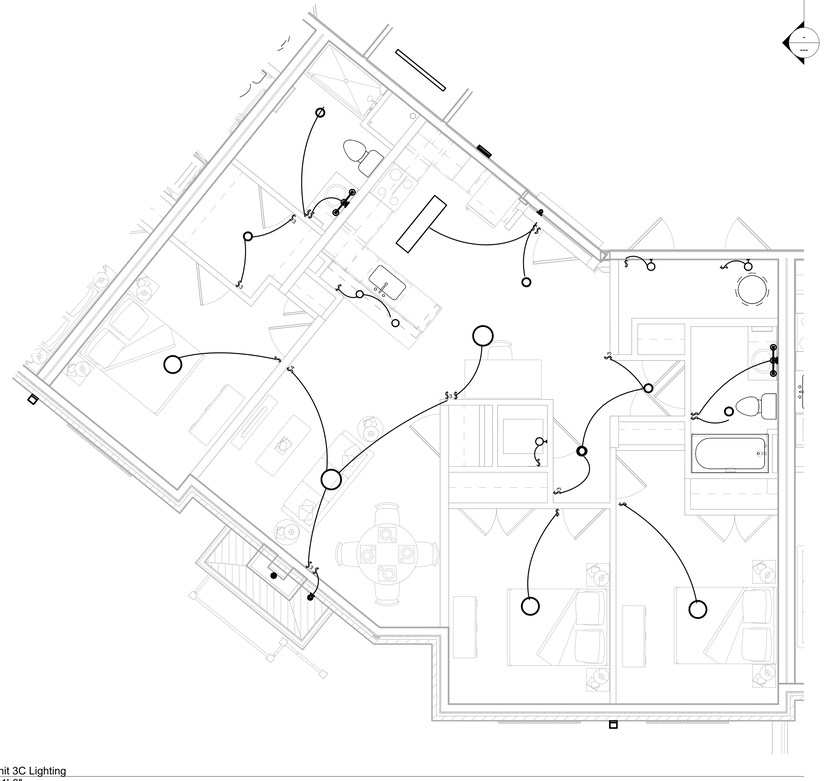
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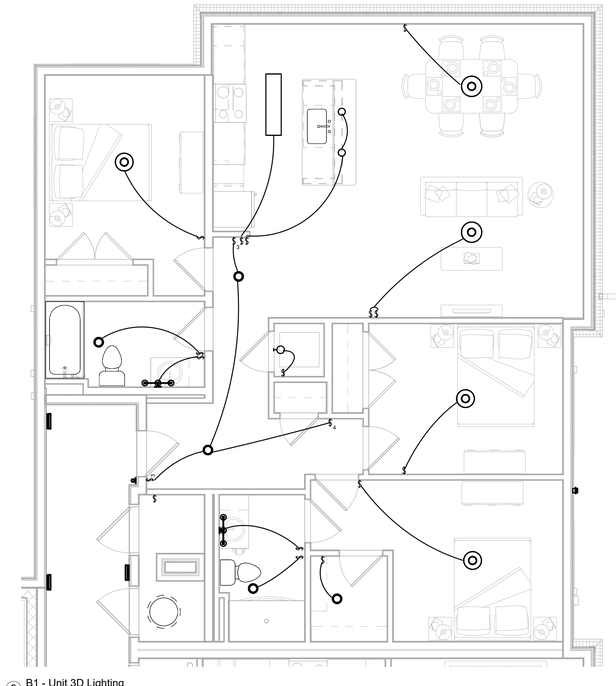
1 B1 - Unit 3C Power
1/4" = 1'-0"



4 B1 - Unit 3D Power
1/4" = 1'-0"



2 B1 - Unit 3C Lighting
1/4" = 1'-0"



3 B1 - Unit 3D Lighting
1/4" = 1'-0"

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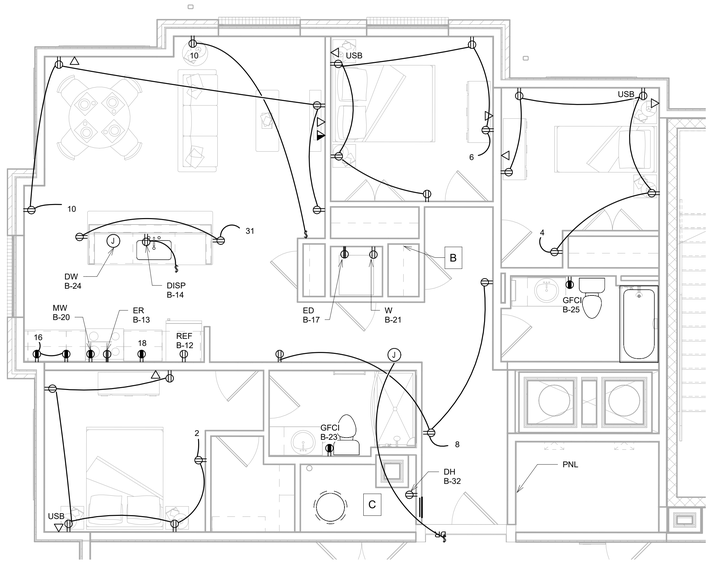
UNIT 3C, 3D
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION / #:
5/14/2026	VH 4% HOTC APP. A
06/30/2026	CONSTRUCTION ABILITY REVIEW

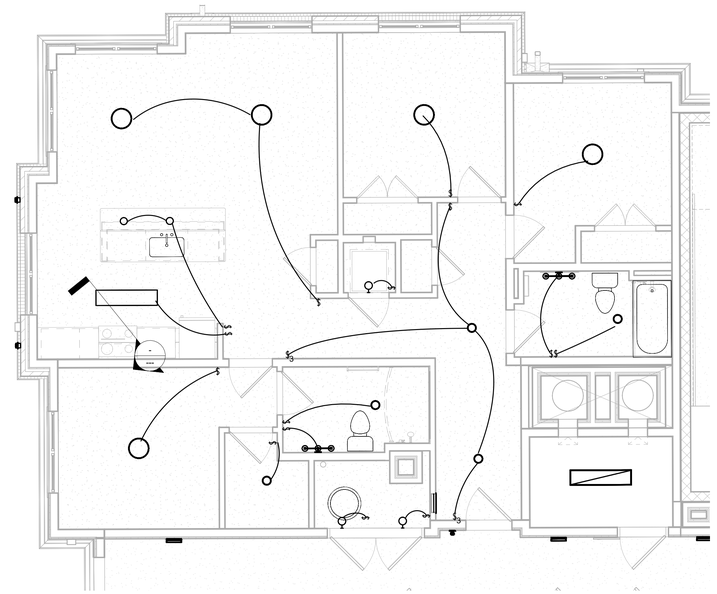
E-508
06/30/2026
CONSTRUCTABILITY REVIEW

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3 B1 - Unit 3F Power
1/4" = 1'-0"



4 B1 - Unit 3F Lighting
1/4" = 1'-0"

GENERAL NOTES

--SEE ARCHITECTURAL PLANS FOR EXACT LIGHTING FIXTURE LAYOUTS, SPECIFICATIONS, QUANTITIES, ETC. FIXTURES SHOWN ON THIS SHEET ARE FOR GENERAL SWITCHING PURPOSES ONLY.

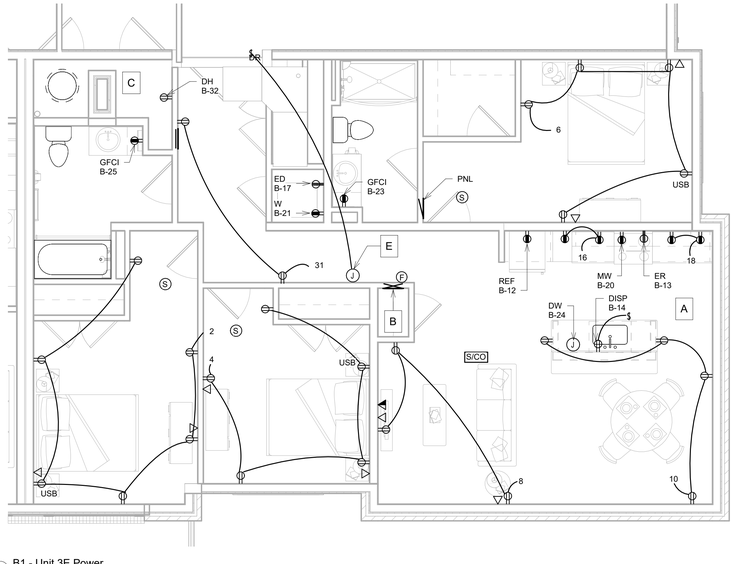
--REFER TO HVAC DRAWINGS FOR INDOOR/OUTDOOR UNIT AND REQUIREMENTS. PROVIDE AND INSTALL DISCONNECTS AND WIRING FOR EACH IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

--REFER TO PLUMBING DRAWINGS FOR WATER HEATER LOCATIONS AND REQUIREMENTS. PROVIDE AND INSTALL DISCONNECTS AND WIRING IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.

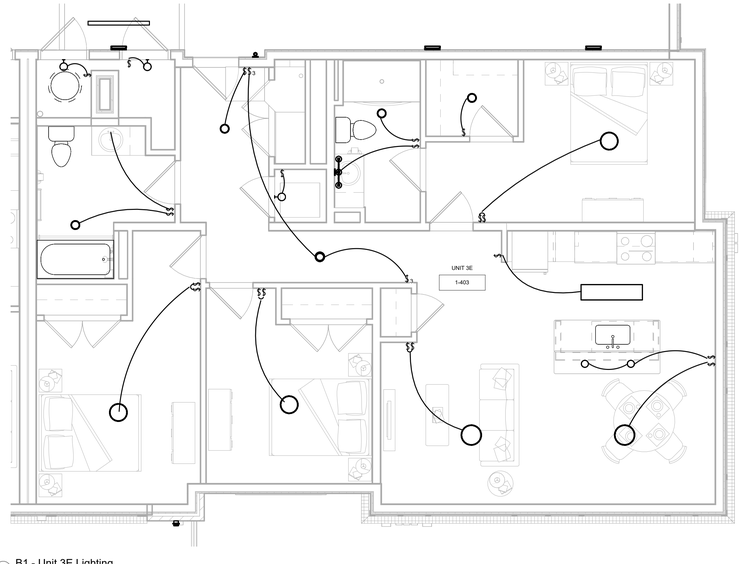
--INSTALL ALL UNIT WASHERS LEFT OF UNIT DRYERS.

KEYED NOTES

A. ALL RECEPTACLES SERVING COUNTERTOPS IN KITCHEN AREA, AND ALL BATHROOM RECEPTACLES TO BE GFCI TYPE.
B. STRUCTURED CABLE BOX. SEE SHEET E-300 FOR DETAIL.
C. MECHANICAL CLOSET WITH HVAC EQUIPMENT AND WATER HEATER (SEE HVAC & PLUMBING PLANS). WIRE OUTSIDE AIR FAN, OA CONTROLLER, AND DAMPER IN THIS CLOSET TO 120V CIRCUIT THROUGH TIMER AND RELAY PROVIDED BY HVAC CONTRACTOR. (SEE OUTSIDE AIR SYSTEM DETAIL ON SHEET E300). COORDINATE WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. COORDINATE DEHUMIDIFIER OUTLET WITH EQUIPMENT & DUCT WORK FOR ACCESSIBILITY PRIOR TO ROUGH-IN.
D. WEATHER PROOF GFCI RECEPTACLE. LOCATE ABOVE BALCONY RAILING HEIGHT AT OPERABLE DOOR.
E. DOOR BELL SYSTEM. WIRE TO CIRCUIT SERVING GENERAL RECEPTACLES IN THIS AREA. VERIFY ALL REQUIREMENTS PRIOR TO ROUGH-IN.



1 B1 - Unit 3E Power
1/4" = 1'-0"



2 B1 - Unit 3E Lighting
1/4" = 1'-0"

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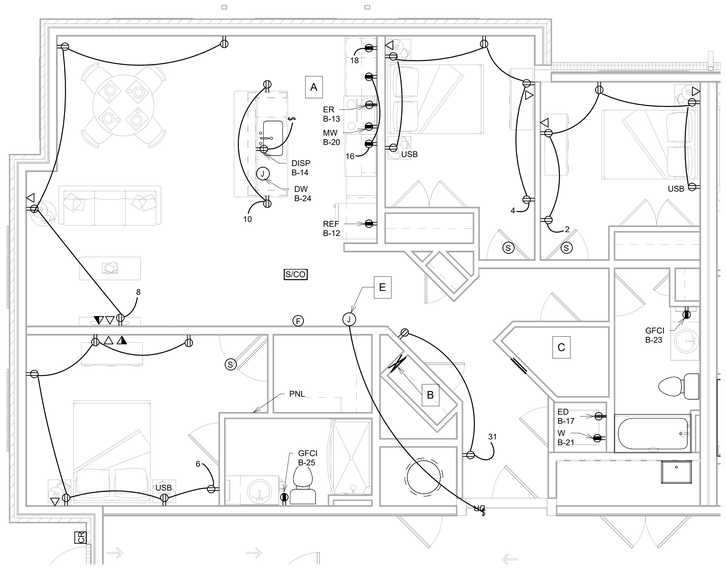
UNIT 3E, 3F
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

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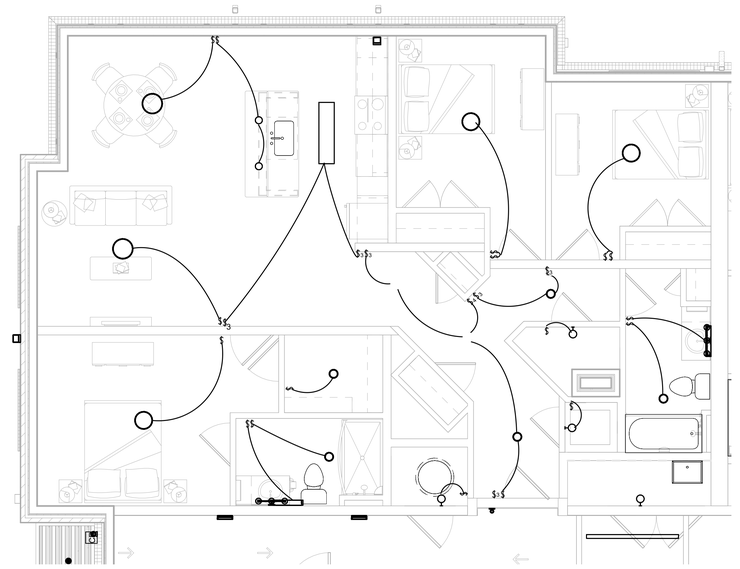
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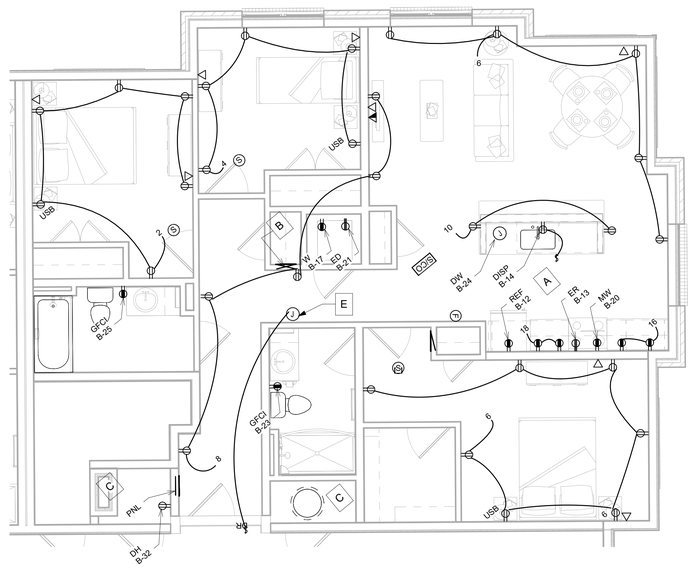
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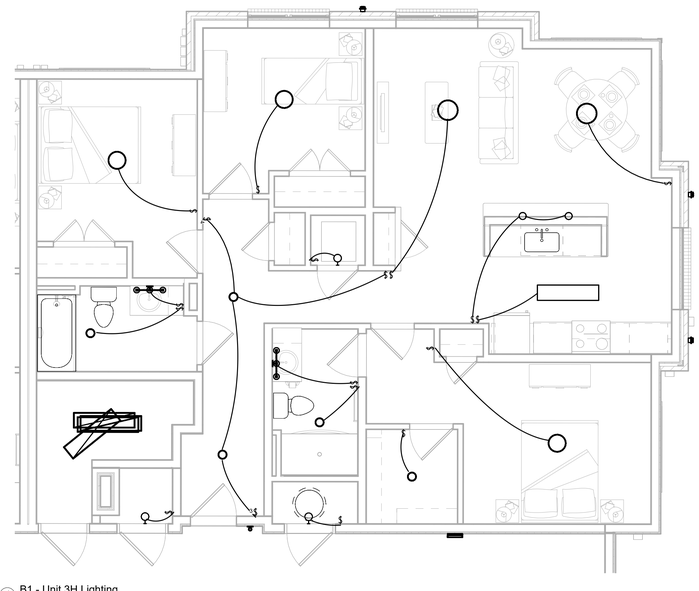
1 B3 - Unit 3G Power
1/4" = 1'-0"



2 B3 - Unit 3G Lighting
1/4" = 1'-0"



3 B1 - Unit 3H Power
1/4" = 1'-0"



4 B1 - Unit 3H Lighting
1/4" = 1'-0"

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E-510
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