

PIPING MATERIALS

SERVICE	SIZE	PIPE	FITTINGS	UNIONS AND FLANGES	JOINTS
WASTE AND VENT PIPING (ABOVE GRADE CONCEALED) (UNDER GRADE) (ABOVE GRADE EXPOSED ABOVE 14' AFF)	ALL	PVC PIPE & FITTINGS, DWV (ASTM D2685)	-	-	SOLVENT CEMENT, APPLY PURPLE PRIMER PRIOR TO APPLYING CEMENT, ASTM F856, ASTM D2564, ASTM D2855, ASTM F402
WASTE AND VENT PIPING (ABOVE GRADE EXPOSED PIPING BELOW 14' AFF)	ALL	SERVICE WEIGHT CAST IRON, CISPI 301	NO HUB	-	NEOPRENE GASKETS, ASTM C64
DOMESTIC COLD WATER AND HOT WATER PIPING WITHIN BUILDING	ALL	CPVC PIPE, ASTM D1784, ASTM D2846, NSF61	CPVC, CELL CLASSIFICATION 24448, ASTM D1784, ASTM D2846, NSF61	-	SOLVENT CEMENT ASTM F483, APPLY PURPLE PRIMER PRIOR TO APPLYING CEMENT, ASTM F856, NSF61
DOMESTIC COLD WATER AND HOT WATER PIPING WITHIN BUILDING (BELOW GRADE)	ALL	COPPER TUBE SEAMLESS TYPE "K" OR "L", ASTM B75, ASTM B88, ASTM B251	NO FITTINGS ALLOWED BELOW GRADE	NO FITTINGS ALLOWED BELOW GRADE	NO FITTINGS ALLOWED BELOW GRADE
GAS PIPING ABOVE GRADE	2-1/2" AND LARGER	BLACK STEEL, SCHEDULE 40, ASTM A 120, BUTT WELDED	FORGED STEEL, BUTT WELDED SCHEDULE 40, ANSI B 16.9	#150 FORGED STEEL, FLAT FACED WELDNCK TYPE FLANGES, ANSI B 16.5	BUTT WELDED
GAS PIPING ABOVE GRADE	UNDER 2-1/2"	BLACK STEEL, SCHEDULE 40, ASTM A 120	150# BLACK MALLEABLE IRON SCREWED, ANSI B16.3, BUSHINGS PROHIBITED	-	THREADED
CONDENSATE FOR COOLER/FREEZER WITHIN BOXES, HVAC (INTERIOR AHU)	ALL	COPPER TUBE TYPE L (HVAC AHU- INSULATED)	CAST BRONZE	SWEAT-END UNIONS #150 BRASS GROUND JOINT CONNECT TO STEEL OR WITH DIELECTRIC ADAPTERS	SOLDERED 95-5 TIN ANTIMONY (LEAD CONTENT CERTIFIED LESS THAN 0.2%)
CONDENSATE FOR CASES, HVAC (ROOFTOP UNITS)	ALL	PVC SCHEDULE 40	PVC	-	SOLVENT CEMENT, APPLY PURPLE PRIMER PRIOR TO APPLYING CEMENT, ASTM F856, ASTM D2564, ASTM D2855, ASTM F402

NOTES:

- PVC PIPING SHALL BE VERIFIED WITH LOCAL AUTHORITIES PRIOR TO SUBMITTING BID. CELLULAR FOM CORE ABSOLUTELY NOT ALLOWED.
- PVC WILL NOT BE PERMITTED FOR DOMESTIC WATER PIPING, OR PIPING LOCATED IN ANY AIR PLENUMS.

GENERAL NOTES

- DO NOT SCALE FROM THESE DRAWINGS.
- DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
- ALL INDICATED WORK SHALL BE PERFORMED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED.
- IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, ELECTRICAL, STRUCTURAL, REFRIGERATION, ENERGY MANAGEMENT, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. IN ADDITION, THIS CONTRACTOR MUST COORDINATE WITH AN OWNER REPRESENTATIVE TO FULLY UNDERSTAND ALL REQUIREMENTS WHICH MAY NOT BE SPECIFIED HEREIN AND WHICH THE OWNER MAY CONSIDER PART OF THIS CONTRACT. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO WORK CLOSELY WITH ALL ACCOMPANYING CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A CAREFULLY COORDINATED AND SMOOTH INSTALLATION.
- ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND RELATED HVAC, ELECTRICAL, STRUCTURAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS, OR BETWEEN THESE BID DOCUMENTS AND FIELD CONDITIONS OR LOCAL AUTHORITIES/CODES MUST BE BROUGHT TO THE ATTENTION OF THE OWNER, ARCHITECT AND ENGINEER PRIOR TO BID SUBMISSION.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES WITHIN JURISDICTION, AND IT SHALL BE THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
- THE PLUMBING CONTRACTOR MUST VISIT THE SITE AND NOTE ALL FIELD CONDITIONS AS WELL AS ALL CONDITIONS TO BE MET, PRIOR TO BID SUBMISSION. LACK OF A THOROUGH UNDERSTANDING OF THE PROJECT SCOPE AND CONDITIONS SHALL NOT CONSTITUTE AN EXCUSE FOR ERRORS OR OMISSIONS, NOR FOR A REQUEST FOR EXTRA COMPENSATION.
- IT IS CRITICAL THAT THE PLUMBING CONTRACTOR FIELD VERIFIES ALL INVERTS PRIOR TO BID SUBMISSION. IF ANY CONFLICTS EXIST BETWEEN THE NEW PLUMBING SYSTEMS AND THE ON SITE SYSTEMS, THEY SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND THE ENGINEER PRIOR TO BID SUBMISSION. EXTRA COMPENSATION WILL NOT BE ALLOWED FOR ANY EXTRA WORK WHICH RESULTS FROM AN INABILITY TO MEET THE INVERTS OF THE ON SITE PIPING SYSTEMS.
- THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF RECORD "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPING, PIPING CONNECTIONS AND ACCESS DOORS. THESE DRAWINGS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.
- ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. FINAL LOCATIONS OF VERTICAL DROPS SHALL BE COORDINATED AND RUN WITHIN CHASES. LOCATIONS ARE TO BE REVIEWED WITH AN OWNER REPRESENTATIVE AND ARCHITECT PRIOR TO INSTALLATION.
- ALL DOMESTIC WATER BRANCH LINES SHALL HAVE THEIR OWN RESPECTIVE SHUT-OFF VALVES.
- ALL REFRIGERATED CASES CONDENSATE PIPING SHALL BE PIPED TO HUB DRAINS BY THE REFRIGERATION CONTRACTOR. CONDENSATE PIPING SHALL BE AS SPECIFIED THIS SHEET.
- PRIOR TO INSTALLING SYSTEMS, THE PLUMBING CONTRACTOR SHALL MEET WITH AN OWNER'S REPRESENTATIVE TO FIELD VERIFY THE EXACT LOCATION OF ALL PROPOSED EQUIPMENT WHICH MAY NOT BE CLEARLY INDICATED ON THE DRAWINGS.
- IN ALL AREAS WHERE NEW WALL FINISHES ARE PROPOSED, PLUMBING CONTRACTOR TO REMOVE AND REINSTALL ALL PLUMBING FIXTURES, PIPING, ETC TO ALLOW FOR NEW FINISHES. COORDINATE WITH ARCHITECTURAL FINISH PLANS FOR EXTENT OF WORK.
- THE PLUMBING CONTRACTOR SHALL COORDINATE THE ENTIRE UNDERGROUND PLUMBING PIPING SYSTEM LOCATIONS AND INVERTS WITH THE REFRIGERATION PIPE CHASE, INCLUDING FITS AND PULLBOXES AS WELL AS ALL OTHER UNDERGROUND SYSTEMS.
- ALL PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL PLUMBING CODES. PLUMBING CONTRACTOR TO BE COMPLETELY FAMILIAR WITH ALL CODES AND LOCAL REQUIREMENTS PRIOR TO SUBMITTING BID. THERE WILL BE NO ADDITIONAL COMPENSATION MADE FOR WORK BEING DONE DUE TO LACK OF KNOWLEDGE OF CODES AND LOCAL REQUIREMENTS.
- ALL EXPOSED SOIL AND VENT LINES BELOW 14' AFF OR VERTICAL SHALL BE CAST IRON.
- CONTRACTOR TO VERIFY EXACT LOCATION OF HUB DRAINS WITH THE OWNER PRIOR TO FINAL ROUGH-IN.
- PROVIDE PIPING EQUIPMENT AND MATERIALS IN ACCORDANCE WITH APPLICABLE PLUMBING CODE REGULATIONS AND STANDARDS, AUTHORITIES HAVING JURISDICTION, AND 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, PIPE ROUGH-IN CONNECTION LOCATIONS WITH ARCHITECTURAL DRAWINGS, OWNER AND FINISHER OF EQUIPMENT PRIOR TO INSTALLATION.
- NO SEWER OR VENT PIPE SHALL BE INSTALLED WITHIN ANY INSULATED COOLER OR FREEZER WALL.
- ALL PIPING SHALL BE CONCEALED IN WALLS OR ABOVE CEILING UNLESS OTHERWISE NOTED.
- DURING UNDERGROUND PLUMBING LINE ROUGH-IN, CONTRACTOR TO REVIEW REFRIGERATED CASE CATALOG CUTS (REF: ARCHITECTURAL DRAWINGS), CONTRACTOR TO VERIFY REFRIGERATED CASE LAYOUT.
- CONDITIONS SHOWN ON THE PLANS RELATIVE TO THE WORK TO BE PERFORMED ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT ARE SUBJECT TO VERIFICATION, VERIFY LOCATIONS AND ELEVATIONS OF UTILITY TO BE CROSSED OR CONNECTED. CORRECT DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS AT NO EXPENSE TO OWNER. IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF CONDITION IN CONFLICT WITH THE PLANS.
- ANY PIPE SIZES NOT INDICATED ON FLOOR PLAN, REFER TO RISER DIAGRAMS, SCHEDULE AND DETAILS.
- ALL HD-1 SHALL HAVE 3" FIXTURE DRAINS UNLESS NOTED OTHERWISE.
- MAINTAIN 24" FROM DRAIN OUTLET TO TRAP WEIR WHEN REQUIRED BY AHU.
- ALL DIMENSIONS SHOWN ARE BASED ON ARCHITECTURAL FIXTURE PLAN.
- ALL FINAL LOCATIONS OF DRAINS AND STUB UPS SHALL BE COORDINATED WITH FINAL FIXTURE LAYOUT AND REVIEWED BY OWNER'S FIELD REPRESENTATIVE, REFRIGERATION CONTRACTOR, AND ARCHITECT PRIOR TO THE INSTALLATION.
- SET DRAIN ELEVATION DEPRESSED BELOW FINISHED SLAB ELEVATIONS PER ARCHITECTURAL AND STRUCTURAL SLAB PLANS.
- ALL HUB DRAINS, CONDENSATE FLOOR DRAINS, AND FLOOR SINKS TO BE ACCESSIBLE FOR MAINTENANCE.
- ALL INDIRECT WASTE PIPING FROM KITCHEN SINKS SHALL BE PVC.
- ALL WASTE WATER FROM FOOD SERVICE EQUIPMENT AND SINKS SHALL BE INDIVIDUALLY PIPED TO A HUB DRAIN OR FLOOR SINK WITH A MINIMUM OF ONE INCH AIR GAP UNLESS OTHERWISE NOTED AND/OR DETERMINED BY LOCAL CODES.

PLUMBING SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION AND/OR SPECIFICATION	SYMBOL	DESCRIPTION AND/OR SPECIFICATION
	SANITARY PIPING		EXISTING GAS PIPING (G)
	GREASE WASTE PIPING		GAS PRESSURE REGULATOR
	EXISTING VENT PIPING		AGA APPROVED GAS VALVE
	EXISTING SANITARY PIPING		MECHANICAL GAS VALVE
	EXISTING GREASE WASTE PIPING (GW)		BALL VALVE
	EXISTING STORM PIPING (S)		UNION
	EXISTING COLD WATER PIPING (CW)		P-TRAP/HUB DRAIN
	EXISTING HOT WATER PIPING (HW)		FLOW ARROW
	COLD WATER PIPING (CW)		EQUIPMENT FIXTURE DESIGNATION
	HOT WATER PIPING (HW)		PLAN OR DETAIL TAG
	BRANCH-BOTTOM CONNECTION		PLUMBING FIXTURE DESIGNATION
	BRANCH-TOP CONNECTION		KEYED NOTES
	RISE THRU FLOOR OR ROOF		AUTHORITY HAVING JURISDICTION
	DROP OR RISE		ABOVE FINISHED FLOOR
	INDIRECT WASTE (CONDENSATE)		ABOVE FINISHED GRADE
	HATCHING INDICATES ALL FIXTURES AND/OR PIPING TO BE REMOVED TO POINT INDICATED		BELOW FINISHED GRADE
	CONNECT NEW TO EXISTING AT POINT INDICATED		DRAINAGE FIXTURE UNIT
	WATER HAMMER ARRESTOR (WHA)		EQUIPMENT LENGTH
			PUBLIC FOOTING HOUR

PLUMBING SPECIFICATION

- GENERAL**
- ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT PLUMBING CODE AND ALL APPLICABLE STATE AND LOCAL CODES.
 - ALL NECESSARY FEES TO BE INCLUDED IN THIS PHASE OF CONSTRUCTION.
 - ALL WORK SHALL BE PERFORMED BY QUALIFIED PLUMBERS/MECHANICS FOLLOWING APPLICABLE CODES.
 - MATERIALS, FIXTURES, EQUIPMENT AND PIPING SYSTEMS SHALL BE NEW AND, AS NOTED, REVISED TO COMPLETE WITH ALL REQUIRED VALVING, SAFETY DEVICES, HANGERS, SEALS, ETC FOR WORKING SYSTEM.
- PIPING AND APPURTENANCES**
- PIPING FOR WATER TO BE TYPE "L" COPPER (ASTM B-88) WITH CAST BRONZE FITTINGS. PIPE SHALL BE INSTALLED WITH 1" THICK GLASS FIBER LOW PRESSURE INSULATION WITH UNVERIFIED WAPOR BARRIER SHEET WITH SELF-SEALING JOINTS. INSULATION SHALL BE AS MANUFACTURED BY JOHN MANVILLE, JOHNS-CORNING, INSULATE FITTINGS AND VALVES WITH MOLDING GLASS FIBER INSULATORS TO THE SAME THICKNESS AS PIPE INSULATION. WATER PIPING INSTALLED BELOW CONCRETE FLOOR SHALL BE INSULATED WITH 1/2" THICK POLYETHYLENE INSULATION WITH ENDS SEALER MANUFACTURER. ALL IN G-CELL FULL AREA BELOW SLAB.
 - VERTICAL AND HORIZONTAL PIPING RUN WITHIN UNFINISHED FRAMED WALLS WITHIN THE BUILDING ENVELOPE SHALL MAINTAIN A MINIMUM OF 1/2" THICK GLASS FIBER LOW PRESSURE INSULATION. PROVIDE JACKETS AND ELBOWS SIMILAR TO STANDARD INSULATION.
 - SPECIFICATION TO ALL TRAPS, TOPS, TAPS, FAUCETS, ETC. AS PROPERLY INSTALLED.
 - SHUT OFF VALVES TO BE 1/2" BRONZE FULL ORB TYPE BALL VALVE, UL LISTED NIBCO OR EQUAL.
 - INSTALL SHUT OFF VALVES ON ALL PLUMBING FIXTURES.
 - ANY PIPING INSTALLED ON EXTERIOR WALL SHALL BE RUN WITHIN BUILDING INSULATION ENVELOPE.
 - WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC ASTM D2685 (VERIFY IF LOCALLY APPROVED). FOAM CORE SHALL NOT BE ALLOWED.
 - GAS PIPING EXPOSED TO BE RUN ON EXTERIOR OF BUILDING OR SUBJECT TO WEATHER SHALL BE PRIMED AND PAINTED AT TIME OF INSTALLATION TO PREVENT RUSTING.
 - SUPPORT PIPING WITH SUBSTANTIAL HANGERS AND SUPPORTS AND PROVIDE WITH 12" LONG GALVANIZED STEEL RADDLES AS REQUIRED. PIPE HANGERS BY B-LINE OR EQUAL, SPACE PER MANUFACTURER RECOMMENDATIONS AND LOCAL CODES. WIRE OR STRAP HANGERS NOT ALLOWED.
 - REFER TO PLANS AND SCHEDULES FOR FIXTURES AND EQUIPMENT COMPLETE WITH ALL NECESSARY FITTINGS, TRAPS, VALVES, SAFETY DEVICES, DRAINS, RELIEF VALVES FOR A COMPLETE INSTALLATION.
 - COORDINATE ALL PLUMBING WITH ALL OTHER TRADES FOR PROPER OPENINGS, CLEARANCES AND MATERIALS.
 - THE STANDARD ONE YEAR GUARANTEE ON PARTS AND LABOR.
- PERMITS AND FEES**
- THIS CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY, OBTAIN ALL PERMITS AND LICENSES, PAY FOR ALL REQUIRED FEES TO INSTALL AND COMPLETE THE PLUMBING INSTALLATION.
- SHOP DRAWINGS**
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MAJOR EQUIPMENT TO BE CONSTRUCTED AND/OR PURCHASED AND INSTALLED ON THIS PROJECT.
 - SUBMIT COMPLETE INFORMATION INCLUDING CATALOG DATA, ENGINEERING PERTINENT DIMENSIONS, CAPACITIES, ETC.
 - ALL EQUIPMENT PROPOSED SHALL BE PROPERLY CHECKED AND COORDINATED WITH OTHER TRADES BEFORE SUBMITTAL.
 - SUBMISSION MUST BE MADE WITHIN THIRTY (30) CALENDAR DAYS AFTER AWARD OF THE PLUMBING CONTRACT.
 - SUBSTITUTION OF EQUIPMENT SHALL BE ALLOWED AS LONG AS CONTRACTOR COORDINATES AND MAKES ANY CHANGES NECESSARY TO ACCOMMODATE ANY PHYSICAL OR MECHANICAL EQUIPMENT CHANGES FROM SPECIFIED, IF APPROVED.
 - THE REQUIRED SHOP DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - PLUMBING FIXTURES
 - CLEANOUTS
 - INSULATION
 - DRAINS
 - VALVES/REGULATOR
 - HANGERS AND SUPPORTS
 - PIPING (ALL APPLICATIONS)

APPLICABLE CODES

BUILDING CODE	EXISTING
PLUMBING CODE	MERCANTILE
PLUMBING CODES & REFERENCES:	2018 NC PLUMBING AND FUEL GAS CODES
LOCATION:	RALEIGH, NC

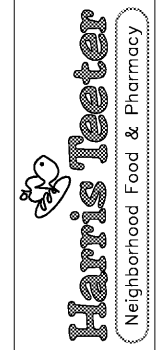
AREA OF WORK PLAN

REFERENCE SHEET C1.2 - AREA OF WORK PLAN FOR DELINEATION OF INDIVIDUAL WORK AREAS WITHIN THE PROJECT.

Date: SEPTEMBER 10, 2019 Job No. 1922

Revisions:

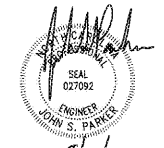
No.	Date	By	Check



Project: HARRIS TEETER STORE #289 - REMODEL
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 PLUMBING OVERVIEW SHEET

DRAWING INDEX

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