EXISTING CW PIPING \_\_\_\_ **EXISTING HW PIPING** \_\_\_\_\_

EXISTING PIPING/EQUIPMENT TO BE

REMOVED OR DEMOLISHED **— ∙**4"S• **—** SANITARY PIPING

GREASE PIPING — — 4"GR — — VENT PIPING ---- 2"V ----

NATURAL GAS PIPING —— ¾"G —— — - ¾"CW - — CW PIPING

HW PIPING —— ¾"HW ——

——¾"HWR ——

\_\_\_\_

TEMPERED WATER PIPING —— ¾"TW ——

CONDENSATE PIPING — — 3"CD — — ----- tp -----TRAP PRIMER LINE ( $\frac{1}{2}$ " U.N.O.)

PRIMARY RAIN LEADER ——— 4"RL ——— STORM DRAIN PIPING

-- 3"ST --<del>\_\_\_\_\_\_</del>

ELBOW TURNED UP **ELBOW TURNED DOWN** 

TEE, OUTLET DOWN

BALL VALVE

TEE, OUTLET UP

**BUTTERFLY VALVE** PRESSURE REGULATOR

FIRE ALARM SHUT-OFF VALVE SWING CHECK VALVE  $\overline{\phantom{a}}$ 

WATER HAMMER ARRESTER MANUAL GAS SHUTOFF VALVE,  $\Theta(M)$ PRESSURE REGULATOR, AND METER

CONNECTION, NEW TO EXISTING

LIMIT OF DEMOLITION

## **ABBREVIATIONS**

ABOVE CEILING ABOVE FLOOR AFF ABOVE FINISHED FLOOR AFG ABOVE FINISED GRADE AS ABOVE SLAB BFF BELOW FINISHED FLOOR BFP **BACKFLOW PREVENTER** BG **BELOW GRADE** BS BELOW SLAB CA COMPRESSED AIR CO CLEANOUT CS CUP SINK CW COLD WATER CWS COLD WATER SERVICE DN DOWN **EXIST** EXISTING FCO FLOOR CLEANOUT FD FLOOR DRAIN HD HUB DRAIN HW HOT WATER HOT WATER RETURN NATURAL GAS INV EL INVERT ELEVATION N.C. NORMALLY CLOSED N.O. NORMALLY OPEN N/A NOT APPLICABLE PDI PLUMBING DRAINAGE INSTITUTE PΗ PHASE SOIL SAN SANITARY TRAP PRIMER TYP TYPICAL UDS UTILITY DISTRIBUTION SYSTEM U.N.O. UNLESS NOTED OTHERWISE WASTE W WCO WALL CLEANOUT EXPANSION TANK

### LCSB PLUMBING SPECIFICATIONS

- 1. URINALS TO BE PIPED ON INDIVIDUAL STACKS WITH CLEAN OUTS INSTALLED ABOVE WASTE
- 2. WASTE PIPING: DOUBLE COMBINATIONS, DOUBLE WYES OR SANITARY CROSSES ARE NOT TO BE USED IN SANITARY PIPING.
- 3. ACID WASTE PIPING; CPVC PIPE AND FITTINGS "SOLVENT WELD".
- 4. UNDERGROUND WATER SERVICES: SERVICES UNDER ANY SLABS SHALL BE TYPE K HARD COPPER, TRANSITIONS TO PVC PIPING MUST OCCUR OUTSIDE ANY CONCRETE WORK, NO PVC WATER PIPING UNDER CONCRETE SLABS. COPPER FITTINGS UNDER SLAB SHALL BE SILVER SOLDERED WITH 15 PERCENT SILVER SOLDER. PIPING AND FITTINGS SHALL BE WRAPPED WITH WRAP TAPE IN ITS ENTIRETY. TRANSITION FROM COPPER TO PVC TO BE MADE WITH COPPER FIP ADAPTER AND SCH 80 PVC MALE ADAPTER. ALL SOLVENT WELD FITTINGS SHALL BE SCH 80 PVC.
- 5. UNDERGROUND WATER MAINS AND SERVICES 4" AND LARGER SHALL BE INSTALLED USING C-900 PIPE WITH MECHANICAL FITTINGS. 3" AND SMALLER SHALL BE CLASS 200 RING TITE
- 6. SERVICE VALVE FOR BUILDINGS SHALL BE INSTALLED WITHIN 4 FEET OF WATER MAIN; INCLUDING OVERHEAD SERVICE.
- 7. ALL PIPING SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS, AND SHALL PASS THROUGH WALLS AT 90 DEGREES. UNLESS SHOWN OR APPROVED, PIPING INSTALLED DIAGONALLY IS NOT ALLOWED.
- 8. ON NEW INSTALLATION OF WATER MAINS AN ISOLATION VALVE SHALL BE INSTALLED MID-POINT OF MAIN PIPING.
- 9. NO WALL HYDRANTS TO BE USED.
- 10. BALL VALVES TO BE USED ON INTERIOR PIPING.
- 11. WATER MAINS AND WATER SERVICES USE MECHANICAL GATE VALVES, MUELLER OR EQUAL.
- 12. TRAP PRIMERS FOR MULTI DRAINS AND DRAINS SERVING MECHANICAL EQUIPMENT ON MEZZANINES TO BE OF ELECTRONIC SOLENOID DEVICES. SINGLE TRAP PRIMERS TO BE UNDER LAVATORIES; PPP PRO L-UL-P-500, ADJUSTABLE.
- 13. BACKFLOW DEVICES 2" AND SMALLER AT WATER METER AND MECHANICAL EQUIPMENT SHALL BE WILKINS, CONBRACO, OR FEBCO. NO WATTS DEVICES TO BE USED. BACKFLOW DEVICES SHALL BE INSTALLED AT ELEVATION THAT IS SERVICEABLE FROM FLOOR AND MAINTAIN 12' -0" CLEARANCE FROM WALL.
- 14. MULTI STATION LAVATORY UNITS TO BE INSTALLED IN GANG RESTROOMS IF BUDGET
- 15. CLASSROOM SINKS SHALL BE ONE-PIECE TOP WITH SINK MOLDED IN TOP.
- 16. CONTRACTOR TO CAMERA SEWER LINES AND PROVIDE SMOKE TEST OF ENTIRE DRAINAGE WASTE AND VENT PIPING. SCHOOL BOARD EMPLOYEES TO WITNESS CAMERA AND SMOKE TEST.
- 17. WATER HEATER SERVING CUSTODIAL SINKS SHALL NOT BE LARGER THAN 20 GALLONS.
- 18. CARRIERS FOR LAVATORIES AND URINALS ARE NOT TO BE USED.
- 19. WATER SERVICES TO ENTER BUILDINGS AT CLOSEST PROXIMITY TO WATER MAIN.
- 20. BUILDING SEWERS TO BE PIPED DIRECTLY TO MANHOLE WHEN FEASIBLE.
- 21. FOR HOT WATER SERVING KITCHENS, DRESSINGS AND LOCKER ROOMS, LCSB PREFERS TO UTILIZE TANKLESS GAS-FIRED WATER HEATERS.
- 22. NO OFFSET FLANGES TO BE USED ON TOILETS.
- 23. NO SPANNER FLANGES TO BE USED ON TOILETS.
- 24. NO FERNCO COUPLINGS TO BE USED ON SINK WASTE.
- 25. NO SLIP JOINT 45'S IS PERMITTED UNDER SINK.
- 26. NO INVERTED TRAPS ARE ALLOWED.
- 27. GROUT THE BASE OF ALL TOILETS.
- 28. NO TAMPER PROOF SCREWS ON WATER COOLERS.
- 29. NO KEYLESS STOPS TO BE USED ON FIXTURES.
- 30. SINK WASTE UNDER CLASSROOM SINKS TO BE PVC TUBULAR.
- 31. NO 1.28 GPF TOILETS TO BE USED.

## PLUMBING NOTES

#### **GENERAL CONDITIONS**

- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
- 2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE ALL WORK SHOWN ON THE CONTRACT DRAWINGS.
- 3. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE CODE STANDARDS INCLUDING:
  - FLORIDA BUILDING CODE, BUILDING, 7TH EDITION (2020)
  - FLORIDA BUILDING CODE, PLUMBING, 7TH EDITION (2020) FLORIDA BUILDING CODE, MECHANICAL, 7TH EDITION (2020)
  - FLORIDA BUILDING CODE, ENERGY CONSERVATION CODE, 7TH EDITION (2020) NFPA 70, NATIONAL ELECTRIC CODE (NEC) 2017 EDITION
  - STATE AND LOCAL CODES AND ORDINANCES STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES - 2014 EDITION
- 4. THE BIDDERS SHALL INSPECT THE PRESENT JOB SITE CONDITIONS BEFORE PREPARING A BID. THE SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE THAT SUCH A VISIT AND INSPECTION WAS PERFORMED BY THE BIDDER AND THAT HE TAKES FULL RESPONSIBILITY FOR ALL FACTORS GOVERNING HIS WORK.
- 5. THE CONTRACTOR IS EXPECTED TO PROVIDE PROFESSIONAL WORK PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND GOOD PRACTICE. WORK SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS AND THE REQUIREMENTS OF THE LOCAL HEALTH DEPARTMENT.
- 6. THE CONTRACTORS ARE EXPECTED TO FIELD VERIFY ALL DIMENSIONS. CONTRACTORS ARE EXPECTED TO ACCOUNT FOR FIELD CONDITIONS. CONTRACTORS ARE EXPECTED TO COORDINATE IN ORDER TO AVOID INTERFERENCE BETWEEN TRADES. CONTRACTORS ARE EXPECTED TO INSTALL EQUIPMENT SUCH THAT PROPER MAINTENANCE CLEARANCES ARE MAINTAINED FOR EQUIPMENT OF ALL TRADES. IF CHANGES TO THE CONTRACT DOCUMENTS ARE NECESSARY TO AVOID CONFLICTS, THE CONTRACTOR IS RESPONSIBLE FOR REQUESTING CLARIFICATION IN A TIMELY FASHION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEFICIENCIES ASSOCIATED WITH WORK PERFORMED BEFORE OBTAINING CLARIFICATION.
- UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL CLEAN SPACES THAT WERE OCCUPIED BY TEMPORARY WORK AND TEMPORARY FACILITIES. REMOVE DEBRIS, RUBBISH AND EXCESS MATERIALS FROM THE SITES. REPAIR DAMAGES CAUSED BY INSTALLATION OR USE OF TEMPORARY FACILITIES.

#### **GENERAL PLUMBING NOTES**

- PLUMBING PLANS ARE SCHEMATIC. LOCATE PIPING TO AVOID FIELD INTERFERENCES. CHANGES IN THE PIPING SCHEMATIC REQUIRE PRIOR APPROVAL OF THE ENGINEER.
- 2. TRANSITION CONNECTION BETWEEN SITE PIPING AND BUILDING PLUMBING SHALL OCCUR IN AN ACCESSIBLE GREEN SPACE.
- THE CONTRACTOR IS EXPECTED TO VERIFY DIMENSIONS AND FIELD FABRICATE PIPING AS NECESSARY TO ACCOMMODATE CONDITIONS.
- 4. PRIOR TO ANY NEW WORK THE CONTRACTOR SHALL VERIFY BY ALL MEANS AVAILABLE THE DIRECTION OF FLOW OF ALL EXISTING PIPING THAT WILL BE TIED INTO FOR THE NEW WORK. REPORT TO THE ENGINEER ANY DIFFERENCES FROM WHAT THE CONTRACT DOCUMENTS

#### MATERIALS AND DEVICES

- 1. ALL MATERIALS, EQUIPMENT AND APPARATUS COVERED BY THIS SPECIFICATION SHALL BE NEW, OF CURRENT MANUFACTURE.
- 2. SEE PROJECT SPECIFICATIONS FOR MATERIALS.
- 3. CONNECTION JOINTS BETWEEN PLASTIC AND METALLIC PIPE SHALL BE MADE WITH TRANSITION FITTING FOR THE SPECIFIC PURPOSE.
- 4. CONNECTIONS TO WATER HEATERS AND BETWEEN FERROUS AND NONFERROUS METALLIC PIPE SHALL BE MADE WITH DIELECTRIC FITTINGS.

### PIPING NOTES

- 1. INSTALL GRAVITY LINES AT UNIFORM GRADES.
- 2. INSTALL SLEEVES AT ALL PENETRATIONS WHERE CONCRETE MIGHT CONTACT COPPER PIPING. PROVIDE SLEEVES AND SEAL ALL PENETRATIONS OF FULL HEIGHT WALLS AIR TIGHT. PROVIDE SLEEVES AT ALL PENETRATIONS OF FLOOR. PROVIDE POLY PIPE COVER OR INSULATION WHERE COPPER PIPING IS ENCASED WITHIN CMU WALLS.
- 3. LOCATE ALL VALVES AND OTHER DEVICES WHICH REQUIRE MAINTENANCE IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS IF NECESSARY.
- 4. PIPING INSTALLATIONS ARE EXPECTED TO BE RIGID. SUPPORT AND SECURE PIPING IN ACCORDANCE WITH GOOD PRACTICE.
- 5. SEE SPECIFICATIONS FOR HOT WATER PIPING INSULATION REQUIREMENTS. PROFESSIONAL INSTALLATION IS EXPECTED.
- 6. LABEL ALL HOT, TEMPERED & COLD DOMESTIC WATER SUPPLY & RETURN PIPING AT EACH VALVE LOCATION & NO LESS THAN 20' O.C.
- 7. HOT WATER PIPE INSULATION SHALL BE RIGID GLASS FIBER INSULATION WITH A NOMINAL DENSITY OF 3 POUNDS PER CUBIC FOOT WITH A THERMAL CONDUCTIVITY BETWEEN 0.21 AND 0.28 AT 100 DEG F MEAN TEMPERATURE. INSULATION COVER SHALL BE AN ALL SERVICE JACKET WITH DOUBLE SELF-SEALING LAPS, WITH SELF-SEALING BUTT STRIPS. INSULATION THICKNESS SHALL BE ONE INCH (1") THICK FOR PIPE SIZES 3/4" TO 1-1/2", AND (1-1/2") THICK FOR PIPE SIZES 1-1/2" TO 4" PER FBC-PLUMBING 607.5 AND FBC-ENERGY CONSERVATION TABLE C403.2.10.
- 8. FBCP 305.4 FREEZING. WATER, SOIL AND WASTE PIPES SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, CONCEALED IN OUTSIDE WALLS, OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPES FROM FREEZING BY INSULATION OR HEAT OR BOTH. EXTERIOR WATER SUPPLY SYSTEM PIPING SHALL BE INSTALLED NOT LESS THAN 6 INCHES BELOW THE FROST LINE AND NOT LESS THAN 12 INCHES BELOW GRADE.

### FIXTURES AND TRIM:

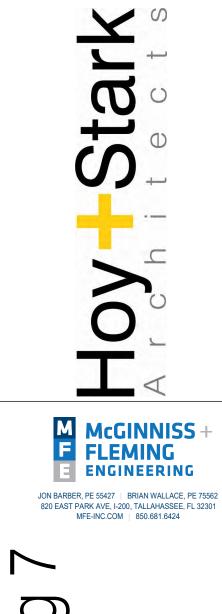
TESTING.

- 1. EQUIPMENT SHALL BE UNDAMAGED AND CLEANED.
- 2. ALL EXPOSED SINK AND LAVATORY DRAIN PIPING SHALL BE CHROME PLATED BRASS NO LESS THAN 17 GAUGE. TRAPS SHALL BE 17 GAUGE FULLY CAST BRASS WITH CLEANOUT PLUGS.
- 3. ESCUTCHEONS SHALL BE CHROME PLATED CAST BRASS WITH SET SCREW.

## CLOSEOUT, TESTING AND INSPECTIONS

- 1. COORDINATE INSPECTIONS WITH THE SPECIFICATIONS.
- 2. ALL DOMESTIC WATER PIPING SHALL BE STERILIZED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE FBC, PLUMBING CODE.
- 3. ALL WATER SUPPLY PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH THE FBC, PLUMBING CODE BUT NOT LESS THAN 100 PSI.
- 4. ALL WASTE AND VENT PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH THE FBC, PLUMBING CODE BUT NOT LESS THAN 10' OF HEAD.
- 5. CONTRACTOR SHALL CAMERA SEWER LINES AND PROVIDE SMOKE TEST OF THE ENTIRE WASTE AND VENT SYSTEM. 6. NO PIPING SHALL BE COVERED OR CLOSED UP BEFORE INSPECTION AND APPROVAL. PROVIDE

TEST TEES AT CONNECTION TO EXISTING AT EACH FLOOR & AS NEEDED FOR COMPLETE



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ON M. BARBER No. 55427 STATE OF SSIONAL Y

end

Leg

and

Notes

Plumbing

28.

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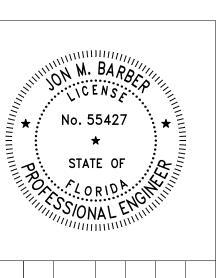
	PLU	IMBING FIXT	URE SCHEDULE (BASIS OF DESIGN)				
					FIXTURE CO	NNECTIONS	
TYPE	DESCRIPTION		TRIM & ACCESSORIES	CW	HW	WASTE	VENT
WC-1	WATER CLOSET, FLOOR MOUNT, VITREOUS CHINA, 153/16" RIM HGT. ELONGATED BOWL, FLUSHOMETER VALVE SIPHON, 1-1/2" TOP SPUD, 1.6 GALLON FLUSH.	KOHLER WELLCOMME ULTRA K-96053 (NO SUBSTITUTES)	SLOAN REGAL 111 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 1.6 GALLON FLUSH, CHROME PLATED. BEMIS 1955SSCT ELONGATED SOLID PLASTIC SELF-SUSTAINING OPEN FRONT SEAT WITH CHECK HINGE AND BOLT CAPS. ESCUTCHEON PLATE W/ SET SCREW.	1"		3"	2"
WC-2	ADA WATER CLOSET FOR CHILDRENS USE - FLOOR MOUNT, VITREOUS CHINA, 16% RIM HGT. ELONGATED BOWL, FLUSHOMETER VALVE SIPHON, 1-1/2" TOP SPUD, 1.6 GALLON FLUSH.	KOHLER HIGHCLIFF ULTRA K-96057 (NO SUBSTITUTES)	SLOAN REGAL 111 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 1.6 GALLON FLUSH, CHROME PLATED. BEMIS 1955SSCT ELONGATED SOLID PLASTIC SELF-SUSTAINING OPEN FRONT SEAT WITH CHECK HINGE AND BOLT CAPS. ESCUTCHEON PLATE W/ SET SCREW.	1"		3"	2"
U-1	URINAL - WALL MOUNT, WHITE VITREOUS CHINA, ¾" TOP SPUD, 1.0 GALLON FLUSH, 14" EXTENDED RIM. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS.	KOHLER BARDON K-4991-ETSS	SLOAN REGAL 186 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 0.5 GALLON FLUSH, CHROME PLATED.	3/4"		2"	2"
U-2	URINAL - WALL MOUNT, WHITE VITREOUS CHINA, ¾" TOP SPUD, 1.0 GALLON FLUSH, 14" EXTENDED RIM. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS. ADA COMPLIANT.	KOHLER BARDON K-4991-ETSS	SLOAN REGAL 186 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 0.5 GALLON FLUSH, CHROME PLATED.	3/4"		2"	2"
L-1	21½"x18½" WALL-HUNG VITREOUS CHINA LAVATORY. SINGLE HOLE INSTALLATION, ADA COMPLIANT.	KOHLER K-2007-0 (NO SUBSTITUTES)	MOEN 8884 SINGLE-HANDLED ADA METERING LAVATORY FAUCET. CHROME PLATED SOLID BRASS CONSTRUCTION, SINGLE HOLE MOUNT, VANDAL RESISTANT. 0.5GPM MAXIMUM MULTI-STREAM LAMINAR FLOW LIMITS WATER DISCHARGE TO A MAXIMUM OF 0.25GPC @ 30 SECONDS OR 0.20GPC @ 24 SECONDS, GRID DRAIN. WITHOUT POP-UP ASSEMBLY. MCGUIRE 1-1/4" TRAP W/PRODRAIN OFFSET ASSEMBLY, PRE-WRAPPED CHROME PLATED HEAVY CAST BRASS ADJUSTABLE P-TRAP W/CLEANOUT, TAILPIECE, SLIP NUTS, 17A. SEAMLESS TUBULAR BRASS WALL BEND. MCGUIRE 167LK ANGLE SUPPLY STOPS, FLEXIBLE CHROME PLATED RISERS, CHROME ESCUTCHEON PLATES W/SET SCREWS.	1/2"		2"	1 1/2"
L-2	21¼"x18¾" WALL-HUNG VITREOUS CHINA LAVATORY. SINGLE HOLE INSTALLATION, ADA COMPLIANT.	KOHLER K-2007-0 (NO SUBSTITUTES)	MOEN 8884 SINGLE-HANDLED ADA METERING LAVATORY FAUCET. CHROME PLATED SOLID BRASS CONSTRUCTION, SINGLE HOLE MOUNT, VANDAL RESISTANT. 0.5GPM MAXIMUM MULTI-STREAM LAMINAR FLOW LIMITS WATER DISCHARGE TO A MAXIMUM OF 0.25GPC @ 30 SECONDS OR 0.20GPC @ 24 SECONDS, GRID DRAIN. WITHOUT POP-UP ASSEMBLY. MCGUIRE 1-1/4" TRAP W/PRODRAIN OFFSET ASSEMBLY, PRE-WRAPPED CHROME PLATED HEAVY CAST BRASS ADJUSTABLE P-TRAP W/CLEANOUT, TAILPIECE, SLIP NUTS, 17A. SEAMLESS TUBULAR BRASS WALL BEND. MCGUIRE 167LK ANGLE SUPPLY STOPS, FLEXIBLE CHROME PLATED RISERS, CHROME ESCUTCHEON PLATES W/SET SCREWS.	1/2"	1/2"	2"	1 1/2"
SH-1	PREFABRICATED STAINLESS STEEL SHOWER UNIT		TEMP-GARD PRESSURE BALANCING SHOWER VALVE WITH SINGLE BRONZE STEM, STAINLESS STEEL BALANCING PISTON & BOTTOM ACCESS INTEGRAL SERVICE STOPS. STANDARD WITH 1/2" COPPER TUBING ASSEMBLY ENCLOSED BY 18 GAGE STAINLESS STEEL #4 BRUSHED FINISH SHROUD, CHROME PLATED BRASS SHOWER HEAD WITH FLOW CONTROL ON INSTITUTIONAL BRACKET, METAL STEM HANDLE, SIDE MOUNT SOAP DISH & ALL VANDAL PROOF SECURING SCREWS.	1/2"	1/2"	2"	1 1/2"
SH-2	PREFABRICATED STAINLESS STEEL SHOWER UNIT. ADA COMPLIANT.		TEMP-GARD PRESSURE BALANCING SHOWER VALVE WITH SINGLE BRONZE STEM, STAINLESS STEEL BALANCING PISTON, & BOTTOM ACCESS INTEGRAL SERVICE STOPS. UNIT INCLUDES: HANDWALL SHOWER UNIT COMPLETE WITH 24" MOUNTING BAR, 60" METAL HOSE AND STANDARD HANDSET. STANDARD WITH 1/2" COPPER TUBING ASSEMBLY ENCLOSED BY 18 GAGE STAINLESS STEEL #4 BRUSHED FINISH SHROUD, METAL STEM HANDLE, SIDE MOUNT SOAP DISH, & ALL VANDAL PROOF SECURING SCREWS.		1/2"	2"	1 1/2"
MS-1	36"x24"x12" PRECAST TERRAZZO MOP SERVICE BASIN	FIAT TSB3003	T&S BRASS B-0665-BSTR FAUCET W/ VACUUM BREAKER FIAT 832-AA HOSE AND HOSE BRACKET FIAT 1239BB ALUMINUM BUMPERGUARD WITH VINYL INSERT FIAT 889-CC MOP HANGER FIAT 833-AA SILICONE SEALANT	1/2"	1/2"	3"	2"
LT-1	20 GALLON LAUNDRY TUB W/ LEGS. MOLDED PLASTIC POLYMER, 20"x23 $\frac{7}{8}$ "x33 $\frac{11}{16}$ ".	FIAT TAT1	FIAT A1 CHROME PLATED FAUCET WITH 4"CENTERSET, 4" BLADE HANDLES, 6-3/4" SWING SPOUT, AERATOR AND HOSE ADAPTOR. INCLUDES LAUNDRY TUB WITH LEGS, ONE (1) P-TRAP AND TWO (2) SUPPLY LINES.	1/2"	1/2"	3"	2"
EWC-1	BOTTLE FILLING STATION AND BI-LEVEL ADA COOLER, FILTERED REFRIGERATED LIGHT GRAY GRANITE. CHILLING CAPACITY OF 8.0 GPH (GALLONS PER HOUR) OF 50° F DRINKING WATER, BASED ON 80° F INLET WATER AND 90° F AMBIENT, PER ASHRAE 18 TESTING. BOTTLE FILLER TO BE ON THE RIGHT SIDE.	ELKAY LMABFTL8WSLK	ANTIMICROBIAL, ENERGY SAVINGS, FILTERED, HANDS FREE, LAMINAR FLOW, REAL DRAIN, VISUAL FILTER MONITOR. FURNISHED WITH SAFETY BUBBLER. ELECTRONIC BOTTLE FILLER SENSOR WITH ELECTRONIC FRONT AND SIDE BUBBLER PUSHBAR ACTIVATION. PROVIDE BI-LEVEL PLATE-TYPE WATER COOLER SYSTEM, ZURN Z1225. UNIT SHALL BE LEAD-FREE DESIGN WHICH IS CERTIFIED TO NSF/ANSI 61 & 372 (LEAD FREE) AND MEETS FEDERAL AND STATE LOW-LEAD REQUIREMENTS. PROVIDE W/ ELKAY CANE APRON LKAPREZL, AND ELKAY 51300C REPLACEMENT FILTERS (BOTTLE FILLERS).	1/2"		2"	1 1/2"
HB-1	WALL FAUCET, POLISHED CHROME	T&S BRASS B-0737-POL	$3/4"$ NPT FEMALE INLET, $^3\!\!4"$ GARDEN HOSE MALE OUTLET, LOOSE TEE KEY, VACUUM BREAKER	3/4"			
WMB-1	HOT-DIPPED GALVANIZED STEEL WASHING MACHING OUTLET BOX	GUY GRAY B200	11%"x9½"x3½" HOOK-UP BOX. 20 GA. BOX. ½" MIP/SWEAT CONX. VALVE, 2" THREADED DRAIN FITTING	1/2"	1/2"	2"	1 1/2"
TMV-1	THERMOSTATIC MIXING VALVE. 110° SET TEMP.	LEONARD ECO-MIX LV-984-LF-BDT	1-1/4" INLETS, 1-1/2" OUTLET, INTEGRAL COMBINATION CHECKSTOPS WITH STRAINERS 125 PSI MAXIMUM OPERATING PRESSURE, COPPER ENCAPSULATED THERMOSTATIC ASSEMBLY WITH TEFLON COATED STAINLESS STEEL SHUTTLE.LOCKING TEMPERATURE REGULATING HANDLE. TEMPERATURE ADJUSTMENT RANGE, 90-140°F. ROUGH BRONZE FINISH. BALL VALVE WITH DIAL THERMOMETER. ASSE 1017 CERTIFIED.	1-1/4"	1-1/4"		
TMV-2	HIGH LOW THERMOSTATIC MIXING VALVE. 90° SET TEMP.	LEONARD XL-186-690-LF SERIES	1" INLETS, 1-1/4" OUTLET, HIGH LIMIT TEMPERATURE STOP 120°F. TEMPERATURE ADJUSTMENT RANGE, 90-140°F. BALL VALVE WITH DIAL THERMOMETER. RECESSED STEEL CABINET. ASSE 1069 CERTIFIED.	1"	1"		
WCO	CLEANOUT TEE, DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.	ZURN Z1446	POLISHED BRONZE COVER. BRONZE PLUG.		SEE PLANS	FOR SIZES	
FCO	ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND SCORIATED CAST IRON EXTRA-HEAVY-DUTY SECURED POLISHED BRONZE TOP ADJUSTABLE TO FINISHED FLOOR.	ZURN Z1400	FLASHING CLAMP AND FLASHING FLANGE, BRONZE PLUG.		SEE PLANS	FOR SIZES	
WHA	WATER HAMMER ARRESTOR	ZURN 1260XL	SIZING PER MANUFACTURERS INSTRUCTIONS.	REFERENC	CE WATER HAMM	ER ARRESTOR S	SCHEDULE
TP-1	TRAP PRIMER VALVE, FLOW ACTIVATED	1/2"	N/A	N/A	N/A		

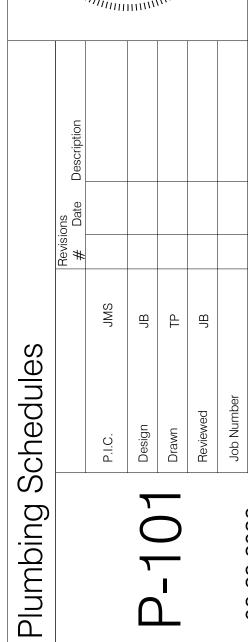


M McGINNISS + FLEMING ENGINEERING JON BARBER, PE 55427 | BRIAN WALLACE, PE 75562 820 EAST PARK AVE, I-200, TALLAHASSEE, FL 32301 MFE-INC.COM | 850.681.6424

Building

Leon High School, Remodel & Renov





08.28.2023

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	NATURAL GAS HYBRID WATER HEATER SCHEDULE (NO SUBSTITUTES)												
TYPE	MANUFACTUR ER/MODEL NO.	STORAGE CAPACITY (GALLONS)	INPUT (BTUH)	RECOVERY @ 80°F RISE (GPH)	STORAGE TEMP. (°F)	INLET/OUTLET CONNECTIONS	GAS CONNECTION (IN.)	MIN. / MAX. SUPPLY PRESSURE (IN. WC)	CONCENTRIC VENT	VOLTS/ PHASE	NOTES		
GWH-1	RINNAI CHS199100HiN	119	199000	292	140	1½"	3/4"	3.5 / 10.5	3"Ø x 5"Ø	120/1	97% THERMAL EFFICIENCY. CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE. FLUES SHALL BE SCHEDULE 40 PVC.		
GWH-2	RINNAI CHS199100HiN	119	199000	292	140	1½"	3/4"	3.5 / 10.5	3"Ø x 5"Ø	120/1	97% THERMAL EFFICIENCY. CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE. FLUES SHALL BE SCHEDULE 40 PVC.		

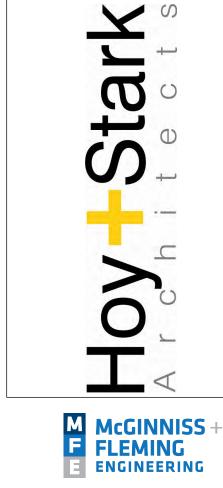
NOTES:

1. PROVIDE COMMERCIAL NEUTRALIZATION TANK W/ MEDIA.

	RECIRCULATOR PUMP SCHEDULE (BASIS OF DESIGN)									
TYPE	MODEL NO.	SERVICE	CAPACITY (GPM)	TDH (FT.)	MOTOR HORSEPOWER (HP)	ELECTRICAL CHARACTERISTICS (VOLT/Ø)	PUMP SEAL	SERVICE		
RP-1	TACO 008 SERIES	HW CIRCULATOR	4	13	1/25	115 / 1	MECHANICAL	GWH-1 AND 2		

SUMP PUMP SCHEDULE (BASIS OF DESIGN)											
TYPE	BASIS OF DESIGN	SERVICE	TYPE	LOCATION	HEAD (FEET)		MOTOR				
							HP	FLA	VOLTS/PH		
SP-1	STANCOR SEW-50	ELEVATOR PIT	SUBMERSIBLE	ELEVATOR SUMP PIT	13.0	50	1/2	4.4	115/1		

EXPAN	NSION TANK	SCHEDULE	SCHEDULE (BASIS OF DESIGN				
TYPE	MANUFACTURER/MO DEL NUMBER	TANK VOLUME (GALLONS)	ORIENTATION	SERVICE			
XT-1	TACO PAX42-150	11	VERTICAL	GWH-1			



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Building

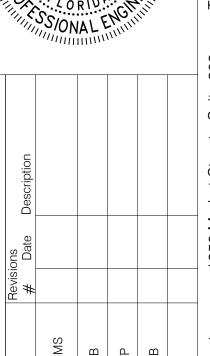
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Plumbing Schedules

| P.I.C. JMS | # Date Description | # Date Description | P.I.C. JMS | # Drawn TP | P.I.C. J.MS | P.I.C. J.MS

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## Plumbing Demolition Lower Floor Plan



#### PLAN KEYNOTES - PLUMBING DEMOLITION

- REMOVE ALL EXISTING PLUMBING FIXTURES, FLOOR DRAINS, AND ASSOCIATED APPURTENANCES IN BATHROOM/SHOWER AREA. CAP SANITARY LINES BELOW FLOOR. REMOVE EXISTING DOMESTIC WATER LINES, VENT LINES, AND GAS CONNECTIONS.
  - REMOVE EXISTING FLOOR DRAIN STRAINER TOP.
- REMOVE EXISTING FLOOR DRAIN AND STRAINER TOP.
- REMOVE EXISTING SHUT-OFF VALVE AND ALL DOMESTIC COLD PIPING THROUGHOUT THE BUILDING TO THIS POINT.
- REMOVE EXISTING HOT WATER HEATERS, RECIRCULATION PUMP, ASSOCIATED APPURTENANCES, WATER/MAKE-UP WATER CONNECTIONS, AND T&P DRAIN CONNECTION.
- REMOVE ALL PIPING IN MECHANICAL ROOM UNLESS OTHERWISE NOTED.
- CUT EXISTING SANITARY PIPE BACK TO MAIN AND CAP BELOW

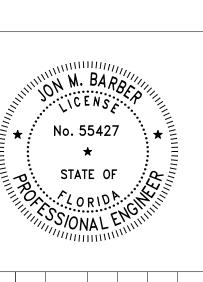
#### **DEMOLITION GENERAL NOTES**

- REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE
- 3. CAP ALL ABANDONED SANITARY PIPING BELOW SLAB. PATCH/REPAIR SLAB BACK TO ORIGINAL CONDITION.
- 4. REPAIR WALLS AND FLOOR SLABS DAMAGED DURING WORK ACTIVITY BACK TO PREVIOUS CONDITION.
- DEMOLITION IS NOT LIMITED TO WHAT IS SHOWN ON THESE DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.
- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
- FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING SHALL BE MODIFIED TO FIT THE NEW PLUMBING FIXTURES. FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/
- 6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT.
- 7. ALL SPECIALTIES, DISPENSERS AND GRAB BARS SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES, HEIGHTS, AND STANDARDS.





-ower Plan

Plumbing

## Plumbing Demolition Main Floor Plan

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#### PLAN KEYNOTES - PLUMBING DEMOLITION

- REMOVE ALL EXISTING PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN BATHROOM/SHOWER AREA. CAP SANITARY LINES BELOW FLOOR. REMOVE EXISTING DOMESTIC WATER LINES AND VENT LINES.
- REMOVE EXISTING FLOOR DRAIN STRAINER TOP. REPLACE WITH NEW STRAINER TOP.
- REMOVE EXISTING UTILITY SINK AND ASSOCIATED APPURTENANCES. CAP SANITARY LINE BELOW FLOOR. REMOVE AND CAP EXISTING DOMESTIC WATER LINES AND VENT LINE BACK TO ASSOCIATED MAINS AND CAP UNLESS OTHERWISE NOTED.
- REMOVE EXISTING HUB DRAIN AND ASSOCIATED PIPING.
- REMOVE AND REPLACE EXIST. GAS METER AND ALL DOWNSTREAM GAS PIPING THROUGHOUT THE BUILDING.
- REMOVE EXISTING WATER COOLER AND ASSOCIATED PIPING.

#### DEMOLITION GENERAL NOTES

- REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE
- 3. CAP ALL ABANDONED SANITARY PIPING BELOW SLAB. PATCH/REPAIR SLAB BACK TO ORIGINAL CONDITION.
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- 5. DEMOLITION IS NOT LIMITED TO WHAT IS SHOWN ON THESE DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.
- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
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No. 55427 STATE OF

Main

Plan

Plumbing Demo

## Plumbing Demolition Mezzanine Floor Plan

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#### PLAN KEYNOTES - PLUMBING DEMOLITION

- REMOVE EXISTING UTILITY SINK AND ASSOCIATED APPURTENANCES. CAP SANITARY LINE BELOW FLOOR. REMOVE AND CAP EXISTING DOMESTIC WATER LINES AND VENT LINE BACK TO ASSOCIATED MAINS AND CAP UNLESS OTHERWISE NOTED.
- REMOVE EXISTING HUB DRAIN AND ASSOCIATED PIPING.
- REMOVE EXISTING FLOOR DRAIN AND STRAINER TOP. REPLACE WITH NEW FLOOR DRAIN.

#### **DEMOLITION GENERAL NOTES**

- 1. REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE OWNER.
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2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO

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- CONDENSATE AND GAS CONNECTION REQUIREMENTS. 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND
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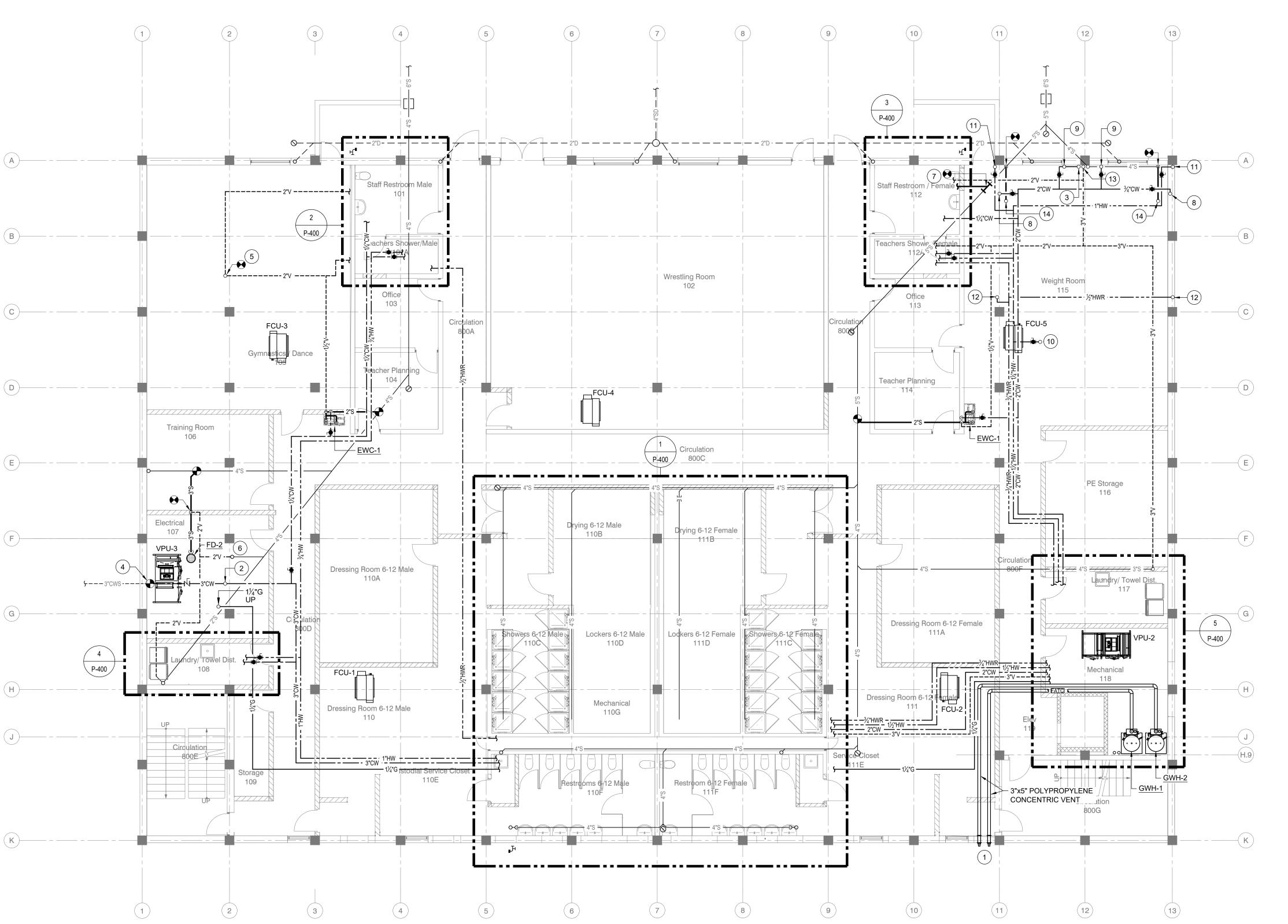


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No. 55427 STATE OF

Mezzanine



Plumbing New Work Lower Floor Plan



#### PLAN KEYNOTES - PLUMBING NEW WORK

- CONDENSING HORIZONTAL TERMINATION KIT, RINNAI 229032
- 2"CW UP.
- CONNECT NEW 3"CW TO EXISTING 3"CW SERVICE ENTRY. CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING PRIOR TO CONSTRUCTION.
- CONNECT NEW VENT TO EXISTING VENT OF EQUAL SIZE OR GREATER. CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING PRIOR TO CONSTRUCTION.
- CONNECT NEW SANITARY LINE TO EXISTING LINE OF EQUAL SIZE OR GREATER. CONTRACTOR TO VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF EXISTING PRIOR TO CONSTRUCTION.
- 1"CW UP.
- 1"HW UP.
- (13) 3"V UP.

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
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Plan

Plumbing New Work

Plumbing New Work Main Floor Plan

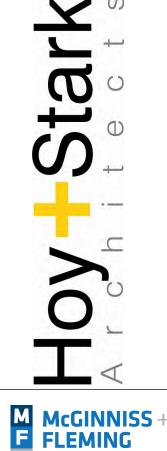


#### PLAN KEYNOTES - PLUMBING NEW WORK

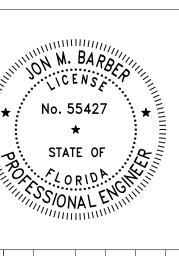
- GAS METER TO PROVIDE 2308 CFH CAPACITY. GAS REGULATOR TO BE SET FOR 0.5 PSI OUTLET PRESSURE, 3.0 IN. W.C. PRESSURE DROP, 0.60 SPECIFIC GRAVITY.
- (2) 3"S UP TO FLOOR DRAIN IN MEZZANINE.
- NOT USED
- NEW 1"CW CONNECTION FOR HT'G SYSTEM.
- (6) 1"CW UP.
- $1\frac{1}{2}$ "CW DN.
- 1¼"G DN.
- AGS MERLIN GAS SOLENOID VALVE. 120VAC NORMALLY
- GAS SERVICE MANUAL RE-SET CONTROL.
- $1\frac{1}{2}$ " CW MAKE-UP FOR MECHANICAL EQUIPMENT USE. PROVIDE W/ SHUT-OFF VALVES AND BACK FLOW PREVENTER. SEE MECHANICAL SHEET DETAIL 01/M-303 FOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT.
- $1\frac{1}{2}$ " NATURAL GAS CONNECTION TO BOILER PER MANUFACTURER'S RECOMMENDATIONS.
- CONTROL WIRING TO F.A.C.P.

#### PLUMBING PLAN GENERAL NOTES

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Rem

Main Plan

Plumbing New Work

Plumbing New Work Mezzanine Floor Plan

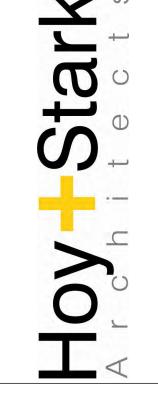


#### PLAN KEYNOTES - PLUMBING NEW WORK

- 1 2"G DN.
- 2 1"CW DN.
- 1" CW MAKE-UP DN TO EXPANSION TANK. PROVIDE W/ SHUT-OFF VALVES AND BACK FLOW PREVENTER.
- NATURAL GAS CONNECTION TO BOILER PER MANUFACTURER'S RECOMMENDATIONS.
- 2"V DN, 2"VTR
- 3"V DN, 3"VTR
- 4"S DN, 4"VTR
- 8 3"V DN

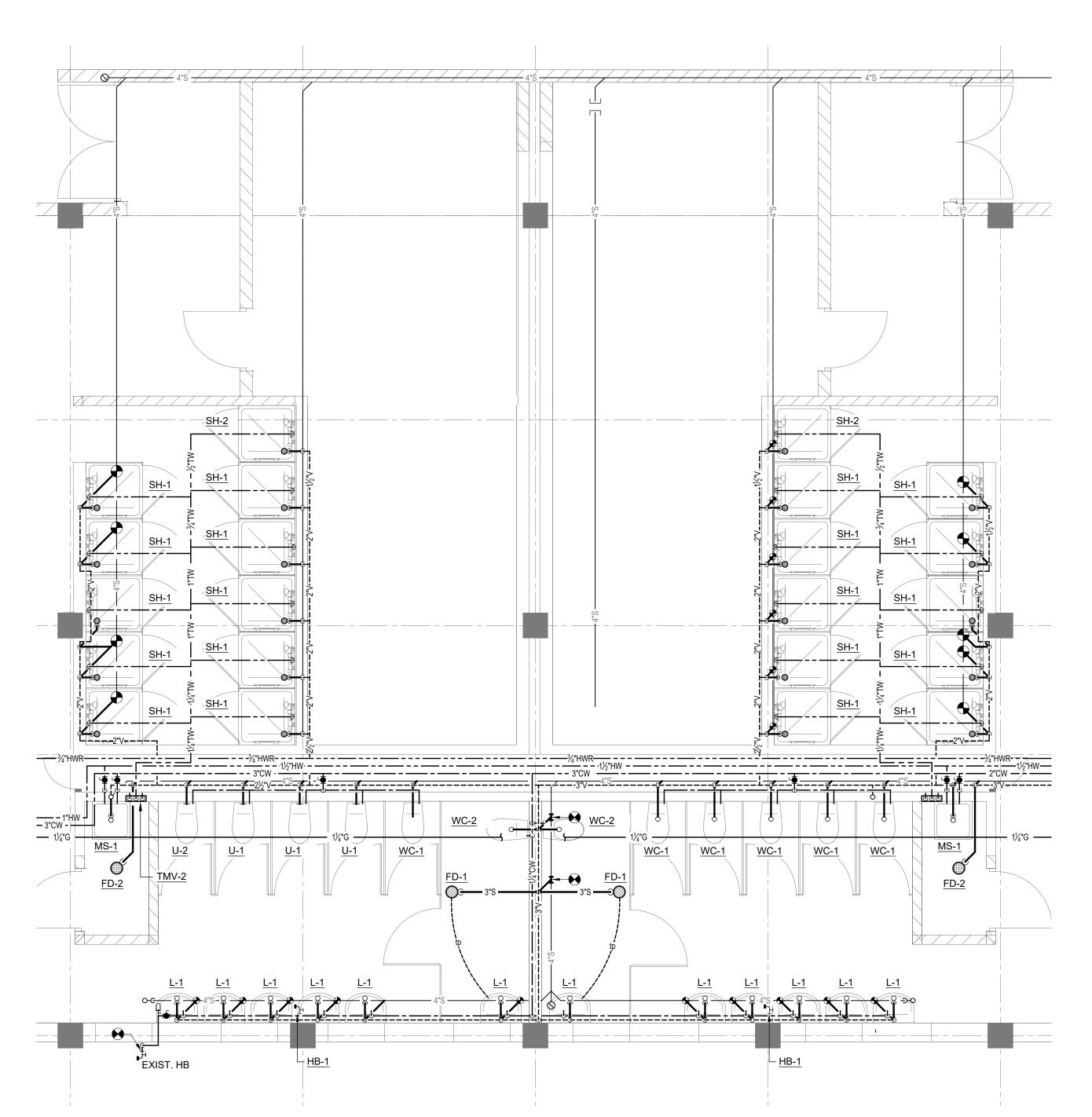
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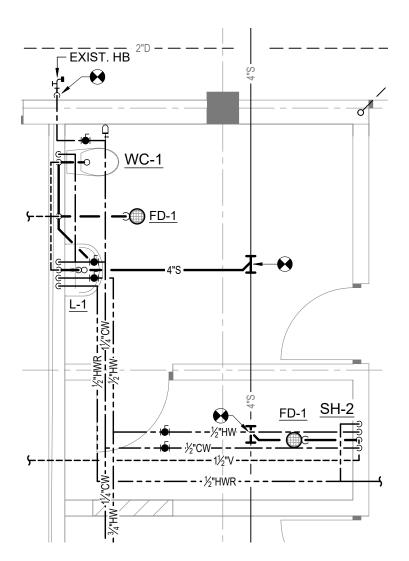


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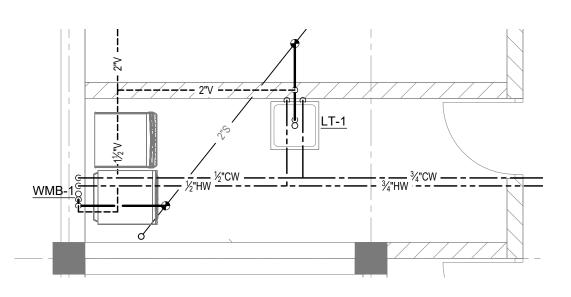
Plumbing New Work Plan



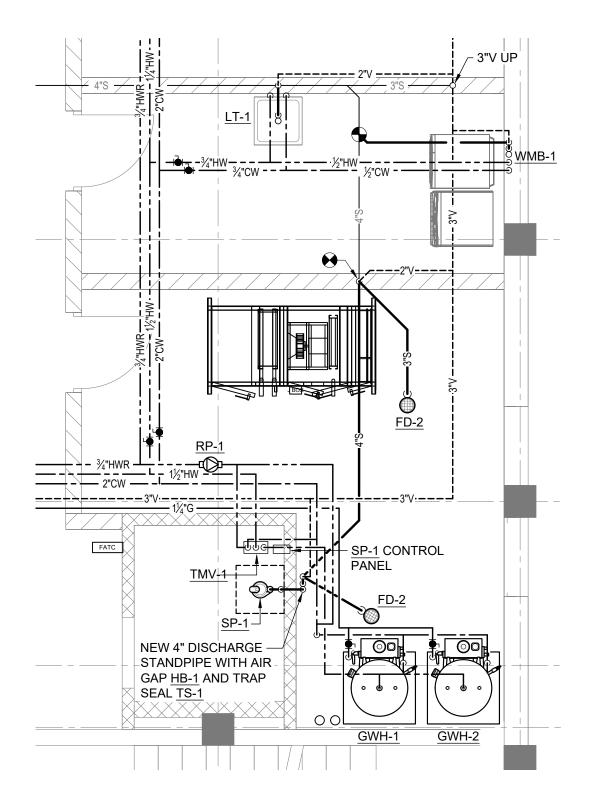
Enlarged Plumbing Plan 1/P-400
Scale: 1/4" = 1'-0"



Enlarged Plumbing Plan 2/P-400

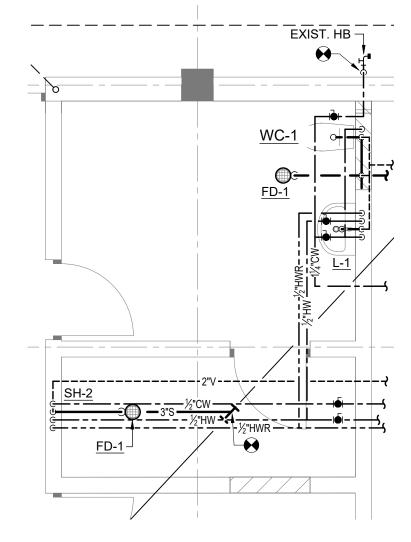


Enlarged Plumbing Plan4/P-400

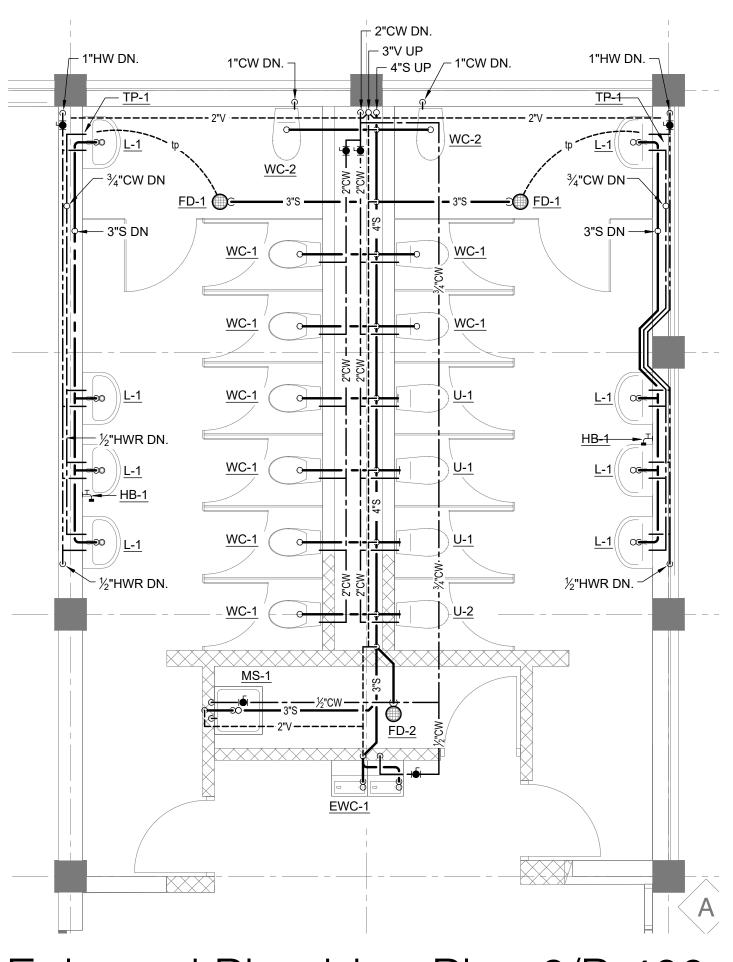


Enlarged Plumbing Plan 5/P-400

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

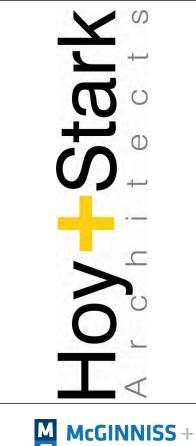


Enlarged Plumbing Plan 3/P-400
Scale: 1/4" = 1'-0"



Enlarged Plumbing Plan 6/P-400

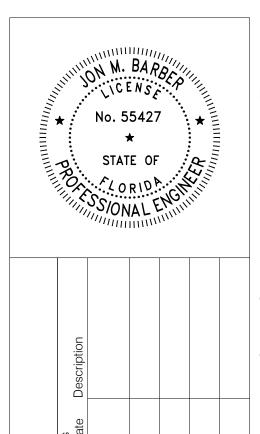
Scale: 1/4" = 1'-0"



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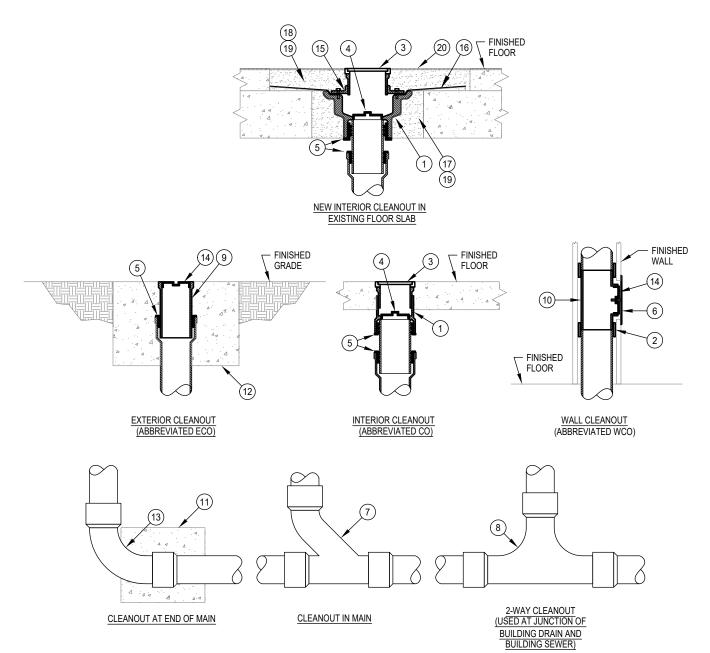
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model & Renovations



Design JB Revisions # Date Description # Date Description | Herisons | Heriso

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### KEY NOTES: (THIS DETAIL ONLY)

- CAST IRON 2-PIECE CLEANOUT BODY WITH ADJUSTABLE HEAD.
   NO-HUB COUPLING (FOR ABOVE GROUND APPLICATION ONLY).
- POLISHED NICKEL BRONZE SCORIATED TOP (PROVIDE CARPET MARKER FOR CARPETED FLOORS).
- BRONZE TAPERED THREAD, RAISED HEAD CLEANOUT PLUG.

  PUSH-ON NEOPRENE RUBBER COMPRESSION GASKET.
- (6) STAINLESS STEEL ROUND WALL ACCESS COVER.
   (7) COMBINATION WYE AND EIGHTH BEND FITTING.
- 8 TWO-WAY CLEANOUT FITTING.
- CAST IRON CLEANOUT FERRULE.
- ) CAST IRON CLEANOUT TEE.
- 12" x 12" x 12" CONCRETE THRUST BLOCK.

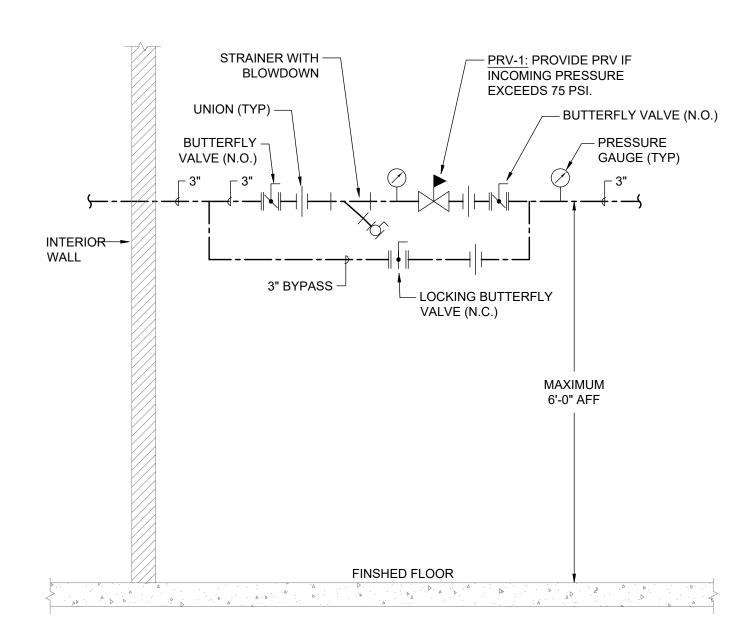
- 24" x 24" x 12" CONCRETE PAD FLUSH WITH GRADE.
- (13) LONG SWEEP ELBOW.
- BRONZE TAPERED THREAD, RECESSED HEAD CLEANOUT PLUG.
- (15) CAST IRON INVERTIBLE CLAMPING COLLAR.
- (16) NEW LEAD PAN FLASHING CLAMPED TIGHTLY TO DRAIN BODY. SEE ARCHITECTURAL PLANS.
- (17) BREAK OUT EXISTING STRUCTURAL CONCRETE FLOOR SLAB.

  (18) CUT TOPPING MINIMUM 12" BEYOND BROKEN-OUT STRUCTURAL FLOOR SLAB TO NEAREST FLOOR TILE JOINT TO

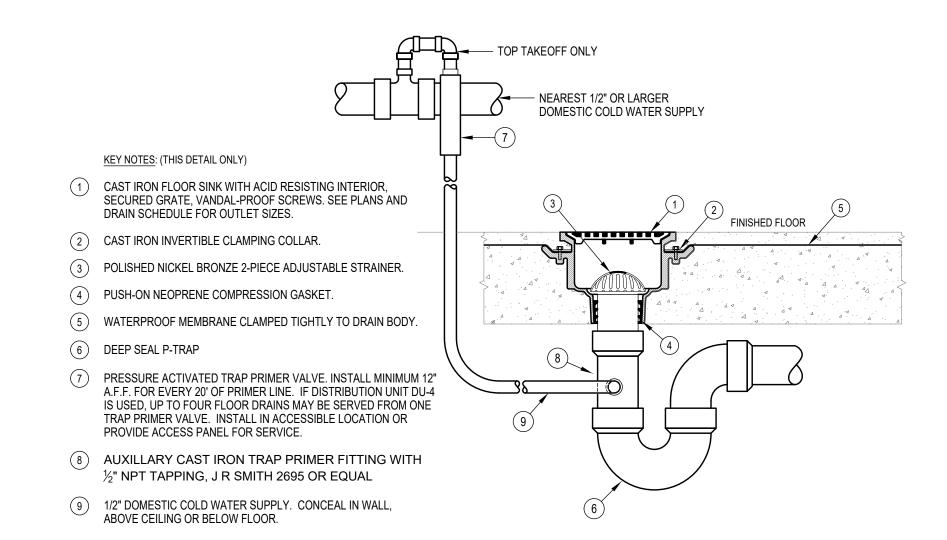
ALLOW FOR INSTALLATION OF NEW LEAD PAN FLASHING.

- 9) GROUT SOLID AROUND NEW FLOOR DRAIN.
- NEW FLOOR FINISH TO MATCH EXISTING.

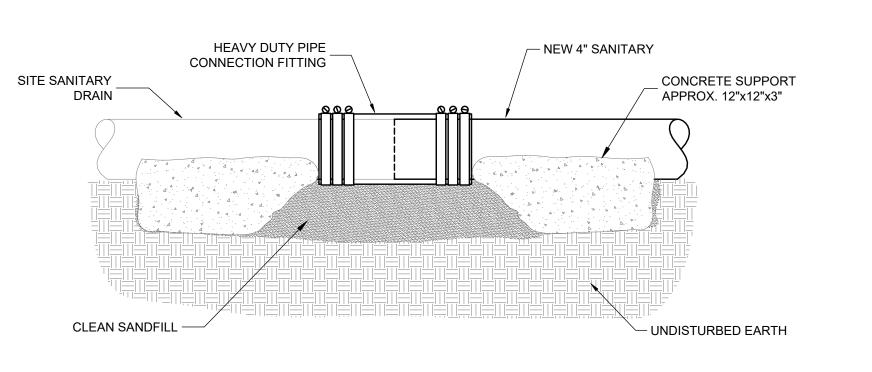




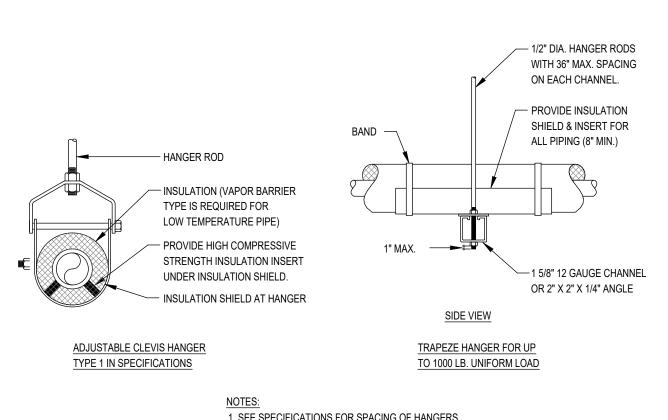




# TYPICAL FLOOR DRAIN OR FLOOR SINK TRAP PRIMER TAPPING INSTALLATION DETAIL



# SANITARY MAIN CONNECTION DETAIL NEW TO EXISTING P400 NTS

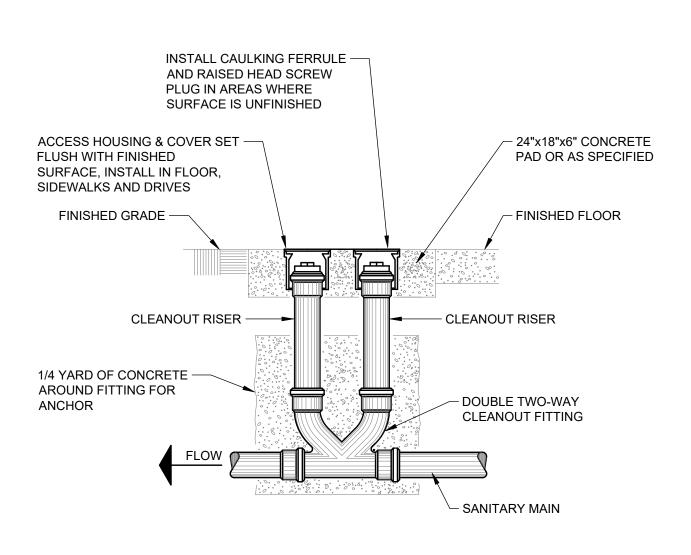


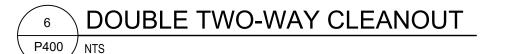
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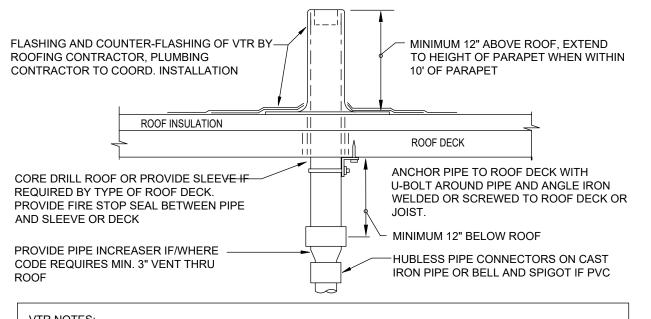
1. SEE SPECIFICATIONS FOR SPACING OF HANGERS.

2. PROVIDE SPRING ISOLATORS FOR FIRST 3 HANGERS
UP TO AND BEYOND EQUIPMENT CONNECTION AND/OR
THROUGH OUT MECHANICAL ROOMS OR MEZZANINE AREAS.





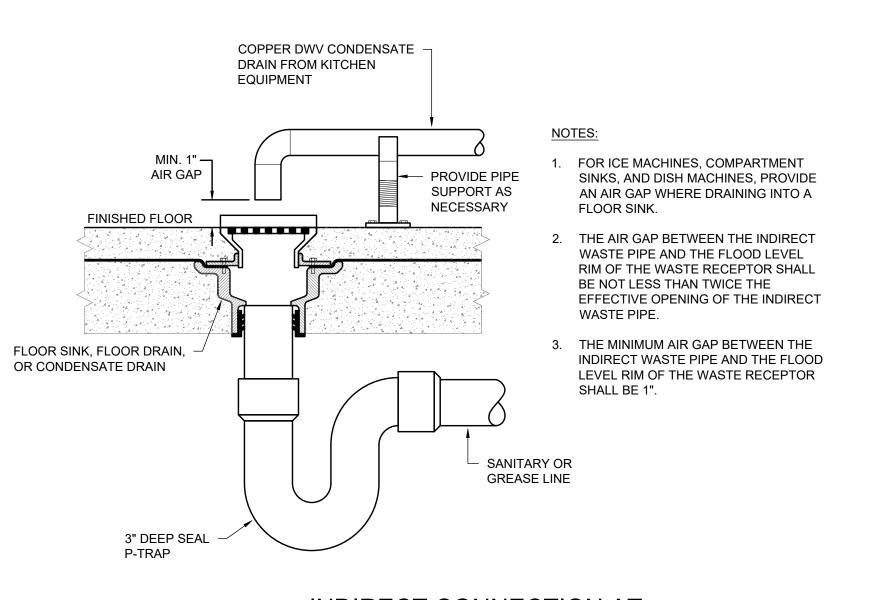




R NOTES:

REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE. LOCATE VTR MINIMUM 18" FROM PARAPET, EXPANSION JOINT, EQUIPMENT CURB, ETC. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

## 7 VENT THROUGH ROOF (VTR) DETAIL P400 NTS







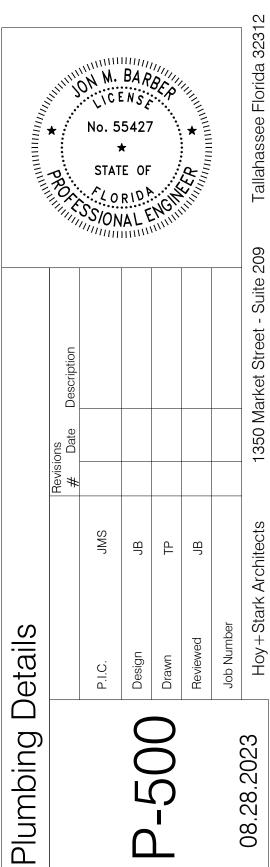
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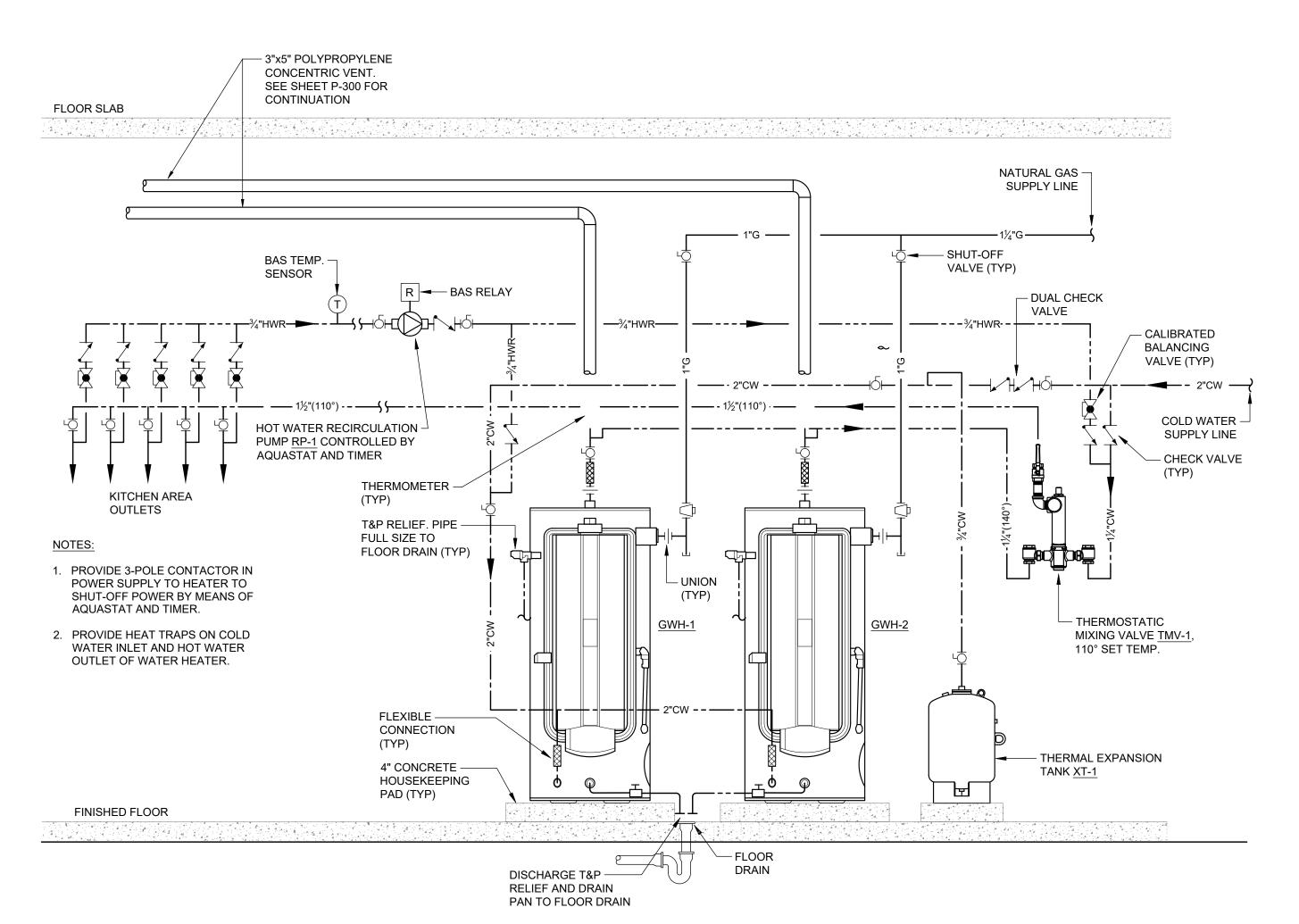
**ENGINEERING** 

JON BARBER, PE 55427 | BRIAN WALLACE, PE 75562

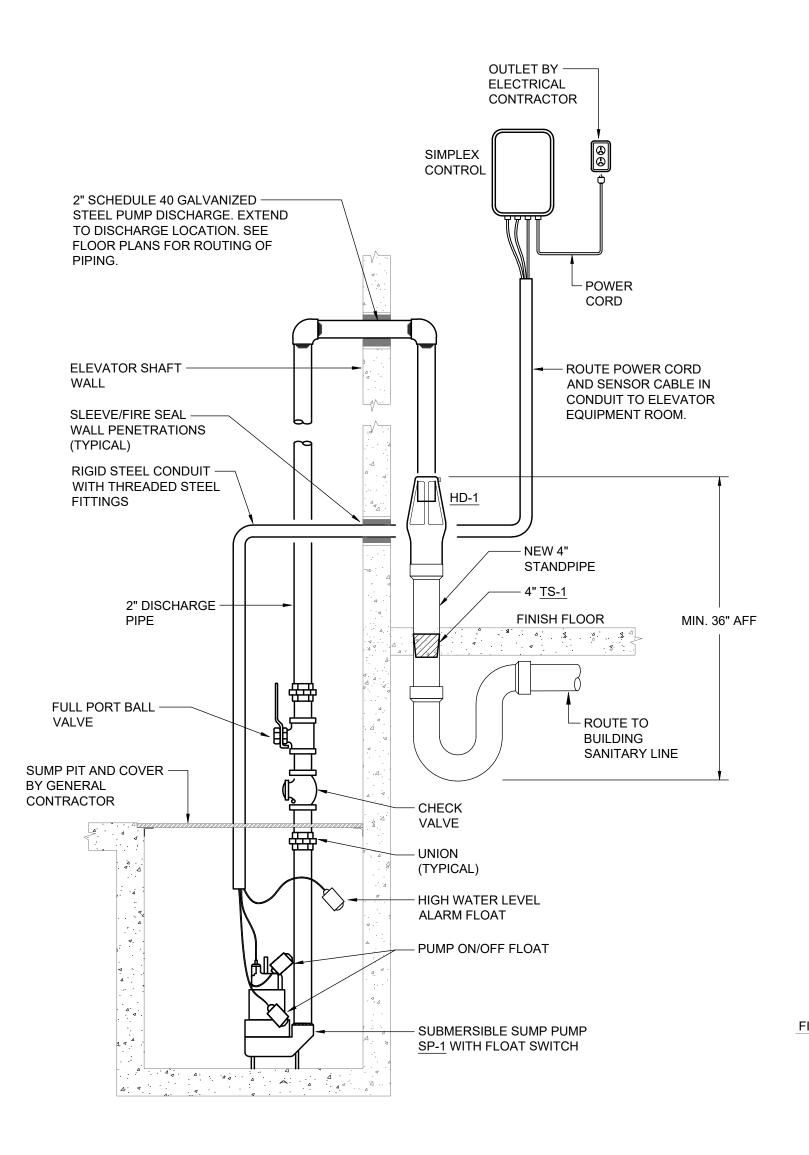
820 EAST PARK AVE, I-200, TALLAHASSEE, FL 32301

**F** FLEMING

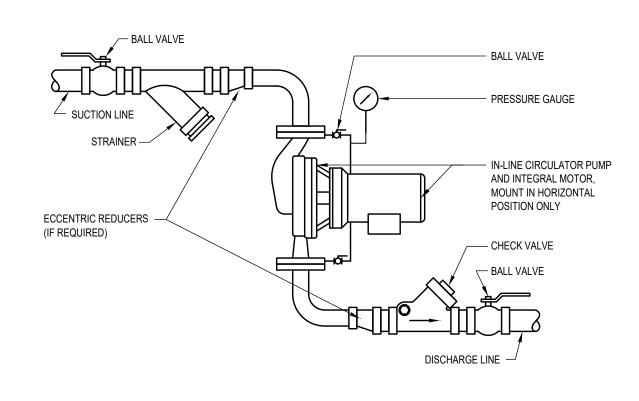




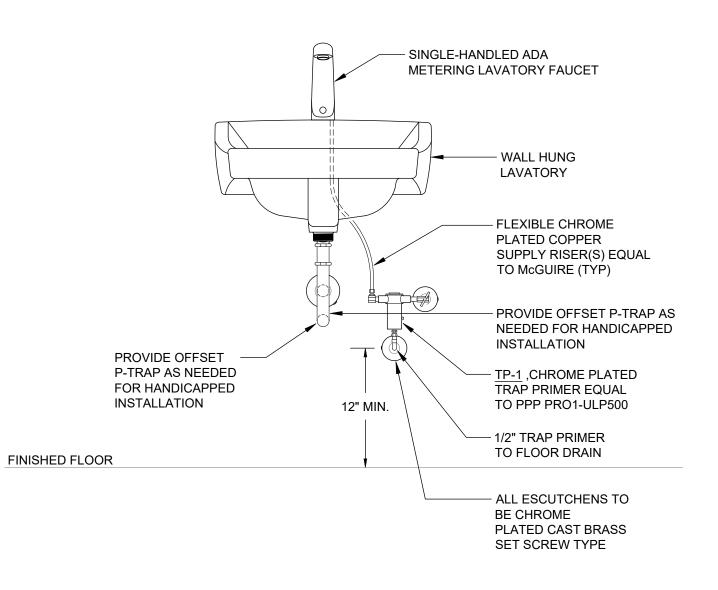
GAS-FIRED WATER HEATER PIPING SCHEMATIC P401 NTS



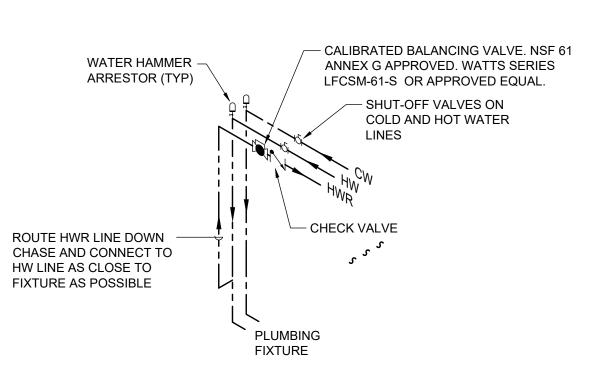
ELEVATOR SUMP PUMP DETAIL



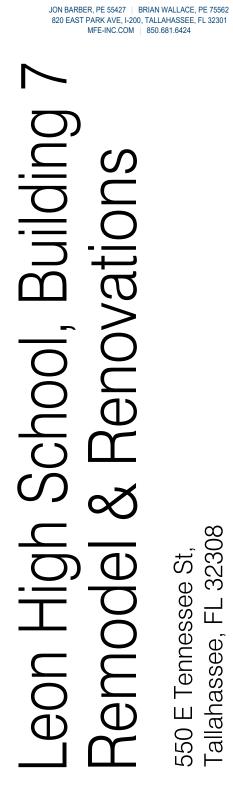
IN-LINE RECIRCULATOR PUMP



LAVATORY INSTALLATION DETAIL P401 NTS



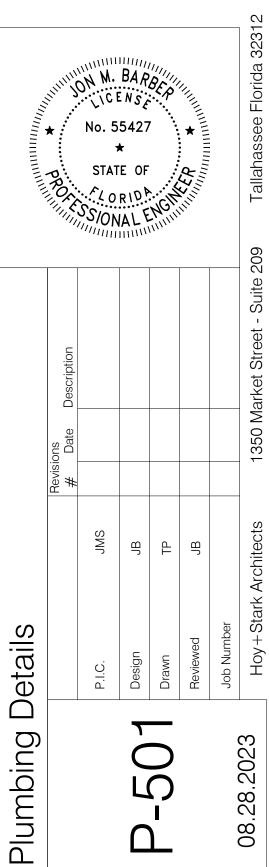
4 HWR CONNECTION AT PLUMBING FIXTURE P401 / NTS



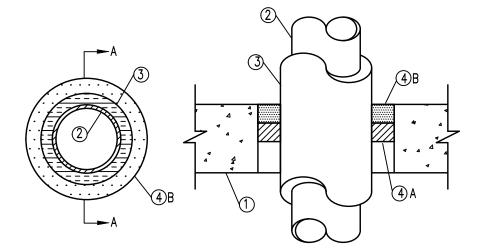
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**ENGINEERING** 

**F** FLEMING



08.28.2023



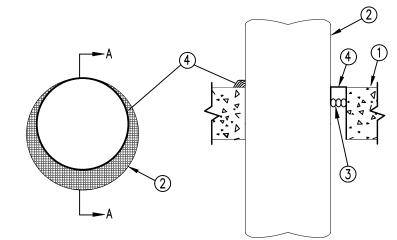
SECTION A-A

- 1. Floor or Wall assembly Min. 2— 1/2" thick reinforced lightweight or normal weight (100-150) pcf concréte. Wall may also be constructed of any UL Classifed Concrete Blocks\*. Max. diameter of opening is 18". See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufatureres.
- 1A. Steel Sleeve Optional, not shown) Nom. 10" (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max. of 2" above top of floor or beyond either surface of wall. T Rating is 0 Hr. when sleeve is used.
- 2. Through Penetrants Nom. 4" dia. (or smaller) type L (or heavier) copper pipe, nom. 12" dia. (or smaller) service weight (or heavier) cast iron soil pipe, nom. 12" dia. (or smaller) class 50 (or heavier) ductile iron pressure pipe or nom. 12" dia. (or smaller) Schedule 10 (or heavier) steel pipe centered in the opening and rigidly supported on both sides of the floor or wall assembly.
- 3. Pipe-Covering\* Nom. 1/2 to 2" thick hollow cylindrical heavy density (min. 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory—applied self—sealing lap tape. Transverse joints secured with metal fasteners or with butt strip tape supplied with the product. See pipe and equipment covering — Materials\*(BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification working with a Flame Spread index of 25 or less and a Smoke Developed Index of 50 or less must be used.
- 4. Firestop System The details of the firestop system shall be as follows:
  - A. Packing Material Nom. 1" thickness of firmly packed mineral wool batt insualation used as a permanenet form, packing material to be recessed from top surface of floor or above or from both surfaces of as required to acommodate the required thickness of caulk. fill material (item b).
  - B. Fill, Void or Cavity Material\* Caulk Applied to fill the annular space flush with top surface of floor or sleeve or fluch with both surfaces of wall. When nom. pipe covering thickness is 2", min. thickness of caulk fill material is 2". When nom. pipe covering thickness is 1-1/2" or less, min. thickness of caulk fill material is 1". The hourly F and T Ratings of the firestop system are dependent upon the thickness of the floor or wall, the size of pipe, the thickness of pipe covering material and the size of the annular space (between the pipe covering material and the edge of the circular through opening), as shown in the following table:

Min. Floor Or Wall Thickness, In.	Max. Pipe Dia.	Nom. Pipe Covering Thickness, In.	Annular Space, In.	F Rating, Hr.	T Rating, Hr.
2-1/2	4	1 OR 1-1/2	1/2 TO 2-3/8	2	1
4-1/2	4	2	1/4 TO 3-5/8	2	1-1/2
2-1/2	12	1	1/2 TO 1-1/2	2	1/2
4-1/2	12	1	1/2 TO 2-3/8	3	1
2-1/2	12	1/2	1/2 TO 2-3/8	2	0

Minnesota Mining and Manufacturing Co. - Cp 25WB+. \*Bearing the UL Classification Marking

System No. C-AJ-1044 formerly system no. 319) F Rating - 2, 3 and 4 Hr (see items 2A and 4) T Rating — 0 Hr L Rating At Ambient - 2 CFM/sq ft L Rating At 400 F - less than 1 CFM/sq ft



SECTION A-A

1. floor or wall assembly — lightweight or normal weight (100—150pcf) concrete. except as noted in table under item 4, min thickness of solid concrete floor or wall assembly is 4-1/2". floor may also be constructed of a min. 6" thick, ul classified hollow core precast concrete units\*. when floor is constructed of hollow core precast concrete units, packing material (item 3) and caulk fill material (item 4) to be installed symmetrically on both sides of floor, flush with floor surface. wall assembly may also be constructed of any ul classified concrete blocks\*. max. dia. of opening is in solid lightweight or normal weight concrete. floor is 32" max. dia. of opening in floor constructed of hollow-core precast concrete units is 7".

see concrete blocks (cazt) and precast concrete units (cftv) categories in the fire resistance directory for names of manufacturers.

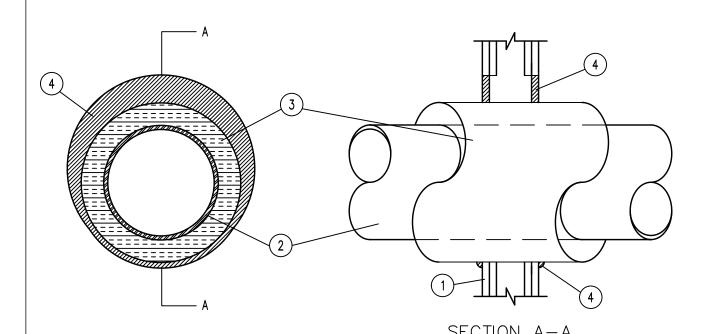
- 1A. steel sleeve (optional, not shown) max. 15" id (or smaller) schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. sleeve may extend a max. of 2" above top of floor or beyond either surface of wall. max. 16" id (or smaller) min. 0.028 wall thickness (or heavier) galvanized steel sleeve cast or grouted into floor or wall assembly. sleeve may extend a max. of 1/2" beyond either surface of floor or wall.
- 2. through penetrants one metallic pipe, conduit or tubing to be installed either concentric ally or eccentric ally within the firestop system. max. annular space between pipe, conduit or tubing and edge of through opening or sleeve is dependent on the parameters shown in item 4. min. annular space between pipe or conduit and edge of through opening is 0". (point contact). pipe conduit or tubing to be rigidly supported on both sides of floor or wall assembly. the following types and sizes of metallic pipes, conduits or tubing may be used:
- A. steel pipe nom. 30" dia. (or smaller) schedule 10 (or heavier) steel pipe iron pipe — nom. 30" dia. (or smaller) cast or ductile iron pipe conduit - nom. 6" dia. (or smaller) rigid steel conduit conduit — nom. 4" dia. (or smaller) steel electrical metallic tubing copper tubing — nom. 8" dia. (or smaller) type I (or heavier) copper tube copper pipe - nom. 6" dia. (or smaller) regular (or heavier) copper pipe
- 3. packing material polyethylene backer rod or nom. 1" thickness of tightly packed min.eral wool batt or glass fiber insulation firmly packed into opening as a permanent form. packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of caulk fill material (item 4).
- 4. fill, void or cavity material\* caulk applied to fill the annular space flush with top surface of floor. in wall assemblies, required caulk thickness to be installed symmetrically on both sides of wall, flush with wall surface, at point contact location between penetrant and sleeve or between penetrant and concrete, a min. 1/4" dia. bead of caulk shall be applied at top surface pipe conduit or tubing to be rigidly supported on both sides of floor or wall of floor and at both surfaces of wall. the hourly f ratings and the min. required caulk thickness' are dependent upon a number of parameters, as shown in the following table:

min. floor	nom. pipe tube	9		
or wall	or conduit	max. annular	min. caulk	f
thickness, in.	dia, in.	space, in.	thickness, in.	rating, hr
2-1/2	1/2-12	1-3/8	1/2	2
2-1/2	1/2-12	3-1/4	1	2
4-1/2	1/2-6	1-3/8	1/4 (A)	2
4-1/2	1/2-12	1-1/4	1/2	3
4-1/2	1/2-20	2	1	3
4-1/2	1/2-20	2	1	3
4-1/2	1/2-12	3-1/4	1	3
4-1/2	1/2-6	1-3/8	1 (B)	4

(A) min. 2" thickness of mineral wool batt insulation required in annular space. (B) min. 1" thickness of mineral wool batt insulation required in annular space. on both sides of floor or wall assembly. min 1" thickness of caulk to be installed flush with each surface of floor or wall assembly.

minnesota mining and manufacturing co. — cp 25wb+. \*bearing the ul classification marking

System No. W-L-5029 F Ratings - 1 and 2 Hr (See Item 1) T Ratings - 1/2, 3/4, 1 and 1-3/4 Hr (See Item 3) L Rating At Ambient — 4 CFM/Sq Ft L Rating At 400 F - Less Than 1 CFM/Sq Ft



1. Wall Assembly — The 1 or 2 hr fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel

channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. B. Wallboard, Gypsum\* - 5/8 in. thick, 4 ft wide, with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the

individual Wall and Partition Design. Max diam of opening is 18-5/8 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. 2. Through Penetrants — One metallic pipe, conduit or tubing to be centered within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe - Nom 12 in diam (or smaller) Schedule 10 (or heavier)

B. Conduit - Nom 4 in. diam (or smaller) electrical metallic tubing or steel conduit. C. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier)

D. Copper Pipe - Nom 6 in. diam (or smaller) Regular (or heavier) copper

3. Pipe Covering\* - Nom 1, 1-1/2 or 2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self—sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

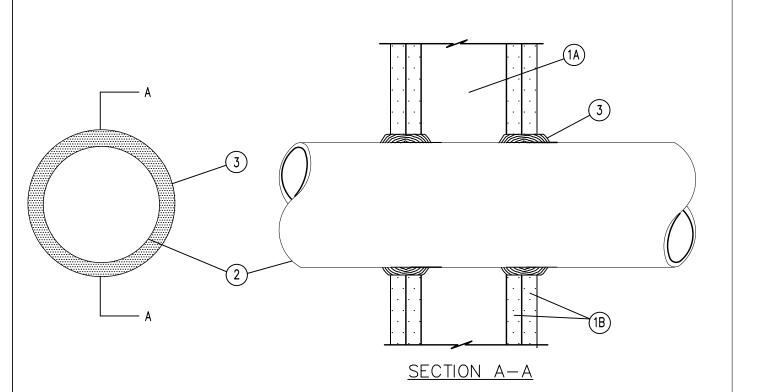
See Pipe and Equipment Covering — Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. The hour T Rating of the firestop system is dependent on the hourly fire rating of the wall assembly in which it is installed, the size and type of through penetrant and the pipe covering thickness, as shown in the table

JOIOW.							
Wall		Through	Pipe				
sembly		Penetrant	Covering	Annular	Space	T	
ating •		Max Diam	Thkns	Min	. Max	Rating	
Hr	Type+	ln.	ln.	ln.	ln.	Hr	
	A or B	4	1	0	1-1/2	1/2	
	C or D	2	1 or 1-1/2 1-1/2	Ō	$1-1/\bar{2}$	$1/\bar{2}$	
	A or B	4	1-1/2	0	1-1/2	´ 1	
	Α	12	2	0	1-7/8	3/4	
	C or D	6	2	0	1-7/8	1	
	A or B	4		Q	1-1/2	1	
	C or D	4	1 or 1-1/2	0	1-1/2	1	
	C or D	6	2	0	1-//8		
	A or B	4	1-1/2	0	1-1/2	1-3/4	
	Α Ω	12	2	0	1-//8 1-7/9	1-1/2	
dicatos	C or D	tuna an itamizad	in Itam 2	U	1-7/8	ı	
		type as itemized		Alatalan ana	. 1		

4. Fill Void or Cavity Material\* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 or 2 hr walls, respectively. At the point contact location between pipe covering and gypsum wallboard, a min 1/2 in. diam bead of fill material shall be applied at the pipe covering/gypsum wallboard interface on both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, Inc - FS-ONE Sealant

\*Bearing the UL Classification Marking

System No. W-L-1001 (Formerly System No. 147) F Rating--1, 2, 3 and 4 Hr (See Items 2 and 3) T Ratings—0, 1, 2, 3, and 4 Hr (See Items 2 and 3) L Rating at Ambient——less than 1 CFM/sq ft L Rating At 400 F--less than 1 CFM/sq ft



1. Wall Assembly——The 1, 2, 3 or 4 hr fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs——Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. Wallboard, Gypsum \*--Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13-1/2 in.

2. Pipe or Conduit—Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cas iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom 6 in. diam (or smaller) steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) Type L or (or heavier) copper tubing or nom 1 in. diam (or smaller) flexible steel conduit. When copper pipe is used, max F Rating of firestop system (Item 3) is 2 h. Steel pipes or conduits larger than nom 4 in. diam may only be used in walls constructed using steel channel studs. A max of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall

3. Fill, Void or Cavity Material\*——Caulk——Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as

Max pipe	Annular	F	Т
or Conduit	Space	Rating	Rating
Diam In.	ĺn.	Hr.	Hr.
1	3 to 3/16	1 or 2	0+, 1 or 2
1	1/4 to 1/2	3 or 4	3 or 4
4	0 to 1-1/2	1 or 2	0
6	1/4 to 1/2	3 or 4	0
12	3/16 to 3/8	1 or 2	0

+When copper is used, T Rating is Oh. Minnesota Mining & Mfg. Co .--Types FB-2000, FB-2000+ \*Bearing the UL Classification Marking

uilding ati eon em

WALL/FLR-CONC-PIPE/INSULATED-2/3 HR

WALL/FLR-CONC-PIPE-2/3/4 HR

WALL-DRYWALL-PIPE/INSULATED-1/2 HR

WALL-DRYWALL-PIPE-1/2/3/4 HR

Details

Plumbing

4

502

08.28.2023

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ON M. BARBER

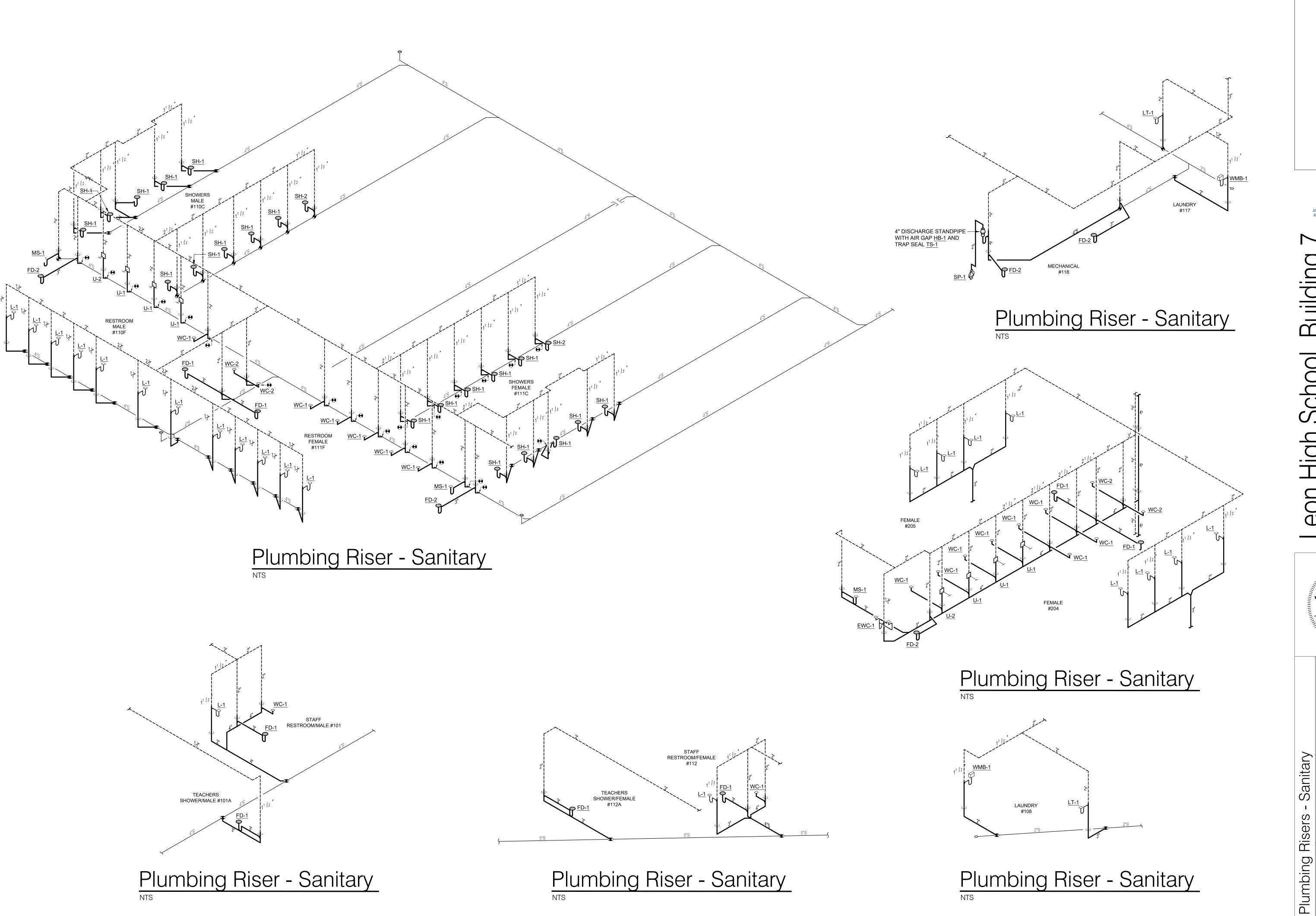
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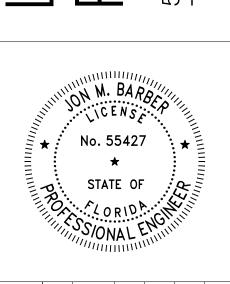
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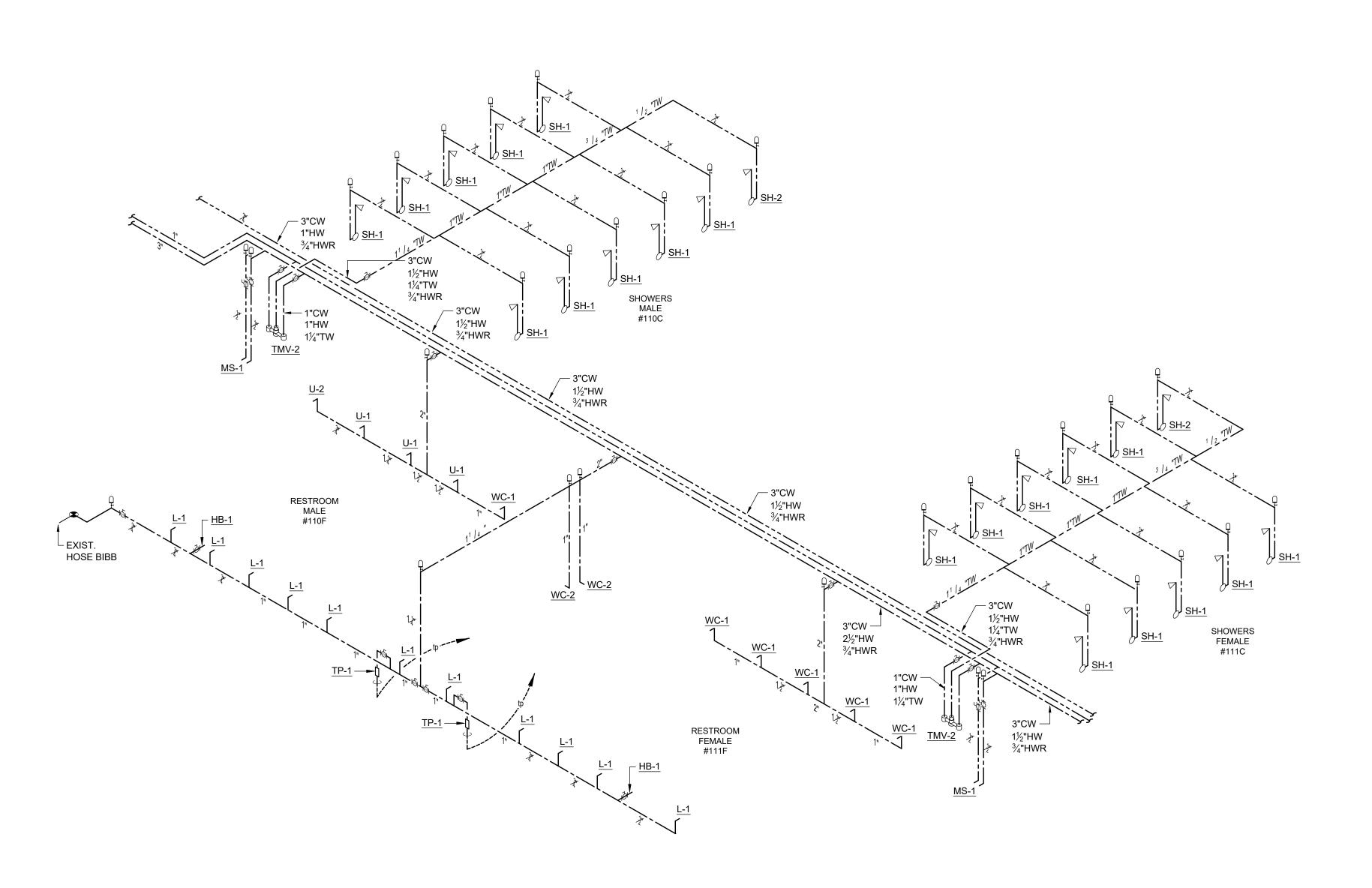
**FLEMING ENGINEERING** 

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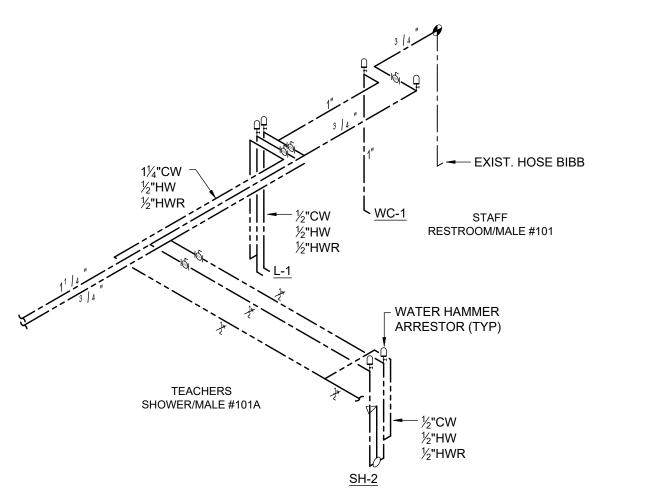


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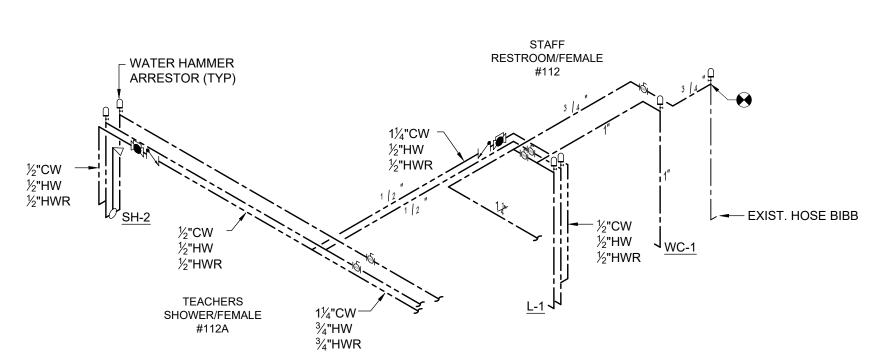




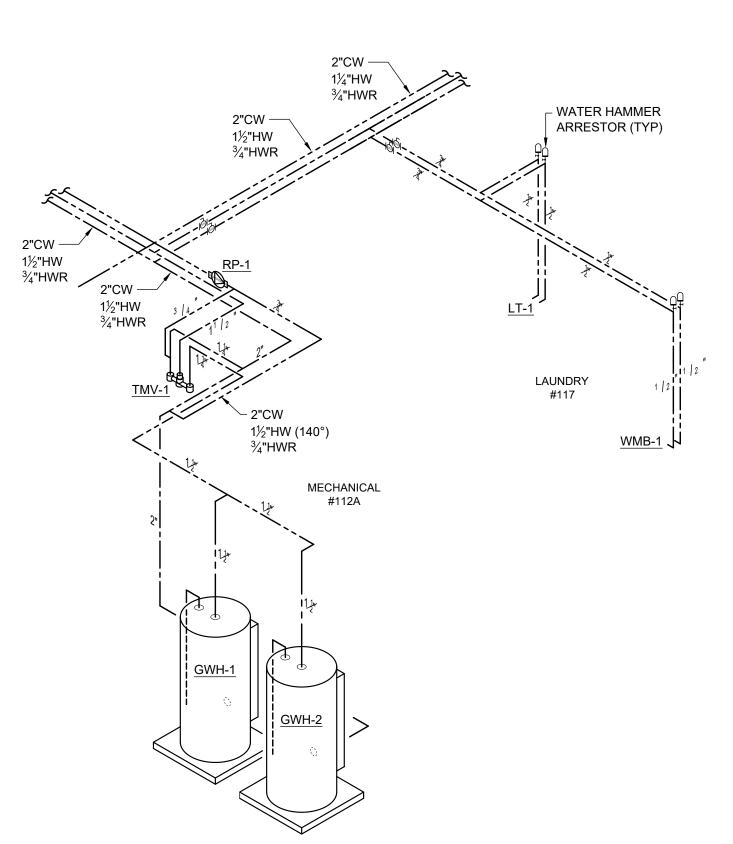
Plumbing Riser - Domestic Water



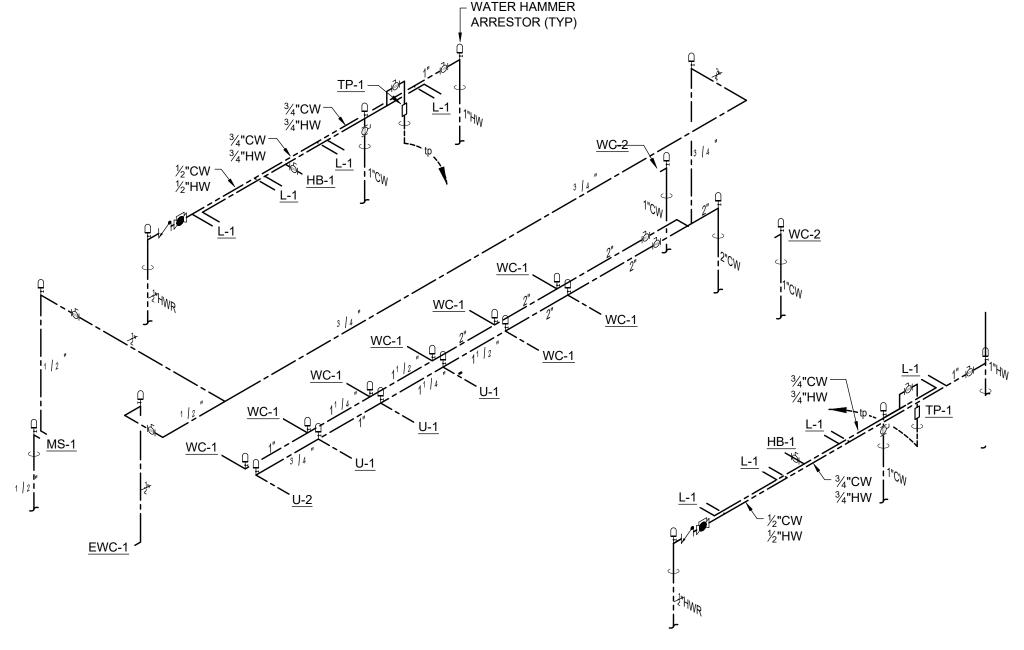
Plumbing Riser - Domestic Water



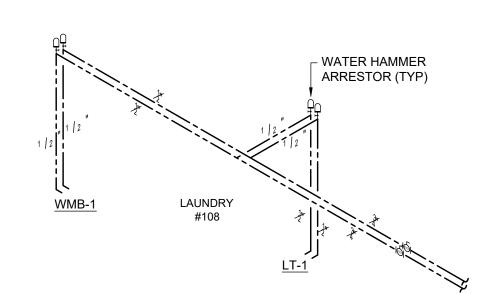
Plumbing Riser - Domestic Water



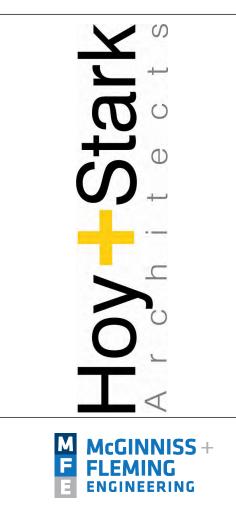
Plumbing Riser - Domestic Water



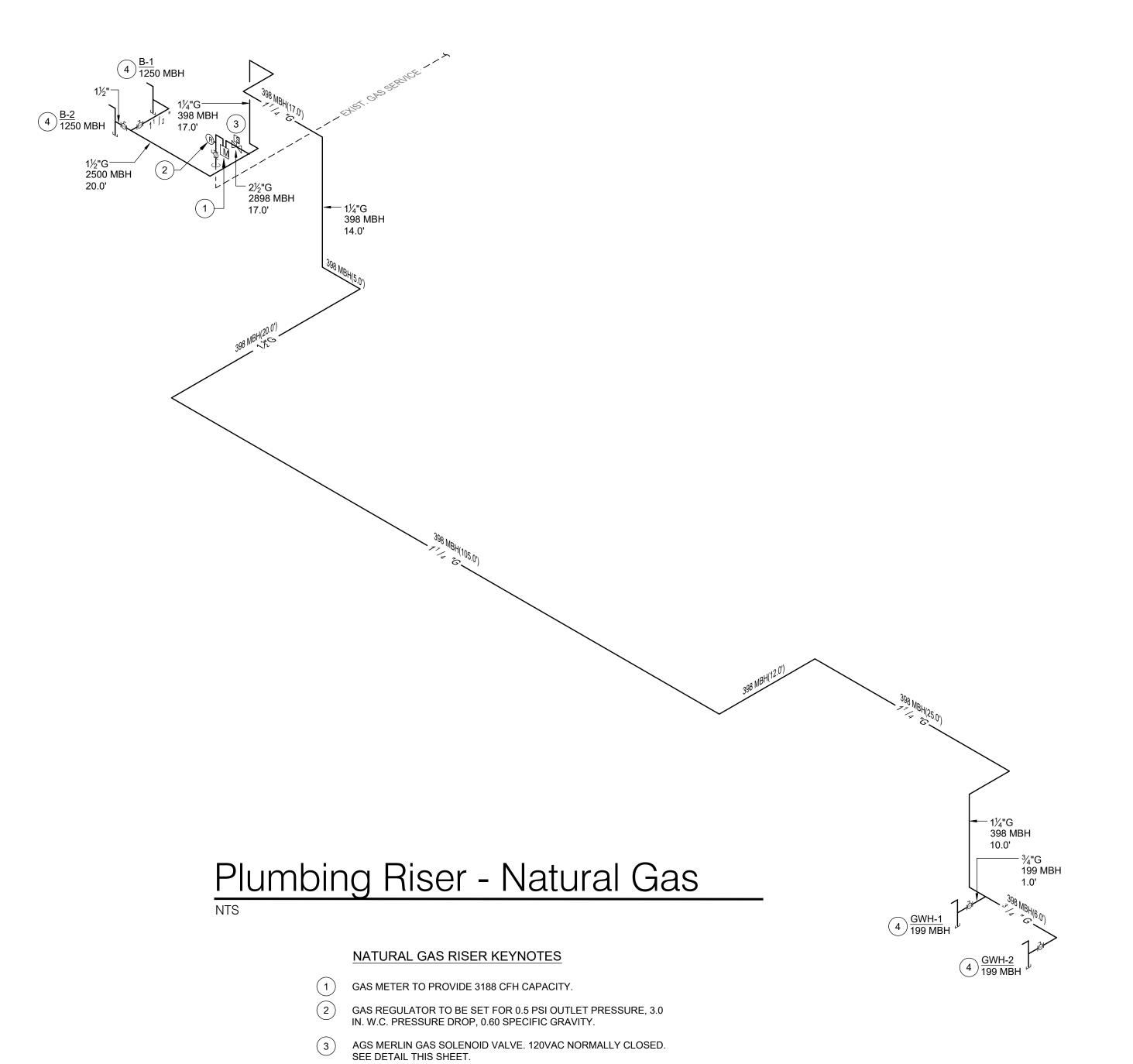
## Plumbing Riser - Domestic Water



Plumbing Riser - Domestic Water



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GAS CONNECTION W/ SHUT-OFF VALVE. REFERENCE MANUFACTURER'S DATA FOR SIZE AND CONNECTION

NATURAL GAS RISER GENERAL NOTES

CODE, FUEL GAS (FBC-G) 7TH EDITION (2020).

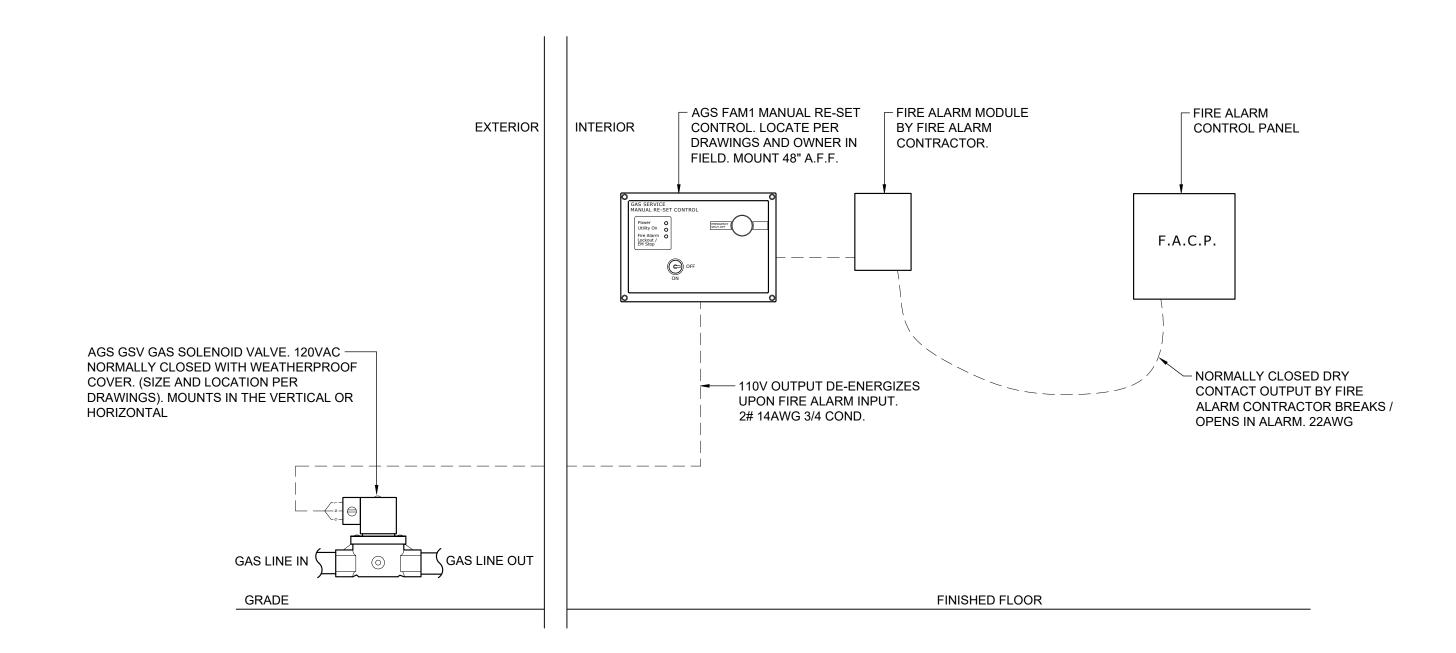
WITH A FULL SIZE DIRT LEG.

INSTRUCTIONS TO GAS-FIRED EQUIPMENT. LINE SHALL END

1. NATURAL GAS PIPING FOR 0.5 PSI INLET PRESSURE, 3.0 IN. W.C. PRESSURE DROP, 0.6 SPECIFIC GRAVITY, FLORIDA BUILDING

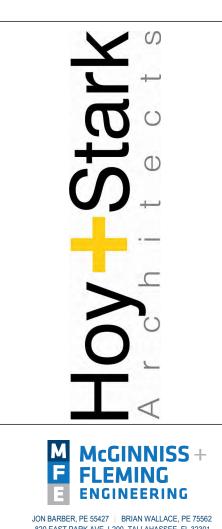
2. TOTAL DEVELOPED LENGTH FROM NATURAL GAS METER TO FARTHEST OUTLET (GWH-2): APPROXIMATELY 208.0 FT.

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## Fire Alarm Manual Re-set Detain

GAS SUMMARY (NATURAL GAS) LOAD (MBH) **EQUIPMENT MARK** TOTAL (MBH) NO. GWH-1 199 199 199 GWH-2 199 B-1 1250 1250 B-2 1250 1250 TOTAL GAS DEMAND (MBH) 2898



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No. 55427 STATE OF

Natural Gas

Plumbing Risers

10% ALLOWANCE (MBH) 289.8 TOTAL GAS LOAD (CFH) 3188

### ABBREVIATIONS

LIMIT OF DEMOLITION

WATER HAMMER ARRESTER

 $\Theta(M)$ 

MANUAL GAS SHUTOFF VALVE,

CONNECTION, NEW TO EXISTING

PRESSURE REGULATOR, AND METER

INV EL INVERT ELEVATION N.C. NORMALLY CLOSED N.O. NORMALLY OPEN N/A NOT APPLICABLE PDI PLUMBING DRAINAGE INSTITUTE PH PHASE S SOIL SAN SANITARY SK SINK TP TRAP PRIMER TYP TYPICAL UDS UTILITY DISTRIBUTION SYSTEM U.N.O. UNLESS NOTED OTHERWISE V VENT W WASTE WCO WALL CLEANOUT XT EXPANSION TANK

## LCSB PLUMBING SPECIFICATIONS

- 1. URINALS TO BE PIPED ON INDIVIDUAL STACKS WITH CLEAN OUTS INSTALLED ABOVE WASTE
- 2. WASTE PIPING: DOUBLE COMBINATIONS, DOUBLE WYES OR SANITARY CROSSES ARE NOT TO BE USED IN SANITARY PIPING.
- 3. ACID WASTE PIPING; CPVC PIPE AND FITTINGS "SOLVENT WELD".
- 4. UNDERGROUND WATER SERVICES: SERVICES UNDER ANY SLABS SHALL BE TYPE K HARD COPPER. TRANSITIONS TO PVC PIPING MUST OCCUR OUTSIDE ANY CONCRETE WORK, NO PVC WATER PIPING UNDER CONCRETE SLABS. COPPER FITTINGS UNDER SLAB SHALL BE SILVER SOLDERED WITH 15 PERCENT SILVER SOLDER. PIPING AND FITTINGS SHALL BE WRAPPED WITH WRAP TAPE IN ITS ENTIRETY. TRANSITION FROM COPPER TO PVC TO BE MADE WITH COPPER FIP ADAPTER AND SCH 80 PVC MALE ADAPTER. ALL SOLVENT WELD FITTINGS SHALL BE SCH 80 PVC.
- 5. UNDERGROUND WATER MAINS AND SERVICES 4" AND LARGER SHALL BE INSTALLED USING C-900 PIPE WITH MECHANICAL FITTINGS. 3" AND SMALLER SHALL BE CLASS 200 RING TITE
- 6. SERVICE VALVE FOR BUILDINGS SHALL BE INSTALLED WITHIN 4 FEET OF WATER MAIN; INCLUDING OVERHEAD SERVICE.
- 7. ALL PIPING SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS, AND SHALL PASS THROUGH WALLS AT 90 DEGREES. UNLESS SHOWN OR APPROVED, PIPING INSTALLED DIAGONALLY IS NOT ALLOWED.
- 8. ON NEW INSTALLATION OF WATER MAINS AN ISOLATION VALVE SHALL BE INSTALLED MID-POINT OF MAIN PIPING.
- 9. NO WALL HYDRANTS TO BE USED.
- 10. BALL VALVES TO BE USED ON INTERIOR PIPING.
- 11. WATER MAINS AND WATER SERVICES USE MECHANICAL GATE VALVES, MUELLER OR EQUAL.
- 12. TRAP PRIMERS FOR MULTI DRAINS AND DRAINS SERVING MECHANICAL EQUIPMENT ON MEZZANINES TO BE OF ELECTRONIC SOLENOID DEVICES. SINGLE TRAP PRIMERS TO BE UNDER LAVATORIES; PPP PRO L-UL-P-500, ADJUSTABLE.
- 13. BACKFLOW DEVICES 2" AND SMALLER AT WATER METER AND MECHANICAL EQUIPMENT SHALL BE WILKINS, CONBRACO, OR FEBCO. NO WATTS DEVICES TO BE USED. BACKFLOW DEVICES SHALL BE INSTALLED AT ELEVATION THAT IS SERVICEABLE FROM FLOOR AND MAINTAIN 12' -0" CLEARANCE FROM WALL.
- 14. MULTI STATION LAVATORY UNITS TO BE INSTALLED IN GANG RESTROOMS IF BUDGET
- 15. CLASSROOM SINKS SHALL BE ONE-PIECE TOP WITH SINK MOLDED IN TOP.
- 16. CONTRACTOR TO CAMERA SEWER LINES AND PROVIDE SMOKE TEST OF ENTIRE DRAINAGE WASTE AND VENT PIPING. SCHOOL BOARD EMPLOYEES TO WITNESS CAMERA AND SMOKE TEST.
- 17. WATER HEATER SERVING CUSTODIAL SINKS SHALL NOT BE LARGER THAN 20 GALLONS.
- 18. CARRIERS FOR LAVATORIES AND URINALS ARE NOT TO BE USED.
- 19. WATER SERVICES TO ENTER BUILDINGS AT CLOSEST PROXIMITY TO WATER MAIN.
- 20. BUILDING SEWERS TO BE PIPED DIRECTLY TO MANHOLE WHEN FEASIBLE.
- 21. FOR HOT WATER SERVING KITCHENS, DRESSINGS AND LOCKER ROOMS, LCSB PREFERS TO UTILIZE TANKLESS GAS-FIRED WATER HEATERS.
- 22. NO OFFSET FLANGES TO BE USED ON TOILETS.
- 23. NO SPANNER FLANGES TO BE USED ON TOILETS.
- 24. NO FERNCO COUPLINGS TO BE USED ON SINK WASTE.
- 25. NO SLIP JOINT 45'S IS PERMITTED UNDER SINK.
- 26. NO INVERTED TRAPS ARE ALLOWED.
- 27. GROUT THE BASE OF ALL TOILETS.
- 28. NO TAMPER PROOF SCREWS ON WATER COOLERS.
- 29. NO KEYLESS STOPS TO BE USED ON FIXTURES.
- 30. SINK WASTE UNDER CLASSROOM SINKS TO BE PVC TUBULAR.
- 31. NO 1.28 GPF TOILETS TO BE USED.

## PLUMBING NOTES

#### **GENERAL CONDITIONS**

- 1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
- 2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE ALL WORK SHOWN ON THE CONTRACT DRAWINGS.
- 3. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE CODE STANDARDS INCLUDING:
  - FLORIDA BUILDING CODE, BUILDING, 7TH EDITION (2020)
  - FLORIDA BUILDING CODE, PLUMBING, 7TH EDITION (2020) FLORIDA BUILDING CODE, MECHANICAL, 7TH EDITION (2020)
  - FLORIDA BUILDING CODE, ENERGY CONSERVATION CODE, 7TH EDITION (2020) NFPA 70, NATIONAL ELECTRIC CODE (NEC) 2017 EDITION
  - STATE AND LOCAL CODES AND ORDINANCES STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES - 2014 EDITION
- 4. THE BIDDERS SHALL INSPECT THE PRESENT JOB SITE CONDITIONS BEFORE PREPARING A BID. THE SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE THAT SUCH A VISIT AND INSPECTION WAS PERFORMED BY THE BIDDER AND THAT HE TAKES FULL RESPONSIBILITY FOR ALL FACTORS GOVERNING HIS WORK.
- 5. THE CONTRACTOR IS EXPECTED TO PROVIDE PROFESSIONAL WORK PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND GOOD PRACTICE. WORK SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS AND THE REQUIREMENTS OF THE LOCAL HEALTH DEPARTMENT.
- 6. THE CONTRACTORS ARE EXPECTED TO FIELD VERIFY ALL DIMENSIONS. CONTRACTORS ARE EXPECTED TO ACCOUNT FOR FIELD CONDITIONS. CONTRACTORS ARE EXPECTED TO COORDINATE IN ORDER TO AVOID INTERFERENCE BETWEEN TRADES. CONTRACTORS ARE EXPECTED TO INSTALL EQUIPMENT SUCH THAT PROPER MAINTENANCE CLEARANCES ARE MAINTAINED FOR EQUIPMENT OF ALL TRADES. IF CHANGES TO THE CONTRACT DOCUMENTS ARE NECESSARY TO AVOID CONFLICTS, THE CONTRACTOR IS RESPONSIBLE FOR REQUESTING CLARIFICATION IN A TIMELY FASHION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEFICIENCIES ASSOCIATED WITH WORK PERFORMED BEFORE OBTAINING CLARIFICATION.
- UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL CLEAN SPACES THAT WERE OCCUPIED BY TEMPORARY WORK AND TEMPORARY FACILITIES. REMOVE DEBRIS, RUBBISH AND EXCESS MATERIALS FROM THE SITES. REPAIR DAMAGES CAUSED BY INSTALLATION OR USE OF TEMPORARY FACILITIES.

#### **GENERAL PLUMBING NOTES**

- PLUMBING PLANS ARE SCHEMATIC. LOCATE PIPING TO AVOID FIELD INTERFERENCES. CHANGES IN THE PIPING SCHEMATIC REQUIRE PRIOR APPROVAL OF THE ENGINEER.
- 2. TRANSITION CONNECTION BETWEEN SITE PIPING AND BUILDING PLUMBING SHALL OCCUR IN AN ACCESSIBLE GREEN SPACE.
- THE CONTRACTOR IS EXPECTED TO VERIFY DIMENSIONS AND FIELD FABRICATE PIPING AS NECESSARY TO ACCOMMODATE CONDITIONS.
- 4. PRIOR TO ANY NEW WORK THE CONTRACTOR SHALL VERIFY BY ALL MEANS AVAILABLE THE DIRECTION OF FLOW OF ALL EXISTING PIPING THAT WILL BE TIED INTO FOR THE NEW WORK. REPORT TO THE ENGINEER ANY DIFFERENCES FROM WHAT THE CONTRACT DOCUMENTS

#### MATERIALS AND DEVICES

- 1. ALL MATERIALS, EQUIPMENT AND APPARATUS COVERED BY THIS SPECIFICATION SHALL BE NEW, OF CURRENT MANUFACTURE.
- 2. SEE PROJECT SPECIFICATIONS FOR MATERIALS.
- 3. CONNECTION JOINTS BETWEEN PLASTIC AND METALLIC PIPE SHALL BE MADE WITH TRANSITION FITTING FOR THE SPECIFIC PURPOSE.
- 4. CONNECTIONS TO WATER HEATERS AND BETWEEN FERROUS AND NONFERROUS METALLIC PIPE SHALL BE MADE WITH DIELECTRIC FITTINGS.

### PIPING NOTES

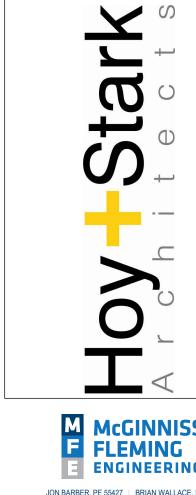
- 1. INSTALL GRAVITY LINES AT UNIFORM GRADES.
- 2. INSTALL SLEEVES AT ALL PENETRATIONS WHERE CONCRETE MIGHT CONTACT COPPER PIPING. PROVIDE SLEEVES AND SEAL ALL PENETRATIONS OF FULL HEIGHT WALLS AIR TIGHT. PROVIDE SLEEVES AT ALL PENETRATIONS OF FLOOR, PROVIDE POLY PIPE COVER OR INSULATION WHERE COPPER PIPING IS ENCASED WITHIN CMU WALLS.
- 3. LOCATE ALL VALVES AND OTHER DEVICES WHICH REQUIRE MAINTENANCE IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS IF NECESSARY.
- 4. PIPING INSTALLATIONS ARE EXPECTED TO BE RIGID. SUPPORT AND SECURE PIPING IN ACCORDANCE WITH GOOD PRACTICE.
- 5. SEE SPECIFICATIONS FOR HOT WATER PIPING INSULATION REQUIREMENTS. PROFESSIONAL
- INSTALLATION IS EXPECTED.
- 6. LABEL ALL HOT, TEMPERED & COLD DOMESTIC WATER SUPPLY & RETURN PIPING AT EACH VALVE LOCATION & NO LESS THAN 20' O.C.
- 7. HOT WATER PIPE INSULATION SHALL BE RIGID GLASS FIBER INSULATION WITH A NOMINAL DENSITY OF 3 POUNDS PER CUBIC FOOT WITH A THERMAL CONDUCTIVITY BETWEEN 0.21 AND 0.28 AT 100 DEG F MEAN TEMPERATURE. INSULATION COVER SHALL BE AN ALL SERVICE JACKET WITH DOUBLE SELF-SEALING LAPS, WITH SELF-SEALING BUTT STRIPS. INSULATION THICKNESS SHALL BE ONE INCH (1") THICK FOR PIPE SIZES 3/4" TO 1-1/2", AND (1-1/2") THICK FOR PIPE SIZES 1-1/2" TO 4" PER FBC-PLUMBING 607.5 AND FBC-ENERGY CONSERVATION TABLE C403.2.10.
- 8. FBCP 305.4 FREEZING. WATER, SOIL AND WASTE PIPES SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, CONCEALED IN OUTSIDE WALLS, OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPES FROM FREEZING BY INSULATION OR HEAT OR BOTH. EXTERIOR WATER SUPPLY SYSTEM PIPING SHALL BE INSTALLED NOT LESS THAN 6 INCHES BELOW THE FROST LINE AND NOT LESS THAN 12 INCHES BELOW GRADE.

### FIXTURES AND TRIM:

- 1. EQUIPMENT SHALL BE UNDAMAGED AND CLEANED.
- 2. ALL EXPOSED SINK AND LAVATORY DRAIN PIPING SHALL BE CHROME PLATED BRASS NO LESS THAN 17 GAUGE. TRAPS SHALL BE 17 GAUGE FULLY CAST BRASS WITH CLEANOUT PLUGS.
- 3. ESCUTCHEONS SHALL BE CHROME PLATED CAST BRASS WITH SET SCREW.

## CLOSEOUT, TESTING AND INSPECTIONS

- 1. COORDINATE INSPECTIONS WITH THE SPECIFICATIONS.
- 2. ALL DOMESTIC WATER PIPING SHALL BE STERILIZED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE FBC, PLUMBING CODE.
- 3. ALL WATER SUPPLY PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH THE FBC, PLUMBING CODE BUT NOT LESS THAN 100 PSI.
- 4. ALL WASTE AND VENT PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH THE FBC, PLUMBING CODE BUT NOT LESS THAN 10' OF HEAD.
- 5. CONTRACTOR SHALL CAMERA SEWER LINES AND PROVIDE SMOKE TEST OF THE ENTIRE WASTE AND VENT SYSTEM.
- 6. NO PIPING SHALL BE COVERED OR CLOSED UP BEFORE INSPECTION AND APPROVAL. PROVIDE TEST TEES AT CONNECTION TO EXISTING AT EACH FLOOR & AS NEEDED FOR COMPLETE TESTING.



**ENGINEERING** JON BARBER, PE 55427 | BRIAN WALLACE, PE 75562

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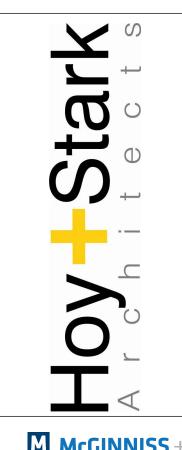
Notes

Plumbing

28.

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		NNECTIONS	FIXTURE CO						
					TRIM & ACCESSORIES		DESCRIPTION	TYPE	
	VENT	WASTE	HW	CW					
	2"	3"		1"	SLOAN REGAL 111 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 1.6 GALLON FLUSH, CHROME PLATED. BEMIS 1955SSCT ELONGATED SOLID PLASTIC SELF-SUSTAINING OPEN FRONT SEAT WITH CHECK HINGE AND BOLT CAPS. ESCUTCHEON PLATE W/ SET SCREW.	KOHLER WELLCOMME ULTRA K-96053 (NO SUBSTITUTES)	WATER CLOSET, FLOOR MOUNT, VITREOUS CHINA, 15¾6" RIM HGT. ELONGATED BOWL, FLUSHOMETER VALVE SIPHON, 1-1/2" TOP SPUD, 1.6 GALLON FLUSH.	WC-1	
	2"	3"		1"	SLOAN REGAL 111 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 1.6 GALLON FLUSH, CHROME PLATED. BEMIS 1955SSCT ELONGATED SOLID PLASTIC SELF-SUSTAINING OPEN FRONT SEAT WITH CHECK HINGE AND BOLT CAPS. ESCUTCHEON PLATE W/ SET SCREW.	KOHLER HIGHCLIFF ULTRA K-96057 (NO SUBSTITUTES)	ADA WATER CLOSET FOR CHILDRENS USE - FLOOR MOUNT, VITREOUS CHINA, 165/8" RIM HGT. ELONGATED BOWL, FLUSHOMETER VALVE SIPHON, 1-1/2" TOP SPUD, 1.6 GALLON FLUSH.	WC-2	
	2"	2"		3/4"	SLOAN REGAL 186 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 0.5 GALLON FLUSH, CHROME PLATED.	KOHLER BARDON K-4991-ETSS	URINAL - WALL MOUNT, WHITE VITREOUS CHINA, ¾" TOP SPUD, 1.0 GALLON FLUSH, 14" EXTENDED RIM. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS.	U-1	
	2"	2"		3/4"	SLOAN REGAL 186 XL EXPOSED FLUSH VALVE, DIAPHRAGM-TYPE, 0.5 GALLON FLUSH, CHROME PLATED.	KOHLER BARDON K-4991-ETSS	URINAL - WALL MOUNT, WHITE VITREOUS CHINA, ¾" TOP SPUD, 1.0 GALLON FLUSH, 14" EXTENDED RIM. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS. ADA COMPLIANT.	U-2	
- -	1 1/2"	2"		1/2"	MOEN 8884 SINGLE-HANDLED ADA METERING LAVATORY FAUCET. CHROME PLATED SOLID BRASS CONSTRUCTION, SINGLE HOLE MOUNT, VANDAL RESISTANT. 0.5GPM MAXIMUM MULTI-STREAM LAMINAR FLOW LIMITS WATER DISCHARGE TO A MAXIMUM OF 0.25GPC @ 30 SECONDS OR 0.20GPC @ 24 SECONDS, GRID DRAIN. WITHOUT POP-UP ASSEMBLY. MCGUIRE 1-1/4" TRAP W/PRODRAIN OFFSET ASSEMBLY, PRE-WRAPPED CHROME PLATED HEAVY CAST BRASS ADJUSTABLE P-TRAP W/CLEANOUT, TAILPIECE, SLIP NUTS, 17A. SEAMLESS TUBULAR BRASS WALL BEND. MCGUIRE 167LK ANGLE SUPPLY STOPS, FLEXIBLE CHROME PLATED RISERS, CHROME ESCUTCHEON PLATES W/SET SCREWS.	KOHLER K-2007-0 (NO SUBSTITUTES)	21½"x18½" WALL-HUNG VITREOUS CHINA LAVATORY. SINGLE HOLE INSTALLATION, ADA COMPLIANT.	L-1	
-	1 1/2"	2"	1/2"	1/2"	MOEN 8884 SINGLE-HANDLED ADA METERING LAVATORY FAUCET. CHROME PLATED SOLID BRASS CONSTRUCTION, SINGLE HOLE MOUNT, VANDAL RESISTANT. 0.5GPM MAXIMUM MULTI-STREAM LAMINAR FLOW LIMITS WATER DISCHARGE TO A MAXIMUM OF 0.25GPC @ 30 SECONDS OR 0.20GPC @ 24 SECONDS, GRID DRAIN. WITHOUT POP-UP ASSEMBLY. MCGUIRE 1-1/4" TRAP W/PRODRAIN OFFSET ASSEMBLY, PRE-WRAPPED CHROME PLATED HEAVY CAST BRASS ADJUSTABLE P-TRAP W/CLEANOUT, TAILPIECE, SLIP NUTS, 17A. SEAMLESS TUBULAR BRASS WALL BEND. MCGUIRE 167LK ANGLE SUPPLY STOPS, FLEXIBLE CHROME PLATED RISERS, CHROME ESCUTCHEON PLATES W/SET SCREWS.	KOHLER K-2007-0 (NO SUBSTITUTES)	21½"x18%" WALL-HUNG VITREOUS CHINA LAVATORY. SINGLE HOLE INSTALLATION, ADA COMPLIANT.	L-2	
-	1 1/2"	2"	1/2"	1/2"	TEMP-GARD PRESSURE BALANCING SHOWER VALVE WITH SINGLE BRONZE STEM, STAINLESS STEEL BALANCING PISTON & BOTTOM ACCESS INTEGRAL SERVICE STOPS. STANDARD WITH 1/2" COPPER TUBING ASSEMBLY ENCLOSED BY 18 GAGE STAINLESS STEEL #4 BRUSHED FINISH SHROUD, CHROME PLATED BRASS SHOWER HEAD WITH FLOW CONTROL ON INSTITUTIONAL BRACKET, METAL STEM HANDLE, SIDE MOUNT SOAP DISH & ALL VANDAL PROOF SECURING SCREWS.		PREFABRICATED STAINLESS STEEL SHOWER UNIT	SH-1	
<u>-</u> -	1 1/2"	2"	1/2"	1/2"	TEMP-GARD PRESSURE BALANCING SHOWER VALVE WITH SINGLE BRONZE STEM, STAINLESS STEEL BALANCING PISTON, & BOTTOM ACCESS INTEGRAL SERVICE STOPS. UNIT INCLUDES: HANDWALL SHOWER UNIT COMPLETE WITH 24" MOUNTING BAR, 60" METAL HOSE AND STANDARD HANDSET. STANDARD WITH 1/2" COPPER TUBING ASSEMBLY ENCLOSED BY 18 GAGE STAINLESS STEEL #4 BRUSHED FINISH SHROUD, METAL STEM HANDLE, SIDE MOUNT SOAP DISH, & ALL VANDAL PROOF SECURING SCREWS.		PREFABRICATED STAINLESS STEEL SHOWER UNIT. ADA COMPLIANT.	SH-2	
	2"	3"	1/2"	1/2"	T&S BRASS B-0665-BSTR FAUCET W/ VACUUM BREAKER FIAT 832-AA HOSE AND HOSE BRACKET FIAT 1239BB ALUMINUM BUMPERGUARD WITH VINYL INSERT FIAT 889-CC MOP HANGER FIAT 833-AA SILICONE SEALANT	TSB3003 FIAT 832-AA FIAT 1239BB FIAT 889-CC			
	2"	3"	1/2"	1/2"	FIAT A1 CHROME PLATED FAUCET WITH 4"CENTERSET, 4" BLADE HANDLES, 6-3/4" SWING SPOUT, AERATOR AND HOSE ADAPTOR. INCLUDES LAUNDRY TUB WITH LEGS, ONE (1) P-TRAP AND TWO (2) SUPPLY LINES.	FIAT TAT1	20 GALLON LAUNDRY TUB W/ LEGS. MOLDED PLASTIC POLYMER, 20"x23 $^{7}$ 8"x33 $^{1}$ $^{1}$ 16".	LT-1	
is item has been dig ined and sealed by J rber, PE on 08/25/2 nted copies of this cument are not cons ined and sealed and inature must be verify y electronic copies.	1 1/2"	2"		1/2"	ANTIMICROBIAL, ENERGY SAVINGS, FILTERED, HANDS FREE, LAMINAR FLOW, REAL DRAIN, VISUAL FILTER MONITOR. FURNISHED WITH SAFETY BUBBLER. ELECTRONIC BOTTLE FILLER SENSOR WITH ELECTRONIC FRONT AND SIDE BUBBLER PUSHBAR ACTIVATION. PROVIDE BI-LEVEL PLATE-TYPE WATER COOLER SYSTEM, ZURN Z1225. UNIT SHALL BE LEAD-FREE DESIGN WHICH IS CERTIFIED TO NSF/ANSI 61 & 372 (LEAD FREE) AND MEETS FEDERAL AND STATE LOW-LEAD REQUIREMENTS. PROVIDE W/ ELKAY CANE APRON LKAPREZL, AND ELKAY 51300C REPLACEMENT FILTERS (BOTTLE FILLERS).	ELKAY LMABFTL8WSLK	BOTTLE FILLING STATION AND BI-LEVEL ADA COOLER, FILTERED REFRIGERATED LIGHT GRAY GRANITE. CHILLING CAPACITY OF 8.0 GPH (GALLONS PER HOUR) OF 50° F DRINKING WATER, BASED ON 80° F INLET WATER AND 90° F AMBIENT, PER ASHRAE 18 TESTING. BOTTLE FILLER TO BE ON THE RIGHT SIDE.	EWC-1	
İ				3/4"	3/4" NPT FEMALE INLET, 3/4" GARDEN HOSE MALE OUTLET, LOOSE TEE KEY, VACUUM BREAKER	T&S BRASS B-0737-POL	WALL FAUCET, POLISHED CHROME	HB-1	
_	1 1/2"	2"	1/2"	1/2"	115%"x9½"x3½" HOOK-UP BOX. 20 GA. BOX. ½" MIP/SWEAT CONX. VALVE, 2" THREADED DRAIN FITTING	GUY GRAY B200	HOT-DIPPED GALVANIZED STEEL WASHING MACHING OUTLET BOX	WMB-1	
			1-1/4"	1-1/4"	1-1/4" INLETS, 1-1/2" OUTLET, INTEGRAL COMBINATION CHECKSTOPS WITH STRAINERS 125 PSI MAXIMUM OPERATING PRESSURE, COPPER ENCAPSULATED THERMOSTATIC ASSEMBLY WITH TEFLON COATED STAINLESS STEEL SHUTTLE.LOCKING TEMPERATURE REGULATING HANDLE. TEMPERATURE ADJUSTMENT RANGE, 90-140°F. ROUGH BRONZE FINISH. BALL VALVE WITH DIAL THERMOMETER. ASSE 1017 CERTIFIED.	LEONARD ECO-MIX LV-984-LF-BDT	THERMOSTATIC MIXING VALVE. 110° SET TEMP.	TMV-1	
			1"	1"	1" INLETS, 1-1/4" OUTLET, HIGH LIMIT TEMPERATURE STOP 120°F. TEMPERATURE ADJUSTMENT RANGE, 90-140°F. BALL VALVE WITH DIAL THERMOMETER. RECESSED STEEL CABINET. ASSE 1069 CERTIFIED.	LEONARD XL-186-690-LF SERIES	HIGH LOW THERMOSTATIC MIXING VALVE. 90° SET TEMP.	TMV-2	
		FOR SIZES	SEE PLANS		POLISHED BRONZE COVER. BRONZE PLUG.	ZURN Z1446	CLEANOUT TEE, DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.	WCO	
		FOR SIZES	SEE PLANS		FLASHING CLAMP AND FLASHING FLANGE, BRONZE PLUG.	ZURN Z1400	ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND SCORIATED CAST IRON EXTRA-HEAVY-DUTY SECURED POLISHED BRONZE TOP ADJUSTABLE TO FINISHED FLOOR.	FCO	
<del>  (</del>	SCHEDULE	ER ARRESTOR S	E WATER HAMM	REFERENC	SIZING PER MANUFACTURERS INSTRUCTIONS.	ZURN 1260XL	WATER HAMMER ARRESTOR	WHA	
C	N/A	N/A	N/A	1/2"	MIN. ACTIVATION FLOW RATE OF 0.25 GPM AT 20 PSIG	PPP PRO1-500	TRAP PRIMER VALVE, FLOW ACTIVATED	TP-1	
2	N/A	N/A	N/A	1/2"	PROVIDE DISTRIBUTION UNIT DU-U AS REQUIRED	PPP PR-500	PRESSURE DROP ACTIVATED TRAP PRIMER	TP-2	



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Building

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Plumbing Schedules

08.28.2023

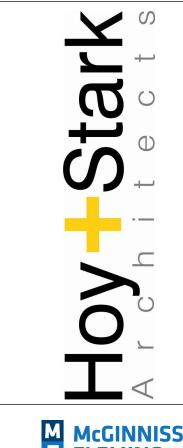
	NATURAL GAS HYBRID WATER HEATER SCHEDULE (NO SUBSTITUTES)												
TYPE	MANUFACTUR ER/MODEL NO.	STORAGE CAPACITY (GALLONS)	INPUT (BTUH)	RECOVERY @ 80°F RISE (GPH)	STORAGE TEMP. (°F)	INLET/OUTLET CONNECTIONS	GAS CONNECTION (IN.)	MIN. / MAX. SUPPLY PRESSURE (IN. WC)	CONCENTRIC VENT	VOLTS/ PHASE	NOTES		
GWH-1	RINNAI CHS199100HiN	119	199000	292	140	1½"	3/4"	3.5 / 10.5	3"Ø x 5"Ø	120/1	97% THERMAL EFFICIENCY. CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE. FLUES SHALL BE SCHEDULE 40 PVC.		
GWH-2	RINNAI CHS199100HiN	119	199000	292	140	1½"	3/4"	3.5 / 10.5	3"Ø x 5"Ø	120/1	97% THERMAL EFFICIENCY. CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE. FLUES SHALL BE SCHEDULE 40 PVC.		

1. PROVIDE COMMERCIAL NEUTRALIZATION TANK W/ MEDIA.

	RECIRCULATOR PUMP SCHEDULE (BASIS OF DESIGN)							
TYPE	MODEL NO.	SERVICE	CAPACITY (GPM)	TDH (FT.)	MOTOR HORSEPOWER (HP)	ELECTRICAL CHARACTERISTICS (VOLT/Ø)	PUMP SEAL	SERVICE
RP-1	TACO 008 SERIES	HW CIRCULATOR	4	13	1/25	115 / 1	MECHANICAL	GWH-1 AND 2

		SUMP	PUMP SC	CHEDULE	(BASIS	OF DE	SIGN)			This item has been digita signed and sealed by Jor Barber, PE on 08/25/23 Printed copies of this document are not consider.
TYPE	BASIS OF	SERVICE	TYPE	LOCATION	HEAD	GPM		MOTOR		signed and sealed and the signature must be verified any electronic copies.
ITPE	DESIGN	SERVICE	ITPE	LOCATION	(FEET)	GPIVI	HP	FLA	VOLTS/PH	
SP-1	STANCOR SEW-50	ELEVATOR PIT	SUBMERSIBLE	ELEVATOR SUMP PIT	13.0	50	1/2	4.4	115/1	

EXPANSION TANK SCHEDULE (BASIS OF DESIGN)								
TYPE	MANUFACTURER/MO DEL NUMBER	TANK VOLUME (GALLONS)	ORIENTATION	SERVICE				
XT-1	TACO PAX42-150	11	VERTICAL	GWH-1				



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Building

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Plumbing Schedules

## Plumbing Demolition Lower Floor Plan



#### PLAN KEYNOTES - PLUMBING DEMOLITION

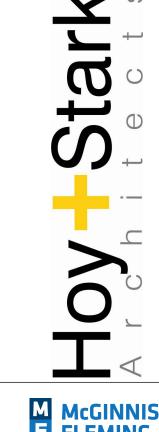
- REMOVE ALL EXISTING PLUMBING FIXTURES, FLOOR DRAINS, AND ASSOCIATED APPURTENANCES IN BATHROOM/SHOWER AREA. CAP SANITARY LINES BELOW FLOOR. REMOVE EXISTING DOMESTIC WATER LINES, VENT LINES, AND GAS CONNECTIONS.
  - REMOVE EXISTING FLOOR DRAIN STRAINER TOP.
- REMOVE EXISTING FLOOR DRAIN AND STRAINER TOP.
- REMOVE EXISTING SHUT-OFF VALVE AND ALL DOMESTIC COLD PIPING THROUGHOUT THE BUILDING TO THIS POINT.
- REMOVE EXISTING HOT WATER HEATERS, RECIRCULATION PUMP, ASSOCIATED APPURTENANCES, WATER/MAKE-UP WATER CONNECTIONS, AND T&P DRAIN CONNECTION.
- REMOVE ALL PIPING IN MECHANICAL ROOM UNLESS OTHERWISE NOTED.
- CUT EXISTING SANITARY PIPE BACK TO MAIN AND CAP BELOW

#### **DEMOLITION GENERAL NOTES**

- REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE
- 3. CAP ALL ABANDONED SANITARY PIPING BELOW SLAB. PATCH/REPAIR SLAB BACK TO ORIGINAL CONDITION.
- 4. REPAIR WALLS AND FLOOR SLABS DAMAGED DURING WORK ACTIVITY BACK TO PREVIOUS CONDITION.
- DEMOLITION IS NOT LIMITED TO WHAT IS SHOWN ON THESE DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.
- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
- FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING SHALL BE MODIFIED TO FIT THE NEW PLUMBING FIXTURES. FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/
- 6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT.
- 7. ALL SPECIALTIES, DISPENSERS AND GRAB BARS SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES, HEIGHTS, AND STANDARDS.



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Plumbing

## Plumbing Demolition Main Floor Plan



#### PLAN KEYNOTES - PLUMBING DEMOLITION

- REMOVE ALL EXISTING PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN BATHROOM/SHOWER AREA. CAP SANITARY LINES BELOW FLOOR. REMOVE EXISTING DOMESTIC WATER LINES AND VENT LINES.
- REMOVE EXISTING FLOOR DRAIN STRAINER TOP. REPLACE WITH NEW STRAINER TOP.
- REMOVE EXISTING UTILITY SINK AND ASSOCIATED APPURTENANCES. CAP SANITARY LINE BELOW FLOOR. REMOVE AND CAP EXISTING DOMESTIC WATER LINES AND VENT LINE BACK TO ASSOCIATED MAINS AND CAP UNLESS
- REMOVE EXISTING HUB DRAIN AND ASSOCIATED PIPING.
- REMOVE AND REPLACE EXIST. GAS METER AND ALL DOWNSTREAM GAS PIPING THROUGHOUT THE BUILDING.
- REMOVE EXISTING WATER COOLER AND ASSOCIATED PIPING.

#### DEMOLITION GENERAL NOTES

- REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 3. CAP ALL ABANDONED SANITARY PIPING BELOW SLAB. PATCH/REPAIR SLAB BACK TO ORIGINAL CONDITION.
- 4. REPAIR WALLS AND FLOOR SLABS DAMAGED DURING WORK ACTIVITY BACK TO PREVIOUS CONDITION.
- 5. DEMOLITION IS NOT LIMITED TO WHAT IS SHOWN ON THESE

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.
- ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND
- 6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE



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> Main Plan

Plumbing Demo

OTHERWISE NOTED.

- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE

- DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND STANDARDS.
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
- FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING SHALL BE MODIFIED TO FIT THE NEW PLUMBING FIXTURES. FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/
- 7. ALL SPECIALTIES, DISPENSERS AND GRAB BARS SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES, HEIGHTS, AND STANDARDS.

## Plumbing Demolition Mezzanine Floor Plan



#### PLAN KEYNOTES - PLUMBING DEMOLITION

- REMOVE EXISTING UTILITY SINK AND ASSOCIATED APPURTENANCES. CAP SANITARY LINE BELOW FLOOR. REMOVE AND CAP EXISTING DOMESTIC WATER LINES AND VENT LINE BACK TO ASSOCIATED MAINS AND CAP UNLESS OTHERWISE NOTED.
- REMOVE EXISTING HUB DRAIN AND ASSOCIATED PIPING.
- REMOVE EXISTING FLOOR DRAIN AND STRAINER TOP. REPLACE WITH NEW FLOOR DRAIN.

#### **DEMOLITION GENERAL NOTES**

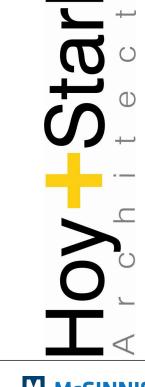
- 1. REMOVE PLUMBING FIXTURES AND ASSOCIATED APPURTENANCES IN ALL EXISTING AREAS AS SHOWN ON PLUMBING DEMOLITION PLAN.
- 2. RETURN EXISTING FIXTURES AND EQUIPMENT TO THE OWNER.
- 3. CAP ALL ABANDONED SANITARY PIPING BELOW SLAB. PATCH/REPAIR SLAB BACK TO ORIGINAL CONDITION.
- 4. REPAIR WALLS AND FLOOR SLABS DAMAGED DURING WORK ACTIVITY BACK TO PREVIOUS CONDITION.
- 5. DEMOLITION IS NOT LIMITED TO WHAT IS SHOWN ON THESE DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- PROJECT CLOSEOUT. 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT

2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO

- CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
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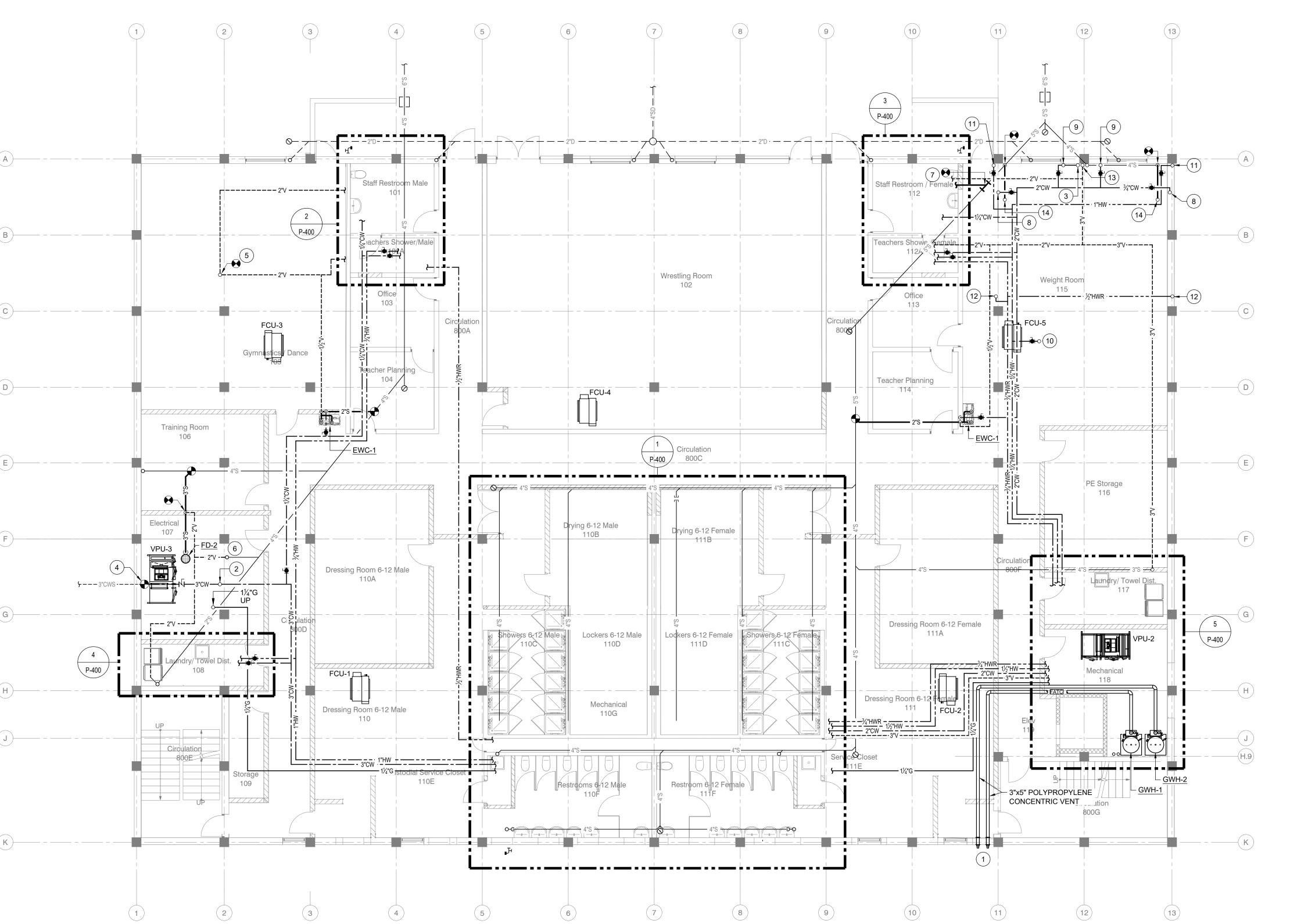
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Plumbing New Work Lower Floor Plan



#### PLAN KEYNOTES - PLUMBING NEW WORK

- CONDENSING HORIZONTAL TERMINATION KIT, RINNAI 229032
- 2"CW UP.
- CONNECT NEW 3"CW TO EXISTING 3"CW SERVICE ENTRY. CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING PRIOR TO CONSTRUCTION.
- CONNECT NEW VENT TO EXISTING VENT OF EQUAL SIZE OR GREATER. CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING PRIOR TO CONSTRUCTION.
- CONNECT NEW SANITARY LINE TO EXISTING LINE OF EQUAL SIZE OR GREATER. CONTRACTOR TO VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF EXISTING PRIOR TO CONSTRUCTION.
- 1"CW UP.
- 1"HW UP.
- (13) 3"V UP.

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.
- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND STANDARDS.
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
- FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/
- 6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE
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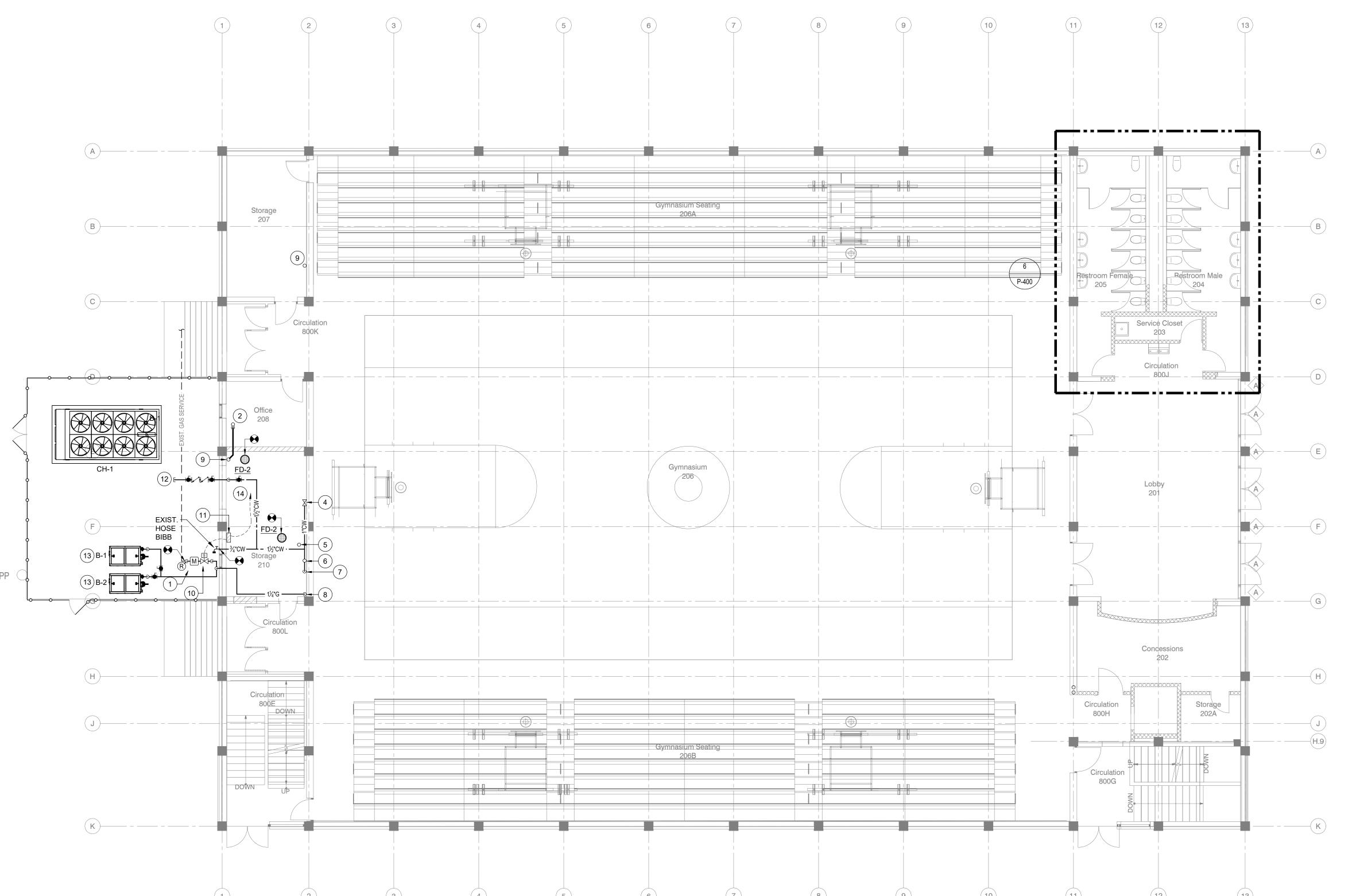
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Plan

Plumbing New Work



Plumbing New Work Main Floor Plan

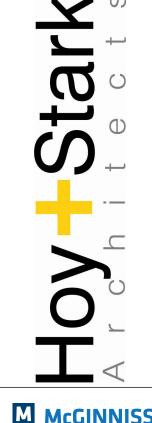


#### PLAN KEYNOTES - PLUMBING NEW WORK

- GAS METER TO PROVIDE 2308 CFH CAPACITY. GAS REGULATOR TO BE SET FOR 0.5 PSI OUTLET PRESSURE, 3.0 IN. W.C. PRESSURE DROP, 0.60 SPECIFIC GRAVITY.
- (2) 3"S UP TO FLOOR DRAIN IN MEZZANINE.
- NOT USED
- NEW 1"CW CONNECTION FOR HT'G SYSTEM.
- 2"V UP.
- (6) 1"CW UP.
- $1\frac{1}{2}$ "CW DN.
- 1¼"G DN.
- AGS MERLIN GAS SOLENOID VALVE. 120VAC NORMALLY
- GAS SERVICE MANUAL RE-SET CONTROL.
- $1\frac{1}{2}$ " CW MAKE-UP FOR MECHANICAL EQUIPMENT USE. PROVIDE W/ SHUT-OFF VALVES AND BACK FLOW PREVENTER. SEE MECHANICAL SHEET DETAIL 01/M-303 FOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT.
- $1\frac{1}{2}$ " NATURAL GAS CONNECTION TO BOILER PER MANUFACTURER'S RECOMMENDATIONS.
- CONTROL WIRING TO F.A.C.P.

#### PLUMBING PLAN GENERAL NOTES

- 1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.
- 2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO
- 3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT CONDENSATE AND GAS CONNECTION REQUIREMENTS.
- 4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND STANDARDS.
- 5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.
- FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING SHALL BE MODIFIED TO FIT THE NEW PLUMBING FIXTURES. FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/
- 6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT.
- 7. ALL SPECIALTIES, DISPENSERS AND GRAB BAAS SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES, HEIGHTS, AND STANDARDS.



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Main Plan

Plumbing New Work

Plumbing New Work Mezzanine Floor Plan



#### PLAN KEYNOTES - PLUMBING NEW WORK

1 2"G DN.

2 1"CW DN.

1" CW MAKE-UP DN TO EXPANSION TANK. PROVIDE W/ SHUT-OFF VALVES AND BACK FLOW PREVENTER.

NATURAL GAS CONNECTION TO BOILER PER MANUFACTURER'S RECOMMENDATIONS.

2"V DN, 2"VTR

3"V DN, 3"VTR

4"S DN, 4"VTR

8 3"V DN

### PLUMBING PLAN GENERAL NOTES

1. CONTRACTOR TO PROVIDE A VIDEO OF ALL SEWER LINES VERIFYING THEY ARE CLEAR PRIOR TO STARTING CONSTRUCTION AND AT PROJECT CLOSEOUT. CONTRACTOR TO PROVIDE DVD TO OWNER FOR REVIEW.

2. CONTRACTOR TO CLEAN ALL CONDENSATE LINES PRIOR TO PROJECT CLOSEOUT.

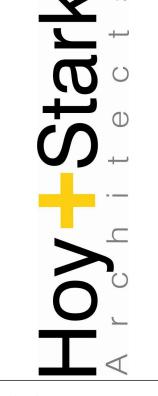
3. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP UNIT

4. ALL NEW PLUMBING FIXTURES SHALL BE INSTALLED AND ADJUSTED TO MEET ADA REQUIRED CLEARANCES AND

RESTROOM SINKS SHALL BE INSTALLED TO ALLOW SUPPLY

 FOR RENOVATION PROJECTS: ANY EXISTING PLUMBING SHALL BE MODIFIED TO FIT THE NEW PLUMBING FIXTURES. FOR REST ROOM SINKS, SUPPLY VALVE LOCATIONS SHALL BE ADJUSTED TO FIT WITHIN THE SINK DRAIN COVER/

6. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR ARCHITECT.



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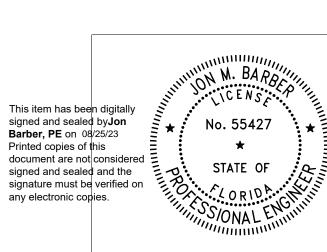
CONDENSATE AND GAS CONNECTION REQUIREMENTS.

STANDARDS.

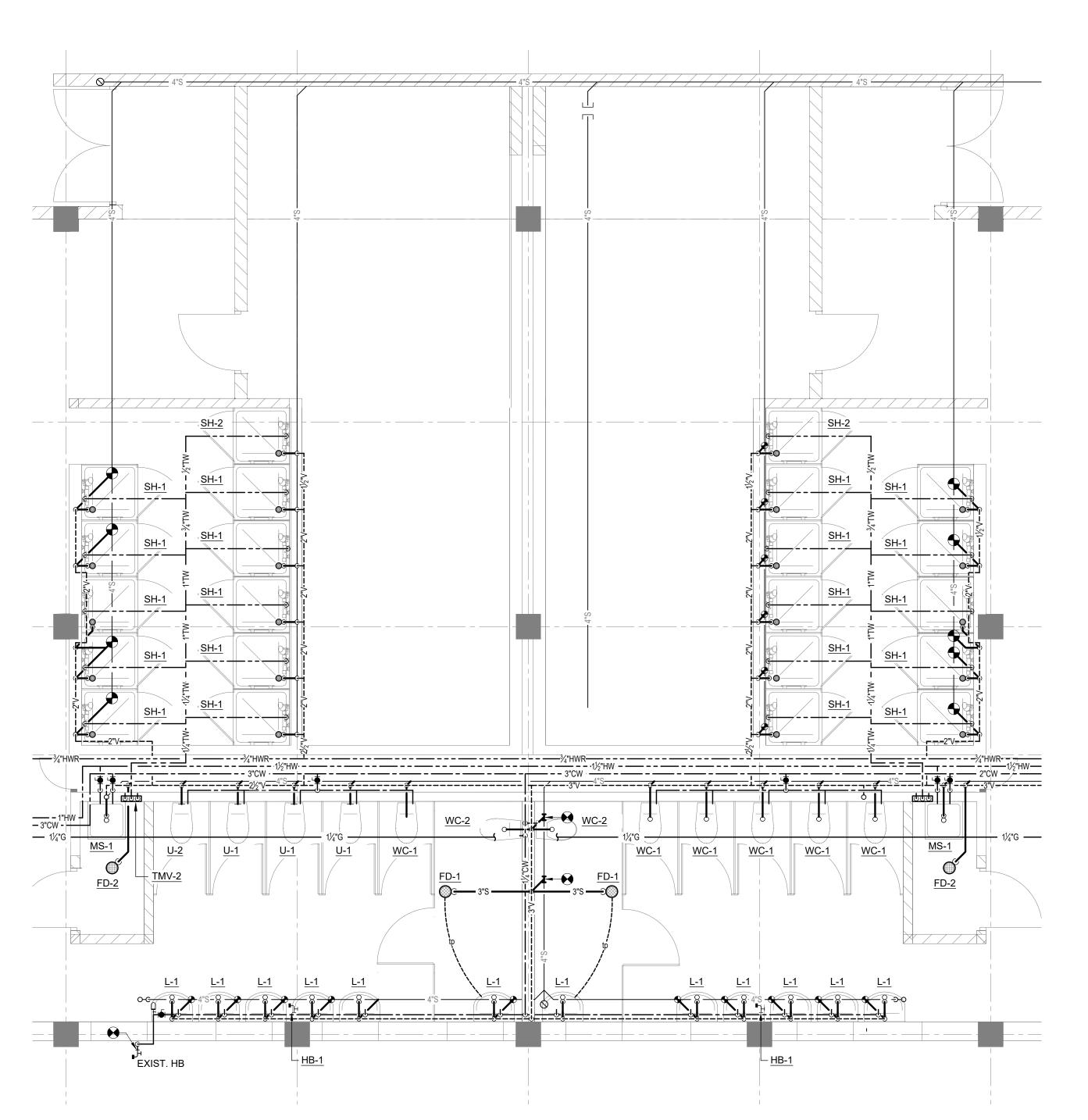
5. FOR NEW CONSTRUCTION PROJECTS: NEW PLUMBING FOR VALVES TO FIT WITHIN THE SINK DRAIN COVER SHROUD.

ADDITIONAL INFORMATION. IN THE EVENT OF CONFLICTING REQUIREMENTS CONTRACTOR SHALL COORDINATE WITH THE

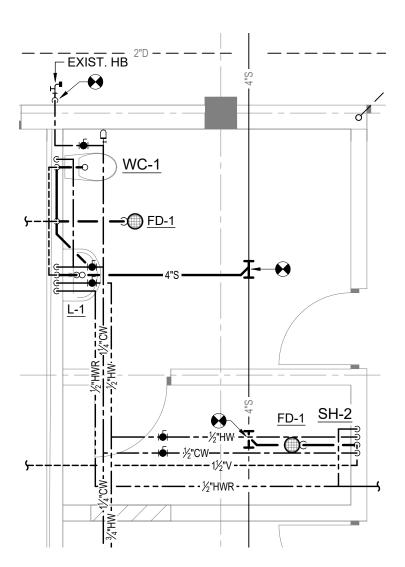
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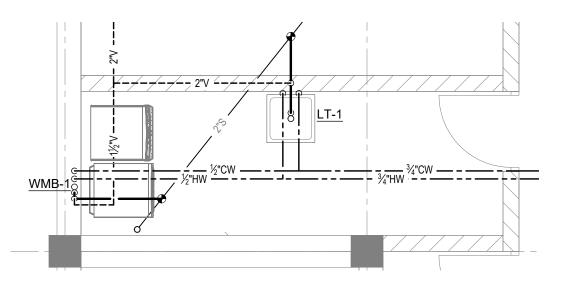
Plumbing New Work Plan



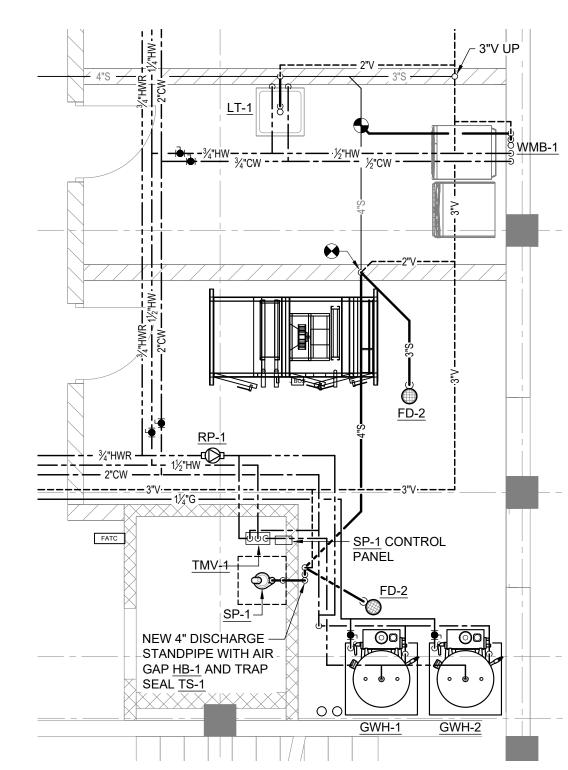
Enlarged Plumbing Plan 1/P-400
Scale: 1/4" = 1'-0"



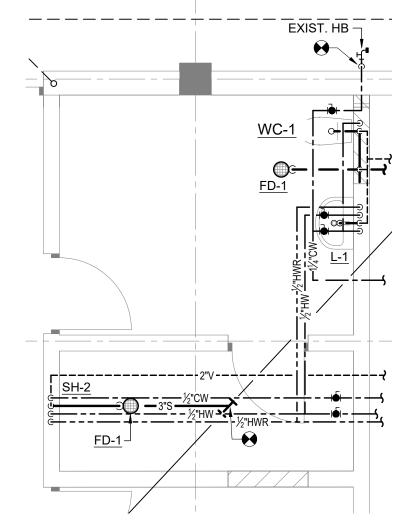
Enlarged Plumbing Plan 2/P-400



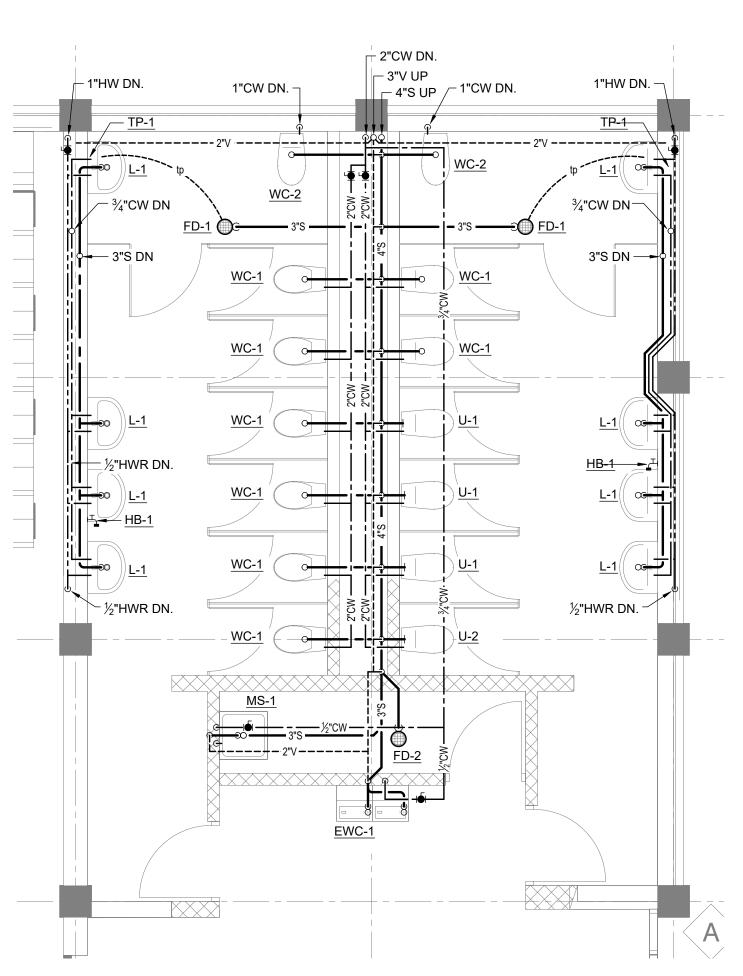
Enlarged Plumbing Plan4/P-400



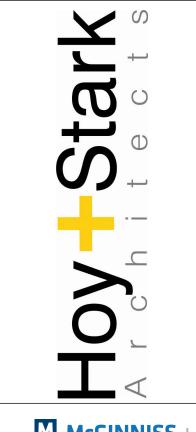
Enlarged Plumbing Plan 5/P-400



Enlarged Plumbing Plan 3/P-400
Scale: 1/4" = 1'-0"

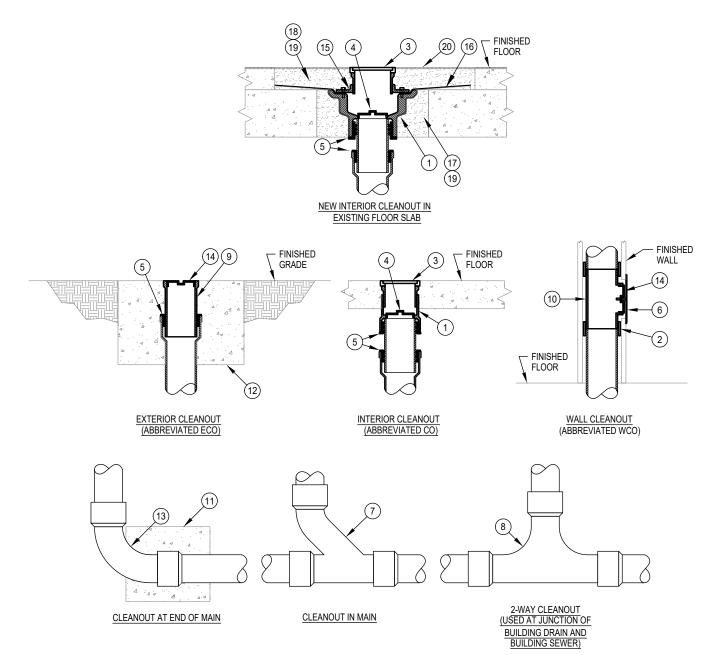


Enlarged Plumbing Plan 6/P-400 Scale: 1/4" = 1'-0"



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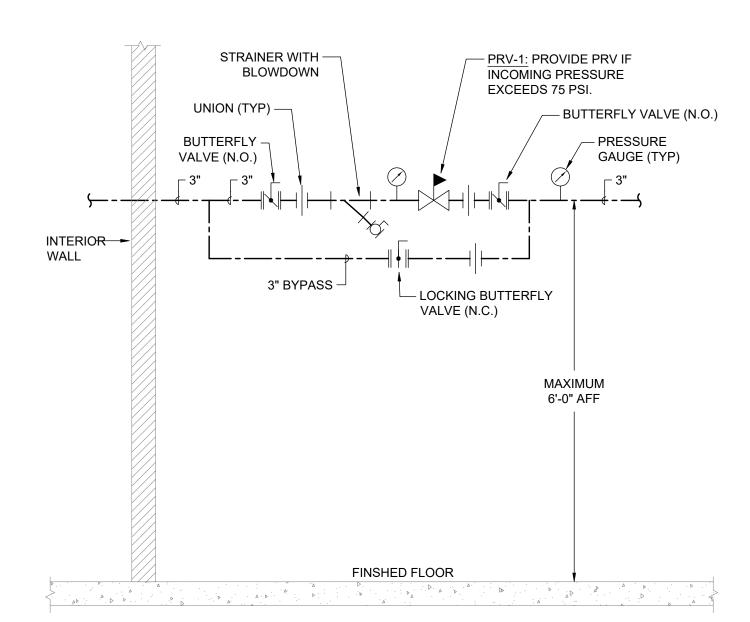
#### KEY NOTES: (THIS DETAIL ONLY)

- CAST IRON 2-PIECE CLEANOUT BODY WITH ADJUSTABLE HEAD.
   NO-HUB COUPLING (FOR ABOVE GROUND APPLICATION ONLY).

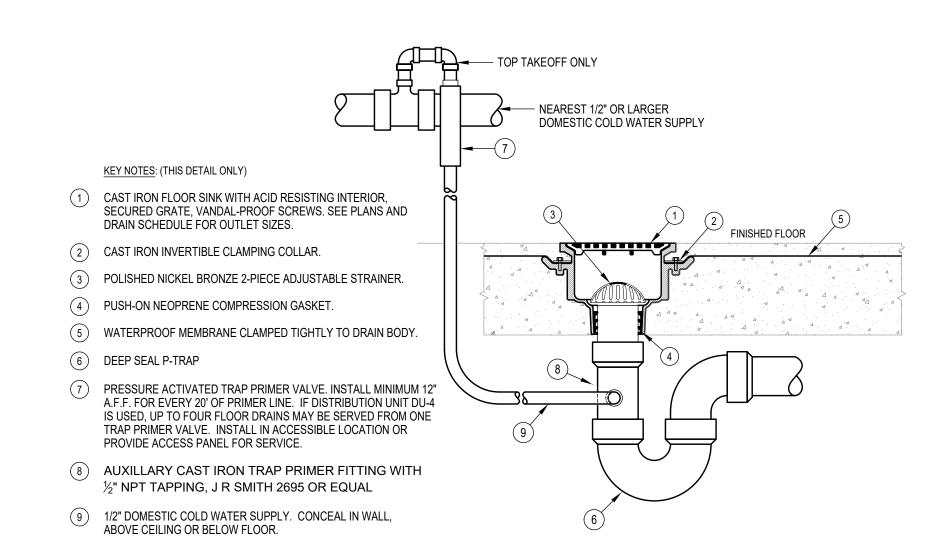
   POUSHED NICKEL BRONZE SCORIATED TOP (PROVIDE CARPET
- POLISHED NICKEL BRONZE SCORIATED TOP (PROVIDE CARPET MARKER FOR CARPETED FLOORS).
   BRONZE TAPERED THREAD, RAISED HEAD CLEANOUT PLUG.
- 5 PUSH-ON NEOPRENE RUBBER COMPRESSION GASKET.
  6 STAINLESS STEEL ROUND WALL ACCESS COVER
- 6 STAINLESS STEEL ROUND WALL ACCESS COVER.
  7 COMBINATION WYE AND EIGHTH BEND FITTING.
- 8 TWO-WAY CLEANOUT FITTING.
- CAST IRON CLEANOUT FERRULE.
- ) CAST IRON CLEANOUT TEE.
- 12" x 12" x 12" CONCRETE THRUST BLOCK.

- 24" x 24" x 12" CONCRETE PAD FLUSH WITH GRADE.
- (13) LONG SWEEP ELBOW.
- 14) BRONZE TAPERED THREAD, RECESSED HEAD CLEANOUT PLUG.
- (15) CAST IRON INVERTIBLE CLAMPING COLLAR.
- (16) NEW LEAD PAN FLASHING CLAMPED TIGHTLY TO DRAIN BODY. SEE ARCHITECTURAL PLANS.
- BREAK OUT EXISTING STRUCTURAL CONCRETE FLOOR SLAB.
- CUT TOPPING MINIMUM 12" BEYOND BROKEN-OUT STRUCTURAL FLOOR SLAB TO NEAREST FLOOR TILE JOINT TO ALLOW FOR INSTALLATION OF NEW LEAD PAN FLASHING.
- GROUT SOLID AROUND NEW FLOOR DRAIN.
- NEW FLOOR FINISH TO MATCH EXISTING.

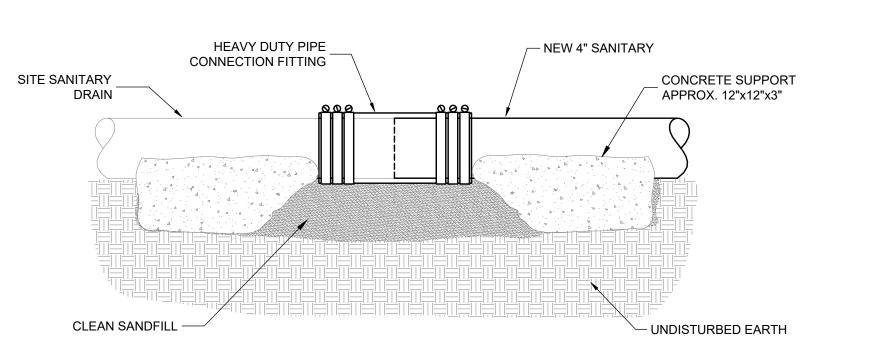




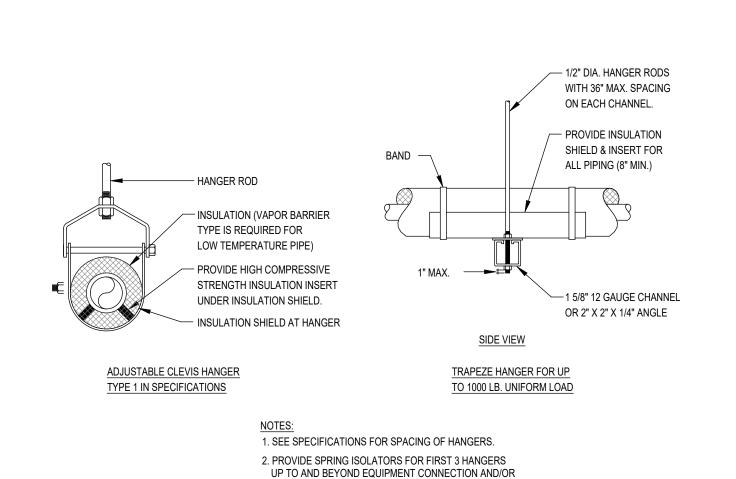




# TYPICAL FLOOR DRAIN OR FLOOR SINK TRAP PRIMER TAPPING INSTALLATION DETAIL

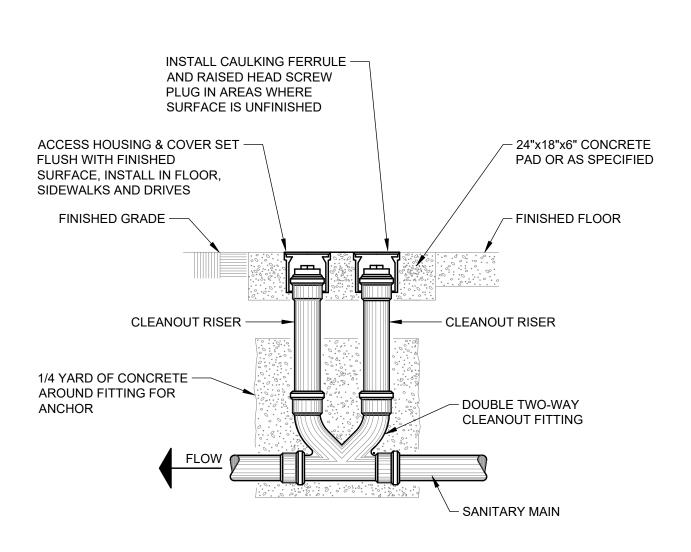


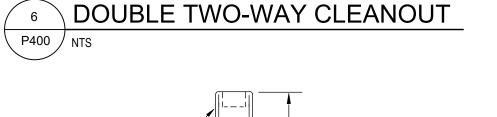
# SANITARY MAIN CONNECTION DETAIL NEW TO EXISTING P400 NTS

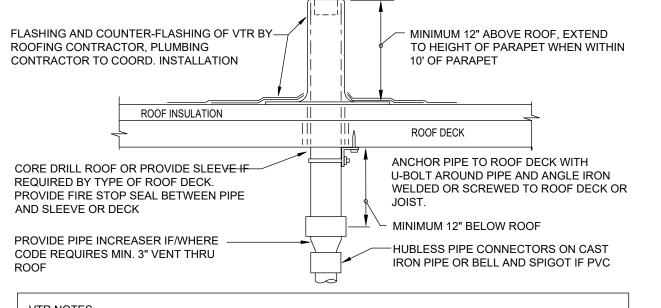


TYPICAL PIPE HANGERS
P400 NTS

THROUGH OUT MECHANICAL ROOMS OR MEZZANINE AREAS.



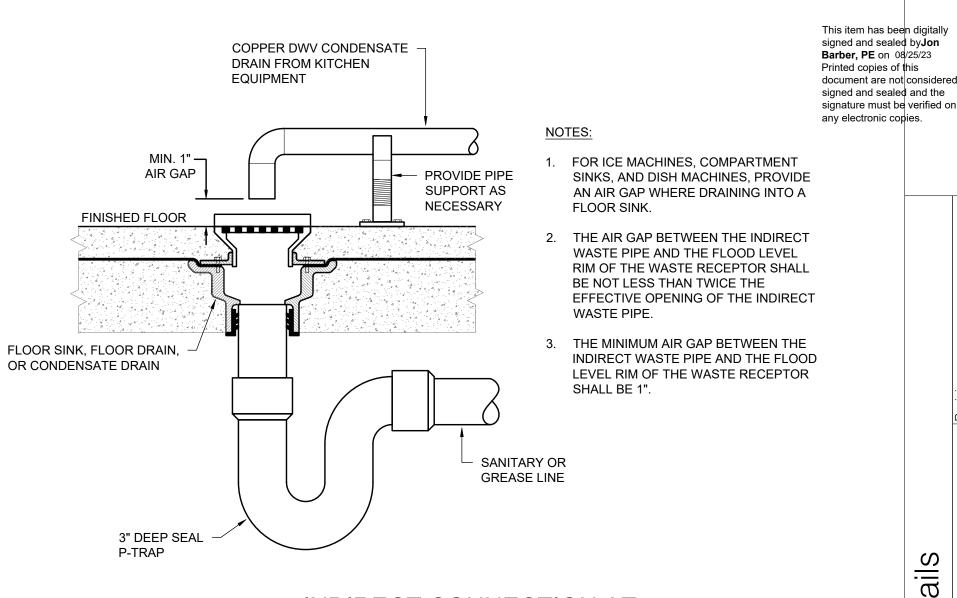




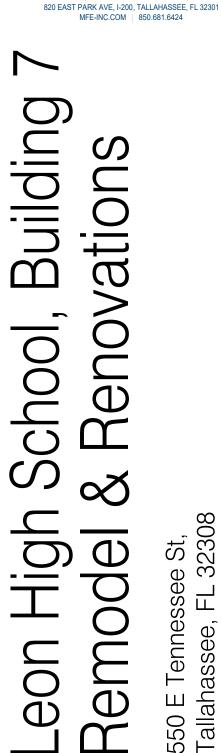
VTR NOTES:

REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE. LOCATE VTR MINIMUM 18" FROM PARAPET, EXPANSION JOINT, EQUIPMENT CURB, ETC. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

## 7 VENT THROUGH ROOF (VTR) DETAIL P400 NTS





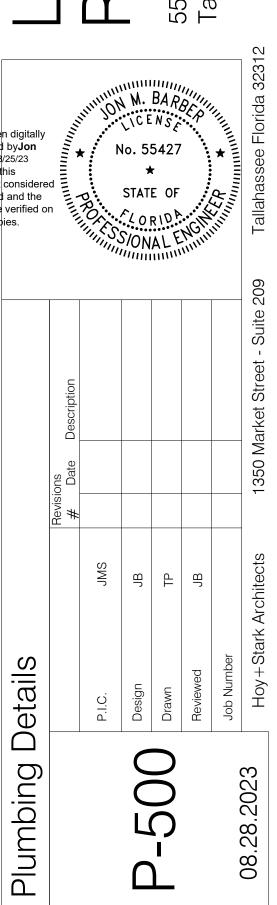


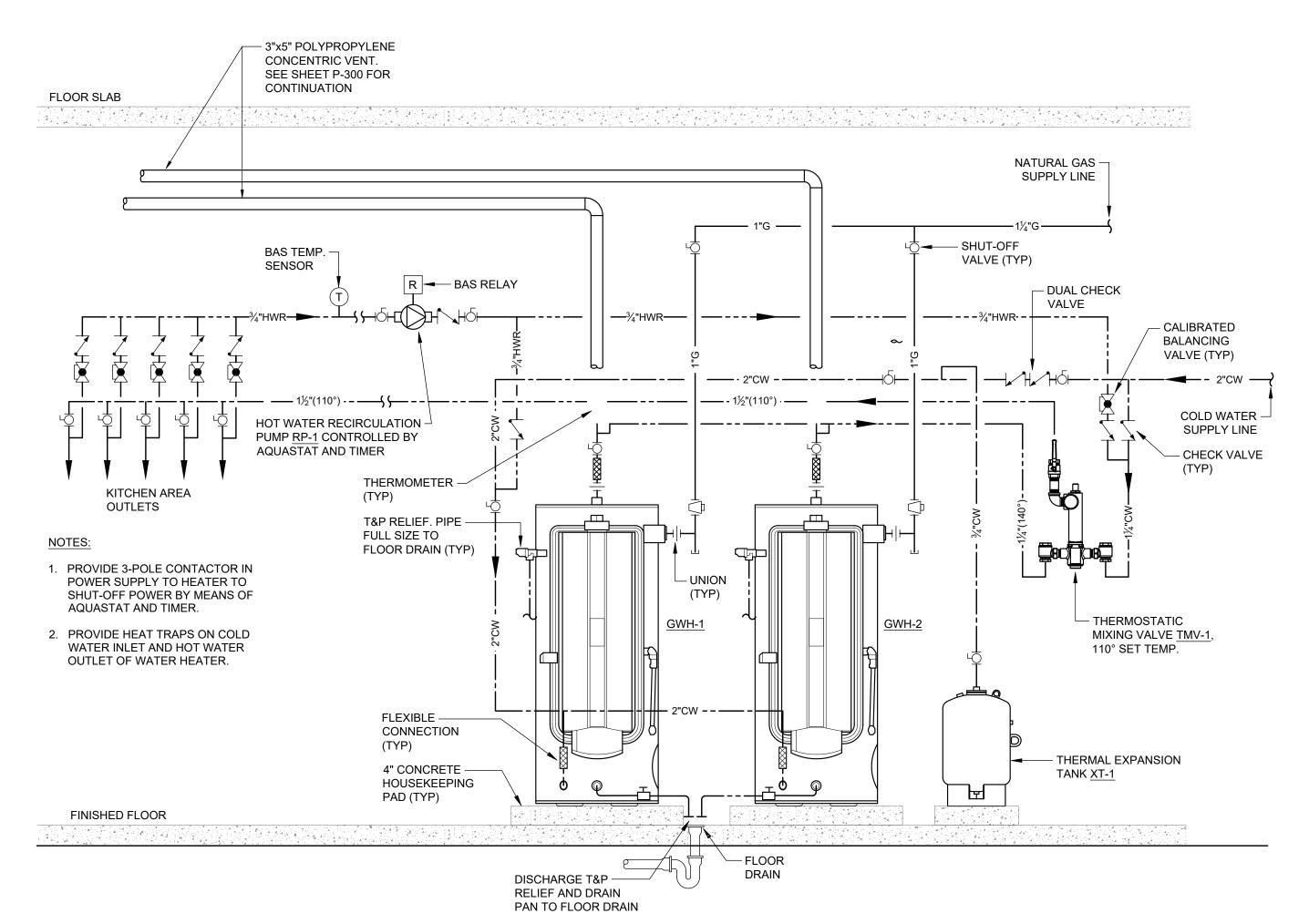
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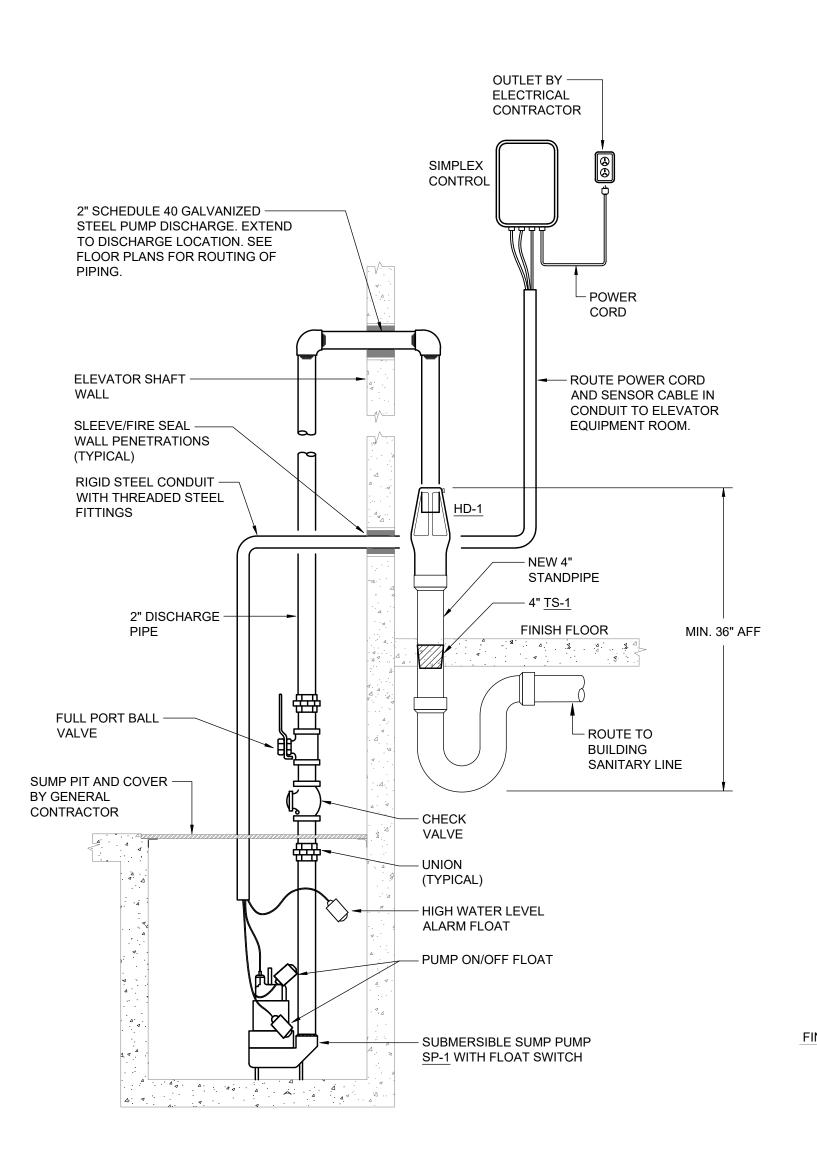
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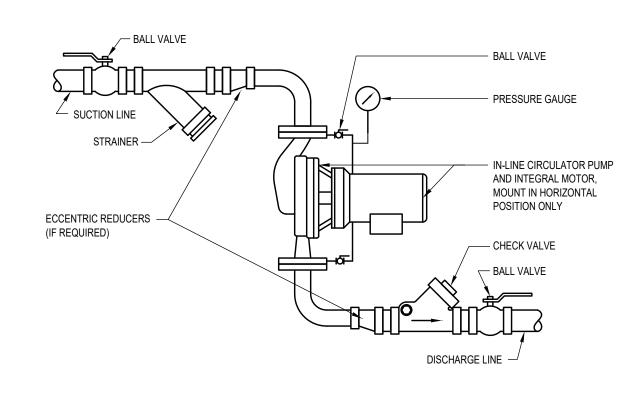




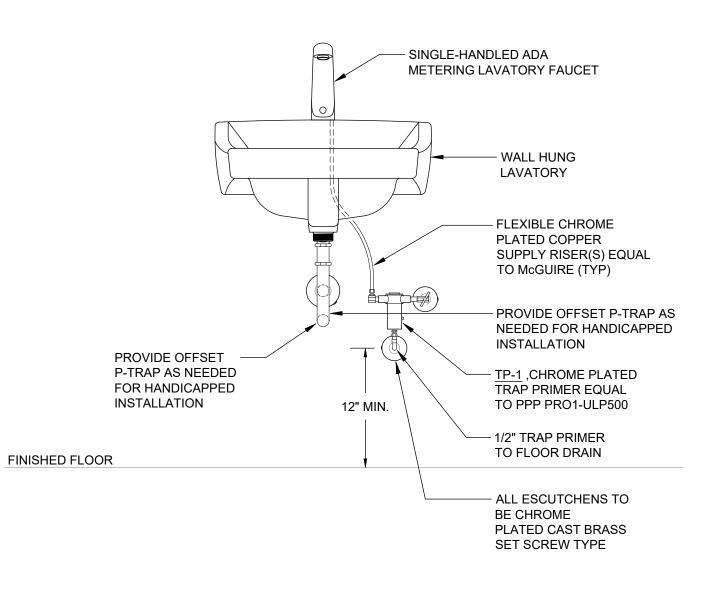




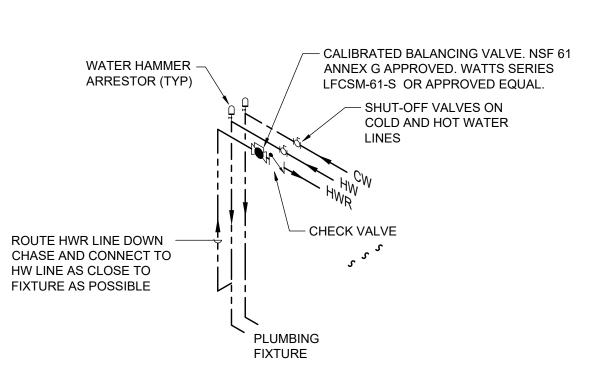
ELEVATOR SUMP PUMP DETAIL



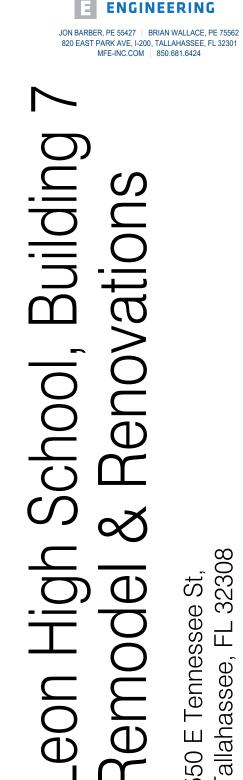
3 IN-LINE RECIRCULATOR PUMP
NTS



LAVATORY INSTALLATION DETAIL
P401 NTS



4 HWR CONNECTION AT PLUMBING FIXTURE
P401 NTS



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Revisions # Date Description # OCCOTION OF CHARMING THE PARTY OF THE P

P.I.C. JMS # Date Description

Design JB Reviewed JB | Date Description |

Design JB | Date Description |

Heviewed JB | Date Description |

Job Number | Date Description |

Heviewed JB | Date Description |

Job Number | Date Description |

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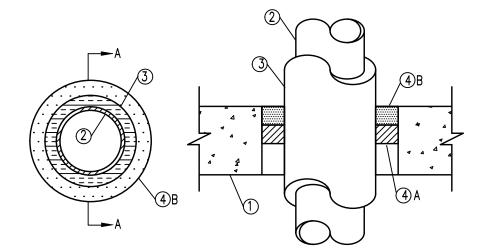
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Heritage JB | Date Description |

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Design
Drawn
Reviewed
Job Number
O8.28.2023
Hoy+Stark

Plumbing Details



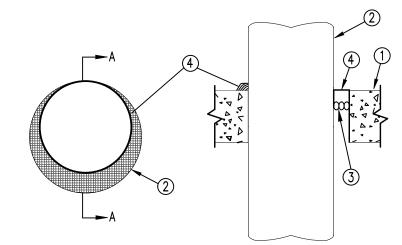
SECTION A-A

- 1. Floor or Wall assembly Min. 2— 1/2" thick reinforced lightweight or normal weight (100-150) pcf concréte. Wall may also be constructed of any UL Classifed Concrete Blocks\*. Max. diameter of opening is 18". See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufatureres.
- 1A. Steel Sleeve Optional, not shown) Nom. 10" (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max. of 2" above top of floor or beyond either surface of wall. T Rating is 0 Hr. when sleeve is used.
- 2. Through Penetrants Nom. 4" dia. (or smaller) type L (or heavier) copper pipe, nom. 12" dia. (or smaller) service weight (or heavier) cast iron soil pipe, nom. 12" dia. (or smaller) class 50 (or heavier) ductile iron pressure pipe or nom. 12" dia. (or smaller) Schedule 10 (or heavier) steel pipe centered in the opening and rigidly supported on both sides of the floor or wall assembly.
- 3. Pipe-Covering\* Nom. 1/2 to 2" thick hollow cylindrical heavy density (min. 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory—applied self—sealing lap tape. Transverse joints secured with metal fasteners or with butt strip tape supplied with the product. See pipe and equipment covering — Materials\*(BRGU) category in Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification working with a Flame Spread index of 25 or less and a Smoke Developed Index of 50 or less must be used.
- 4. Firestop System The details of the firestop system shall be as follows:
  - A. Packing Material Nom. 1" thickness of firmly packed mineral wool batt insualation used as a permanenet form. packing material to be recessed from top surface of floor or above or from both surfaces of as required to acommodate the required thickness of caulk. fill material (item b).
  - B. Fill, Void or Cavity Material\* Caulk Applied to fill the annular space flush with top surface of floor or sleeve or fluch with both surfaces of wall. When nom. pipe covering thickness is 2", min. thickness of caulk fill material is 2". When nom. pipe covering thickness is 1-1/2" or less, min. thickness of caulk fill material is 1". The hourly F and T Ratings of the firestop system are dependent upon the thickness of the floor or wall, the size of pipe, the thickness of pipe covering material and the size of the annular space (between the pipe covering material and the edge of the circular through opening), as shown in the following table:

Min. Floor Or Wall Thickness, In.	Max. Pipe Dia.	Nom. Pipe Covering Thickness, In.	Annular Space, In.	F Rating, Hr.	T Rating, Hr.
2-1/2	4	1 OR 1-1/2	1/2 TO 2-3/8	2	1
4-1/2	4	2	1/4 TO 3-5/8	2	1-1/2
2-1/2	12	1	1/2 TO 1-1/2	2	1/2
4-1/2	12	1	1/2 TO 2-3/8	3	1
2-1/2	12	1/2	1/2 TO 2-3/8	2	0

Minnesota Mining and Manufacturing Co. - Cp 25WB+. \*Bearing the UL Classification Marking

System No. C-AJ-1044 formerly system no. 319) F Rating - 2, 3 and 4 Hr (see items 2A and 4) T Rating — 0 Hr L Rating At Ambient - 2 CFM/sq ft L Rating At 400 F - less than 1 CFM/sq ft



SECTION A-A

1. floor or wall assembly — lightweight or normal weight (100—150pcf) concrete. except as noted in table under item 4, min thickness of solid concrete floor or wall assembly is 4-1/2". floor may also be constructed of a min. 6" thick, ul classified hollow core precast concrete units\*. when floor is constructed of hollow core precast concrete units, packing material (item 3) and caulk fill material (item 4) to be installed symmetrically on both sides of floor, flush with floor surface. wall assembly may also be constructed of any ul classified concrete blocks\*. max. dia. of opening is in solid lightweight or normal weight concrete. floor is 32" max. dia. of opening in floor constructed of hollow-core precast concrete units is 7".

see concrete blocks (cazt) and precast concrete units (cftv) categories in the fire resistance directory for names of manufacturers.

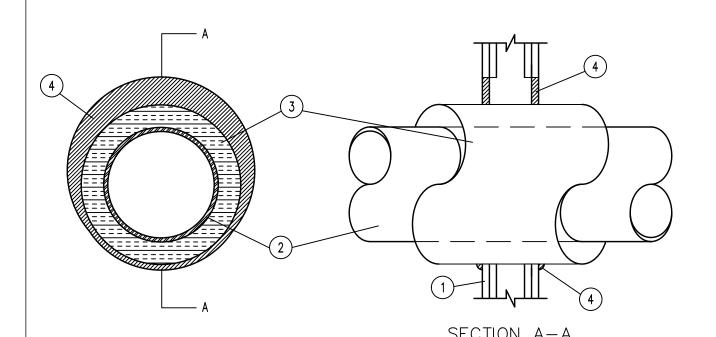
- 1A. steel sleeve (optional, not shown) max. 15" id (or smaller) schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. sleeve may extend a max. of 2" above top of floor or beyond either surface of wall. max. 16" id (or smaller) min. 0.028 wall thickness (or heavier) galvanized steel sleeve cast or grouted into floor or wall assembly. sleeve may extend a max. of 1/2" beyond either surface of floor or wall.
- 2. through penetrants one metallic pipe, conduit or tubing to be installed either concentric ally or eccentric ally within the firestop system. max. annular space between pipe, conduit or tubing and edge of through opening or sleeve is dependent on the parameters shown in item 4. min. annular space between pipe or conduit and edge of through opening is 0". (point contact). pipe conduit or tubing to be rigidly supported on both sides of floor or wall assembly. the following types and sizes of metallic pipes, conduits or tubing may be used:
- A. steel pipe nom. 30" dia. (or smaller) schedule 10 (or heavier) steel pipe iron pipe — nom. 30" dia. (or smaller) cast or ductile iron pipe conduit - nom. 6" dia. (or smaller) rigid steel conduit conduit — nom. 4" dia. (or smaller) steel electrical metallic tubing copper tubing — nom. 8" dia. (or smaller) type I (or heavier) copper tube copper pipe - nom. 6" dia. (or smaller) regular (or heavier) copper pipe
- 3. packing material polyethylene backer rod or nom. 1" thickness of tightly packed min.eral wool batt or glass fiber insulation firmly packed into opening as a permanent form. packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of caulk fill material (item 4).
- 4. fill, void or cavity material\* caulk applied to fill the annular space flush with top surface of floor. in wall assemblies, required caulk thickness to be installed symmetrically on both sides of wall, flush with wall surface, at point contact location between penetrant and sleeve or between penetrant and concrete, a min. 1/4" dia. bead of caulk shall be applied at top surface pipe conduit or tubing to be rigidly supported on both sides of floor or wall of floor and at both surfaces of wall. the hourly f ratings and the min. required caulk thickness' are dependent upon a number of parameters, as shown in the following table:

min. floor	nom. pipe tube	<b>:</b>		
or wall	or conduit	max. annular	min. caulk	f
thickness, in.	dia, in.	space, in.	thickness, in.	rating, h
2-1/2	1/2-12	1-3/8	1/2	2
2-1/2	1/2-12	3-1/4	1	2
4-1/2	1/2-6	1-3/8	1/4 (A)	2
4-1/2	1/2-12	1-1/4	1/2	3
4-1/2	1/2-20	2	1	3
4-1/2	1/2-20	2	1	3
4-1/2	1/2-12	3-1/4	1	3
4-1/2	1/2-6	1-3/8	1 (B)	4

(A) min. 2" thickness of mineral wool batt insulation required in annular space. (B) min. 1" thickness of mineral wool batt insulation required in annular space. on both sides of floor or wall assembly. min 1" thickness of caulk to be installed flush with each surface of floor or wall assembly.

minnesota mining and manufacturing co. — cp 25wb+. \*bearing the ul classification marking

System No. W-L-5029 F Ratings - 1 and 2 Hr (See Item 1) T Ratings - 1/2, 3/4, 1 and 1-3/4 Hr (See Item 3) L Rating At Ambient — 4 CFM/Sq Ft L Rating At 400 F - Less Than 1 CFM/Sq Ft



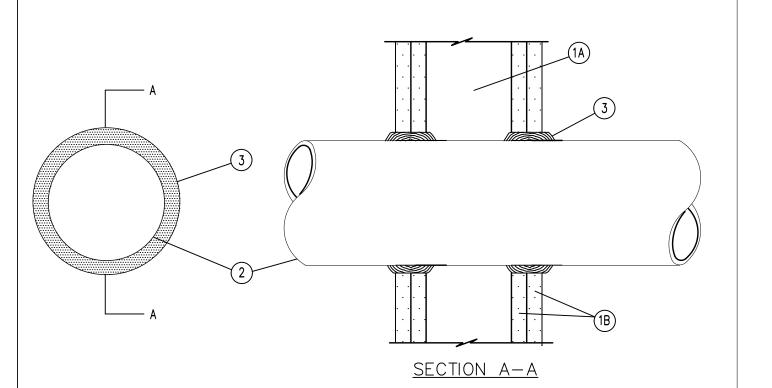
- 1. Wall Assembly The 1 or 2 hr fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel
- channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. B. Wallboard, Gypsum\* - 5/8 in. thick, 4 ft wide, with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in.
- The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. 2. Through Penetrants — One metallic pipe, conduit or tubing to be centered within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
- A. Steel Pipe Nom 12 in diam (or smaller) Schedule 10 (or heavier)
- B. Conduit Nom 4 in. diam (or smaller) electrical metallic tubing or steel conduit. C. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier)
- D. Copper Pipe Nom 6 in. diam (or smaller) Regular (or heavier) copper
- 3. Pipe Covering\* Nom 1, 1-1/2 or 2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self—sealing lap tape. Transverse joints secured with metal

fasteners or with butt tape supplied with the product. See Pipe and Equipment Covering — Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. The hour T Rating of the firestop system is dependent on the hourly fire rating of the wall assembly in which it is installed, the size and type of through penetrant and the pipe covering thickness, as shown in the table

DOIOW.						
Wall		Through	Pipe			
Assembly		Penetrant	Covering	Annulo	ar Space	T
Rating		Max Diam	Thkns	Min	. Max	Rating
Hr	Type+	ln.	ln.	ln.	ln.	Hr
1	A or B	4	1	0	1-1/2	1/2
1	C or D	2	1 or 1-1/2 1-1/2	0	1-1/2	1/2
	A or B	4	1-1/2	0	1-1/2	1
1	Α	12	2	0	1-7/8	3/4
	C or D	6	2	0	1-7/8	1
2	A or B	4	, 1	0	1-1/2	1
2	C or D	4	1 or 1-1/2	0	1-1/2	1
2	C or D	6	2	Q	1-7/8	
2	A or B	4	1-1/2	Q	1-1/2	1-3/4
2	Ā	12	2	Q	1-7/8	1-1/2
2	C or D	. 6	2	0	1-7/8	1
+Indicates	penetrant 1	type as itemized	in Item 2.			
A EIII Vaid	or Cavity I	Matorial* - Soala	ın+ ⊢ Min 5/Ω in	thickness	o of	

4. Fill Void or Cavity Material\* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 or 2 hr walls, respectively. At the point contact location between pipe covering and gypsum wallboard, a min 1/2 in. diam bead of fill material shall be applied at the pipe covering/gypsum wallboard interface on both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, Inc - FS-ONE Sealant

System No. W-L-1001 (Formerly System No. 147) F Rating--1, 2, 3 and 4 Hr (See Items 2 and 3) T Ratings—0, 1, 2, 3, and 4 Hr (See Items 2 and 3) L Rating at Ambient——less than 1 CFM/sq ft L Rating At 400 F--less than 1 CFM/sq ft



- 1. Wall Assembly——The 1, 2, 3 or 4 hr fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs——Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
- B. Wallboard, Gypsum \*--Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13-1/2 in.
- 2. Pipe or Conduit—Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cas iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom 6 in. diam (or smaller) steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) Type L or (or heavier) copper tubing or nom 1 in. diam (or smaller) flexible steel conduit. When copper pipe is used, max F Rating of firestop system (Item 3) is 2 h. Steel pipes or conduits larger than nom 4 in. diam may only be used in walls constructed using steel channel studs. A max of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall
- 3. Fill, Void or Cavity Material\*——Caulk——Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as

Max pipe	Annular	F	Т
or Conduit	Space	Rating	Rating
Diam In.	İn.	Hr.	Hr.
1	3 to 3/16	1 or 2	0+, 1 or 2
1	1/4 to 1/2	3 or 4	3 or 4
4	0 to 1-1/2	1 or 2	0
6	1/4 to 1/2	3 or 4	0
12	3/16 to 3/8	1 or 2	0
12	3/16 to 3/8	1 or 2	0

+When copper is used, T Rating is Oh. Minnesota Mining & Mfg. Co .--Types FB-2000, FB-2000+ \*Bearing the UL Classification Marking

WALL-DRYWALL-PIPE-1/2/3/4 HR 4 uilding ati eon em

**FLEMING ENGINEERING** 

JON BARBER, PE 55427 | BRIAN WALLACE, PE 75562 820 EAST PARK AVE, I-200, TALLAHASSEE, FL 32301 MFE-INC.COM | 850.681.6424

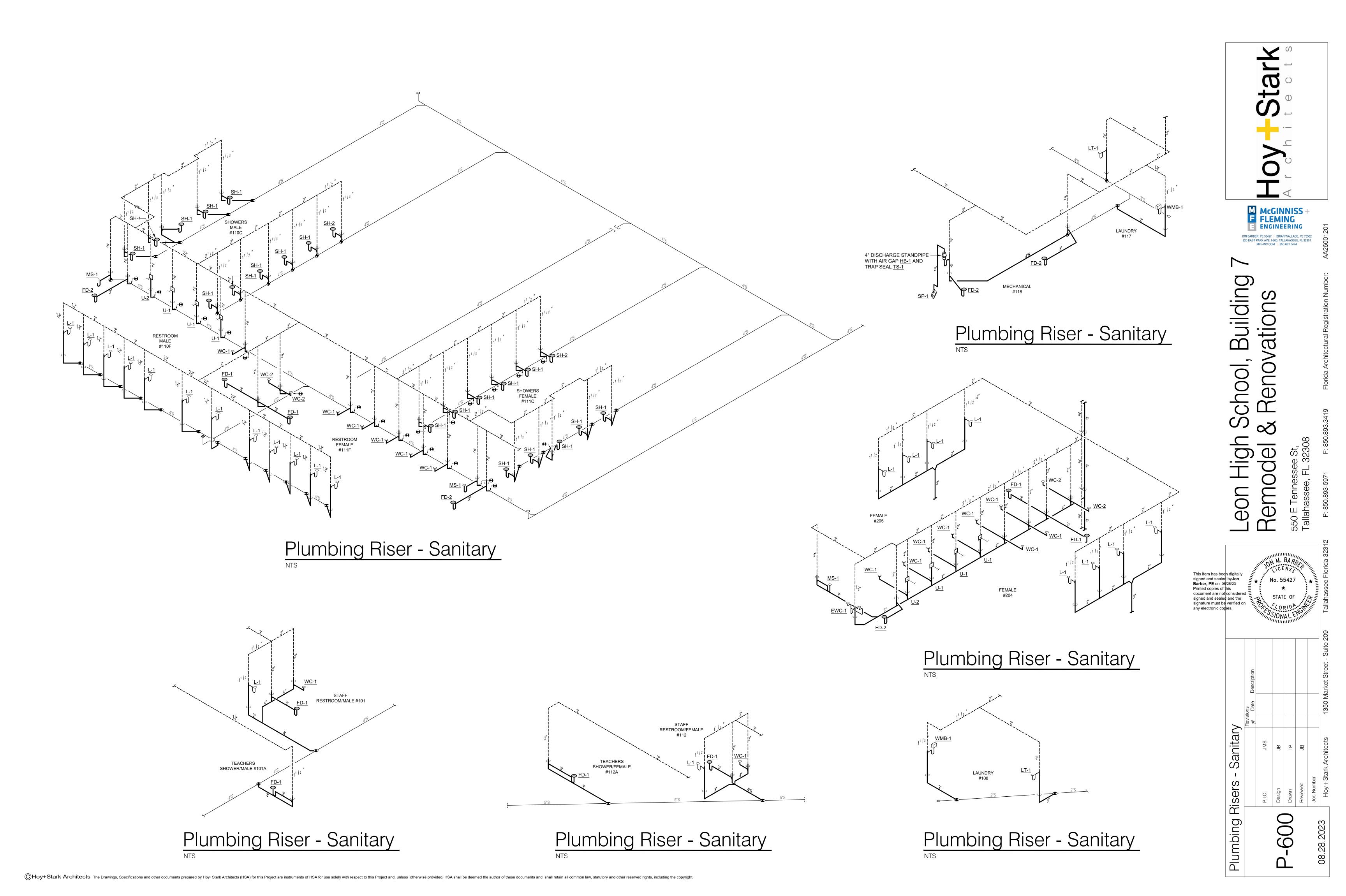
M. BARRE This item has been digitally signed and sealed byJon No. 55427 **Barber, PE** on 08/25/23 Printed copies of this document are not consider STATE OF signed and sealed and the signature must be verified on CORIDA any electronic copies.

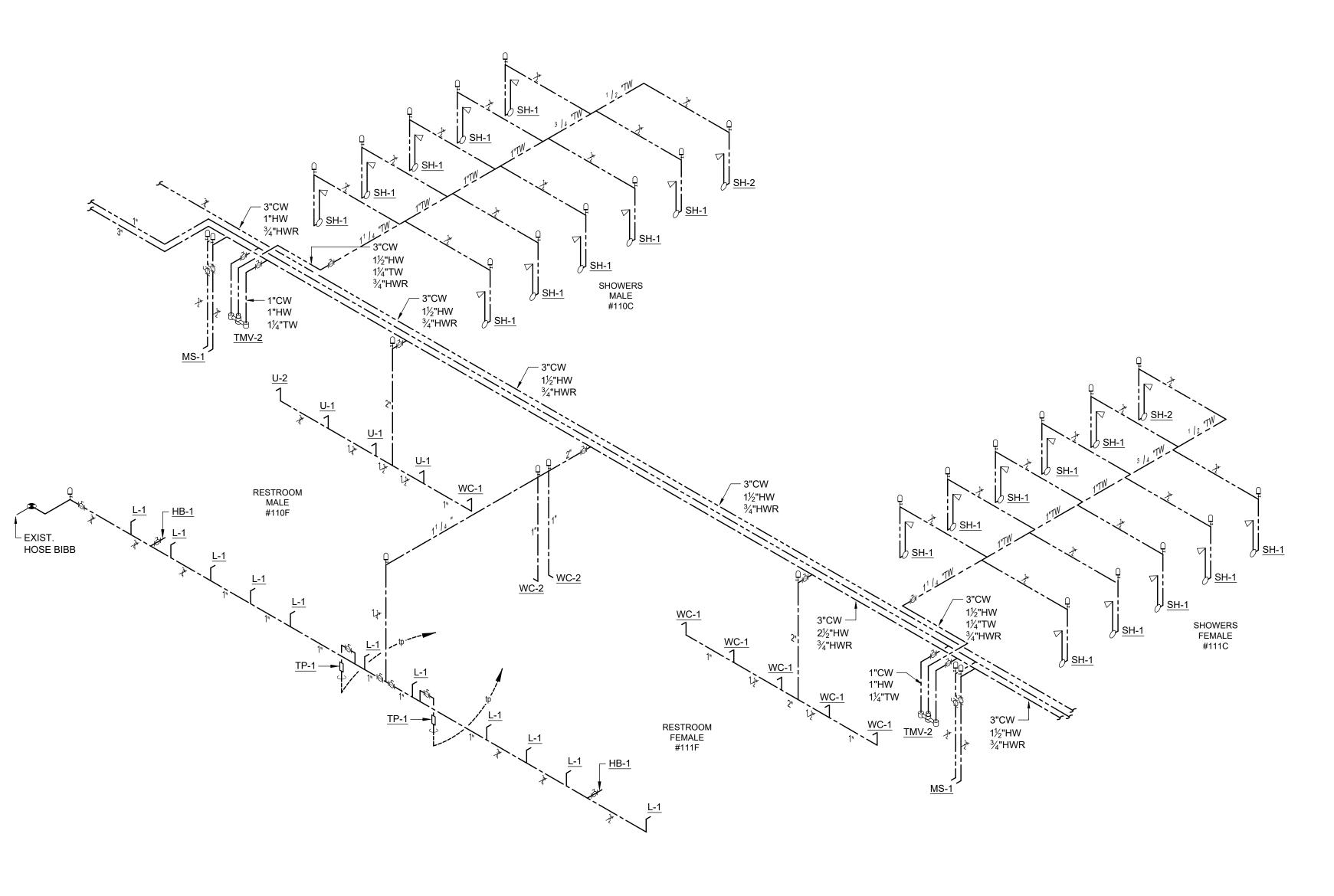
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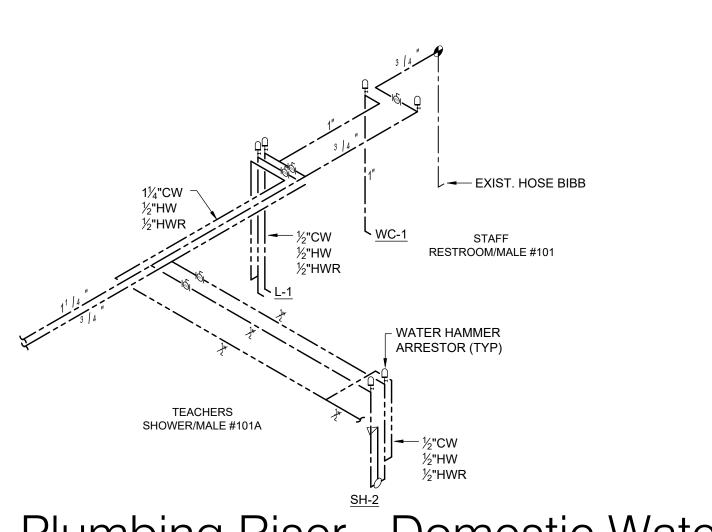
WALL/FLR-CONC-PIPE/INSULATED-2/3 HR WALL/FLR-CONC-PIPE-2/3/4 HR

\*Bearing the UL Classification Marking

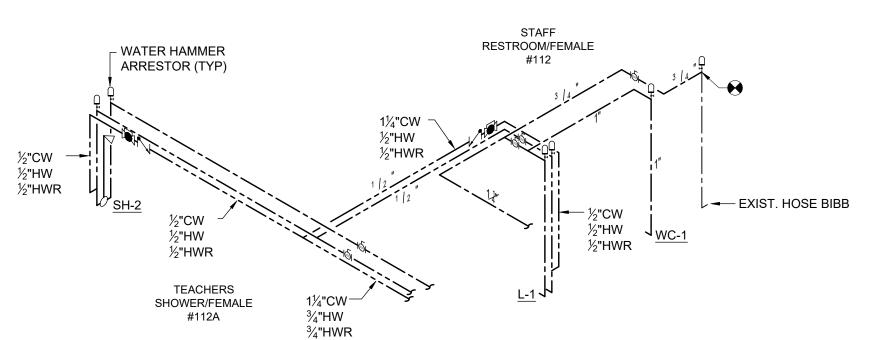




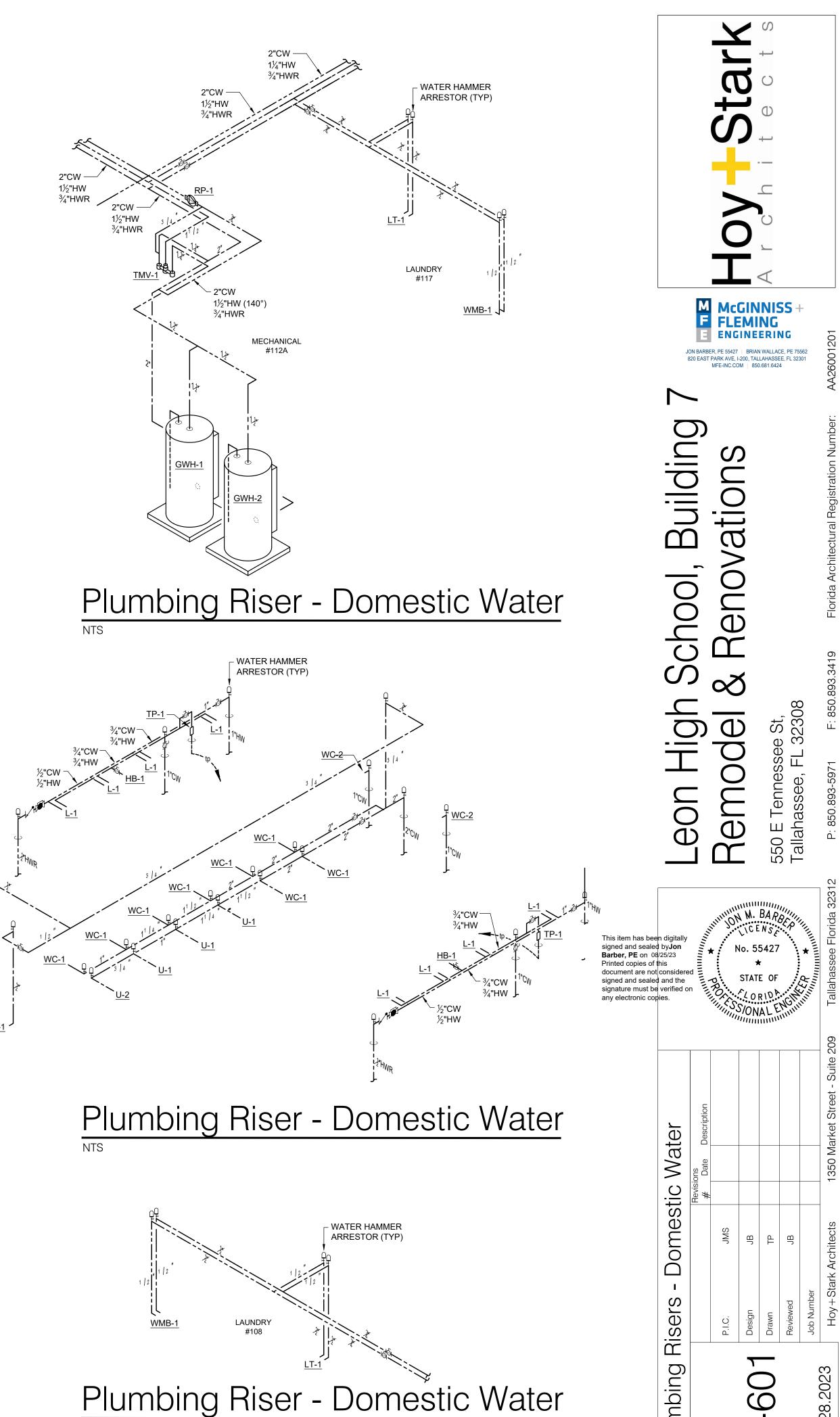
Plumbing Riser - Domestic Water

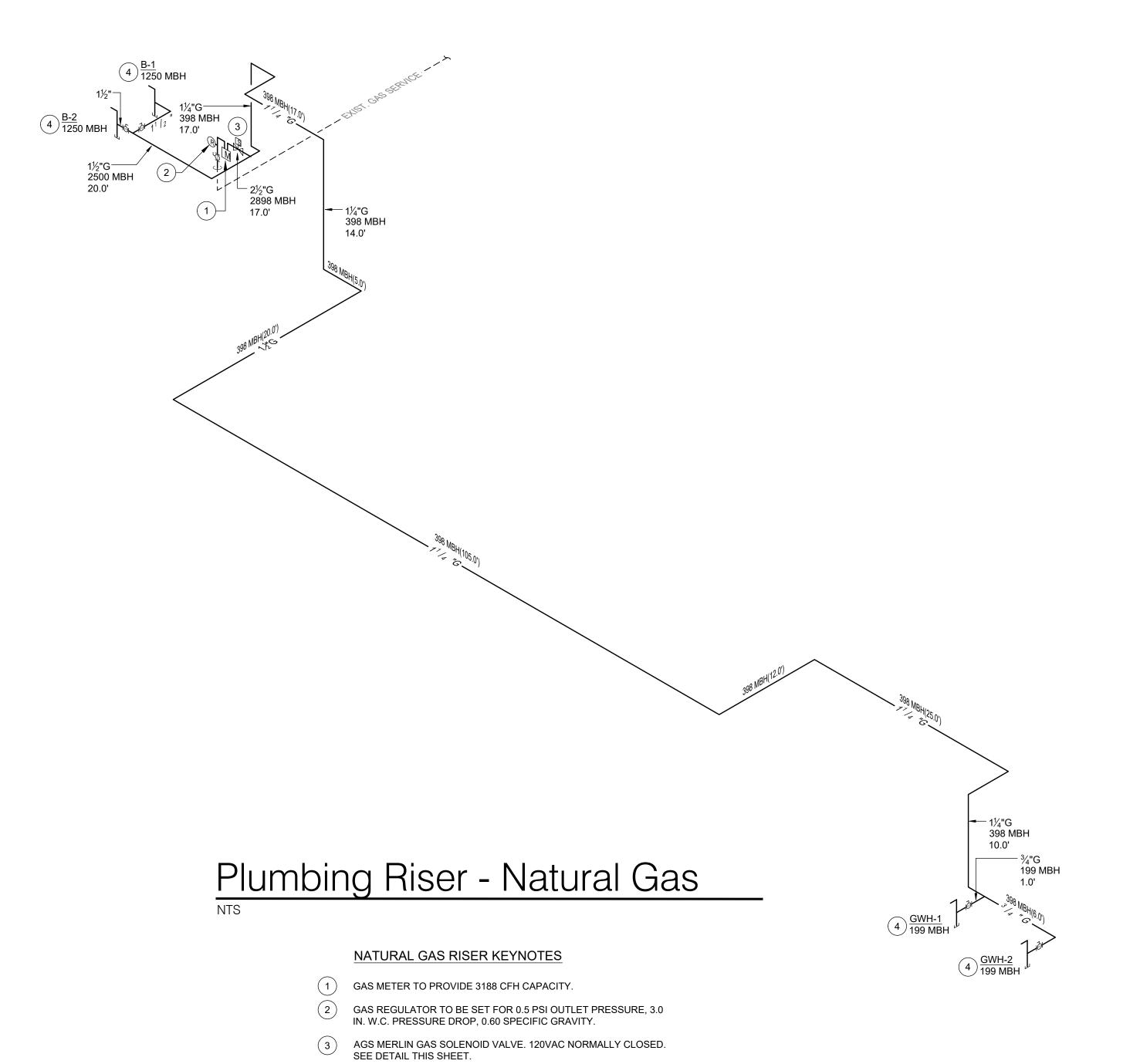


Plumbing Riser - Domestic Water



Plumbing Riser - Domestic Water





GAS CONNECTION W/ SHUT-OFF VALVE. REFERENCE MANUFACTURER'S DATA FOR SIZE AND CONNECTION

NATURAL GAS RISER GENERAL NOTES

CODE, FUEL GAS (FBC-G) 7TH EDITION (2020).

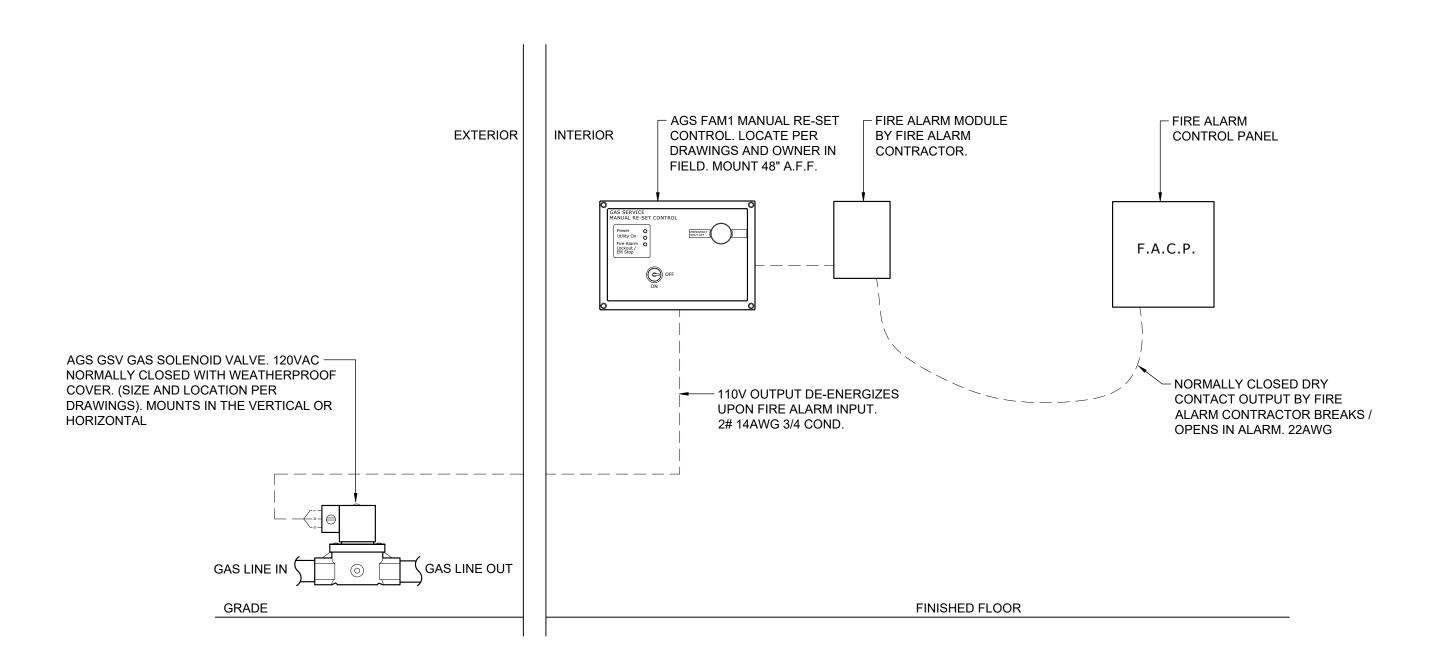
WITH A FULL SIZE DIRT LEG.

INSTRUCTIONS TO GAS-FIRED EQUIPMENT. LINE SHALL END

1. NATURAL GAS PIPING FOR 0.5 PSI INLET PRESSURE, 3.0 IN. W.C. PRESSURE DROP, 0.6 SPECIFIC GRAVITY, FLORIDA BUILDING

2. TOTAL DEVELOPED LENGTH FROM NATURAL GAS METER TO FARTHEST OUTLET (GWH-2): APPROXIMATELY 208.0 FT.

Hoy+Stark Architects The Drawings, Specifications and other documents prepared by Hoy+Stark Architects (HSA) for this Project and, unless otherwise provided, HSA shall be deemed the author of these documents and shall retain all common law, statutory and other reserved rights, including the copyright.



## Fire Alarm Manual Re-set Detain

NTS

GAS SUMMARY (NATURAL GAS)						
NO.	LOAD (MBH)	TOTAL (MBH)				
1	199	199				
1	199	199				
1	1250	1250				
1	1250	1250				
TOTAL GAS DEMAND (MBH)						
10% ALLOWANCE (MBH)						
TOTAL GAS LOAD (CFH)						
	NO.  1 1 1 1	NO. LOAD (MBH)  1 199  1 199  1 1250  1 1250  TOTAL GAS DEMAND (MBH)  10% ALLOWANCE (MBH)				

