GENERAL NOTES

A. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.

B. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED BEFORE MAKING UP OR INSTALLATION OF NEW WASTE SYSTEM.

C. CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.

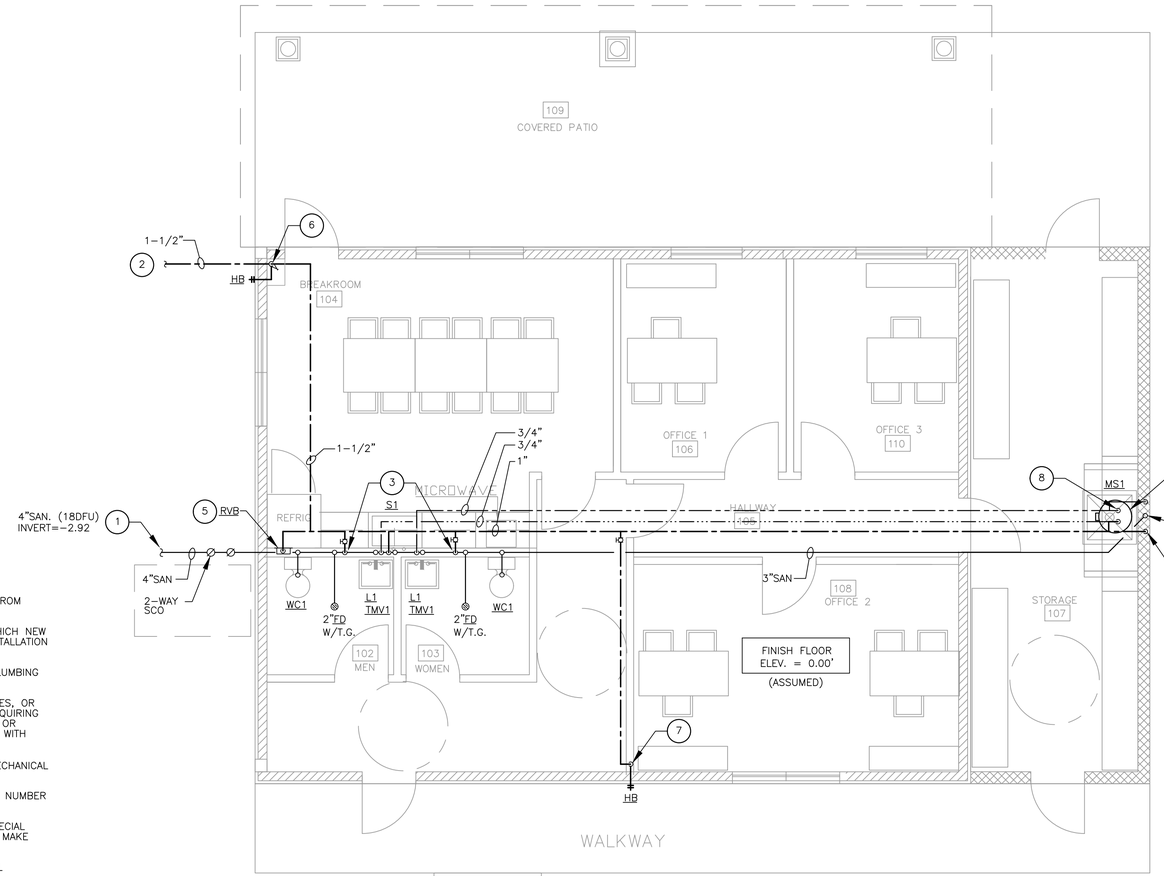
D. THE INSTALLATION OF ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT, OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.

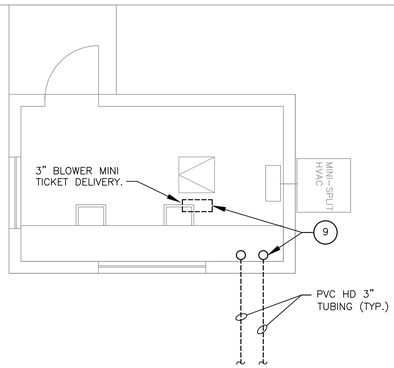
E. ALL VENTS THRU ROOF SHALL BE 10'-0" REMOVED FROM ALL MECHANICAL OUTSIDE AIR INTAKES.

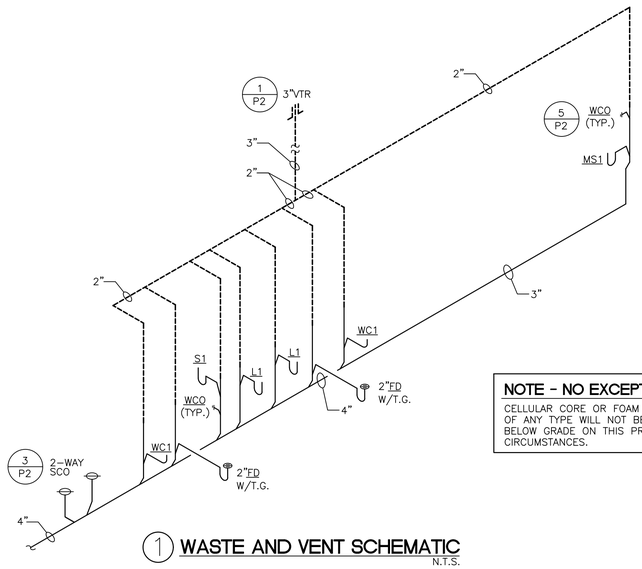
F. WHERE POSSIBLE TIE VENT PIPING TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH THE ROOF.

G. CONTRACTOR SHALL ROUGH-IN ALL WASTES AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED.

H. NO PIPING OR EQUIPMENT SHALL BE INSTALLED ABOVE ELECTRICAL EQUIPMENT OR INSTALLED IN ELECTRICAL ROOMS.







1 WASTE AND VENT SCHEMATIC
N.T.S.

NOTE - NO EXCEPTIONS:

CELLULAR CORE OR FOAM CORE PLASTIC PIPING OF ANY TYPE WILL NOT BE APPROVED FOR USE BELOW GRADE ON THIS PROJECT UNDER ANY CIRCUMSTANCES.

PLUMBING FLOOR PLAN

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

NORTH

FIELD VERIFY:

A. FIELD VERIFY LOCATION AND CONDITION OF EXISTING SANITARY SEWER, VENT PIPING AND DOMESTIC PIPING PRIOR TO START OF ANY NEW WORK.

B. FIELD VERIFY INVERT ELEVATIONS OF EXISTING WASTE PIPING AT POINTS OF CONNECTION TO NEW WASTE PIPING. CONFIRM EXISTING WASTE PIPING IS OF SUFFICIENT DEPTH TO ALLOW FOR NEW CONNECTIONS PRIOR TO STARTING WORK. NOTIFY A/E OF ANY DISCREPANCIES.

(#) KEYED NOTES:

1. EXTEND SANITARY SEWER 5'-0" FROM BUILDING, REFER TO CIVIL DRAWINGS FOR CONTINUATION. COORDINATE EXACT INVERT, LOCATION AND SIZE WITH CIVIL PRIOR TO STARTING WORK.
2. EXTEND DOMESTIC CW 5'-0" FROM BUILDING, REFER TO CIVIL DRAWINGS FOR CONTINUATION. COORDINATE EXACT LOCATION AND SIZE WITH CIVIL PRIOR TO STARTING WORK.
3. 1" CW, 3/4" HW AND 3/4" HWR DOWN IN WALL, PIPE TO WATER CLOSET AND LAVATORY. PROVIDE TMV1 BELOW LAVATORY AND PIPE TO FAUCET CONNECTIONS PER DETAIL 2/P2.
4. 3/4" CW AND 3/4" HW DOWN IN WALL, PIPE TO FIXTURE.
5. 1/2" CW DOWN IN WALL AND CONNECT TO RVB.
6. 1-1/2" CW SERVICE TO RISE UP IN BLDG. MOUNT MAIN SHUT-OFF VALVE AT 48" ABOVE FINISHED FLOOR. CONTRACTOR TO PROVIDE ACCESS PANEL FOR SHUT-OFF VALVE. EXTEND 3/4" CW TO HOSE BIBB.
7. 3/4" CW DOWN IN WALL, PIPE TO FIXTURE.
8. CONNECT 3/4" HW & CW PIPING TO WATER HEATER AND ROUTE DRAIN PIPING DOWN AND TERMINATE WITH A 90° ELBOW TURNED DOWN 6" ABOVE FLOOD RIM LEVEL OF FLOOR SINK. REFER TO DETAIL 4/P2.
9. PLUMBING CONTRACTOR TO INSTALL PNEUMATIC TICKET DELIVERY SYSTEM PER MANUFACTURERS INSTALLATION INSTRUCTIONS. CONTRACTOR SHALL COORDINATE WITH CIVIL AND ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS AND LOCATION/ROUTING OF PIPING. BLOWER UNIT SHALL BE INSTALLED IN AREA OF ACCESS PANEL SHOWN ON MECHANICAL DRAWINGS. COORDINATE EXACT LOCATION OF BLOWER UNIT WITH ARCHITECTURAL AND OWNER PRIOR TO INSTALLATION. REFER TO SHEET A12 FOR ADDITIONAL INFORMATION.

REVISION | DATE

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AME PROJECT #22-103
CONSULTING ENGINEERS
MECHANICAL ▼ PLUMBING

CERTIFICATE NO. 32366 GEORGE J. JOSEPHS Date Signed 10/25/2022 REGISTERED PROFESSIONAL ENGINEER ARIZONA, U.S.A.

PROJECT NUMBER: 22-103
DATE: 10/25/2022
DESIGNED BY: JHOCKING
DRAWN BY: JHOCKING
CHECKED BY: JROELFS

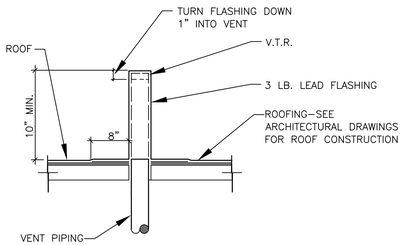
RUSSELL GULCH LANDFILL
OFFICES / SCALES
5891 Hope Ln, Globe, AZ 85501

100% PERMIT SET

SHEET TITLE:
PLUMBING FLOOR PLAN

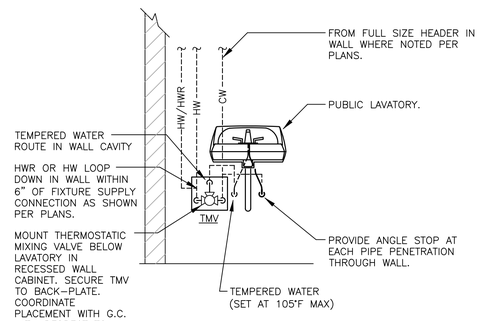
SHEET NUMBER:
P1

NOTES:
1. APPLY MASTIC PER SPECIFICATIONS TO SEAL WATER TIGHT.
2. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ROOFING TYPE.

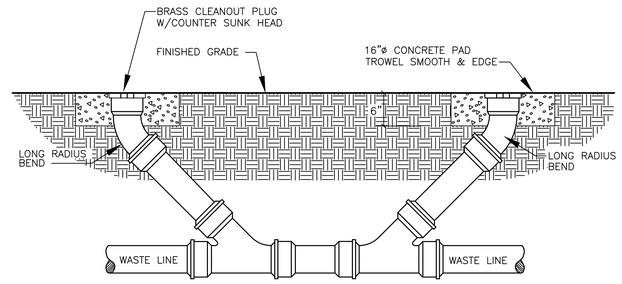


1 VENT THRU ROOF
NOT TO SCALE

NOTES:
1. REFER TO PLUMBING FIXTURE ROUGH–IN SCHEDULE FOR FINAL CONNECTION SIZES.
2. REFER TO ARCHITECTURAL PLANS FOR ADA MOUNTING REQUIREMENTS WHERE APPLICABLE.
3. WALL MOUNT LAVATORY SHOWN. DETAIL SIMILAR FOR LAVATORY MOUNTED IN MILLWORK.

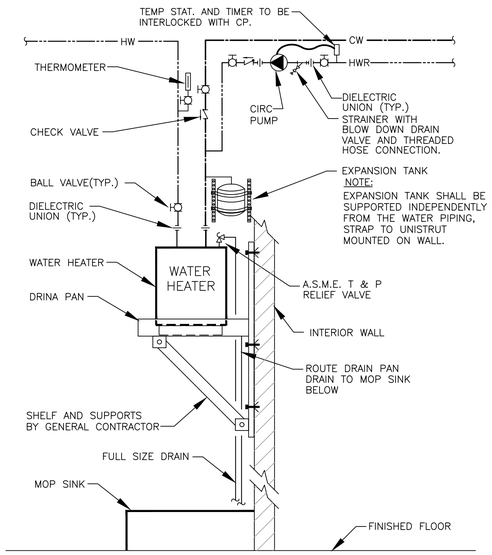


2 PUBLIC LAVATORY DETAIL
NOT TO SCALE

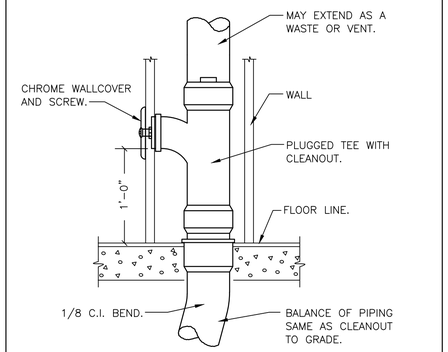


3 TWO WAY SURFACE CLEANOUT
NOT TO SCALE

NOTES:
1. REFER TO PLUMBING FLOOR PLANS AND SCHEMATIC (IF APPLICABLE) FOR PIPE SIZES.
2. REFER TO SPECIFICATIONS FOR WATER HEATER REQUIREMENTS
3. REFER TO SCHEDULE FOR ELECTRICAL REQUIREMENTS. COORDINATE POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
4. WATER HEATER SHALL BE PROVIDED WITH A FACTORY INSTALLED, ASME APPROVED TEMPERATURE AND PRESSURE RELIEF VALVE WITH FULL SIZE PIPING TO DRAIN.
5. REFER TO PLUMBING FLOOR PLAN FOR WATER HEATER LOCATION.
6. MINIMUM HW TEMPERATURE SHALL BE 140 DEG. F.



4 SHELF MOUNTED ELECTRIC WATER HEATER WITH CIRCULATING PUMP
NOT TO SCALE



5 WALL CLEANOUT DIAGRAM (WCO)
NOT TO SCALE

PLUMBING GENERAL NOTES

1. ALL WORK TO COMPLY WITH 2012 IBC, 2012 IPC AND **GILA COUNTY** ADOPTED CODES AND AMENDMENTS.
2. PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES. ALL MATERIALS TO BE APPROVED OR LISTED PER IPC CODE SECTION 605.
3. FLUSH AND DISINFECT ALL POTABLE WATER PIPING PRIOR TO OCCUPANCY, IPC SECTION 610.
4. TEST ALL WATER PIPING PRIOR TO OCCUPANCY, IPC SECTION 312, 602.
5. ALL WORK TO COMPLY WITH THE 2012 INTERNATIONAL ENERGY CONSERVATION CODE (2012 IECC). AND ALL **GILA COUNTY** ADOPTED CODES AND AMENDMENTS, SEC 106.3.1.

CODE INFORMATION

1. 2012 INTERNATIONAL BUILDING CODE, 2012 INTERNATIONAL PLUMBING CODE, 2012 INTERNATIONAL ENERGY CONSERVATION CODE, & ALL STATE AND LOCAL AMENDMENTS. ALL SYSTEMS SHALL BE IN COMPLIANCE WITH THE ABOVE CODES.
2. EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS REQUIRED BY THE TERMS OF THEIR APPROVAL, IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THIS CODE. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION PER THE PLUMBING CODE.
3. CALL FOR INSPECTION AND TEST OF ALL WATER PIPING PRIOR TO BACKFILL AND COVER.

PLUMBING FIXTURE ROUGH-IN SCHEDULE

FIXTURE TAG	FIXTURE TYPE	TRAP SIZE	WASTE SIZE	VENT SIZE	CW SIZE	HW SIZE
WC (FT)	WATER CLOSET	INTEGRAL	4"	2"	3/4"	–
L	LAVATORY	1–1/4"	2"	1–1/2"	1/2"	1/2"
S	SINK	1–1/2"	2"	1–1/2"	1/2"	1/2"
MS	MOP SINK	3"	3"	2"	3/4"	3/4"

NOTES:
SIZES SHOWN ARE MINIMUMS. LARGER SIZES INDICATED ON THE DRAWINGS SHALL DICTATE THE ROUGH–IN SIZE.

WATER PIPE SIZING CALCULATIONS

FIXTURE UNIT COUNT BASED ON 2012 I.P.C. – TABLE E 103.3(2)

FIXTURE TAG	FIXTURE TYPE	FIXTURE UNITS	NO. OF FIXTURES	TOTAL SUPPLY FIXTURE UNITS
WC	WATER CLOSET (FT)	5.0	2	10
L	LAVATORY (PUBLIC)	2.0	2	4
MS	MOP SINK	3.0	1	3
S	SINK	1.4	1	1.4
HB	HOSE BIBB	2.5	2	5
	TOTAL FIXTURE UNITS		=	23.4 (20 GPM)
	TOTAL FIXTURE UNITS AVAILABLE FOR FUTURE		=	104.2

EXISTING 2" METER (160 GPM = 696 FLUSH TANK) & EXISTING 2" RPBP TO REMAIN. REFER TO CIVIL & ARCHITECTURAL PLANS FOR LOCATION.

TOTAL LENGTH OF PIPING INSTALLED INCLUDING 25% FITTING LOSS	375	FT
AVAILABLE PRESSURE AT METER	40	PSI
TAP LOSS	–	PSI
WATER METER LOSS (2") "BADGER" DISC METER	–	PSI
RPBP LOSS (2")	8	PSI
STATIC LOSS (10' X 0.43 PSI/FT)	4.3	PSI
PRESSURE RESERVED FOR OPERATION OF FIXTURES	20	PSI
PRESSURE AVAILABLE FOR PIPING	7.7	PSI

7.7 PSI / 375 LF X 100 = 2 PSI LOSS ALLOWABLE PER 100 FT. OF PIPING, 2 PSI USED

BRANCH PIPE SIZING CHART FOR 2.0 PSI LOSS/ 100 FT OF PIPING

PIPE SIZE	FLUSH VALVE FIXTURE UNITS	FLUSH TANK FIXTURE UNITS	GPM
1/2"	–	–	–
3/4"	–	4	4
1"	–	10	8
1–1/4"	–	20	14
1–1/2"	5	34	22

WASTE PIPE SIZING CALCULATIONS

FIXTURE UNIT COUNT BASED ON 2012 I.P.C. – TABLE 709.1

FIXTURE TAG	FIXTURE TYPE	FIXTURE UNITS	NO. OF FIXTURES	TOTAL DRAINAGE FIXTURE UNITS
WC	WATER CLOSET (FT)	4	2	8
L	LAVATORY	1	2	2
MS	MOP SINK	2	1	2
FD	FLOOR DRAIN	2	2	4
S	SINK	2	1	2
	TOTAL FIXTURE UNITS (DFU)		=	18
	BUILDING SANITARY MAIN SIZE: (BASED ON 1/8" SLOPE PER FOOT)		=	4"ø (180 DFU MAX)
	TOTAL FIXTURE UNITS AVAILABLE FOR FUTURE		=	162

COORDINATE NEW CONNECTION TO BLDG. WITH FREDDY RIOS WITH AZ WATER COMPANY @ 928–473–4433.

ELECTRIC WATER HEATER SCHEDULE

TAG (WH)	MANUFACT.	MODEL	KW INPUT	RECOVERY GPH @100°F RISE	ELECTRICAL CHARACTERISTICS		REMARKS
					VOLTS	PHASE	
1	A.O. SMITH	DEL–20	4.5	18	208	1	20 GALLONS CAPACITY

PROVIDE WITH "AMTROL" MODEL ST–5 EXPANSION TANK.

CIRCULATING PUMP SCHEDULE

TAG (CP)	MANUFACT.	MODEL	HP	ELECTRICAL CHARACTERISTICS		REMARKS
				VOLTS	PHASE	
1	B & G	LR–1514LF	1/12	120	1	ALL BRONZE, IN–LINE

NOTE: PUMP SHALL BE DIRECTLY CONNECTED TO POWER, SEE ELECTRICAL DRAWINGS.

PLUMBING SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	ABBR.
	WASTE OR SEWER PIPING	W
	GREASE WASTE PIPING	GW
	VENT PIPING	V
	COLD WATER PIPING	CW
	HOT WATER PIPING	HW
	HOT WATER RETURN PIPING	HWR
	BALL VALVE	SOV
	CHECK VALVE	CKV
	METER (AS INDICATED PER PLANS)	WM/GM
	SOLENOID VALVE	SV
	PRESSURE REDUCING VALVE	PRV
	MANUAL AIR VENT	MAV
	AUTOMATIC AIR VENT	AAV
	INSTRUMENT THERMOMETER WELL	ITW
	PETE'S PLUG WITH P.T. ATTACHMENT	PP
	PRESSURE GAUGE & COCK (STEAM SIPHON)	PG
	THERMOMETER	TH
	STRAINER W/FULL SIZE BLOW DOWN VALVE.	ST
	FLANGE	FLG
	UNION	U
	HOSE BIBB	HB
	FLOOR SINK	FS
	FLOOR DRAIN	FD
	PRIMARY ROOF DRAIN	RD/RDL
	OVERFLOW ROOF DRAIN	OD/ODL
	FLOOR CLEANOUT	FCO
	SURFACE CLEANOUT	SCO
	WALL CLEANOUT	WCO
	VENT THRU ROOF	VTR
IW	INDIRECT WASTE	IW
	POINT OF CONNECTION TO EXISTING	POC

REVISION
DATE

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AME PROJECT #22-103

CONSULTING ENGINEERS
MECHANICAL ▼ PLUMBING

CERTIFICATE NO. 32366 GEORGE J. JOSEPHS Date Signed 10/25/2022 PHOENIX, ARIZONA, U.S.A. Registered Professional Engineer (Mechanical)

PROJECT NUMBER: 22–103
DATE: 10/25/2022
DESIGNED BY: JHOCKING
DRAWN BY: JHOCKING
CHECKED BY: JROELFS

RUSSELL GULCH LANDFILL
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100% PERMIT SET

SHEET TITLE:
PLUMBING SCHEDULES

SHEET NUMBER:
P2

SECTION 15400
PLUMBING

PART 1 GENERAL
1.01 GENERAL PROVISIONS
A. FOREIGN MADE PIPING WILL NOT BE APPROVED FOR USE ON THIS PROJECT.
B. General Requirements of Plumbing Contractor:
1. Provide all labor, materials, equipment and services necessary for complete and operable installation of the Plumbing system in conformity with requirements of all Authorities having jurisdiction as indicated in the Contract Documents.
2. All Architectural drawings and specifications, fixture specifications, general, special and supplementary conditions, shall be considered a part of these specifications.
3. Prior to submitting bid, become thoroughly familiar with actual existing conditions and of the present installations to which connections must be made or which must be changed or altered. The intent of the work is shown on the drawings and described herein, and no consideration will be granted by reason of lack of familiarity on the part of the Contractor with actual physical conditions, requirements, and practices at the site.
4. Carefully check the documents of other sections to determine the requirements of any related work furnished and/or installed by that section. Provide the proper installation and/or connection.
5. Keep site free from surplus material, tools and rubbish at all times during construction period and, upon completion, leave site in clean condition.
6. Protect materials and equipment from all damage due to fire, theft, vandalism, weather, etc.
7. Repair any damage, at no extra cost to the Owner, caused to work of other sections.
8. Repair any damaged fireproofing, at no extra cost to the Owner, caused to integrity of original construction.
9. Contractor agrees that he and his subcontractors, agents, and employees will provide and maintain a safe place to work and that he and they will comply with all laws and regulations of any governmental authority having jurisdiction thereof. The Contractor agrees to indemnify, defend and hold harmless, Engineer, Owner and Architect from and against any liability, loss, damage or expense, including attorney's fees, arising from a failure or alleged failure on the part of Contractor, his and their agents, and employees to provide and maintain a safe place to work or to comply with all laws and regulations of any governmental authority having jurisdiction thereof.
10. Transmit all information required for work being performed by other sections in ample time for the proper installation and connection, and for the provision of all openings required in floors and walls.
11. Field drilling and cutting of holes in building structure required for work under this section shall be coordinated through the General Contractor and approved by Owner and Building Structural Engineer. Contractor shall bear all costs for such coordination, drilling, cutting and reinforcing costs.
12. Furnish and set all sleeves for the passage of piping through walls, roof and floors and elsewhere as will be required for the proper protection of each pipe passing through building surfaces. Coordinate this work with the General Contractor in order to properly expedite and perform this work.
13. Check the dimensional requirements of equipment to ensure that equipment can pass through the necessary areas to reach the location for installation. Include in bid costs for all work required, including any work required to move the equipment through the site to this final location.
14. Provide equipment tags per codes and authorities having jurisdiction.
15. Notify the General Contractor and Engineer in writing, within five days of award of contract, of the proposed delivery schedule of any equipment or material that may prevent the installation from being completed by the project completion date.
16. Submit a single guarantee stating that all portions of the work are in accordance with contract requirements. Guarantee all work against faulty and improper material and workmanship for a period of one year from date of final acceptance by Owner. Where guarantees or warranties for longer terms are specified by contract, such longer term shall apply.
17. Correct any deficiencies that may occur during the guarantee period, all to the satisfaction of the Owner, at no additional cost to the Owner within a reasonable time period. The Contractor shall be responsible for any damage caused by such deficiencies and repair thereof and reimburse the Owner for all costs incurred.

C. Major Items of Work include:
1. Domestic hot and cold water distribution systems including all pipe, valves, piping offsets, fittings, unions, inserts, hangers and connections to existing work.
2. Sanitary waste and vent system including all pipe, piping offsets, connections, flanges, and connections to existing work.
3. Plumbing fixtures, drains, equipment and specialties.

D. General Items:
1. Access Doors Panels: Provide concealed controls, valves and equipment requiring access with adequately sized access doors/panels. In removable type ceiling, provide access tile identification only.
2. Cutting and patching for plumbing work.
3. Coordinate all new work with existing installations.

1.02 REFERENCES
A. Published specifications, standards, tests or recommended methods of trade industry or governmental organizations apply to work in this section where cited below:
1. Local Codes
2. State Codes
3. Plumbing Code – Current adopted code per City & State requirement.
4. ASME–American Society of Mechanical Engineers
5. UL–Underwriters' Laboratory
6. AGA–American Gas Association
7. ICC–International Code Council
8. IAPMO–International Association of Plumbing and Mechanical Officials

1.03 SUBMITTALS
A. Submit manufacturer's descriptive literature, operating instructions, and maintenance and repair data to Architect.
B. All equipment and accessories shall be the product of a company regularly engaged in the manufacture of that product for at least five years.
C. All equipment and accessories shall be new and free from defects.
D. Supply all equipment and accessories in compliance with the applicable standards listed in article 1.02 of this section and with all applicable national, state and local codes.
E. All items of a given type shall be the products of the same manufacturer.

1.04 DESCRIPTION OF CONTRACT DOCUMENTS
A. Specifications:
1. Specifications, in general, describe quality and character of materials and equipment.
2. Specifications are of simplified form and include incomplete sentences.
3. Words or phrases such as "The Contractor shall," "shall be," "furnish," provide," "a," "an," "the," and "all" etc. may been omitted for brevity.

B. Drawings:
1. Drawings in general are diagrammatic and indicate scope, sizes, routing, locations, connections to equipment and methods of installation. The Drawings do not necessarily show all required offsets, obstructions or structural conditions. Locations on drawings may be distorted for purposes of clearness and legibility.
2. Scaled and figured dimensions are approximate and are for estimating purposes only, but shall be followed with sufficient accuracy to coordinate with other work and structural limitations. DO NOT SCALE DRAWINGS.
3. Before proceeding with work, check and verify all dimensions and carefully check space requirements with other Work to ensure that all equipment and materials can be installed in spaces allotted.
4. The Contractor shall assume all responsibility for fitting of materials and equipment to other parts of equipment and structure.
5. The Contractor is responsible for installing the work in such a manner that it will conform to the structure and architectural elements, avoid obstructions, maintain headroom, leave adequate clearance for proper maintenance and repairs, and provide clearances and access required by codes.
6. Make adjustments that may be necessary or requested in order to resolve space problems, preserve headroom, and avoid architectural openings, structural members and work of other trades.
7. Above items to be performed at no additional cost to the Owner.

C. Immediately and formally notify the Architect requesting his interpretation and decision, including during bidding period, if any part of the Contract Documents appears unclear or contradictory. Do not proceed with such work without Architect's decision.

1.05 PERMITS AND INSPECTIONS
A. The contractor shall secure all approvals and pay all fees for all work installed. Certificate shall be delivered to owner before final payment will be made.
4. Group concealed mechanical equipment requiring access with equipment to existing facilities.

1.06 PROJECT CONDITIONS
A. Connections to Existing Work:
1. Install new work and connect to existing work with minimum interference products and materials prior to purchase and installation, including but not
2. Temporary shutdowns of existing services shall only occur at times not to interfere with normal operation of existing facilities and only with written consent of Owner. Shutdowns shall be performed at no additional cost to the Owner.
3. Maintain continuous operation of existing facilities as required with necessary temporary connections between new and existing work. HVAC, plumbing and fire protection systems shall not to be interrupted.
4. Connect new work to existing work in neat and acceptable manner. Restore existing disturbed work to original condition including maintenance of wiring continuity as required.

1.07 QUALITY ASSURANCE
A. Materials shall be new and free from defects and listed by Underwriters' Laboratories, Inc., (or other approved testing and listing agency) or bearing their label. Conform to codes, standards and publications listed in paragraph 1.02 References.

1.08 PRODUCT DELIVERY, HANDLING AND STORAGE
A. Ship equipment in original packages, to prevent damaging or entrance of foreign matter.
B. Handle and ship in accordance with manufacturer's recommendations.
C. Provide protective coverings during construction.
D. Replace at no expense to Owner, equipment or material damaged during storage or handling, as directed by Architect.
E. Tag all items with weatherproof tag, identifying equipment by name and purchase order number.
F. Include packing and shipping lists.
G. Accessibility:
1. For operation, maintenance and repair.
2. Minor deviations are permissible.
3. Changes of magnitude or involving extra cost are not permissible without review.

1.09 SUBMITTALS
Provide one bound pdf copy of submittal material with descriptive data for all limited to the following:
1. Piping materials
2. Piping accessories.
3. Fixtures.
4. Water heaters, expansion tanks, circulating pumps, pans, and associated materials.
5. Insulating products, coverings, adhesives, clamps and sealants.

1.10 MAINTENANCE MANUALS AND RECORD DRAWINGS
A. Provide four (4) copies of operating and maintenance manual for Owner's use for each piece of equipment. Each item shall be cross–referenced and numbered with as–built drawing descriptions.
B. Deliver to Owner, one marked set of blueprints showing the work as installed. Label "RECORD DRAWINGS."

PART 2 PRODUCTS
2.01 MANUFACTURERS
A. Plumbing Fixtures
1. Kohler
2. American Standard
3. Ekay

B. Faucets
1. American Standard
2. Kohler
3. Chicago

C. Valves
1. Watts
2. Nibco
3. Milwaukee

2.02 MATERIALS
A. Domestic Water
1. Pipe:

a. Seamless copper tubing, type L, cold drawn, hard temper, ASTMB88.
b. Exposed to view at plumbing fixtures, satin finish CP brass pipe with threaded cast bronze fittings.

2. Fittings:

a. Wrought copper solder sweat type, ANSI B16.22 or brass castings, ANSI B16.18.

3. Valves:

a. Ball Valves: Watts model LFB6080G2, LFB6081G2, A 2–piece full port Lead Free* bronze ball valve to be installed as indicated on the plans. Valves with top loaded stems or valves without adjustable packing are not acceptable. Pressure rating no less than 600psi (41 bar) WOG non–shock 150psi (10 bar) WSP for 1/4" – 2". The valve shall be constructed using Lead Free* bronze.–Lead Free* ball valves shall comply with state codes and standards, where applicable, requiring reduced lead content. Valve must conform to NSF 372 and shall be a Watts Series LFB6080G2 (threaded) or LFB6081G2 (solder).

4. Insulation:
a. Install per IECC 404.4.
b. Use fiberglass pre–molded insulation with all service jacket, minimum density of 3.5 PCF, with a minimum thermal conductivity of no greater than .27 Btu–in/(h–ft2–F). Provide an additional 8 ounce canvas jacket with Arabol finish around all exposed pipe insulation. Cover fittings and valves (except unions) with insulation cement worked on in two applications to a smooth, hard surface, flush with pipe covering. Provide 8" long, 20 gauge galvanized iron metal insulation guards at locations of hanger rods and supports. Provide 12" long rigid insulation blocks on bottom half of pipe 1" and larger at hangers. Insulation wall thickness shall conform to the following schedule:

1. Domestic Hot Water Supply and Return Lines:
Mains and horizontal branches – 1" thickness.
Drops in walls and partitions – 1" thickness.

2. Manufacturers: Knauf, Owens Corning, Johns Manville.

5. Testing and Disinfection:
a. Pressure test in accordance with all applicable local plumbing code requirements.
b. Disinfect all hot and cold water systems.

C. Soil, Waste and Vent, and rainwater piping.
1. Pipe:

a. 2 in. and larger: CISPI 301 standard weight cast iron no–hub type soil pipe.
b. 1–1/2 in. and smaller: Schedule 40 galvanized steel pipe.

2. Fittings:

a. 2 in. and larger CISPI 301 standard weight cast iron no–hub type soil fittings and neoprene gasket and stainless steel bands and shield, no–hub couplings.
b. 1–1/2 in. and smaller: galvanized cast iron drainage type screwed fittings.

3. Soil, Waste and Vent, and rainwater piping (Bid as Deduct Alternate):

a. Schedule 40 solid core ABS or solid core PVC soil pipe joined with drainage pattern fittings allowed by code, may be substituted for cast iron pipe. (Allowed only when ceiling space IS NOT used as a return air plenum). NOTE: cellular or foam core piping will not be reviewed.

NOTE: DRAIN PIPING FROM STERILIZERS SHALL BE CAST IRON FOR MIN. 10 FEET.

D. Gas Piping:

1. Schedule 40, ASTM A53 or ANSI B16.3, black steel with 150 psi, malleable iron, banded thread fittings. Unions shall be ground iron–to–bronze seat. Provide corrosion protection as required by code.

2. Extend gas line to all equipment and connections requiring gas. Provide gas pipe with suitable drip legs on all mains and risers, and at equipment connections. Provide AGA approved gas–rated valves at all equipment connections.

3. Fittings: Unless otherwise specified, install fittings of the same material and finish as piping.

a. Pipe 1–1/2" and smaller, 150 psi black malleable iron conforming to ANSI B16.3, 150 psi SWP.

b. Pipe 2" and larger, black steel seamless welding fittings conforming to ANSI B16.9 and USAS B16.25, 150 psi SWP.

c. Unions: Black malleable iron, screwed connections, ground iron–to–bronze seat, conforming to ASTM A147, 250 psi SWP.

d. Flanges: Black forged steel with weld neck flanges, conforming to ANSI B16.5, 150 psi SWP

2.03 SPECIALTIES
A. Cleanouts: Josam, J.R. Smith, Wade, Watts, Zurn.

B. Water Hammer Arrestors: Josam, J.R. Smith, Wade, Watts, Zurn.

2.04 IDENTIFICATION
A. An identification label shall be provided for all new mechanical equipment installed.
B. Pipe identification labels with flow arrows shall be provided for all new piping installed at a maximum of 20"–0" on center.

3.01 EXECUTION
A. TESTS
1. In accordance with the requirements of the all applicable local plumbing code requirements and amendments.
2. Install piping in a neat and orderly fashion and follow the building lines.
3. Install plumbing fixtures in locations shown on the Architectural plans.

END OF SECTION

PLUMBING SPECIFICATIONS:

WC1 – TANK TYPE WATER CLOSET (ADA):
AMERICAN STANDARD 215AA.104 "CADET PRO" FLOOR MOUNTED, 16–1/2" TO RIM, A.D.A. COMPLIANT, VITREOUS CHINA, ELONGATED SIPHON JET BOWL, 12" ROUGH–IN, CLOSE COUPLED TANK, 3" FLUSH VALVE, EVERCLEAN ANTIMICROBIAL SURFACE, 2–1/8" FULLY GLAZED TRAPWAY, 1.28 GPF. COLOR: WHITE. SUPPLY: EASTMAN PI5812SE14LKLF–WC 5/8" X 3/8" OD CHROME PLATED, LEAD FREE, LOOSE KEY, QUARTER TURN BALL VALVE STYLE ANGLE STOP WITH 12" FLEXIBLE STAINLESS STEEL RISER TUBE AND CHROME PLATED ESCUTCHEON. SEAT: AMERICAN STANDARD 5901.110T ELONGATED, HEAVY DUTY WHITE OPEN FRONT SEAT WITH SELF STAINLESS STEEL CHECK HINGE AND EVERCLEAN ANTIMICROBIAL SURFACE. NO COVER.

L1 –LAVATORY (WALL HUNG ADA):
AMERICAN STANDARD 0356.015 "LUCERNE" 20–1/2" X 18–1/4" WALL MOUNTED, VITREOUS CHINA LAVATORY WITH FRONT OVERFLOW, WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, CONCEALED WALL HANGER AND 8" FAUCET HOLE DRILLINGS, ADA COMPLIANT. SUPPLY FAUCET: AMERICAN STANDARD 6500.145 "MONTERREY" CONCEALED BODY LAVATORY FAUCET, 4" WRIST BLADE HANDLES WITH 0.5 GPM VANDAL RESISTANT AERATOR AND QUARTER TURN CERAMIC DISC CARTRIDGES. FAUCET SHALL CONTAIN ≤0.25% TOTAL LEAD CONTENT BY WEIGHTED AVERAGE. DRAIN: EASTMAN 35072 CAST BRASS DRAIN WITH INTEGRAL PERFORATED GRID AND 1–1/4" X 8" TAILPIECE. SUPPLIES: EASTMAN PI5816SC–14LKLF–2 5/8" X 3/8" OD LOW LEAD, LOOSE KEY, CHROME PLATED QUARTER TURN BALL VALVE STYLE ANGLE STOPS WITH 15" FLEXIBLE STAINLESS STEEL RISER TUBES AND CHROME PLATED ESCUTCHEONS. CERTIFIED TO NSF/ANSI STANDARD 61–G SECTION 9. TRAP: EASTMAN 35020 17–GAUGE 1–1/4" X 1–1/4" SEMI–CAST BRASS P–TRAP WITH CLEANOUT. INSULATION KIT: PLUMBEREX 2003W "HANDY–SHIELD MAXX" UNDER–LAVATORY INSULATION OF ALL EXPOSED DRAINAGE PIPING INCLUDING HOT, COLD AND TEMPERED WATER SUPPLIES. PRODUCT SHALL MEET ADA AND ICC/ANSI A117.1. INSULATION MATERIAL SHALL COMPLY WITH ASTM E 84–07/ UL 723 CLASS A AND SHALL BE LISTED AND MEET UPC/IAPMO. CARRIER: WATTS DRAINAGE TCA–411 EPOXY COATED FLOOR MOUNTED CONCEALED ARM TRACK LAVATORY CARRIER WITH HEAVY GAUGE STEEL OFFSET UPRIGHTS WITH WELDED FEET, STEEL CROSS PLATE WITH INTEGRAL MOUNTING BRACKETS, SLIDING ADJUSTABLE ARM BRACKETS AND ADJUSTABLE CAST IRON CONCEALED ARMS WITH MOUNTING CLIPS, LEVELING SCREWS AND BASIN LOCKING DEVICE.

TMV1 – POINT–OF–USE MIXING VALVE:
WATTS LFUSG–B–M2 "UNDER SINK GUARDIAN" 3/8" COMPRESSION POINT–OF–USE THERMOSTATIC MIXING VALVE. VALVE SHALL BE CONSTRUCTED OF LEAD FREE BRASS WITH ALL INTERNAL COMPONENTS MANUFACTURED FROM CORROSION RESISTANT MATERIAL. VALVE SHALL HAVE A FOUR (4) PORT PATTERN CAPABLE OF HOT & COLD APPLICATIONS OR TEMPERED WATER ONLY (CAP INCLUDED). THE VALVE SHALL BE CAPABLE OF OPERATING DOWN TO 0.25 GPM WITH A MAXIMUM CAPACITY OF 2.25 GPM @ 45 PSI DIFFERENTIAL. CONTROL TEMPERATURE SHALL BE ADJUSTABLE BETWEEN 80° AND 120°F WITH A LOCKING NUT TO PREVENT UNAUTHORIZED OR ACCIDENTAL ADJUSTMENT. THE VALVE SHALL CONTAIN INTEGRAL CHECKS TO PREVENT CROSS FLOW AND INLET SCREENS TO FILTER DEBRIS. UNIT SHALL BE ASSE 1070 AND IAPMO CUPC LISTED. THE WETTED SURFACE OF THIS PRODUCT CONTACTED BY CONSUMABLE WATER SHALL CONTAIN LESS THAN 0.25% OF LEAD BY WEIGHT. CONTRACTOR SHALL INSTALL UNIT BEHIND SINK BOWL AND OUT OF SIGHT TO HELP PREVENT TAMPERING OR VANDALISM.

S1 – BREAK ROOM SINK:
FIXTURE: JUST MODEL SL–2131–A–GR, 31" X 21", 18 GAUGE, TYPE 304, 18–8 STAINLESS STEEL. SINGLE BOWL, FRONT OVERFLOW. SUPPLY FITTING: CHICAGO FAUCETS MODEL 50–317CP FAUCET WITH GN2–AE–317–PR–XT RIGID/ SWING CONVERTIBLE GOOSENECK SPOUT, AND WRIST BLADE HANDLES. PROVIDE LK–36 SMALL BASKET STRAINER. PROVIDE 1–1/2" TRAP ASSEMBLY, AND 1/2" X 3/8" 1/4 TURN BALL VALVE ANGLE STOPS WITH FLEXIBLE TUBE RISERS.

WCO – WALL CLEANOUT:
WATTS DRAINAGE CO–460–RD EPOXY COATED CLEANOUT TEE WITH COUNTERSUNK BRASS PLUG, VANDAL PROOF STAINLESS STEEL SCREW, STAINLESS STEEL WALL ACCESS COVER AND NO HUB CONNECTIONS.

FCO – FLOOR CLEANOUT:
J.R. SMITH MODEL 4023 CAST IRON ADJUSTABLE TYPE WITH SERRATED CUT–OFF SECTIONS, THREADED BRONZE PLUG, SCORIATED NICKEL BRONZE COVER PLATE, AND CENTER COVER PLATE SECURING SCREW WITH COUNTERSUNK HEAD.

PLUMBING SPECIFICATIONS (CONT.):

MS1 – MOP SINK:
FIAT, MODEL MSB–3636, 36" x 36" x 10", FLOOR MOUNTED, MOLDED STONE MOP SINK WITH INTEGRAL STAINLESS STEEL STRAINER EXTENSION. SUPPLY FITTING: FIAT MODEL 830–AA, CHROME PLATED SUPPLY FITTING WITH INTEGRAL STOPS, VACUUM BREAKER, 3/4" HOSE THREAD SPOUT AND WALL BRACE. MOUNT FITTING AT 24" ABOVE FINISHED FLOOR. HOSE & BRACKET: FIAT 832–AA, 30" HEAVY DUTY FLEXIBLE 3/4" RUBBER HOSE AND WALL BRACKET. SEALANT: FIAT 833–AA SILICONE SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURER. MOP HANGER: FIAT 889–CC 18 GAUGE TYPE 302 STAINLESS STEEL MOP HANGER, SEE ARCHITECTURAL DRAWINGS FOR LOCATION. STAINLESS STEEL BUMPER GUARD: E–88–AA, STAINLESS STEEL WALL GUARD: MSG2424, TRAP: 3" CAST IRON TRAP.

FD – FLOOR DRAIN:
ZURN MODEL Z–415N W/ S TYPE STRAINER, CAST IRON DRAIN BODY WITH 7" DIAMETER ADJUSTABLE NICKEL BRONZE STRAINER, WITH PRIMER CONNECTION (WHERE REQUIRED), AND NO–HUB OUTLET CONNECTION.

TG – TRAP GUARD:
PROVENT TRAPGUARD ELASTOMERIC DEVICE UTILIZING A NORMALLY CLOSED SEAL TO PREVENT EVAPORATION OF THE TRAP SEAL AND TO PREVENT SEWER GASES FROM BACKING UP INTO HABITABLE AREAS. PRODUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE REQUIREMENTS OF THE APPLICABLE CODES, IN THE FIXTURE TAIL PIECE. THIS DEVICE SHALL COMPLY WITH ASSE 1072, ICC–ES PMG–1091; 2012 IPC SEC.

RVB – RECESSED VALVE BOX:
GUY GRAY MODEL MIB1HAAB, MOLDED WHITE POWDER COATED, BRASS PLATED, LEAD FREE, FURNISHED COMPLETE WITH 1/4 TURN HAMMER ARRESTER VALVE, AND MOLDED FACEPLATE.

HB – HOSE BIBB WALL HYDRANT TYPE (FREEZELESS):
WOODFORD MODEL # B65–3/4, 3/4" INLET, 3/4" OUTLET, NON–REMOVABLE VACUUM BREAKER, FLUSH MOUNTING WALL BOX, BRASS FINISH, REMOVABLE LOOSE TEE KEY HANDLE.

REVISION | DATE

ASSOCIATED MECHANICAL ENGINEERS, PLC
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AME PROJECT #22–103
CONSULTING ENGINEERS
MECHANICAL ▼ PLUMBING

CERTIFICATE NO. 32366 GEORGE J. JOSEPHS Date Signed 10/25/2022 Registered Professional Engineer ARIZONA, U.S.A.

PROJECT NUMBER: 22–103
DATE: 10/25/2022
DESIGNED BY: JHOCKING
DRAWN BY: JHOCKING
CHECKED BY: JROELFS

RUSSELL GULCH LANDFILL
OFFICES / SCALES
5891 Hope Ln, Globe, AZ 85501

100% PERMIT SET

SHEET TITLE:
PLUMBING SPECIFICATIONS

SHEET NUMBER:
P3