PLUMBING GENERAL NOTES

1. ALL WORK, METHODS AND INSTALLATIONS INVOLVED IN THE PLUMBING DESIGN SHALL BE IN ACCORDANCE WITH THE CITY BUILDING CODE, INSPECTION REGULATIONS AND ALL OTHER OFFICIALS HAVING JURISDICTION.
2. ALL SANITARY PIPING 3" AND LARGER ROUTED AT 1/8" SLOPE PER FOOT UNLESS OTHERWISE NOTED. ALL PIPE LESS THAN 3" SHALL BE ROUTED AT 1/4" SLOPE PER FOOT.
3. EACH VENT SHALL TERMINATE VERTICALLY NOT LESS THAN 6" ABOVE ROOF, MAINTAIN MINIMUM 10'-0" DISTANCE BETWEEN VENT TERMINALS THROUGH ROOF AND ALL FRESH AIR INTAKES, AND A MINIMUM 5'-0" FROM ANY EXTERIOR WALL.
4. CONTRACTOR TO FIELD VERIFY AS NECESSARY THE EXACT ROUTING AND SIZES OF ALL PIPING.
5. PROVIDE A TWO-WAY CLEANOUT AT CIVIL'S POINT OF CONNECTION.
6. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING BELOW SLAB WITH COLUMN FOOTINGS, GRADE BEAMS, UNDERGROUND PLUMBING AND ELECTRICAL UTILITIES, AND OTHER SUB-SURFACE BUILDING ELEMENTS.
7. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING IN CEILING SPACES WITH MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTWORK AND CONDUIT. SHOULD A CONFLICT OCCUR THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO INSTALLING AN ALTERNATE PIPING PLAN.
8. COORDINATE ALL FIXTURE AND EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS WITH LATEST ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO ANY ROUGH-INS.
9. DO NOT ROUGH-IN FROM THESE DRAWINGS. REFER TO LATEST ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS.
10. PRIOR TO BEGINNING CONSTRUCTION, COORDINATE BUILDING BACKFLOW PREVENTION REQUIREMENTS WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PROVIDE AS DIRECTED.

FIRE SPRINKLER NOTE:

LICENSED SPRINKLER CONTRACTOR TO PROVIDE DRAWINGS AND HYDRAULIC CALCULATIONS FOR AN AUTOMATIC FIRE SPRINKLER SYSTEM FOR THIS BUILDING, TO COMPLY WITH SPACE LAYOUT, NFPA 13, ALL STATE AND LOCAL CODE REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

PLUMBING PIPING LEGEND

SYMBOLS	DESCRIPTION
	SANITARY OR WASTE PIPING ABOVE GRADE (SAN)
	SANITARY OR WASTE PIPING BELOW GRADE (SAN)
GW	GREASE WASTE PIPING (GW)
GW	GREASE WASTE PIPING BELOW GRADE (GW)
SD	STORM DRAIN PIPING (SD)
SSD	SUB-SOIL DRAIN OR FOOTING DRAIN (SSD)
AW	ACID WASTE PIPING (AW)
AW	ACID WASTE PIPING BELOW GRADE (AW)
PW	PUMPED WASTE (PW)
CD	CONDENSATE DRAIN PIPING (CD)
D	CONDENSATE - INDIRECT DRAIN PIPING (D)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RETURN PIPING (HWR)
FW	FILTERED WATER PIPING (FW)
TW	TEPID WATER PIPING (TW)
SCW	SOFT COLD WATER PIPING (SCW)
CDW	CHILLED DRINKING WATER PIPING (CDW)
TP	TRAP PRIMER LINE (TP)
F	FIRE PROTECTION PIPING (F)
AS	AUTOMATIC SPRINKLER PIPING (AS)
G	NATURAL GAS PIPING (G)
GV	GAS VENT PIPING (GV)
A	COMPRESSED AIR PIPING (A)
	FLOW DIRECTIONAL ARROW
	SHUT-OFF VALVE
	BALANCING VALVE (BV)
	SOLENOID VALVE (SV)
	BALL VALVE
	BUTTERFLY VALVE
	LUBRICATED PACKED PLUG STOP STOP COCK (PC)
	HORIZONTAL SWING CHECK
	UNION
	STRAINER
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	REDUCED PRESSURE BACKFLOW PREVENTER (RPBFP)
	WATER HAMMER ARRESTOR (WHA)
	PIPING DOWN
	RISE OR DROP PIPING
	PIPING UP -OR- PIPING UP & DOWN
	CAP ON END OF PIPE
	CLEANOUT (WALL OR CEILING) (CO)
	FLOOR CLEANOUT (FCO)
	EXTERIOR CLEANOUT WITH 18"x18"x4" CONCRETE PAD (ECO)
	TWO-WAY CLEANOUT (PROVIDE 18"x24"x4" CONCRETE PAD OUTSIDE)
	FIRE DEPARTMENT VALVE AT RISER
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION

SYMBOLS	DESCRIPTION
	PRESSURE REDUCING VALVE (PRV)
	BRANCH CONNECTION OUT OF TOP
	BRANCH CONNECTION OUT OF BOTTOM
	BRANCH CONNECTION OUT OF SIDE
	WYE & 1/8TH BEND BRANCH CONNECTION
	WYE BRANCH CONNECTION
	HOSE BIBB
	PRESSURE GAUGE WITH COCK
	THERMOMETER
	GAS PRESSURE REGULATOR
	TEST COCK
	GAS METER
M	FLOW METER
	WALL HYDRANT
	VALVE IN RISE
	ASME TEMPERATURE & PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	ANGLE VALVE
	OS&Y VALVE
	ROOF DRAIN
0	REFER TO DEMOLITION NOTE
0	REFER TO KEYED NOTE
FS	FLOW SWITCH
	FLOOR SINK (FS)
	FLOOR DRAIN (FD)
	FLOOR DRAIN WITH P-TRAP (FD)
	FLOOR DRAIN WITH P-TRAP AT 45° ANGLE (FD)
	HUB DRAIN (HD)
	ACCESS PANEL FOR TRAP PRIMER OR SHOCK ABSORBER
AP	ACCESS PANEL LOCATION SYMBOL
A	SHOCK ABSORBER
	AIR CHAMBER
(E)	EXISTING
(N)	NEW
VTR	VENT THRU ROOF
B.F.F.	BELOW FINISHED FLOOR
A.F.F.	ABOVE FINISHED FLOOR
	DEMOLISH TO THIS POINT
	NEW CONNECTION
IE=100.00'	INVERT ELEVATION
1	DELTA CHANGE SYMBOL
P 1 4" VTR	RISER FLAG

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Project Number: 2550-00634-00

ISSUE DATE	DESCRIPTION
10/24/2025	PERMIT SET

PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
10/24/2025
THOMAS S. WARD IV
Lic. No. 058606
PROFESSIONAL ENGINEER

JOHN FULTON ASSOCIATES, L.L.C.
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CONSTRUCTION DRAWINGS FOR SOUTHWEST COMMUNITY CHURCH MERRIMAN ROAD ROANOKE, VA

drawn by: JER
design by: JER
checked by: JDW
date: 10/24/2025
Rev:

SHEET NAME

PLUMBING GENERAL NOTES AND SYMBOLS

SHEET NUMBER

P001

PLUMBING SPECIFICATIONS

STANDPIPE AND SPRINKLER SYSTEMS

A. A WET SYSTEM SHALL BE INSTALLED IN HEATED AREAS AND DRY PIPE SYSTEMS IN AREAS SUBJECT TO FREEZING.

B. FURNISH ALL ARTICLES OF A COMPLETED SPRINKLER SYSTEM INCLUDING ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TRANSPORTATION SERVICES AND SUPERVISION FEES.

C. STUDY THE GENERAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS, IN ORDER TO BECOME FAMILIAR WITH THE BUILDING AND DETAILS AS THEY APPLY TO THE WORK OF THIS SECTION.

D. PROVIDE INSULATION FOR WET PIPES EXPOSED TO FREEZING CONDITIONS.

E. SPRINKLER HEAD: ALL HEADS SHALL BE UL LISTED AND FM APPROVED, AND COMPLY WITH THE LATEST REQUIREMENTS OF NFPA 13 WITH RESPECT TO ORIFICE SIZE UNLESS OTHERWISE NOTED. SPRINKLER HEADS WITH "O" RING DESIGN SHALL NOT BE ACCEPTABLE.

F. EXPOSED AREAS: STANDARD UPRIGHT TYPE WITH BRASS FINISH WITH ESCUTCHEON, WITH 165°F TEMPERATURE. TYCO MODEL B, FRB, OR APPROVED EQUAL.

G. SIDEWALL APPLICATIONS: HORIZONTAL SIDEWALL TYPE WITH BRASS FINISHES AND CHROME ESCUTCHEON. UNFINISHED AREAS AND RECESSED WITH CHROME PLATED ESCUTCHEON WITH 155°F TEMPERATURE RATING. TYCO MODEL B, FRB, OR APPROVED EQUAL.

H. SUSPENDED CEILINGS: ADJUSTABLE CONCEALED TYPE HEADS WITH CHROME PLATED COVER PLATE WITH GLASS BULB FUSIBLE LINK, WITH 135°F TEMPERATURE RATING. COLOR OF PLATE, SELECTED BY ARCHITECT. TYCO MODEL B, FRB, OR APPROVED EQUAL.

I. DRY SPRINKLER HEADS AT FREEZERS AND COOLERS: TYCO MODEL DS-1, DS-2, OR APPROVED EQUAL.

J. SPRINKLERS SUBJECT TO MECHANICAL INJURY SHALL BE PROTECTED WITH FUSIBLE SOLDER TYPE SPRINKLERS AND LISTED GUARDS. BULB TYPE SPRINKLERS WILL NOT BE ACCEPTABLE FOR THESE LOCATIONS: STORAGE ROOMS WITH EXPOSED STRUCTURE, MECHANICAL AND ELECTRICAL ROOMS, EXPOSED STRUCTURE AREAS.

K. INSPECTOR'S TEST CONNECTION: PROVIDE INSPECTOR'S TEST CONNECTION AS REQUIRED BY NFPA 13. DUCTILE IRON MODULE HOUSING WITH COMBINATION SIGHT GLASS, ORIFICE AND BONNET ASSEMBLY.

L. TAMPER SWITCH / SUPERVISORY SWITCH: TAMPER SWITCH ON EACH VALVE; CONTROLLING OR SHUTTING OFF SPRINKLER SYSTEM OR ANY PORTION THEREOF. SWITCH SHALL BE COMPATIBLE WITH INSTALLED VALVE FOR STANDARD MOUNTING.

M. FLOW SWITCH: VANE TYPE FLOW SWITCH; SELF CONTAINED, PNEUMATIC, ADJUSTABLE RETARD.

N. DRY PIPE SYSTEMS: GENERAL: PROVIDE A UL LISTED AND FM APPROVED DRY PIPE SYSTEM. SYSTEM SHALL CONSIST OF A DRY PIPE VALVE, AIR COMPRESSOR, FUSIBLE LINK TYPE SPRINKLER HEADS AND ALL ASSOCIATED TRIM AND PIPING FOR A COMPLETE OPERATING SYSTEM.

O. VALVES: USE VALVES SUITABLE FOR 175 PSIG WOG. VALVES TO BE UL LISTED AND FM APPROVED. WALL POST-ADJUSTABLE INDICATING VALVE: OUTSIDE BUILDING AT WATER ENTRY LOCATION INTO BUILDING, CONSISTING OF UL /FM, NON RESISTING STEM GATE VALVE AND INDICATOR.

P. ELECTRICAL ALARM BELL: 10" ROUND RED ENAMEL STEEL BELL WITH ELECTRICALLY OPERATED VIBRATING OUTDOOR ALARM BELL, UL LISTED, RED ENAMEL STEEL.

Q. GAUGES: GAUGES SHALL BE BOURDON TUBE TYPE WITH MINIMUM 4-1/2" DIAL AND DIE CAST ALUMINUM CASE WITH SCREWED RING AND BLACK ENAMEL FINISH. THE MOVEMENT SHALL BE ALL STAINLESS STEEL WITH GRADE A PHOSPHOR BRONZE BOURDON TUBE, BRAZED AT SOCKET AND TIP. THE ACCURACY OF THE GAUGE SHALL BE WITHIN ONE-HALF OF ONE PERCENT OF THE SCALE RANGE. THE POINTER SHALL BE THE MICROMETER ADJUSTMENT TYPE RECALIBRATED FROM THE FRONT. PRESSURE AND COMPOUND GAUGES SHALL HAVE SUITABLE SCALE RANGES AND GRADUATIONS. SUITABLE FOR TEMPERATURE UP TO 120°F.

R. ALARM CHECK VALVE: PROVIDE UL LISTED CHECK VALVE. VARIABLE FOR CITY SUPPLIED SYSTEMS PRESSURE TRIM SET.

S. WATER MOTOR ALARM: PROVIDE A RED ENAMEL MOTOR FOR INSTALLATION ON EXTERIOR WALL.

T. SIAMESE FIRE DEPARTMENT CONNECTION: SIAMESE WALL MOUNTED CHROME-PLATED SIAMESE. INCLUDE CAPS, SILLCOCK, CHAIN, AND PLATE LETTERED AUTO-SPKR. PROVED A 4" X 2-1/2" X 2-1/2".

U. FREE-STANDING INDICATING POST: INSTALL ADJUSTABLE INDICATING POST AND VALVE OUTSIDE BUILDING WHERE SHOWN ON CIVIL DRAWINGS, CONSISTING OF UL/FM, NON-RISING STEM GATE VALVE AND INDICATING POST. GATE VALVE SHALL BE IRON BODY, NON-RISING STEM, BRONZE MOUNTED. INDICATOR FLANGE, 175-PSI NON SHOCK RATING, FLANGED END. INDICATOR SHALL BE UL/FM APPROVED CAST IRON BODY, PLEXIGLASS WINDOW AND 18-INCH ADJUSTMENT SPAN WITH HANDLE AND TAMPER SWITCH WIRED TO MAIN FIRE ALARM CONTROL PANEL.

V. WALL POST-ADJUSTABLE INDICATING VALVE: OUTSIDE BUILDING AT WATER ENTRY LOCATION INTO BUILDING, CONSISTING OF UL/FM, NON-RISING STEM GATE VALVE AND INDICATOR. GATE VALVE SHALL BE IRON BODY, NON-RISING STEM, BRONZE MOUNTED. INDICATOR FLANGE, 175-PSI NON-SHOCK RATING, FLANGED END. INDICATOR SHALL BE UL/FM APPROVED CAST IRON BODY, PLEXIGLASS WINDOW AND 18-INCH ADJUSTMENT SPAN WITH HANDLE AND TAMPER SWITCH WIRED TO MAIN FIRE ALARM CONTROL PANEL, MANUFACTURED BY MUELLER, VALVE NO. A-2052, INDICATING POST NO. A20800, OR APPROVED EQUAL.

W. DESIGN: DESIGN, SPACING OF SPRINKLER HEADS AND SELECTION SIZES SHALL CONFORM TO THE REQUIREMENTS OF NFPA13 FOR THE INDICATED OCCUPANCY. UNIFORM DISCHARGE DENSITY SHALL BE BASED ON HYDRAULIC CALCULATIONS USING THE METHOD OUTLINED IN NFPA 13. DENSITY OF DISCHARGE FROM SPRINKLER HEADS SHALL CONFORM TO NFPA 13. FRICTION LOSSES IN PIPE WILL BE BASED ON A VALVE OF "C" = 120 IN THE HAZEN AND WILLIAMS FORMULA.

X. LOCATION: LOCATE HEADS AS MAY BE REQUIRED FOR COORDINATED CEILING PATTERN, EVEN THROUGH NUMBER OF HEADS EXCEED MINIMUM CODE REQUIREMENTS. SPRINKLER HEADS LOCATED IN UTILITY OR MECHANICAL ROOMS, PENTHOUSES, SERVICE CORRIDORS, OR OTHER SUCH SPACES NOT SUBJECT TO PUBLIC VIEW NEED NOT BE CENTERED IN CEILING PATTERNS AND MAY USE A STRAIGHT DROP FROM BRANCH LINE.

Y. INSTALLATION: PROVIDE A MINIMUM 18-INCH RADIUS SWING JOINT FOR EACH DROP TO SPRINKLER HEADS LOCATED IN CEILINGS. PROVIDE SHIELD OR DEFLECTOR FOR SPRINKLERS OR EQUIPMENT WHERE ELECTRICAL SWITCHGEAR, SWITCHBOARDS AND MOTOR CONTROL CENTERS ARE IN SPRINKLER PROTECTED SPACES.

EARTHWORK

A. EXCAVATE AND BACKFILL FOR PIPE TRENCHES FOR UNDERGROUND PIPING, AND EXCAVATE FOR STRUCTURES INSTALLED AS PART OF MECHANICAL WORK.

B. REMOVE EXCESS EXCAVATION MATERIAL OR MATERIAL UNSUITABLE FOR BACKFILL. EXCESS MATERIAL CAN BE SPREAD ON GRADE, OR SHALL BE REMOVED FROM SITE AS DIRECTED BY THE OWNER/ARCHITECT.

GENERAL

A. PERFORM WORK IN ACCORDANCE WITH APPLICABLE STATUTES, ORDINANCES, CODES AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.

B. OBTAIN ALL PERMITS REQUIRED.

C. CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT GIVE FULLY DIMENSIONED LOCATIONS OF VARIOUS ELEMENTS OF WORK. DETERMINE EXACT LOCATIONS FROM FIELD MEASUREMENTS.

D. GUARANTEE WORK FOR 1 YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT. DURING THAT PERIOD MAKE GOOD ANY FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIAL, EQUIPMENT OR WORKMANSHIP. AT THE OWNER'S OPTION, REPLACEMENT OF FAILED PARTS OR EQUIPMENT SHALL BE PROVIDED.

E. PROVIDE FINISHES TO MATCH APPROVED SAMPLES. ALL EXPOSED FINISHES SHALL BE APPROVED BY THE ARCHITECT. SUBMIT COLOR SAMPLES AS REQUIRED.

F. PROVIDE EQUIPMENT HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED AND GROUND MOUNTED PLUMBING EQUIPMENT, AND AS SHOWN ON THE DRAWINGS. CONCRETE PADS ARE TO BE 4" THICK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

G. PROVIDE NAMEPLATES WITH 1/2" HIGH LETTERS AND FASTENED WITH EPOXY OR SCREWS.

H. MAINTAIN QUALITY CONTROL OVER SUPERVISION, SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS, PRODUCTS, SERVICES, SITE CONDITIONS AND WORKMANSHIP TO PRODUCE WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS.

I. COMPLY WITH INDUSTRY STANDARDS EXCEPT WHEN MORE RESTRICTIVE TOLERANCES OR SPECIFIED REQUIREMENTS INDICATE MORE RIGID STANDARDS OR MORE PRECISE WORKMANSHIP.

J. PERFORM WORK BY PERSONS QUALIFIED TO PRODUCE WORKMANSHIP OF SPECIFIED QUALITY.

K. SECURE PRODUCTS IN PLACE WITH POSITIVE ANCHORAGE DEVICES DESIGNED AND SIZED TO WITHSTAND STRESSES, VIBRATION, AND RACKING. UNDER NO CONDITIONS SHALL MATERIAL OR EQUIPMENT BE SUSPENDED FROM STRUCTURAL BRIDGING

L. COMPLY WITH INSTRUCTIONS IN FULL DETAIL, INCLUDING EACH STEP IN SEQUENCE. SHOULD INSTRUCTION CONFLICT WITH CONTRACT DOCUMENTS, REQUEST CLARIFICATION FROM ARCHITECT/ENGINEER BEFORE PROCESSING.

PLUMBING FIXTURES AND FIXTURES CARRIERS:

A. ACCEPTABLE MANUFACTURERS:
   A. VITREOUS CHINA FIXTURES: AMERICAN STANDARD, ELJER, KOHLER, TOTO, ZURN.
   B. PLUMBING FAUCETS: AMERICAN STANDARD, CHICAGO, T&S BRASS, ZURN, SYMMONS, MOEN COMMERCIAL HD
   C. SUPPORTS AND CARRIERS: ZURN, J.R. SMITH, WADE, JOSAM, WATTS/ANCON, MIFAB
   D. FLUSH VALVES: SLOAN, ZURN, MOEN COMMERCIAL HD
   E. SUPPLIES, STOPS AND CHROME PLATED TUBULAR BRASS: MCGUIRE, KOHLER, CHICAGO, ZURN, BRASSCRAFT
   F. WATER CLOSET SEATS: BENEKE, CHURCH, OLSONITE, BEMIS, CENTOCO
   G. ELECTRIC DRINKING FOUNTAINS: HALSEY TAYLOR, ELKAY, OASIS, HAWS, ACORN AQUA
   H. FLOOR DRAINS: ZURN J.R. SMITH, JOSAM, WADE, WATTS/ANCON, SIOUX CHIEF, MIFAB
   I. CLEANOUTS: ZURN, J.R. SMITH, JOSAM, WADE, WATTS/ANCON, MIFAB
   J. STAINLESS STEEL SINKS: ELKAY, JUST
   K. MOP SINKS: CRANE FIAT, STERN WILLIAMS, ACORN, CECO
   L. THERMOSTATIC MIXING VALVES: LAWLER, SYMMONS, POWERS, HOLBY
   M. HOSE BIBS: CHICAGO, JOSAM, WOODFORD, ZURN J.R. SMITH, WADE
   N. WALL HYDRANTS: WOODFORD, MIFAB, ZURN, J.R. SMITH, JOSAM, WADE

B. INSTALLATION:
   1. INSTALLATION SHALL BE ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
   2. PROVIDE NECESSARY STOPS, VALVE, TRAPS, UNIONS, VENTS, COLD WATER, HOT WATER, SANITARY, ETC. FOR A COMPLETE INSTALLATION.
   3. REMOVE PIPING AND SERVICES ROUGHED-IN INCORRECTLY AND INSTALL CORRECTLY, WITHOUT COST.
   4. EXPOSED PIPING, FITTINGS AND APPURTENANCES SHALL BE CHROME-PLATED BRASS.
   5. PROVIDE ISOLATION VALVES IN DOMESTIC WATER LINES TO ISOLATE ALL EQUIPMENT, RESTROOMS, HOSEBIBS, AND WHERE SHOWN ON DRAWINGS.

DOMESTIC WATER PIPING AND APPURTENANCES

A. FURNISH AND INSTALL DOMESTIC HOT AND COLD WATER PIPING.

B. BELOW SLAB ON GRADE PIPING. FURNISH ASTM B 88 AND ANSI/NSF STANDARD 61 COLD DRAWN, TYPE K COPPER WATER TUBE. RUN CONTINUOUS WITH NO JOINTS UNDER THE FLOOR SLAB. PROVIDE COPPER PIPE CORROSION PROTECTION AS SPECIFIED IN THIS SECTION.

C. ABOVE SLAB PIPING. PROVIDE SEAMLESS ASTM B 88 AND ANSI/NSF STANDARD 61 TYPE L COPPER WATER TUBE WITH WROUGHT COPPER AND BRONZE SOLDER-JOINT, ANSI B16.22. SOLDER MATERIAL SHALL BE 95-5 (LEAD FREE) (TIN-ANTIMONY-GRADE 95TA) ASTM 32.

D. WATER HAMMER ARRESTORS: PROVIDE PISTON TYPE HYDRAULIC ENGINEERED/MANUFACTURED WATER HAMMER ARRESTORS IN COLD AND HOT WATER SUPPLY LINES IN CHASES OR WALLS TO EACH FIXTURE BRANCH OR BATTERY OF FIXTURES SERVING QUICK CLOSING VALVES OF ELECTRICAL, PNEUMATIC, SPRING LOADED TYPE, OR QUICK HAND CLOSURE VALVES ON FIXTURE TRIM. PROVIDE WATER HAMMER ARRESTORS AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES SERVED. PROVIDE PRECISION PLUMBING PRODUCTS, INC., OR EQUAL. SIZE UNITS ACCORDING TO WATER HAMMER ARRESTOR'S STANDARD PDI WH-201; REFER TO SCHEDULE ON DRAWINGS.

E. AIR CHAMBERS: PROVIDE A MINIMUM 18-INCH LONG AIR CHAMBER, OF THE SAME SIZE AND CONNECTING PIPE MATERIAL AT EACH SINGLE LAVATORY, SINK, DRINKING FOUNTAIN OR FIXTURE THAT DOES NOT HAVE A QUICK-CLOSING VALVE OR ELECTRICAL, PNEUMATIC, SPRING LOADED TYPE, OR FLUSH VALVE. AIR CHAMBERS TO BE USED FOR REMOTE FIXTURES AND NOT MIXED WITH WATER HAMMER ARRESTORS AT GROUP TOILETS.

F. TESTING: TEST UNDER A COLD WATER HYDROSTATIC PRESSURE OF NOT LESS THAN 50 PSI. THIS PRESSURE SHALL BE HELD FOR NOT LESS THAN 15 MINUTES AND CAREFULLY CHECK FOR LEAKS. REPAIR LEAKS AND RETEST SYSTEM UNTIL PROVEN WATERTIGHT. USE ONLY POTABLE WATER FOR THE TEST. PERFORM THE TEST BEFORE FIXTURES, FAUCETS, TRIM OR FINAL CONNECTIONS ARE MADE TO EQUIPMENT.

G. COPPER PIPE CORROSION PROTECTION: CORROSION PROTECT COPPER TUBE PIPING SYSTEMS: IN THE BUILDING SLAB.

H. COVER COPPER TUBING PIPING SYSTEM WITH: "TAPECOAT" TC PRIMER. EXTEND THE CORROSION PROTECTION 2 INCHES ABOVE CONCRETE SLAB ON GRADE.

I. STERILIZE THE WATER SYSTEM WITH SOLUTION CONTAINING NOT LESS THAN 50PPM AVAILABLE CHLORINE. ALLOW CHLORINATING SOLUTION TO REMAIN IN SYSTEM FOR PERIOD OF 8 HOURS (MINIMUM). HAVE VALVES AND FAUCETS OPENED AND CLOSED SEVERAL TIMES DURING THE PERIOD. AFTER STERILIZATION, FLUSH THE SOLUTION FROM THE SYSTEM WITH CLEAN WATER UNTIL RESIDUAL CHLORINE CONTENT IS LESS THAN 0.2 PARTS PER MILLION.

SOIL, WASTE AND SANITARY DRAIN PIPING, VENT PIPING AND APPURTENANCES

A. ABOVE SLAB PIPING: SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784-82.

B. BELOW SLAB ON GRADE PIPING: SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS. SOLVENT WELDED DWV JOINTS SHALL CONFORM TO IAPMO INSTALLATION STANDARD IS-9. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784, ASTM D 1785, ASTM D 2665, ASTM D 3311 AND NPS STANDARD 14 & 61.

C. VENT PIPE AND FITTINGS: ABOVE SLAB PIPING. PROVIDE SCHEDULE 40 PVC PLASTIC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS. PIPE AND FITTINGS SHALL CONFORM TO ASTM D 1784-82.

D. BELOW SLAB ON GRADE PIPING: SAME AS DRAIN PIPE AND FITTINGS LISTED ABOVE.

E. ABOVE SLAB PIPE: DRAINAGE-WASTE-VENT COPPER PIPE AND FITTINGS FOR WASTE STUB-OUTS FOR ALL FIXTURE LOCATIONS.

F. TESTING: BELOW SLAB ON GRADE AND ALL FLOORS IN MULTI-STORY BUILDINGS: TEST PIPE BELOW SLAB ON GRADE BEFORE BACKFILLING AND CONNECTING TO CITY SEWERS. MAINTAIN NOT LESS THAN 10 FOOT OF HYDROSTATIC HEAD FOR 1 HOUR WITHOUT A LEAK.

G. RODDING SEWERS: ALL SANITARY SOIL AND WASTE LINES, BOTH IN THE BUILDING AND OUT, SHALL BE RODDED OUT AND FLUSHED OUT AFTER COMPLETION OF CONSTRUCTION AND PRIOR TO FINISH FLOOR BEING INSTALLED. ALL WORK MUST BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION. ALL FLOOR DRAINS AND CLEANOUT LOCATIONS MUST BE INCLUDED IN THIS WORK.

H. PIPING TO BE INSULATED:
   a. MAKE-UP WATER
   b. HORIZONTAL SANITARY DRAIN PIPING THAT RECEIVES CONDENSATE.
   c. EXPOSED TO VIEW STORM DRAINAGE SYSTEM INCLUDING ROOF AND OVERFLOW DRAIN BODIES, VERTICAL PIPING FROM DRAIN BODY AND ALL HORIZONTAL RAIN LEADERS TO FIRST ELBOW TURNING.

DOMESTIC WATER INSULATION

A. ELASTOMERIC INSULATION: INSULATION MATERIAL SHALL BE FLEXIBLE, CLOSED-CELL ELASTIC INSULATION IN TUBULAR OR SHEET FORM. MATERIAL SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84, LATEST REVISION. REFER TO PIPE INSULATION THICKNESS CHART ON PLUMBING SCHEDULE SHEET.

B. FIBERGLASS INSULATION: THICK HEAVY DENSITY, DUAL TEMPERATURE FIBERGLASS INSULATION WITH FACTORY APPLIED, ALL SERVICE, REINFORCED VAPOR BARRIER JACKET HAVING INTEGRAL LAMINATED VAPOR BARRIER. PROVIDE WITH A FACTORY APPLIED PRESSURE SENSITIVE TAPE CLOSURE SYSTEM AND MATCHING BUTT STRIPS. REFER TO PIPE INSULATION THICKNESS CHART ON PLUMBING SCHEDULE SHEET.

C. COVER ALL HOT & COLD WATER PIPING WITH INSULATION BY SLITTING TUBULAR SECTIONS OR SLIDING UN-SLIT SECTIONS OVER THE OPEN ENDS OF PIPING OR TUBING. SEAMS AND BUTT JOINTS SHALL BE ADHERED AND SEALED USING ADHESIVE.

D. ALL FITTINGS SHALL BE INSULATED WITH THE SAME INSULATION THICKNESS AS THE ADJACENT PIPING. ALL SEAMS AND MITERED JOINTS SHALL BE ADHERED WITH ADHESIVE.

E. INSULATION APPLICATIONS:
   a. INDOOR CONCEALED: ELASTOMERIC
   b. INDOOR EXPOSED: FIBERGLASS
   c. OUTDOOR: ELASTMERIC WITH TWO COATS OF EITHER WB OR SB ARMAFLEX FINISH OR FOSTER 30-64 ELASTOMER FOAM COATING. ALL SEAMS SHALL BE LOCATED ON THE LOWER HALF OF THE PIPE.

GAS PIPING

A. FURNISH AND INSTALL STEEL GAS PIPE INSIDE BUILDINGS, INCLUDING THE SUPPLY LINE FROM THE METER, SERVICE LINES TO GAS EQUIPMENT AND APPLIANCES, TERMINATION OF THE SERVICE LINE WITH A PLUG VALVE, DRIP LEG, AND FINAL CONNECTION TO EQUIPMENT AND APPLIANCES WITH UNIONS.

B. COORDINATE SERVICE LINE FROM UTILITY MAIN AND EXTEND TO METER. COORDINATE INSTALLATION OF THE SERVICE LINE AND METER WITH GAS COMPANY.

C. EXTEND STEEL GAS PIPING FROM METER TO INSIDE THE BUILDING TO ALL FIXTURES, APPLIANCES AND EQUIPMENT REQUIRING GAS.

D. INSTALLATION STANDARDS: INSTALL GAS PIPING IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION.

E. PIPE SHALL BE SCHEDULE 40 ASTM A 53 BLACK STEEL PIPE WITH FACTORY FABRICATED SOCKET WELD FITTINGS.

F. DRIP LEGS: INSTALL A CAPPED DRIP LEG 6" LONG AT THE BASE OF EACH VERTICAL RISE.

G. WELD ALL GAS PIPING ABOVE GRADE INSIDE THE BUILDING.

H. TEST GAS PRESSURE AS REQUIRED BY CODE, BUT MINIMUM PRESSURE SHALL NOT BE LESS THAN 1.5 TIMES THE PROPOSED WORKING PRESSURE AND NOT LESS THAN 3 PSI. TEST DURATION SHALL NOT BE LESS THAN 30 MINUTES FOR EACH 500 CUBIC FEET OF PIPE VOLUME, NO LESS THAN 10 MINUTES.

I. GAS PIPE ON WALL TO ROOF AND GAS PIPE ON ROOF SHALL BE PROTECTED FROM RUST, BY PAINTING.

GAS FIRED WATER HEATER

A. ACCEPTABLE MANUFACTURERS: LOCHINVAR, STATE, RHEEM/RUUD, A.O. SMITH

B. PROVIDE GAS-FIRED WATER HEATERS WITH BURNER, RECOVERY RATINGS, AND STORAGE CAPACITIES AS SCHEDULED ON DRAWINGS.

C. PROVIDE AT EACH HEATER AN AUTOMATIC TEMPERATURE AND PRESSURE RELIEF VALVE WITH RATING MATCHING OR EXCEEDING THE ENERGY INPUT RATE. PIPE VALVE "FULL SIZE" TO EXTERIOR.

D. INSTALL WATER HEATER IN GALVANIZED DRAIN PAN PIPED TO EXTERIOR. PROVIDE 3" OUTLET CONNECTION.

E. PROVIDE TYPE B HEATER FLUE OF SIZE SHOWN ON DRAWING. EXTEND FLUE FROM DIVERTER THROUGH ROOF & TERMINATE WITH VACUUM CAP. PROVIDE FLASHING AT ROOF PENETRATION.

F. PROVIDE APPROVED DIELECTRIC COUPLINGS AT ALL COLD WATER AND HOT WATER CONNECTION TO STORAGE TANK, AND AT PRESSURE AND TEMPERATURE RELIEF VALVE CONNECTION.

DOMESTIC WATER PUMPS

A. SELECT PUMPS CONSERVATIVELY FOR SCHEDULED CONDITIONS. FURNISH PUMPS THAT HAVE REASONABLY HIGH EFFICIENCIES, WITH PEAK EFFICIENCY AT OR NEAR RATED CONDITIONS.

B. IF THE PUMPS PROPOSED ARE NOT CONSIDERED SUITABLE, SUBMIT MANUFACTURER'S DATA ON OTHER PUMPS FOR REVIEW.

C. SCHEDULED DESIGN FLOW, DESIGN HEAD, PUMP EFFICIENCY, AND MOTOR HORSEPOWER ARE THE MINIMUM ACCEPTABLE.

D. THE PUMP CURVE SHALL RISE CONTINUOUSLY FROM MAXIMUM FLOW TO CUT-OFF.

E. PUMP SIZE & TYPE: PROVIDE MOTOR-DRIVEN PUMPS OF THE TYPE AND SPEED SCHEDULED. SELECT PUMPS THAT ARE NOT OVERLOADED THROUGHOUT THE ENTIRE RANGE OF PUMP OPERATION. PROVIDE PUMP CONNECTION SIZES AS INDICATED. SUBMIT COPIES OF MANUFACTURER'S PERFORMANCE CURVES, AS SHOP DRAWINGS ON EACH PUMP. CLEARLY MARK THE CURVES FOR EACH PUMP TO INDICATE THE DIAMETER OF THE IMPELLER AND THE SELECTION POINT.

F. CERTIFIED DATA: SUBMIT FACTORY CERTIFIED PUMP CURVES SHOWING PUMP PERFORMANCE CHARACTERISTICS WITH PUMP AND SYSTEM OPERATING POINTS PLOTTED. CURVES SHALL INCLUDE AS A MINIMUM, FLOW (GALLONS PER MINUTE), HEAD (FEET OF WATER), ALL AVAILABLE IMPELLER DIAMETERS (INCHES), EFFICIENCY (PERCENT), NET POSITIVE SUCTION HEAD REQUIRED (FEET OF WATER), BRAKE HORSEPOWER, PUMP SIZE AND PUMP MODEL. SHOW PUMP CURVES WITH SYSTEM CURVE PLOTTED.

G. DOMESTIC HOT WATER CIRCULATING PUMPS: SHALL BE CONSTRUCTION OF WET-ROTOR, IN-LINE, SINGLE STAGE, BRONZE HOUSINGS WITH 1/2" AND 3/4" SWEAT CONNECTIONS, STAINLESS STEEL HOUSING WITH UNION THREADED CONNECTIONS, INTEGRATED CHECK VALVE INSIDE UNION FITTING ON A SWEAT PUMP HOUSING, BUILT-IN 5-FOOT, 115 VOLT AC LINE CORD WITH NEMA 3 PRONG MALE PLUG OR LINE CORD, BUILT-IN TIMER, AQUASTAT THERMOSTATIC CONTROL.

H. SUBMERSIBLE SUMP PUMP AND SEWAGE EJECTORS: PUMP SHALL BE CONSTRUCTED OF HERMETICALLY SEALED MOTOR, POSITIVE ACTION AIR OPERATED DIAPHRAGM SWITCH (HIGH WATER ALARM CONTACT), AND A HOUSING AND BASE CAST IRON CONSTRUCTION.
   a. IN THE EVENT OF A HIGH WATER ALARM, ENERGIZE A PULSING 2" DIAMETER RED SIGNAL LIGHT WITH GRAPHIC "SUMP PUMP HIGH WATER ALARM". PROVIDE AN ALARM TERMINAL CABINET.
   b. TEST THE SUMP PUMP PACKAGE BY OPERATION OF THE COMPLETED SYSTEM THROUGH FOUR CYCLES OF OPERATIONS: FILL THE SUMP TO OPERATIONAL LEVELS; VISUALLY CHECK LEVEL CONTROLS; PUMP OPERATION; VERIFY ABSENCE OF PIPING LEAKS, SUMP LEAKS, EXCESSIVE NOISE, AND EXCESSIVE VIBRATION; VERIFY ALARMS; VERIFY PUMP CAPACITY.
   c. SUMP PUMP PACKAGE CAPACITY SHALL BE SCHEDULED.
   d. ACCEPTABLE MANUFACTURERS: HYDROMATIC, LITTLE GIANT PUMP CO., WEIL, GOULDS, GRUNDFOS, CRANE (BARNES) AIR PUMPS, EBARA.

INSTALLATION

1. INSTALL THE PUMPS IN ACCORDANCE WITH MANUFACTURER'S "INSTALLATION, START-UP AND SERVICE INSTRUCTIONS". PROVIDE ACCESS SPACE AROUND PUMPS FOR SERVICE. LUBRICATE PUMPS PRIOR TO START-UP.
2. INSTALL HOT WATER CIRCULATOR HORIZONTALLY, PROPERLY SUPPORTED TO WALL, IN AN ACCESSIBLE LOCATION FOR TESTING AND MAINTENANCE AT A HEIGHT NOT TO EXCEED 60" ABOVE FINISHED FLOOR.
3. PROVIDE A LINE SIZE ISOLATION VALVE AND STRAINER ON THE PUMP SUCTION AND A LINE SIZE SILENT CHECK VALVE AND BALANCING VALVE ON THE PUMP DISCHARGE.
4. SUPPORT PIPING ADJACENT TO THE PUMP SUCH THAT NO WEIGHT IS CARRIED ON THE PUMP CASING. DECREASE FROM PIPE SIZE WITH ECCENTRIC REDUCER ON SUCTION SIDE AND CONCENTRIC INCREASER ON DISCHARGE SIDE.
5. REFER TO PUMP DETAIL ON THE CONTRACT DRAWINGS FOR PIPING ACCESSORIES TO BE PROVIDED.

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SHEET NAME

PLUMBING SPECIFICATIONS

SHEET NUMBER

P002

PLUMBING FIXTURE SPECIFICATIONS

MARK	REMARKS
CLEANOUTS (CO)	
ECO	EXTERIOR CLEANOUT, DURA-COATED CAST IRON BODY AND ADJUSTABLE TOP ASSEMBLY, DECK PLATE, AND GAS/WATER TIGHT THREADED ABS TAPERED PLUG.
FCO	FLOOR CLEANOUT, DURA-COATED CAST IRON BODY AND ADJUSTABLE TOP ASSEMBLY, AND GAS/WATER TIGHT THREADED ABS TAPERED PLUG.
WCO	CLEANOUT TEE. DURA-COATED CAST IRON BODY, GAS & WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH VANDAL-PROOF SECURING SCREWS
DRAINAGE FIXTURE (FD, FS, HD, TD)	
FD-1	FLOOR DRAIN, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, TYPE "B" LIGHT DUTY HEEL PROOF STRAINER. REFER TO FLOOR PLANS FOR SIZES. TRAP SEAL: PROVIDE ASSE 1072 PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. SERVICE: TOILET ROOMS AND GENERAL USE
FD-2	FLOOR DRAIN, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, TYPE "B" LIGHT DUTY HEEL PROOF STRAINER. REFER TO FLOOR PLANS FOR SIZES. TRAP SEAL: PROVIDE ASSE 1072 PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. SERVICE: MECHANICAL ROOM
FS-1	CAST IRON 12" SQUARE FLOOR SINK WITH 8" DEEP SUMP, 16 GAGE TYPE 304 STAINLESS STEEL, LOOSE SET FULL GRATE, STAINLESS STEEL INTERIOR DOME STRAINER. TRAP SEAL: PROVIDE ASS 1072 PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR SINK BY SIZE, MODEL, AND MANUFACTURER. SERVICE: BAPTISTERY DRAINAGE
DRINKING FOUNTAIN (EWC)	
EWC-1	WALL HUNG, BARRIER FREE, BI-LEVEL ELECTRIC DRINK FOUNTAIN WITH ELECTRONIC BOTTLE FILLER SENSOR AND SHIELDED VANDAL-RESISTANT BUBBLER. 8 GPH OF 50 DEGREE WATER AT 90 DEGREE AMBIENT AND 80 DEGREE INLET WATER. PROVIDE CANE TOUCH SKIRT TO COMPLY WITH ADA GUIDELINES. P-TRAP: 1-1/4" CHROME PLATED CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON. MCGUIRE 8872. SUPPLIES: 1/2" I.P.S. X 3/8" O.D.CHROME PLATED STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISER. MCGUIRE 2165. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 3" X 4-1/2" BASE ANCHORED TO CONCRETE SLAB WITH (4) 1/2" BOLTS. ADJUSTABLE SLEEVE FOR CONNECTION TO HANGER PLATE PROVIDED BY FIXTURE MANUFACTURER. MIFAB MC-33.
HYDRANTS (HB, RH, WH)	
HB-1	WALL-MOUNTED FAUCET, INDOOR USE, CHROME MILD CLIMATE, 3/4" F.P.T. INLET, 3/4" MALE HOSE THREAD OUTLET.
WH-1	NON-FREEZE, ENCASED, FLUSH WALL HYDRANT, LOOSE KEY, COPPER CASING TUBES. SERVICE: GENERAL USE
MOP SINK (MS)	
MS-1	BASIN, 24" X 24" X 10", MOLDED STONE MATERIAL, STAINLESS STEEL DRAIN BODY, STAINLESS STEEL STRAINER INCLUDED. FAUCET: WALL MOUNTED, 8" CENTERS, INTEGRAL SUPPLY STOPS, VANDAL PROOF 2-3/8" LEVER HANDLES, 1/4-TURN OPERATING CARTRIDGE (LEFT- AND RIGHT-HAND), VACUUM BREAKER ASSEMBLY.
SINK/LAVATORIES (L, SK)	
L-1A	DROP-IN, VITREOUS CHINA, 20-3/8"X 17-3/8" BOWL WITH FRONT OVERFLOW, FAUCET LEDGE. FAUCET: DECK MOUNTED, CHROME FINISH, SINGLE LEVER ON 4" CENTERS VANDAL RESISTANT AERATOR WITH 0.5 GPM FLOW. STRAINER: 1-1/4" 17 GAUGE OFFSET WHEELCHAIR STRAINER, CHROME PLATED BRASS GRID DRAIN WITH ELBOW AND 17 GAUGE OFFSET TAILPIECE. MCGUIRE 155WC. P-TRAP: 1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8872. SUPPLIES: 1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165LK. TMV: PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE, 130 DEGREES IN, 110 DEGREES OUT, BRONZE FINISH, UNION CONNECTION, 5 PSI PRESSURE DIFFERENTIAL, 0.5 GPM MIN FLOW / 4 GPM MAX FLOW. SYMMONS "MAXLINE" 7-225-CK-W. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 4" SQUARE BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, THREADED CONCEALED ARMS, ALIGNMENT BAR, LOCKING DEVICE, AND LEVELING SCREWS. WADE W520-M36.
L-2A	STANDARD WALL MOUNTED, VITREOUS CHINA, 18-1/2"X 17" BOWL WITH REAR OVERFLOW, FAUCET HOLES ON 4" CENTERS. FAUCET: DECK MOUNTED, CHROME FINISH, SINGLE LEVER ON 4" CENTERS VANDAL RESISTANT AERATOR WITH 0.5 GPM FLOW. STRAINER: 1-1/4" 17 GAUGE OFFSET WHEELCHAIR STRAINER, CHROME PLATED BRASS GRID DRAIN WITH ELBOW AND 17 GAUGE OFFSET TAILPIECE. MCGUIRE 155WC. P-TRAP: 1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8872. SUPPLIES: 1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165LK. TMV: PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE, 130 DEGREES IN, 110 DEGREES OUT, BRONZE FINISH, UNION CONNECTION, 5 PSI PRESSURE DIFFERENTIAL, 0.5 GPM MIN FLOW / 4 GPM MAX FLOW. SYMMONS "MAXLINE" 7-225-CK-W. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 4" SQUARE BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, THREADED CONCEALED ARMS, ALIGNMENT BAR, LOCKING DEVICE, AND LEVELING SCREWS. WADE W520-M36.
L-3	CHILD HEIGHT WALL MOUNTED, VITREOUS CHINA, 18-1/2"X 17" BOWL WITH REAR OVERFLOW, FAUCET HOLES ON 4" CENTERS. FAUCET: DECK MOUNTED, CHROME FINISH, SINGLE LEVER ON 4" CENTERS VANDAL RESISTANT AERATOR WITH 0.5 GPM FLOW. STRAINER: 1-1/4" 17 GAUGE OFFSET WHEELCHAIR STRAINER, CHROME PLATED BRASS GRID DRAIN WITH ELBOW AND 17 GAUGE OFFSET TAILPIECE. MCGUIRE 155WC. P-TRAP: 1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8872. SUPPLIES: 1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165LK. TMV: PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE, 130 DEGREES IN, 110 DEGREES OUT, BRONZE FINISH, UNION CONNECTION, 5 PSI PRESSURE DIFFERENTIAL, 0.5 GPM MIN FLOW / 4 GPM MAX FLOW. SYMMONS "MAXLINE" 7-225-CK-W. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 4" SQUARE BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, THREADED CONCEALED ARMS, ALIGNMENT BAR, LOCKING DEVICE, AND LEVELING SCREWS. WADE W520-M36.
SK-1	DROP-IN, 18 GAUGE TYPE 304 STAINLESS STEEL, 25" X 22" X 10-3/8" DEEP, SINGLE COMPARTMENT WITH FAUCET DECK. FAUCET: DECK MOUNTED, MANUAL FAUCET, 4" CENTERS, 1.5 GPM FLOW, PROVIDE AERATOR WITH MAX FLOW OF 1.5 GPM. STRAINER: 3-1/2" DRAIN TYPE 304 STAINLESS STEEL BODY STRAINER BASKET RUBBER SEAL AND TAILPIECE. ELKAY LK99. P-TRAP: 1-1/2" 17 GAUGE CHROME PLATED CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8912. SUPPLIES: 1/2" I.P.S. X 3/8" O.D. WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165. TMV: PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE, 130 DEGREES IN, 110 DEGREES OUT, BRONZE FINISH, UNION CONNECTION, 5 PSI PRESSURE DIFFERENTIAL, 0.5 GPM MIN FLOW / 4 GPM MAX FLOW. SYMMONS "MAXLINE" 7-225-CK-W.
SK-2	DROP-IN, 18 GAUGE TYPE 304 STAINLESS STEEL, 33" X 22" X 7-7/8" DEEP, 2-COMPARTMENT WITH FAUCET DECK. FAUCET: DECK MOUNTED, MANUAL FAUCET, SINGLE HOLE MOUNTING, 1.5 GPM FLOW. STRAINER: 3-1/2" DRAIN TYPE 304 STAINLESS STEEL BODY STRAINER BASKET RUBBER SEAL AND TAILPIECE. ELKAY LK99. P-TRAP: 1-1/2" 17 GAUGE CHROME PLATED CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8912. SUPPLIES: 1/2" I.P.S. X 3/8" O.D. WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165. TMV: PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE, 130 DEGREES IN, 110 DEGREES OUT, BRONZE FINISH, UNION CONNECTION, 5 PSI PRESSURE DIFFERENTIAL, 0.5 GPM MIN FLOW / 4 GPM MAX FLOW. SYMMONS "MAXLINE" 7-225-CK-W.
URINAL (U)	
U-1	STANDARD WALL HUNG, WHITE VITREOUS CHINA, 0.125 GALLON PER FLUSH, WASHOUT FLUSH ACTION. CONTRACTOR TO PROVIDE URINAL STRAINER. FLUSH VALVE: 0.125 GALLON FLUSH CYCLE, DIAPHRAGM TYPE, CHROME PLATED URINAL FLUSHOMETER, SPUD COUPLING FOR 3/4" TOP SPUD. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 3" X 4-1/2" BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, UPPER AND LOWER BEARING PLATES WITH THREADED STUDS. MIFAB MC-32.
U-1A	ADA COMPLIANT WALL HUNG, WHITE VITREOUS CHINA, 0.125 GALLON PER FLUSH, WASHOUT FLUSH ACTION. CONTRACTOR TO PROVIDE URINAL STRAINER. FLUSH VALVE: 0.125 GALLON FLUSH CYCLE, DIAPHRAGM TYPE, CHROME PLATED URINAL FLUSHOMETER, SPUD COUPLING FOR 3/4" TOP SPUD. CARRIER: RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 3" X 4-1/2" BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, UPPER AND LOWER BEARING PLATES WITH THREADED STUDS. MIFAB MC-32.
VALVE BOXES	
UB-1	4" X 5-1/2" X 3-1/2", SINGLE BOX CONFIGURATION, 1/4-TURN VALVES, NO-LEAD BRASS, SHOCK ARRESTERS.
WATER CLOSET (WC)	
WC-1	STANDARD FLOOR MOUNTED, TANK TYPE, 1.28 GALLON PER FLUSH, VITREOUS CHINA, SIPHON JETTED BOWL, CHROME LEVER TRIP, TWO-PIECE TOILET. SEAT: ELONGATED OPEN FRONT WHITE PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. SUPPLIES: 1/2" I.P.S. X 3/8" O.D. WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2166LK.
WC-1A	ADA COMPLAINT FLOOR MOUNTED, TANK TYPE, 1.28 GALLON PER FLUSH, VITREOUS CHINA, SIPHON JETTED BOWL, CHROME LEVER TRIP, TWO-PIECE TOILET. SEAT: ELONGATED OPEN FRONT WHITE PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. SUPPLIES: 1/2" I.P.S. X 3/8" O.D. WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2166LK.
WC-2	CHILD HEIGHT FLOOR MOUNTED, TANK TYPE, 1.28 GALLON PER FLUSH, VITREOUS CHINA, SIPHON JETTED BOWL, CHROME LEVER TRIP, TWO-PIECE TOILET. SEAT: ELONGATED OPEN FRONT WHITE PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. SUPPLIES: 1/2" I.P.S. X 3/8" O.D. WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2166LK.

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10/24/2025
THOMAS S. WARD IV
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CONSTRUCTION DRAWINGS FOR SOUTHWEST COMMUNITY CHURCH
MERRIMAN ROAD
ROANOKE, VA

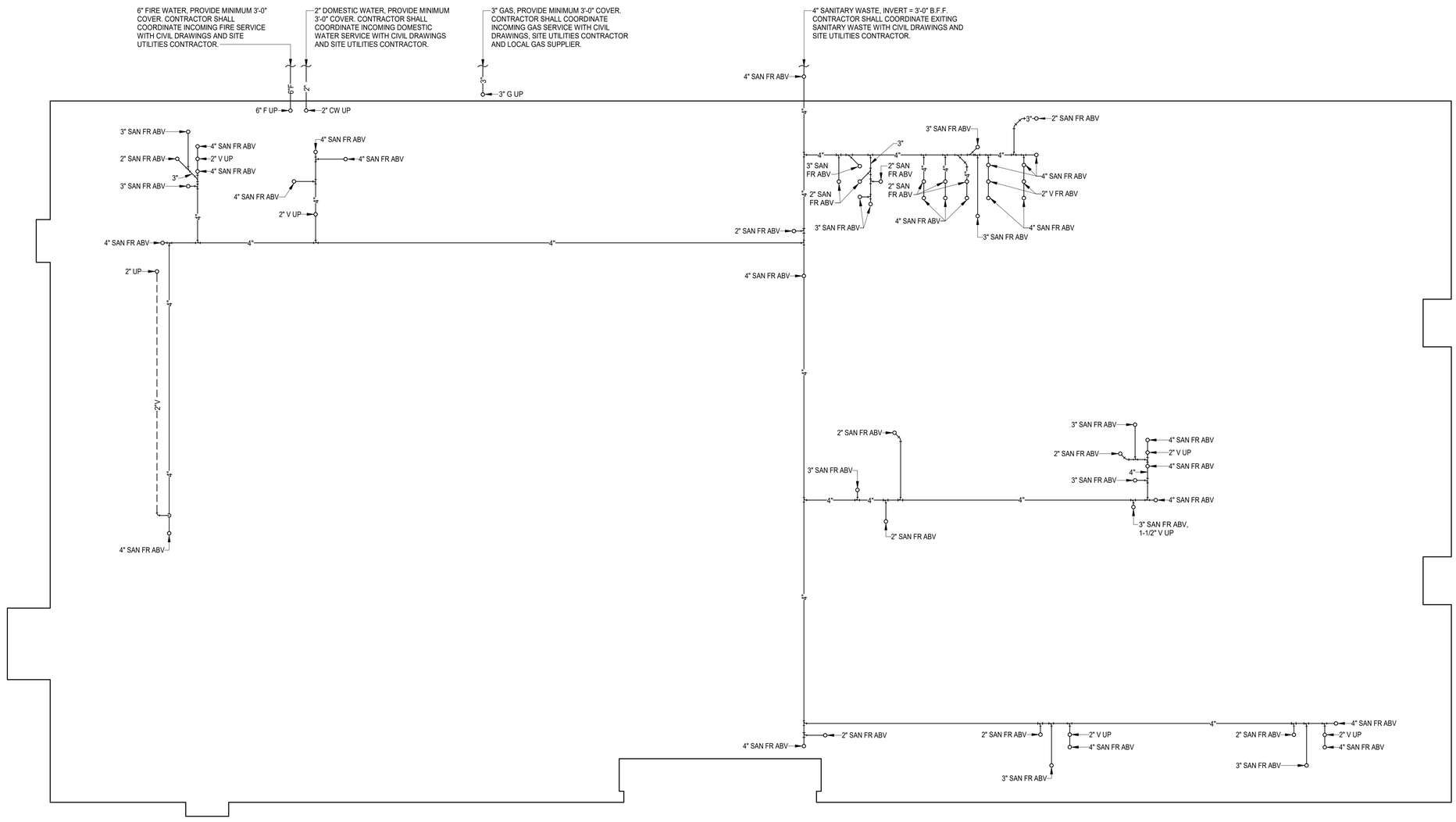
drawn by: JER
design by: JER
checked by: JDW
date: 10/24/2025
Rev:

SHEET NAME

PLUMBING FIXTURE SPECIFICATIONS

SHEET NUMBER

P003



1 **UNDERFLOOR PLAN - PLUMBING**
Scale: 1/8" = 1'-0"

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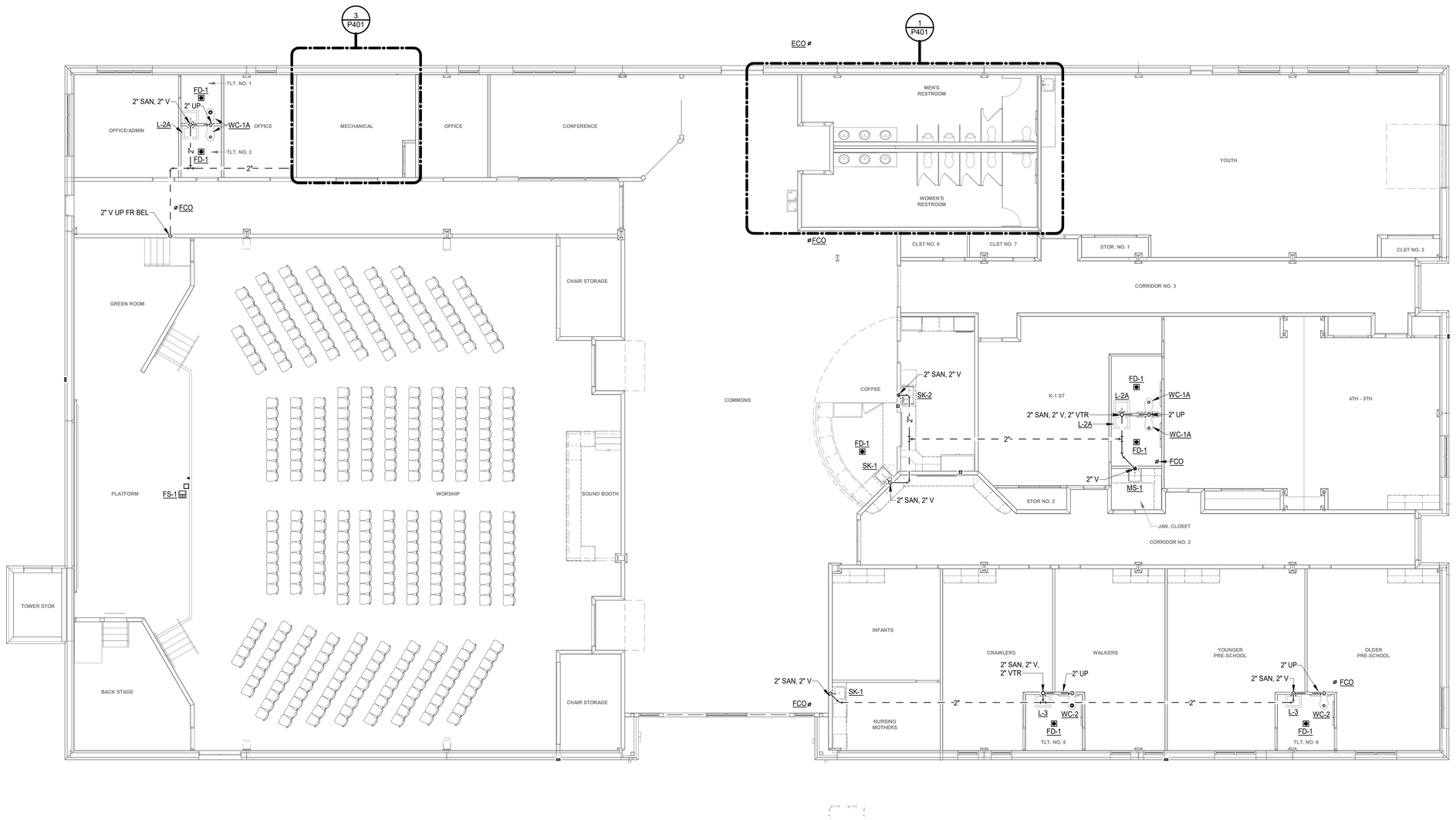
UNDERFLOOR PLAN - PLUMBING

SHEET NUMBER

PU101



1 FLOOR PLAN - WASTE

Scale: 1/8" = 1'-0"

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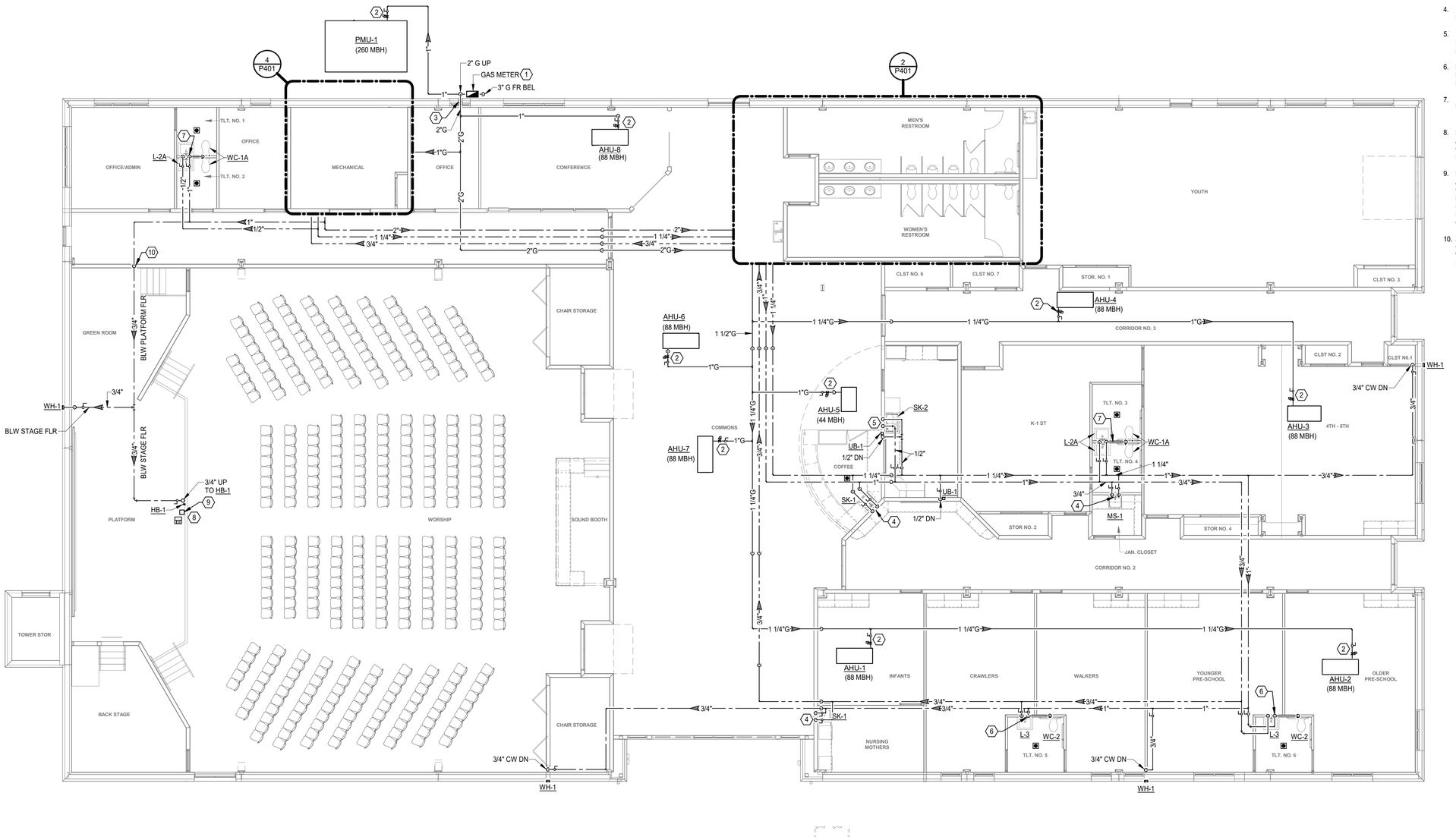
FLOOR PLAN - WASTE

SHEET NUMBER

PW111



SHEET KEYNOTES:

1. INCOMING 3" GAS. PROPOSED GAS METER LOCATION (APPROX. CONNECTED LOAD = 996 MBH). CONTRACTOR SHALL FIELD COORDINATE DELIVERY PRESSURE OF 7-14 IN. W.C. WITH LOCAL GAS SUPPLIER.
   A. GAS PIPE SIZING IS BASED ON SCHEDULE 40 METALLIC PIPE WITH LESS THAN 2 PSI INLET PRESSURE WITH 0.5 IN. W.C. PRESSURE DROP. TOTAL EQUIVALENT LENGTH OF 309'-0" 2021 VIRGINIA FUEL GAS CODE TABLE 402.4(2).
2. PROVIDE GAS SHUT OFF VALVE AND PRESSURE REGULATOR AT MECHANICAL UNIT CONNECTION. REGULATOR SHALL BE SIZED AND INSTALLED TO DELIVER GAS PRESSURE PER MANUFACTURER'S REQUIREMENTS. REFER TO PLUMBING DETAILS SHEET FOR GAS CONNECTION DETAIL.
3. 2" GAS PIPE SLEEVED THROUGH EXTERIOR WALL. REFER TO PLUMBING DETAILS SHEET FOR PIPE SLEEVED THROUGH EXTERIOR WALL DETAIL.
4. 1/2" HOT AND COLD WATER DOWN TO SERVE FIXTURE(S).
5. 1/2" HOT AND COLD WATER DOWN TO SERVE FIXTURE(S). 1/2" HOT WATER BRANCH TEE TO SERVE DISHWASHER.
6. 3/4" COLD WATER DOWN, 3/4" COLD WATER BRANCH TEE TO SERVE WATER CLOSET, 1/2" DOWN TO SERVE LAVATORY.
7. 1" COLD WATER DOWN, 1" COLD WATER BRANCH TEE TO SERVE BACK-TO-BACK WATER CLOSETS, 1/2" DOWN TO SERVE BACK-TO-BACK LAVATORIES.
8. PROPOSED STAGE DOOR LOCATION, REFER TO ARCHITECTURAL DRAWINGS FOR FINAL LOCATION. CONTRACTOR SHALL INSTALL HOSE BIBB ON THE PLAN NORTH SIDE OF THE STAGE DOOR OPENING.
9. PROVIDE PACKAGED BAPTISTRY WATER HEATER AND DRAIN PUMP. HEATER SHALL BE CAPABLE OF CIRCULATING WATER THROUGH HOSES WITHOUT BEING IMMERSED IN BAPTISTRY POOL. SUBMERSIBLE PUMP SHALL BE CAPABLE OF DRAINING BAPTISTRY POOL TO FLOOR SINK. BASIS OF DESIGN: HYDROQUIP PBES-6010.
10. 3/4" COLD WATER DOWN IN WALL TO BELOW GREEN ROOM PLATFORM FLOOR. 3/4" COLD WATER PIPING SHALL BE ROUTED SECURE TO THE FINISHED FLOOR.

1 FLOOR PLAN - SUPPLY

Scale: 1/8" = 1'-0"

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Project Number: 2550-00634-00

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PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
10/24/2025
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CONSTRUCTION DRAWINGS
FOR
SOUTHWEST COMMUNITY CHURCH
MERRIMAN ROAD
ROANOKE, VA

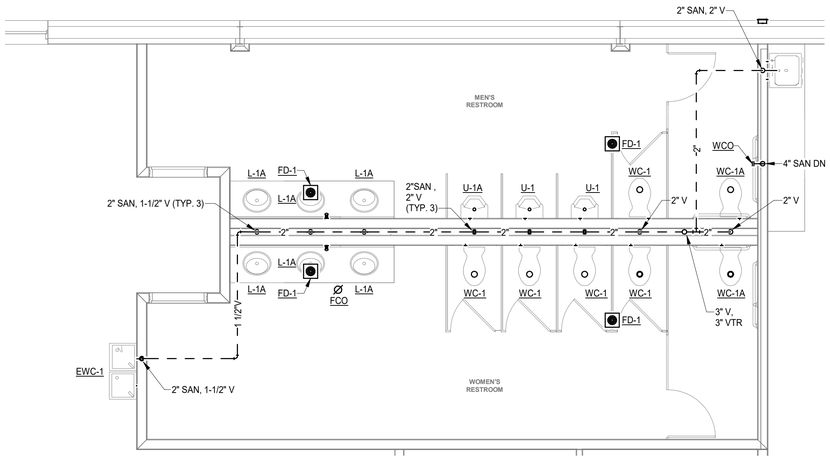
drawn by: JER
design by: JER
checked by: JDW
date: 10/24/2025
Rev:

SHEET NAME

FLOOR PLAN - SUPPLY

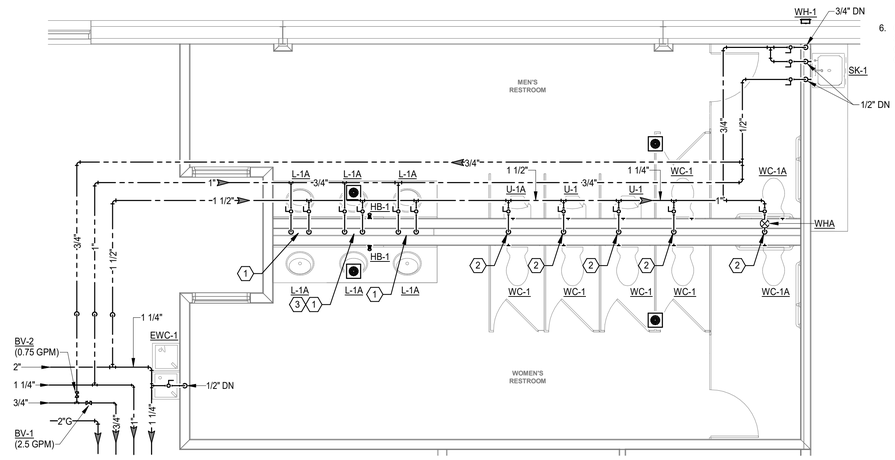
SHEET NUMBER

PL111



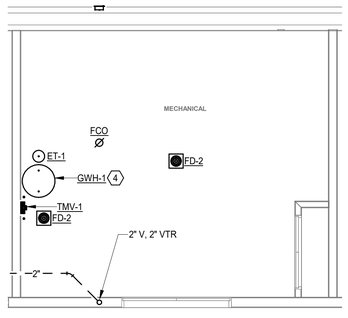
1 ENLARGED PLAN - MEN'S RESTROOM - WASTE

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



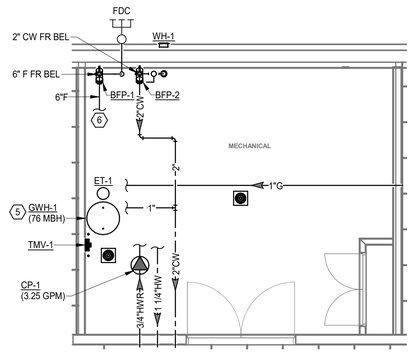
2 ENLARGED PLAN - MEN'S RESTROOM - SUPPLY

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



3 ENLARGED PLAN - MECHANICAL ROOM - WASTE

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



4 ENLARGED PLAN - MECHANICAL ROOM - SUPPLY

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

SHEET KEYNOTES:

1. 1/2" HOT AND COLD WATER DOWN TO SERVE BACK-TO-BACK LAVATORIES. 1/2" HOT AND COLD WATER CONNECTION TO EACH FIXTURE.
2. 1" COLD WATER DOWN TO SERVE BACK-TO-BACK PLUMBING FIXTURES. 3/4" COLD WATER CONNECTION TO EACH FIXTURE.
3. PROVIDE HOSE BIBB (HB-1) UNDER EACH MIDDLE LAVATORY LOCATED IN BOTH RESTROOMS.
4. CONTRACTOR SHALL ROUTE AND SIZE WATER HEATER COMBUSTION AND EXHAUST DUCT PER MANUFACTURER APPROVED CONCENTRIC VERTICAL TERMINATION ROOF CAP. REFER TO PLUMBING DETAILS SHEET FOR WATER HEATER VERTICAL VENT TERMINATION DETAIL.
5. FOR PIPE CONTINUATION, REFER TO PLUMBING DETAILS SHEET FOR GAS WATER HEATER PIPING DETAIL.
6. 6" FIRE SERVICE EXTEND AND CONNECT TO SPRINKLER SYSTEM. CONTRACTOR SHALL COORDINATE WITH FIRE PROTECTION CONTRACTOR.

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CONSTRUCTION DRAWINGS FOR SOUTHWEST COMMUNITY CHURCH
MERRIMAN ROAD
ROANOKE, VA

drawn by: JER
design by: JER
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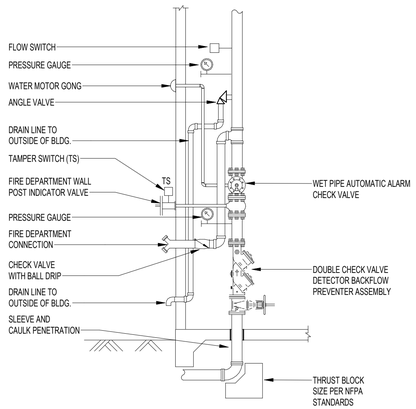
date: 10/24/2025
Rev:

SHEET NAME

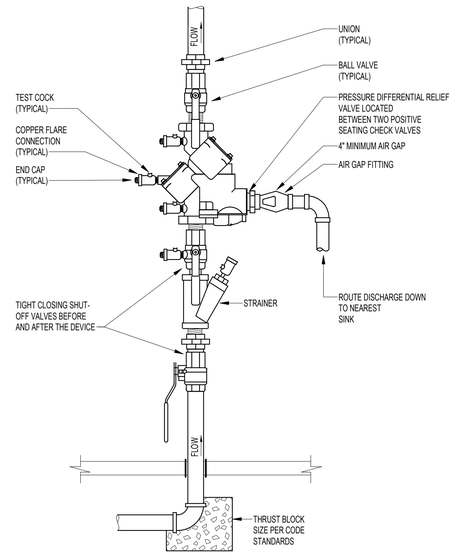
ENLARGED PLUMBING PLAN

SHEET NUMBER

P401

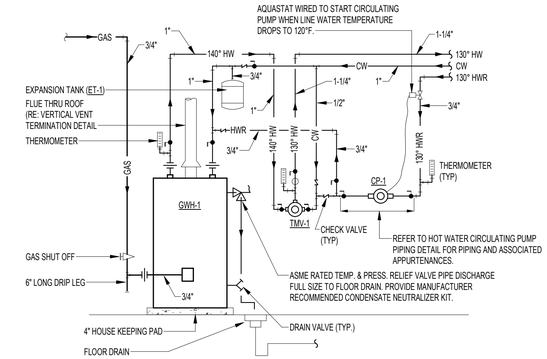


1 DOUBLE CHECK VALVE DETECTOR BACKFLOW-FIRE
Scale: NONE



NOTE: MOUNT AT 48"-60" A.F.F. UNLESS NOTED OTHERWISE ON PLANS.

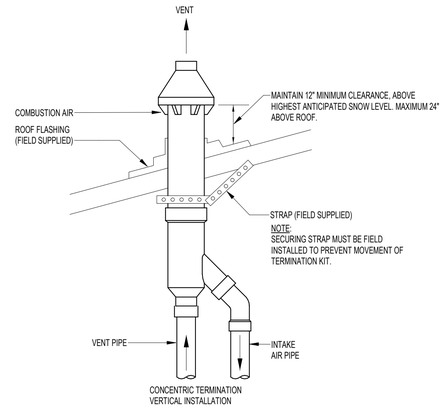
2 REDUCED PRESSURE ZONE BACKFLOW PREVENTER
Scale: NONE



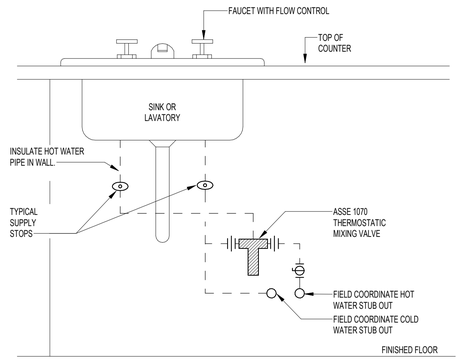
GENERAL NOTES:

1. MOUNT MIXING VALVE AT 48"-60" A.F.F. UNLESS NOTED OTHERWISE ON PLANS.
2. REFER TO PLANS FOR ALL PIPE SIZES. PROVIDE PIPE INCREASERS/DECREASERS AS REQUIRED.
3. REFER TO PLANS FOR ALL EQUIPMENT LOCATIONS.
4. MAKE ALL WATER CONNECTIONS TO THERMOSTATIC MIXING VALVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. ALL THERMOSTATIC MIXING VALVES MUST BE LEAD FREE.

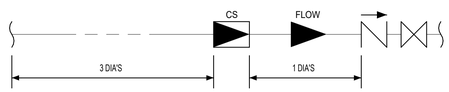
3 DOMESTIC GAS WATER HEATER PIPING (GWH-1)
Scale: NONE



4 WATER HEATER VERTICAL VENT TERMINATION
Scale: NONE



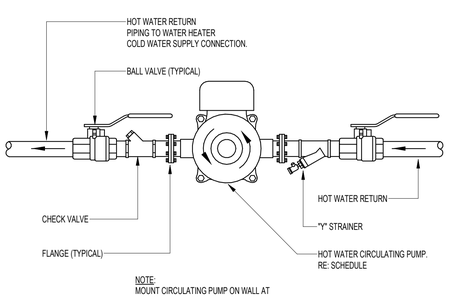
5 THERMOSTATIC MIXING VALVE PIPING AT SINK/LAVATORY
Scale: NONE



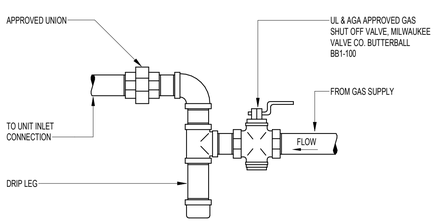
NOTE:

1. THERE SHALL BE UNINTERRUPTED STRAIGHT PIPE 1 DIAMETER OF PIPE DOWNSTREAM AND 3 DIAMETERS OF PIPE UPSTREAM FROM EACH CIRCUIT SETTER. BALANCE VALVE SHALL BE ADJUSTED TO PROVIDE G.P.M. INDICATED AT EACH C.S.
2. THE ENTIRE CIRCUIT SETTER SHALL BE INSULATED WITH REMOVABLE SECTIONS OF PIPE INSULATION SIZED TO OVERLAP THE CONNECTED PIPE INSULATION. INSULATION SHALL OVERLAP 3 INCHES.

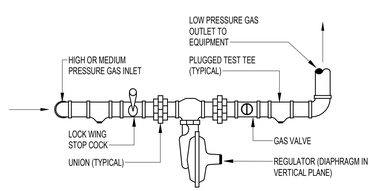
6 HOT WATER CIRCUIT SETTER
Scale: NONE



7 HOT WATER CIRCULATING PUMP PIPING
Scale: NONE



8 GAS CONNECTION
Scale: NONE



NOTE: REFERENCE DRAWINGS FOR PIPE SIZES.

9 GAS PRESSURE REGULATOR PIPING
Scale: NONE

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CONSTRUCTION DRAWINGS FOR SOUTHWEST COMMUNITY CHURCH MERRIMAN ROAD ROANOKE, VA

drawn by: JER
design by: JER
checked by: JDW
date: 10/24/2025
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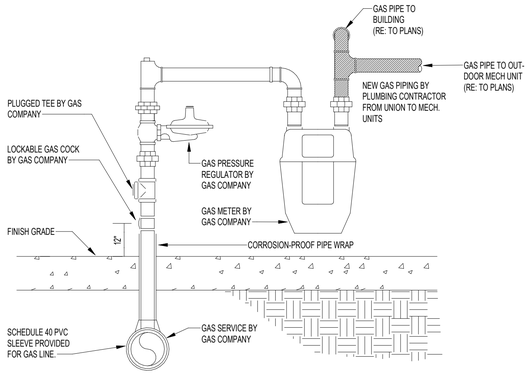
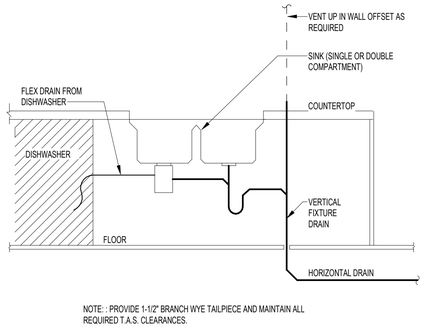
SHEET NAME
PLUMBING DETAILS

SHEET NUMBER
P501

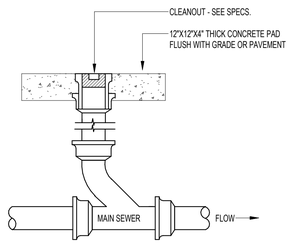


1 GAS SERVICE DETAIL
Scale: NONE

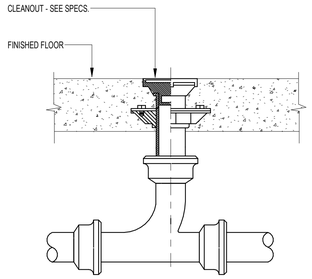


NOTE: : PROVIDE 1-1/2" BRANCH WYE TAILPIECE AND MAINTAIN ALL REQUIRED T.A.S. CLEARANCES.

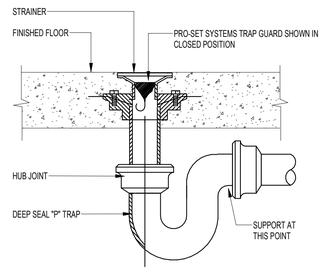
2 DISHWASHER CONNECTION DETAIL
Scale: NONE



3 EXTERIOR CLEANOUT
Scale: NONE

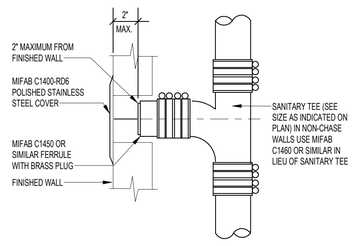


4 FLOOR CLEANOUT
Scale: NONE

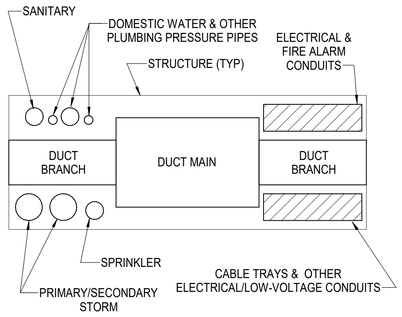


NOTES:
1. TRAP GUARD SHALL COMPLY WITH ASSE 1072 REQUIREMENTS.
2. TRAP GUARD SHALL BE FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER.
3. CONTACT LOCAL REP OR MANUFACTURER FOR CORRECT MODEL NUMBER.
4. INSTALLATION OF TRAP GUARD TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. INSERT TRAP GUARD ONLY AFTER FINAL RODDING OF DRAINS. INSTALL TRAP GUARD WITH CLEAR SILICONE CAULK FOR GAS TIGHT SEAL. FOR DRAIN RODDING AFTER INSTALLATION, INSERT SEWER TAPE THROUGH LIGHTLY GREASED 1-1/2" PVC PIPE TO PROTECT TRAP GUARD.

5 FLOOR DRAIN W/ TRAP SEAL PROTECTION
Scale: NONE

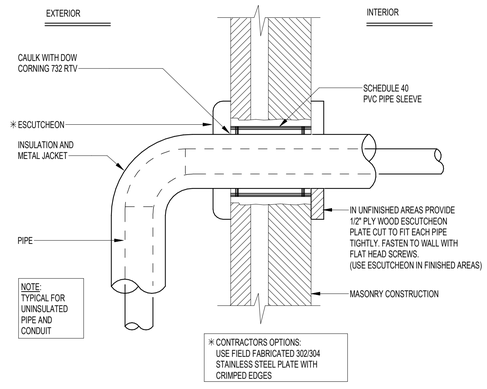


6 WALL CLEANOUT
Scale: NONE



NOTE: AT THE CONTRACTOR'S DISCRETION, SYSTEMS SHOWN IN THIS DETAIL MAY BE REARRANGED TO FACILITATE CONSTRUCTION. SYSTEMS NOT SHOWN SHALL BE COORDINATED IN THE FIELD BETWEEN TRADES. ABOVE CEILING COORDINATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND ANY CONFLICTS SHALL BE COORDINATED IN THE FILED BETWEEN TRADES. FOR EXISTING CONDITIONS, CONTRACTOR SHALL VERIFY AND COORDINATE WITH EXISTING STRUCTURE PRIOR TO FABRICATION OF DUCTWORK.

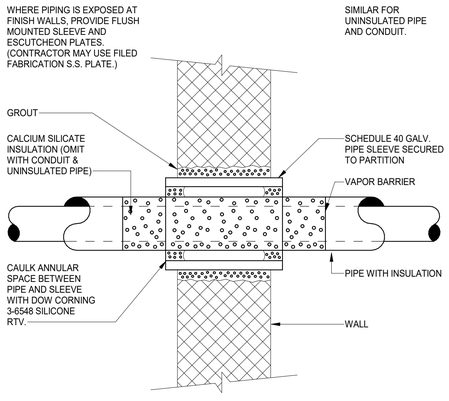
7 MEP CEILING COORDINATION
Scale: NONE



NOTE: TYPICAL FOR UNINSULATED PIPE AND CONDUIT

※ CONTRACTORS OPTIONS: USE FIELD FABRICATED 302/304 STAINLESS STEEL PLATE WITH CRIMPED EDGES

8 EXTERIOR WALL PENETRATION
Scale: NONE



9 PIPE THRU FIRE RATED WALL
Scale: NONE

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P502

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	DESCRIPTION	BASIS OF DESIGN		CONNECTION SIZE			
		MANUFACTURER	MODEL NO.	CW (IN)	HW (IN)	SS (IN)	V (IN)
CLEANOUTS (CO)							
ECO	EXTERIOR CLEANOUT	ZURN	Z1400-BZ1	---	---	---	---
FCO	FLOOR CLEANOUT	ZURN	Z1400-BZ1	---	---	---	---
WCO	WALL CLEANOUT	ZURN	Z1446	---	---	---	---
DRAINAGE FIXTURE (FD, FS, HD, TD)							
FD-1	FLOOR DRAIN, GENERAL	ZURN	Z415-BZ1	---	---	3	1-1/2
FD-2	FLOOR DRAIN, MEDIUM DUTY	ZURN	Z415-BZ1	---	---	4	2
FS-1	FLOOR SINK	ZURN	Z1751	---	---	4	2
DRINKING FOUNTAIN (EWC)							
EWC-1	DRINKING FOUNTAN	ELKAY 'EZH2O'	LZSTL8WSLP	1/2	---	2	1-1/2
HYDRANTS (HB, RH, WH)							
HB-1	HOSE BIBB	WOODFORD	MODEL 21	3/4	---	---	---
WH-1	WALL HYDRANT	WOODFORD	MODEL B65	3/4	---	---	---
MOP SINK (MS)							
MS-1	MOP SINK	FIAT / CHICAGO FAUCETS	MSB2424 / 897-RCF	1/2	1/2	3	1-1/2
SINK/LAVATORIES (L, SK)							
L-1A	ADA LAVATORY, DROP-IN	AMERICAN STANDARD 'AQUALYN' / CHICAGO FAUCETS	0476.028 / 420-ABCP	1/2	1/2	2	2
L-2A	ADA LAVATORY, WALL MOUNTED	AMERICAN STANDARD 'LUCERNE' / CHICAGO FAUCETS	0355.027 / 420-ABCP	1/2	1/2	2	2
L-3	LAVATORY, WALL MOUNTED, CHILD HEIGHT	AMERICAN STANDARD 'LUCERNE' / CHICAGO FAUCETS	0355.027 / 420-ABCP	1/2	1/2	2	2
SK-1	SINK	ELKAY 'LUSTERTONE' / CHICAGO FAUCETS	DLR252210 / 895-317ABCP	1/2	1/2	2	2
SK-2	SINK	ELKAY 'LUSTERTONE' / CHICAGO FAUCETS	LR250L / 430ABCP	1/2	1/2	2	2
URINAL (U)							
U-1	URINAL	AMERICAN STANDARD 'WASHBROOK' / SLOAN ' ROYAL'	6590.001 / 186-0.125	3/4	---	2	2
U-1A	ADA URINAL	AMERICAN STANDARD 'WASHBROOK' / SLOAN ' ROYAL'	6590.001 / 186-0.125	3/4	---	2	2
VALVE BOXES							
UB-1	UTILITY VALVE BOX, COLD WATER	SIOUX CHIEF	696 SERIES	1/2	---	---	---
WATER CLOSET (WC)							
WC-1	WATER CLOSET, FLOOR MOUNTED, TANK TYPE	AMERICAN STANDARD 'CADET PRO' / CHURCH	215CA.104 / 9500SSCT	3/4	---	4	2
WC-1A	ADA WATER CLOSET, FLOOR MOUNTED, TANK TYPE	AMERICAN STANDARD 'CADET PRO' / CHURCH	215AA.104 / 9500SSCT	3/4	---	4	2
WC-2	WATER CLOSET, CHILD HEIGHT, TANK TYPE	AMERICAN STANDARD 'BABY DEVORO' / AMERICAN STANDARD	2315.228 / 5001G.055	3/4	---	4	2

GAS WATER HEATER SCHEDULE

MARK	BASIS OF DESIGN		BTU/HR. INPUT	STORAGE CAPACITY (GAL)	WH GALS. PER HR. RECOVERY RATE 88°F RISE	STORED WATER TEMP (°F)	INCOMING WATER TEMP (°F)	OUTGOING WATER TEMP (°F)	ELECTRICAL CHAR.			REMARKS
	MANUFACTURER	MODEL							V	P	F	
GWH-1	A.O. SMITH	BTX-80	76,000	50	97.4	140	52	140	120	1	60	1, 2

1 INDIVIDUAL VERTICAL CONCENTRIC FLUE VENT FOR EACH WATER HEATER. PROVIDE MANUFACTURER RECOMMENDED VENT KIT. REFER TO DRAWINGS FOR FLUE ROUTING AND LOCATIONS THROUGH ROOF. CONTRACTOR SHALL COORDINATE FLUE LOCATION THROUGH ROOF AND PIPE ROUTING IN CEILING SPACES WITH ALL OTHER DISCIPLES PRIOR TO CONSTRUCTION.

2 PROVIDE MANUFACTURER RECOMMENDED ACID NEUTRALIZING TANK KIT.

CIRCULATION PUMP SCHEDULE

MARK	BASIS OF DESIGN		DESCRIPTION	FLOW (GPM)	HEAD (FT)	POWER (HP)	ELECTRICAL CHAR.			MAX RPM
	MANUFACTURER	MODEL					V	P	F	
CP-1	TACO	0034E SERIES	CIRCULATION PUMP	3.25	25.1	1/4	115	1	60	4300

EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN		DESCRIPTION	MAX WORK PRESSURE (PSI)	TANK VOLUME GALLONS	MAX. ACCEPT. GALLONS	DIAMETER (INCHES)
	MANUFACTURER	MODEL					
ET-1	WATTS	PLT-5	HOT WATER EXPANSION TANK	150	2.1	1.48	8

1 PROVIDE ASME POTABLE WATER EXPANSION TANK ON THE COLD WATER SUPPLY LINE, DOWNSTREAM OF THE CHECK VALVE.
2 PROVIDE MOUNTING BRACKET.
3 PROVIDE UNION CONNECTION.

THERMOSTATIC MIXING VALVE SCHEDULE

MARK	BASIS OF DESIGN		INCOMING WATER TEMP. (°F)	TEMP. IN (°F)	TEMP. OUT (°F)	MIN. FLOW (GPM)	DESIGN FLOW (GPM)	THERMOMETER	UNION CONNECTION	PRESSURE DIFFERENTIAL (PSI)
	MANUFACTURER	MODEL								
TMV-1	LEONARD	TM-26-LF	52	140	130	1	8.3	YES	YES	5

1 MAKE WATER CONNECTIONS TO THERMOSTATIC MIXING VALVE(S) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2 PROVIDE PIPE INCREASERS AND/OR VALVES AS REQUIRED.
3 PROVIDE UNION CONNECTIONS AND OUTLET THERMOMETER UNLESS INDICATED OTHERWISE.
4 REFER TO DETAIL FOR MORE INFORMATION.

PIPE ACCESSORY SCHEDULE

MARK	DESCRIPTION	BASIS OF DESIGN		CAPACITY (GPM)	MIN. FLOW (GPM)	MAX PRESSURE DROP (PSIG)	SIZE (INCHES)
		MANUFACTURER	MODEL NO.				
BFP-1	BACKFLOW PREVENTER, FIRE ENTRY	WATTS	709DCDA	475	---	6	6
BFP-2	BACKFLOW PREVENTER, DOMESTIC ENTRY	WATTS	LF009-FS-OSY	48	---	12	2-1/2
BV-1	BALANCING VALVE	WATTS	LFCSM-61-S	2.5	---	1	3/4
BV-2	BALANCING VALVE	WATTS	LFCSM-61-S	0.75	---	1	3/4

MINIMUM PIPE INSULATION THICKNESS SCHEDULE

FLUID OPERATING TEMP. RANGE & USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (IN)				
	CONDUCTIVITY	MEAN RATING TEMP. (°F)	< 1	1 TO <1-1/2	1-1/2 TO <4	4 TO <8	> 8
> 350	0.32 -0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 -60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5

WATER HAMMER ARRESTOR SCHEDULE

P.D.I. TAG	FIXTURE UNITS	CONNECTION (INCHES)	CERTIFICATION
AA	1-4	1/2	ASSE 1010
A	5-11	1/2	ASSE 1010
B	12-32	3/4	ASSE 1010
C	33-60	1	ASSE 1010
D	61-113	1	ASSE 1010
E	114-154	1	ASSE 1010
F	155-330	1	ASSE 1010

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Project Number: 2550-00634-00

ISSUE DATE	DESCRIPTION
10/24/2025	PERMIT SET

PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
10/24/2025
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CONSTRUCTION DRAWINGS FOR SOUTHWEST COMMUNITY CHURCH MERRIMAN ROAD ROANOKE, VA

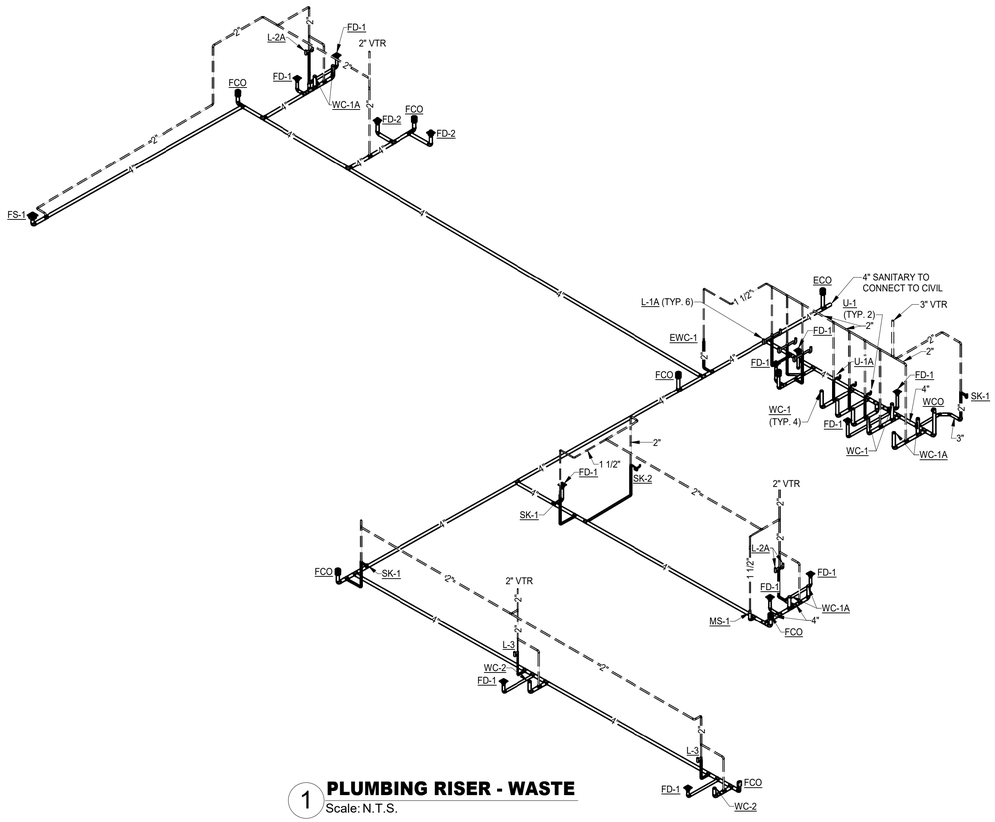
drawn by: JER
design by: JER
checked by: JDW
date: 10/24/2025
Rev:

SHEET NAME

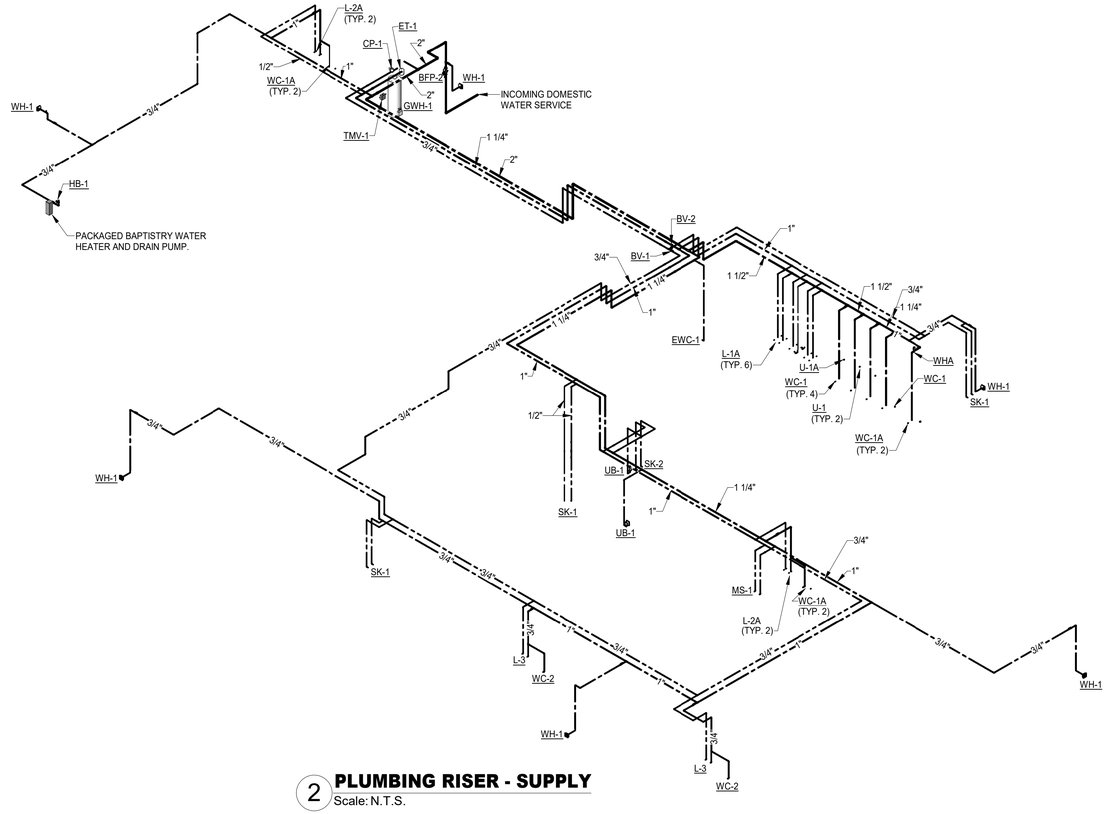
PLUMBING SCHEDULES

SHEET NUMBER

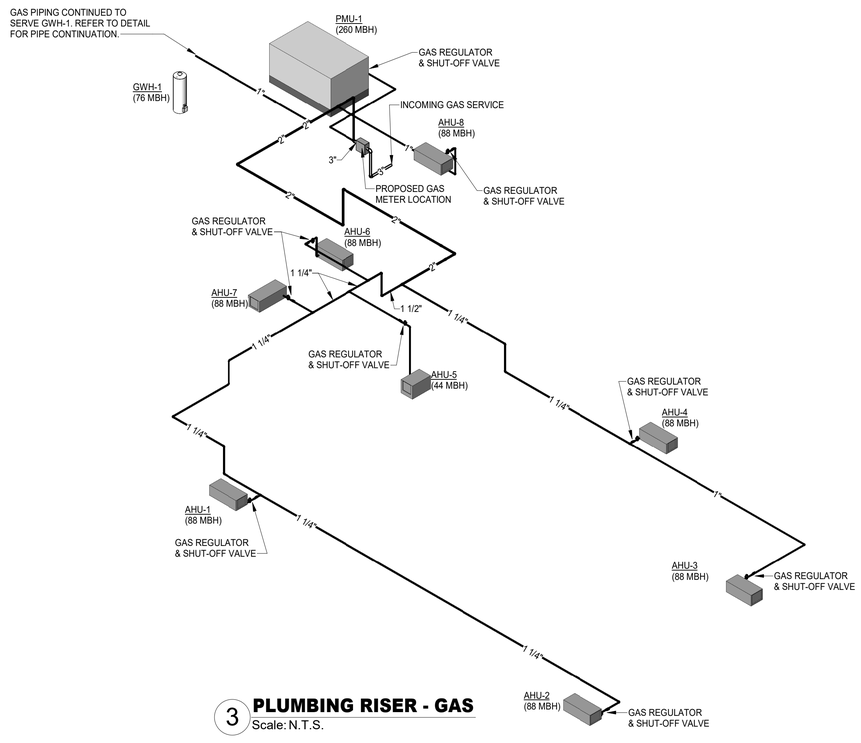
P601



1 **PLUMBING RISER - WASTE**
Scale: N.T.S.



2 **PLUMBING RISER - SUPPLY**
Scale: N.T.S.



3 **PLUMBING RISER - GAS**
Scale: N.T.S.

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PLUMBING RISERS

SHEET NUMBER
P901