

PLUMBING GENERAL NOTES

- GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE PLUMBING SCOPE OF WORK. THE PLUMBING DRAWINGS AND SPECIFICATIONS SHALL NOT BE INTERPRETED AS WAIVING OR OVERRULING ANY REQUIREMENTS EXPRESSED IN GENERAL CONDITIONS.
- PLUMBING WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NORTH CAROLINA STATE PLUMBING CODE AND WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL PLUMBING SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES.
- APPLY AND PAY FOR ALL NECESSARY PERMITS, FEES, AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION. ACREAGE CHARGES, FACILITIES CHARGES, AND BOND PROPERTY ASSESSMENTS ARE NOT TO BE CONSTRUED TO BE A PART OF THIS CONTRACT.
- WARRANT THE SYSTEM LABOR, MATERIALS, AND EQUIPMENT FOR THE TIME PERIOD SPECIFIED IN THE PROJECT MANUAL. IF NO WARRANTY SECTION IS PROVIDED, THEN WARRANT THE SYSTEM LABOR, MATERIALS, AND EQUIPMENT FOR A MINIMUM OF ONE (1) YEAR AFTER COMPLETION AND ACCEPTANCE. PRIOR TO TURNING THE COMPLETED SYSTEM OVER TO THE OWNER, REVIEW THE INSTALLATION WITH THE ENGINEER AND REPLACE OR REPAIR ANY DEFECTIVE WORKMANSHIP, EQUIPMENT, AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE ALL PLUMBING PIPING LOCATIONS, ROUGH-IN LOCATIONS, AND EQUIPMENT LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES. FINAL PIPING AND EQUIPMENT LOCATIONS SHALL BE A CODE COMPLIANT INSTALLATION FOR ALL TRADES.
- PLUMBING PLANS SHALL NOT BE SCALED. REFERENCE THE ARCHITECTURAL PLANS FOR DIMENSIONS OF ALL LOCATIONS OF PLUMBING FIXTURES, FLOOR DRAINS, COLUMNS, WALLS, DOORS, ETC.
- WHERE DISCREPANCIES ARE FOUND IN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY. CONTACT ENGINEER FOR CLARIFICATION.
- PROVIDE PRODUCTS REQUIRING ELECTRICAL CONNECTIONS LISTED AND CLASSIFIED BY UNDERWRITERS' LABORATORIES, INC. (UL), AS SUITABLE FOR THE PURPOSE SPECIFIED.
- ALL PIPING SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA.
- ALL VALVES, BACKFLOW PREVENTERS, BOOSTER PUMPS, ETC. SERVING THE DOMESTIC WATER SYSTEM SHALL MEET LEAD FREE STANDARDS PER ANS/NSF 372 AND NSF 61, ANNEX G.
- PROVIDE COMPLETE PLUMBING FIXTURES AND EQUIPMENT. INCLUDE SUPPLIES, STOPS, VALVES, FAUCETS, DRAINS, TRAPS, TAILPIECES, ESCUTCHEONS, ETC. AND INSTALL PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- CUT WALLS, FLOORS, AND CEILINGS AS REQUIRED FOR INSTALLATION OF PLUMBING WORK. ALL CUTTING SHALL BE HELD TO A MINIMUM. PATCH AND FINISH SURFACES TO MATCH ADJOINING SURFACES.
- PIPE PENETRATIONS THROUGH WALLS, PARTITIONS, AND FLOORS SHALL BE SLEEVED. CORE DRILLING THROUGH WALLS AND PARTITIONS IS PERMITTED IF PERFORMED IN A NEAT CRAFTSMAN LIKE MANNER. OPENINGS THROUGH WALLS, PARTITIONS, AND FLOORS SHALL BE LARGE ENOUGH FOR PIPE INSULATION TO REMAIN CONTINUOUS THROUGH THE PENETRATION. PIPES PENETRATING THROUGH EXTERIOR WALLS SHALL BE SEALED WATER TIGHT. INSTALL ESCUTCHEONS IN ALL EXPOSED AREAS.
- PLUMBING AND SPECIALTIES SHALL BE LOCATED CONCEALED IN WALLS, PARTITIONS, OR ABOVE CEILINGS UNLESS NOTED OTHERWISE. PIPING IN EXPOSED AREAS SHALL BE RUN TIGHT TO STRUCTURAL ELEMENTS.
- PROVIDE ACCESS DOORS FOR ALL SPECIALTIES, VALVES, WATER HAMMER ARRESTERS, TRAP PRIMERS, ETC., CONCEALED BEHIND WALLS OR CEILINGS THAT REQUIRE MAINTENANCE ACCESS.
- DO NOT INSTALL PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES. INSTALL PIPING SHOWN IN EXTERIOR WALLS ON THE CONDITIONED SIDE OF THE WALL INSULATION.
- PLUMBING, VENTS, ETC. EXTENDING THROUGH EXTERIOR WALLS AND/OR THE ROOF SHALL BE FLASHED AND COUNTER-FLASHED IN A WATERPROOF MANNER. COORDINATE FLASHING WITH THE GENERAL CONTRACTOR.
- PROVIDE A CHROME-PLATED FINISH FOR ALL EXPOSED PIPING FOR PLUMBING FIXTURES IN FINISHED AREAS.
- PROVIDE NON-CONDUCTING DIELECTRIC UNIONS WHENEVER CONNECTING DISSIMILAR METALS.
- ATTACH HANGERS TO STRUCTURE. SUPPORT PIPING IN ACCORDANCE WITH SECTION 308 OF THE NORTH CAROLINA PLUMBING CODE.
- PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES AROUND ALL EQUIPMENT FOR MAINTENANCE.
- VALVES AND OTHER PIPING ACCESSORIES REQUIRING ACCESS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS NO MORE THAN EIGHTEEN (18) INCHES ABOVE THE CEILING. PROVIDE OFFSETS IN PIPING AS NEEDED TO MEET THIS REQUIREMENT.
- FIRESTOP ALL PENETRATIONS OF FIRE-RATED WALLS, FLOORS, AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E814 AND INSTALL IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN F-RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED. REFER TO ARCHITECTURAL PLANS FOR WALL AND FLOOR TYPES.
- PROVIDE PIPING LABELS FOR ALL PLUMBING PIPING. PIPING LABELS SHALL BE ACRYLIC FACED, WRAP-AROUND TYPE. EACH LABEL SHALL INDICATE THE PIPING CONTENTS, DIRECTION OF FLOW AND SHALL BEAR THE MANUFACTURER'S STANDARD COLOR AND NOMENCLATURE FOR THE SERVICE INDICATED.

SUBMITTALS

- PROVIDE SUBMITTALS BEARING THE CONTRACTOR'S REVIEW STAMP FOR ALL PLUMBING FIXTURES, PIPING, EQUIPMENT, AND ACCESSORIES IN ELECTRONIC FORMAT (PDF).
- NO PRIVATELY LABELED MATERIALS WILL BE ACCEPTED AS EQUALS TO PRODUCTS SPECIFIED HEREIN.
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SUBSTITUTIONS TO SPECIFIED PLUMBING FIXTURES AND EQUIPMENT INCLUDING BUT NOT LIMITED TO: PROVIDING MAINTENANCE ACCESS CLEARANCE, PIPING, ELECTRICAL, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, ETC. AND ANY MODIFICATIONS TO ASSOCIATED MECHANICAL, ELECTRICAL, OR PLUMBING SYSTEMS REQUIRED BY THE EQUIPMENTS INSTALLATION INSTRUCTIONS. ALL COSTS ASSOCIATED WITH SUBSTITUTIONS SHALL BE INCLUDED IN THE ORIGINAL BASE BID.

COORDINATION DRAWINGS

THE MECHANICAL CONTRACTOR SHALL ORGANIZE COORDINATION MEETINGS TO DEVELOP A SET OF COORDINATION DRAWINGS WITH ALL CONTRACTORS (ELECTRICAL, MECHANICAL, PLUMBING, IT/DATA, AND GENERAL CONTRACTOR). THE MECHANICAL CONTRACTOR WILL HAVE THE LEAD RESPONSIBILITY FOR THE COORDINATION DRAWINGS. THE MECHANICAL CONTRACTOR SHALL PRODUCE THE ORIGINAL DRAWINGS AND FORWARD THE DRAWINGS TO EACH OF THE OTHER CONTRACTORS FOR THEM TO ADD THEIR SYSTEMS TO THIS SET OF COORDINATION DRAWINGS. THE CONTRACTORS WILL DEVELOP THE DRAWINGS IN THIS ORDER: MECHANICAL, PLUMBING, ELECTRICAL, IT/DATA, AND GENERAL. THIS SHALL ALSO BE THE ORDER OF PRECEDENCE FOR INSTALLATION OF SYSTEMS. ANY RELOCATION OF SYSTEM ROUTINGS WILL BE FOUND IN THE COORDINATION PHASE AND NOTICED BY EACH OF THE CONTRACTORS. THESE DRAWINGS, WHEN COMPLETED, SHALL BE SIGNED OFF BY ALL OF THE ABOVE LISTED PARTIES. DRAWINGS SHALL BE COMPLETED PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK AND PIPING SYSTEMS, OR PURCHASE OF EQUIPMENT. THE FOLLOWING ITEMS REPRESENT THE MINIMUM REQUIREMENTS AND COORDINATION DRAWINGS:

- ALL COORDINATION DRAWINGS WILL BE PRODUCED AT 1/4" = 1'-0" SCALE.
- DRAWINGS WILL BE ORIGINAL DRAWINGS AND NOT OVERLAYS OF THE CONTRACT/DESIGN DRAWINGS.
- COORDINATION DRAWINGS ARE NOT SHOP DRAWINGS AND ARE REQUIRED IN ADDITION TO SHOP DRAWINGS.
- ONCE THE COMPLETE COORDINATION DRAWINGS HAVE BEEN COMPILED, THE MECHANICAL CONTRACTOR WILL DISTRIBUTE ONE SIGNED SET TO EACH OF THE FOLLOWING CONTRACTORS: ELECTRICAL, PLUMBING, AND GENERAL. ADDITIONAL SETS WILL BE SENT TO THE OWNER, ARCHITECT, AND ENGINEER.

THE USE OF BUILDING INFORMATION MODELING (BIM) THROUGHOUT THE CONSTRUCTION PROCESS IS A REQUIREMENT FOR THIS PROJECT TO HELP REDUCE OR ELIMINATE FIELD-DETECTED CONFLICTS, IMPROVE CONSTRUCTION QUALITY, AND MAINTAIN AN AGGRESSIVE SCHEDULE. THE CONTRACTOR WILL BE RESPONSIBLE FOR CREATING THE MODEL AND MANAGING THE COORDINATION AND COLLISION DETECTION PROCESS. THE MODEL MUST CONTAIN COMPLETE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS CONSISTENT WITH THE DESIGN AND FABRICATION DRAWINGS.

UNDERSLAB DRAINAGE VIDEO RECORDING

THE CONTRACTOR SHALL PERFORM TWO SEPARATE DIAGNOSTIC VIDEOS OF UNDERSLAB DRAINAGE LINES. THE FIRST VIDEO SHALL BE PERFORMED AFTER ALL FLOOR SLABS HAVE BEEN POURED. THE SECOND VIDEO SHALL BE RECORDED AFTER VISUAL VERIFICATION BY THE DESIGN ENGINEER THAT ALL DEFICIENCIES FROM THE FIRST DIAGNOSTIC VIDEO HAVE BEEN CORRECTED AND PRIOR TO THE REQUEST FOR SUBSTANTIAL COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL SUBMIT EACH VIDEO RECORDING TO THE OWNER AND DESIGN ENGINEER IN A DIGITAL FILE FORMAT FOR FINAL REVIEW. THE DIAGNOSTIC VIDEO SHALL CONTAIN THE PIPE SEGMENT DESIGNATION MATCHING THE SUBMITTED REFERENCE PLAN AT THE BEGINNING OF THE RECORDING FOR EACH PIPE SEGMENT. THE DIAGNOSTIC VIDEOS APPLY TO ALL UNDERGROUND SANITARY WASTE PIPING 3" AND LARGER.

- PRIOR TO EACH DIAGNOSTIC VIDEO THE CONTRACTOR SHALL:
- SUBMIT A DIAGNOSTIC VIDEO REFERENCE PLAN OF ALL UNDERGROUND DRAINAGE PIPING CONTAINING DESIGNATIONS FOR EACH PIPING SEGMENT (i.e. PIPE SEGMENT A-B, B-C, C-D, etc.) TO THE ENGINEER.
 - PROVIDE AT LEAST TWO WEEKS NOTICE TO THE DESIGN ENGINEER AND THE OWNERS REPRESENTATIVE.
 - CLEAR ALL DRAINAGE LINES TO BE FREE OF ALL DEBRIS.
 - PROVIDE A LIGHT STREAM OF CLEAR WATER FLOWING THROUGH THE PIPE SEGMENT DURING THE VIDEO.

PLUMBING LEGEND

| SYMBOL | ABBREVIATION | DESCRIPTION |
|--------|--------------|---|
| | CW | COLD WATER PIPING |
| | HW | HOT WATER PIPING |
| | HWR | HOT WATER RETURN PIPING |
| | W | SANITARY WASTE PIPING |
| | V | SANITARY VENT PIPING |
| | GW | GREASE WASTE PIPING |
| | GV | GREASE VENT PIPING |
| | D | INDIRECT DRAINAGE PIPING |
| | | PIPING ELBOW DOWN |
| | | TEE BOTTOM CONNECTION |
| | | PIPING ELBOW UP |
| | | PIPING CONTINUOUS |
| | | SHUTOFF VALVE |
| | | CHECK VALVE |
| | | INLINE PUMP |
| | FCO | FLOOR CLEANOUT |
| | WCO | WALL CLEANOUT |
| | GCO | GRADE CLEANOUT |
| | FD | FLOOR DRAIN |
| | FS | FLOOR SINK |
| | HY | WALL HYDRANT |
| | WHA-# | WATER HAMMER ARRESTER - SUFFIX INDICATES PDI SIZE |

ADDITIONAL ABBREVIATIONS

| | | | |
|-------|-----------------------------------|------|----------------------------|
| AVV | AIR ADMITTANCE VALVE | HP | HORSEPOWER |
| AFG | ABOVE FINISH CEILING | HZ | HERTZ |
| AFF | ABOVE FINISH FLOOR | " | INCHES |
| AFG | ABOVE FINISH GRADE | IE | INVERT ELEVATION |
| BFP | BACKFLOW PREVENTER | KW | KILOWATT(S) |
| BFC | BELOW FINISH CEILING | MAX | MAXIMUM |
| BFF | BELOW FINISH FLOOR | MIN | MINIMUM |
| BFG | BELOW FINISH GRADE | PSI | POUNDS PER SQUARE INCH |
| CFH | CUBIC FEET PER HOUR | RPZ | REDUCED-PRESSURE ZONE |
| ' | DEGREES | T&P | TEMPERATURE AND PRESSURE |
| 'F | DEGREES FAHRENHEIT | TYP | TYPICAL |
| DN | DOWN | VTR | VENT TERMINAL THROUGH ROOF |
| DFU | DRAINAGE FIXTURE UNIT FOOT (FEET) | WSFU | WATER SUPPLY FIXTURE UNIT |
| FT-HD | FEET OF HEAD | EC | ELECTRICAL CONTRACTOR |
| GAL | GALLONS | FC | FIRE ALARM CONTRACTOR |
| GPF | GALLONS PER FLUSH | GC | GENERAL CONTRACTOR |
| GPH | GALLONS PER HOUR | MC | MECHANICAL CONTRACTOR |
| GPM | GALLONS PER MINUTE | PC | PLUMBING CONTRACTOR |
| HD | HUB DRAIN | SC | SPRINKLER CONTRACTOR |

2018 NORTH CAROLINA ENERGY CONSERVATION CODE

COMMERCIAL ENERGY EFFICIENCY - PLUMBING SUMMARY

C401 METHOD OF COMPLIANCE

- 2018 NCECC CHAPTER 4
- ASHRAE 90.1-2013 PRESCRIPTIVE
- ASHRAE 90.1-2013 PERFORMANCE
- N/A (EXISTING LIGHTING, HVAC, AND DOM. WATER HEATING SYSTEMS TO REMAIN)
- COMCHECK PROVIDED (2018 NCECC)
- COMCHECK PROVIDED (90.1-2013)
- ENERGY MODELING DATA PROVIDED

C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS

- C406.2 EFFICIENT MECH EQUIPMENT
- C406.5 ON-SITE RENEWABLE ENERGY
- C406.3 REDUCED LTG DENSITY
- C406.6 DEDICATED OA SYSTEM
- C406.4 ENHANCED LTG CONTROLS
- C406.7 SERVICE WATER HEATING

TABLE C404.2 - MINIMUM PERFORMANCE OF WATER HEATING EQUIPMENT:

| EQUIPMENT TYPE | SIZE CATEGORY (INPUT) | SUB CATEGORY OR RATING CONDITION | PERFORMANCE REQUIRED a,b | REQ'D SL | SPECIFIED EQPM |
|-----------------------|-----------------------|----------------------------------|--------------------------|-------------|----------------|
| WATER HEATER ELECTRIC | > 12 kW | RESISTANCE | 1.73V + 155, SL | 293.4 BTU/H | 282.7 BTU/H |

- ENERGY FACTOR (EF) AND THERMAL EFFICIENCY (E_t) ARE MINIMUM REQUIREMENTS. IN THE ENERGY FACTOR EQUATION V IS THE VOLUME IN GALLONS.
- STANDBY LOSS (SL) IS THE MAXIMUM BTU/H BASED ON A NOMINAL 70° TEMPERATURE DIFFERENCE BETWEEN STORED WATER AND AMBIENT REQUIREMENTS. IN THE STANDBY LOSS EQUATION Q IS THE NAMEPLATE INPUT RATE IN BTU/H. IN THE EQUATIONS FOR ELECTRIC WATER HEATERS, V IS THE RATED VOLUME IN GALLONS AND V₀ IS THE MEASURED VOLUME IN GALLONS. IN THE STANDBY LOSS EQUATION FOR GAS WATER HEATERS AND BOILERS, V IS THE RATED VOLUME IN GALLONS.
- REFER TO WATER HEATER SCHEDULES FOR SPECIFIED WATER HEATING EQUIPMENT TYPES, CAPACITIES (STORAGE VOLUME) AND ENERGY INPUTS (ELECTRIC AND/OR GAS).

C405.8 ELECTRICAL MOTORS (MANDATORY REQUIREMENTS)

- ELECTRICAL MOTORS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.8, EXCEPT WHERE EXEMPT.
- NOT APPLICABLE.

C408 - SYSTEM COMMISSIONING

- PROJECT AREA IS LESS THAN 10,000 SQUARE FEET AND IS EXEMPT FROM THE SYSTEM COMMISSIONING REQUIREMENTS OF SECTION C408.
- PROJECT AREA IS GREATER THAN 10,000 SQUARE FEET AND REQUIRES SYSTEM COMMISSIONING PER SECTION C408.

PLUMBING SYSTEMS SUMMARY

| PLUMBING SYSTEM | TOTAL FIXTURE UNITS | PEAK DEMAND FLOW |
|-----------------------|---------------------|------------------|
| DOMESTIC WATER SUPPLY | 131.50 WSFU | 75.03 GPM |
| SANITARY SEWER | 172.00 DFU | N/A |

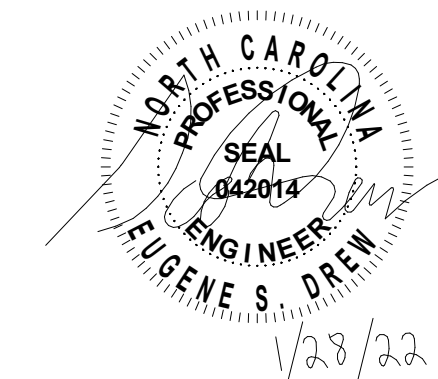
PLUMBING SHEET INDEX

| SHEET | TITLE |
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| PI-001 | PLUMBING LEGEND, DESIGN DATA, AND SPECIFICATIONS |
| PI-002 | PLUMBING SCHEDULES |
| PI-100 | PLUMBING UNDERSLAB WASTE |
| PI-101 | PLUMBING ABOVE GROUND WASTE & VENT |
| PI-201 | PLUMBING WATER SUPPLY |
| PI-401 | PLUMBING RISER DIAGRAMS |
| PI-501 | PLUMBING DETAILS |

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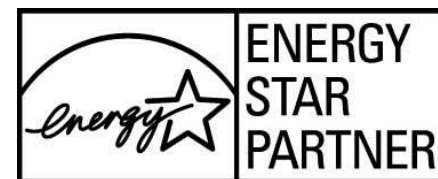


CONSTRUCTION DOCUMENTS



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Johnsonville Elementary School
Addition/Renovation Phase 2
 18495 NC-27, Cameron, NC 28326



| No. | Date | Description |
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ISSUE DATE: 01/28/2022

PROJECT #: 02103.000
DRAWN BY: CAV
CHECKED BY: ESD

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PLUMBING LEGEND,
DESIGN DATA, AND
SPECIFICATIONS

P1-001

Sheet No. 1 of 7

1/28/2022 11:16:41 AM
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| PLUMBING SPECIALTIES SCHEDULE | | | | | | | |
|-------------------------------|--|-----------------|----|------|----|---|--|
| SYMBOL | DESCRIPTION | CONNECTION SIZE | | | | SPECIFICATION | REMARKS |
| | | W | V | CW | HW | | |
| CS-x | BALANCING VALVE, THERMOSTATIC, AUTOMATIC, SUFFIX INDICATES PIPE SIZE, SEE FLOOR PLANS | - | - | - | ** | EQUIPMENT: CIRCUIT SOLVER CS SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED. | PROVIDE 105°F MODEL |
| SA-x | SHOCK ARRESTOR, SUFFIX INDICATES PDI SIZE | - | - | x | - | EQUIPMENT: SIOUX CHIEF 650 SERIES, SIZES 1/2" THRU 2", NSF 61 CERTIFIED. | SEE SHOCK ARRESTOR TABLE THIS SHEET |
| HB1 | HOSE BIBB, INTERIOR, EXPOSED, STAINLESS STEEL FACE PLATE, ANTI-SIPHON | - | - | 3/4" | - | EQUIPMENT: WOODFORD 26P, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB | MOUNT 18" AFF |
| HB2 | HOSE BIBB, INTERIOR, RECESSED, STAINLESS STEEL FACE PLATE, ANTI-SIPHON VACUUM BREAKER | - | - | 3/4" | - | EQUIPMENT: WOODFORD B24 | MOUNT 18" AFF |
| HB3 | HOSE BIBB, EXTERIOR, EXPOSED, STAINLESS STEEL FACE PLATE, FREEZELESS, ANTI-SIPHON | - | - | 3/4" | - | EQUIPMENT: ZURN Z1310-34EL, PROVIDE VACUUM BREAKER AND METAL LOOSE KEY FOR EACH HOSE BIBB | MOUNT 18" AFF |
| CO | PLUG CLEANOUT, CAST IRON BODY | ** | - | - | - | CLEANOUT: ZURN Z-1440-BP, BRONZE PLUG | GAS / WATER TIGHT |
| WCO | WALL CLEANOUT, CAST IRON BODY, STAINLESS STEEL WALL PLATE | ** | - | - | - | CLEANOUT: ZURN Z-1446-BP, BRONZE PLUG | GAS / WATER TIGHT |
| FCO | FLOOR CLEANOUT, CAST IRON BODY, NICKEL BRONZE TOP, ADJUSTABLE | ** | - | - | - | CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG | GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED FLOOR |
| YCO | YARD CLEANOUT, CAST IRON BODY, NICKEL BRONZE TOP, ADJUSTABLE, INSTALLED IN 18"X18"X6" CONCRETE PAD | ** | - | - | - | CLEANOUT: ZURN ZN-1400-BP, BRONZE PLUG, INSTALL IN 18"X18"X6" DEEP CONCRETE PAD | GAS / WATER TIGHT, INSTALL TOP FLUSH WITH FINISHED GRADE |
| FD1 | FLOOR DRAIN, CAST IRON BODY, SQUARE NICKEL BRONZE GRATE, ADJUSTABLE, TRAP PRIMER | 3" | 2" | - | - | DRAIN: ZURN ZN415-SZ1-DP-P-Y | INSTALL TOP FLUSH WITH FINISHED FLOOR. |
| FD2 | FLOOR DRAIN, CAST IRON BODY, ROUND NICKEL BRONZE GRATE, ADJUSTABLE, TRAP PRIMER | 3" | 2" | - | - | DRAIN: ZURN ZN415-P-Y | INSTALL TOP OF DRAIN LIP FLUSH WITH FLOOR. |

NOTES:
** MATCH PIPE SIZE SHOWN ON PLANS, SEE PLANS.

| | | |
|---|---|---|
| APPROVED EQUALS: THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED. | PRODUCT TYPE: SHOCK ARRESTOR HOSE BIBBS DRAINS BACKFLOW PREVENTER | ACCEPTED MANUFACTURERS: SIOUX CHIEF, PPP INC., ZURN, WATTS ZURN, WOODFORD, ZURN, J.R. SMITH ZURN, J.R. SMITH, WADE WILKINS, WATTS, APOLLO |
|---|---|---|

| STORAGE ELECTRIC WATER HEATER SCHEDULE | | | | | | | | | |
|--|----------------------------|---------------|-------------------|-----------------|-----|----|----|-----------------------|-------|
| MARK | DESCRIPTION | STORAGE (GAL) | GPH AT 80 °F RISE | ELECTRICAL DATA | | | | SPECIFICATION | NOTES |
| | | | | KW | V | PH | HZ | | |
| WH1 | ELECTRIC, VERTICAL STORAGE | 50 | 88 | 15 | 480 | 3 | 60 | A.O. SMITH DSE-50A-15 | 1 - 4 |

NOTES:
1. APPROVED MANUFACTURERS: A.O. SMITH, BRADFORD WHITE, RHEEM, STATE INDUSTRIES.
2. WATER HEATER SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE 90.1 AND THE NORTH CAROLINA ENERGY EFFICIENCY CODE.
3. SET WATER HEATER OUTLET TEMPERATURE TO 140 °F.
4. PROVIDE UNIT WITH OPTIONAL FIVE (5) YEAR MANUFACTURER'S WARRANTY.

| PUMP SCHEDULE | | | | | | | | | |
|---------------|-------------------------------------|----------|-------|-----------------|-----|----|----|---------------|-------|
| MARK | DESCRIPTION | CAPACITY | | ELECTRICAL DATA | | | | SPECIFICATION | NOTES |
| | | GPM | FF-HD | HP | V | PH | HZ | | |
| CP1 | INLINE CIRCULATION PUMP SERVING WH1 | 3.0 | 5.0 | 1/8 | 120 | 1 | 60 | TACO 11S | 1 - 4 |

NOTES:
1. APPROVED MANUFACTURERS: BELL & GOSSETT, GRUNDFOS, GOULDS, TACO.
2. PUMP SHALL BE BRONZE OR STAINLESS STEEL CONSTRUCTION.
3. MOUNT SECURELY FROM STRUCTURE SUCH THAT THE PIPING BEARS NO WEIGHT OF THE PUMP.
4. PROVIDE WITH AQUASTAT CONTROL WITH CONNECTION TO BUILDING AUTOMATION SYSTEM FOR TIME CLOCK OVERRIDES. CONTROL WIRING TO BUILDING AUTOMATION SYSTEM PROVIDED BY MECHANICAL CONTRACTOR.

| THERMAL EXPANSION TANK SCHEDULE | | | | | | |
|---------------------------------|------------------------------|--------------------|-------------------------|-------------|---------------|-------|
| MARK | DESCRIPTION | TOTAL VOLUME (GAL) | ACCEPTANCE VOLUME (GAL) | WEIGHT (LB) | SPECIFICATION | NOTES |
| ET1 | DIAPHRAGM, THERMAL EXPANSION | 3.5 | 2.3 | 22.0 | WESSELS TTA-5 | 1 - 3 |

NOTES:
1. APPROVED MANUFACTURERS: AMTROL, BELL & GOSSETT, WATTS, WESSELS.
2. PROVIDE WITH PRESSURE GAUGE, AIR-CHARGE FITTING, AND TANK DRAIN; PRECHARGE TO 40.0 PSI.
3. MOUNT SECURELY AND INDEPENDENTLY FROM THE STRUCTURE SUCH THAT THE CONNECTED PIPING BEARS NO WEIGHT OF THE TANK.

| THERMOSTATIC MIXING VALVE SCHEDULE | | | | | | |
|------------------------------------|--|-------------|-------------|-----------------|-----------------------------|-------|
| MARK | DESCRIPTION | OUTLET (IN) | OUTLET (IN) | FLOW RATE (GPM) | SPECIFICATION | NOTES |
| TMV1 | THERMOSTATIC MIXING AND RETURN ASSEMBLY, FACTORY ASSEMBLED, 110 F OUTLET, 25 GPM | 1-1/4" | 1-1/4" | 25.0 | LEONARD XL-32A-LF-DT-RF-R34 | 1 - 3 |

NOTES:
1. APPROVED MANUFACTURERS: ARMSTRONG, LAWLOR, POWERS.
2. MOUNT SECURELY TO WALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE WITH COLD WATER BYPASS.

| PLUMBING FIXTURE SCHEDULE | | | | | | | |
|---------------------------|--|-----------------|--------|------|------|---|------------|
| SYMBOL | DESCRIPTION | CONNECTION SIZE | | | | SPECIFICATION | REMARKS |
| | | W | V | CW | HW | | |
| P1 | FIXTURE: TOILET: ELONGATED, WHITE VITREOUS CHINA, CARRIER MOUNTED, TOP SPUD, 1.6 GPF. FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 1.6 GPF. | 4" | 2" | 1" | - | FIXTURE: TOTO C708UG#01 FLUSH VALVE: TOTO "ECOPOWER" TETIGA32#CP SEAT: TOTO SC534F#01 | NOTE 1 |
| PIA | FIXTURE: TOILET: ELONGATED, WHITE VITREOUS CHINA, CARRIER MOUNTED, TOP SPUD, 1.6 GPF. FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 1.6 GPF. | 4" | 2" | 1" | - | FIXTURE: TOTO C708UG#01 FLUSH VALVE: TOTO "ECOPOWER" TETIGA32#CP SEAT: TOTO SC534F#01 | NOTE 1 |
| P2 | FIXTURE: URINAL: WHITE VITREOUS CHINA, CARRIER MOUNTED, 0.125 GPF. FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 0.125 GPF. | 2" | 2" | 3/4" | - | FIXTURE: TOTO UT445U#01 FLUSH VALVE: TOTO "ECOPOWER" TEUIUA12#CP | NOTE 2 |
| PA2 | FIXTURE: URINAL: WHITE VITREOUS CHINA, CARRIER MOUNTED, 0.125 GPF. FLUSH VALVE: SELF-GENERATING, SENSOR OPERATED, PUSH-BUTTON OVERRIDE, 0.125 GPF. | 2" | 2" | 3/4" | - | FIXTURE: TOTO UT445U#01 FLUSH VALVE: TOTO "ECOPOWER" TEUIUA12#CP | NOTE 2 |
| P3 | FIXTURE: LAVATORY: ADA, 20"x18", VITREOUS CHINA, CARRIER MOUNTED, 4" CENTERS. FAUCET: BATTERY POWERED, SENSOR OPERATED, POLISHED CHROME, LAMINAR SPRAY, MIXING VALVE, 0.50 GPM. | 2" | 1-1/2" | 1/2" | 1/2" | FIXTURE: TOTO LT307(A) FAUCET: ZURN Z6950-XL-S-MV-N-HW6 | NOTES 3, 5 |
| PA4 | FIXTURE: WATER COOLER & BOTTLE FILLER, ADA, STAINLESS STEEL FINISH, SINGLE BOWL, VANDAL RESISTANT, CARRIER MOUNTED, INTEGRAL WATER FILTER, SENSOR OPERATED BOTTLE FILLER WITH AUTO SHUT-OFF. | 2" | 1-1/2" | 1/2" | - | FIXTURE: ELKAY LZS8WSLK P-TRAP: ZURN Z-870 (1-1/4"x1-1/2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK | NOTE 4, 6 |
| P4B | FIXTURE: WATER COOLER, STAINLESS STEEL FINISH, SINGLE BOWL, VANDAL RESISTANT, CARRIER MOUNTED, INTEGRAL WATER FILTER. | 2" | 1-1/2" | 1/2" | - | FIXTURE: ELKAY LZS8L P-TRAP: ZURN Z-870 (1-1/4"x1-1/2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK | NOTE 4, 6 |
| P5 | FIXTURE: CASEWORK SINK, ADA, 20"x18", SINGLE BOWL, 18 GAUGE STAINLESS STEEL, COUNTER MOUNTED, SELF RIMMING, INTEGRAL WATER FILTER, SENSOR OPERATED BOTTLE FILLER WITH VANDAL RESISTANT AERATOR, 1.5 GPM. | 2" | 1-1/2" | 1/2" | 1/2" | FIXTURE: ELKAY LRAD191955-3 FAUCET: AMERICAN STANDARD 6530.170 "MONTERREY" BASKET STRAINER: ZURN Z-8740 P-TRAP: ZURN 8703 (1-1/2"x2", 17 GA.) SUPPLY/STOP: ZURN 8806-XL-LR-LK | NOTES 5 |
| P6 | FIXTURE: MOP SINK, 24"x24"x12" TERRAZZO BASIN, 6" DROP FRONT WITH STAINLESS STEEL THRESHOLD CAP, 36" HIGH STAINLESS STEEL WALL GUARDS, HOSE, MOP HANGER BRACKET. FAUCET: POLISHED CHROME, 8" CENTERS, VACUUM BREAKER. | 3" | 2" | 1/2" | 1/2" | FIXTURE: FIAT TS8100-830AA-832AA-MSG2424 FAUCET: T&S BRASS B-0665-BSTR | |

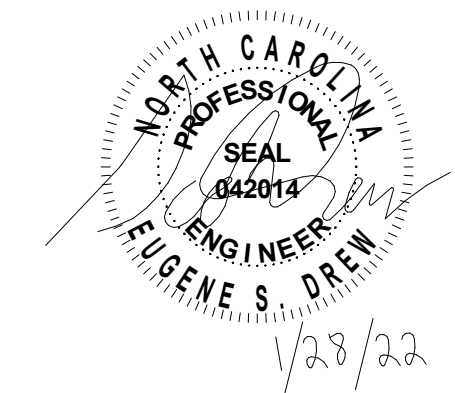
NOTES:
1. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1201 SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.
2. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED PLATE STYLE CARRIER EQUAL TO ZURN Z1222 SERIES. WHEN CARRIER IS LOCATED BEHIND A BLOCK WALL, PROVIDE EXTENDED STUD LENGTHS TO COMPENSATE FOR THE BLOCK WALL THICKNESS.
3. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED, ADJUSTABLE CONCEALED ARM CARRIER EQUAL TO ZURN Z1231 SERIES. WHEN CARRIER IS LOCATED BEHIND BLOCK WALL, PROVIDE EXTENDED CONCEALED ARM SLEEVES TO COMPENSATE FOR THE BLOCK WALL THICKNESS.
4. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE A FLOOR MOUNTED, ADJUSTABLE CONCEALED ARM CARRIER EQUAL TO ZURN Z1225 SERIES. WHEN CARRIER IS LOCATED BEHIND BLOCK WALL, PROVIDE EXTENDED CONCEALED ARM SLEEVES TO COMPENSATE FOR THE BLOCK WALL THICKNESS.
5. PROVIDE PRE-MANUFACTURED ADA COMPLIANT INSULATION KIT FOR EXPOSED P-TRAP AND SUPPLY TRIM UNDER SINK.
6. PROVIDE CANE APRON ON WATER COOLERS MOUNTED ON EXPOSED WALLS.

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| APPROVED EQUALS: THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MODEL WHICH MOST CLOSELY MATCHES THE SPECIFIED PRODUCT. PROVIDE PRODUCTS MADE BY THE MANUFACTURER'S LISTED. | PRODUCT TYPE: VITREOUS CHINA FLUSH VALVES ENAMELED CAST IRON CARRIERS STAINLESS STEEL SINKS FAUCETS WATER COOLERS SUPPLIES, STOPS HOSE BIBBS UTILITY SINKS | ACCEPTED MANUFACTURERS: KOHLER, AMERICAN STANDARD, SLOAN SLOAN, ZURN, DELANEY KOHLER, AMERICAN STANDARD, ZURN ZURN, J.R. SMITH, WADE ELKAY, JUST, ADVANCE TABCO AMERICAN STANDARD, ZURN, CHICAGO ELKAY, HALSLEY TAYLOR, HAWES ZURN, MCGUIRE, BRASSCRAFT ZURN, J.R. SMITH, WOODFORD FIAT, FLORESTONE, STERN WILLIAMS |
|---|--|---|

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PLUMBING SCHEDULES

P1-002
Sheet No. 2 of 7



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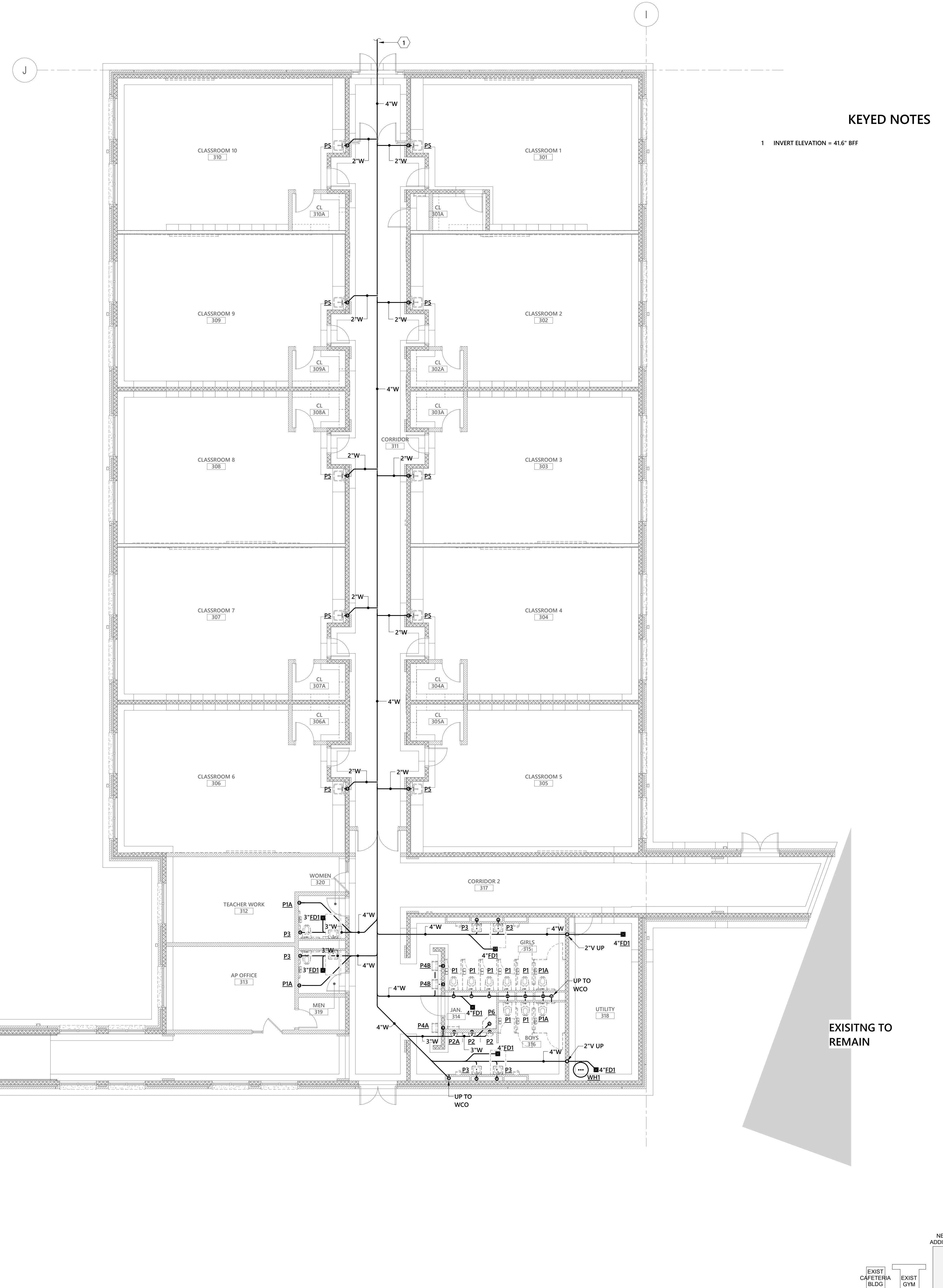
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PLUMBING
UNDERSLAB WASTE

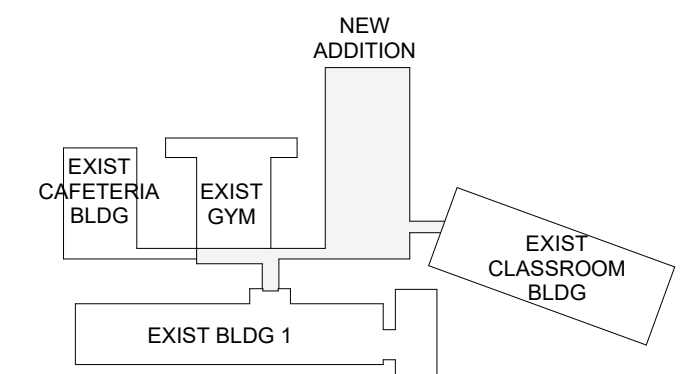


KEYED NOTES

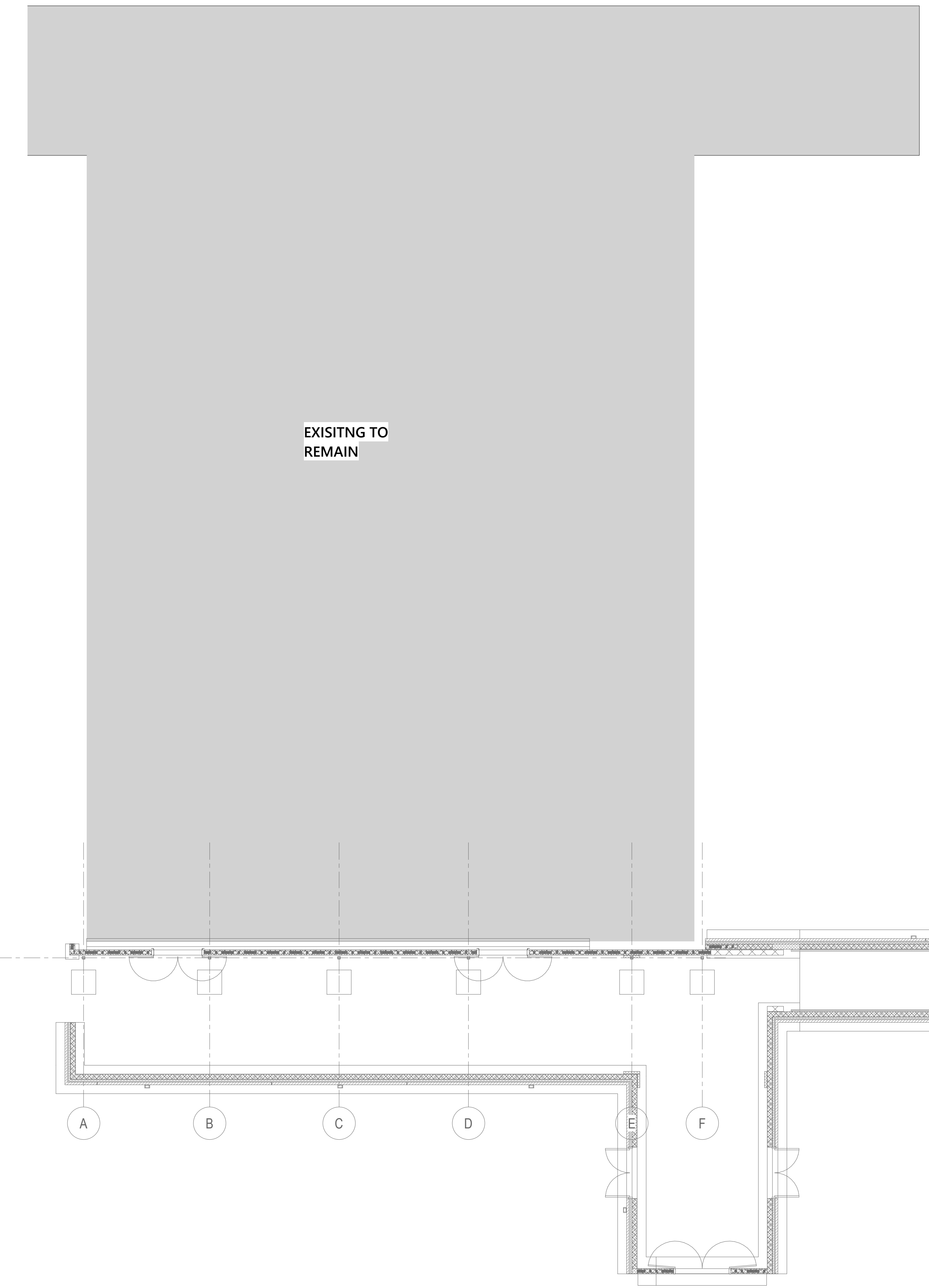
1 INVERT ELEVATION = 41.6' BFF

EXISTING TO REMAIN

EXISTING TO REMAIN



KEYPLAN



1 FIRST FLOOR UNDERSLAB WASTE PLAN - PHASE 2
1/8" = 1'-0"

Autodesk Docs://Johnsonville ES Addition Renovation/21-0266R_Johnsonville Classroom Addition_MEPPP_022.rvt

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CONSTRUCTION
DOCUMENTS



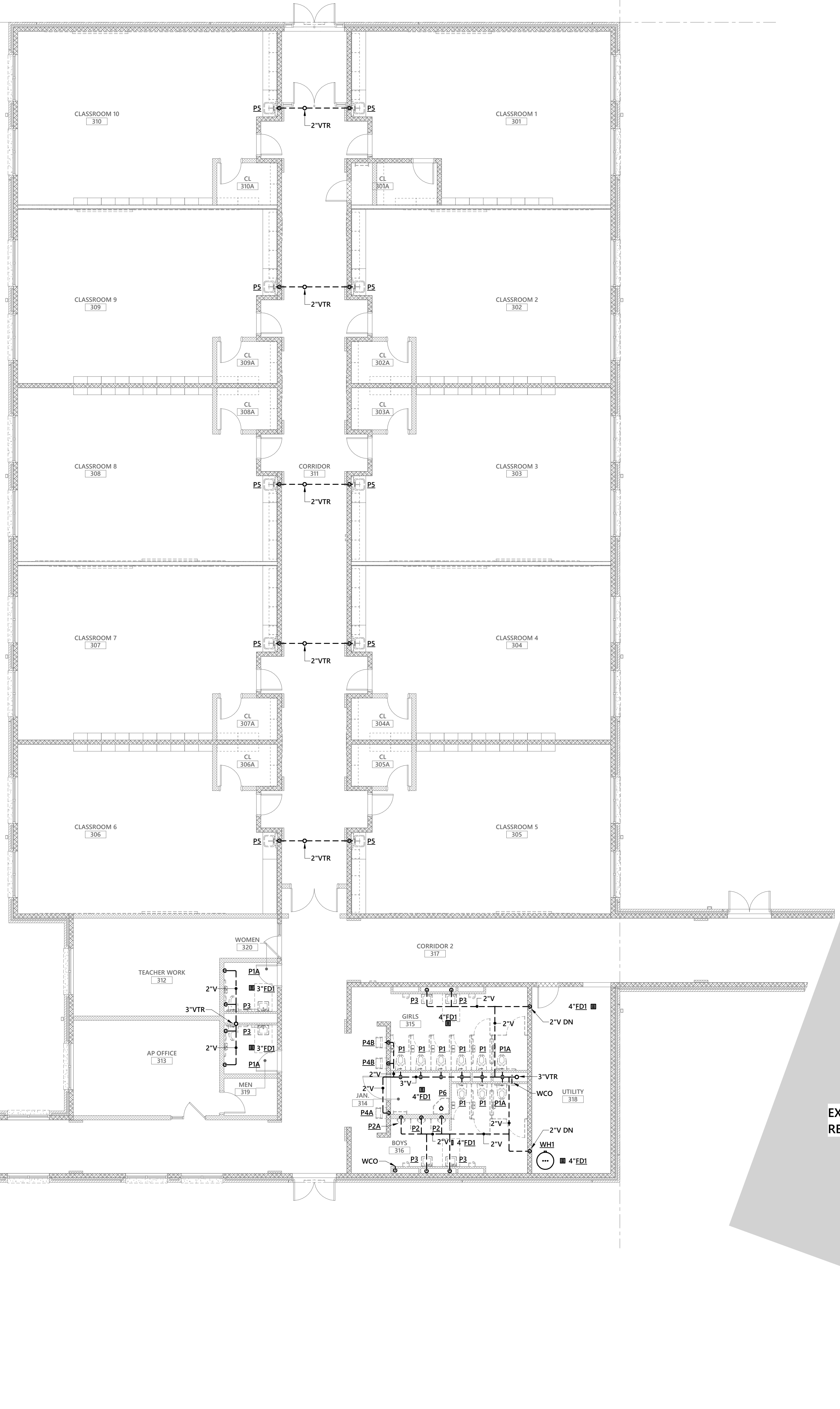
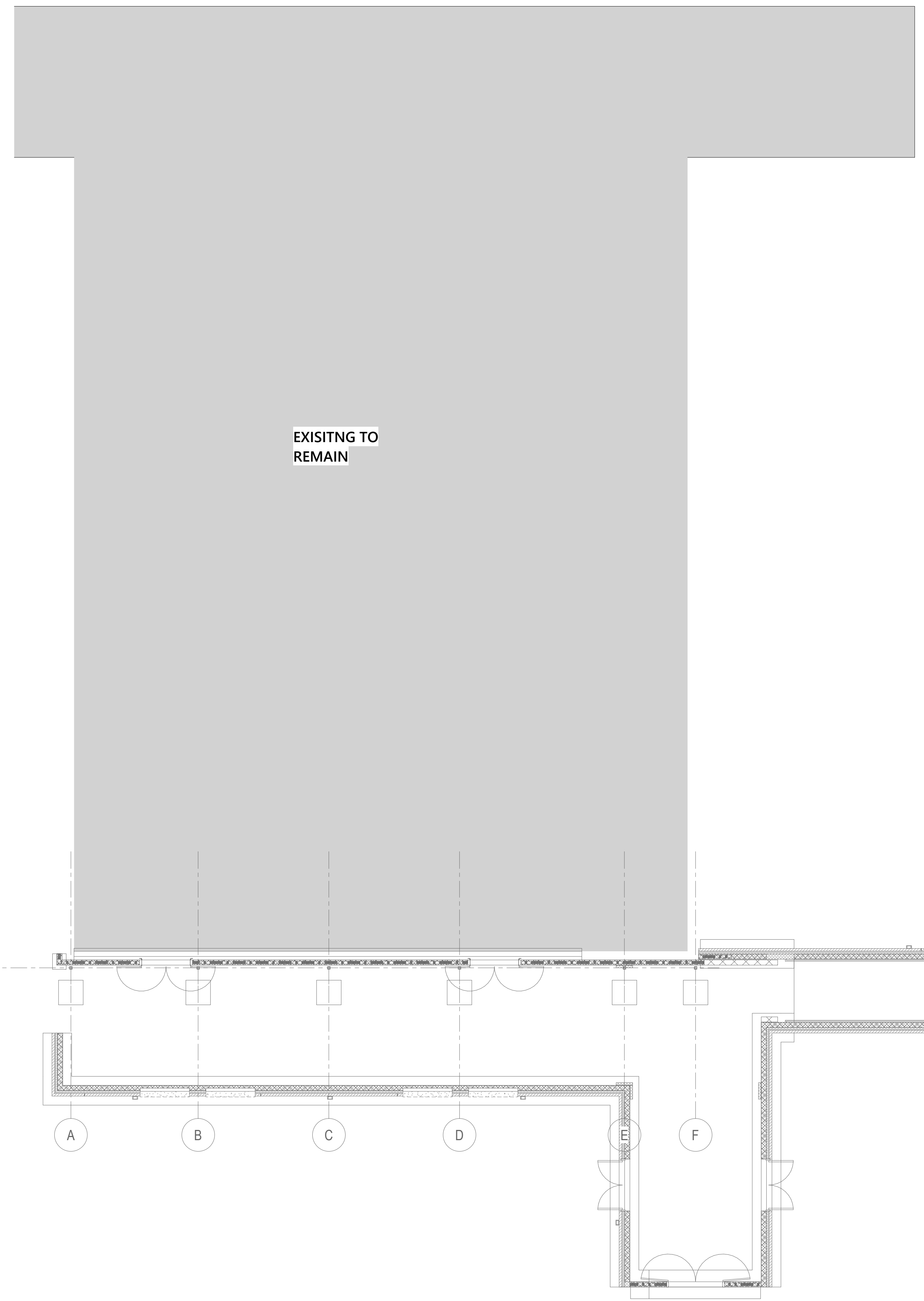
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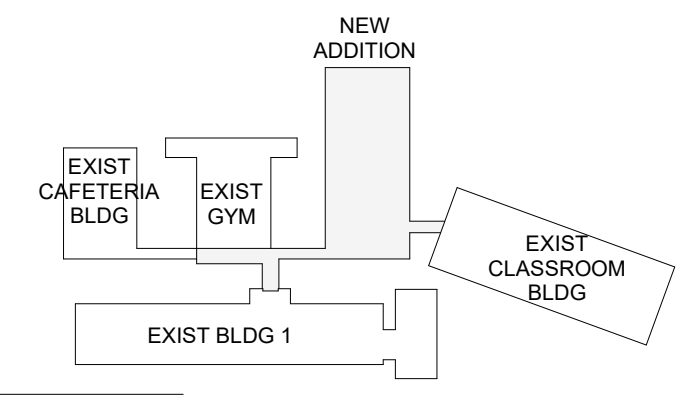
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PLUMBING ABOVE
GROUND WASTE &
VENT



EXISTING TO
REMAIN



1 FIRST FLOOR WASTE & VENT PLAN - PHASE 2
1/8" = 1'-0"

Autodesk Docs://Johnsonville ES Addition Renovation/21-0266R_Johnsonville Classroom Addition_MEPPP_022.rvt

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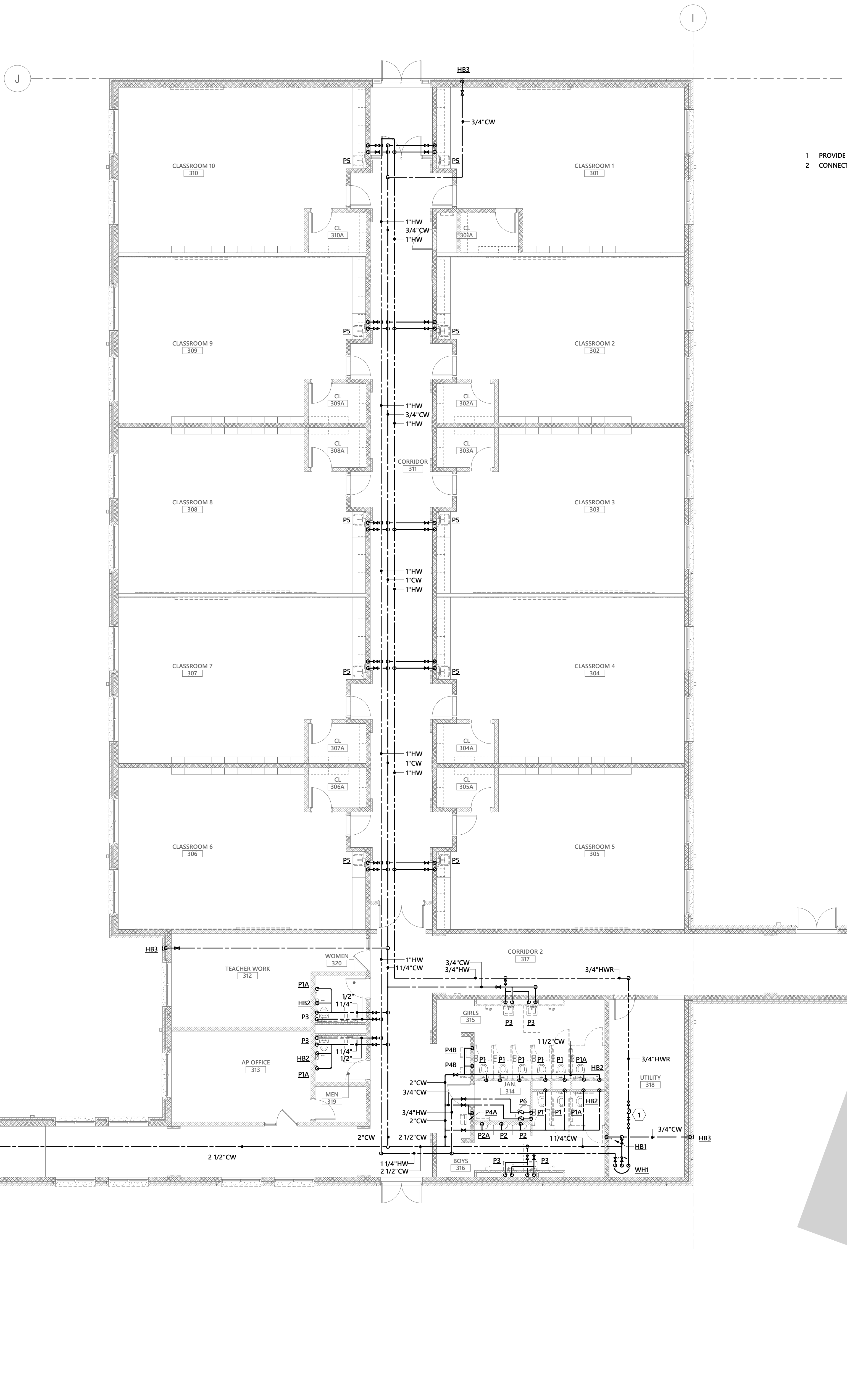
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PLUMBING WATER
SUPPLY



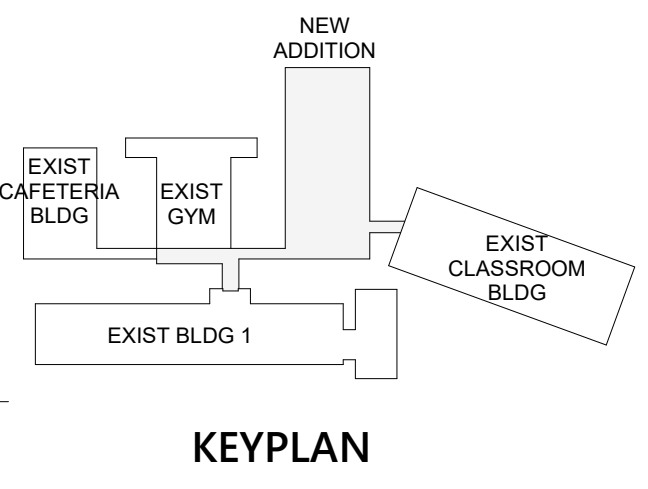
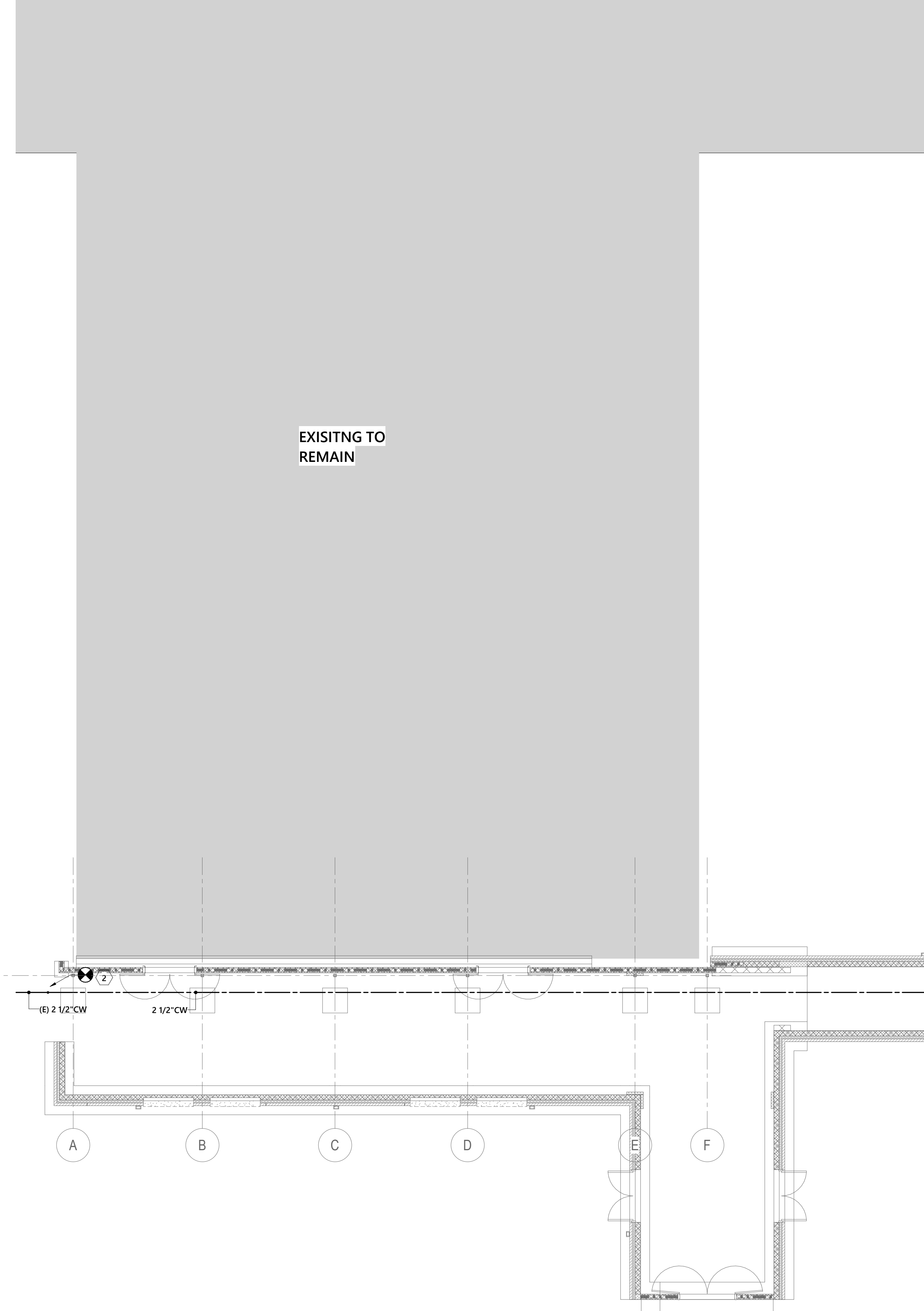
KEYED NOTES

1 PROVIDE HOT WATER RECIRCULATION ASSEMBLY AND SET TO 1.0 GPM.

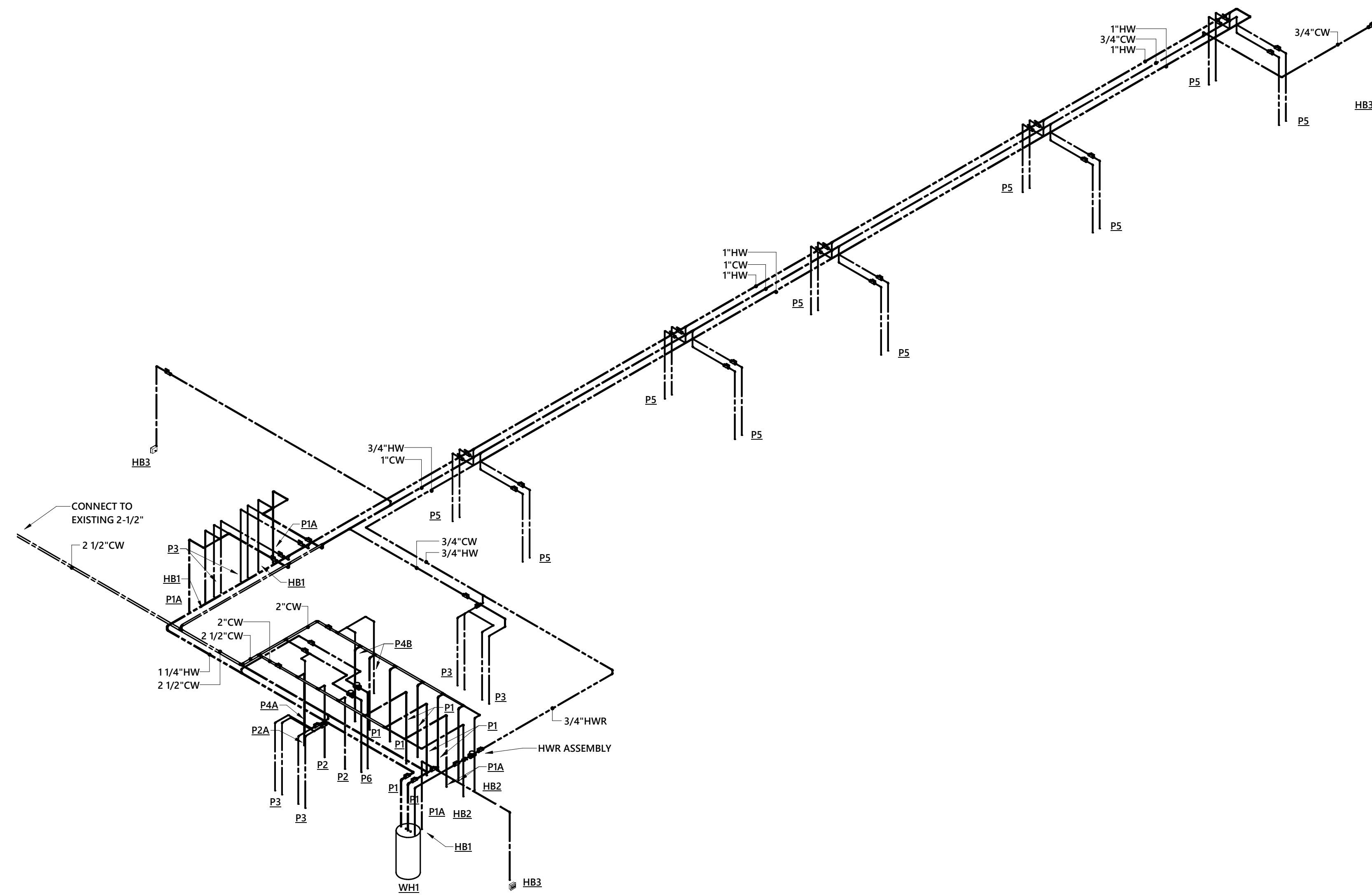
2 CONNECT NEW 2-1/2" CW TO EXISTING 2-1/2" CW IN CORRIDOR CEILING SPACE.

EXISTING TO
REMAIN

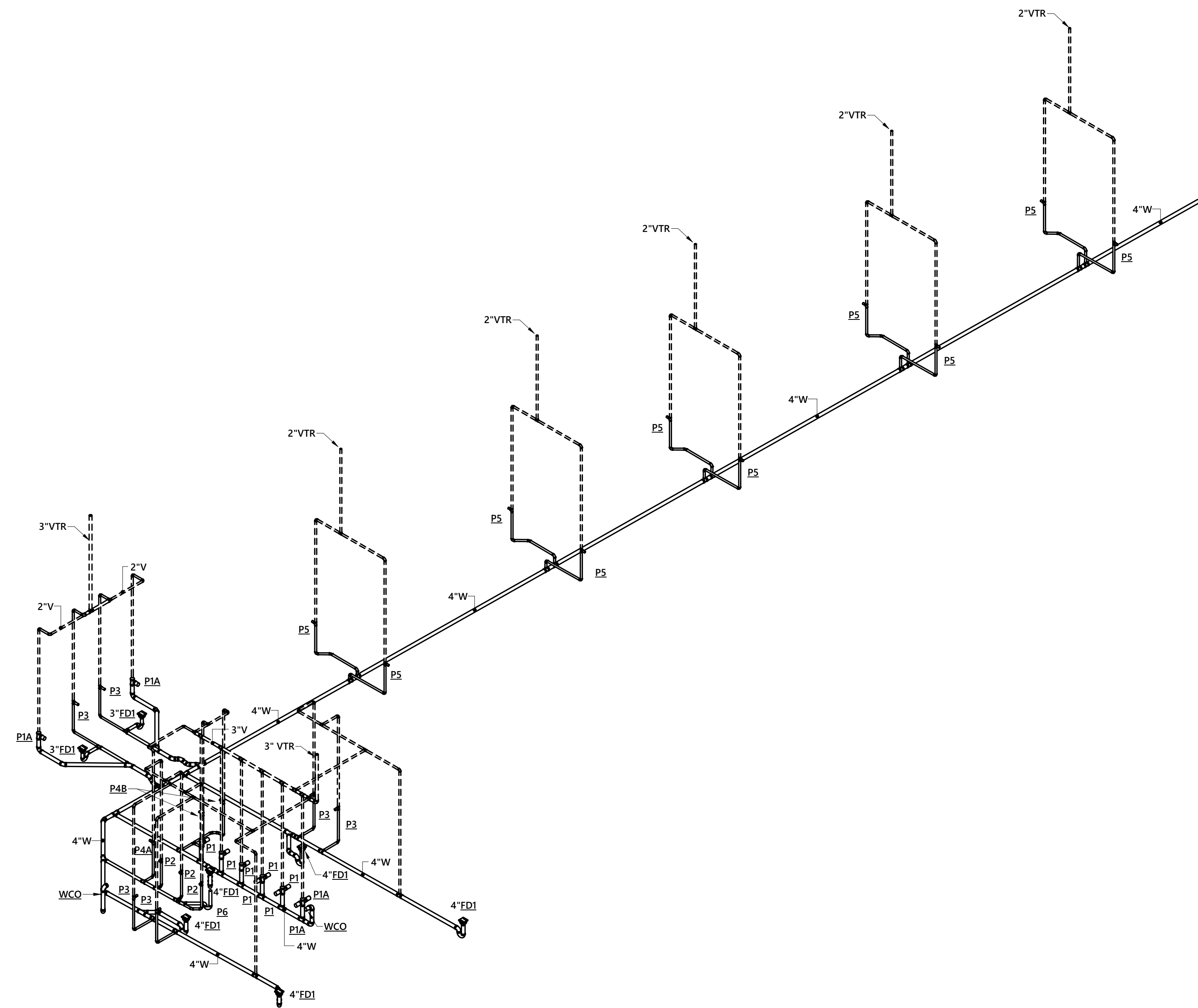
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1 FIRST FLOOR WATER SUPPLY PLAN - PHASE 2
1/8" = 1'-0"



1 PLUMBING RISER DIAGRAM - WATER SUPPLY
NOT TO SCALE



2 PLUMBING RISER DIAGRAM - WASTE AND VENT

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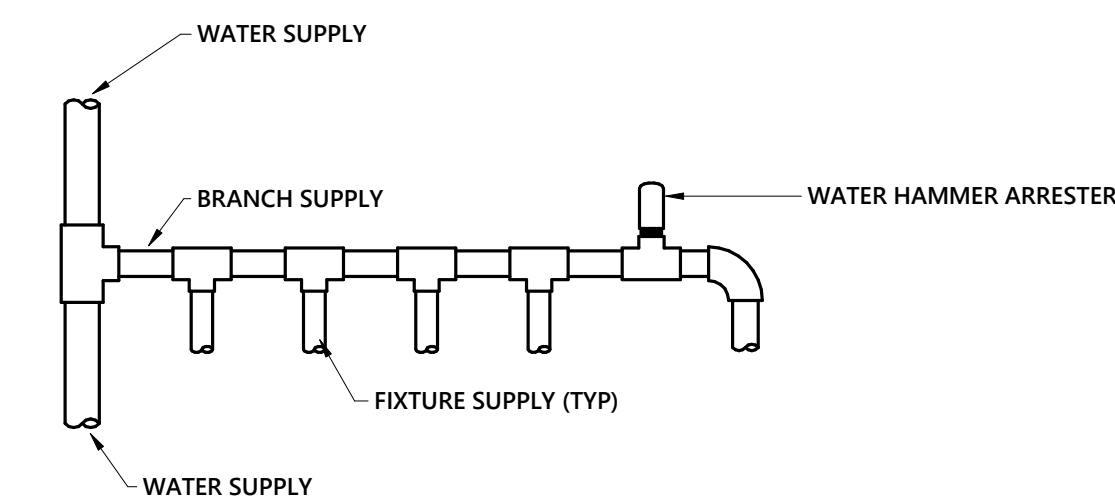
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PLUMBING RISER
DIAGRAMS

P1-401
Sheet No. 6 of 7

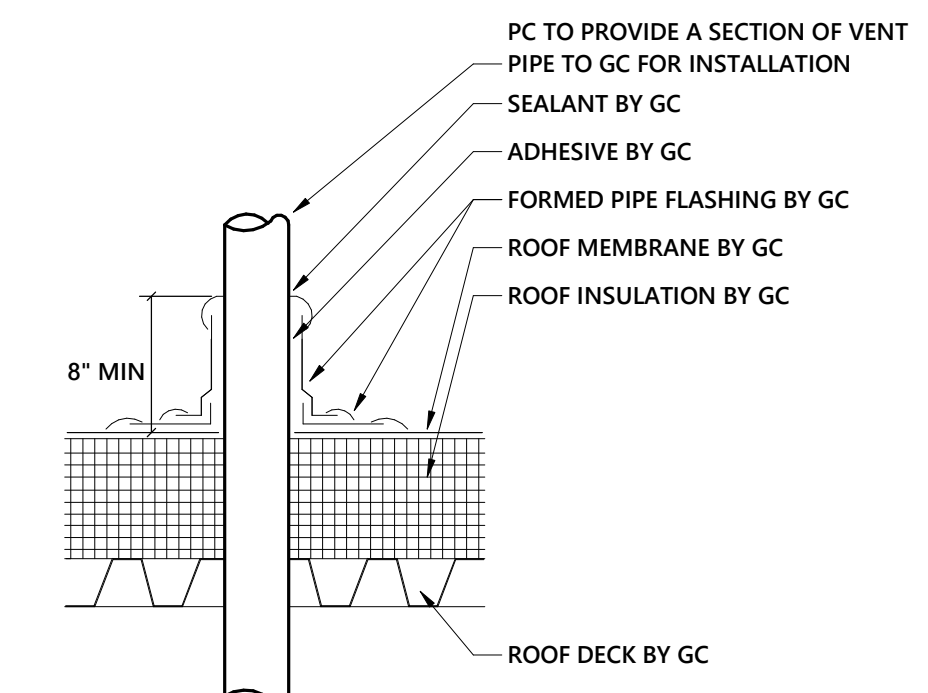
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| MARK | CONNECTED WSFU | PDI WH201 DESIGNATION | ARRESTER SIZE |
|-------|----------------|-----------------------|---------------|
| WHA-A | 1 - 11 | A | 1/2" |
| WHA-B | 12 - 32 | B | 3/4" |
| WHA-C | 33 - 60 | C | 1" |
| WHA-D | 61 - 113 | D | 1 1/4" |
| WHA-E | 114 - 154 | E | 1 1/2" |
| WHA-F | 155 - 330 | F | 2" |

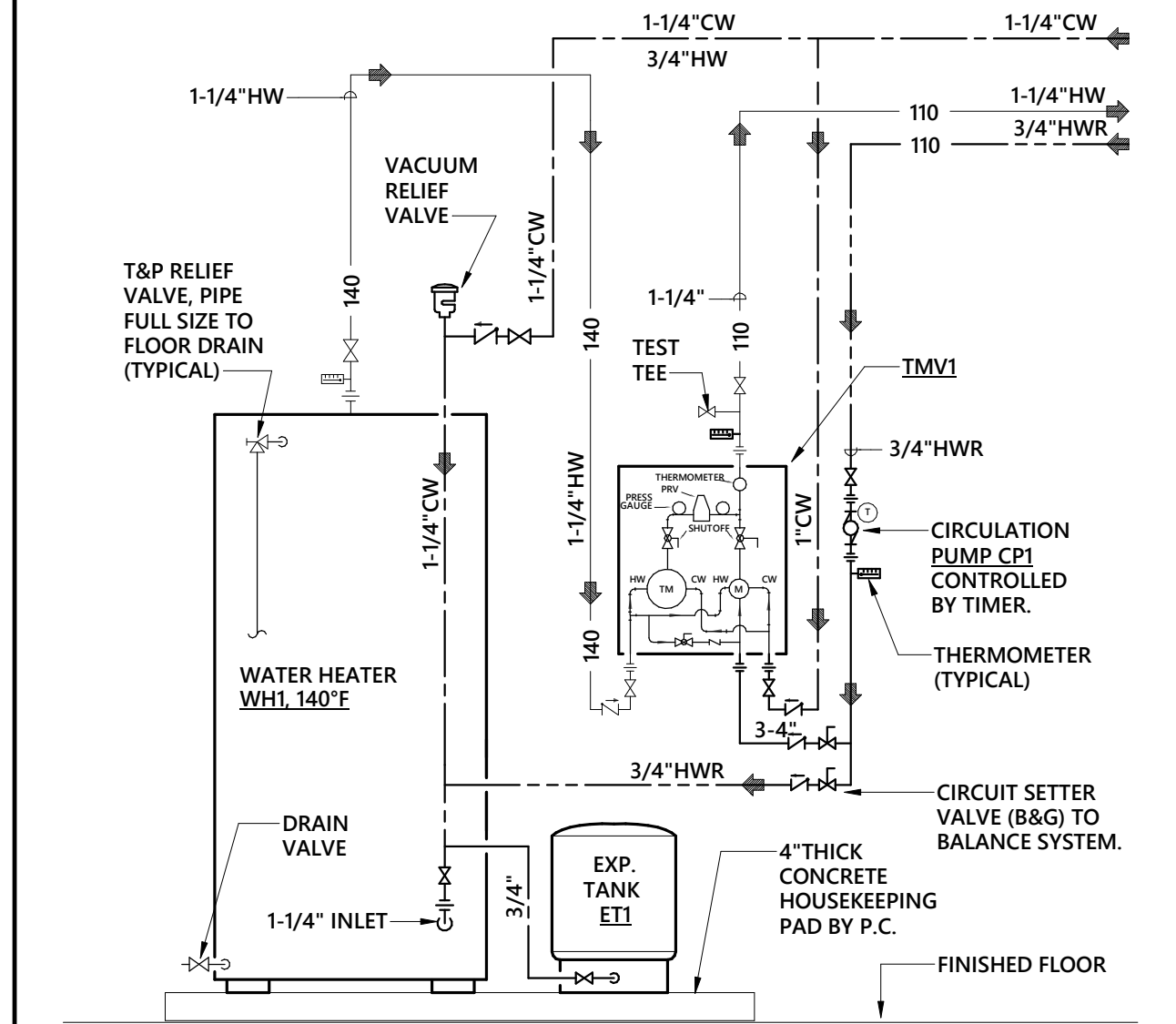
NOTES:
1. INSTALL WATER HAMMER ARRESTERS IN ACCORDANCE WITH PDI WH201 GUIDELINES.

3 WATER HAMMER ARRESTERS
SCALE: NOT TO SCALE

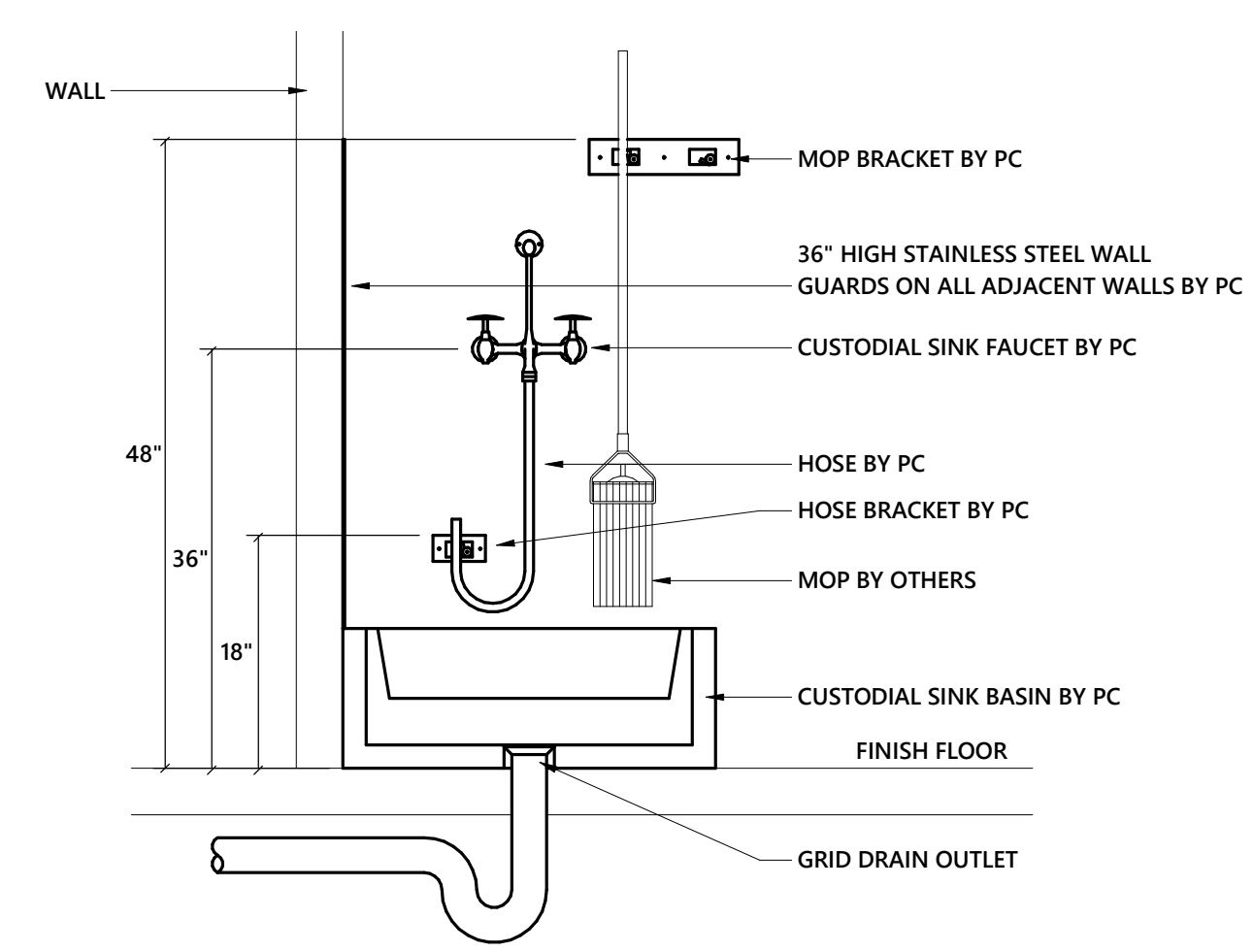


REFER TO PLUMBING PLANS FOR THE SIZES, QUANTITIES, AND LOCATIONS OF VENT TERMINALS THROUGH ROOF

4 VENT TERMINAL THROUGH ROOF
SCALE: NOT TO SCALE



1 WATER HEATER PIPING SCHEMATIC - WH1
NOT TO SCALE



2 CUSTODIAL SINK ACCESSORIES
SCALE: NOT TO SCALE

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PLUMBING DETAILS

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