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**PLUMBING GENERAL NOTES**

- FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
- ALL PLUMBING FIXTURES AND PLUMBING SYSTEM EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, VALVES, STOPS, TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. SEE FIXTURE SCHEDULE.
- FURNISH AND INSTALL COMPLETE SYSTEMS OF SOIL, WASTE, VENT, HOT AND COLD WATER PIPING FROM ALL PLUMBING FIXTURES, AND/OR OTHER EQUIPMENT.
- CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AT THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS, AND AT EVERY 100 FEET. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS.
- ALL SOIL, WASTE, AND VENT LINES SHALL BE CONCEALED IN THE BUILDING CONSTRUCTION.
- COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT WITH MASONRY OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS WITH OTHER PIPING, SATISFACTORY AND PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE COPPER AGAINST CONTACT WITH OTHER METALS.
- WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE PREVENTED BY COATING THE COPPER HEAVILY WITH ASPHALTIC ENAMEL AND PROVIDING 15# ASPHALT SATURATED FELT BETWEEN THE PIPE AND MASONRY.
- THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY WITH THE MECHANICAL AND THE ELECTRICAL CONTRACTORS TO AVOID CONFLICT WITH OTHER TRADES.
- CEILING AREA HAS LIMITED SPACE. CONTRACTOR MUST COORDINATE WITH OTHER TRADES FOR ALL STRUCTURES, PIPING, CONDUIT, DUCTWORK, LIGHTING, ETC. TO PROPERLY BE INSTALLED.
- ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, AND PARTITIONS.
- PROVIDE DRAIN VALVES IN THE HOT AND COLD WATER SYSTEM AT ALL LOW POINTS TO ALLOW FOR COMPLETE DRAINAGE.
- VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY ATTACHED.
- WASTE AND VENT PIPING SHALL BE AS FOLLOWS:  
BELOW SLAB: SOLID WALL PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.  
ABOVE SLAB: PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.  
OR  
BELOW SLAB: SERVICE WEIGHT HUB AND SPIGOT CAST IRON PIPING WITH HUB AND SPIGOT CAST IRON FITTINGS AND COMPRESSION GASKETS.  
ABOVE SLAB: SERVICE WEIGHT NO-HUB CAST IRON PIPING WITH CAST IRON FITTINGS AND HEAVY DUTY BANDS.
- STORM PIPING SHALL BE AS FOLLOWS:  
BELOW SLAB: PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.  
ABOVE GROUND: SERVICE WEIGHT NO-HUB CAST IRON PIPING. INSULATION IS REQUIRED ON ALL ROOF DRAIN BODIES AND HORIZONTAL RUNS (ABOVE SLAB). 1/2" THICK RIGID MOLDED FIBERGLASS WITH FITTINGS INSERTS, PVC COVERS, AND VAPOR BARRIER JACKET.
- DOMESTIC WATER PIPING ABOVE SLAB SHALL BE TYPE 'L' COPPER. DOMESTIC WATER PIPING BELOW SLAB SHALL BE TYPE 'K' COPPER. INSULATION IS REQUIRED ON ALL WATER SUPPLY PIPING ABOVE FINISHED FLOOR WITH INSULATION HAVING A MINIMUM R FACTOR OF 6.5 DETERMINED AT 75°F IN ACCORDANCE WITH ASTM C-177 OF NC INTERNATIONAL PLUMBING CODE OR PER LOCAL JURISDICTION.
- INVERT ELEVATIONS SHALL BE ESTABLISHED AND VERIFIED BEFORE WASTE PIPING IS INSTALLED SO THAT PROPER SLOPES WILL BE MAINTAINED.
- THE PLUMBING CONTRACTOR SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING WHERE QUICK-CLOSING VALVES ARE UTILIZED. INSTALLATION OF AIR CHAMBERS OR SHOCK ARRESTORS SHALL BE IN ACCORDANCE WITH PDI-W4201. SEE SHOCK ARRESTOR SCHEDULE (IF PROVIDED).
- PROVIDE FULL PORT VALVES IN ALL BRANCH LINES OF THE HOT AND COLD WATER DISTRIBUTION SYSTEM ON 3/4" AND LARGER CN x HM AND AS SHOWN ON PLANS, RISERS, AND SCHEMATIC DETAILS.
- REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- PROVIDE ACCESS DOORS FOR ALL VALVES AND DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION.
- PROVIDE DEEP SEAL TRAPS FOR ALL FLOOR DRAINS.
- WHERE EARTHQUAKE LOADS ARE APPLICABLE IN ACCORDANCE WITH THE NC INTERNATIONAL PLUMBING CODE, PIPING AND EQUIPMENT SUPPORTS SHALL BE DESIGNED AND INSTALLED FOR THE SEISMIC FORCES IN ACCORDANCE WITH THE NC BUILDING CODE.
- PROVIDE A U.L. LISTED ASSEMBLY FOR ALL PENETRATIONS THRU FIRE RATED WALLS AND FLOORS.
- PROVIDE PRESSURE REDUCING VALVE IF PRESSURE EXCEEDS 80 PSI.
- ALL SUSPENDED MATERIALS AND EQUIPMENT SHALL BE INDIVIDUALLY SUPPORTED FROM THE BUILDING STRUCTURE. DO NOT SUSPEND FROM THE CEILING OR ITS SUPPORT SYSTEM.
- NO INSULATION PERMITTED ON BACKFLOW PREVENTER ASSEMBLY.

**SHOCK ARRESTOR SCHEDULE**

P.D.I. SIZE	FIXTURE UNITS	MANUFACTURER OR EQUAL
SA'A		ZENITH, PPI, SIOUX-CHIEF
SA'B	32	
SA'C	33	
SA'D	61	
SA'E	114 - 154	
SA	155 - 330	

LOCATE SHOCK ARRESTORS IN AN ACCESSIBLE LOCATION, OR PROVIDE SIOUX-CHIEF SHOCK ARRESTORS ONLY.  
PROVIDE SHOCK ARRESTORS AS INDICATED PER SCHEDULE.  
SHOCK ARRESTORS SHALL BE SAME SIZE AS PIPE INSTALLED ON, MINIMUM.

**PLUMBING FIXTURE SPECIFICATIONS AND CONNECTION SCHEDULE**

MARK	FIXTURE	TYPE	MANUFACTURER	MODEL NO.	MATERIAL	STYLE	FAUCET/VALVE			DRAIN		PIPE SIZES			MOUNTING	REMARKS	
							MANUFACT. MODEL NO.	SPOUT	HANDLES	CENTERS	TYPE	SIZE	SUPPLIES AND STOPS	WASTE			VENT
P-1	WATER CLOSET	FLUSH TANK	AMERICAN STANDARD	3048.660	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	McGUIRE 165	3"	2"	1/2"	FLOOR	PROVIDE WITH OPEN FRONT SEAT WITH NO LID
P-2	LAVATORY	WALL HUNG	BRADLEY	ADVOCATE AV30	TERRAZO SOLID SURFACE	ADA COMPLIANT	INTEGRAL FAUCET	CENTERSET	SENSOR	4'	GRID	McGUIRE 175 WITH PK2125	2"	1 1/2"	1/2"	WALL HUNG	MOUNT AT ADA HEIGHT. 0.36GPM PER 30 SECOND FLOW FAUCET.
P-3	WATER COOLER	DOUBLE STATION	ELKAY	EZ5TL8C	STAINLESS STEEL	ADA COMPLIANT	-	-	-	-	-	McGUIRE 165	2"	1 1/2"	1/2"	WALL	MOUNT AT ADA HEIGHT
GMH-1	WATER HEATER	GAS	RINNAI	RS0LS1	-	DIRECT VENT	-	-	-	-	-	-	-	3/4"	3/4"	WALL	NATURAL GAS, 150 CFH
FPHB	HOSE BIBB	FREEZE PROOF	WOODFORD	MODEL 25	CAST BRASS	RECESSED BOX	-	-	-	-	-	-	-	3/8"	-	WALL	
HB	HOSE BIBB	STANDARD	WOODFORD	24P	CAST BRASS	WALL FAUCET	-	-	-	-	-	-	-	1/2"	-	WALL	
FPHB-2	WALL HYDRANT	FREEZE PROOF	WOODFORD	B67	CAST BRASS	BOX FAUCET	-	-	-	-	-	-	-	3/8"	-	WALL	
WB-1	WASHER WALL BOX	BOTTOM SUPPLY	SPECIALTY PRODUCTS	OB-351	PVC	RECESSED BOX	-	-	-	-	-	-	3"	1 1/2"	1/2"	WALL	SHUT-OFF VALVES AND HOSE CONNECTION FOR WASTE.
RB-1	REFRIGERATOR BOX	BOTTOM SUPPLY	QATEY	38574	PVC	RECESSED BOX	-	-	-	-	-	-	-	1/2"	-	WALL	SHUT-OFF VALVE AND THREADED CM CONNECTION.
S-1	UTILITY SINK	FLOOR MOUNTED	FIAT	FL-1	MOLDED STRUCTURAL PLASTIC	ONE COMPT 29" X 22"	FIAT AI DECK TYPE 4" CENTERS	THREADED	TWO HANDLES	6 3/4"	-	-	1 1/2"	1 1/2"	1/2"	FLOOR	WHITE BAKED ENAMEL LEGS AND 4" BACK LEDGE.
EBM	EMERGENCY EYE/WASH	WALL MOUNTED	BRADLEY	519-2904	-	-	-	-	-	-	-	-	-	1/2"	1/2"	WALL	PROVIDE ADA COMPLIANT TEPIID HUBER
RD	ROOF DRAIN	DOME TOP	J.R. SMITH	1015-C-U	CAST IRON	-	-	-	-	-	-	-	-	-	-	ROOF	G.C. TO INSTALL RD AND PC TO PROVIDE AND MAKE FINAL CONNECTION TO RD
ORD	OVERFLOW ROOF DRAIN	DOME TOP	J.R. SMITH	1015-C-U	CAST IRON	-	-	-	-	-	-	-	-	-	-	ROOF	G.C. TO INSTALL RD AND PC TO PROVIDE AND MAKE FINAL CONNECTION TO RD
FD	FLOOR DRAIN	SQUARE TOP	J.R. SMITH	2010	CAST IRON	NIKALOY TOP	-	-	-	-	-	-	-	-	-	FLOOR	PROVIDE WITH TRAP PRIMER
AD	FLOOR DRAIN	SQUARE TOP	J.R. SMITH	2010	CAST IRON	NIKALOY TOP	-	-	-	-	-	-	-	-	-	FLOOR	PROVIDE WITH TRAP PRIMER
FCO	FLOOR CLEAN-OUT	SQUARE TOP	J.R. SMITH	4040	CAST IRON	NICKEL BRONZE TOP	-	-	-	-	-	-	-	-	-	FLOOR	
GCO	GRADE CLEAN-OUT	ROUND TOP	J.R. SMITH	4240	CAST IRON	CAST IRON TOP	-	-	-	-	-	-	-	-	-	GRADE	PROVIDE WITH 24"x24"x8" THK CONCRETE PAD AT GRADE.

NOTES:  
1. CATALOG NUMBERS AND MANUFACTURERS ARE TO INDICATE TYPE AND QUALITY OF FIXTURE DESIRED. SUBMIT CUTSHEETS OF THESE AND ALTERNATE MANUFACTURERS FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PURCHASE OF ANY FIXTURES. INFORMATION ON ALTERNATE FIXTURES PROPOSED BY THE CONTRACTOR SHALL INCLUDE THE ADD/DUCT ASSOCIATED WITH EACH FIXTURE (OR THE ALTERNATE PACKAGE AS A WHOLE).

**PNEUMATIC FEEDS PLUMBING SCHEDULE**

PIPE	ELEVATION	SIZE	FROM	TO	DESCRIPTION	PRESSURE	FLOW	SOURCE TYPE	MATERIAL	SUPPLIED BY	TERMINATED BY	NOTES
N1	ABOVE	1"	AIR COMPRESSOR OR	AIR SUPPLY HEADER	AIR SUPPLY TO PNEUMATIC HEADER.	100PSI	25SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N4	ABOVE	3/4"	CONVEYOR AIR PANEL DROP	CONVEYOR AIR PANEL DROP	AIR DROP TO CONVEYOR AIR PANEL	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N5	ABOVE	3/4"	AIR SUPPLY HEADER	HYDRA-FLEX #1 CHEMICAL DELIVERY DROP	AIR DROP FOR HYDRA-FLEX CHEMICAL DELIVERY SYSTEM	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N6	ABOVE	3/4"	AIR SUPPLY HEADER	HYDRA-FLEX #2 CHEMICAL DELIVERY DROP	AIR DROP FOR HYDRA-FLEX CHEMICAL DELIVERY SYSTEM	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N9	ABOVE	3/4"	AIR SUPPLY HEADER	QUICKFIRE AIR PANEL DROP	AIR DROP TO QUICKFIRE AIR PANEL	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N10	ABOVE	3/4"	AIR SUPPLY HEADER	DURA SCRUBBER AIR PANEL DROP	AIR DROP TO DURA SCRUBBER AIR PANEL	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.
N11	ABOVE	3/4"	AIR SUPPLY HEADER	GYRO WRAP AIR PANEL DROP	AIR DROP TO GYRO WRAP AIR PANEL	100PSI	10SCFM	AIR	TYPE M COPPER	PLUMBER	PLUMBER	TERMINATE WITH BALL VALVE AND 1/2" FEMALE PIPE THREAD FITTING 84" A.F.F.

**HYDRAULIC FEEDS PLUMBING SCHEDULE**

HOSE	ELEVATION	SIZE	FROM	TO	DESCRIPTION	PRESSURE	FLOW	SOURCE TYPE	MATERIAL	SUPPLIED BY	TERMINATED BY	NOTES
H1	UNDER FLOOR CHASE	3/4"	10HP HYDRAULIC POWER PACK	CONVEYOR MOTOR FEED	HYDRAULIC FEED TO CONVEYOR.	-	-	OIL	HYDRAULIC HOSE	CAR WASH INSTALLER	CAR WASH INSTALLER	HYDRAULIC LINES ROUTED TO CHASE PIPE TO EXIT END OF CARWASH CONVEYOR.
H2	UNDER FLOOR CHASE	3/4"	10HP HYDRAULIC POWER PACK	D/S DURA SCRUBBER MOTOR FEED	HYDRAULIC FEED TO P/S DURA SCRUBBER.	-	-	OIL	HYDRAULIC HOSE	CAR WASH INSTALLER	CAR WASH INSTALLER	NONE
H4	UNDER FLOOR CHASE	3/4"	D/S DURA SCRUBBER MOTOR FEED	10HP HYDRAULIC POWER PACK	HYDRAULIC RETURN TO POWER PACK.	-	-	OIL	HYDRAULIC HOSE	CAR WASH INSTALLER	CAR WASH INSTALLER	NONE
H5	UNDER FLOOR CHASE	3/4"	10HP HYDRAULIC POWER PACK	P/S DURA SCRUBBER MOTOR FEED	HYDRAULIC FEED TO D/S DURA SCRUBBER.	-	-	OIL	HYDRAULIC HOSE	CAR WASH INSTALLER	CAR WASH INSTALLER	NONE
H6	UNDER FLOOR CHASE	3/4"	P/S DURA SCRUBBER MOTOR FEED	10HP HYDRAULIC POWER PACK	HYDRAULIC RETURN TO POWER PACK.	-	-	OIL	HYDRAULIC HOSE	CAR WASH INSTALLER	CAR WASH INSTALLER	NONE

**NOTE TO CONTRACTOR**

- THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE EQUIPMENT DRAWINGS FOR INSTALLATION OF ALL PIPING RELATING TO ALL EQUIPMENT AND REQUIRED CONNECTIONS PER EQUIPMENT SUPPLIER/OWNER LAYOUT. ALL WORK SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL UTILITIES AND LINES RELATING TO CAR WASHING EQUIPMENT WITH THE CIVIL ENGINEER AND THE CIVIL DRAWINGS.

**PLUMBING LEGEND**

- DOMESTIC COLD WATER PIPING
- DOMESTIC HOT WATER PIPING
- VENT PIPING
- WASTE (SANITARY SEWER)
- GAS PIPING
- RL --- ROOF LEADER
- ORL --- OVERFLOW ROOF LEADER
- SD --- STORM PIPING UNDERSLAB
- RW --- REJECT WATER PIPING
- NPW --- NON-POTABLE WATER PIPING
- A --- COMPRESSED AIR PIPING
- FULL PORT VALVE
- CHECK VALVE
- PIPE UP
- PIPE DOWN
- FLOOR DRAIN
- ABOVE FINISHED FLOOR
- ABOVE UNFINISHED FLOOR
- COLD WATER
- ELECTRICAL SUB-CONTRACTOR
- FLOOR CLEAN OUT
- FLOOR DRAIN
- GENERAL CONTRACTOR
- HOSE BIBB
- HUB DRAIN
- HOT WATER
- MECHANICAL SUB-CONTRACTOR
- PLUMBING SUB-CONTRACTOR
- VENT
- WASTE

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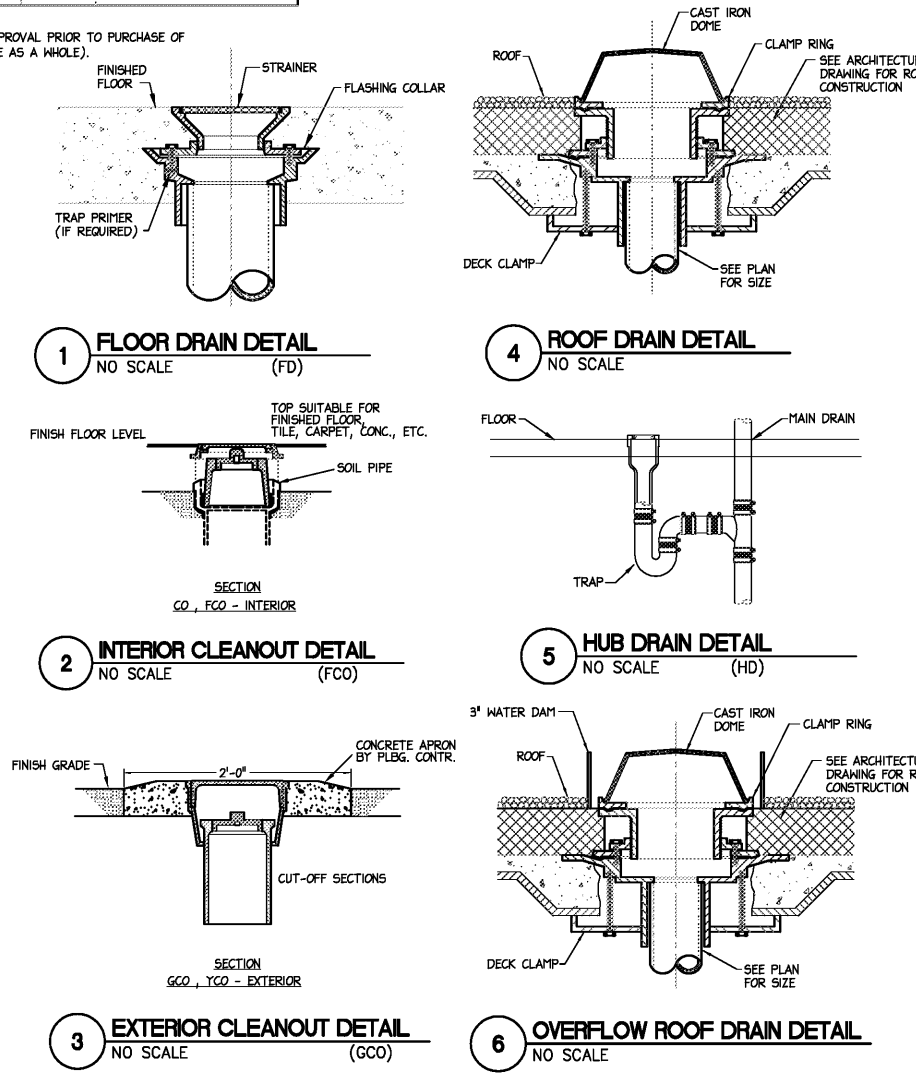
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