

**PLUMBING GENERAL NOTES**

- GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWING MARKED "P".
- ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE PRESIDING PLUMBING CODE AND ALL APPLICABLE LOCAL CODES AND DRAWINGS.
- DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC. DETERMINE EXACT LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
- DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL, DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL EXCEPT THAT, IN WAY OF STRUCTURAL DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
- ANY WORK SHOWN ON THE DRAWINGS WHICH IS IN VIOLATION OF LOCAL CODES SHALL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR, ENGINEER AND THE OWNER AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES, INCLUDING (BUT NOT LIMITED TO), ELECTRICAL, HVAC, SPRINKLER, PLUMBING, STRUCTURAL AND GENERAL ARCHITECTURE.
- BEFORE STARTING WORK IN A PARTICULAR AREA OF THE PROJECT, VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED INCLUDING PREPARATORY WORK, REPORT CONDITIONS THAT MIGHT AFFECT WORK ADVERSELY IN WRITING TO THE GENERAL CONTRACTOR. DO NOT PROCEED WITH WORK UNTIL DEFECTS HAVE BEEN CORRECTED AND CONDITIONS ARE SATISFACTORY. COMMENCEMENT OF WORK SHALL BE CONTRUED ACCEPTANCE OF EXISTING CONDITIONS. VERIFY EXACT SIZES, LOCATIONS, INVERTS AND ELEVATIONS PRIOR TO RUNNING ANY PIPING. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.
- ANY INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, THE OWNER'S REPRESENTATIVE, THE GENERAL CONTRACTOR, ENGINEER AND THE LANDLORD AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
- CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL PLUMBING EQUIPMENT WITH THE ELECTRICAL DRAWINGS, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN HEREIN.
- ALL PLUMBING EQUIPMENT, PIPING, INSULATION, ETC., INSTALLED IN HVAC PLENUM SPACES SHALL MEET CODE REQUIREMENTS FOR SMOKE AND FIRE RATING.
- TOPS OF ALL FLOOR DRAINS SHALL BE SET FLUSH WITH FINISHED FLOOR. ALL PIPING ABOVE GRADE SHALL BE PROPERLY SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE.
- ALL SLEEVES THROUGH CONCRETE FLOORS AND ALL CORE DRILLING OF CONCRETE FLOORS AND WALLS SHALL BE BY THE CONTRACTOR.
- RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.
- PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING.
- CONTRACTOR TO INSULATE ALL COLD & HOT WATER PIPING INCLUDING WALL RUN. INSULATION ON COLD AND HOT WATER PIPES SHALL BE AS REQUIRED BY APPLICABLE ENERGY CODE.
- ALL OUTSIDE HOSE BIBS MUST BE PROVIDED WITH ATMOSPHERIC VACUUM BREAKERS
- PROVIDE SHUT OFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT, PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
- PROVIDE VENTS AT HIGH POINTS IN PIPING SYSTEMS AND DRAIN VALVES AT LOW POINTS.
- CONTRACTOR SHALL REFER TO DRAWING A-111 FOR TOILET ROOM LAYOUTS.
- PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
- CONTRACTOR SHALL INSTALL EQUIPMENT LOCATED IN MECHANICAL ROOM ONLY AFTER A THOROUGHLY COORDINATION WITH OTHER TRADES. ELECTRICAL EQUIPMENT LOCATION HAS PRIORITY OVER ANY OTHER TRADES EQUIPMENT.
- COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.
- ALL VALVES SHALL BE CLEARLY IDENTIFIED.
- MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS.
- COORDINATE LOCATION OF F.D. WATER METER AND VALVES IN MECHANICAL ROOM WITH OTHER TRADES.
- CONTRACTOR TO PROVIDE 3 SETS OF AS-BUILT DRAWINGS TO ARCHITECT.

**GENERAL NOTES**

- BASE BUILDING CONSTRUCTION SPECIFICATIONS SHALL GOVERN WORKMANSHIP/ MATERIALS/ DESIGN, EXCEPT AS THESE VARIOUS ELEMENTS MIGHT BE MODIFIED OR AMENDED BY THESE CONSTRUCTION DOCUMENTS (CD, HEREFTER), ANY NOTE OR INDICATION SHOWN OR IMPLIED WHICH DOES NOT CONFORM TO THE LETTER OR SPIRIT, SO DEFINED, SHALL BE BROUGHT TO THE ATTENTION OF THE GC, IN WRITING.
- CONTRACTOR UPON SIGNING THE AGREEMENT, ACCEPTS THE CD (INCLUDING THESE DRAWINGS WITH THE INCLUDED NOTES AND DESCRIPTIVE MATERIAL) AND AGREES TO EXECUTE THE NECESSARY WORK IN MANNER DESCRIBED THEREIN.
- UPON EXAMINATION/ FAMILIARIZATION OF CD AND JOB SITE VISIT, ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES AND/ OR CONFLICTS NOTED SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO BID AND CONSTRUCTION, FOR CORRECTION.
- EXCEPT AS MAY OTHERWISE BE INDICATED, THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS LABOR AND ALL OTHER ITEMS/SERVICES NECESSARY TO ACCOMPLISH, ENTIRELY, THE WORK SET FORTH IN THESE CD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOCAL BUILDING DEPARTMENT FILING, PERMITS, APPROVALS, ETC.
- WHERE MORE THAN ONE REGULATION APPLIES, THE STRICTER ONE SHALL GOVERN. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH ANY APPLICABLE LOCAL BUILDING CODES AND SHALL NOT KNOWINGLY EXECUTE WORK SPECIFIED WHICH IS NOT IN CONFORMANCE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING DEMISED PREMISES AND ALL AREA, CORRIDORS, STAIRS, ELEVATORS, ETC. OUTSIDE OF SPACE AGAINST DAMAGE DURING CONSTRUCTION PROCESS. ANY DAMAGE TO THESE AREAS SHALL BE CORRECTED TO SATISFACTION OF ARCHITECT AND AT THE CONTRACTOR'S COST.
- ANY ELEMENT, WHATSOEVER, REQUIRED BY THE PROJECT TO BE INCORPORATED IN CONSTRUCTION BUT NOT SPECIFIED IN CD SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
- NO MODIFICATIONS/ REVISIONS/ CHANGES SHALL BE UNDERTAKEN UNLESS SPECIALLY SO INSTRUCTED AND APPROVED BY THE ARCHITECT.
- ARCHITECT SHALL BE NOTIFIED OF ANY REVISIONS TO BE INCORPORATED IN CD TO COMPLY WITH RULE/REGULATION OF ANY AND ALL LOCAL GOVERNING AUTHORITIES HAVING JURISDICTION OVER PROJECT.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW. APPROVALS OF SHOP DRAWINGS SHALL NOT RELEASE CONTRACTOR OF RESPONSIBILITY FOR WORK SPECIFIED.
- ALL SUBSTITUTIONS I.E., EQUALS MUST BE SUBMITTED TO ARCHITECT FOR WRITTEN APPROVAL PRIOR TO SUBSTITUTION BEING MADE.
- UNLESS OTHERWISE SPECIFIED, ALL MATERIALS SHALL BE NEW AND BOTH MATERIALS AND WORKMANSHIP SHALL BE OF QUALITY CONSISTENT WITH THAT EXPECTED FOR A CLASS "A" INSTALLATION.
- ALL WORKMEN AND SUBCONTRACTOR SHALL BE SKILLED IN THEIR TRADES.
- CONTRACTOR SHALL MAINTAIN WORK AREA IN A CLEAN AND ORDERLY FASHION. DEBRIS AND TRASH SHALL BE REMOVED DAILY.
- CONTRACTOR SHALL RE-EXECUTE ANY WORK THAT FAILS TO CONFORM TO THE DRAWINGS/ DETAILS AS SHOWN, AND ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP WHICH APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF CO
- WARRANTY SHALL BE EXTENDED FOR ALL CONSTRUCTION COMPONENTS AND EQUIPMENT AND INSTALLATIONS INCLUDED IN THIS WORK FOR A MINIMUM ONE (1) YEAR FROM THE DATE OF CO

**PLUMBING LEGEND**

| SYMBOL | ABBREVIATION | DESCRIPTION                                 |
|--------|--------------|---|
|        | BV           | BALL VALVE                                  |
|        | GATE         | SHUT OFF VALVE                              |
|        | RV           | RELIEF VALVE                                |
|        |              | GAS VALVE                                   |
|        | DN           | PIPE ELBOW DOWN OR DROP                     |
|        | UP           | PIPE ELBOW UP OR RISE                       |
|        | CW           | COLD WATER                                  |
|        | HW           | HOT WATER                                   |
|        | HWR          | HOT WATER RETURN (SET@110F)                 |
|        | S OR W       | SOIL OR WASTE BELOW GROUND (OR FLOOR BELOW) |
|        | SAN OR W     | SOIL OR WASTE ABOVE GROUND                  |
|        | V            | VENT  |
|        |              | AMERICAN DISABILITIES ACT                   |
|        | EWH          | ELECTRIC WATER HEATER                       |
|        | VTR          | VENT THRU ROOF                              |
|        | C.O.         | CLEANOUT                                    |
|        | C.O.D.P.     | CLEANOUT DECK PLATE                         |
|        | W.C.O.       | WALL CLEANOUT                               |
|        | C.O.W.P.     | CLEANOUT WALL PLATE                         |
|        | WHA          | WATER HAMMER ARRESTOR                       |
|        | F.D.         | FLOOR DRAIN                                 |
|        |              | CHECK VALVE                                 |
|        | CV           | CONTROL VALVE                               |
|        | GM           | GAS METER                                   |
|        | HB           | HOSE BIBB                                   |
|        |              | PUMP  |
|        |              | STRAINER                                    |
|        | VB           | VACUUM BREAKER                              |
|        | D            | CONDENSATION DRAIN                          |

**WATER HAMMER ARRESTOR SCHEDULE**

| SYMBOL | PIPE SIZE | J.R. SMITH | JOSAM | ZURN  | REMARKS         |
|--------|-----------|------------|-------|-------|-----------------|
| WHA-A  | 1/2"      | 5005       | EQUAL | EQUAL | STAINLESS STEEL |
| WHA-B  | 1"        | 5007       | EQUAL | EQUAL | STAINLESS STEEL |

**H. W. RECIRCULATING PUMP**

| SYMBOL | LOCATION  | MAKE & MODEL          | STATIC HD FT. | GPM | RPM  | WATTS | ELEC DATA     | REMARKS |
|--------|-----------|-----------------------|---------------|-----|------|-------|---------------|---------|
| P-1    | MECH.ROOM | BELL&GOSSETT NBF-BSLW | 5 FT          | 5   | 2800 | 39    | 115V-1PH-60HZ |         |

**EXPANSION TANK SCHEDULE**

| SYMBOL | TOTAL CAPACITY | MANU. & MODEL | LOCATION                                   |
|--------|----------------|---------------|--|
| ET-1   | 8.5            | WATTS PLT-20  | MOUNTED IN THE CEILING OF MECHANICAL ROOM  |
| ET-2   | 2.1            | WATTS PLT-20  | MOUNTED IN THE CEILING OF THE LAUNDRY ROOM |

**ELECTRIC WATER HEATER SCHEDULE**

| SYMBOL | STORAGE GALS | RECOVERY SPH | DEG RISE | NUMBER ELEMENTS | ELECTRICAL |     |       | TEMP SETTING | LOCATION | MANUFACTURER & MODEL   | REMARKS  |
|--------|--------------|--------------|----------|-----------------|------------|-----|-------|--------------|----------|------------------------|--|
|        |              |              |          |                 | TOTAL KW   | V   | PH HZ |              |          |                        |  |
| EWH-1  | 120          | 102          | 60° F    | 3               | 15.0       | 208 | 3     | 60           | 110 F    | ON FLOOR OF MECH. ROOM | AO, SMITH DRE-120-15 PROVIDE EXPANSION TANK & RECIRCULATION PUMP P-1 |
| EWH-2  | 50           | 109          | 90° F    | 2               | 24.0       | 208 | 3     | 60           | 140 F    | ABOVE JANITOR'S SINK   | AO, SMITH DSE-50 PROVIDE EXPANSION TANK                              |

NOTES: PIPING TO THE INLET OF A WATER HEATER AND PIPING CONVEY WATER HEATED BY A WATER HEATER SHALL BE INSULATED IN ACCORDANCE WITH SECTION C404.4 OF THE 2015 IECC

**GREASE INTERCEPTOR SELECTION**

|   |  |
|---|--|
| DETERMINE THE CUBIC CONTENT OF THE FIXTURE  | S-2 - 18" X 16" X 14" = 4,032 IN <sup>3</sup> X 3 (BAY) = 12,096 IN <sup>3</sup><br>S-1 PREP SINK - 16" X 13 1/2" X 5 1/2" = 1,161 IN <sup>3</sup><br>S-1 HAND SINK - 16" X 13 1/2" X 5 1/2" = 1,161 IN <sup>3</sup> |
| DETERMINE THE CAPACITY IN GALLON<br>1 GAL=231 CUBIC INCHES  | CONTENTS IN GALLONS 14,418 IN <sup>3</sup> /231 = 63 GALLONS.  |
| DETERMINE ACTUAL DRAINAGE LOAD<br>ACTUAL DRAINAGE LOAD = 75% OF FIXTURE CAPACITY                    | ACTUAL DRAINAGE LOAD<br>0.75 x 63 = 48 GALLONS   |
| DETERMINE THE FLOW RATE AND THE DRAINAGE PERIOD<br>FLOW RATE = ACTUAL DRAINAGE LOAD/DRAINAGE PERIOD | CALCULATE FLOW RATE FOR 2 MINUTE PERIOD 48/2 MIN= 24 GPM   |
| SIZE OF GREASE TRAP   | PER NANCY WITH PWSID [ 303-841-4627] STATED THAT AN EXTERIOR GREASE INTERCEPTOR, WITH A MINUM SIZE OF 1200 GALLONS IS REQUIRED.  |

**GREASE INTERCEPTOR SCHEDULE**

| SYMBOL | TYPE                  | MFR      | MODEL | OUTLET | INLET | GPM  | CAP. | REMARKS   |
|--------|-----------------------|----------|-------|--------|-------|------|------|---|
| GT-1   | LARGE CAPAC. CONCRETE | COPELAND | 1250  | 4"     | 4"    | 1200 | 2400 | INSTALL WITH SAMPLE WELL MODEL = PARK USA SWB-1 |

NOTE: PER PHONE CONVERSATION WITH NANCY WITH PARKER WATER AND SANITATION (303-841-4627) STATED THAT THE MINUM PERMITTABLE SIZE IS 1200 GALLONS, AND MUST BE LOCATED OUT SIDE OF THE BUILDING, WITH A

**PLUMBING FIXTURE SCHEDULE**

| SYMBOL          | DESCRIPTION                      | FIXTURE   |  |  |                         | FIXTURE CONNECTION |      |      |      | SUPPLY/FIXTURE UNITS |     |      |     | GPM | SANITARY WASTE DELU | REMARKS  |
|-----------------|----------------------------------|---|--|--|-------------------------|--------------------|------|------|------|----------------------|-----|------|-----|-----|---------------------|--|
|                 |                                  | MANUFACTURER No.  | TRIM No.   | SUPPORT No.                            | TYPE                    | SOIL OR WASTE      | VENT | CW   | HW   | CW                   | HW  | CW   | HW  |     |                     |  |
| WC-1            | WATER CLOSET                     | AMERICAN STANDARD OR APPROVED EQUAL<br>CADET FLOWISE 17" ELONGATED MODEL 2467.100 OPEN SEAT 12x18 ROUGH                           | LOW CONSUMPTION  | FLOOR MTD 18" FROM SIDE WALL TO CENTER | TANK 4142.100           | 4"                 | 2"   | 3/4" | --   | 2.5                  | --  | 3.0  | --  | 4.0 |                     | 1.1 GPF/ 4.2 LPF<br>LEVER HANDLE TO BE OPEN SIDE OF ROOM   |
| WC-2            | WATER CLOSET                     | AMERICAN STANDARD<br>CADET FLOWISE 15" ELONGATED MODEL 2462.100 OPEN SEAT 12x18 ROUGH   | LOW CONSUMPTION  | FLOOR MTD 14" FROM SIDE WALL TO CENTER | TANK 4142.100           | 4"                 | 2"   | 3/4" | --   | 2.5                  | --  | 3.0  | --  | 4.0 |                     | 1.1 GPF/ 4.2 LPF<br>LEVER HANDLE TO BE OPEN SIDE OF ROOM   |
| WC-3            | WATER CLOSET                     | AMERICAN STANDARD<br>10" BABY DEVORO PRESSURE ASSISTED TOILET 2292.001, OPEN FRONT SEAT LESS COVER                                | FLUSH VALVE SLOAN ROYAL #111                             | FLOOR MTD 12" FROM SIDE WALL TO CENTER | NO TANK                 | 4"                 | 2"   | 1"   | --   | 5.0                  | --  | 2.5  | --  | 4.0 |                     | COORDINATE WATER SUPPLY WITH GRAB BAR HEIGHT 1.28GPF/ 4.8 LPF<br>LEVER HANDLE TO BE OPEN SIDE OF ROOM  |
| L-1             | LAVATORY                         | AMERICAN STANDARD<br>LUCERNE WALL HUNG LAV MODEL 0355.012   | FAUCET/MOEN 8938 (4")                                    | WALL HUNG                              | --                      | 2"                 | 2"   | 1/2" | 1/2" | 1.0                  | 1.0 | 2.0  | 2.0 | 1.0 |                     |  |
| DF-1            | DRINKING FOUNTAIN                | ELKAY NO LEAD SWIRLFO EDPF214C (NO WALL PLATE & FREEZE PROTECTION) FOR EXTERIOR LOC. ECDPFW314C (W/ WALL PLATE) FOR INTERIOR LOC. |  | WALL MOUNTED                           |                         | 2"                 | 2"   | 3/4" | --   | 0.5                  | --  | 0.75 | --  | 0.5 |                     | 1. SEE SPECIFICATIONS FOR APPROVED EQUALS.   |
| S-1             | PANTRY PREP SINK/ CLASSROOM SINK | ELKAY SINGLE BOWL SINK MODEL PSRADQ 1919-65 LR  | FAUCET MOEN TWO HANDLE BAR MODEL 4903 2 HOLES 4" CENTERS | COUNTERTOP                             | --                      | 2"                 | 2"   | 1/2" | 1/2" | 1.5                  | 1.5 | 3.0  | 3.0 | 2.0 |                     | INDIRECT WASTE FOR PANTRY PREP SINK ONLY. SAME MODEL SERVES AS THE CLASSROOM SINK.   |
| S-2             | 3 BAY SINK                       | AERO MANUFACTURING CO.  | AERO NSF F3 SERIES TRIPLE SINK MF3-1816                  | FAUCET AERO S6 14" ONE SET             | FLOOR MOUNTED WITH LEGS | 2"                 | 2"   | 3/4" | 3/4" | 1.5                  | 1.5 | 3.0  | 3.0 | 2.0 |                     | PROVIDE WIELKAY-35 FOR TRIPLE SINK. PROVIDE LEVER DRAIN HANDLE RELEASE. INDIVIDUAL REMOTE HANDLE DRAINS FOR EACH BASIN PROVIDE INDIRECT WASTE. PROVIDE (2) COUNTERTOP DRAIN BOARDS (AERO 4D-1824). |
| S-3             | LAUNDRY SINK                     | FIAT  | FL-1 W/LEGS  | MOEN FAUCET 49023                      | FLOOR MOUNTED WITH LEGS | 2"                 | 2"   | 3/4" | 3/4" | 2.0                  | 2.0 | 3.0  | 3.0 | 2.0 |                     |  |
| S-4             | JANITOR SINK                     | FIAT  | MSB2424  | FAUCET 830-AA                          | FLOOR MOUNTED           | 2"                 | 2"   | 3/4" | 3/4" | 2.0                  | 2.0 | 3.0  | 3.0 | 2.0 |                     | PROVIDE HOSE AND HOSE BRACKET 832-AA PROVIDE MOP HANGER 889-CC   |
| FD-1            | FLOOR DRAIN                      | J.R. SMITH  | MODEL NO. 2010 A   | --                                     |                         | 3"                 | 2"   | --   | --   | --                   | --  | --   | --  | --  |                     | WITH 4"DEEP TRAP (WITH PRIMER)   |
| RD-1 (NOT USED) | 15" ROOF DRAIN                   | SMITH JAY R.  | DWG S1010  | --                                     |                         | --                 | --   | --   | --   | --                   | --  | --   | --  | --  |                     | LOW SILHOUETTE DOME  |
| RD-2 (NOT USED) | 15" OVERFLOW ROOF DRAIN          | SMITH JAY R.  | DWG S1070  | --                                     |                         | --                 | --   | --   | --   | --                   | --  | --   | --  | --  |                     | OVERFLOW DRAIN 4" ABOVE RD-1 LEVEL OVERFLOW  |
| HB-1            | HOSE BIB                         | ZURN  | MODEL Z1341XL  | --                                     |                         | --                 | --   | --   | --   | --                   | --  | --   | --  | --  |                     | WALL MOUNTED   |
| W-1             | WASHER BOX                       | GUY GRAY MODEL T-200  |  |  |                         | 2"                 | 3/4" | 3/4" |      | 3                    | 3   | 3.2  | 3.2 | 3   |                     | INSTALL WITH WATER HAMMER ARRESTORS ON BOTH HOT AND COLD WATER LINES   |

**THERMOSTATIC MIXING VALVE SCHEDULE**

| MARK                     | TMV-1        |
|--------------------------|--------------|
| MANUFACTURER             | SYMMONS      |
| MODEL NO.                | 6-1000NW     |
| INLET & OUTLET SIZE      | 1 1/2" & 2"  |
| SERVICE                  | EWH-1        |
| MAX FLOW RATE (GPM)      | 140          |
| PRESSURE DROP (PSI)      | 20 @ 100 GPM |
| INLET TEMP. (COLD WATER) | 40           |
| OUTLET TEMP. (HOT WATER) | 110          |

**BACKFLOW PREVENTER SCHEDULE**

| MARK         | BFP-1         |
|--------------|---------------|
| MANUFACTURER | WATTS         |
| MODEL NO.    | 957           |
| SERVICE      | BUILDING      |
| TYPE         | RED, PRESSURE |
| SIZE         | 2"            |
| REMARKS      | 1             |

**PLUMBING SPECIFICATIONS**

ALL COLD AND HOT WATER PIPING WILL APPROVE PEX IF APPROVED BY AUTHORITY HAVING JURISDICTION. PIPE FITTING AND CLAMPS MUST BE COMPATABLE AND MANUFACTURERE BY ONE MANUFACTURERE

SANITARY DRAIN PIPING AND FITTINGS: 6" AND SMALLER, PVC IF APPROVED BY AUTHORITY HAVING JURISDICTION.

DIELECTRIC FITTINGS: CONNECTIONS TO DISSIMILAR METALS 2" AND SMALLER PIPE SIZE SHALL BE MADE USING VICTAULIC CLEARFLOW STYLE 47 DIELECTRIC WATERWAY CONNECTOR 2 1/2" AND LARGE PIPE SIZE SHALL BE MADE BY USING FLANGES WITH DIELECTRIC ISOLATION GASKETS.

PIPE INSULATORS: FIBERGLASS WITH ALL SERVICE JACKET, SCHULLER, OWENS-CORNING OR KNAUF, MIN. 1" THICK.

HOT AND COLD WATER SHUTOFF VALVES FIBERGLASS WITH ALL SERVICE JACKET, SCHULLER, OWENS-CORNING OR KNAUF

ALL WATER HAMMER ARRESTOR TO BE CONNECTED BETWEEN THE TWO LAST TWO FIXTURES OF ANY RUN. THIS APPLIES BOTH TO HOT AND COLD WATER PIPING.

**PLUMBING SPECIFICATIONS - SEC. 220500**

- SUMMARY**
- Provide plumbing, waste, and vent systems for the following:
    - Toilets and bathrooms
    - Kitchens
    - Laundries
    - Water heaters
    - Meters
  - Provide water supply and distribution system(s) sized for domestic irrigation and sprinkler system(s).
  - Provide natural gas distribution system piping, specialties, and accessories.
  - Provide sewage and drainage systems, specialties, and accessories.
  - Coordinate with "TLE" room uses to provide adequate system(s) for all contract areas.
  - Modify, relocate, and extend existing service to accommodate new work (as applicable).
  - DO NOT cut structural members/elements without prior written consent from the Architect.

- SUBMITTALS**
- Submit product data, piping types by application, warranties, operating and maintenance data.
  - Submit signed and sealed shop drawings for review and as required for building permit.

- PRODUCTS**
- Provide new materials suitable for service intended and complying with approved submittals.
  - Provide accessory materials (including, but not limited to, hangers and pipe insulation).
  - Provide fixtures complying with water consumption requirements and accessibility requirements.
  - Drinking Fountains
  - Refer to Plumbing Fixture Schedule for manufacturer and model information.

- INSTALLATION**
- Comply with requirements of Section 010000 - Project Requirements.
  - Comply with applicable codes, regulations, ordinances and requirements of authorities having jurisdiction.
  - Vent all fixtures.
  - Conceal piping to the greatest extent practical.
  - Maintain indicated fire ratings of walls, partitions, ceilings, and floors at penetrations. Seal with firestopping material(s) to maintain the fire rating.
  - Test all systems for proper operation.
  - Instruct Owner and Tenant personnel in proper operation of systems.

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.

3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.



**CODE DATA:**  
PARKER, COLORADO  
2018 IFC  
2018 IECC

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**ISSUE**

| NO. | DATE       | DESCRIPTION      | INT. |
|-----|------------|------------------|------|
|     | 04.10.2020 | FINAL REVIEW SET |      |
|     | 05.08.2020 | PERMIT / BID SET |      |

**REVISION**

| NO. | DATE       | DESCRIPTION        | INT. |
|-----|------------|--------------------|------|
| 1   | 06.02.2020 | PWSD CITY COMMENTS |      |



Project Number: 2019.13 Scale: AS NOTED  
Drawn By: ATE Approved By: JCAA  
Drawing Name: **PLUMBING NOTES, SYMBOLS, SCHEDULES, AND DETAILS**  
Drawing Number: **P-100**

**JCAA CONSULTING ENGINEERS**

Job Title: TLE PARKER  
 Job No.:  
 By:  
 Checked:

| Fixture                                      | Qty. | CW FU | HW FU | Total FU for Domestic Water Tap/Meter (Using) | Waste or Sewer FU | Total Waste or Sewer FU |
|--|------|-------|-------|---|-------------------|-------------------------|
| WC Tank 1.6 GPF                              | 5    | 0     | 0     | 0   | 0                 | 0                       |
| WC Flush Valve 1.6 GPF                       | 5    | 10    | 50    | 60  | 4                 | 20                      |
| PRESSURE ASSIST WATER CLOSET                 | 7    | 2     | 14    | 16  | 4                 | 20                      |
| Urinal 3/4" Flush Valve < 1.0 GPF            | 0    | 0     | 0     | 0   | 0                 | 0                       |
| Urinal 1" Flush Valve < 1.0 GPF              | 0    | 0     | 0     | 0   | 0                 | 0                       |
| Urinal Flush Tank > 1.0 GPF                  | 0    | 0     | 0     | 0   | 0                 | 0                       |
| PUBLIC SINKS                                 | 10   | 3     | 10    | 13  | 2                 | 4                       |
| Lavatory (private)                           | 0    | 0.7   | 0     | 0.7   | 0                 | 1                       |
| S-1  | 23   | 2     | 34.0  | 36.0  | 40                | 1                       |
| Kitchen Sink (hotel, restaurant)             | 0    | 4     | 0     | 4   | 0                 | 0                       |
| BREAK ROOM SINK                              | 1    | 1.4   | 0     | 1.4   | 0                 | 0                       |
| Sink General 1 1/2" trap                     | 1    | 4     | 0     | 4   | 0                 | 0                       |
| Laundry Tub                                  | 1    | 3     | 2.25  | 5.25  | 0                 | 0                       |
| Sink Washup each set of faucets              | 1    | 3     | 0     | 3   | 0                 | 0                       |
| Bedpan Washer Flush Valve w/rack             | 1    | 10    | 0     | 10  | 0                 | 0                       |
| POD SERVICE SINK                             | 1    | 3     | 2.25  | 5.25  | 0                 | 0                       |
| Shower (public)                              | 0    | 0     | 0     | 0   | 0                 | 0                       |
| Shower (private)                             | 1    | 1.4   | 0     | 1.4   | 0                 | 0                       |
| Bathtub (public)                             | 0    | 0     | 0     | 0   | 0                 | 0                       |
| Bathtub (private)                            | 1    | 1.4   | 0     | 1.4   | 0                 | 0                       |
| DRINKING FOUNTAIN                            | 4    | 0.25  | 0     | 1   | 0.5               | 2                       |
| Hose Bibb                                    | 2    | 1     | 2.5   | 3.5   | 2.5               | 0                       |
| Hose Bibb (additional)                       | 1    | 1     | 2.5   | 3.5   | 2.5               | 0                       |
| Clotheswasher (commercial)                   | 1    | 4     | 3     | 7   | 4                 | 3                       |
| Clotheswasher (residential)                  | 1    | 1.4   | 0     | 1.4   | 0                 | 0                       |
| Hand Sink                                    | 2    | 0     | 0     | 0   | 0                 | 0                       |
| Hand Sink Indirect                           | 2    | 0     | 0     | 0   | 0                 | 0                       |
| 2-Compartment Sink                           | 1    | 4     | 3     | 7   | 4                 | 3                       |
| Prep Sink                                    | 3    | 3     | 0     | 3   | 0                 | 0                       |
| Dishwasher (hotel, restaurant)               | 6    | 0     | 0     | 0   | 0                 | 0                       |
| Dishwasher (private)                         | 1    | 1.4   | 0     | 1.4   | 0                 | 0                       |
| Dishwasher (hotel, restaurant)               | 6    | 0     | 0     | 0   | 0                 | 0                       |
| Coffee Brewer                                | 0.25 | 0     | 0     | 0   | 0                 | 0                       |
| Tea Brewer                                   | 0.25 | 0     | 0     | 0   | 0                 | 0                       |
| Carbonator                                   | 0.25 | 0     | 0     | 0   | 0                 | 0                       |
| Ice Machine                                  | 0.25 | 0     | 0     | 0   | 0                 | 0                       |
| Bathroom Group, < 1.6 GPF (hotel, apartment) | 3.0  | 0     | 0     | 0   | 0                 | 0                       |
| Bathroom Group, > 1.6 GPF (hotel, apartment) | 8    | 0     | 0     | 0   | 0                 | 0                       |
| 2" Floor Sink                                | 2    | 0     | 0     | 0   | 0                 | 0                       |
| 3" Floor Sink                                | 0    | 0     | 0     | 0   | 0                 | 0                       |
| 2" Floor Drain                               | 8    | 0     | 0     | 0   | 0                 | 0                       |
| Floor Drain-Emergency                        | 1    | 0     | 0     | 0   | 0                 | 0                       |
| Totals                                       |      | 138.0 | 69    | 167.0   | 100               | 100                     |

**2 DOMESTIC WATER CALCULATION**  
 scale: N/A

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY.  
 2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.  
 3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

JCAA  
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| ISSUE      |      |                  |      |
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| NO.        | DATE | DESCRIPTION      | INT. |
| 04.10.2020 |      | FINAL REVIEW SET |      |
| 05.08.2020 |      | PERMIT / BID SET |      |

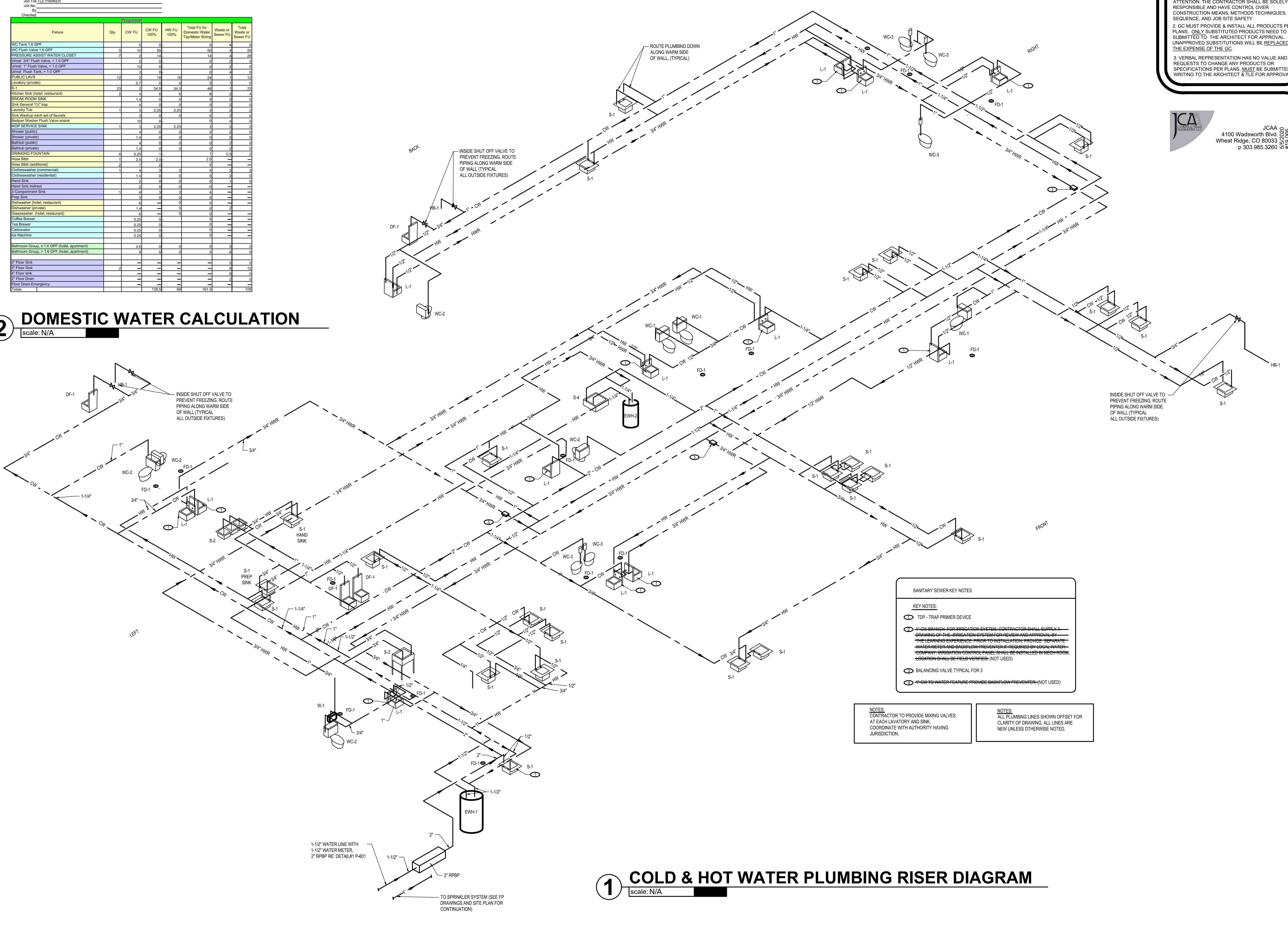
  

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|------------|------|--------------------|------|
| NO.        | DATE | DESCRIPTION        | INT. |
| 06.02.2020 |      | PWSD CITY COMMENTS |      |



|   |                      |
|---|----------------------|
| Project Number:<br>2019.13  | Scale:<br>AS NOTED   |
| Drawn By:<br>ATE  | Approved By:<br>JCAA |
| Drawing Name:<br><b>COLD AND HOT WATER PLUMBING RISER DIAGRAM</b> |                      |
| Drawing Number:<br><b>P-200</b>                                   |                      |

**1 COLD & HOT WATER PLUMBING RISER DIAGRAM**  
 scale: N/A



**SANITARY SEWER KEY NOTES**

**KEY NOTES:**

- TDP - TRAP PRIMER DEVICE
- LOW BRANCH FOR IRRIGATION SYSTEM. CONTRACTOR SHALL SUPPLY & DRAWING OF THE IRRIGATION SYSTEM FOR REVIEW AND APPROVAL BY THE LEARNING EXPERIENCE PRIOR TO INSTALLATION. PROVIDE SEPARATE WATER METER AND BACKFLOW PREVENTER IF REQUIRED BY LOCAL WATER DEPARTMENT. IRRIGATION CONTROL PANEL SHALL BE INSTALLED IN MECH ROOM. CONTRACTOR SHALL VERIFY IRRIGATION (NOT USED)
- BALANCING VALVE TYPICAL FOR 3
- LOW TO WATER FEATURE PROVIDE BACKFLOW PREVENTER (NOT USED)

**NOTES:**  
 CONTRACTOR TO PROVIDE MIXING VALVES AT EACH LAVATORY AND SINK. COORDINATE WITH AUTHORITY HAVING JURISDICTION.

**NOTES:**  
 ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED.

PERMIT / BID SET - 05.08.2020

JCAA CONSULTING ENGINEERS

Job Title: PARKER  
 Job No.:  
 By:  
 Checked:

| Fixture                                      | Qty | CW FU | CW FU 100% | HW FU | HW FU 100% | Total FU for Domestic Water Tap/Maker Sizing | Waste or Sewer FU | Total Waste or Sewer FU |
|--|-----|-------|------------|-------|------------|--|-------------------|-------------------------|
| WC Tank 1.5 GPF                              | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| WC Flush Valve 1.5 GPF                       | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| PRESSURE ASSIST WATER CLOSET                 | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| Linear 3/4" Flush Valve - 1.0 GPF            | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| Linear 1" Flush Valve - 1.5 GPF              | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| Linear Flush Tank - 1.5 GPF                  | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| PUBLIC LAVS                                  | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| Urinals (indoor)                             | 0   | 0     | 0          | 0     | 0          | 0  | 0                 | 0                       |
| S-1  | 2   | 2     | 2          | 34.7  | 34.7       | 40.9   | 1                 | 21                      |
| Kitchen Sink (hotel, restaurant)             | 2   | 4     | 4          | 0     | 0          | 8  | 3                 | 11                      |
| BREAK ROOM SINK                              | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Sink overflow 1 1/2" trap                    | 1   | 3     | 3          | 0     | 0          | 6  | 0                 | 6                       |
| Laundry Tub                                  | 1   | 3     | 3          | 2.25  | 2.25       | 5.25   | 3                 | 8.25                    |
| Sink Washup each set of fixtures             | 1   | 3     | 3          | 0     | 0          | 6  | 0                 | 6                       |
| Dispenser Washer Flush Valve related         | 1   | 1.5   | 1.5        | 0     | 0          | 3  | 0                 | 3                       |
| MOP SERVICE SINK                             | 1   | 2     | 2.25       | 2.25  | 2.25       | 9  | 3                 | 12                      |
| Shower (public)                              | 2   | 4     | 4          | 0     | 0          | 8  | 0                 | 8                       |
| Shower (private)                             | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Bathub (public)                              | 1   | 4     | 4          | 0     | 0          | 8  | 0                 | 8                       |
| Bathub (private)                             | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| DRINKING FOUNTAIN                            | 4   | 0.25  | 1          | 0     | 0          | 1  | 0                 | 1                       |
| Hose Bibb                                    | 1   | 2.0   | 2.0        | 0     | 0          | 4.0  | 0                 | 4.0                     |
| Hose Bibb (additional)                       | 2   | 1.1   | 1.1        | 0     | 0          | 2.2  | 0                 | 2.2                     |
| Clotheswasher (commercial)                   | 1   | 4     | 4          | 3     | 3          | 7  | 4                 | 11                      |
| Clotheswasher (residential)                  | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Hand Sink                                    | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Hand Sink (indoor)                           | 1   | 2     | 2          | 0     | 0          | 4  | 0                 | 4                       |
| Compartment Sink                             | 1   | 4     | 4          | 0     | 0          | 8  | 0                 | 8                       |
| Prep Sink                                    | 1   | 4     | 4          | 0     | 0          | 8  | 0                 | 8                       |
| Dishwasher (hotel, restaurant)               | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Dishwasher (private)                         | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Dishwasher (hotel, restaurant)               | 1   | 1.4   | 1.4        | 0     | 0          | 2.8  | 0                 | 2.8                     |
| Coffee Brewer                                | 1   | 0.25  | 0.25       | 0     | 0          | 0.5  | 0                 | 0.5                     |
| Tea Brewer                                   | 1   | 0.25  | 0.25       | 0     | 0          | 0.5  | 0                 | 0.5                     |
| Carbonator                                   | 1   | 0.25  | 0.25       | 0     | 0          | 0.5  | 0                 | 0.5                     |
| Ice Machine                                  | 1   | 0.25  | 0.25       | 0     | 0          | 0.5  | 0                 | 0.5                     |
| Bathroom Group, < 1.5 GPF (hotel, apartment) | 8   | 8     | 8          | 0     | 0          | 16   | 8                 | 24                      |
| Bathroom Group, > 1.5 GPF (hotel, apartment) | 8   | 8     | 8          | 0     | 0          | 16   | 8                 | 24                      |
| 2" Floor Sink                                | 1   | 1     | 1          | 0     | 0          | 2  | 0                 | 2                       |
| 4" Floor Sink                                | 1   | 1     | 1          | 0     | 0          | 2  | 0                 | 2                       |
| 4" Floor Sink                                | 1   | 1     | 1          | 0     | 0          | 2  | 0                 | 2                       |
| 4" Floor Drain                               | 1   | 1     | 1          | 0     | 0          | 2  | 0                 | 2                       |
| Floor Drain-Emergency                        | 1   | 1     | 1          | 0     | 0          | 2  | 0                 | 2                       |
| Taps   | 1   | 138.2 | 138.2      | 0     | 0          | 138.2  | 0                 | 138.2                   |

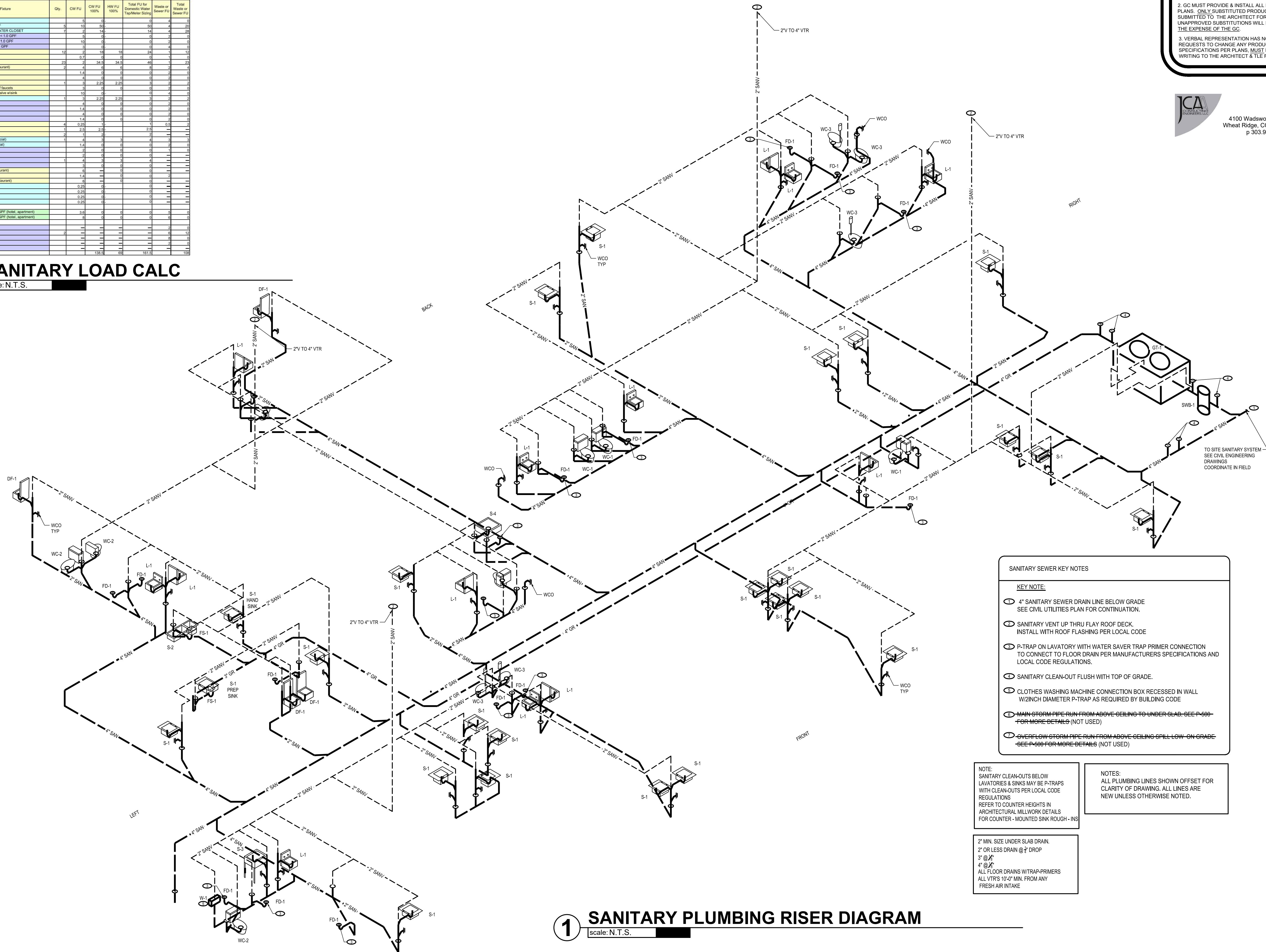
**2 SANITARY LOAD CALC**  
 scale: N.T.S.

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 3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

JCAA CONSULTING ENGINEERS  
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- SANITARY SEWER KEY NOTES**
- KEY NOTE:**
- 4" SANITARY SEWER DRAIN LINE BELOW GRADE SEE CIVIL UTILITIES PLAN FOR CONTINUATION.
  - SANITARY VENT UP THRU FLAY ROOF DECK. INSTALL WITH ROOF FLASHING PER LOCAL CODE
  - P-TRAP ON LAVATORY WITH WATER SAVER TRAP PRIMER CONNECTION TO CONNECT TO FLOOR DRAIN PER MANUFACTURERS SPECIFICATIONS AND LOCAL CODE REGULATIONS.
  - SANITARY CLEAN-OUT FLUSH WITH TOP OF GRADE.
  - CLOTHES WASHING MACHINE CONNECTION BOX RECESSED IN WALL W/2INCH DIAMETER P-TRAP AS REQUIRED BY BUILDING CODE
  - MAIN STORM PIPE RUN FROM ABOVE CEILING TO UNDER SLAB. SEE P-600 FOR MORE DETAILS (NOT USED)
  - OVERFLOW STORM PIPE RUN FROM ABOVE CEILING SPILLLOW ON GRADE SEE P-600 FOR MORE DETAILS (NOT USED)

NOTE:  
 SANITARY CLEAN-OUTS BELOW LAVATORIES & SINKS MAY BE P-TRAPS WITH CLEAN-OUTS PER LOCAL CODE REGULATIONS REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS

NOTES:  
 ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED.

2" MIN. SIZE UNDER SLAB DRAIN.  
 2" OR LESS DRAIN @ 1/2" DROP  
 3" @ 1/4"  
 4" @ 1/8"  
 ALL FLOOR DRAINS WITH P-TRAP-PRIMERS  
 ALL VTR'S 10'-0" MIN. FROM ANY FRESH AIR INTAKE

**1 SANITARY PLUMBING RISER DIAGRAM**  
 scale: N.T.S.

**ISSUE**

| NO.        | DATE       | DESCRIPTION      | INT. |
|------------|------------|------------------|------|
| 04.10.2020 | 04.10.2020 | FINAL REVIEW SET |      |
| 05.08.2020 | 05.08.2020 | PERMIT / BID SET |      |

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| 06.02.2020 | 06.02.2020 | PWSD CITY COMMENTS |      |

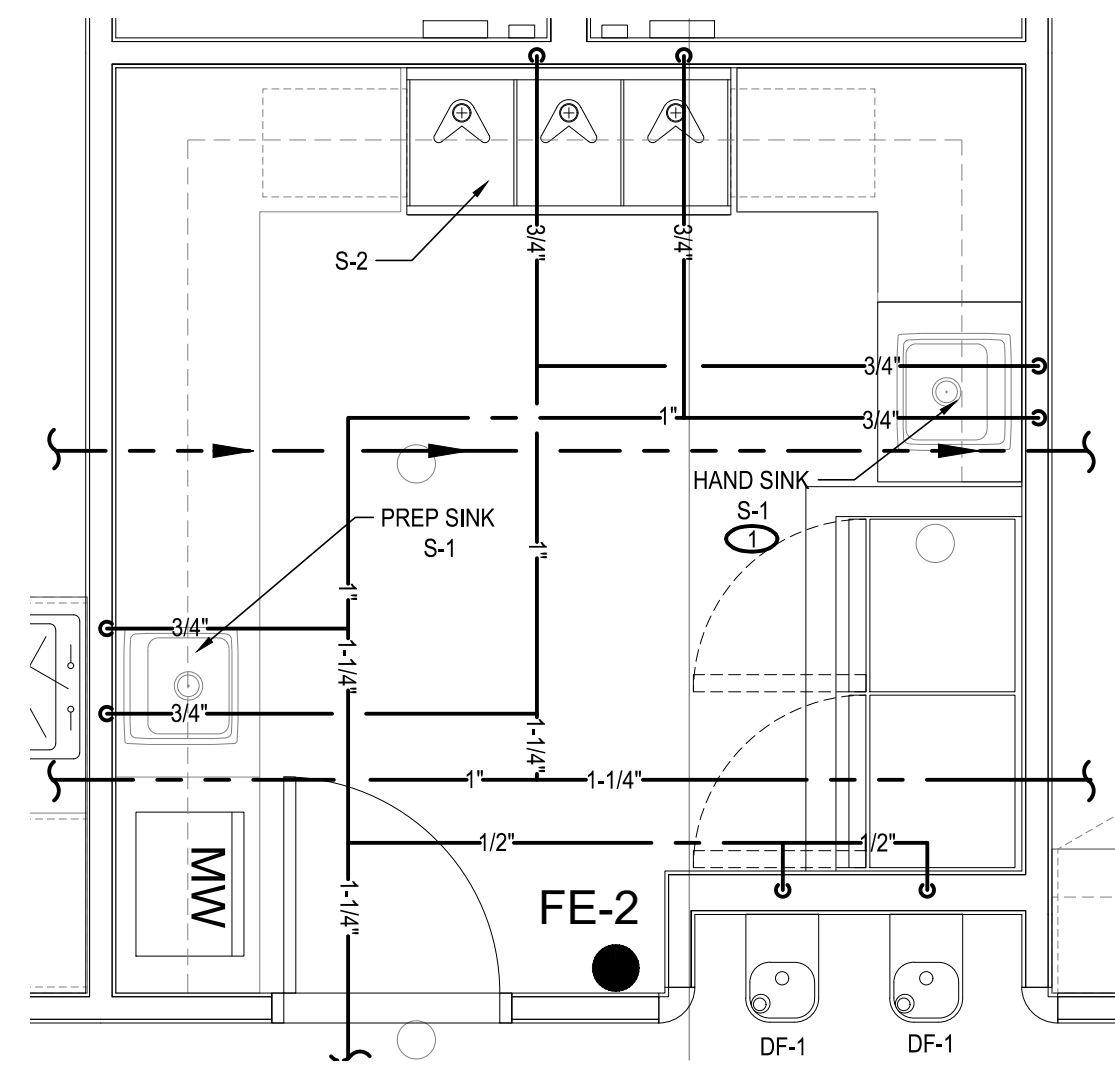


Project Number: 2019.13  
 Drawn By: ATE  
 Drawing Name: **SANITARY PLUMBING RISER DIAGRAM**  
 Drawing Number: **P-210**

Scale: AS NOTED  
 Approved By: JCAA

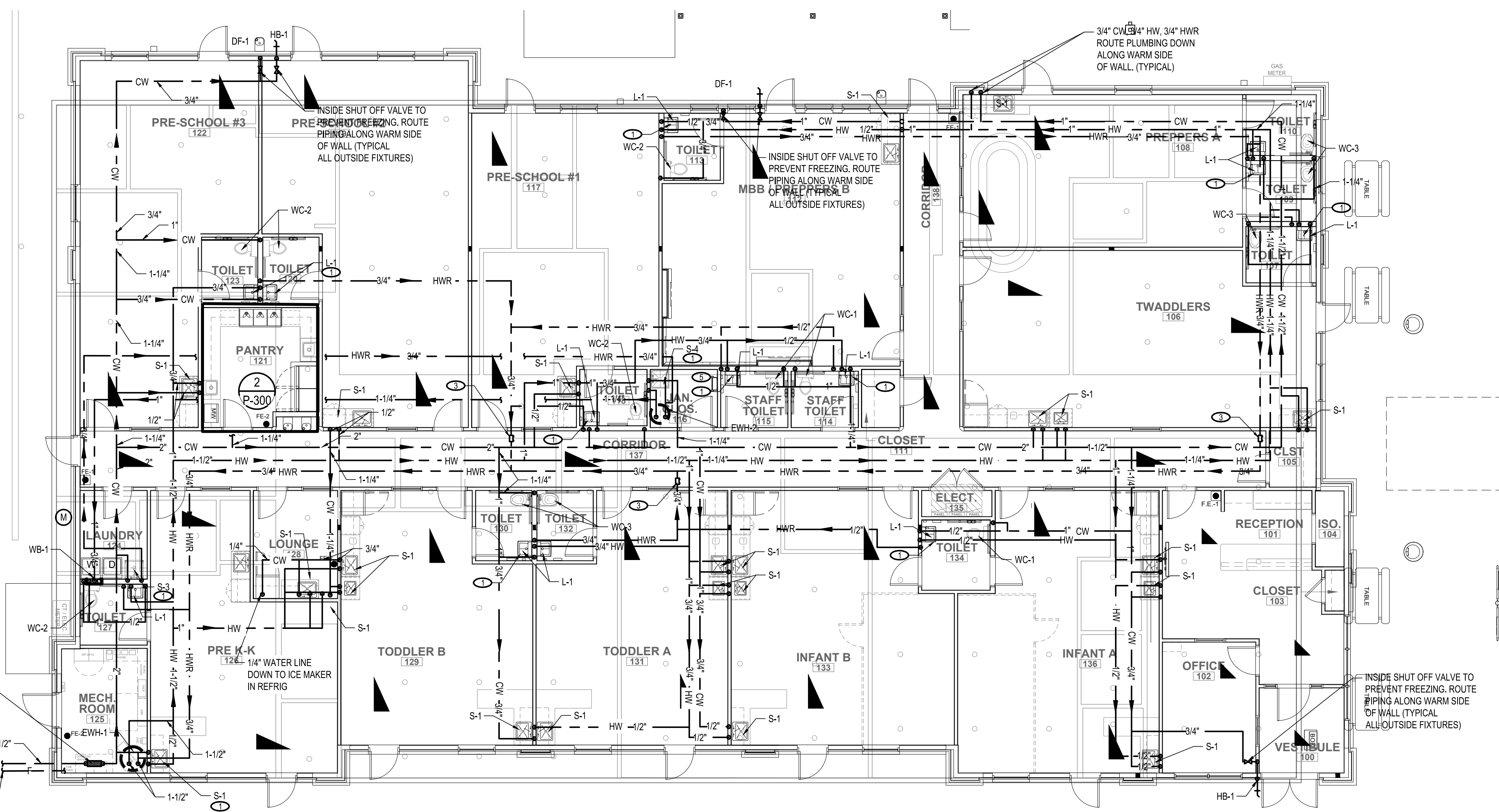
2019.Q1.01 CO PARKER (HESS)

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NOTES:  
ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED.

**2 ENLARGED PANTRY AREA WATER PLUMBING PLAN**  
scale: 3/8"=1'  
NORTH



- KEY NOTES**
- 1 TPD - TRAP PRIMER DEVICE
  - 2 CW BRANCH FOR IRRIGATION SYSTEM (NOT USED)
  - 3 BALANCING VALVE TYPICAL FOR 3
  - 4 CW TO WATER FEATURE PROVIDE BACK FLOW PREVENTER (NOT USED)
  - 5 ROOF ACCESS HATCH. NO PIPES, DUCTWORK, ETC IN THIS AREA
- CONTRACTOR TO PROVIDE MIXING VALVES AT EACH LAVATORY AND SINK, COORDINATE WITH AUTHORITY HAVING JURISDICTION

**1 COLD AND HOT WATER PLUMBING PLAN**  
scale: 1/8"=1'  
NORTH

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY.

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3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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p 303.985.3260 #15.086

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| 05.08.2020 |      | PERMIT / BID SET |      |

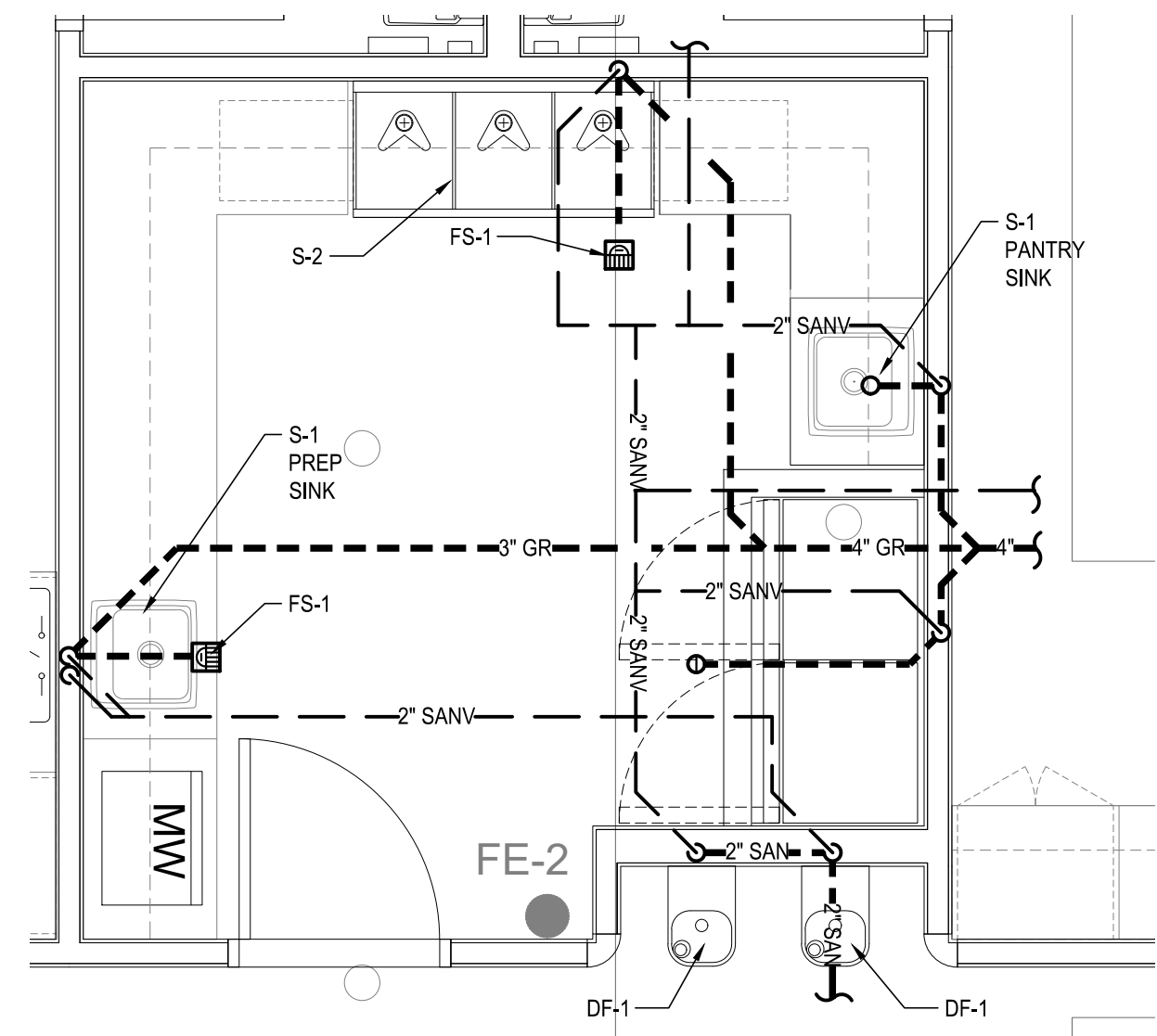
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| NO.        | DATE | DESCRIPTION        | INT. |
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| 06.02.2020 |      | PWSD CITY COMMENTS |      |



|  |                      |
|--|----------------------|
| Project Number:<br>2019.13                               | Scale:<br>AS NOTED   |
| Drawn By:<br>ATE   | Approved By:<br>JCAA |
| Drawing Name:<br><b>COLD AND HOT WATER PLUMBING PLAN</b> |                      |
| Drawing Number:<br><b>P-300</b>                          |                      |

PERMIT / BID SET - 05.08.2020



NOTES:  
ALL PLUMBING LINES SHOWN OFFSET FOR CLARITY OF DRAWING. ALL LINES ARE NEW UNLESS OTHERWISE NOTED.

- SANITARY SEWER KEY NOTES
- KEY NOTE:
- ① 4" SANITARY SEWER DRAIN LINE BELOW GRADE SEE CIVIL UTILITIES PLAN FOR CONTINUATION.
  - ② SANITARY VENT UP THRU FLAY ROOF DECK. INSTALL WITH ROOF FLASHING PER LOCAL CODE
  - ③ P-TRAP ON LAVATORY WITH WATER SAVER TRAP PRIMER CONNECTION TO CONNECT TO FLOOR DRAIN PER MANUFACTURERS SPECIFICATIONS AND LOCAL CODE REGULATIONS.
  - ④ SANITARY CLEAN-OUT FLUSH WITH TOP OF GRADE.
  - ⑤ CLOTHES WASHING MACHINE CONNECTION BOX RECESSED IN WALL WITH 2 INCH DIAMETER P-TRAP AS REQUIRED BY BUILDING CODE
  - ⑥ MAIN STORM PIPE RUN FROM ABOVE CEILING TO UNDER SLAB. SEE P-500 FOR MORE DETAILS. (NOT USED)
  - ⑦ OVERFLOW STORM PIPE RUN FROM ABOVE CEILING GRILL LOW ON GRADE. SEE P-500 FOR MORE DETAILS. (NOT USED)

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY

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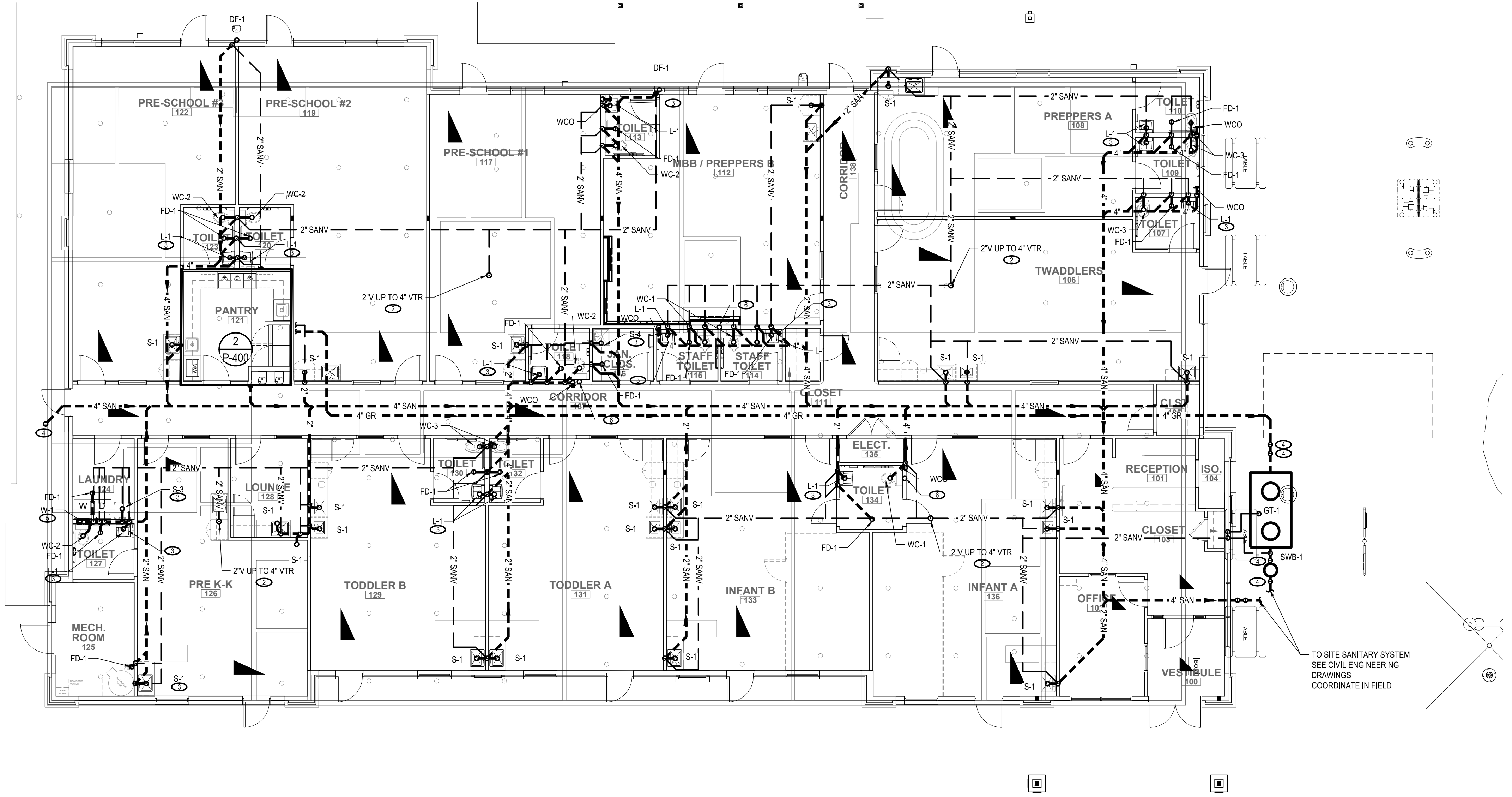
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**2 ENLARGED PANTRY AREA SANITARY PLUMBING PLAN**  
scale: 3/8"=1'  
NORTH



NOTE:  
SANITARY CLEAN-OUTS BELOW LAVATORIES & SINKS MAY BE P-TRAPS WITH CLEAN-OUTS PER LOCAL CODE REGULATIONS  
REFER TO COUNTER HEIGHTS IN ARCHITECTURAL MILLWORK DETAILS FOR COUNTER-MOUNTED SINK ROUGH-INS

2" MIN. SIZE UNDER SLAB DRAIN.  
2" OR LESS DRAIN @ 1/2" DROP  
4" @ 1/4"  
ALL FLOOR DRAINS WITH P-TRAP-PRIMERS  
ALL VTR'S 10'-0" MIN. FROM ANY FRESH AIR INTAKE

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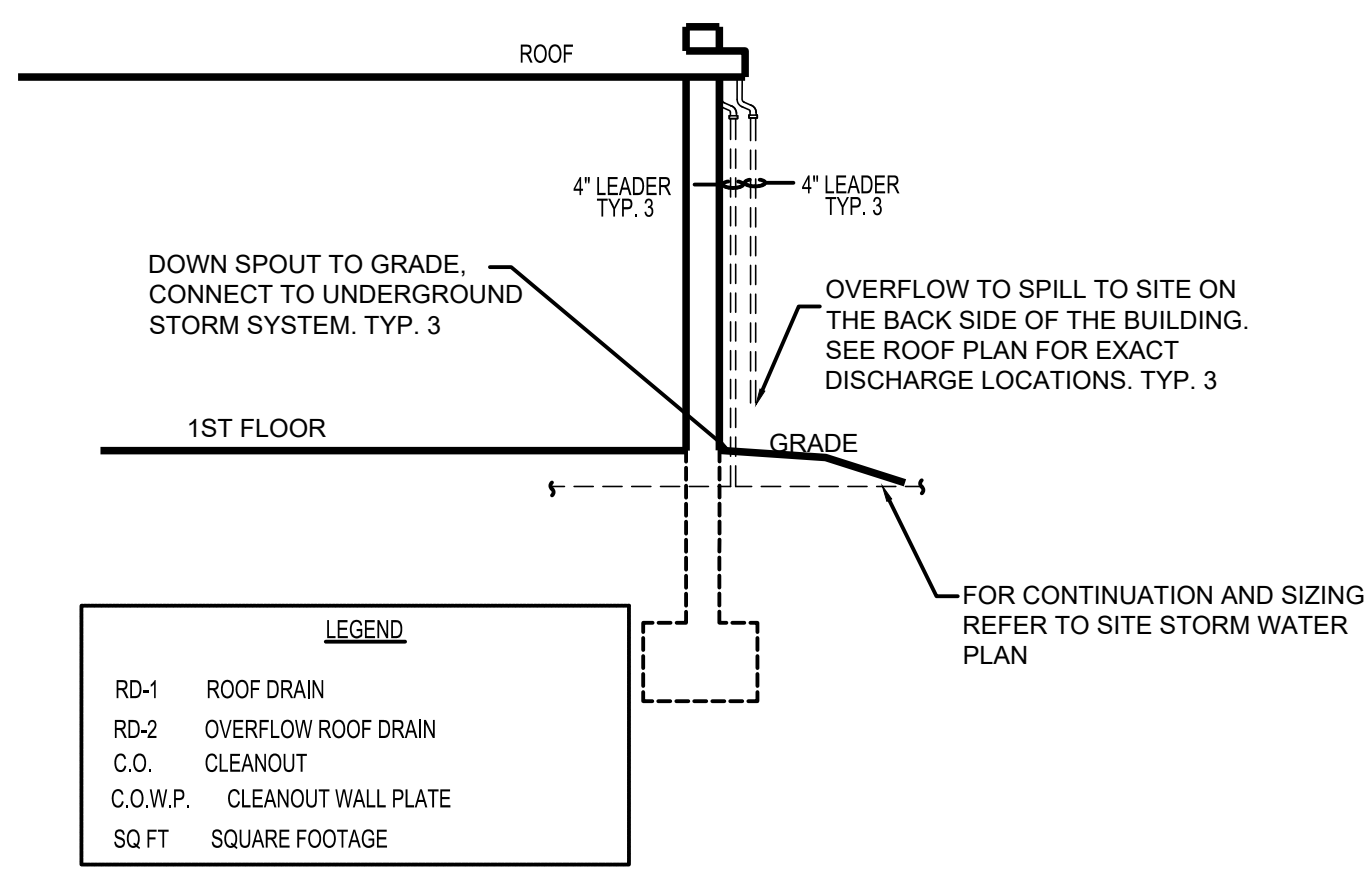
PROFESSIONAL SEAL  
COLORADO LICENSED PROFESSIONAL ENGINEER  
55536  
6/8/2020

**1 SANITARY PLUMBING PLAN**  
scale: 1/8"=1'  
NORTH

Project Number: 2019.13  
Scale: AS NOTED  
Drawn By: ATE  
Approved By: JCAA

Drawing Name: **SANITARY PLUMBING PLAN**

Drawing Number: **P-400**



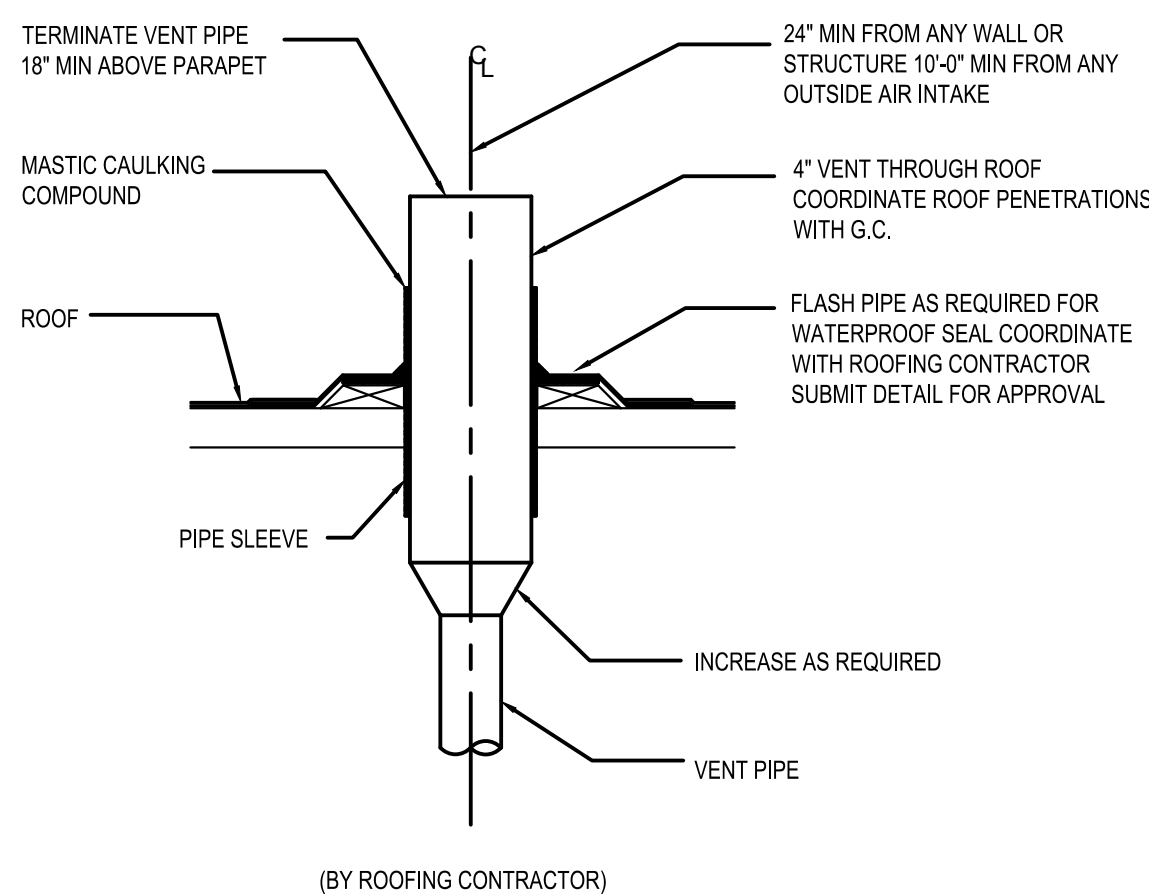
**3 STORM RISER DIAGRAM**  
scale: N.T.S.

**STORM CALCULATIONS**  
(WILL VARY BY STATE AND APPLICABLE CODES)

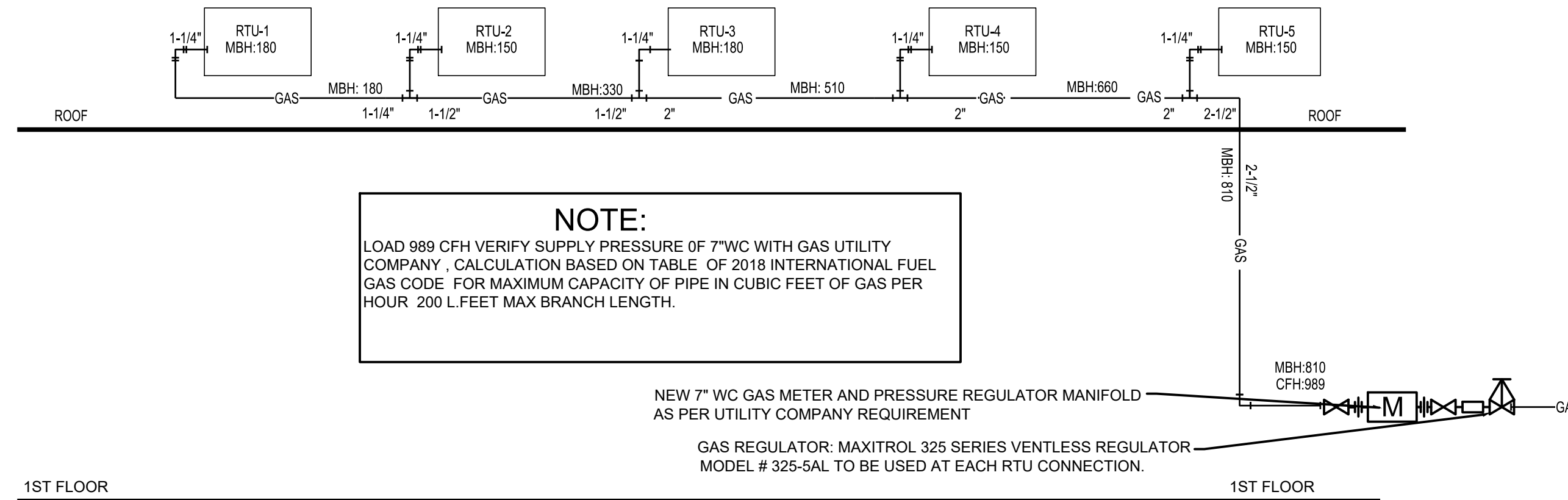
**GUTTERS & DOWNSPOUTS**

SLOPED ROOF TOTAL AREA IS 9,461 SF  
 1 @ 3400 SF (88 GPM)  
 1 @ 2211 SF (58 GPM)  
 1 @ 3850 SF = (100 GPM)

- RATE OF RAINFALL FOR THE AREA IS 2-1/2" PER HOUR
- 2-1/2" / 60 x .6234 x 9461 SF = 246 GPM
- ROOF DRAINAGE SIZED PER CHAPTER 11 OF THE 2018 IPC, TABLE 1106.2, OR BY THE PLUMBING CODE PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION.

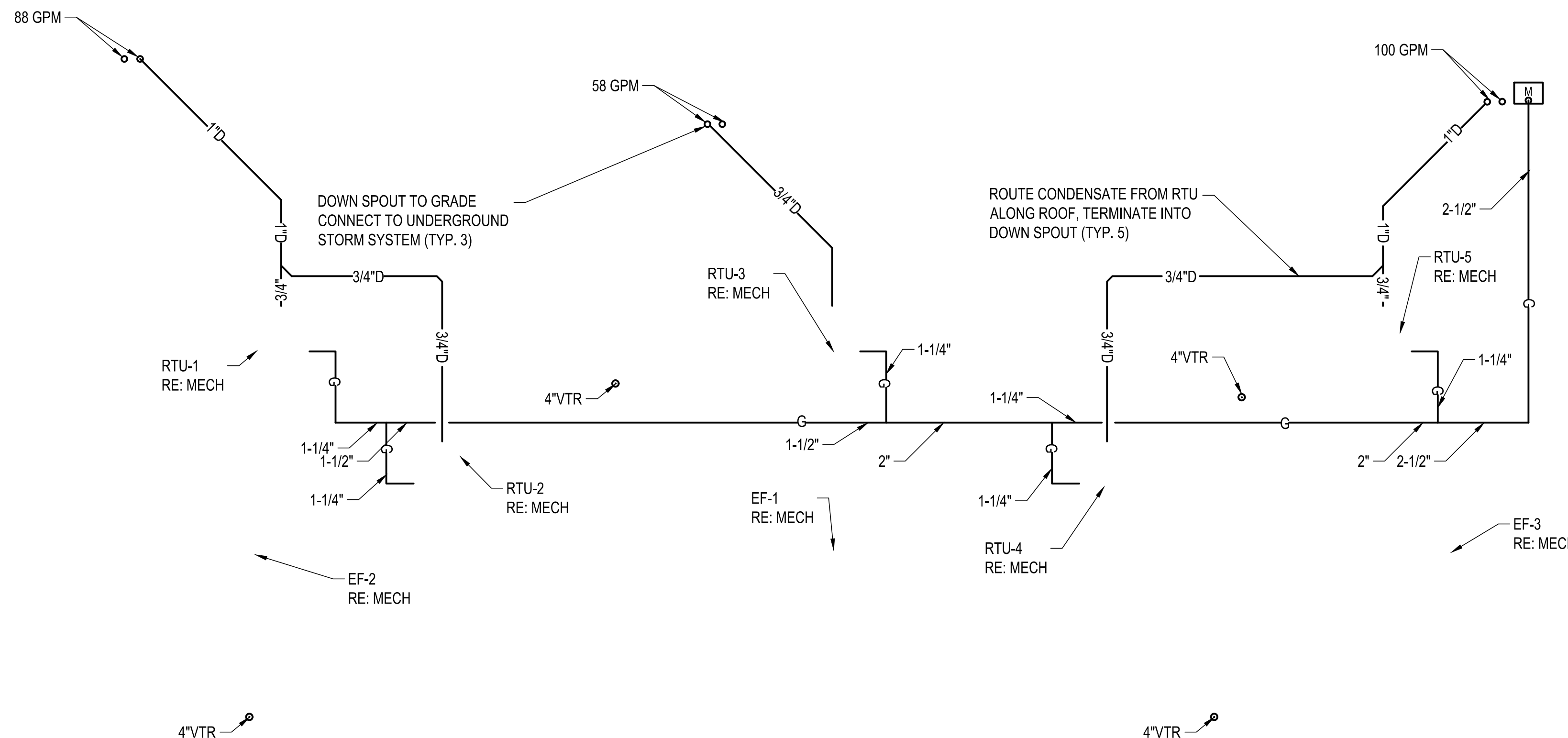


**4 VENT PIPE AT ROOF PENETRATION**  
scale: N.T.S.



**NOTE:**  
LOAD 989 CFH VERIFY SUPPLY PRESSURE OF 7"WC WITH GAS UTILITY COMPANY. CALCULATION BASED ON TABLE OF 2018 INTERNATIONAL FUEL GAS CODE FOR MAXIMUM CAPACITY OF PIPE IN CUBIC FEET OF GAS PER HOUR. 200 L.FEET MAX BRANCH LENGTH.

**2 GAS RISER DIAGRAM**  
scale: N.T.S.



**NOTES:**  
 1. 2-1/2" RAINFALL RATE PER HOUR WAS USED FOR DESIGN  
 2. REFER TO CIVIL FOR SITE DRAINAGE

**1 STORM PLUMBING PLAN**  
scale: 1/8"=1'



1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY.  
 2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.  
 3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.

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| 04.10.2020 |      | FINAL REVIEW SET |      |
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| NO. | DATE       | DESCRIPTION        | INT. |
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| 1   | 06.02.2020 | PWSD CITY COMMENTS |      |



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| Project Number:<br>2019.13                  | Scale:<br>AS NOTED   |
| Drawn By:<br>ATE                            | Approved By:<br>JCAA |
| Drawing Name:<br><b>STORM PLUMBING PLAN</b> |                      |
| Drawing Number:<br><b>P-500</b>             |                      |

**CONNECTED GAS LOAD SCHEDULE**

| SYMBOL | BTU     | MBH | CFH             |
|--------|---------|-----|-----------------|
| RTU-1  | 180,000 | 180 | 220             |
| RTU-2  | 150,000 | 150 | 183             |
| RTU-3  | 180,000 | 180 | 220             |
| RTU-4  | 150,000 | 150 | 183             |
| RTU-5  | 150,000 | 150 | 183             |
|        |         |     | TOTAL CFH = 989 |

JCAA BASIS OF DESIGN 7" WC @ 200' OF DEVELOPED LENGTH

PERMIT / BID SET - 05.08.2020

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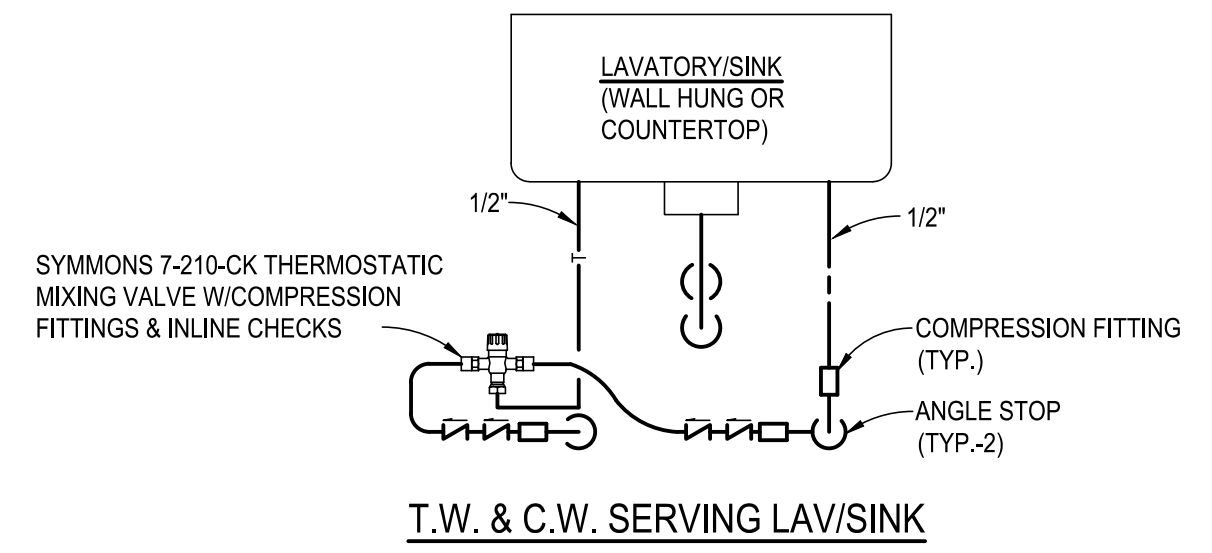
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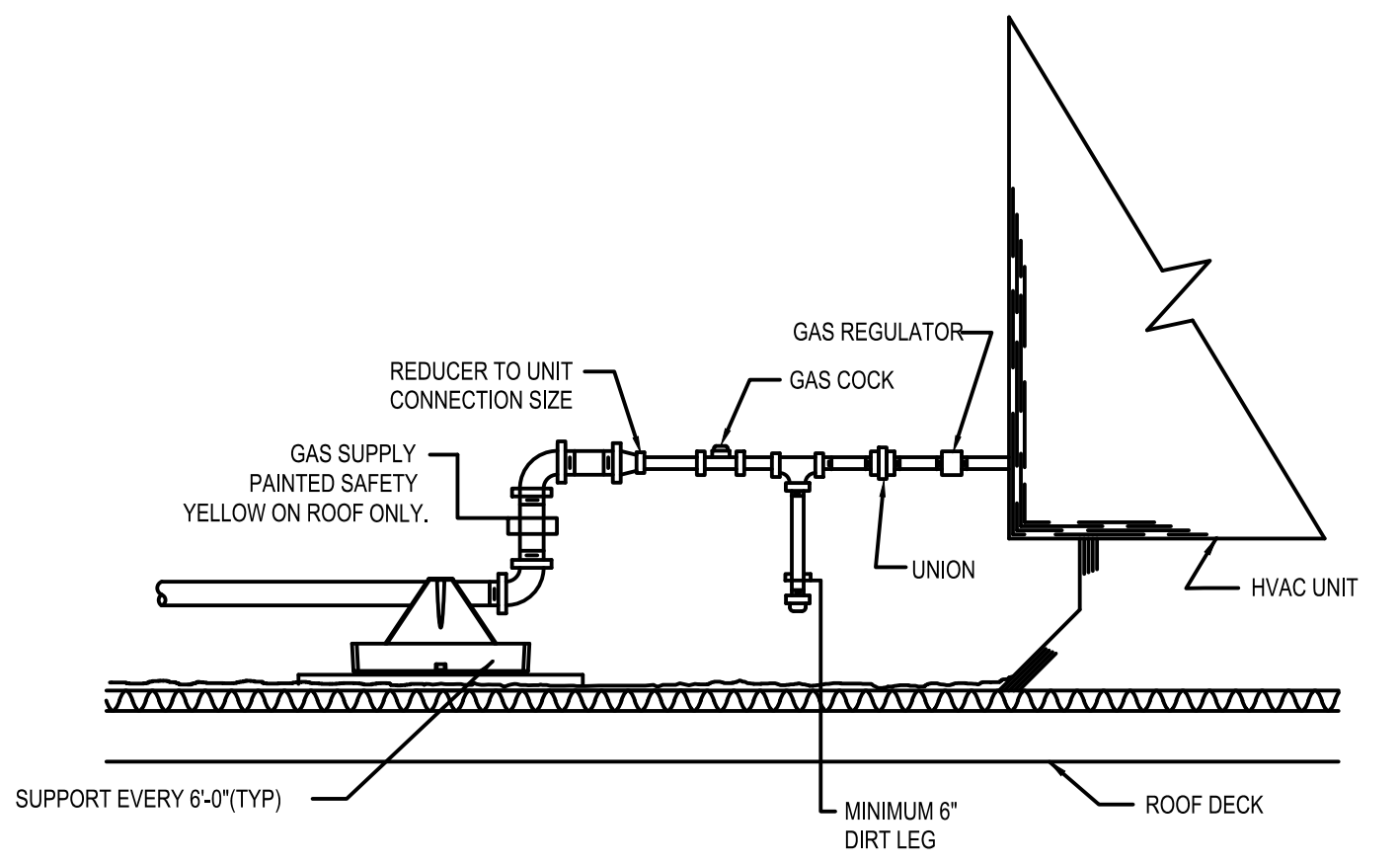
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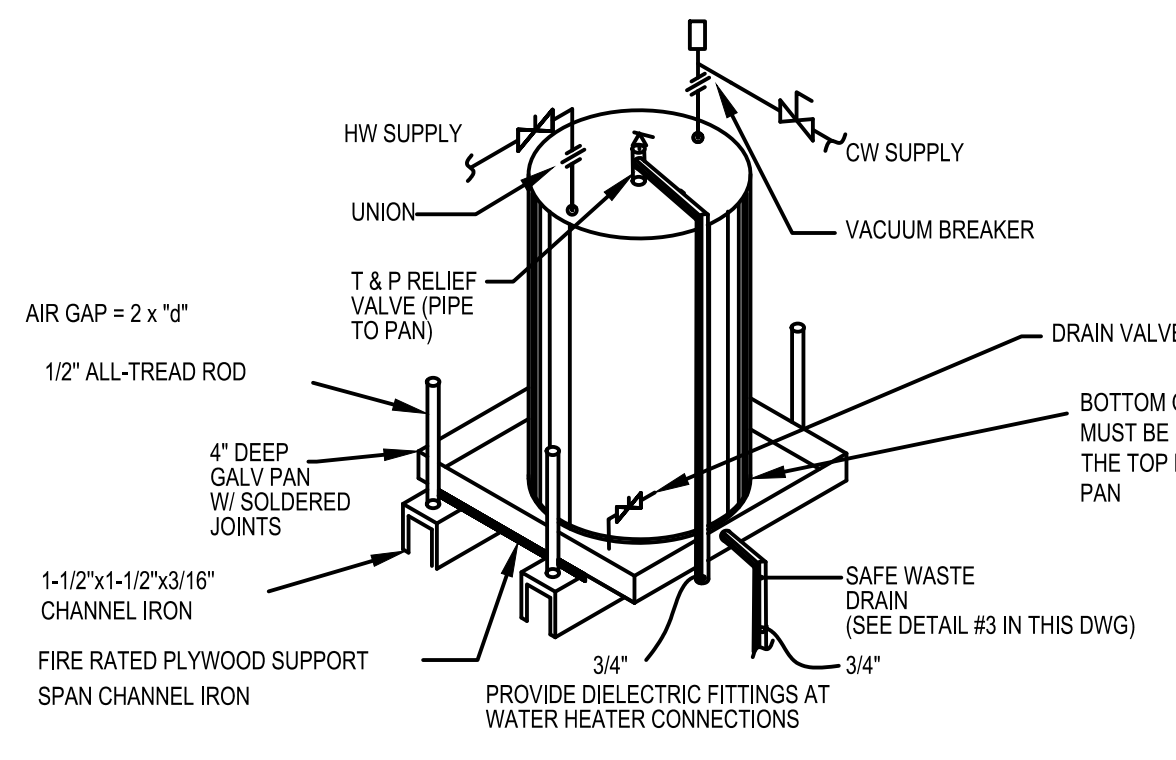
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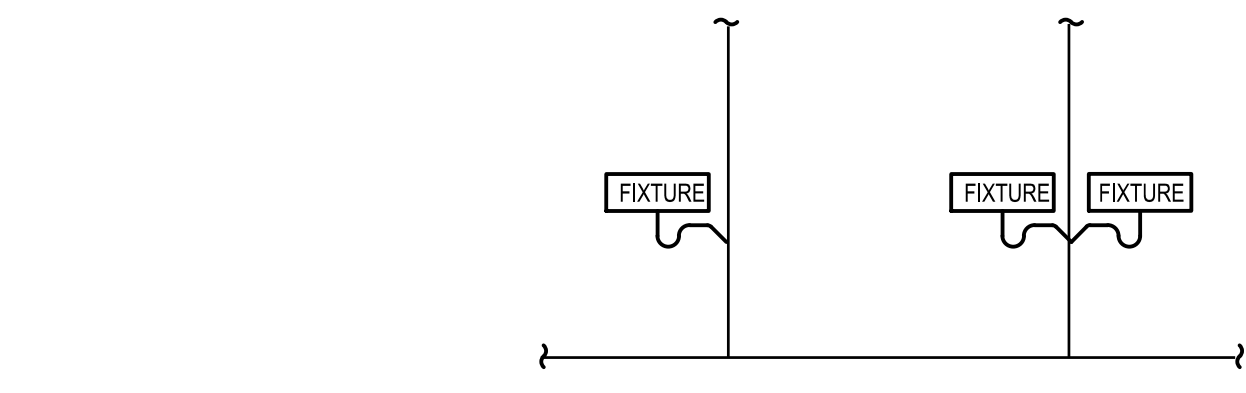
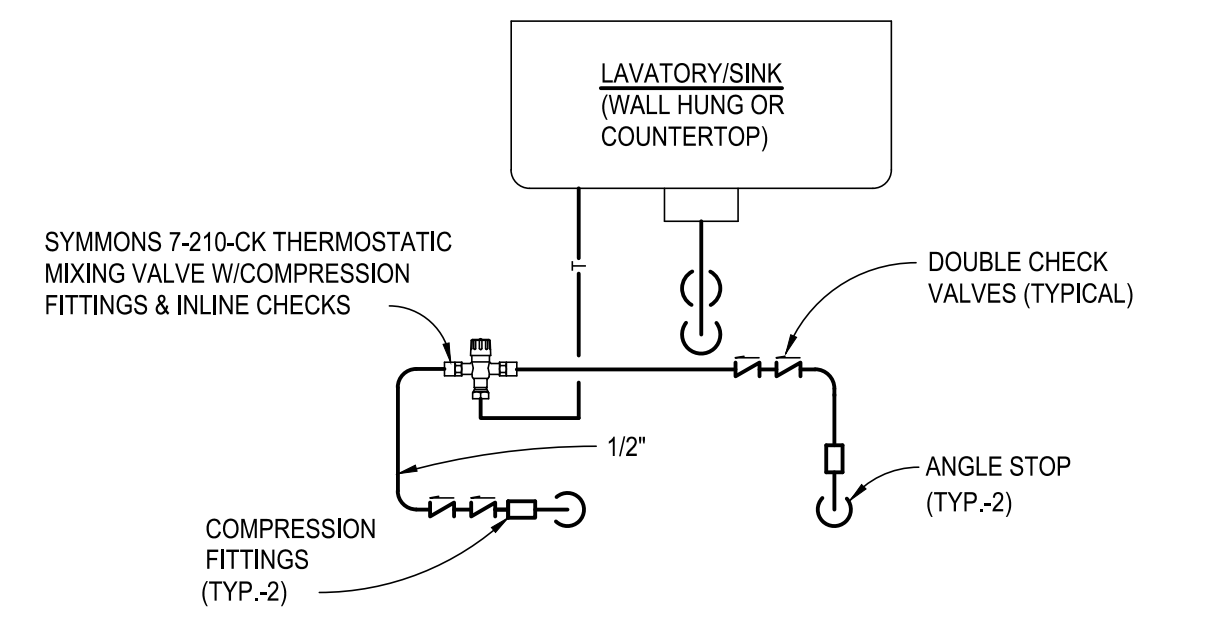
**11 MIXING VALVE DETAIL**  
scale: N.T.S.



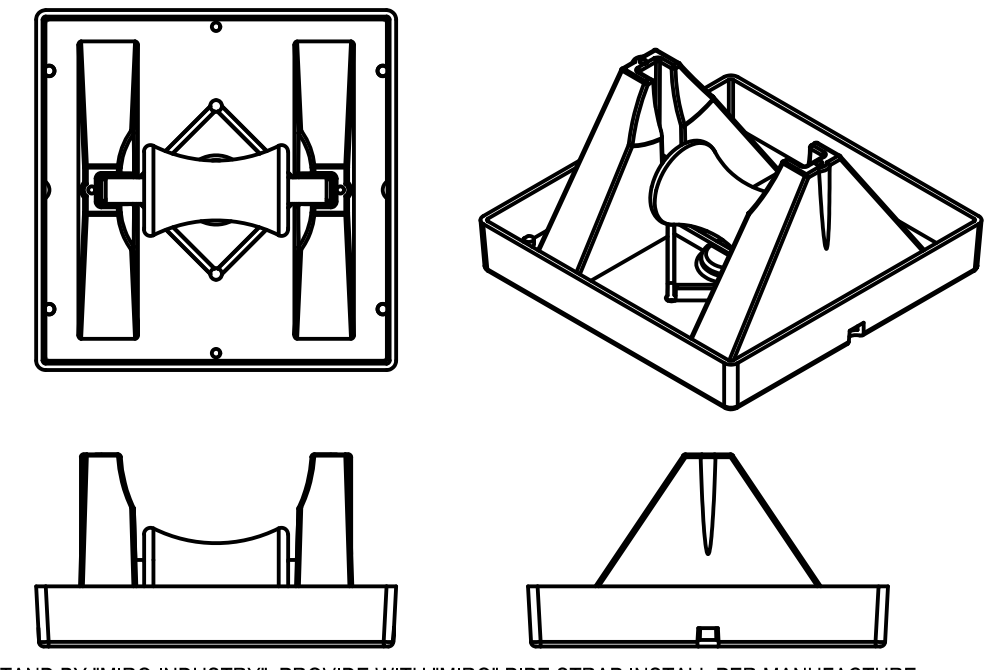
**5 GAS PIPE ON ROOF DETAIL**  
scale: N.T.S.



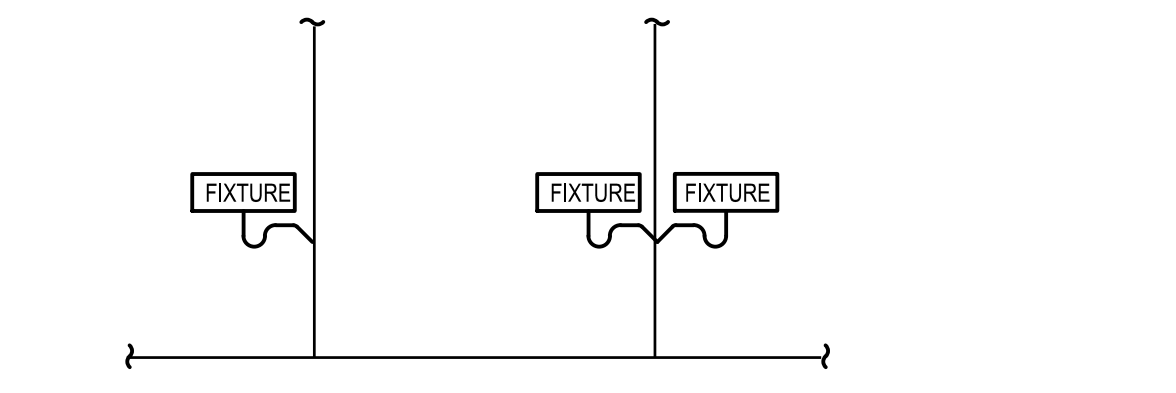
**4 JANITOR CLOSET EWH-2 WATER HEATER DETAIL**  
scale: N.T.S.



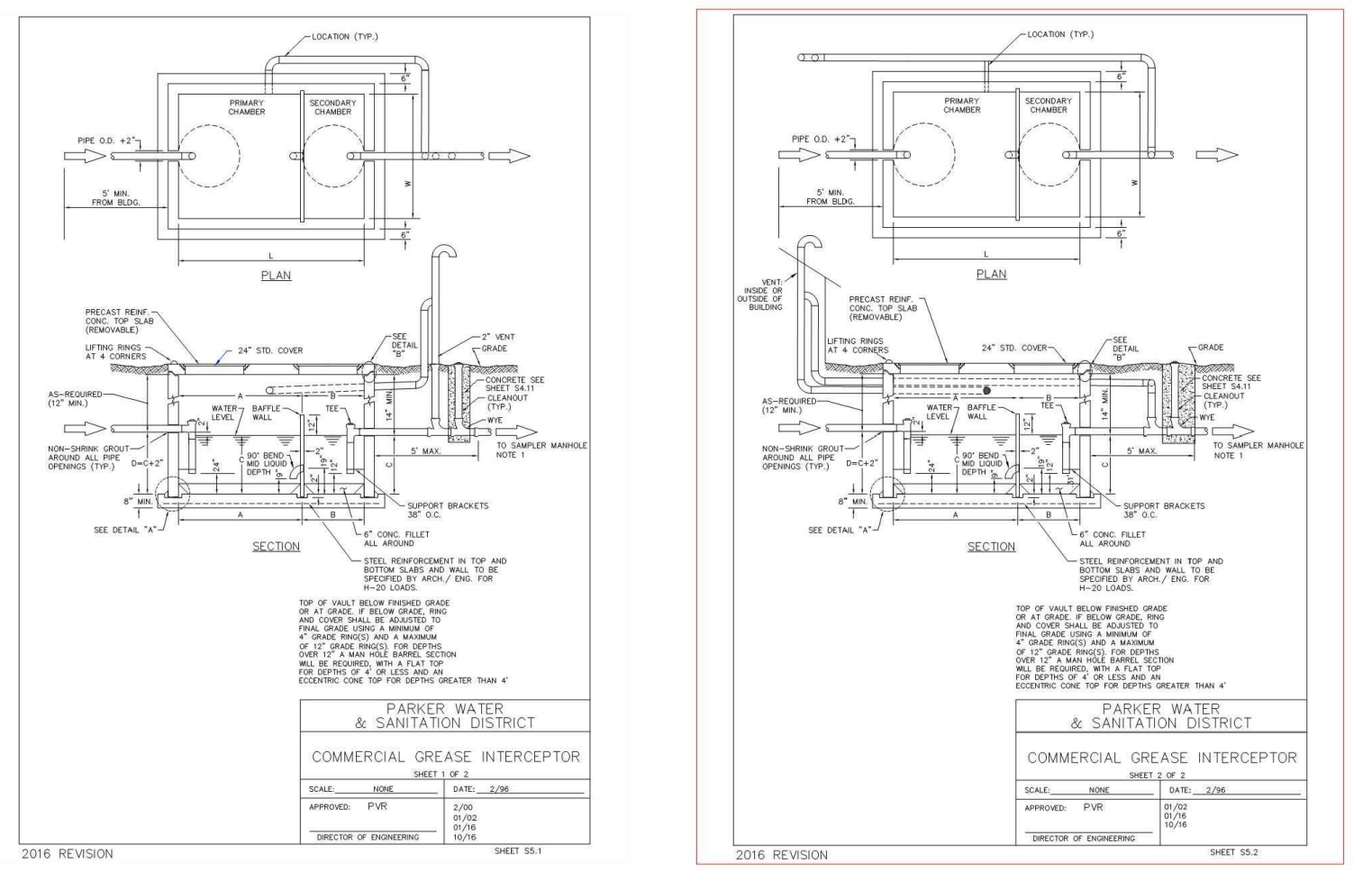
**3 PLUMBING FIXTURES SANITARY CONNECTION DETAIL**  
scale: N.T.S.



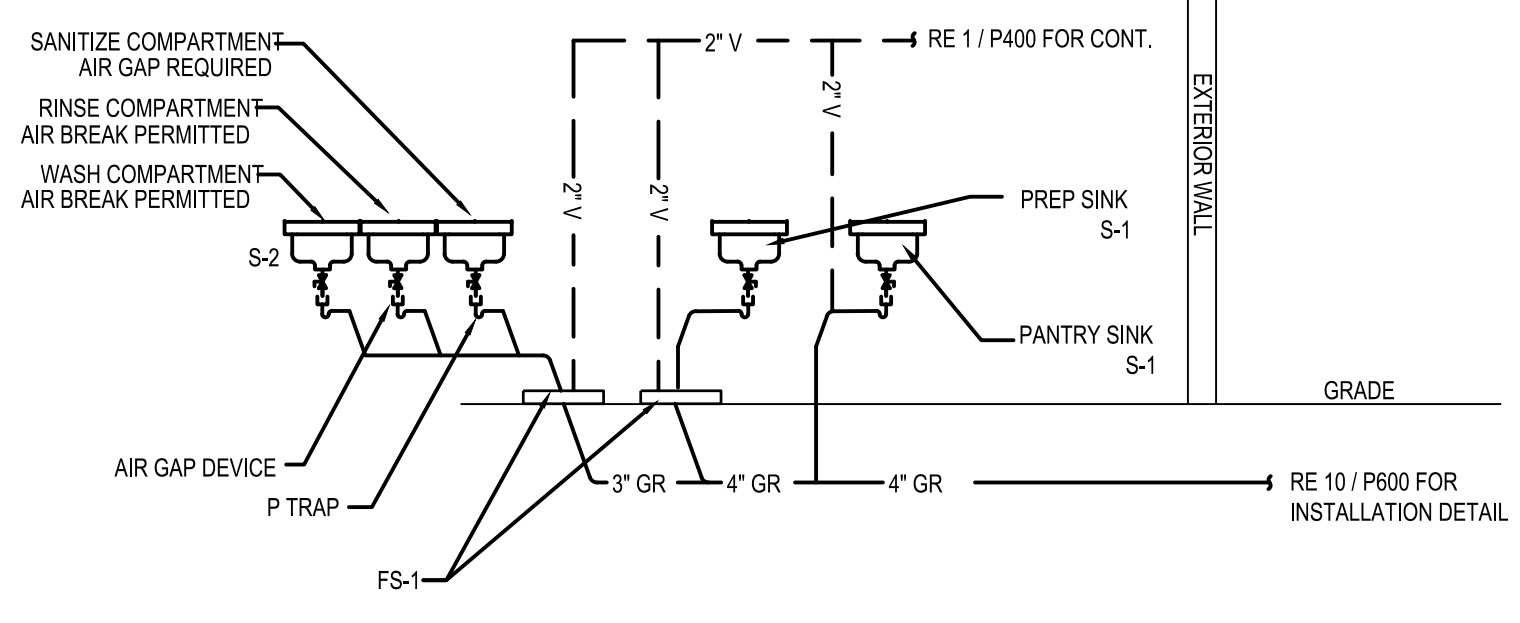
**6 GAS PIPE SUPPORT DETAIL**  
scale: N.T.S.



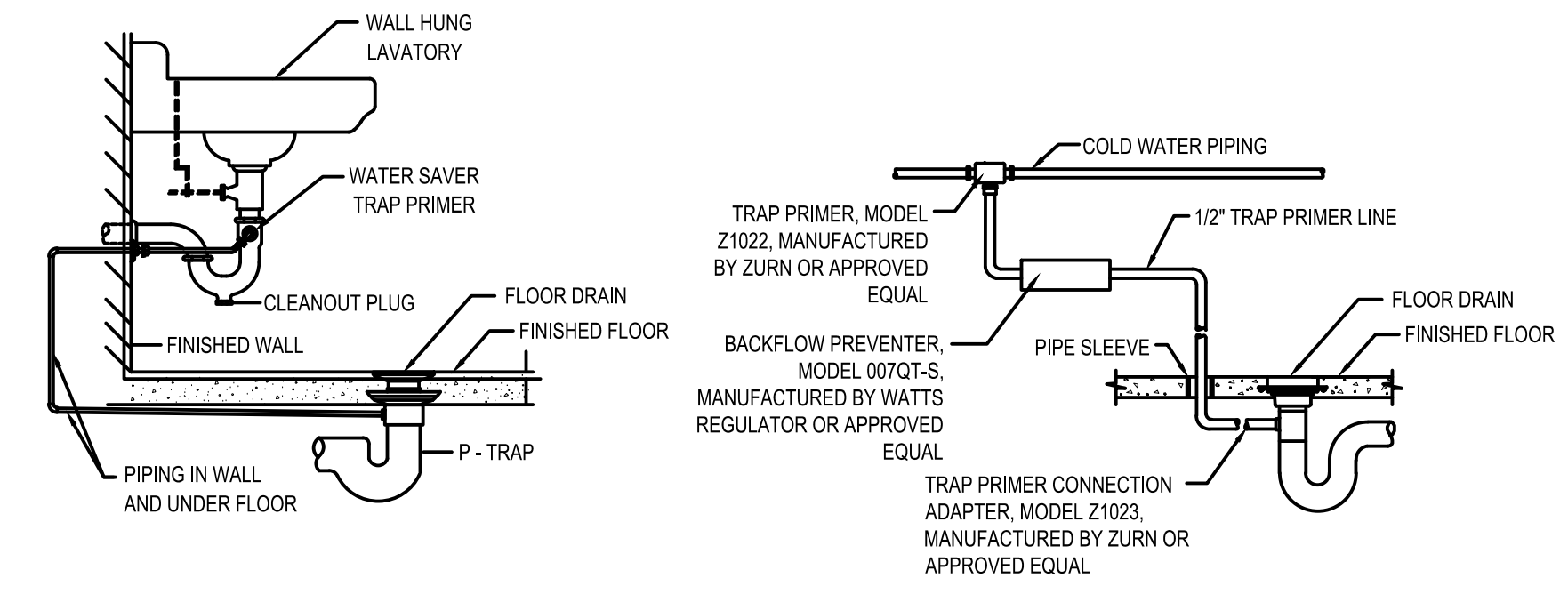
**2 FOUNDATION WALL PIPE PENETRATION**  
scale: N.T.S.



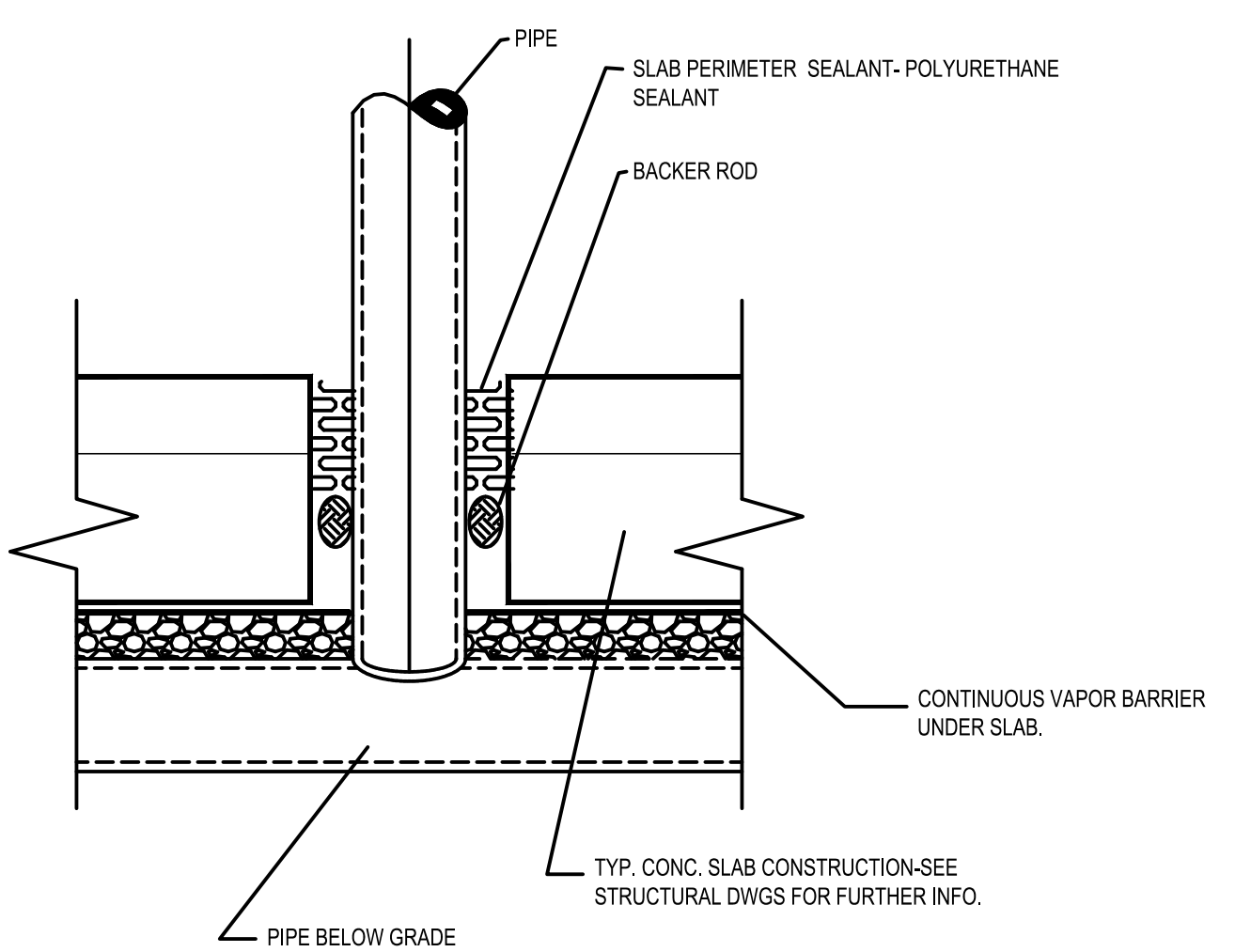
**10 1250 GREASE INTERCEPTOR DETAIL**  
scale: N.T.S.



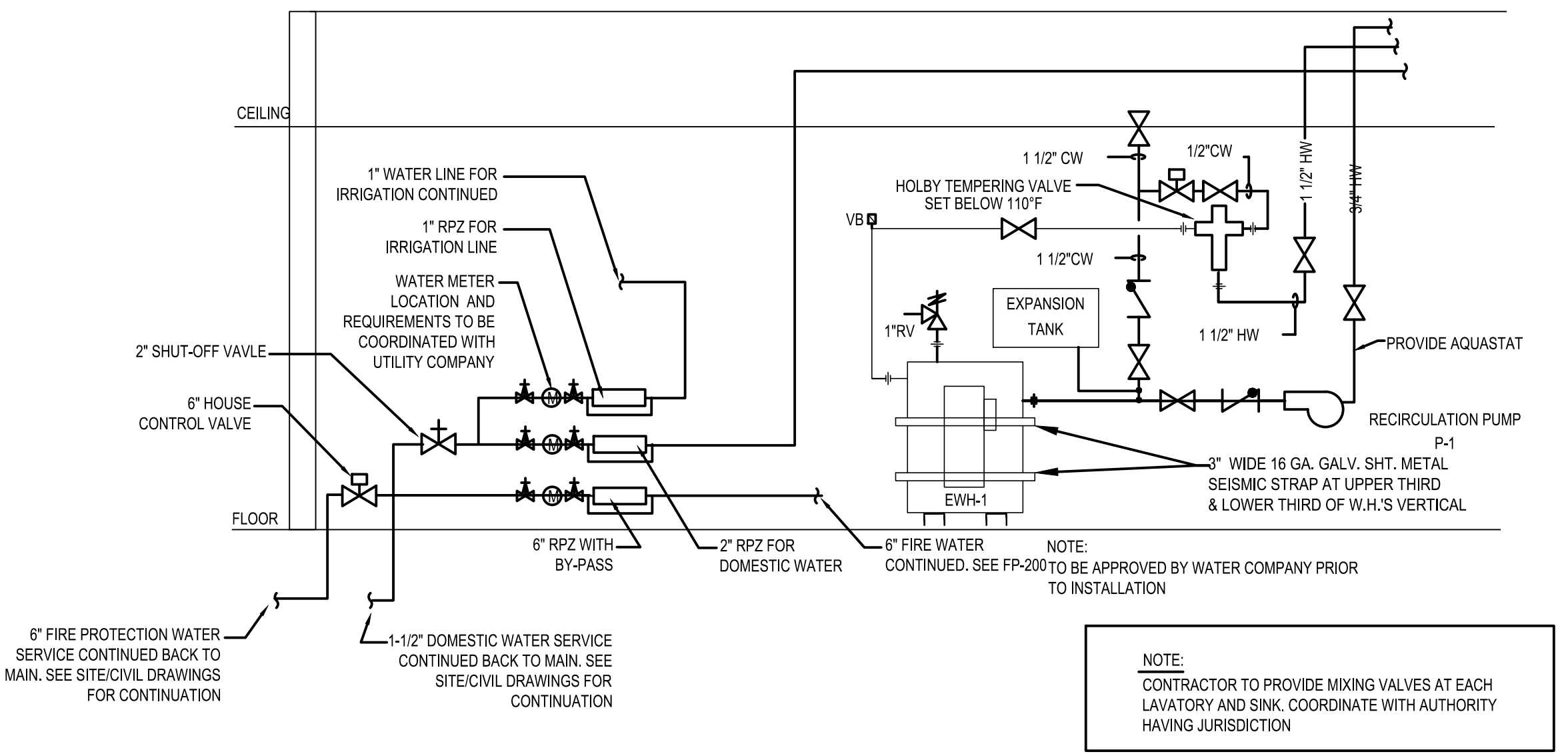
**7 GREASE TRAP PIPING DETAIL**  
scale: N.T.S.



**9 TRAP PRIMER DETAIL**  
scale: N.T.S.



**8 PIPE @ SLAB PENETRATION**  
scale: N.T.S.



**1 MECHANICAL ROOM DETAIL**  
scale: N.T.S.

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**PLUMBING DETAILS**

Project Number: 2019.13  
Scale: AS NOTED

Drawn By: ATE  
Approved By: JCAA

Drawing Name: **PLUMBING DETAILS**

Drawing Number: **P-600**

6/8/2020

1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY.

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|----------------------------|----------------------|
| Project Number:<br>2019.13 | Scale:<br>AS NOTED   |
| Drawn By:<br>ATE           | Approved By:<br>JCAA |

Drawing Name:  
**PLUMBING DETAILS**

Drawing Number:  
**P-601**

**2 SAMPLING MANHOLE DETAIL**  
scale: N.T.S.

**1 1-1/2" WATER ENTRY DETAIL**  
scale: N.T.S.

PERMIT / BID SET - 05.08.2020