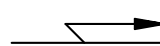



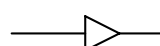
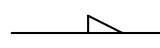
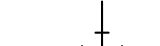
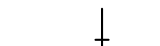
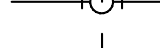
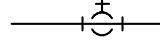
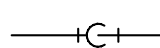
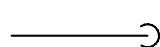




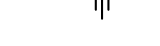
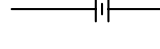
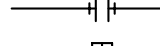

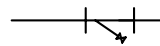
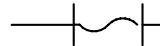

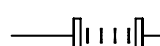

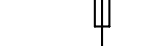

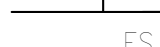
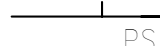
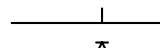
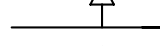
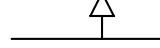





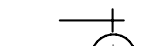

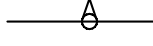
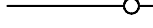
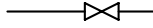
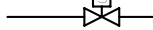
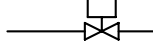


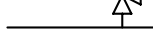
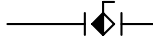
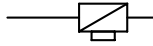
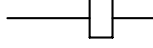
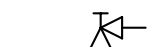



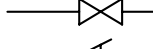
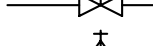
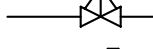
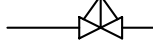

















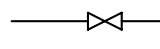
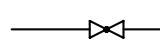
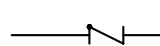

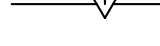
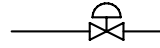
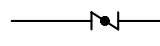
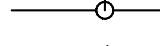
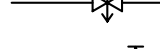

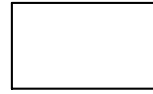



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	PLUMBING SYMBOLS (ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)						
	PIPING SYMBOLS		VALVE SYMBOLS		MISCELLANEOUS		
	<div><div>PITCH DOWN IN DIRECTION OF ARROW</div><div>DIRECTION OF FLOW</div><div>PIPE ANCHOR</div><div>PIPE GUIDE</div><div>CONCENTRIC REDUCER</div><div>ECCENTRIC REDUCER</div><div>BRANCH – SIDE CONNECTION</div><div>BRANCH – TOP CONNECTION</div><div>BRANCH – BOTTOM CONNECTION</div><div>RISE OR DROP IN PIPE</div><div>RISER DOWN (ELBOW)</div><div>RISER UP (ELBOW)</div><div>CAPPED PIPE</div><div>BLIND FLANGE</div><div>UNION (SCREWED)</div><div>ORIFICE UNION</div><div>FLANGED CONNECTION</div><div>TEMPERATURE &amp; PRESSURE PORT</div><div>STRAINER WITH BLOWDOWN VALVE</div><div>FLEX PIPE</div><div>FLEX CONNECTION</div><div>BELLOWS CONNECTION (DOUBLE SPHERE NEOPRENE TYPE)</div><div>THERMOMETER</div><div>PRESSURE GAGE WITH COCK</div><div>FS FLOW SWITCH</div><div>PS PRESSURE SWITCH</div><div>MANUAL AIR VENT</div><div>AUTOMATIC AIR VENT</div><div>PUMP</div><div>STEAM TRAP</div><div>LINE/WALL CLEANOUT</div><div>WATER METER</div><div>AIR OUTLET VALVE</div><div>WELDED CONNECTION</div><div>FLANGED CONNECTION</div><div>SOLDERED CONNECTION</div><div>THREADED OR "PRESS" CONNECTION</div><div>BELL &amp; SPIGOT CONNECTION</div><div>SOLVENT CONNECTION</div></div>	<div><div>VALVE IN CENTER DROP</div><div>VALVE IN RISE</div><div>GATE VALVE W/ 3/4" HOSE THREAD ADAPTER</div><div>SOLENOID VALVE</div><div>TWO-WAY CONTROL VALVE</div><div>THREE-WAY CONTROL VALVE</div><div>SAFETY VALVE OR PRESSURE RELIEF VALVE</div><div>MANUAL BALANCING VALVE</div><div>AUTOMATIC BALANCING VALVE</div><div>TEMPERATURE WELL</div><div>ANGLE GATE VALVE</div><div>ANGLE GLOBE VALVE</div><div>DIAPHRAGM VALVE</div><div>QUICK ACTION VALVE</div><div>OS&amp;Y VALVE</div><div>OS&amp;Y VALVE WITH SUPERVISORY SWITCH</div><div>FLANGED VALVE (GATE VALVE SHOWN)</div><div>FLOAT VALVE</div><div>ORIFICE FLOW PLATE</div></div>	<div><div>RECESSED FLOOR CLEANOUT</div><div>HOSE BIBB/WALL HYDRANT</div><div>FLOOR DRAIN</div><div>FLOOR DRAIN WITH P-TRAP</div><div>P-TRAP</div><div>PLUMBING FIXTURES</div><div>GAS METER</div><div>DOUBLE CHECK BACKFLOW PREVENTER</div><div>REDUCED PRESSURE BACKFLOW PREVENTER</div><div>RISER DESIGNATION "P": DENOTES SANITARY WASTE AND VENT RISER DIAGRAM OR DOMESTIC COLD AND HOT WATER RISER DIAGRAM</div><div>PROCESS VACUUM CONNECTION</div><div>BREATHING AIR CONNECTION</div><div>PROCESS COMPRESSED AIR CONNECTION</div><div>DEBRIS VACUUM CONNECTION</div><div>DRAWING NOTE REFERENCE</div><div>POINT OF CONNECTION TO EXISTING</div><div>WATER SHOCK ABSORBER</div></div>	GENERAL NOTES			
	PIPING TYPES		DRAWING/DETAIL REFERENCE KEY		A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS FOR CONSTRUCTION.  B. COORDINATE THE EXACT LOCATION OF FLOOR DRAINS WITH THE ARCHITECTURAL DRAWINGS AND MECHANICAL EQUIPMENT LOCATIONS PRIOR TO INSTALLATION OF DRAINS. PROVIDE A RADIUS AROUND THE FLOOR DRAIN THAT SLOPES TOWARD THE FLOOR DRAIN FROM THE FINISHED FLOOR ELEVATION TO A TOP OF DRAIN ELEVATION BETWEEN 1/2" AND 3/4" BELOW FINISHED FLOOR. THE RADIUS AND RATE OF SLOPE IS TO BE FIELD COORDINATED.  C. COORDINATE ALL SLAB PENETRATIONS AND SLEEVES PRIOR TO EACH CONCRETE POUR.  D. FURNISH ACCESS DOORS FOR INSTALLATION IN WALLS AND CEILINGS WHERE ACCESS IS REQUIRED TO CONCEALED PLUMBING EQUIPMENT, VALVES, CONTROLS, AND OTHER DEVICES.  E. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES, OR REGULATIONS OF FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.  F. WHERE APPROVAL CODES HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORY, AMERICAN CODES, ANSI, ASME, ASA, ASHRAE, ASTM, ARI, NEC, NFPA, SMACNA, OR THE STATE FIRE INSURANCE REGULATORY BODY, FOLLOW THESE STANDARDS WHETHER OR NOT INDICATED ON THE DRAWINGS.  G. ARRANGE WITH AUTHORITIES AND UTILITY COMPANIES FOR PERMITS, FEES, AND SERVICE CONNECTIONS. VERIFYING LOCATIONS AND ARRANGEMENTS AND PAYING ALL CHARGES, INCLUDING INSPECTIONS.  H. COORDINATE WORK WITH ARCHITECTURAL FEATURES AND COORDINATE WORK SUCH THAT INTERFERENCES BETWEEN PIPING, DUCTWORK, EQUIPMENT, PLUMBING WORK, ELECTRICAL WORK, AND BUILDING STRUCTURE WILL BE AVOIDED.  I. PROVIDE THE ENTIRE SYSTEM AND ITS COMPONENT ITEMS OF EQUIPMENT IN OPERATING CONDITION WITHOUT OBJECTIONABLE VIBRATION OR NOISE.  J. PROVIDE ALL WIRING AND ELECTRICAL CONTROLS IN ACCORDANCE WITH NFPA 70 (NEC).  K. VERIFY AND DOCUMENT EXISTING CONDITIONS AND DIMENSIONS ON THE JOB SITE PRIOR TO STARTING ANY WORK.  L. DO NOT SCALE THESE DRAWINGS FOR CONSTRUCTION PURPOSES.  M. INSTALL PIPING TO PROVIDE THE MAXIMUM POSSIBLE CLEAR HEIGHT UNDERNEATH. MAINTAIN A MINIMUM OF 6 INCHES ABOVE FINISHED CEILING TO PROVIDE CLEARANCE FOR LIGHTING FIXTURES.  N. CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.  O. VENT TERMINALS SHALL EXTEND A MINIMUM OF 6" ABOVE THE FINISHED ROOF AND SHALL BE LOCATED A MINIMUM OF 10 FEET HORIZONTALLY FROM ANY DOOR, OPERABLE WINDOW, OR OTHER AIR INTAKE OF THE BUILDING OR ADJACENT BUILDING UNLESS THE VENT TERMINAL IS AT LEAST 2 FEET ABOVE THE TOP OF SUCH OPENING.  P. PROVIDE SYSTEM IN ACCORDANCE WITH 2006 ICC INTERNATIONAL PLUMBING CODE.  Q. ALL VENT LINES ARE TO RISE VERTICALLY (45° ANGLE OR GREATER FROM HORIZONTAL) TO A MINIMUM OF 6" ABOVE THE HIGHEST FLOOD RIM OF THE HIGHEST FIXTURE SERVED BY THE VENT.  R. SLOPE SANITARY SEWER PIPE SMALLER THAN 3" AT 1/4" PER FOOT AND PIPE 3" AND LARGER AT 1/8" PER FOOT. ALL SLOPES ARE IN THE DIRECTION OF FLOW.  S. PROVIDE BRACING FOR ALL PIPING AND EQUIPMENT AS REQUIRED BY UFC 4-010-01.		
	VALVE SYMBOLS		EQUIPMENT SYMBOLS				
	<div><div>GATE VALVE</div><div>GLOBE VALVE</div><div>CHECK VALVE (NON SLAM)</div><div>PLUG VALVE</div><div>PRESSURE REDUCING VALVE (PRV)</div><div>BUTTERFLY VALVE</div><div>BALL VALVE</div><div>NEEDLE VALVE</div><div>VALVE IN DROP</div></div>	<div><div>EXISTING EQUIPMENT TO BE REMOVED</div><div>EXISTING EQUIPMENT TO REMAIN</div><div>NEW EQUIPMENT</div></div>	ENERGY CODE COMPLIANCE				
			THE MECHANICAL AND PLUMBING EQUIPMENT IN THESE DRAWINGS ARE IN COMPLIANCE WITH ASHRAE 90.1-2004 AND THE FEDERAL ENERGY MANAGEMENT PROGRAM (FEMP).				

JACOBS™

NOT FOR CONSTRUCTION

911 Central Parkway N., Suite 425 San Antonio, TX 78323  
501 North Broadway, St. Louis, Missouri 63102-2121

Revision:      Date:      By:      Description:

AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT (AFCEE)  
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR DORMITORIES

Scales:      12" = 1'-0"

Jacobs Project No.:      FDWD1301

Drawing Title:

PLUMBING LEGEND & NOTES

Date:      11 MAY 2009

Designed By: Designer      Drawing No.:  
Drawn By: Author  
Checked By: Checker      P00

AIR FORCE CENTER FOR ENGINEERING AND THE  
ENVIRONMENT (AFCEE)  
FACILITIES DYNAMIC PROTOTYPES DESIGN FOR  
DORMITORIES

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

Jacobs Project No.: FDWD1301

Drawing Title:

PLUMBING FLOOR  
PLANS

Date: 11 MAY 2009

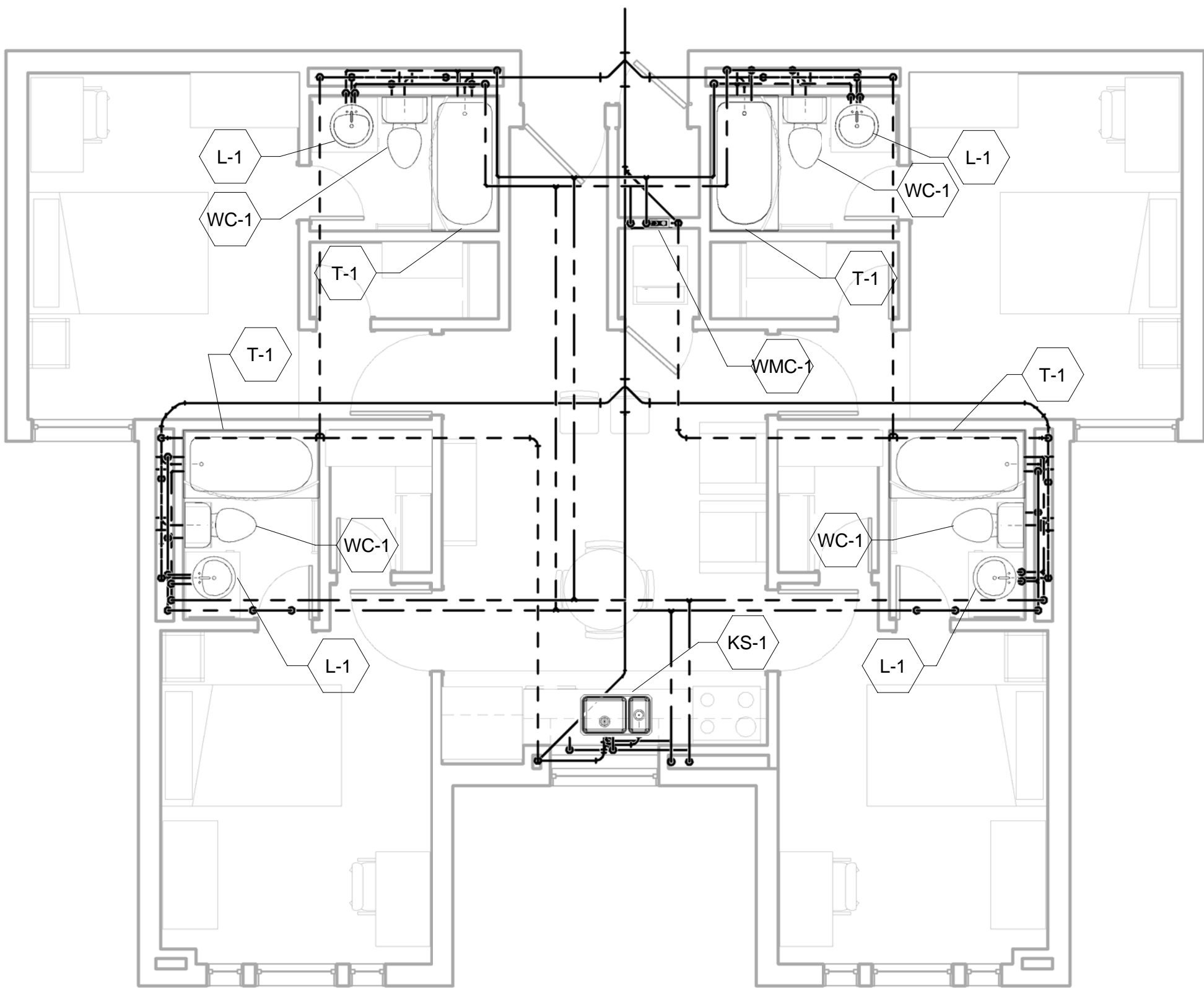
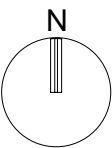
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Drawn By: Author

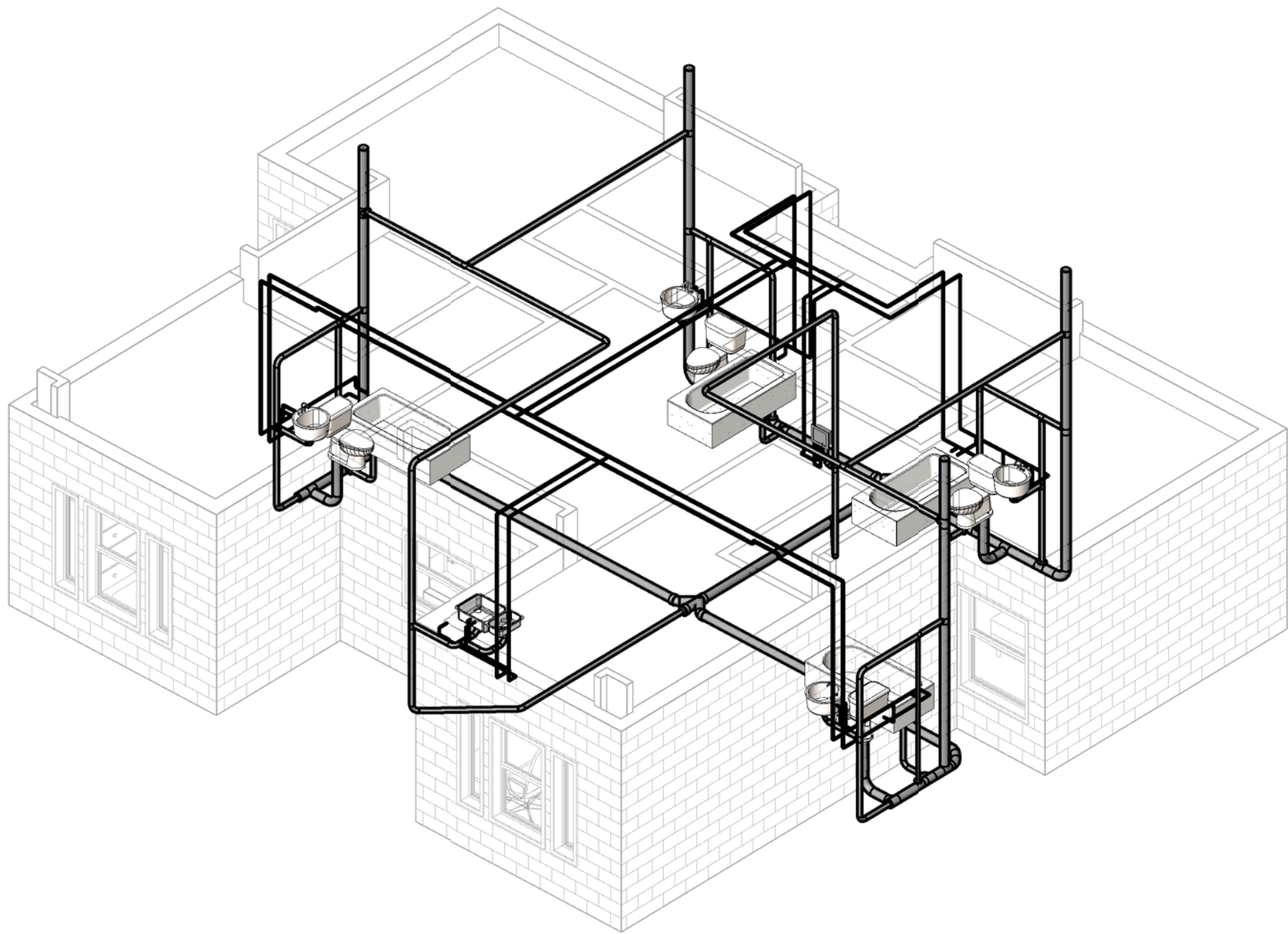
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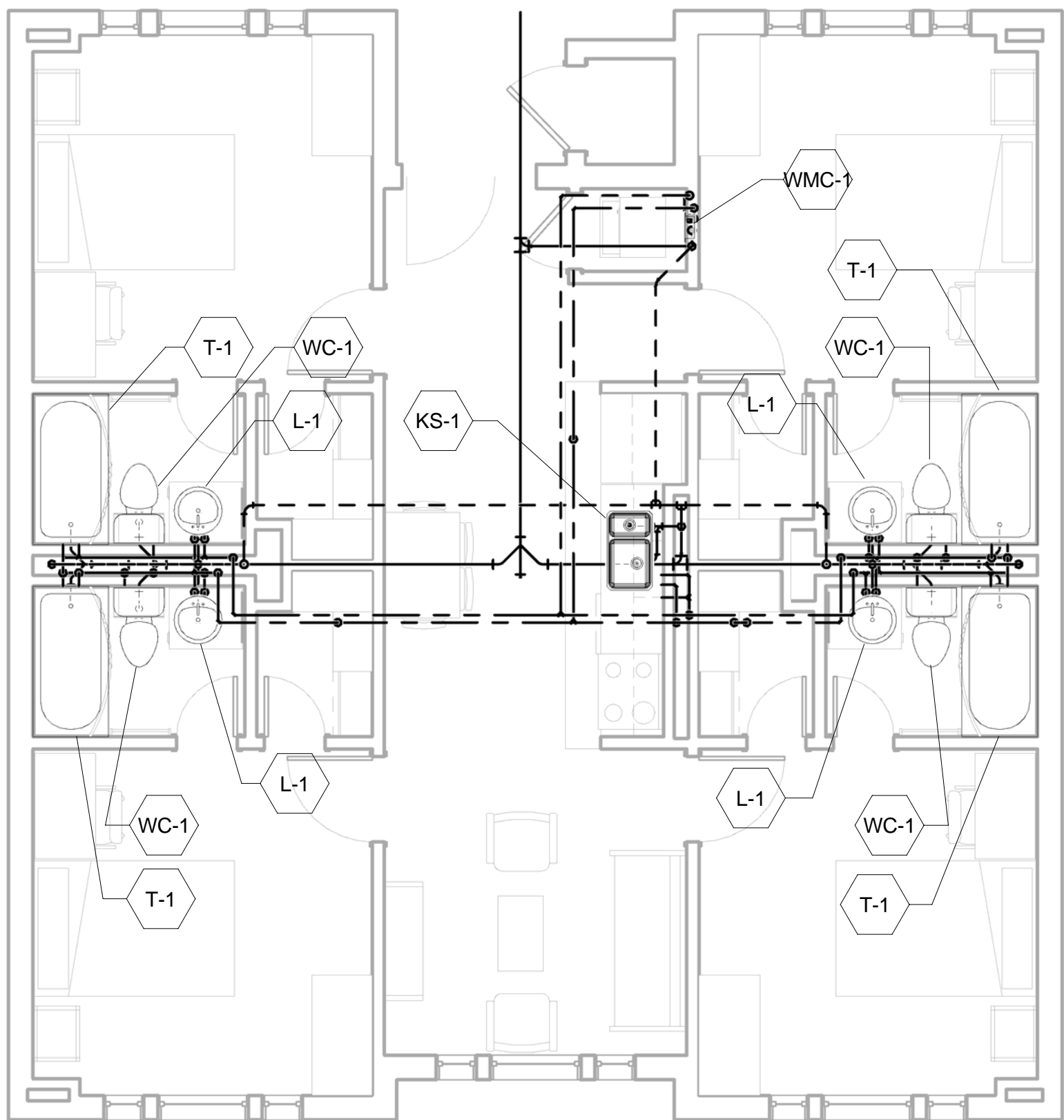
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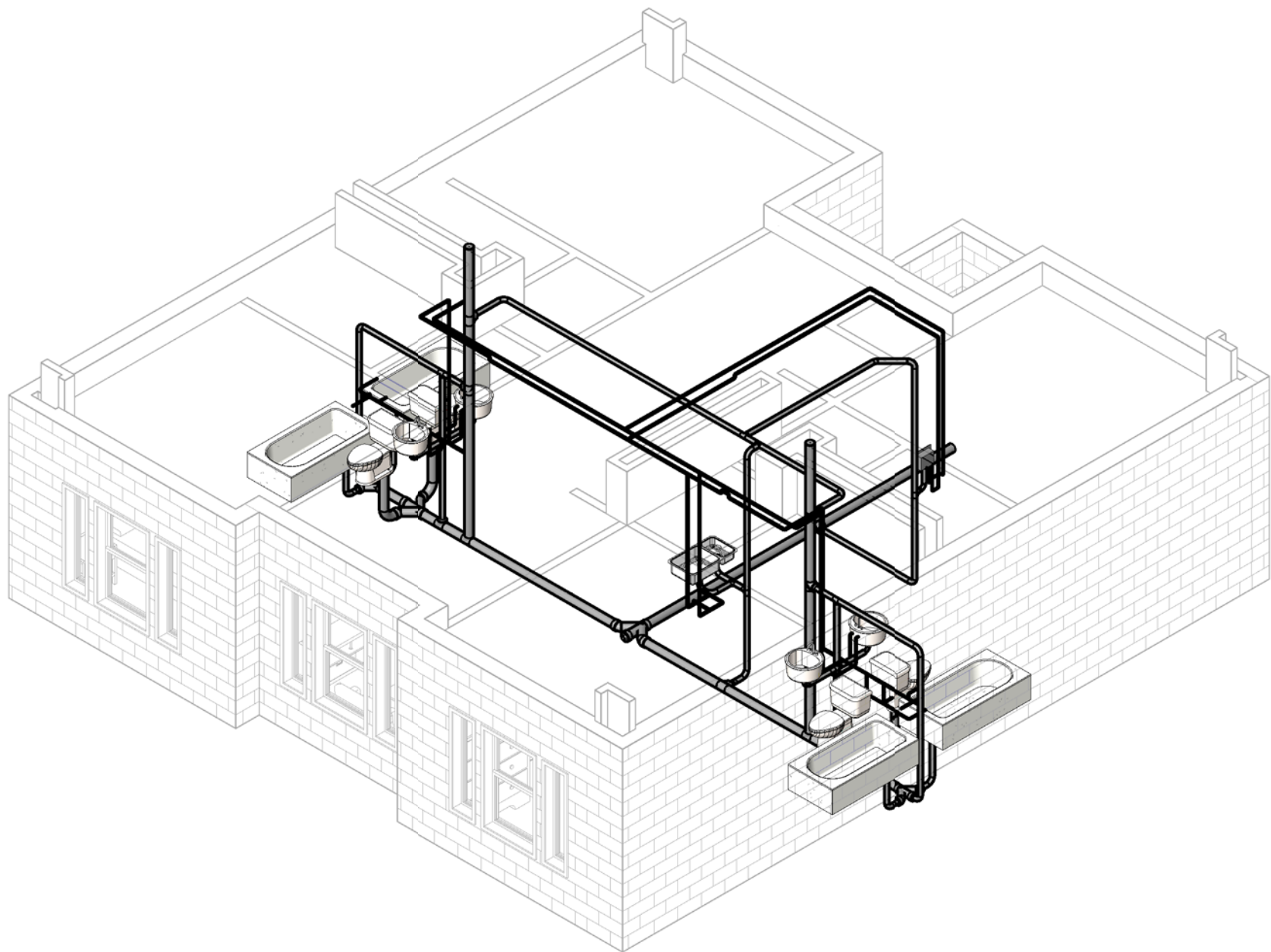
① 1 - Plumbing - A  
1/4" = 1'-0"



② 3D Plumbing - A

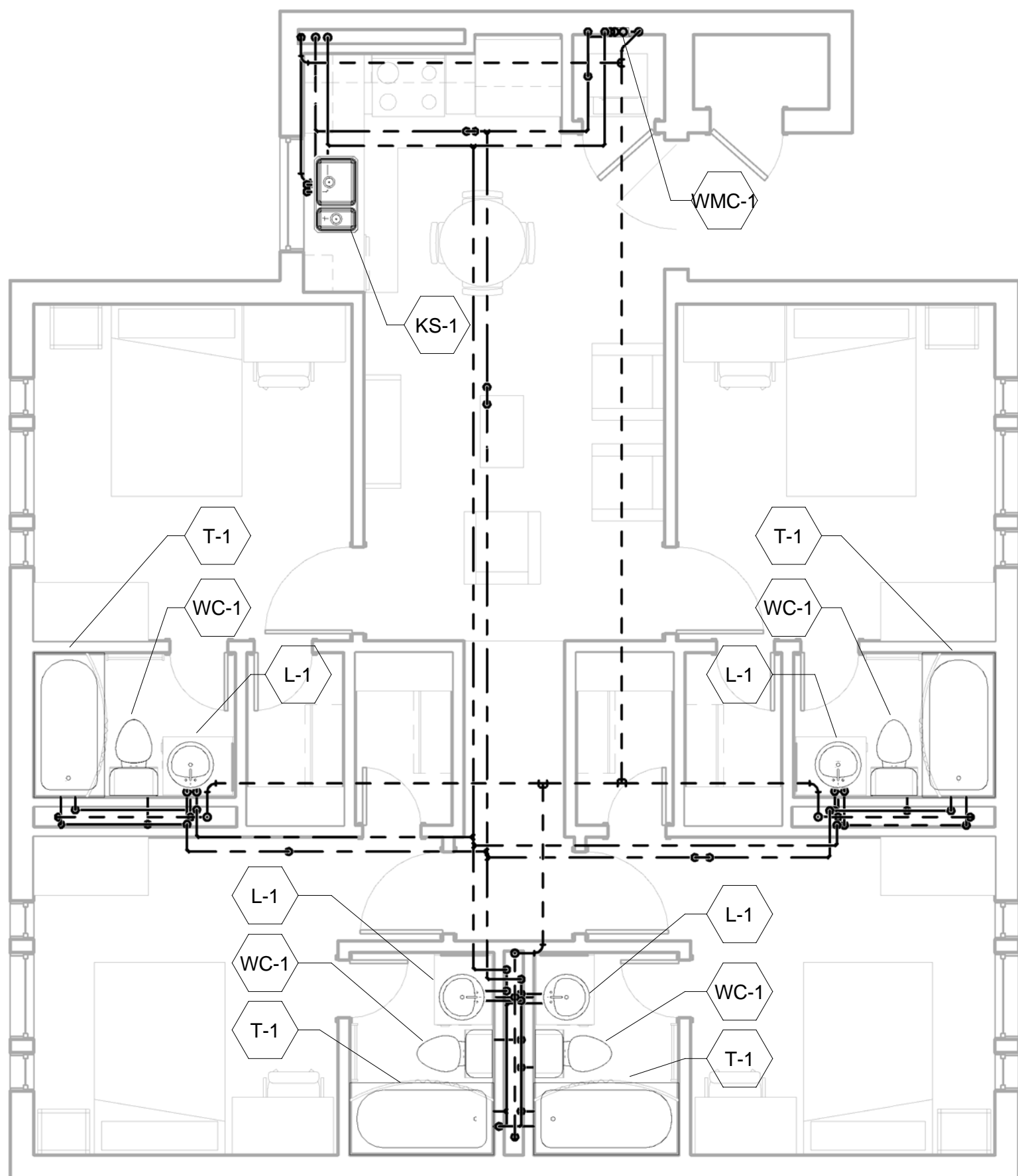


③ 1 - Plumbing - B  
1/4" = 1'-0"



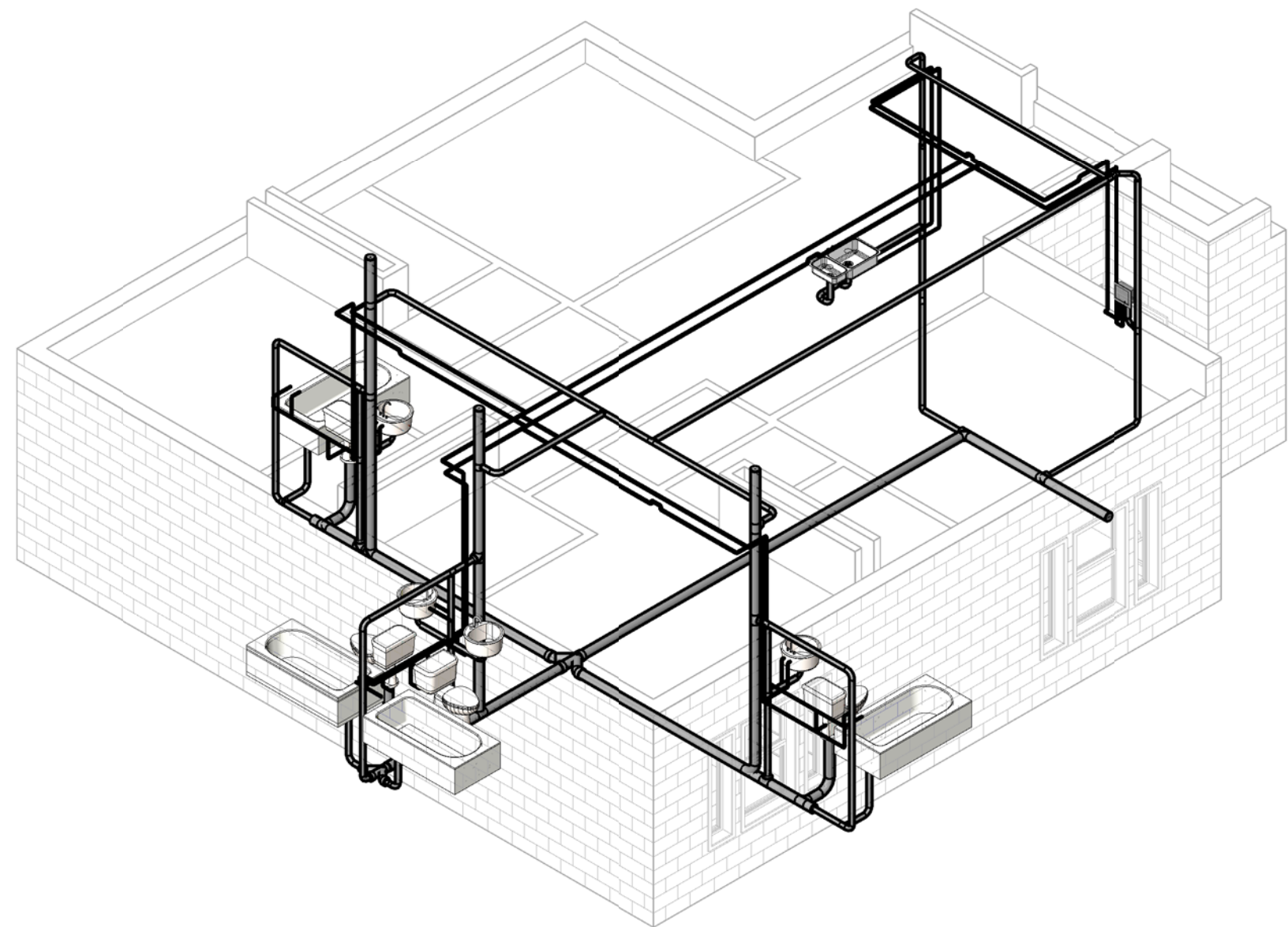
④ 3D Plumbing - B





1 - Plumbing - C  
1/4" = 1'-0"

PLUMBING FIXTURE ROUGH-IN SCHEDULE					
MARK	DESCRIPTION	CONNECTION SIZE			
		CW	HW	SAN	VENT
KS-1		1/2"	1/2"	2"	0"
L-1		1/2"	1/2"	1 1/4"	
T-1		1/2"	1/2"	2"	0"
WC-1		1/2"		4"	0"
WMC-1		1/2"	1/2"	2"	0"



2 - 3D Plumbing - C