

M

L

K

J

H

G

F

E

D

C

B

A

PLUMBING SPECIFICATIONS		
1. GENERAL	3. EXECUTION	
1.1 DESCRIPTION OF WORK:	3.1 PIPING SYSTEMS	
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.	A. VERIFY INVERT ELEVATIONS PRIOR TO EXCAVATION AND ROUGH-INS.	
1. SANITARY SEWER	B. BACKFILL BURIED PIPE IN TRENCHES WITH DIRT FREE OF ROCK, STONE OR DEBRIS.	
2. ROOF STORM WATER	C. VERIFY EXACT LOCATION OF EQUIPMENT AND FIXTURES PRIOR TO ROUGH-IN.	
3. FIRE SUPPRESSION	D. COORDINATE ROUTING OF WORK WITH OTHER TRADES AND INSTALL TO ALLOW MAXIMUM HEADROOM CLEARANCES, SERVICE ACCESS AND MAINTAIN PROPER PITCH OF SLOPING LINES.	
4. DOMESTIC WATER	E. INSULATE PIPING SYSTEMS AS FOLLOWS:	
5. NATURAL GAS - 2 PSI	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.	
1.2 RELATED DOCUMENTS:	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.	
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-AS-FAR-AS THEY APPLY TO THE PLUMBING WORK AND ARE REQUIRED FOR COORDINATION.	HORIZONTAL STORM - 1" FIBERGLASS W/ ASJ. ROOF DRAIN SUMPS - 1" FIBERGLASS W/ ASJ. SEAL VAPOR BARRIERS. SECURE WITH ADHESIVE AND SEAL JOINTS WITH SEALANT.	
B. SEE PROVIDED BOOK SPEC FOR FURTHER INFORMATION & SPECIFICATIONS.	3. PROVIDE GALVANIZED STEEL SADDLE AT HANGERS SURROUNDING INSULATED PIPE.	
1.3 JOB CONDITIONS:	4. DO NOT COMPRESS INSULATION EXCEPT IN AREAS OF STRUCTURAL INTERFERENCE.	
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.	5. INSTALL PRE-FITTED PLASTIC ELBOWS OR APPLY CANVAS JACKET IN THREE LAYERS AT ELBOWS.	
B. PROVIDE FITTINGS, OFFSETS, TRANSITIONS, AND ACCESSORIES REQUIRED TO MEET CONDITIONS OF THE PROJECT.	6. INSULATE FITTINGS, VALVES AND EQUIPMENT BODIES.	
C. PROVIDE SERVICE ACCESS FOR EQUIPMENT, CONTROL COMPONENTS, VALVES, AND SPECIALTIES.	F. PROVIDE SLEEVES FOR PIPING PENETRATING WALLS. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES.	
D. PROVIDE ACCESS PANELS FOR VALVES, ACCESS DOORS, ETC. CONCEALED BEHIND FINISHED SURFACES.	G. FIRESTOP PIPING PASSING THROUGH FIRE RATED WALLS OR CEILINGS.	
1.4 CONFORMANCE TO REGULATIONS:	H. PATCH FINISHED AREAS DISTURBED BY WORK TO MATCH SURROUNDING AREAS.	
A. WORK SHALL CONFORM WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE, NFPA, LOCAL ORDINANCES AND INTERNATIONAL PLUMBING CODE 2018.	I. WELDING SHALL BE DONE BY CERTIFIED WELDERS FOR THE APPROPRIATE SYSTEM BEING WELDED.	
B. WORK SHALL CONFORM WITH ENTERPRISE GREEN COMMUNITIES, UNIVERSAL DESIGN, AND VIRGINIA HOUSING, GUIDELINES AND STANDARDS.	J. MAKE CONNECTIONS OF DISSIMILAR METALLIC PIPING WITH DIELECTRIC UNIONS.	
1.5 QUALITY ASSURANCE:	K. PROVIDE CHROME PLATED ESCUTCHEON FOR EXPOSED PIPING PENETRATING A FINISHED SURFACE.	
A. COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NOTES AND DETAILS SHOWN HEREIN FOR INSTALLATION OF EQUIPMENT.	L. PROVIDE SHUT OFF VALVES AT EQUIPMENT CONNECTIONS. PROVIDE STOPS FOR ALL PLUMBING EQUIPMENT AND FIXTURES.	
1.6 MATERIALS AND EQUIPMENT:	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.	
A. EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE EQUIVALENT TO PRODUCTS SPECIFIED.	N. PROVIDE VACUUM BREAKERS AT WALL HYDRANTS.	
B. CONTRACTOR SHALL GUARANTEE EQUIVALENCE AND IS RESPONSIBLE FOR MODIFICATIONS REQUIRED AND COORDINATION WITH OTHER TRADES TO FIT SUBSTITUTED PRODUCT INTO THE PROJECT.	O. TEST PIPING SYSTEMS AS FOLLOWS:	
C. MATERIALS AND EQUIPMENT OF THE SAME TYPE AND USE SHALL BE FROM A SINGLE MANUFACTURER.	1. WATER PIPING - TEST AT PRESSURE NOT LESS THAN WORKING PRESSURE OF THE SYSTEM. MAINTAIN SUCH PRESSURE FOR MINIMUM OF 1 HOUR.	
D. PROTECT STORED MATERIALS AND EQUIPMENT FROM WEATHER.	2. SANITARY, STORM AND VENT PIPING - W/ 10 FT. HEAD OF WATER, MAINTAINING SUCH PRESSURE FOR MINIMUM OF 1 HOUR.	
1.7 UTILITIES AND CONNECTIONS:	3. TEST GAS PIPING IN ACCORDANCE WITH IFGC-2018.	
A. OWNER WILL PAY FOR ALL WATER, GAS AND SEWER UTILITY CONNECTION FEES.	4. TESTS SHALL SHOW NO SUBSTANTIAL LOSS IN PRESSURE.	
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.	5. PIPING RUN IN CONCEALED AREAS SHALL BE LEAK TESTED PRIOR TO BEING CONCEALED.	
1.8 SUBMITTALS:	3.2 PLUMBING FIXTURES	
A. SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR FIXTURES AND EQUIPMENT SPECIFIED HEREIN AND ON THE DRAWINGS. SHOP DRAWINGS AND PRODUCT DATA SHALL BE IDENTICAL 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.	A. PROVIDE CHROME PLATED STOPS FOR FIXTURES.	
B. SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT INSTALLED IN THIS PROJECT. INCLUDE COPIES OF SPECIFIC EQUIPMENT WARRANTIES IN MANUAL.	B. PROVIDE TAILPIECE AND TRAP WITH CLEANOUT FOR LAVATORIES AND SINKS.	
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.	C. PROVIDE REMOVABLE CHROME PLATED BASKET STRAINER FOR SINKS.	
1.9 PROJECT CLOSEOUT:	D. CAULK BETWEEN FIXTURE AND FINISHED SURFACES WITH WHITE SILICONE CAULKING.	
A. REPLACE OR REPAIR DAMAGED EQUIPMENT AND CLEAN ALL EXPOSED SURFACES.	E. PROVIDE BOLT CAPS FOR WATER CLOSETS.	
B. TOUCH-UP SHOP APPLIED FINISHES TO RESTORE DAMAGED OR SOILED AREAS.	F. MOUNT WALL CLEANOUTS AND PLUGGED OUTLETS AT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.	
C. INSTRUCT OWNER'S REPRESENTATIVE IN OPERATION AND MAINTENANCE OF EQUIPMENT UTILIZING OPERATION AND MAINTENANCE MANUAL.	G. PROVIDE AND INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES.	
2. PRODUCTS	H. ALL FLOOR DRAINS SERVING WASHERS, WATER HEATERS AND ICE MACHINE TO BE INSTALLED IN READILY ACCESSIBLE LOCATIONS. COORDINATE WITH EQUIPMENT.	
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 90/90 SOLDER FITTINGS. SCHEDULE 40 PVC TO BE SOLID CORE. NO CELLULAR CORE PIPE IS PERMITTED. NO SUBSTITUTIONS FOR CELLULAR CORE PIPE TO BE MADE.		
E. GAS PIPING - SCHEDULE 40 BLACK STEEL.		
2.2 PLUMBING FIXTURES AND EQUIPMENT:		
A. REFER TO FIXTURE SCHEDULE AND EQUIPMENT LIST ON DRAWINGS FOR MANUFACTURER'S AND MODEL NUMBERS.		

DOMESTIC WATER BOOSTER PUMP

1. DOMESTIC WATER BOOSTER PUMP - ARMSTRONG MODEL NUMBER NPS-210030-01D-3 hp. 125 USgpm. 208/3/60 POWER SUPPLY. 80 FT BOOST PRESSURE W/ DISCHARGE PRESSURE OF 126.2 FT. DUPLEX 2 DUTY OPERATION. DRAWDOWN BLADDER TANK TO BE ARMSTRONG NON ASME FX-60V - 16 GALLON.

WOOD SHRINKAGE NOTE

WHEN INSTALLING MECHANICAL ELECTRICAL AND PLUMBING 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 190EC	1
W2	TANK TYPE WATER CLOSET	3	1.5	1/2	--	NIAGARA SHADOW C33 300.11 OR C33 301.11		SEAT, CHURCH 190EC	
W3	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 190EC	1
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		
L3	ACCESSIBLE COUNT. MTD. LAVATORY	1.5	1.5	1/2	1/2	VA MARBLE LARGE WAVE OR EQUAL INTEGRAL CULTURED	BRADLEY CORP S33-3300	BRADLEY CORP SOAP 8-3300	1.3,4
S1	ACCESSIBLE SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC620N	1.3
S2	SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ECTRUAD281755	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC620N	
S3	ACCESSIBLE SINGLE BOWL S/S SINK	1.5	1.5	1/2	1/2	ELKAY ELUHAD281645PD	MOEN BAYSTONE CA42519CSL	W/ DISPOSER GE GFC620N	1.3
SH1	ACCESSIBLE SHOWER	2	1.5	1/2	1/2	SCHLUTER KERD-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 M58-2424 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
IM	UNDERCOUNTER ICE MAKER CONNECTION BOX	--	--	1/2	--	SIoux CHIEF 696-1010MR	W/ BACKFLOW PREVENTER	INDIRECT WASTE TO FLOOR DRAIN	2,7
DW	DISHWASHER	1	--	--	1/2	PROVIDE PLUMBING CONNECTIONS			
DSB	DOWNSPOUT BOOT W/ CLEANOUT	X	--	--	--	ZURN Z191-RD-CA			6
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.	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.
2. PROVIDE A DRY TYPE SYSTEM WHERE PIPING AND/OR HEADS MUST BE INSTALLED IN AREAS SUBJECT TO FREEZING SUCH AS ATTICS OR CANOPIES. 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.	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.
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.	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.
4. PIPING AND EQUIPMENT GENERALLY SHALL BE PER APPLICABLE CODES EXCEPT AS FOLLOWS:	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.
A. SPRINKLER HEADS IN FINISHED AREAS SHALL BE SEMI-RECESSED, WHITE FINISH.	9. INSTALL HEADS IN THE CENTER OF CEILING TILES IN SMALLER ROOMS AND CENTERED ONE WAY IN CEILING TILES IN LARGE OPEN AREAS.
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.	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

GAS PIPING

STORM PIPING

SPRINKLER PIPING

BALL OR GATE VALVE

CHECK VALVE

RPZ BACKFLOW PREVENTER

PRESSURE REDUCING VALVE

REMOTE READ WATER METER

GAS COCK

GAS REGULATOR

DROP IN PIPING

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

EWB 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

M

L

K

J

H

G

F

E

D

C

B

A

MEI Engineering, Inc.

Mechanical - Electrical - Industrial Consultants

1592 CF Pours Drive
Harrisonburg, VA 22802
(540) 432-6272

MEIengineeringinc.com

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
Tel: 703.903.9100

www.grimmandparker.com

G+P

GRIMM AND PARKER

MEI #25144

PLUMBING SPECS.,
AND SCHEDULES

ROANOKE GATEWAY

624 BULLITT AVE SE ROANOKE, VA 24002

DATE 05/14/2026 SUBMISSION / REVISION 06/30/2026

VH 4% APPLICATION CONSTRUCTABILITY REVIEW

1P-001

06/30/2026 CONSTRUCTABILITY REVIEW

© GRIMM AND PARKER ARCHITECTURE, INC.

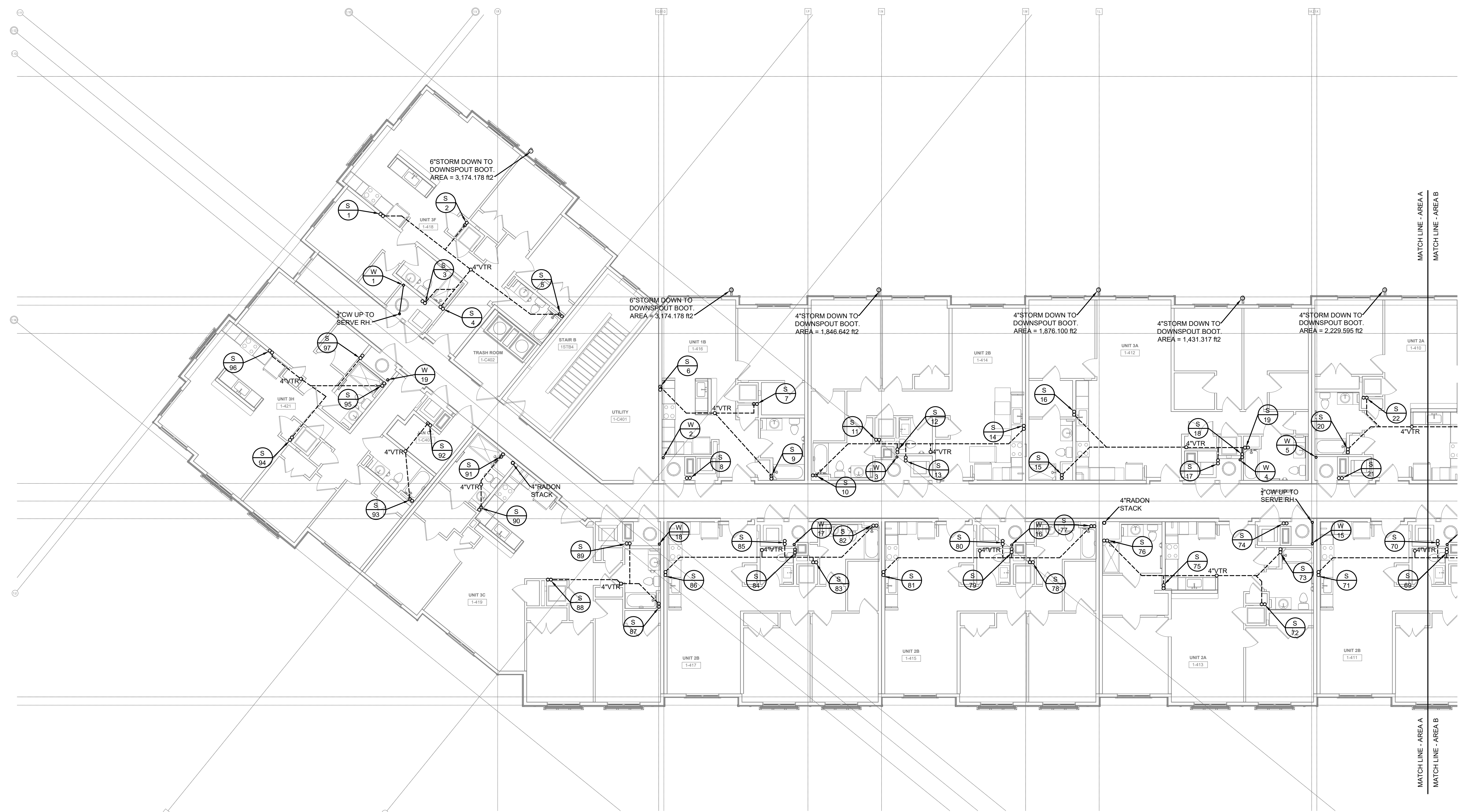
© GRIMM AND PARKER ARCHITECTURE, INC.



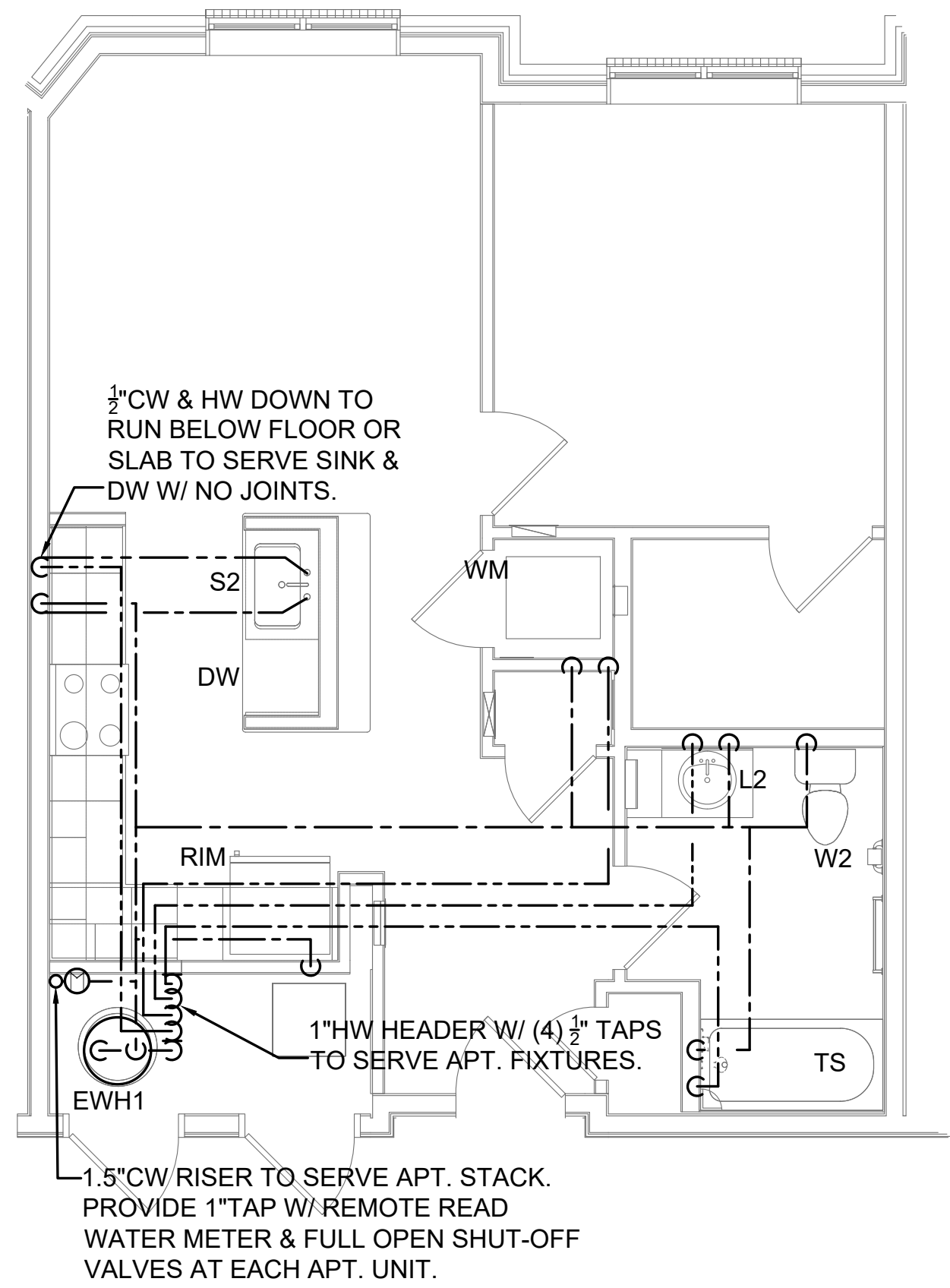
www.grimmandparker.com



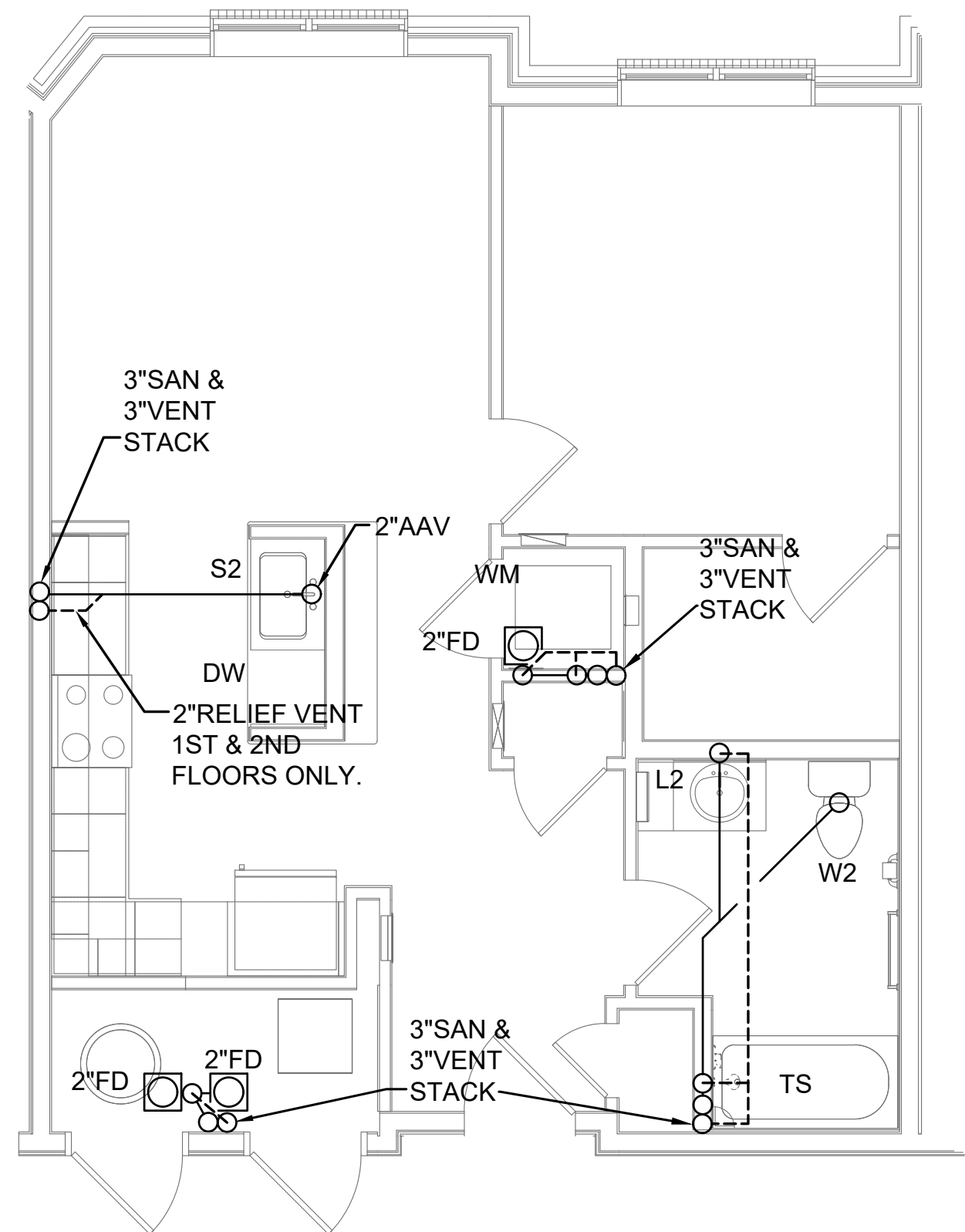




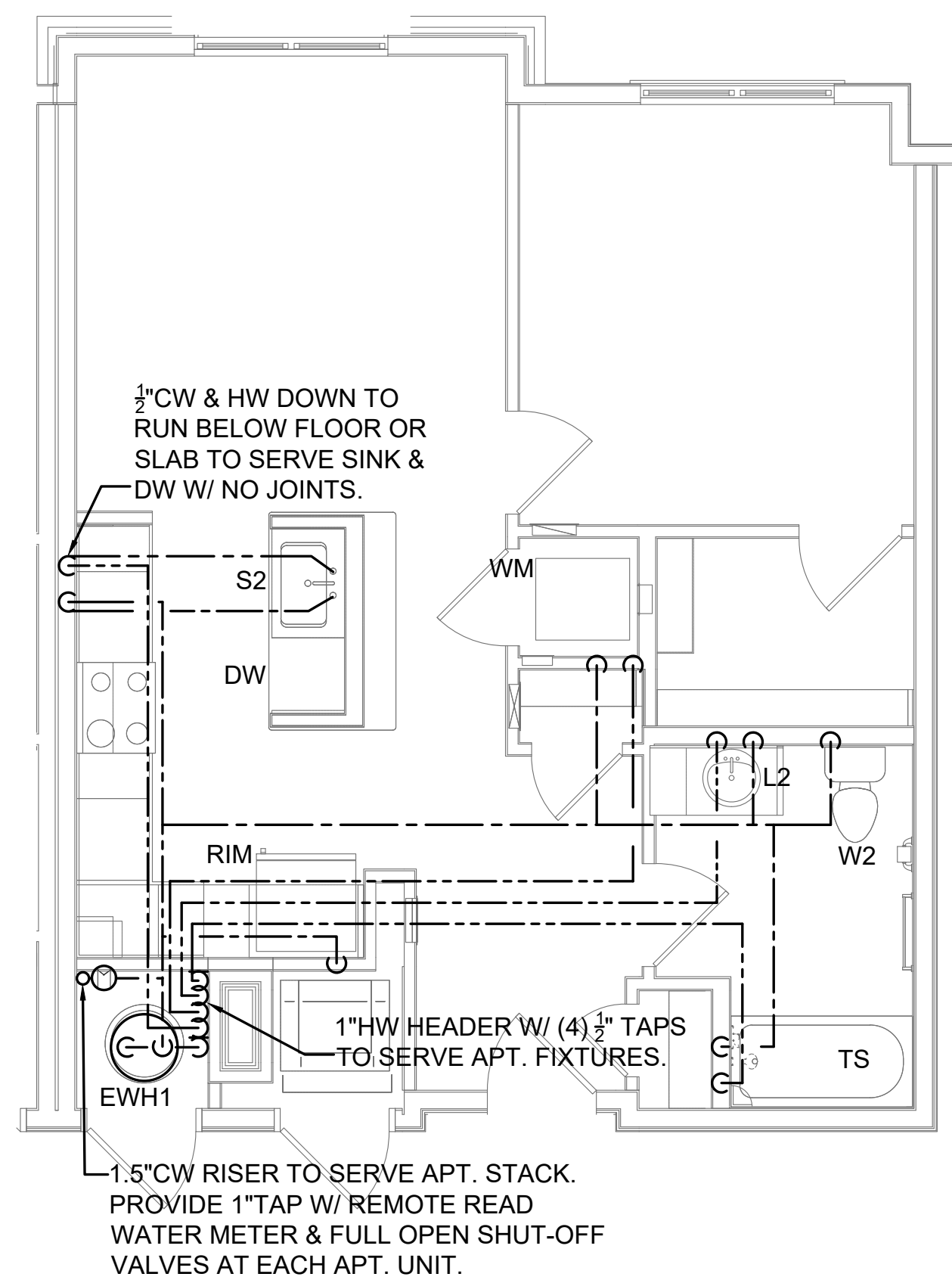




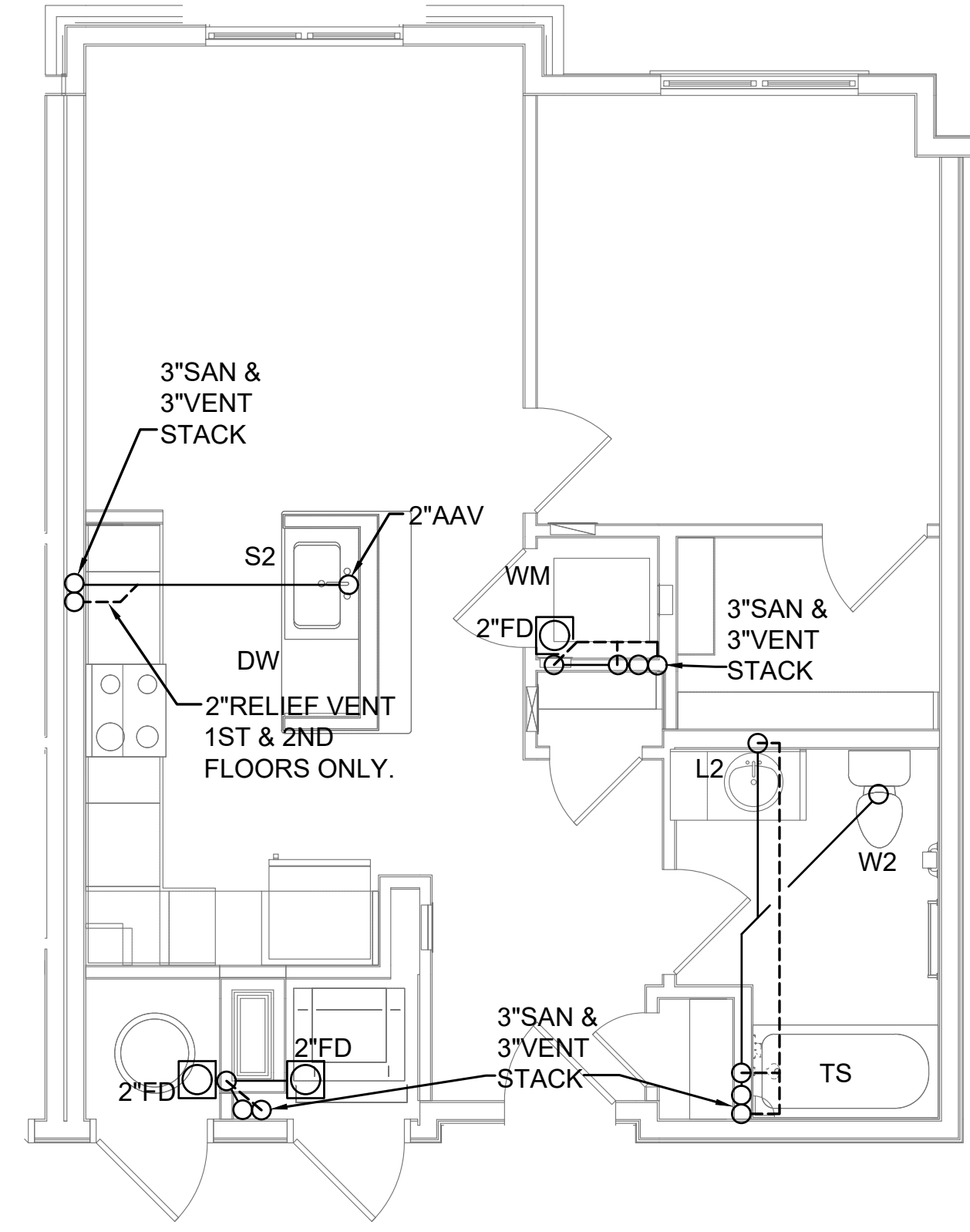
UNIT IB WATER PLAN
SCALE: 1/4" = 1'-0"



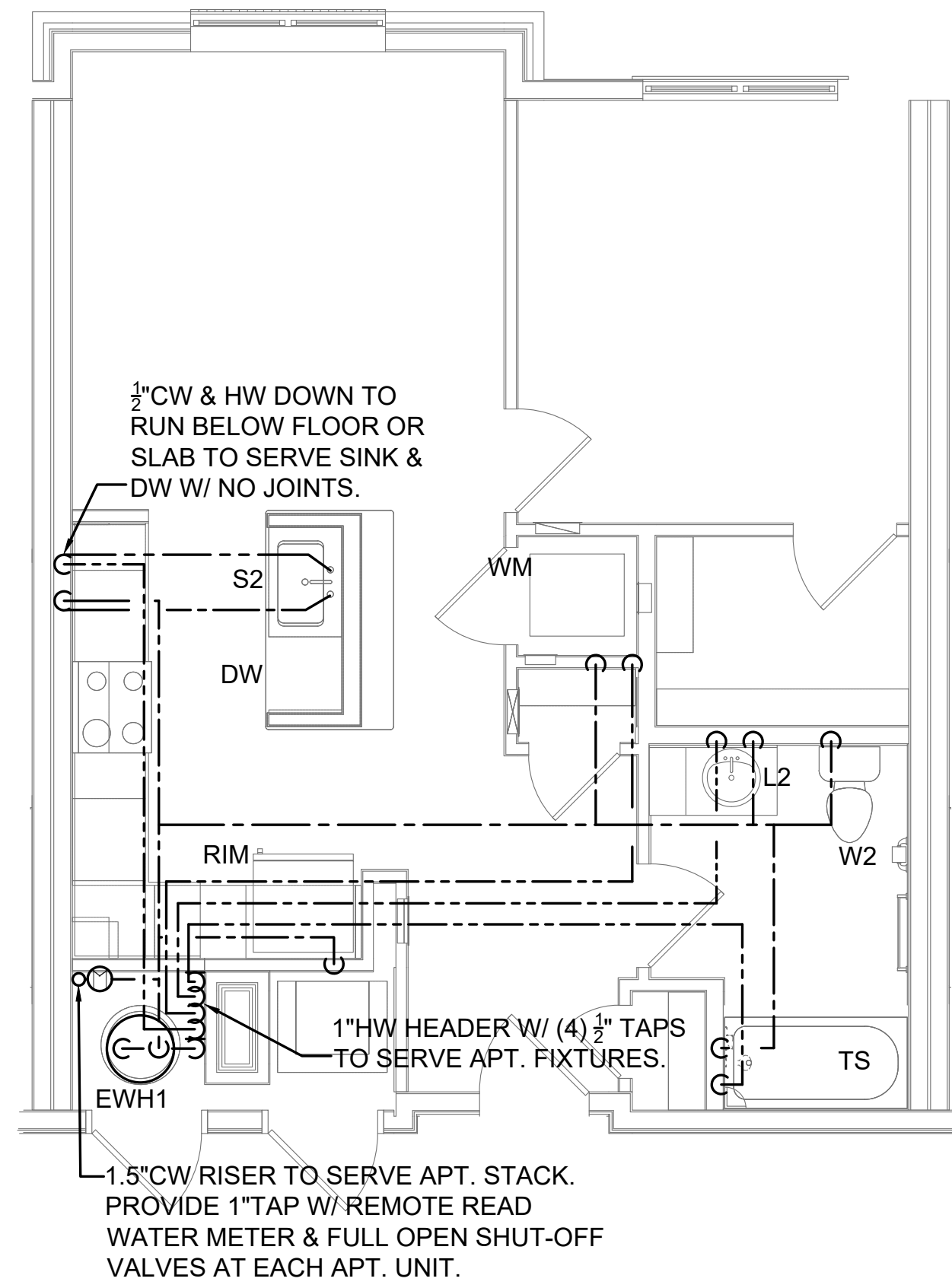
UNIT IB SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"



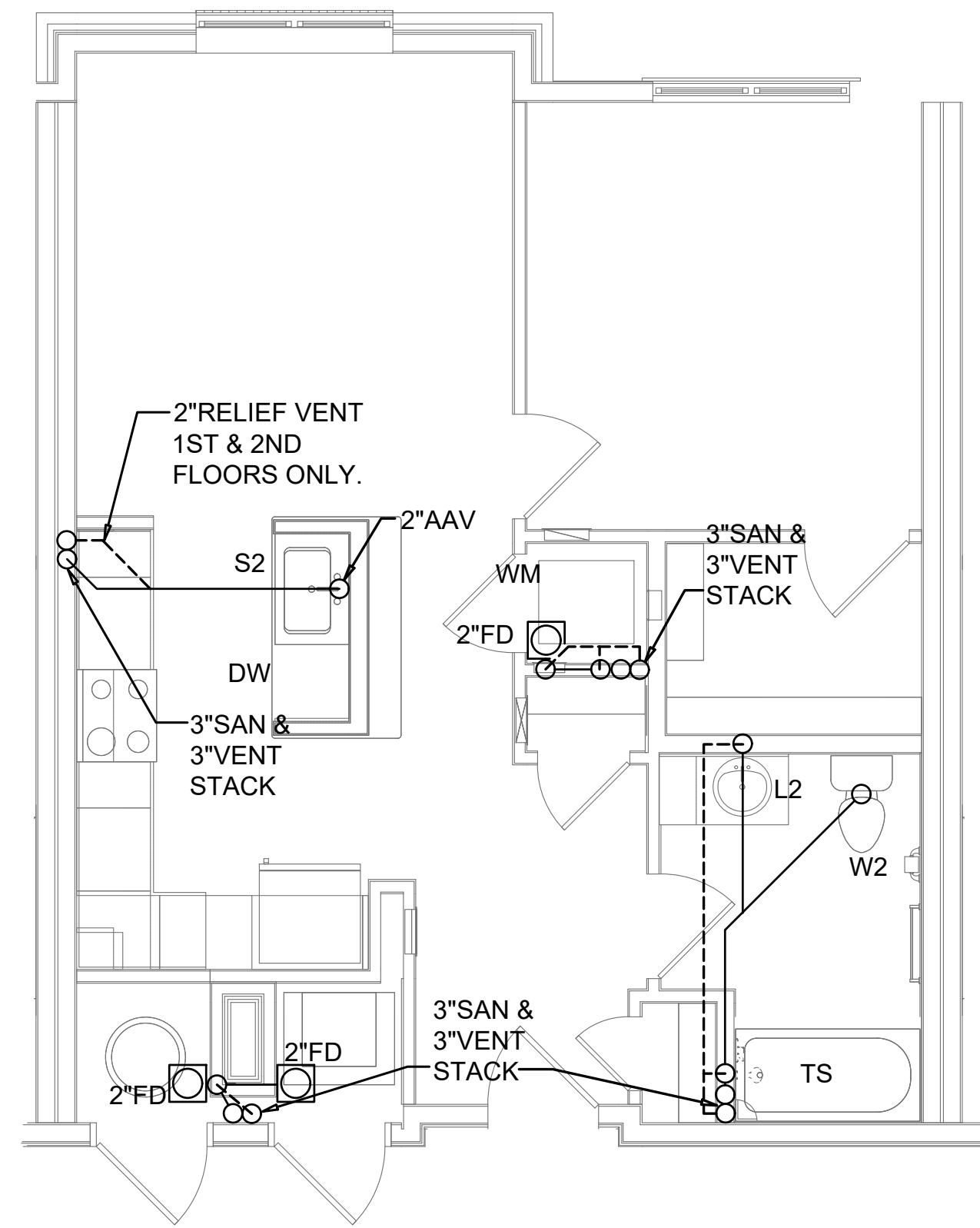
UNIT IC WATER PLAN
SCALE: 1/4" = 1'-0"



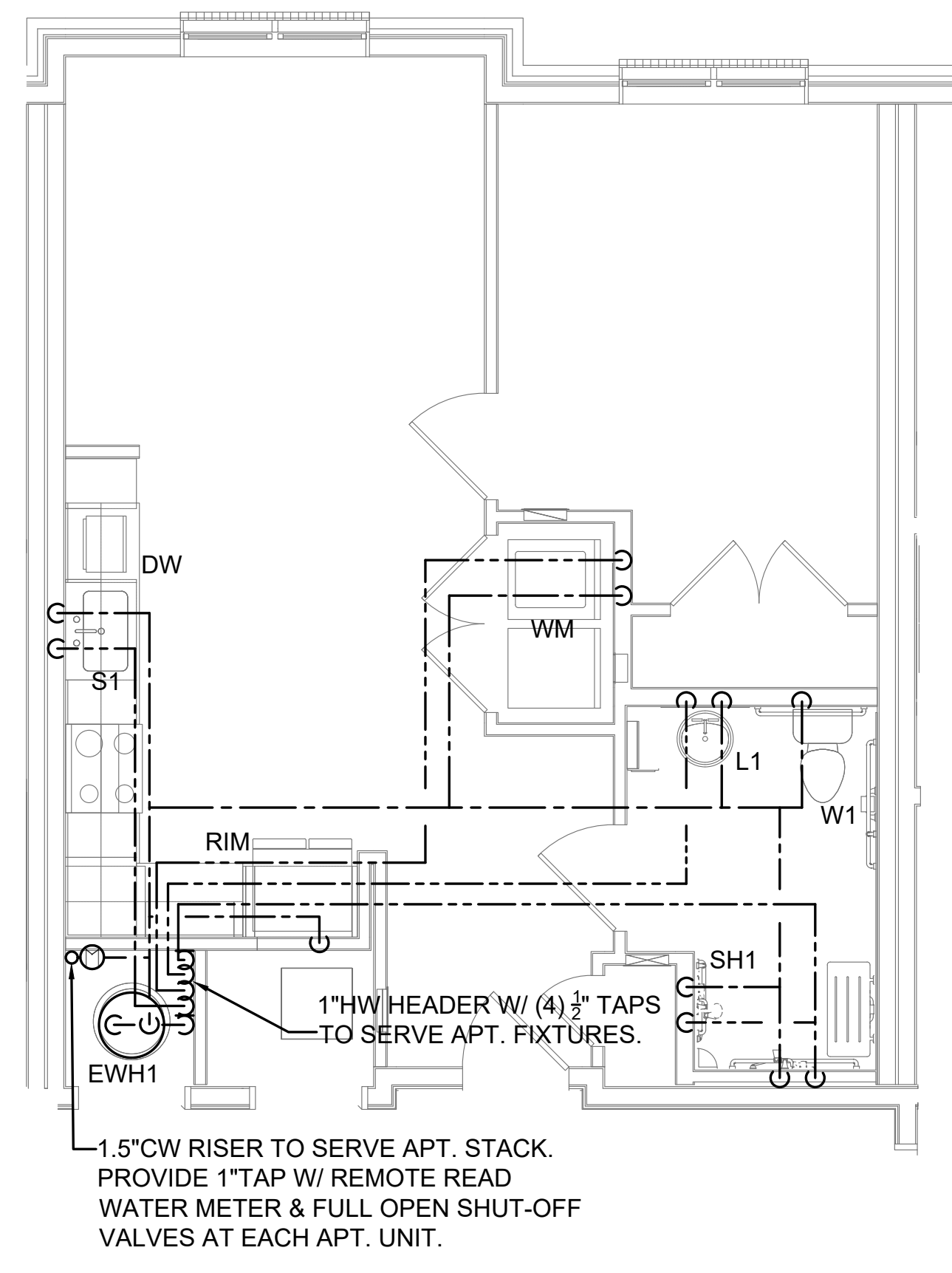
UNIT IC SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"



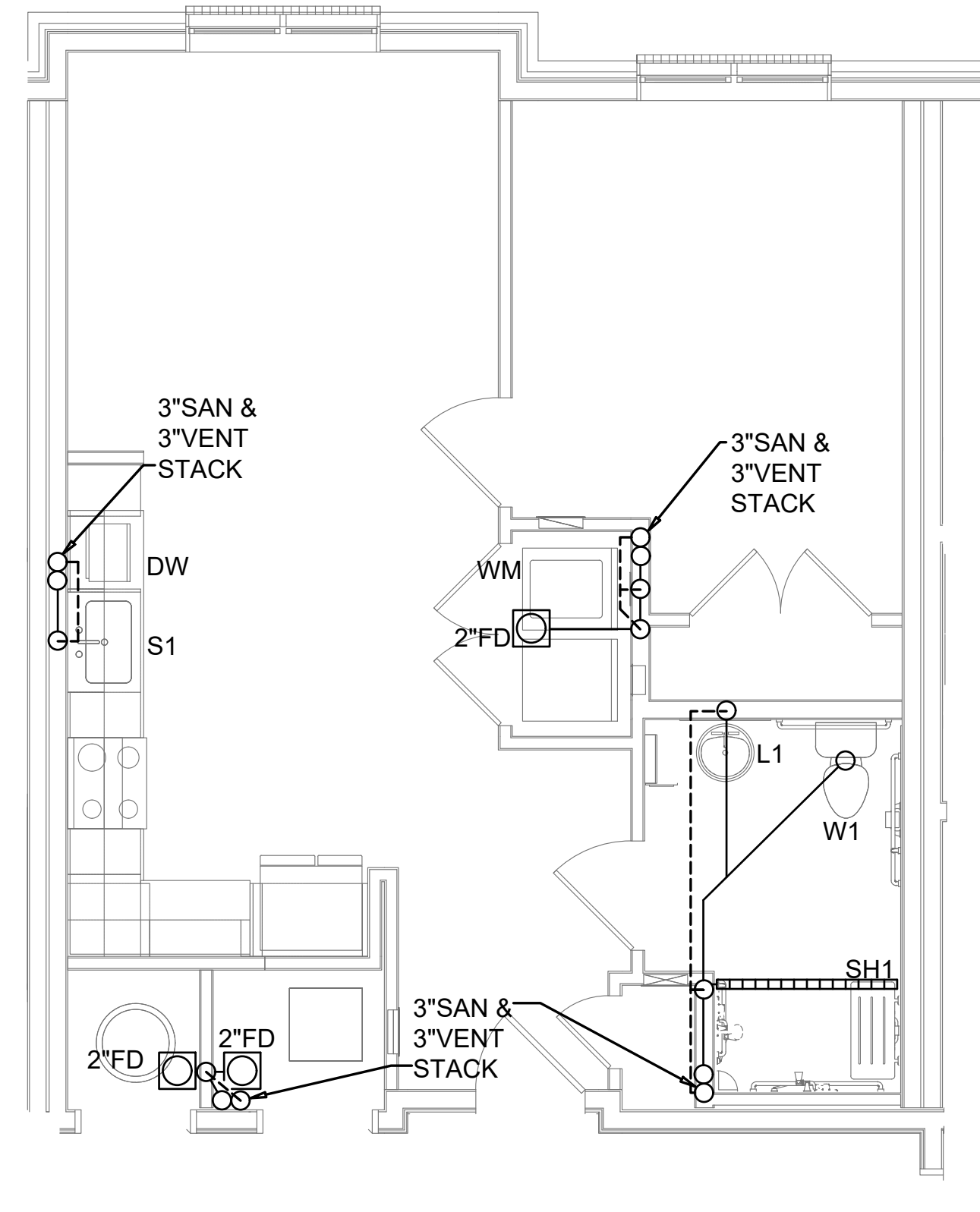
UNIT IA WATER PLAN
SCALE: 1/4" = 1'-0"



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"

MEI
Engineering, Inc.
Mechanical - Electrical - Industrial
Consultants
1592 CF Pours Drive
Harrisonburg, VA 22802
(540) 432-6272
MEIengineeringinc.com

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
Tel: 703.903.9100
www.grimmandparker.com

G+P
GRIMM AND PARKER

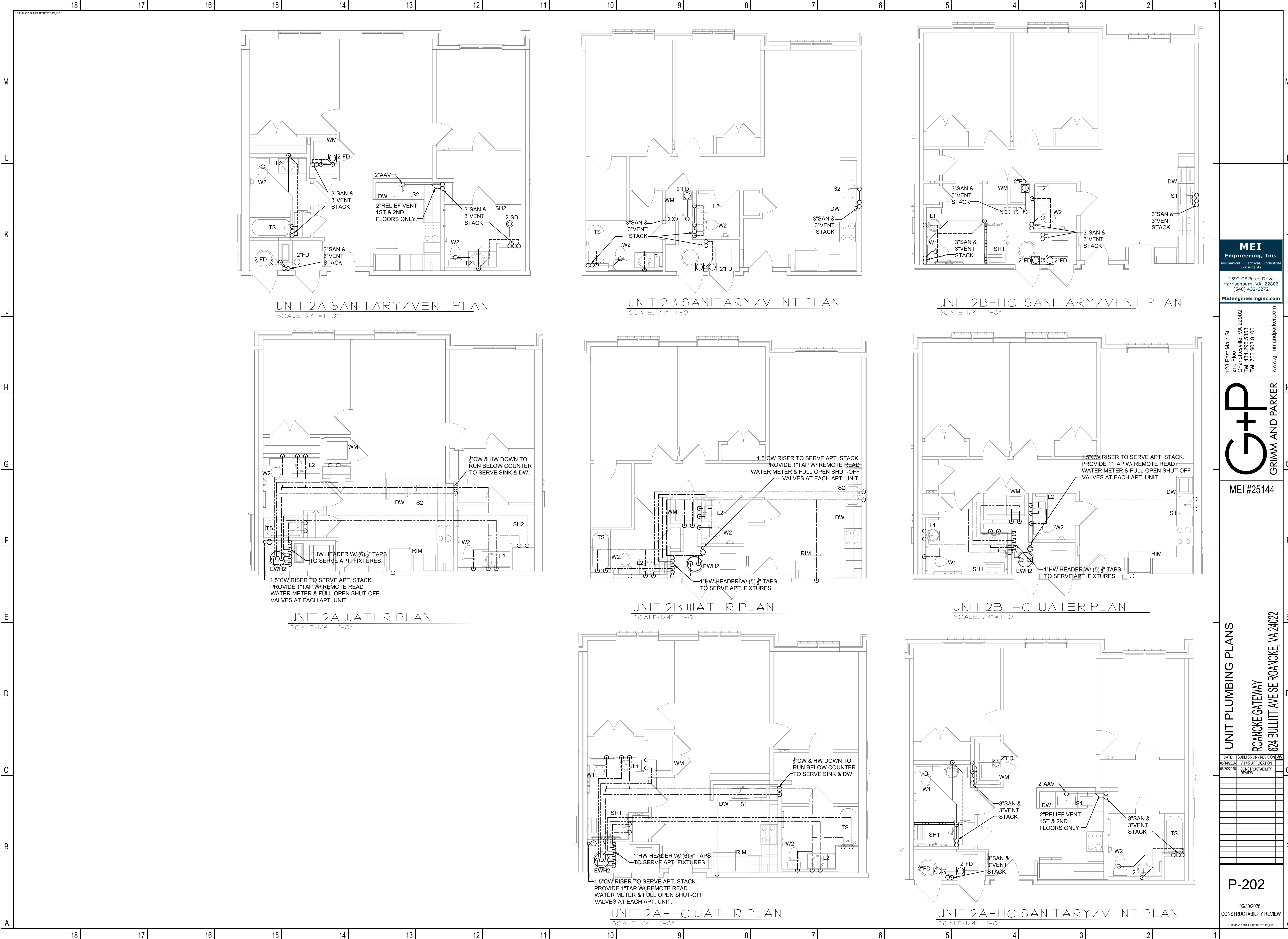
MEI #25144

UNIT PLUMBING PLANS
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION
05/14/2028	VH 4% APPLICATION
06/30/2028	CONSTRUCTABILITY REVIEW

P-201

06/30/2026
CONSTRUCTABILITY REVIEW
© GRIMM AND PARKER ARCHITECTURE, INC.



MEI
Engineering, Inc.
Mechanical - Electrical - Industrial
Consultants
1592 CF Pours Drive
Harrisonburg, VA 22802
(540) 432-6272
MEEngineeringinc.com

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
Tel: 703.903.9100
www.grimmandparker.com

G+P
GRIMM AND PARKER

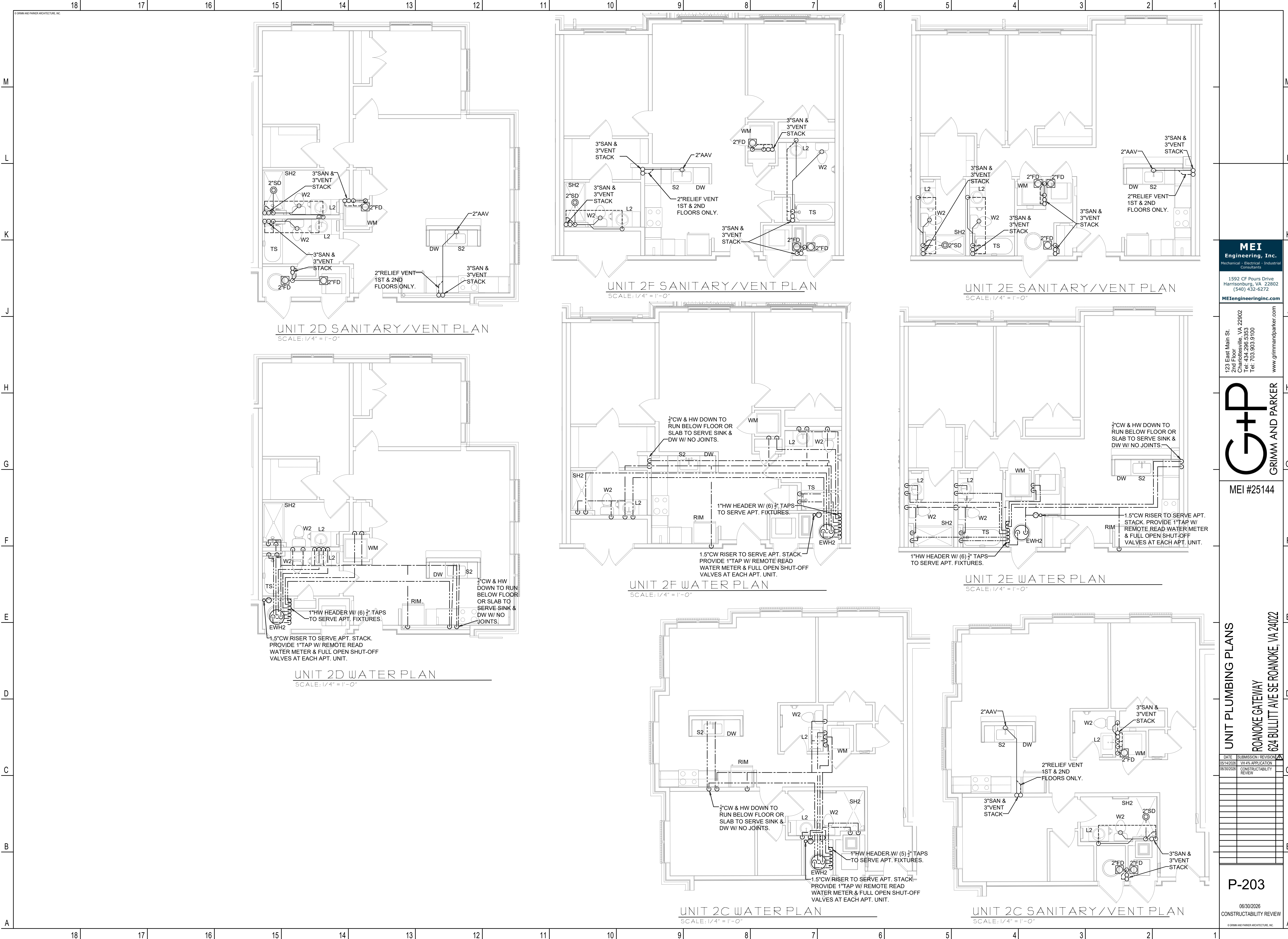
MEI #25144

UNIT PLUMBING PLANS
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION
05/14/2026	VH 4% APPLICATION
06/30/2026	CONSTRUCTABILITY REVIEW

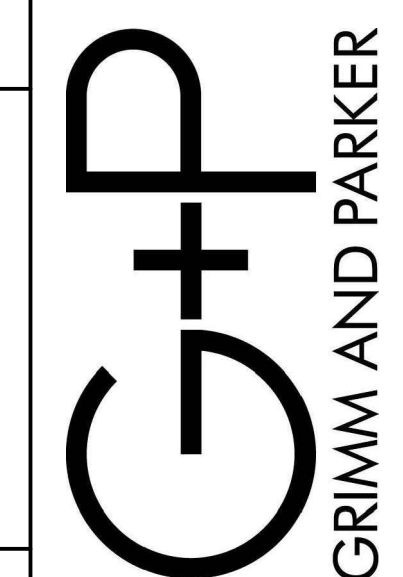
P-202

06/30/2026
CONSTRUCTABILITY REVIEW
© GRIMM AND PARKER ARCHITECTURE, INC.



MEI
Engineering, Inc.
Mechanical - Electrical - Industrial
Consultants
1592 CF Pours Drive
Harrisonburg, VA 22802
(540) 432-6272
MEIEngineeringinc.com

123 East Main St.
2nd Floor
Charlottesville, VA 22902
Tel: 434.296.5353
Tel: 703.903.9100
www.grimmandparker.com



MEI #25144

UNIT PLUMBING PLANS
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

DATE	SUBMISSION / REVISION
05/14/2028	VH 4% APPLICATION
06/30/2028	CONSTRUCTABILITY REVIEW

P-203

06/30/2026
CONSTRUCTABILITY REVIEW
© GRIMM AND PARKER ARCHITECTURE, INC.

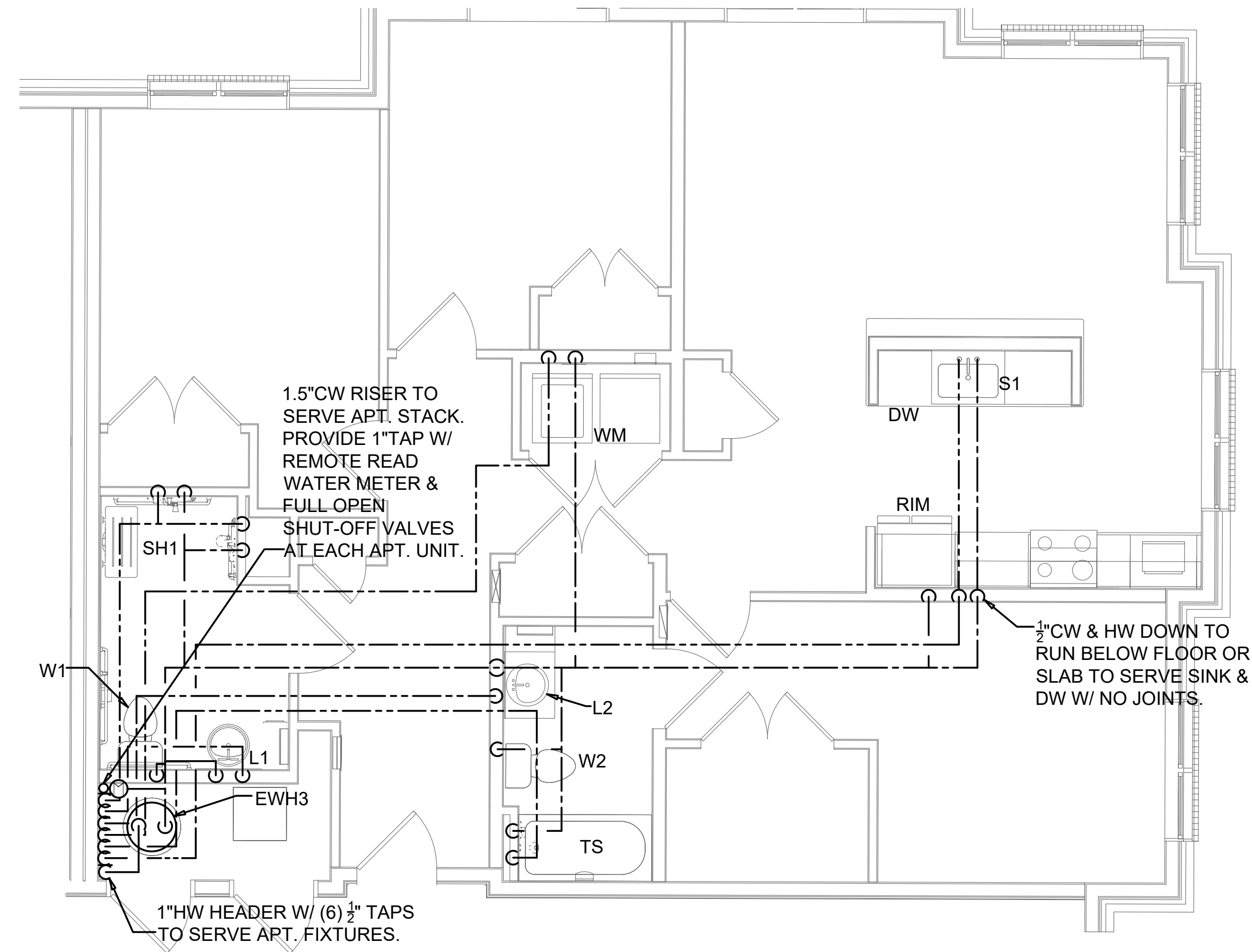


MEI #25144

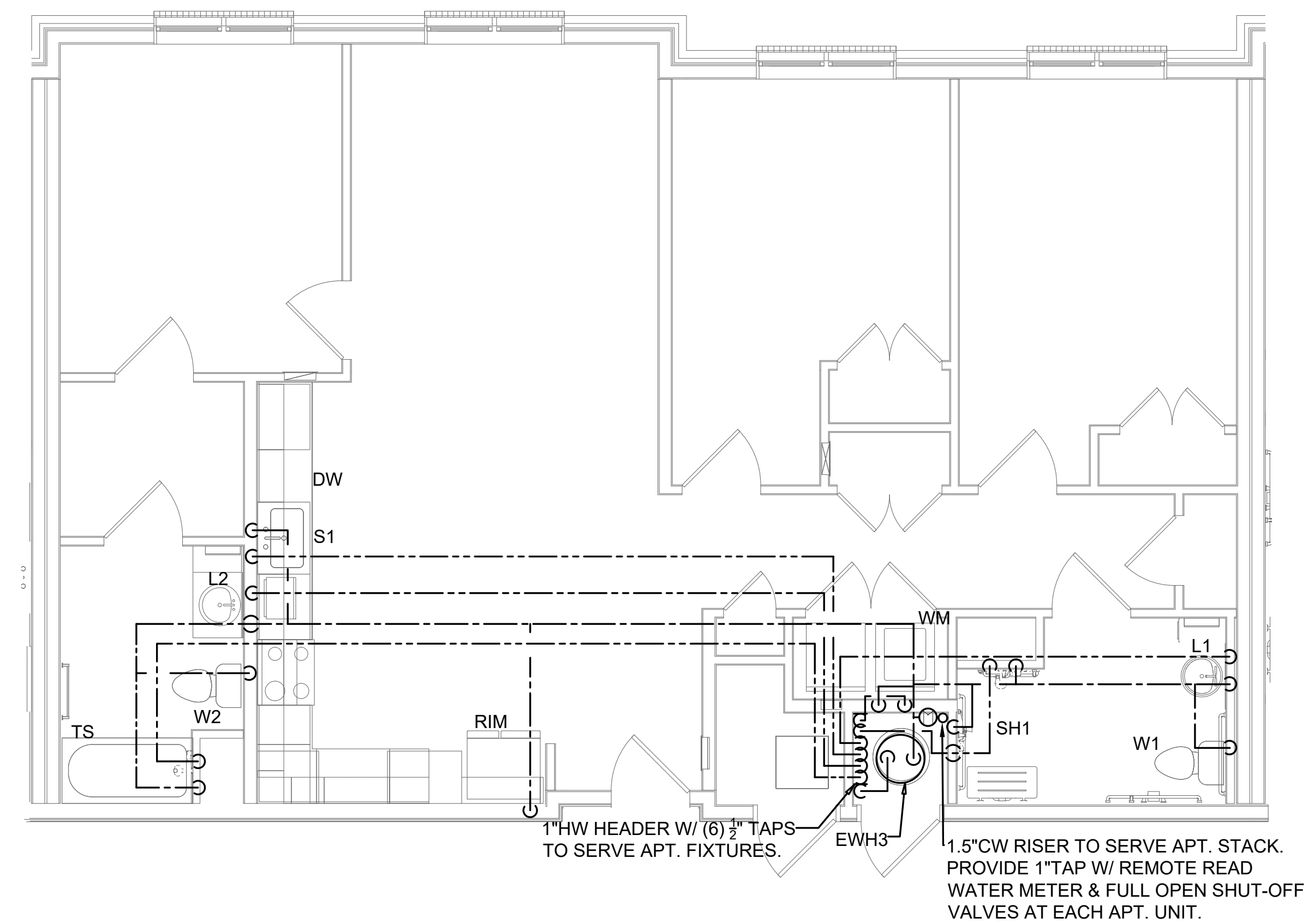
UNIT SANITARY/VENT PLANS
ROANOKE GATEWAY
624 BULLITT AVE SE ROANOKE, VA 24022

[illegible]

© GRIMM AND PAPPER ARCHITECTURE, INC.



UNIT 3B-HC WATER PLAN
SCALE: 1/4" = 1'-0"

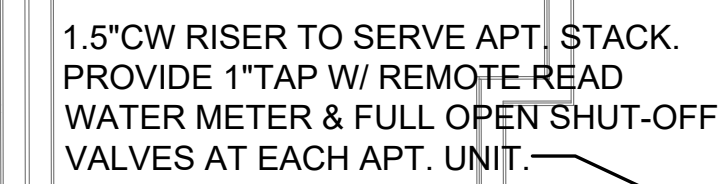


UNIT 3A-HC WATER PLAN
SCALE: 1/4" = 1'-0"

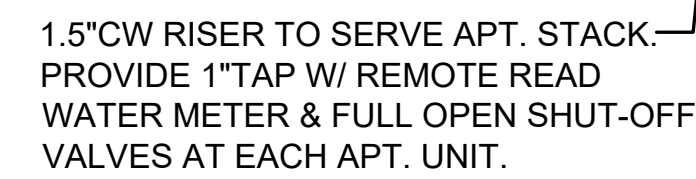
UNIT 3C SANITARY/VENT PLAN
SCALE: 1/4" = 1'-0"







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



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



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