

INSTRUCTIONS FOR INFORMAL BIDS & LETTER CONTRACTS

Idaho Code §67-5711C, as amended, authorizes the use of informal bids for projects with a written cost estimate of greater than \$25,000 but less than \$100,000. This provision requires awarding of a contract to the low responsible bidder after soliciting bids from at least three properly licensed contractors. Minimum requirements include the following:

1. Adequate public notice given at least seven (7) days prior to bid opening. Such notice may be publication in a newspaper or trade journal in the work area and by notifying persons believed to be interested.
2. Informal bids must be submitted in writing.
The bidder must submit along with his bid an affidavit certifying his compliance with Idaho Code, §72-1717, requiring that the contractor and his subcontractors at the time of bid provide a drug-free workplace program and to maintain such program throughout the duration of the contract. (See attached sample affidavit.)
3. Bid shall be in response to a prepared written document describing the project's scope of work.
4. Bids must be documented in the project file.

The extent of written documents including plans and specifications may vary depending on the complexity of the work. The intent of the informal process is to reduce the amount of documentation and lengthy procedures inherent in the formal bidding and construction process. To be successful, the process should minimize the procedures but retain the appropriate safeguards to assure adequate performance. Basic minimal requirements for informal documents would include the following:

1. Adequate public notice shall be provided, such as an invitation to bid published in a newspaper or trade journal. Notifying interested bidders should always be done, but should be in addition to the invitation, rather than in lieu of it.
2. A prepared bid form with blank spaces to fill in the amount of the bid and for name and signature of bidder. If the project includes plumbing; heating, ventilating and air conditioning (HVAC); or electrical work, the form should have the appropriate blank spaces to list the entity (contractor/subcontractor) that will perform the work.
3. Documents should state the requirement that all contractors and subcontractors are to be properly licensed as Idaho Public Works Contractors at the time of bid.
4. Documents should indicate the minimum insurance requirements for the contractor. No actual work should commence until such assurance of minimum coverage is verified.
5. §54-1926 requires performance and payment bonds in the amount of not less than 85% of the contract amount. **ITD requires 100% on all public works projects greater than \$50,000.** A particular form is not mandated. No work on the project may be performed until these bonds are furnished.
6. Informal bids shall be based on provisions of §44-1001 (if federal funds) and §44-1002 (PW), Idaho Code pertaining to the employment of Idaho residents, and §72-1717 Idaho Code requiring an alcohol and drug-free workplace.
7. An amount of time for completion of the work should be stated in the bidding documents and incorporated into the letter contract.
8. Plans and specifications should be sufficiently detailed to clearly define the extent and quality of the work and to allow inspection for confirming the performance. The required amount of detail will vary significantly with the complexity of the project. Reference standards would be adequate in many instances.
9. Code and safety issues should be considered. If appropriate, review and approval by the Division of Building Safety and the State Fire Marshal should be accomplished.
10. A public bid opening at a specific time and place is acceptable but not mandatory. No Bid Bond is required. Because of the informal nature, most irregularities in the bids can be waived.

Documentation of the receipt of bids is to be placed in the project file. Retention of all the bids is desirable.

11. After evaluating the bids, a letter contract should be issued. It should include a date to proceed, a date to complete the work, and the total contract amount or terms. **[Note: If the letter contract is issued to a natural person age 18 or older (i.e. an individual rather than a corporation, partnership or other legal entity then the issuing agency is required by Idaho Code §67-7903 to verify that the person is either a US citizen or legal resident. The recommended procedure for verification of lawful presence is attached as an appendix to these instructions.]**
12. In most cases, only one total payment should be made after the final completion and acceptance of the work. If more than one payment is deemed necessary or desirable, the bidding documents and the letter contract should address the terms and conditions for partial payments. The documents should also allow the State of Idaho, Idaho Transportation Department, to deduct an appropriate amount from the payment for unacceptable performance or failure to complete on time. Reasonable judgment should be used in deductions from payments. Specific liquidated damages typically will not be employed in informal bidding.
13. Changes (i.e. change orders) to letter contracts should be in the form of an additional letter clearly indicating the scope of the change and any adjustment in contract amount and/or time.
14. Careful evaluation and acceptance of the work should be accomplished prior to authorizing payment. The person responsible for this task should be determined and documented prior to issuing the letter contract. In some cases, the designer may not be contracted to perform construction and acceptance service.
15. Generally, informal bid contracts will not require the typical closeout documents or requirement for the designer or contractor to provide services after final payment.

State agencies using other than Permanent Building Funds for projects with a written cost estimate less than \$100,000 are to follow the requirement set forth in Idaho Code §67-5711C for informal bidding. However, these projects do not come under the administrative authority of the department of administration nor approval by the Permanent Building Fund Advisory Council. Idaho Transportation Department may request, and the Administrator may accept the administration of such projects.

Projects with a written cost estimate of less than \$25,000 do not have any specific requirements for their implementation. Common sense and good judgment should be used if such a project is to be accomplished. Competitive selection should be used where appropriate.

Projects that are more than \$25,000 and less than \$100,000 may utilize the formal bidding process with full plans and specifications, if desired. This provides a more structured construction process.

Project Manual

**IDAHO TRANSPORTATION DEPARTMENT
State Of Idaho
ITD Project No. FM82506
Project Title: D8 – Shop Plumbing Upgrade**

Informal Bid

for the

Idaho Transportation Department
11331 W. Chinden Blvd., Bldg. 8
Garden City, ID 83714

Date 03/11/2025

ADVERTISEMENT FOR BIDS

In accordance with Idaho Code 67-5711, The Idaho Transportation Department will accept sealed bids for Project FM82506. Bids packets will be accepted at the Idaho Transportation Department at 11331 W Chinden Blvd., Bld. 8, Boise, Idaho 83714, **until 2:59:59 p.m. local time on March 26th, 2025**, according to the Bid Package Schedule deadline. A public bid opening will be held at the Idaho Transportation Department following the closing time for receipt of bids. Bidders and other interested parties are invited to be present at bid opening.

A description of the work is to provide a new water filter, softener, and purification system to the existing ITD Aero facility, also remove current system. Provide labor, equipment, and materials for a complete installation and fully operational system as specified in the drawings and specifications.

The Invitation to Bid package can be found at the following address:

<http://itd.idaho.gov/business/> "Facility Bids" tab.

Associated General Contractors, 1649 W Shoreline Dr., Ste. 100, Boise, ID 83702 (208) 344-2531: <https://www.idahoagc.org/plan-room>

A pre-bid conference will be held on Wednesday, March 19th, 2025, 9:30 AM (MST) at 2666 S. Eagleson Road, Boise, Idaho, 83705. Bidders are encouraged to attend.

Idaho Public Works license is required at the time of bid opening for all work on this project. Bid Bonds are not required. Performance bonds are required for all contracts with an estimated value of \$50,000 or more. Payment bonds are required for all projects where subcontractors are utilized.

For questions contact Alex Plew, Idaho Transportation Department Facility Management Contracting Officer, (208) 334-8411 or alex.plew@itd.idaho.gov

03/10/25

REQUEST FOR INFORMAL BIDS

ITD Project No. FM82506

D8 – Shop Plumbing Upgrade

Idaho Transportation Department
District #8
Boise, Idaho

The State of Idaho, Idaho Transportation Department, will receive informal bids for the above project at 11331 W. Chinden Blvd., Boise, ID 83714 until 3:00 pm local time on March 26th, 2024. Formal Bid Opening is not required. Bidders will be notified of final bid results via email and final bid results will be posted to the Idaho Transportation Department's public web site at <http://itd.idaho.gov/business/> "Facility Bids" tab.

A description of the work is to provide a new water filter, softener, and purification system to the existing ITD Aero facility, also remove current system. Provide labor, equipment, and materials for a complete installation and fully operational system as specified in the drawings and specifications.

An on-site inspection of the project will be held 03/19/2025 at 9:30 AM with:

Alex Plew, Facility Management Contracting Officer
2666 S Eagleson Road, Boise, Idaho, 83705
Phone: 208-334-411

Informal bids shall be based on provisions of §44-1001 and §44-1002, Idaho Code pertaining to the employment of Idaho residents, and §72-1717, Idaho Code requiring an alcohol and drug-free workplace.

The contractor will be required to maintain Contractors Liability Insurance to include Workman's Compensation (statutory), Employers Liability (\$100,000 minimum) and Comprehensive General Liability (minimum of \$500,000 combined single limits for bodily injury and property damage). A certificate of insurance will be required prior to any work being done.

The contractor will be required to coordinate his work with Dan Conner.

All work is to be accomplished within 90 calendar days from receipt of a Notice to Proceed. Failure to perform the work within this established time period will be grounds for withholding an appropriate amount of the compensation as damages for the delay.

A Public Works Contractors License for the State of Idaho is required to bid on this work.

The Contractor agrees to pay all state sales and use taxes.

Performance bonds are required for all contracts with an estimated value of \$50,000 or more. Payment bonds are required for all projects where subcontractors are utilized.

In the event it becomes necessary to revise any part of the bid documents, addenda will be issued. Information given to one bidder will be available to all other bidders if such information is necessary for purposes of submitting a bid or if failure to give such information would be prejudicial to uninformed bidders. It is the bidder's responsibility to check for addenda prior to submitting a bid. A bidder is required to acknowledge receipt of all addenda by identifying the addenda numbers in the space provided on the bid

proposal form. Failure to do so may result in the bid being declared non-responsive. No addenda will be issued less than four (4) calendar days before the closing date unless the bid closing date is extended.

BID FORM: Bids must be submitted on the bid proposal forms, or copies of forms, furnished by the Owner or the design professional. Bids submitted must contain all original signatures in ink on the following forms:

- **Bid Proposal Form**
- **Contractor's Affidavit Concerning Alcohol and Drug-Free Workplace**
- **Bidder's Acknowledgment Statement**
- **Bid Bond (if necessary)**

Plans, specifications, proposal forms and other information are available at:
<http://itd.idaho.gov/business/>

Idaho Transportation Department:
Alex Plew, Facility Management Contracting Officer
11331 W Chinden Blvd.
Boise, ID 83714
(208) 334-8411
Alex.plew@itd.idaho.gov

CSHQA
James Marsh, Principal Architecture
200 Broad Street
Boise, ID 83702
(208) 343-4635
James.Marsh@cshqa.com

INFORMAL BID

Idaho Transportation Department
ITD Project No. FM82506
D8 – Shop Plumbing Upgrade
Boise, ID

The undersigned proposes to do the above work in accordance with the request for informal bids and all drawings and specifications attached thereto.

Bidder acknowledges receipt of Addenda No. _____.
(List all Addenda)

The Bidder agrees to commence work upon receipt of a Notice to Proceed, and to complete the work within 90 calendar days thereafter. Bidder proposes to perform the work for:

Base Bid: A description of the work is to provide a new water filter, softener, and purification system to the existing ITD Aero facility, also remove current system. Provide labor, equipment, and materials for a complete installation and fully operational system as specified in the drawings and specifications.

_____ Dollars (\$_____).

Alternate #1:

_____ Dollars (\$_____).

Dated this _____ day of _____.

Respectfully submitted,

Sub Contractors:

_____ Plumbing

_____ Heating & Air Conditioning

_____ Electrical

(Company Name)

(Business Address)

(Signature)

(Title)

(Telephone Number)

(E-Mail Address)

(Public Works Contractors License No.)

**CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE**

STATE OF _____

COUNTY OF _____

Pursuant to the Idaho Code, §72-1717, I, the undersigned, being duly sworn, depose and certify that _____ is in compliance with the provisions of Idaho Code title 72, chapter 17; that _____ provides a drug-free workplace program that complies with the provisions of Idaho Code, title 72, chapter 17 and will maintain such program throughout the life of a state construction contract and that _____ shall subcontract work only to subcontractors meeting the requirements of Idaho Code, §72-1717(1)(a).

Name of Contractor

Address

City and State

By: _____
(Signature)

Subscribed and sworn to before me this _____ day of _____, _____.

Commission expires:

NOTARY PUBLIC, residing at

IDAHO CODE CERTIFICATION FORM

Failure to comply with the terms of the referenced Idaho Code may result in breach of contract.



Anti-Boycott Clauses

Per the provisions of Idaho Code §§ [67-2346](#), Anti-Boycott Against Israel Act, and Idaho Code §§ [67-2347A](#), Prohibition on Contracts with Companies Boycotting Certain Sectors the undersigned certifies that it is not currently engaged in and will not for the duration of the contract engage in the following:

- boycott of goods or services from Israel or territories under its control; or
- boycott of any individual or company because the individual or company engages in or supports the exploration, production, utilization, transportation, sale, or manufacture of fossil fuel-based energy, timber, minerals, hydroelectric power, nuclear energy, or agriculture; or
- boycott of any individual or company because the individual or company engages in or supports the manufacture, distribution, sale, or use of firearms, as defined in Idaho Code § [18-3302\(2\)\(d\)](#).



Prohibition on Contracts with Companies Owned or Operated by the Government of China

Idaho Code, §§ [67-2359](#) states "a public entity in this state may not enter into a contract with a company to acquire or dispose of services, supplies, information technology, or construction unless the contract includes a written certification that the company is not currently owned or operated by the government of China and will not for the duration of the contract be owned or operated by the government of China". Company certifies that it is not owned or operated by the government of China.



By signing below, I certify that this company understands and will comply with the aforementioned requirements

Signature of Company's authorized representative:

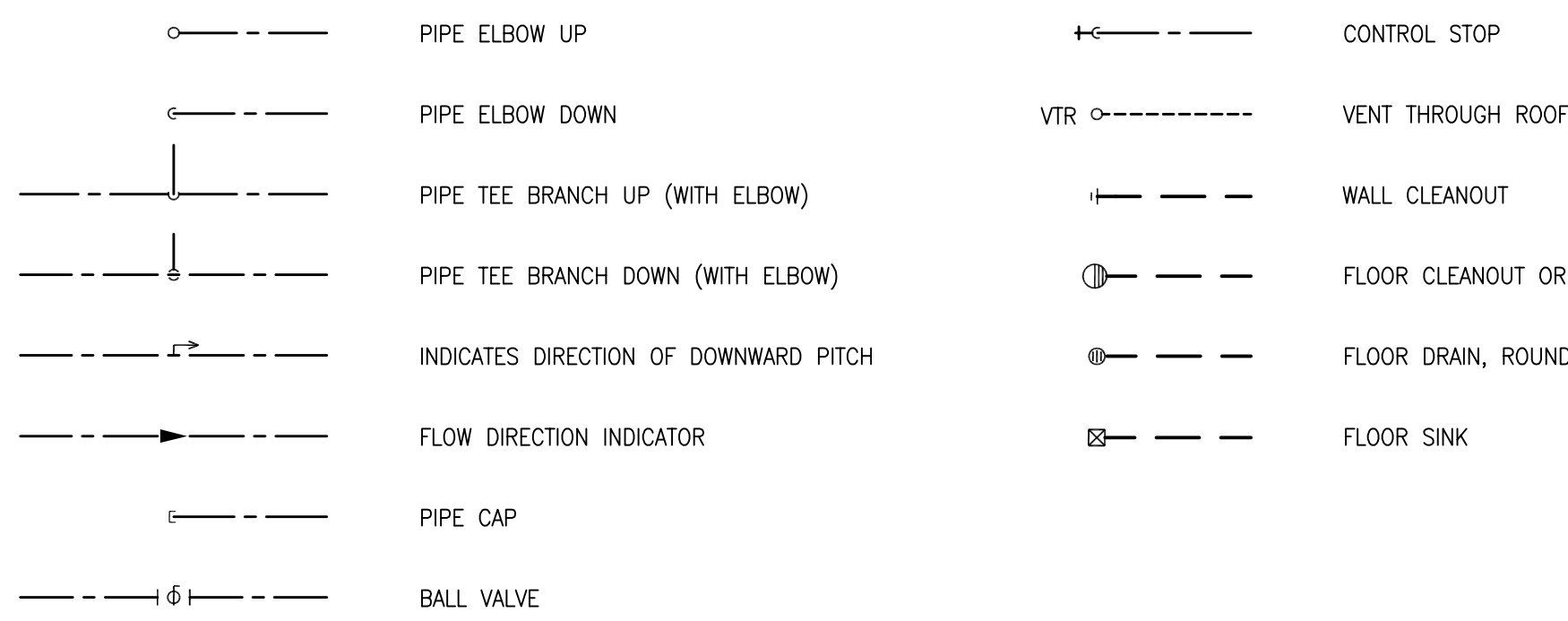
Signature

Company Name

PLUMBING ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	IN WC	INCHES OF WATER COLUMN
AG	AIR GAP	ISPC	IDAHO STATE PLUMBING CODE
BFP	BACKFLOW PREVENTER	LAV	LAVATORY
CD	CONDENSATE DRAIN	MIN	MINIMUM
CO	CLEANOUT	NC	NORMALLY CLOSED
CW	COLD WATER	NO	NORMALLY OPEN
(D)	DEMOLISH	NTS	NOT TO SCALE
DWG	DRAWING	PSF	POUNDS PER SQUARE FOOT
(E)	EXISTING	PSI	POUNDS PER SQUARE INCH
ET	EXPANSION TANK	RE	REFERENCE
F	FAHRENHEIT	SCW	SOFT COLD WATER
FCO	FLOOR CLEANOUT	SS	SANITARY SEWER
FD	FLOOR DRAIN	TYP	TYPICAL
FS	FLOOR SINK	V	VENT
GPM	GALLONS PER MINUTE	VBF	VENT BELOW FLOOR
HW	HOT WATER	VTR	VENT THROUGH ROOF
HWR	HOT WATER RETURN	WC	WATER CLOSET
		WCO	WALL CLEANOUT
		WH	WATER HEATER
		WS	WATER SOFTENER

PLUMBING PIPING SYMBOLS

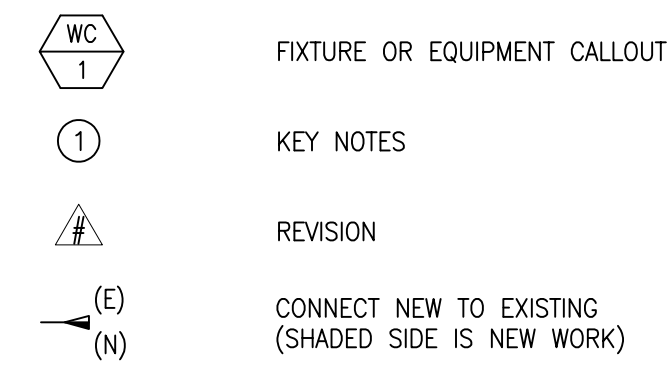


PLUMBING LINETYPE LEGEND

NOTE: SUFFIX (E) IN CONJUNCTION WITH LIGHTER SHADING INDICATES EXISTING PIPE OR EQUIPMENT. (TYPICAL OF ALL EQUIPMENT AND PIPING).

NEW	EXISTING	TO BE DEMOLISHED	
---	---	////	DOMESTIC COLD WATER
---	---	////	SOFT COLD WATER
---	---	////	DOMESTIC HOT WATER
---	---	////	DOMESTIC HOT WATER RETURN
---	---	////	PLUMBING EQUIPMENT
---	---	////	SANITARY SEWER (BELOW GRADE)
---	---	////	SANITARY VENT

PLUMBING ANNOTATION SYMBOLS



PLUMBING SHEET INDEX

P001	PLUMBING PLAN
P011	PLUMBING SCHEDULES AND DETAILS
PS	PLUMBING SPECIFICATIONS

PLUMBING GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE CODES, LOCAL CODES, LOCAL STANDARDS, IBC, IPC, NFPA, AND THE LANDLORD'S AND TENANT'S REQUIREMENTS INCLUDING SUPPLEMENTS AND DETAILS.
- PROVIDE SEAL BETWEEN WALLS AND PLUMBING FIXTURES PER HEALTH DISTRICT REQUIREMENTS.
- COLD AND HOT WATER SUPPLY PIPING SIZES FOR FIXTURE CONNECTIONS ARE NOT SHOWN ON PLANS. SEE FIXTURE SCHEDULE FOR CONNECTION SIZES.
- INSTALL ALL OVERHEAD PIPING AS CLOSE TO STRUCTURE AS POSSIBLE, OR AS DETAILED OTHERWISE.
- LOCATE AND LABEL ALL VALVES FOR SERVICE ACCESSIBILITY. VALVES INSTALLED ABOVE CEILINGS SHALL BE ACCESSIBLE THRU CEILING. SEE DRAWINGS FOR LOCATIONS.
- COORDINATE INSTALLATION WITH THE WORK OF OTHER TRADES PRIOR TO STARTING. IN THE EVENT THAT CONFLICTS ARE FOUND WITH THE WORK OF THE OTHER TRADES, BRING ALL SUCH CONFLICTS TO THE ARCHITECT'S ATTENTION FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK IN THAT AREA. DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS SHALL BE CORRECTED AT NO ADDITIONAL EXPENSE TO OWNER. IMMEDIATELY NOTIFY ARCHITECT OF CONDITIONS IN CONFLICT WITH THE PLANS.
- PROVIDE PIPING EQUIPMENT AND MATERIALS IN ACCORDANCE WITH APPLICABLE PLUMBING CODE, REGULATIONS AND STANDARDS, AUTHORITIES HAVING JURISDICTION, OR AS OTHERWISE RECOMMENDED OR DIRECTED BY MANUFACTURERS.
- COORDINATE INSTALLATION OF PIPING BELOW AND ABOVE GRADE WITH STRUCTURAL COMPONENTS AND OTHER SYSTEM INSTALLATIONS.
- COORDINATE ALL FIXTURES, EQUIPMENT AND ROUGH-IN CONNECTION LOCATIONS AND SIZES WITH ARCHITECTURAL DRAWINGS, OWNER AND EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
- COORDINATE ALL FURRING REQUIREMENTS AND WALL THICKNESS WITH PIPE AND ACCESS PANEL INSTALLATIONS. COORDINATE ACCESS PANEL LOCATIONS WITH INTERIOR ELEVATIONS TO AVOID CONFLICTS WITH EQUIPMENT, GRAB BARS OR DECORATIVE ELEMENTS.
- PROVIDE SEISMIC RESTRAINTS FOR ALL PIPE AND EQUIPMENT AS RECOMMENDED IN SMACNA "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL EQUIPMENT", LATEST EDITION.
- ALL PIPING SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS UNLESS NOTED OTHERWISE. ALL WALLS IN WHICH WATER OR WASTE LINES ARE INSTALLED MUST BE PATCHED TO MATCH EXISTING AFTER LINES ARE INSTALLED.
- PRIOR TO BIDDING, OBTAIN A COPY OF THE SPECIFICATIONS AND PLANS, VISIT THE JOB SITE, TAKE NECESSARY MEASUREMENTS, NOTE EXISTING CONDITIONS, AND GATHER ALL OTHER INFORMATION NEEDED FOR AN ACCURATE BID. NO ALLOWANCES WILL BE MADE FOR EXTRA COSTS RESULTING FROM FAILURE TO NOTE EXISTING CONDITIONS.
- PIPING PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRESTOPPED IN ACCORDANCE WITH APPLICABLE CODES.
- ALL WORK ON THE PLUMBING DRAWINGS SHALL BE COMPLETED BY THE PLUMBING CONTRACTOR UNLESS SPECIFIED OTHERWISE.
- ANY DISCREPANCIES OR INADEQUACIES BETWEEN THE PLUMBING DRAWINGS AND OTHER DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF OWNER'S REPRESENTATIVE.
- INSTALL ALL PIPING RUNS AS HIGH AS POSSIBLE THROUGHOUT ENTIRE BUILDING. INSTALL LONG RUNS WITH JOIST SPACE AND OTHER PIPING TIGHT TO BOTTOM OF STEEL. COORDINATE WITH OTHER TRADES - DUCTWORK, FIRE PROTECTION, PIPING, LIGHTING SYSTEMS, ETC.
- REFER TO SPECIFICATIONS FOR ALL PIPING MATERIALS AND SERVICES.

SHEET NOTES

- DEMOLISH EXISTING LAVATORY AND WATER CLOSET AS SHOWN SHADED AND REMOVE OFF SITE. CAP THE WASTE PIPING BELOW FLOOR AND THE VENT PIPING ABOVE CEILING CLOSE TO MAIN. PRESERVE THE LAVATORY WASTE AND VENT PIPING FOR REUSE. VERIFY EXACT DEMO REQUIREMENTS IN FIELD PRIOR TO START OF WORK.
- DEMOLISH EXISTING WATER LINE AS SHOWN SHADED AND REMOVE OFF SITE. VERIFY EXACT DEMO REQUIREMENTS IN FIELD PRIOR TO START OF WORK.
- ROUTE INDIRECT WASTE FROM WATER SOFTENER AND DISCHARGE INDIRECT TO ADJACENT APPROVED RECEPTOR. SLOPE AT 1/4" PER FOOT. SIZE WASTE PIPING PER THE MANUFACTURER'S REQUIREMENTS.
- CONNECT NEW WASTE LINE TO EXISTING LAVATORY WASTE LINE STUBBED OUT OF WALL. VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPING IN FIELD PRIOR TO START OF WORK.
- CONNECT NEW WASTE PIPING TO EXISTING LAVATORY WASTE PIPING STUBBED OUTSIDE OF WALL. EXTEND NEW PIPING FROM STUB, TURN 90 DEGREES, AND TERMINATE WITH P-TRAP AND 3" REDUCER FOR WATER SOFTENER. TERMINATE REDUCER IN AN ACCESSIBLE LOCATION NEAR WATER SOFTENER.
- CONNECT NEW WATER PIPING TO EXISTING PIPING. VERIFY EXACT SIZE, LOCATION AND CONNECTION REQUIREMENTS IN FIELD PRIOR TO START OF WORK.
- ROUTE NEW WATER OR GAS PIPING OVERHEAD, COORDINATE ROUTING WITH STRUCTURE AND DUCTWORK LAYOUT PRIOR TO CONSTRUCTION.
- PROVIDE AND INSTALL A COMPLETE WATER SOFTENING SYSTEM FOR WHOLE BUILDING APPLICATION. ROUTE UNSOFTENED CITY WATER TO EXTERIOR WALL MOUNTED HOSE BIBBS, ELECTRIC WATER COOLERS, AND ICE MAKERS ONLY. PROVIDE FOR AND COORDINATE ALL WORK WITH VENDOR'S FACTORY REPRESENTATIVE INCLUDING ALL WATER TESTING AND COMMISSIONING.
- BRINE TANK FURNISHED AND INSTALLED WITH THE WATER SOFTENER.
- SPLIT EXISTING CW OUTLET AT SHUTOFF VALVE SERVING EXISTING COUNTER MOUNTED SINK. ROUTE ONE LINE TO EXISTING SINK FAUCET AND THE OTHER LINE TO THE NEW RO SYSTEM. SIZE WATER LINE SERVING NEW RO SYSTEM PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.
- INSTALL THE NEW RO SYSTEM UNDER SINK IN AN ACCESSIBLE LOCATION PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS. PROVIDE ALL PIPING AND EQUIPMENT FOR A COMPLETE INSTALLATION.
- INSTALL THE RO FAUCET ON THE EXISTING SINK IN THE LOCATION SHOWN. COORDINATE THE EXACT LOCATION WITH THE OWNER PRIOR TO CONSTRUCTION.
- CONNECT IW LINE FROM RO SYSTEM TO EXISTING SINK OUTLET PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.
- INSTALL WF-1 AT 5'-0" AFF TO TOP OF FILTER.
- NEW PLUMBING EQUIPMENT. VERIFY EXISTING RECEPTACLE IS LOCATED WITHIN 6 FEET. IF NECESSARY, FURNISH AND INSTALL RECEPTACLE. INTERCEPT NEAREST CIRCUIT CAPABLE OF ACCEPTING ADDITIONAL LOAD AND EXTEND TO NEW RECEPTACLE. VERIFY GFCI PROTECTION EITHER AT THE RECEPTACLE OR AT THE BREAKER.
- DEMOLISH ALL EXISTING GALVANIZED WATER PIPING FROM THIS POINT DOWN STREAM IN THE ENTIRE PIPING SYSTEM AND REMOVE OFF SITE. REPLACE GALVANIZED PIPING WITH NEW COPPER PIPING PER SPECIFICATION. FURNISH ALL PIPING, FITTINGS, VALVES, TEMPERATURE GAGES, PRESSURE GAGES, AND OTHER ITEMS REQUIRED FOR A COMPLETE INSTALLATION THAT MATCHES THE ORIGINAL PIPING INSTALLATION.
- INSTALL ONE BYPASS AND TWO SHUTOFF VALVES AS SHOWN. OPEN BYPASS VALVE AND CLOSE THE TWO SHUTOFF VALVES DURING CONSTRUCTION TO ALLOW THE SHOP WATER SYSTEM TO CONTINUE OPERATING.



KENT R. ANDERSON, PE
200 BROAD STREET
BOISE, IDAHO
PHONE: 208-343-4635 FAX: 208-343-1668

ITD WATER SUPPLY UPGRADES
BOISE, ID
2666 S EAGLESON

200 BROAD STREET
BOISE, ID 83702
(208) 343-4635 • FAX (208) 343-1668
www.cshqqa.com

PROJECT	DATE
24086	08-16-24
DRAWN	CHECKED
KRA	KRA

REVISED

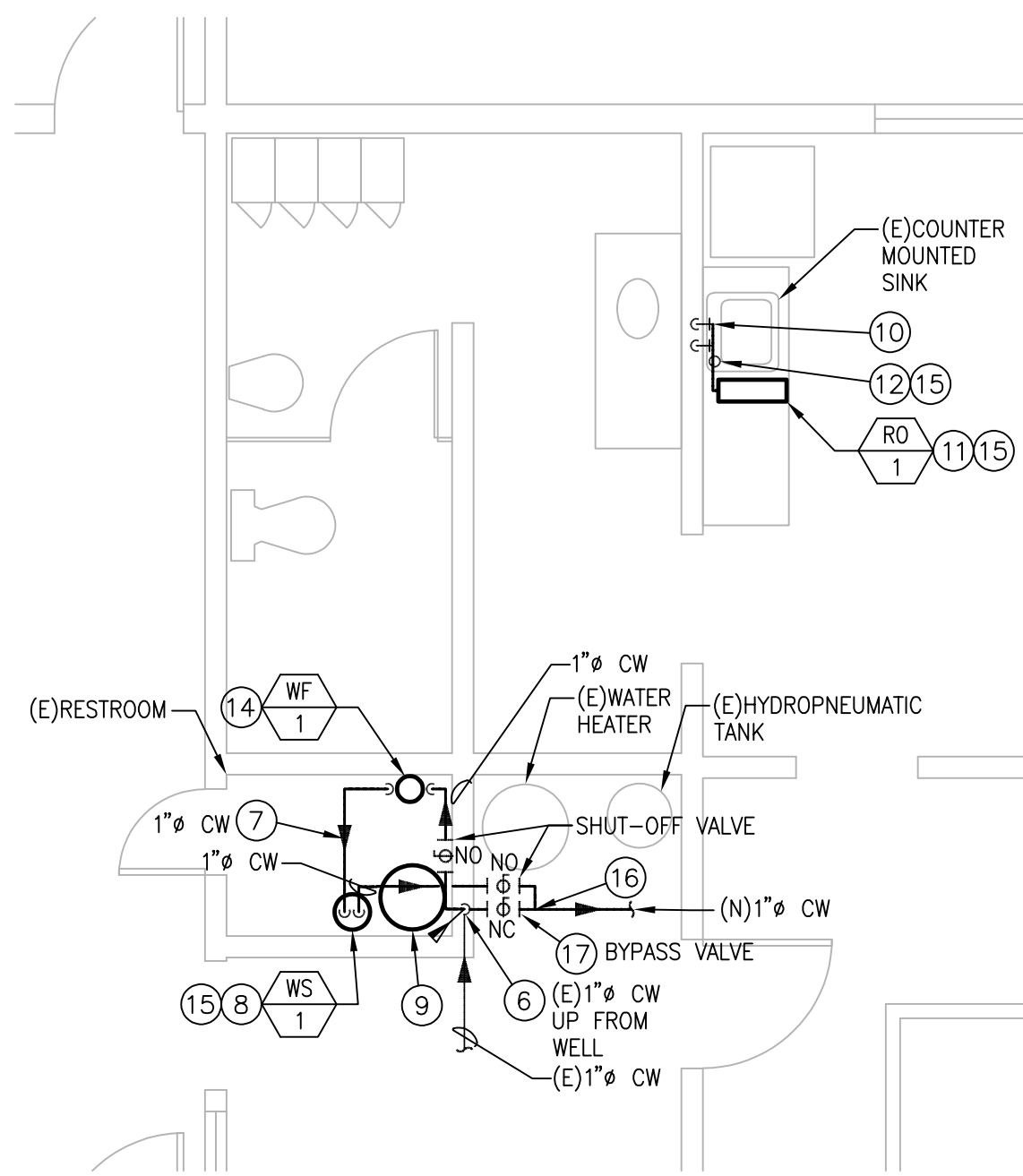
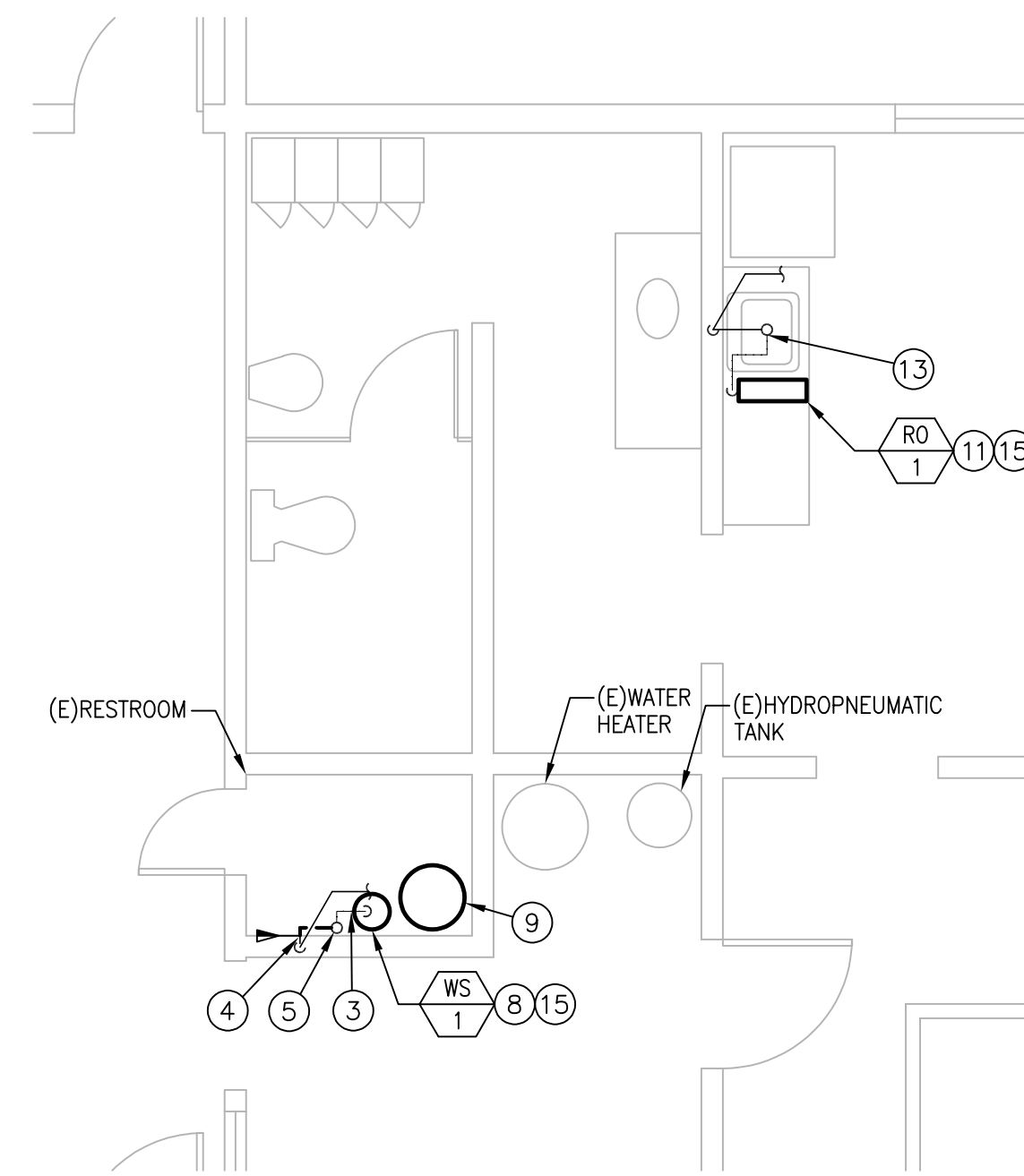
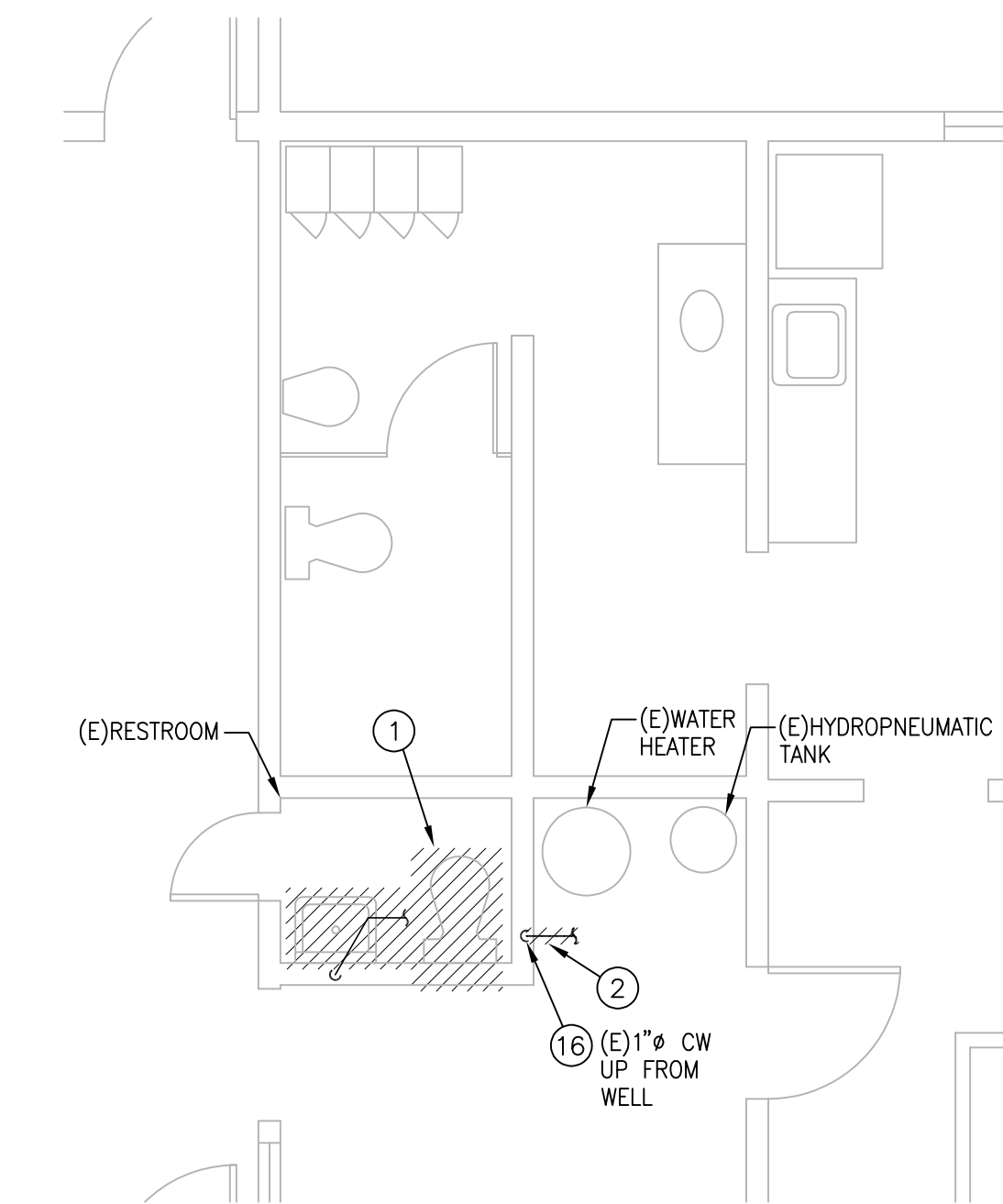
SHEET TITLE

PLUMBING PLAN

SHEET

P001

ORIGINAL SHEET SIZE
24" x 36"



WATER FILTER SCHEDULE

MARK	BASIS OF DESIGN		LOCATION	DETAIL REFERENCE	SYSTEM SERVED	TYPE	FLOW RATE GPM	PRES. DROP PSI	NUMBER OF CARTREGES	CONNECTIONS IN	REMARKS
	MFR	MODEL									
WF-1	CULLIGAN	MS040955	(E)RESTROOM	P011-1	DOMESTIC WATER	HIGH-FLOW POLYPROPYLENE	15	2	1	1	1
REMARKS: 1. FURNISH FILTER WITH 20" HOUSING, PRESSURE RELIEF BLEED INLET ON SIDE OF CAP, AND HIGH-FLOW POLYPROPYLENE FILTER.											

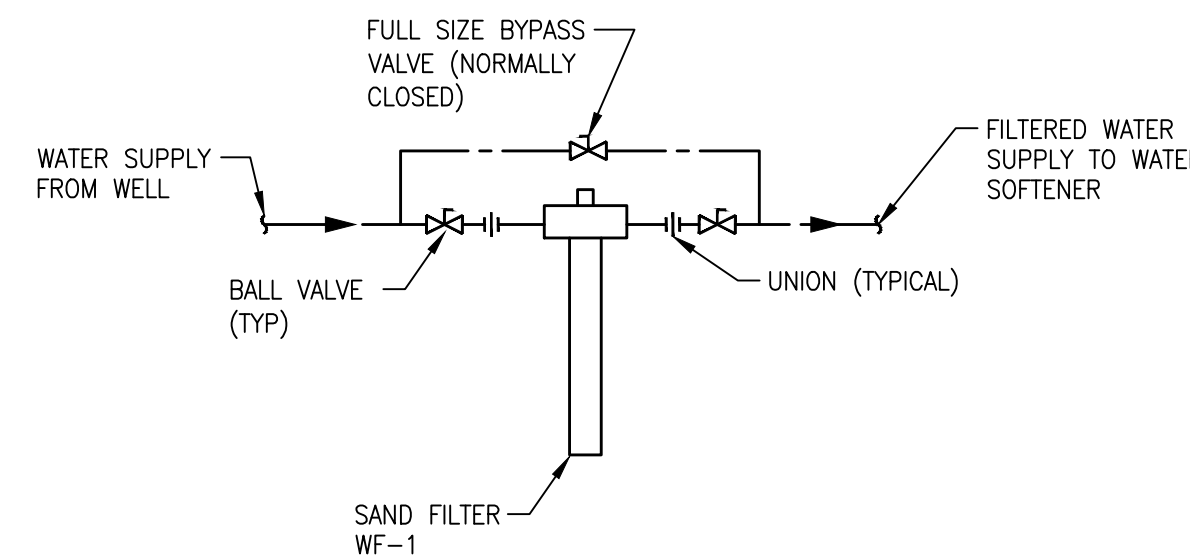
WATER SOFTENER SCHEDULE

MARK	ITEM	REFERENCE					PERFORMANCE				ELECTRICAL		REMARKS	
		BASIS OF DESIGN		TYPE	LOCATION	DETAIL REFERENCE	RESIN VOLUME CU. FT.	FLOW RATE / PRES DROP GPM / PSI	BRINE TANK			VOLTS		PHASE
		MFR	MODEL						DIA. IN	HEIGHT IN	CAP. LBS			
WS-1	WATER SOFTENER	CULLIGAN	AQUASENTIAL 10"	SIMPLEX	(E)RESTROOM	P011-2	10	21 / -	18	43	375	120	1	1, 2, 3, 4
REMARKS: 1. PROVIDE SYSTEM WITH AUTOMATIC BYPASS VALVE, SOFT-MINDER WATER USE METER, BACK-LIT DISPLAY, DIAL-A-SOFTNESS CONTROL, PROPORTIONAL BRINING, AQUA-SENSOR TECHNOLOGY, SALT LEVEL MONITOR, LEAK SENSOR, AND BRINE SYSTEM. 2. PROVIDE ALL PIPE REDUCERS, FITTINGS, AND COMPONENTS AS NECESSARY FOR A COMPLETE INSTALLATION. 3. ALL COMPONENTS SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE LOCAL RO VENDOR. 4. CONNECT SOFTENER SYSTEM TO NEAREST WALL ELECTRICAL OUTLET.														

REVERSE OSMOSIS WATER SYSTEM SCHEDULE

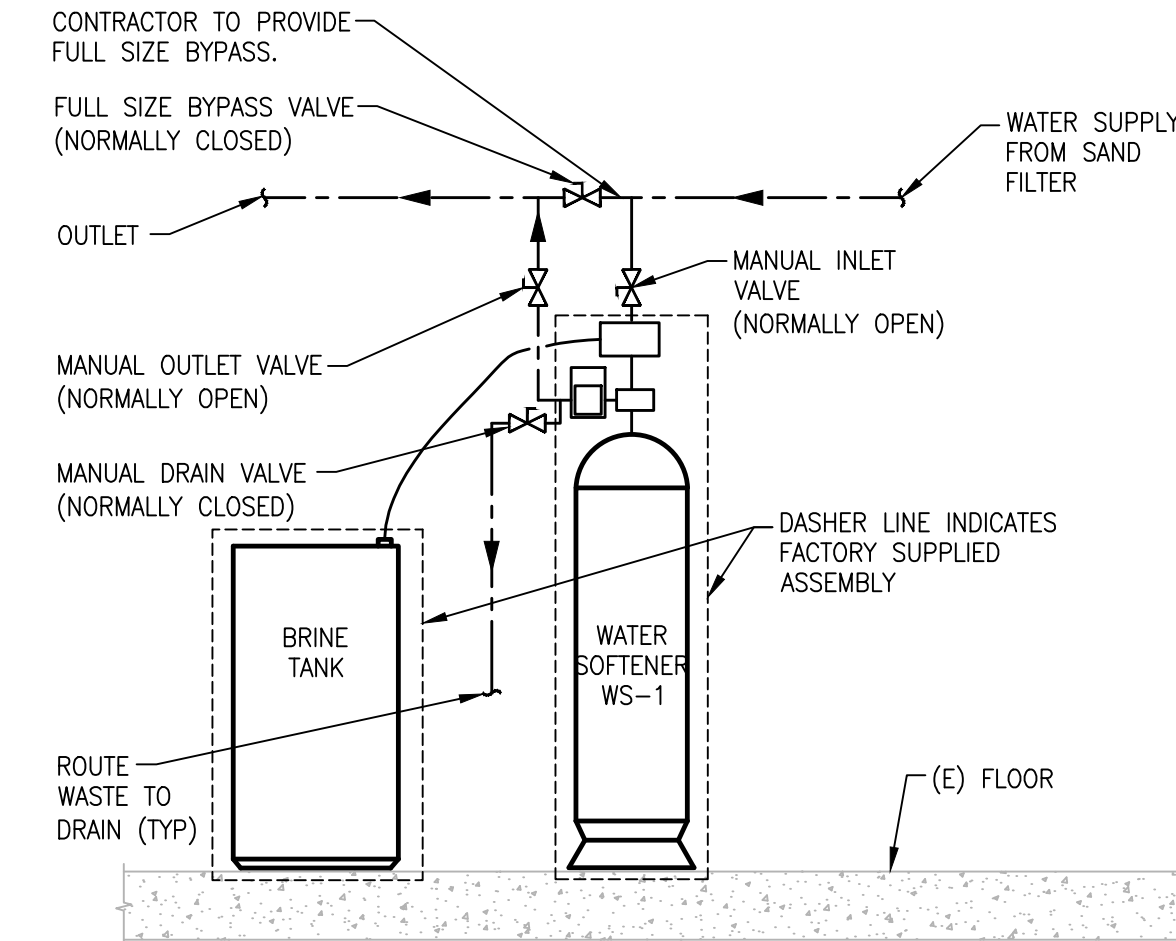
MARK	ITEM	REFERENCE			PERFORMANCE		CONNECTIONS		ELECTRICAL			REMARKS
		BASIS OF DESIGN		LOCATION	FLOW GAL / DAY	PRES. DROP PSI	CW IN	WASTE IN	POWER W	VOLTS	PHASE	
		MFR	MODEL									
RO-1	REVERSE OSMOSIS WATER SYSTEM	CULLIGAN	AQUASENTIAL SMART RO	(E)RESTROOM	75	-	-	-	20	120	1	1, 2, 3, 4
REMARKS: 1. FURNISH WITH FILTER MANIFOLD ASSEMBLY, DESIGNER FAUCET WITH ELECTRONIC DISPLAY, BUILT-IN QUALITY MONITOR, SEDIMENT AND CARBON FILTER, REVERSE OSMOSIS FILTER, ARSENIC FILTER, MINIERAL BOOST CARTRIDGE, 3 GAL RESERVOIR TANK, AND 12V TO 120V PLUG-IN POWER SUPPLY. 2. PROVIDE ALL PIPE REDUCERS, FITTINGS, AND COMPONENTS AS NECESSARY FOR A COMPLETE INSTALLATION. 3. ALL COMPONENTS SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE LOCAL RO VENDOR. 4. CONNECT SOFTENER SYSTEM TO NEAREST WALL ELECTRICAL OUTLET.												

- NOTES:
- PLUMBING CONTRACTOR SHALL PARTICIPATE IN COMMISSIONING THE SOFTENING SYSTEM WITH VENDOR AND VERIFY THAT THE SYSTEM IS FUNCTIONING PROPERLY AND WITHIN MANUFACTURER'S PRODUCT SPECIFICATIONS.
 - UNIONS SHALL BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.
 - THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.
 - AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN 5 FEET OF THE EQUIPMENT LOCATION.
 - ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.
 - TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST 4 TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.
 - SYSTEM USES FRP TANKS AND MUST NOT BE SUBJECT TO VACUUM. INSTALL A SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACUUM.

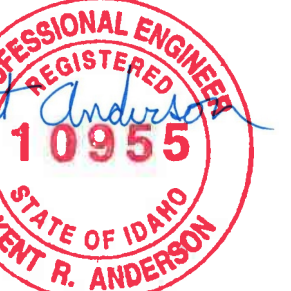


- NOTE:
- MOUNTING HEIGHT SHALL BE APPROXIMATELY 4'-0" ABOVE FINISHED FLOOR. COORDINATE WITH EQUIPMENT LAYOUT. ENSURE CLEARANCE FOR MAINTENANCE AND EQUIPMENT FUNCTION.

1 WATER FILTER DETAIL
SCALE: NTS



2 WATER SOFTENER INSTALLATION DETAIL
SCALE: NTS



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PROJECT 24086	DATE 08-16-24
DRAWN KRA	CHECKED KRA

REVISED

SHEET TITLE
PLUMBING PLAN

SHEET

P011

ORIGINAL SHEET SIZE
24' x 36'

SECTION 220500 - BASIC MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL

A. REFER TO THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, AND DIVISION 1 GENERAL REQUIREMENTS.

1.2 SCOPE OF WORK

- A. PROVIDE ALL DETAILED DESIGN AND COORDINATION, LABOR, EQUIPMENT, AND MATERIALS THAT ARE REQUIRED TO PROVIDE A COMPLETE INSTALLATION AND COMPLETE OPERATING SYSTEMS AS INDICATED ON THE DRAWINGS AND AS DESCRIBED IN THESE SPECIFICATIONS INCLUDING THAT REASONABLY INFERRED FOR PROPER EXECUTION OF WORK AND SYSTEM OPERATION.
B. PROVIDE CUTTING, PAVING EXCAVATION AND BACK FILL AS REQUIRED FOR EXECUTION OF WORK PERFORMED UNDER THIS SECTION UNLESS SPECIFICALLY PROVIDED FOR UNDER OTHER SECTIONS.
C. COORDINATE WITH WORK PERFORMED BY OTHER SECTIONS IN ORDER TO ACCOMMODATE THE REQUIREMENTS OF THIS SECTION AND TO ENSURE ADEQUATE SPACE AND PROPER LOCATION FOR ALL NECESSARY WORK ON THIS PROJECT WHETHER OR NOT WORK IS UNDER THIS SECTION. PROVIDE COORDINATION DRAWINGS AS NECESSARY.

1.3 CODES AND STANDARDS

- A. THE WORK INSTALLED UNDER THIS SECTION SHALL CONFORM TO ALL APPLICABLE LOCAL CODES, REGULATIONS, LOCAL CODE AMENDMENTS AND STANDARDS.
B. DO NOT CONTRIBUTE ANYTHING NUMERALS IN THESE SPECIFICATIONS OR DRAWINGS TO PERMIT WORK TO BE INSTALLED THAT DOES NOT CONFORM TO CODE.

1.4 DRAWINGS AND SPECIFICATIONS

A. THE DRAWINGS PROVIDED ARE SCHEMATIC IN NATURE. ABSOLUTE ACCURACY OF THE DRAWINGS AND SPECIFICATIONS CAN NOT BE GUARANTEED. WHILE REASONABLE EFFORT HAS BEEN MADE TO COORDINATE THE LOCATION OF EQUIPMENT AND MATERIALS WITH THE STRUCTURE AND OTHER TRADES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE EXACT REQUIREMENTS AND LOCATIONS AS GOVERNED BY ACTUAL JOB CONDITIONS. CHECK ALL INFORMATION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE FABRICATION AND IN TIME TO AVOID ANY UNNECESSARY CHANGES.

1.5 GUARANTEE AND WARRANTIES

A. ALL MATERIALS, PARTS, EQUIPMENT, MODIFICATIONS MADE, AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE OF WORK. SHOULD SUCH PARTS, MATERIALS, OR WORKMANSHIP BE FOUND TO BE DEFECTIVE DURING THIS PERIOD, THEY SHALL BE RECTIFIED AT NO COST TO THE OWNER.

1.6 FEES

- A. PROVIDE, PURCHASE, AND PAY FOR ALL PERMITS, SERVICES, METERS, LICENSES, FEES, ETC., REQUIRED FOR PERFORMANCE OR WORK OF THIS SECTION. THIS INCLUDES COORDINATION WITH UTILITY PROVIDERS FOR PROPER PHASING OF INSTALLATION.
B. UPON COMPLETION OF THE WORK, DELIVER TO THE ARCHITECT, ALL CERTIFICATES OF APPROVAL SIGNED BY THE CONTROLLING AUTHORITIES.

1.7 SUBMITTAL DATA

A. COMPLETE SUBMITTAL DATA SHALL BE FURNISHED ON ALL MECHANICAL AND PLUMBING ITEMS WHETHER AS SPECIFIED OR PROPOSED AS ALTERNATES. THE SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY.
B. EQUIPMENT, MATERIALS, AND PRODUCTS SPECIFICALLY IDENTIFIED, DESCRIBED, OR SCHEDULED ON THE DRAWINGS AND NAMED FIRST IN THE SPECIFICATIONS ARE THE BASIS OF DESIGN. THE OTHER MANUFACTURERS OR SUPPLIERS WHICH MAY BE NAMED IN THE SPECIFICATIONS ONLY INDICATE THE GENERAL ACCEPTABILITY OF THE MANUFACTURER OR SUPPLIER AND ARE CONSIDERED SUBSTITUTIONS.
C. THIS CONTRACTOR ASSUMES FULL RESPONSIBILITY THAT ALTERNATIVE ITEMS SUBSTITUTED FOR THE FIRST NAMED MANUFACTURER WILL MEET THE JOB REQUIREMENTS AND IS RESPONSIBLE FOR THE COST OF REDESIGN AND MODIFICATIONS NECESSARY DUE TO THIS SUBSTITUTION.

1.8 RECORD DRAWINGS

- A. RECORD OF JOB PROGRESS: KEEP AN ACCURATE, DIMENSIONAL RECORD OF THE AS-BUILT LOCATIONS OF ALL WORK.
B. FINAL AS-BUILT REPRODUCIBLE DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND OWNER PRIOR TO FINAL ACCEPTANCE.

1.9 OPERATING AND MAINTENANCE INSTRUCTIONS

A. FURNISH THREE (3) COMPLETE SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT BOUND IN A RIGID BINDER AND INDEXED.

1.10 EQUIPMENT SUPPORT AND RESTRAINTS

A. GENERAL: ALL EQUIPMENT, PIPING, DUCTWORK, AND MATERIALS SHALL BE FASTENED TO THE STRUCTURE WITH PROPERLY SIZED AND STRUCTURALLY ENGINEERED ANCHORS, BOLTS, AND RESTRAINTS TO PREVENT PERMANENT DISPLACEMENT IN ANY DIRECTION CAUSED BY LATERAL MOTION, OVERTURNING, OR UPLIFT AS REQUIRED BY THE BUILDING CODE.
B. ALL ISOLATORS SHALL BE FASTENED TO THE STRUCTURE AND TO THE EQUIPMENT WITH PROPERLY SIZED AND STRUCTURALLY ENGINEERED ANCHORS AND BOLTS.
C. THE ENGINEER PROVIDING THE REQUIRED CALCULATIONS SHALL INSPECT ALL SUPPORTS AND ATTACHMENTS DESIGNED BY HIM AND PROVIDE A LETTER TO ARCHITECT OF RECORD CERTIFYING THAT THEY HAVE BEEN INSTALLED AS DESIGNED.

1.11 RELATED WORK SPECIFIED ELSEWHERE

A. THE FOLLOWING ITEMS ARE TO BE INCLUDED IN OTHER SECTIONS TO BE DONE BY OTHER TRADES. WHERE COORDINATION IS NECESSARY, THIS CONTRACTOR SHALL PROVIDE IT.
1. ALL ELECTRICAL POWER WIRING INCLUDING FIELD CONNECTIONS.
2. PAINTING AND PATCHWORK.
3. STRUCTURAL INTERFERENCE AND PENETRATIONS.

1.12 START-UP SERVICES

A. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER OPERATION OF ALL SYSTEMS, MINOR SUBSYSTEMS, AND SERVICES PROVIDED UNDER THIS DIVISION. HE SHALL COORDINATE START-UP PROCEDURES, CALIBRATION, AND SYSTEM CHECK-OUT WITH ALL SUBCONTRACTOR AND TRADES INVOLVED. ANY SYSTEM OPERATIONAL PROBLEMS SHALL BE DIAGNOSED AND ALL CORRECTIVE PROCEDURES SHALL BE INITIATED WITH THE VARIOUS SUBCONTRACTORS AS REQUIRED TO BRING THE SYSTEM INTO COMPLIANCE WITH THE DESIGN INTENT.
B. PERSONNEL PERFORMING START-UP SERVICES SHALL BE FULLY QUALIFIED, EXPERIENCED, AND NORMALLY ENGAGED IN THIS TYPE OF WORK. IF THE CONTRACTOR DOES NOT HAVE SUCH PERSONNEL AVAILABLE FROM HIS OWN COMPANY, HE SHALL HIRE, AT HIS OWN EXPENSE, SUBCONTRACTORS WHO ARE QUALIFIED.
C. THE CONTRACTOR SHALL CHECK ALL EQUIPMENT DURING THE INITIAL START-UP TO ENSURE PROPER OPERATION, ADEQUATE FLOWS AND WATER FLOWS OR AIR FLOWS, AND VIBRATION ISOLATION. SYSTEMS SHALL BE CHECKED FOR AIR AND/OR WATER FLOWS THROUGHOUT WITHOUT BLOCKAGES. AIR HANDLING SYSTEMS SHALL BE CHECKED FOR PROPER DAMPER CONNECTIONS AND POSITIONS, AND MINIMAL VIBRATION. OTHER MISCELLANEOUS EQUIPMENT SHALL BE STARTED AND OPERATED AS DESCRIBED ABOVE AS APPLICABLE.
D. A FINAL AND COMPLETE START-UP AND BALANCE REPORT SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THIS REPORT SHALL BE SIGNED BY EACH PERSON DOING THE START-UP TASK AND BY THE RESPONSIBLE FIELD PERSONNEL. REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, DATE OF TEST, DATE OF LAST CALIBRATION; TEMPERATURES; HUMIDITIES; SET POINTS; RPM; VOLTAGE; AMPERAGE; PRESSURES; STABILITY; SUPPLY, RETURN AND OUTSIDE AIRFLOWS AT EACH UNIT AND EACH UNIT AND EACH TERMINAL, ETC.

END OF SECTION 220500

SECTION 221000 - PLUMBING

PART 1 - GENERAL

1.1 GENERAL

A. REFER TO SECTION 220500 - BASIC MECHANICAL REQUIREMENTS.

PART 2 - MATERIALS

2.1 VALVES

A. ALL BALL OR BUTTERFLY VALVES FOR GENERAL USE SHALL HAVE EPT SEATS.
B. GENERAL USE VALVES:
1. GATE VALVES:
a. 1/2" THROUGH 2" - SWEAT: STOCKHAM FIGURE B-10B.
b. 1/2" THROUGH 2" - THREADED: STOCKHAM FIGURE B-10S.
c. 2-1/2" AND ABOVE - FLANGED: STOCKHAM FIGURE G-634 BRONZE FITTED.
2. BALL VALVES - 1/2" THROUGH 2": HAMMOND 8000 SERIES.
3. PRESSURE REDUCING VALVES: 2" AND SMALLER - THREADED: BRONZE CONSTRUCTION, WATTS UL5B.
4. SAFETY AND RELIEF VALVES: WATTS NO. 740 SERIES OR WATTS NO. 174A SERIES.
5. CROSS CONNECTION CONTROL: PROVIDE BACKFLOW PREVENTION IN ACCORDANCE WITH CODE FOR EACH PIECE OF EQUIPMENT CAPABLE OF CONTAMINATING THE POTABLE WATER SYSTEM. WHERE PERMITTED BY CODE, VACUUM BREAKERS MAY BE USED. USE BACKFLOW PREVENTERS IN ALL OTHER INSTANCES.
C. MANUFACTURERS: HAMMOND, LEGEND, STOCKHAM, WATTS, NIBCO, WILKINS.

2.2 PIPES AND FITTINGS

A. SANITARY SOIL, WASTE, VENT SYSTEM:
1. UNDERGROUND:
a. CAST IRON, ASTM A888 OR CSPI 301, SOIL, BELL AND PLAN END WITH NEOPRENE COMPRESSION GASKETS. 4504 COUPLINGS OR "MUSKEY" COUPLINGS ARE ACCEPTABLE ALTERNATES. WRAP WITH "CALCIUM" TAPE PER MANUFACTURER'S INSTRUCTION.
b. (CONTRACTOR'S OPTION) WHEN CONCEALED ABOVE CEILING (NON-RETURN AIR PLENUM), IN WALLS OR BELOW SLAB, PVC, ASTM D2665/FR91 SCHEDULE 40 DWV PIPING WITH SOLVENT WELD FITTINGS MAY BE USED UNLESS SHOWN OTHERWISE. IF ALLOWED BY LOCAL GOVERNING AUTHORITIES, TRANSITION OF MATERIALS SHALL OCCUR BELOW SLAB OR ABOVE CEILING. FLOOR AND WALL CLEANOUTS SHALL BE CAST IRON AS HEREAFTER SPECIFIED.
2. ABOVEGROUND:
a. CAST IRON, ASTM A888 OR CSPI 301, SOIL, PLAIN END (NO HUB).
b. (CONTRACTOR OPTION) DWV COPPER, ASTM B306 OR STEEL, ASTM A53, WITH DRAINAGE PATTERN FITTINGS MAY BE USED FOR PIPE SIZES 2-1/2" AND SMALLER.
c. ALL VENT PIPING PROTRUDING THROUGH THE ROOF SHALL BE RESISTANT TO UV RADIATION.
B. POTABLE WATER:
1. ABOVE GRADE: COPPER, ASTM B88, PRESSURE TYPE L; JOINTS SILVABRITE 100, 95 % TIN, 4 % COPPER, 0.5 % SILVER SOLDER, AND NON CORROSIVE, WATER-SOLUBLE FLUX.
2. UNDERGROUND: COPPER; PRESSURE TYPE K; ASTM B88, BRAZED JOINTS; BCUP SERIES COPPER PHOSPHORUS ALLOY BRAZED. MACHINE WRAP ALL UNDERGROUND PIPING WITH "SM" PIPE WRAP. DOUBLE HAND WRAP ALL JOINTS AND FITTINGS.
C. CONDENSATE:
1. EXTERIOR OR RETURN AIR PLENUM: COPPER; TYPE M; ASTM B75, SOLDER JOINTS, ALLOY GRADE 95% TIN, 5% ANTIMONY.
2. INTERIOR OR DUCTED RETURN: PVC, ASTM D2665, SOLVENT WELD JOINTS.

2.3 PIPING SPECIALTIES

D. THERMOMETERS AND WELLS: WEXLER TYPE "A," ADJUST-ANGLE, 3/8" DIA. BIMETAL THERMOMETER.
E. PRESSURE GAUGES: WEXLER MODEL 81X1/4" EQUAL WEISS, MAROH, OR GISHORFT, 3-1/2" DIAMETER PHENOLICASE WITH BLACK NUMERALS ON WHITE FACE. INSTALL WITH BOLTON #8250FF BAR STOCK NEEDLE VALVE. SELECT DIA. RANGE SO THAT THE NORMAL OPERATING PRESSURE WILL OCCUR AS CLOSE TO THE MIDPOINT OF THE DIA. RANGE AS POSSIBLE.
F. TEMPERATURE AND PRESSURE TEST STATION: 1/4" OR 1/2" MPT "PETE'S PLUG" WITH SOLID BRASS FITTING CAP ON ALL SUPPLY AND RETURN PIPING TO EACH PIECE OF MECHANICAL EQUIPMENT.
G. AIR VENTS: HOFFMAN #719 WHERE AUTOMATIC TYPE IS SHOWN UNLESS SPECIFIED OTHERWISE. INSTALL WITH BOLTON #8250FF BAR STOCK NEEDLE VALVE. PROVIDE BOLTON #8250FF BAR STOCK NEEDLE VALVE COOK FOR MANUAL AIR VENT AT COLLS AND AT EACH HIGH POINT IN PIPING SYSTEMS.
H. FLEXIBLE PIPE CONNECTORS: FLEX HOSE, T-FLEX OR FLEXZOMBER JOINTS, WHICH TYPE CONSTRUCTION OF MOLDED NEOPRENE ELASTOMER OR TEFELON, COMPLETE WITH LIMIT BOLTS AND THE RODS (MASON MFC OR APPROVED SUBSTITUTION).

2.4 PIPE INSULATION

A. PIPE INSULATION
1. PREFORMED MINERAL-FIBER PIPE INSULATION: GLASS FIBERS BONDED WITH A THERMOSETTING RESIN COMPLYING WITH ASTM C547, TYPE 1, WITH FACTORY-APPLIED, ALL-PURPOSE, VAPOR-RETARDER JACKET.
2. APPLICATION: REFER TO THE PLUMBING PIPING INSULATION SCHEDULE FOR ALL PIPE INSULATION APPLICATIONS AND SIZES.
3. INSULATION INSTALLED INDOORS SHALL HAVE A FLAME/SMOKE SPREAD INDEX OF 25/50 OR LESS.
B. EQUIPMENT, PIPE SUPPORTS AND PENETRATIONS
A. ALL ROTATING EQUIPMENT AND EQUIPMENT CAPABLE OF TRANSMITTING VIBRATION INTO THE SPACE SHALL BE MOUNTED ON VIBRATION ISOLATORS AND BASES OR AS SHOWN ON DRAWINGS. THE ISOLATORS AND BASES SHALL BE PROPERLY SIZED BY THE ISOLATOR MANUFACTURER, TAKING INTO ACCOUNT THE PIECE OF EQUIPMENT AND THE STRUCTURE UPON WHICH IT IS SETTING, SO THAT VIBRATION TRANSMITTED TO THE STRUCTURE IS HELD TO AN ACCEPTABLE LEVEL.
B. OPEN SPRINGS WITH SEPARATE SNUBBERS MAY ALSO BE USED.
C. THE BASES AND ISOLATORS SHALL BE AS MANUFACTURED BY MASON, KINETICS, SAUSSE, OR AMBER/BOOTH.
D. ALL ISOLATORS SHALL BE PROPERLY ADJUSTED SO THAT EQUIPMENT IS LEVEL, SNUBBERS AND SEISMIC TYPE MOUNTS ARE CENTERED, AND NO SHORT CIRCUITING OCCURS.
E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SIZING ALL PIPING SUPPORTS, HANGERS, AND ACCESSORIES INCLUDING ALL ATTACHMENTS TO THE STRUCTURE.
F. PROVIDE PIPE SHIELDS ANCHORS, GUIDES, AND SUPPORTS EQUAL TO GRINNELL, ELCON, SUPERSTRUT, UNISTRUT.
G. ALL HANGERS, SUPPORTS, ANCHORS, GUIDES, AND STRUCTURAL ATTACHMENTS SHALL BE INSTALLED ACCORDING TO GOOD STANDARD PRACTICE AND ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
H. USE CADMIUM PLATED OR GALVANIZED HANGERS, ATTACHMENTS, RODS, NUTS, BOLTS, AND OTHER ACCESSORIES.
I. ON PIPES 1-1/4" AND SMALLER THAT ARE INSULATED, RUN THE INSULATION CONTINUOUSLY THROUGH THE HANGER AND PROVIDE GRINNELL (TYCO) FIGURE 167 (OR EQUIVALENT) GALVANIZED SHEET METAL SHIELDS UNDER THE INSULATION TO PREVENT CRUSHING.
J. ON PIPES 1-1/2" AND LARGER THAT ARE INSULATED, PROVIDE PIPE SHIELDS, INC., INSULATED PIPE SUPPORTS.
K. ALL ROOFTOP PIPING (GAS, COND. DRAIN, ETC.) IS TO BE SUPPORTED BY ADJUSTABLE PIPE SUPPORTS (MIRO, VERSABLOCK, ETC.). WOOD SUPPORTS ARE UNACCEPTABLE.

2.6 DRAINAGE SPECIALTIES

A. CLEANOUTS: PROVIDE WHERE SHOWN AND AS REQUIRED; TYPES AND SIZES AS SCHEDULED. PROVIDE LUBRICATION ON CLEANOUT THREADS AND PROVIDE OWNER WITH THREE (3) CLEANOUT PLUG REMOVAL TOOLS.
1. WALL CLEANOUT: WITH STAINLESS STEEL COVER.
2. FLOOR CLEANOUT: WITH NICKEL BRONZE TOP AND CARPET RING (AS REQUIRED).
3. GRADE CLEANOUT (GCO) SHALL BE SUPPLIED WITH HEAVY DUTY CAST IRON TOP.
4. MANUFACTURERS: JR SMITH, ZURN, JOSAM, WADE.
B. FLOOR DRAINS/ FLOOR SINKS: CAST IRON BODY WITH INTEGRAL STRAINER, AND NICKEL BRONZE RIM AND TOP COVER.
1. ACID RESISTANT INTERIOR COATING AT SANITARY LOCATIONS.
2. TRAP PRIMER CONNECTIONS.
3. MANUFACTURERS: JR SMITH, ZURN, JOSAM, WADE, COMMERCIAL ENAMEL.
2.7 FIXTURE SUPPORTS
C. GENERAL: PROVIDE PLUMBING FIXTURE CARRIERS, SUPPORTS, AND DEVICES TO CARRY LOADS INDEPENDENTLY OF WALLS OR PARTITIONS. SECURELY BOLT SUPPORTS TO FLOOR WITH POWER-DRIVEN OR DRILLED INSERTS OR STUDS.
D. MANUFACTURER: J.R. SMITH, JOSAM, WADE, OR ZURN.
2.8 PLUMBING FIXTURES
A. FIXTURE SCHEDULE: FURNISH AND INSTALL AS INDICATED ON THE DRAWINGS. WATER SAVER FIXTURES AND ACCESSORIES SHALL HAVE A PROVEN TRACK RECORD IN THE FIELD.
1. MANUFACTURERS: AMERICAN STANDARD, KOHLER, ZURN, ELKAY, JUST, HAWS, BEST BATH, AQUAGLASS, FIAT, BRADLEY.
B. PROVIDE TRAP PRIMERS AT ALL FLOOR DRAINS AND FLOOR SINKS AS INDICATED ON THE DRAWINGS.
1. MANUFACTURERS: PIP, JR SMITH, ZURN, SIOUX CHIEF.
C. FIXTURE SUPPLIES AND STOPS:
1. GENERAL: ALL SUPPLIES AND STOPS SHALL BE NEW. PROVIDE CHROME PLATED ESCUTCHEONS AT ALL WALL PENETRATIONS. PROVIDE INSULATE ALL SUPPLIES AND STOPS PER ADA STANDARDS.
2. MANUFACTURERS: BRASSCRAFT, EASTMAN, WATTS, MCGUIRE.
F. FIXTURE COLOR (UNLESS SELECTED BY ARCHITECT): WHITE. TRIM FINISH: POLISHED CHROME PLATED.
G. TRAPS: 17 GAUGE CHROME PLATED WITH CHROME PLATED ESCUTCHEONS AT WALL PENETRATIONS.

2.9 WATER SOFTENERS

A. SALT-BASED ION-EXCHANGE WATER SOFTENER.
1. TYPE: SEPARATE ION EXCHANGE AND FEED TANKS.
2. TANK MATERIALS: EPOXY LINED STEEL ION EXCHANGE WITH ONE-PIECE RESIN FOR FEED.
3. SOLENOID VALVES: BRASS OR OTHER PROCESS-RESISTANT SUITABLE MATERIAL.
4. TIME-BASED CONTROLLER FOR SOFTENING AND BACKWASHING CYCLES WITH DIGITAL DISPLAY.

PART 3 - EXECUTION

3.1 WATER SOFTENER

A. INSTALL WATER SOFTENER EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AS REQUIRED BY CODE, AND COMPLYING WITH CONDITIONS REQUIRED FOR APPLICABLE CERTIFICATIONS.
B. COORDINATE SYSTEM, EQUIPMENT, AND PIPING WORK WITH APPLICABLE ELECTRICAL, DRAIN, AND WASTE SUPPORT INTERCONNECTIONS AS INCLUDED OR PROVIDED BY OTHER TRADES.

3.2 GENERAL PIPING

A. CUT PIPING ACCURATELY TO JOB MEASUREMENTS AND INSTALL WITHOUT SPRINGING OR FORCING. TRUE TO LINE AND GRADE, GENERALLY SQUARE WITH BUILDING AND ADEQUATELY SUPPORTED TO PREVENT SAGGING OR UNDUE STRESS ON PIPE, FITTINGS, AND ACCESSORIES.
B. THOROUGHLY CLEAN ALL PIPE AND MAINTAIN IN SUCH CONDITION THROUGHOUT CONSTRUCTION. TEMPORARILY CAP OFF OR PLUG ENDS OF UNPROTECTED PIPE.
C. ARRANGE PIPING AND HANGERS TO ALLOW FOR EXPANSION, CONTRACTION, AND STRUCTURAL SETTLEMENT. DO NOT INSTALL PIPING IN CONTACT WITH THE BUILDING STRUCTURE. ANCHOR PIPES PROPERLY SO EXPANSION/CONTRACTION IS CONTROLLED.
D. "BALL HEAD" TEES SHALL NOT BE INSTALLED.
E. FLUSH ALL PIPES FREE FROM FOREIGN SUBSTANCES BEFORE INSTALLING VALVES, STOPS, OR MAKING FINAL CONNECTIONS.
F. INSTALL PIPING AT THE COLLS SO THAT COLLS CAN BE REMOVED WITH A MINIMUM OF PIPE DISLOCATION. ALL FITTINGS, ETC., SHALL BE READILY ACCESSIBLE.
G. VICTAULIC COUPLINGS WITH GROOVED PIPING MAY BE USED ON EXPOSED PIPING SECTIONS IN LIEU OF WELDED JOINTS. OPTION WILL REQUIRE ADDITIONAL SUPPORTS TO PREVENT SAGGING OF PIPE.
H. PROVIDE A SUPPORT OR HANGER CLOSE TO EACH CHANGE OF DIRECTION IN THE PIPE, EITHER HORIZONTAL OR VERTICAL.
3.3 PIPE TESTING
A. TEST ALL PRESSURE PIPING AT 150 PSIG FOR 4 HOURS WITH NO LEAK OR LOSS OF PRESSURE. REPAIR OR REPLACE DEFECTIVE PIPING UNTIL TESTS ARE ACCOMPLISHED SUCCESSFULLY.
B. WASTE, VENT, AND CONDENSATE - FILL TO TOP OF HIGHEST VENT WITH WATER FOR 4 HOURS WITH NO LOSS OF HEIGHT. REPAIR OR REPLACE DEFECTIVE PIPING UNTIL TESTS ARE ACCOMPLISHED SUCCESSFULLY.
C. FUEL GAS PIPING - PRIOR TO INITIAL OPERATION, TEST AND PURGE FUEL GAS PIPING IN ACCORDANCE WITH ANSI Z223.1. REPAIR OR REPLACE DEFECTIVE PIPING UNTIL TESTS ARE COMPLETED SUCCESSFULLY.

3.4 IDENTIFICATION

A. PIPING:
1. IDENTIFY ALL PIPELINES WITH ADHESIVE MARKERS INDICATING THE CONTENTS AND DIRECTION OF FLOW.
2. MANUFACTURERS: SETON TYPE SETIMARK, BRADY, OR PERMA-COLOR.
3. PROVIDE PIPE MARKING AS FOLLOWS:
a. PROVIDE AT EACH END OF EACH MARKER, BRADY OR EQUAL, 2-1/4" WIDE SELF-STICKING CLEAR TAPE AROUND THE PERIPHERY OF PIPE OR INSULATION TO FURTHER SECURE THE MARKER. ALL MARKERS SHALL BE INSTALLED AFTER FINISH PAINTING IS COMPLETE. COAT FULL MARKER WITH CLEAR LACQUER AFTER INSTALLATION.
b. GUARANTEE THAT "PIPE MARKERS" WILL STAY ON PIPE SYSTEMS FOR A PERIOD OF NOT LESS THAN 5 YEARS.
c. IDENTIFY PIPING 2-1/2" AND SMALLER WITH 1" MINIMUM HEIGHT LETTERING EVERY 20' WHERE EXPOSED TO VIEW AND AT VALVES WHERE CONCEALED.
d. IDENTIFY PIPING 3" AND LARGER WITH 2" MINIMUM HEIGHT LETTERING EVERY 30' WHERE EXPOSED TO VIEW AND AT VALVES WHERE CONCEALED.
e. WHERE PIPING IS PROVIDED WITH INSULATION, PROVIDE THE SIZE LETTERS SCHEDULED ABOVE IN ACCORDANCE WITH THE OUTSIDE DIMENSIONS OF INSULATION.
B. EQUIPMENT IDENTIFICATION: IDENTIFY EACH NEW AND EXISTING EQUIPMENT WITH LAMINATED BLACK PLASTIC TAGS WITH ENGRAVED WHITE CORE LETTERING. USE TAGS WITH A MINIMUM THICKNESS OF 1/16", A MINIMUM SIZE OF 1-1/2" X 4", AND WITH 1" HIGH LETTERING. ACCEPTABLE MANUFACTURERS: SETON, W.W. MILCOX, OR BRADY. SECURE TAGS TO EQUIPMENT BY MEANS OF SCREWS OR BOLTS.
C. VOLUME DAMPER IDENTIFICATION: INDICATE DAMPER POSITION ON ALL SUPPLY DUCT VOLUME DAMPERS.

3.5 STERILIZATION OF PIPES

A. GENERAL:
1. AFTER PRELIMINARY PURGING OF THE SYSTEM, CHLORINATE THE ENTIRE POTABLE DOMESTIC WATER SYSTEM IN ACCORDANCE WITH THE CURRENT RECOMMENDATIONS OF THE AMERICAN WATER WORKS ASSOCIATION AND IN ACCORDANCE WITH ALL PERTINENT STATE AND LOCAL HEALTH CODES AND REGULATIONS.
2. UPON COMPLETION OF THE STERILIZATION, THOROUGHLY FLUSH THE ENTIRE POTABLE WATER SYSTEM AND IMMEDIATELY FILL THE SYSTEM.

END OF SECTION 221000



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PROJECT DATE
24086 08-16-24

DRAWN CHECKED
KRA KRA

REVISED

SHEET TITLE
PLUMBING SPECIFICATIONS

SHEET
M021

ORIGINAL SHEET SIZE
24" x 36"