

General Specification Notes

**Scope**  
The intent of the Specifications and the Drawings is to provide a complete and fully operational plumbing system. The Contractor shall furnish all labor, material, and equipment related to the installation of the plumbing work.

**Site Examination**  
The Contractor shall thoroughly examine all areas where fixtures, equipment, and piping will be installed and will report any condition that, in his opinion, prevents the proper installation of the plumbing work.

**Standards**  
Equipment and materials shall conform with the appropriate provisions of CSA, ULC, ASME, ASTM, UL, NEMA, ANSI, ASHRAE, NFPA, as applicable to each individual unit or assembly.

**Codes**  
All work shall be performed in strict accordance with all applicable provincial and local codes and ordinances. In case of conflict between the drawings and specifications and the codes and ordinances, the highest standard shall apply. The Contractor shall satisfy code requirements as a minimum standard without any extra cost to Starbucks.

**Permits and Fees**  
The Contractor shall procure and pay for all permits, fees, and inspections necessary to complete the plumbing work.

**Warranty**  
The Contractor shall unconditionally warrant all work to be free of defects in material and workmanship for a period of one year from the date of final acceptance by Starbucks and will repair or replace any defective work promptly and without charge and restore any other existing work damaged in the course of repairing defective materials and workmanship.

**LEED**  
All work, materials and equipment shall meet LEED requirements & code. In case of conflict, the higher Standard shall apply.

General Plumbing Notes

- Plumbing Contractor shall coordinate with the General Contractor to patch and repair all existing walls, floors, ceilings or other surfaces identified to remain that may become damaged during the course of work.
- Exposed/surface mounted piping is only allowed in the bar area under countertops, where it does not obstruct cabinets/devices and where approved by Starbucks Construction Manager. If routed through cabinets, it shall be routed to maximize storage space and be protected from damage.
- Drawings are diagrammatic and indicate general intent or arrangement of system(s). Furnish and install all components needed whether indicated or not to provide a complete and operating system.
- Contractor to verify all dimensions, including clearances required by other trades, and notify Starbucks Construction Manager of any discrepancies prior to proceeding with the work. All dimensions are to the face of the finished surface unless noted otherwise. All dimensions to be taken from actual building dimensions.
- The plumbing contractor shall coordinate plumbing work with other trades. The architectural drawings shall take precedence over all other drawings. See architectural drawings for fixtures in casework and plumbing details.
- All piping and/or plumbing devices shall be supported from structure (not from HVAC ducts or other pipes/conduits).

Insulation

**Water Piping**  
Provide thermal insulation on all hot and cold water, and horizontal waste piping in ceiling spaces, and on all cold water piping in casework and bar areas. Use self sealing closed cell foam or jacketed fiberglass insulation with manufacturer approved adhesives, sealers, and coatings. All materials used shall not exceed 25 for flame spread index, 50 for fuel contributed or 50 for smoke developed index. Unless otherwise required by the local authority or energy codes, the minimum insulation levels shall be as follows.  
Pipe Size (diameter)      Insulation Thickness  
Less than or equal to 1 1/2" (38mm)      1" (24mm)  
2" (51mm) or greater      1 1/2" (38mm)  
  
(Insulation Value = k value not exceeding 0.027 BTU per inch/h"ft2°F)

**Safety Covers**  
Install specified no scald safety covers with insulated foam liner and tamper proof strap as furnished by Starbucks at all exposed piping.

**Ice Bin Drain**  
Insulate ice bin drain lines with 1/2" (13mm) thick, self sealing, sectional, closed cell foam.

**HVAC Piping**  
Insulate refrigerant suction piping and cooling coil condensate piping with 3/4" (19mm) thick, self sealing, closed cell foam. Insulate HVAC hot and chilled water piping systems and low pressure steam and condensate piping with 1 1/2" (38mm) thick, heavy duty, self sealing, jacketed fiberglass. Install thicker insulation where required by Code.

**Rain Conductors**  
Insulate rain water conductors which pass through occupied areas with 1/2" (13mm) thick fiberglass.

Piping

**Soil, Waste, and Vent Piping**  
Soil, Waste, and Vent piping 10" (254mm) and smaller shall be service weight, hubless, cast iron pipe, and fittings with neoprene gasket and stainless steel shield and clamp. Provide hub and spigot, service weight cast iron soil pipe and fittings below grade where required by local codes. Schedule 40 ABS or PVC pipe and fittings with solvent weld may be substituted for soil, waste, and vent piping above and below grade if allowed by local authority. Adhesives shall not exceed a VOC content of 510 g/L for PVC and 325 g/L for ABS. All horizontal runs shall drain at a grade of 1/4" per foot (21mm per meter) where possible but in no case less than 1/8" per foot (10mm per meter) where allowed & sized per AHJ and Code.

Coordinate with local authorities for drainage requirements for equipment designated with indirect waste to floor sinks. Provide piped drain (P-trap and vent) to sanitary if required by local jurisdiction.

**Domestic Water Piping**  
Domestic water piping 2 1/2" (64mm) and smaller shall be copper tube with wrought copper sweat fittings joined with non-lead, non-antimony solder. Provide type "L" copper tube above grade and type "K" below grade.

**Condensate Drainage Piping**  
The Plumbing Contractor shall provide condensate drains for air handling units and Starbucks equipment (refer to schedule). Condensate drainage piping shall be type "M" copper tubing with wrought copper sweat fittings joined with 50/50 solder.

**Natural Gas Piping**  
Gas piping shall be Schedule 40, seamless, black steel pipe. Provide piping support blocking on roof, compatible with roofing system.

**Hangers and Supports**  
The Plumbing Contractor shall furnish all pipe supports required for equipment and material. All horizontal runs of piping shall be supported by pipe hangers installed as required by local codes. Additional supports shall be provided where required to prevent sagging. Hangers and pipe attachments to be factory fabricated with galvanized coatings; non-metallic coated for hangers in direct contact with copper tubing.

**Connections**  
Install unions adjacent to each valve and at final connection to each piece of equipment. Install dielectric couplings to connect piping materials of dissimilar metals. Screw joint steel piping up to and including 1-1/2" (38mm) for gas piping. Use non-lead, non-antimony solder for soldering domestic water copper pipe.

**Cleanouts**  
Provide floor and wall cleanouts as indicated on the drawings or where required by code in all soil, waste, and drain lines. In areas with ceramic tile or carpeted flooring, provide cleanouts with square, adjustable, nickel bronze top. In areas with resilient (vinyl) flooring, provide cleanouts with square, adjustable, nickel bronze top with tile recess. Cleanouts shall be same size as pipe except that cleanouts larger than 4" will not be required. Where cleanouts occur in walls of finished areas, they shall be concealed behind chrome plated access covers.

**Installation**  
Install piping free of sags and bends. Provide bracket standoffs from mounting surfaces sufficient to allow 1" (25mm) of cleaning space all around piping, including any added piping insulation. Install fittings for changes in direction and branch connections. Install sleeves for pipes passing through concrete and masonry walls, gypsum board partitions, concrete floor and roof slabs. Seal pipe penetrations through rated construction with fire stopping sealant material per Code requirements. Underground water and sewer lines shall be laid in separate trenches with a minimum horizontal spacing as required by code, excavated to the proper depth and graded to produce the required fall.

**Testing**  
All pipes shall be tested by an approved method before they are backfilled or concealed. After testing is complete, the Plumbing Contractor shall disinfect the potable water system as required by local authority. Test water purity according to local requirements and submit certified test results to engineer for review and approval.

Valves

**General**  
Plumbing Contractor to provide valves where indicated on plans and as necessary for proper system operation and component isolation. Install valves for each fixture and item of equipment. Provide braided stainless steel hose (unless otherwise noted) between valve and equipment in accordance with manufacturer's specifications. Locate shut-off valves adjacent to equipment for easy access such that valves can be reached without moving equipment. Shut off valves to be ball type. Valves shall be listed/approved for use per Authorities Having Jurisdiction (AHJ) and code requirements.

Valves	
Provide valves for working pressure in water piping of 125 PSI or greater. Unless noted otherwise valves shall meet the following minimum requirements:	
Valve Type	Description
Check Valve (up to 2" (51mm))	Bronze, horiz. swing, Y-pattern, renewable seat/disc
Ball valve (up to 3" (76mm))	Brass, full port, quarter turn
Gate Valve (up to 3" (76mm))	Bronze, non-rising stem, solid wedge
Temperature and Pressure Relief Valve	Rated for potable water heating storage vessel with safety certification per AHJ.
Water Hammer Arrestor	Pre-charged, sealed chamber
Backflow Preventer (whole-house)	Double check valve assembly with union ball valves and safety certification per AHJ.
Backflow Preventer (single device)	Double check valve assembly with safety certification per AHJ
Vacuum Relief Valve	Brass body and stainless steel internals
Pressure Reducing Valve	Bronze, 25 to 75 psi reduce pressure range and upstream/downstream pressure gauges
Trap Seal Primer	Bronze, pressure based automatic priming

**Supply Water Service**  
If water pressure supplied to store is greater than and 65 PSI, then provide a pressure regulator in main supply to reduce water pressure. Provide backflow prevention on water service if required by local codes.

**Thermostatic Mixing Valve**  
Provide a single Thermostatic Mixing Valve (TMV) located at hot water tank and set for 110° (or as required by AHJ) to serve hand sinks. Mixing valve to be installed per Manufacturer's requirements with check valves at supply inlets.

Plumbing Fixtures

**Water Heater**  
Size water heater per Starbucks standard and per Authorities Having Jurisdiction (AHJ), whichever is more stringent. Provide a glass-lined, energy efficient, gas fired (or electric equivalent) water heater. Provide installation complete with fittings as shown in the drawings. Set hot water temperature at 120°F or as required by AHJ.

**Water Filtration**  
Starbucks water filtration vendor will provide filtration system. Contractor shall confirm with Starbucks Construction Manager whether vendor or Plumbing Contractor is to install filtration system. Provide and coordinate installation complete with all piping, fittings, and equipment as indicated on the drawings.

**Connections**  
The Plumbing Contractor shall make all final connections to equipment including required material such as piping, valves, filters, traps, checks valves, vacuum breakers, and flexible and rigid tubing.

**Schedules**  
Refer to schedules on drawings (Plumbing & Arch. Schedules) for a description of listed items and furnish any and all plumbing fixtures listed as "GC". Any discrepancies about who is to provide plumbing fixtures in the schedule shall be brought to Starbucks attention for clarification. Install all fixtures listed regardless of who supplies.

Abbreviations

3PL	Third Party Logistics
AFF	Above Finished Floor
AHJ	Authorities Having Jurisdiction
APPROX	Approximate
BLDG	Building
CLG	Celling
CONST	Construction
CW	Domestic Cold Water
CXA	Commissioning Agent
DEG	Degrees
DTL	Detail
DN	Down
DWG(S)	Drawing(s)
EA	Each
EC	Electrical Contractor
ELEC	Electrical
EM	Emergency
(E) or (EX)	Existing
EXT	Exterior
FD	Floor Drain
FS	Floor Sink
F&I	Furnish & Install
FLR	Floor
FT	Fool/Feet
FCO	Floor Cleanout
GC	General Contractor
GFCI	Ground Fault Circuit Interrupter
GW	Grease Waste
HR	Hour
HVAC	Heating, Ventilation, and Air Conditioning
HW	Hot Water
HS	Handsink
HWS	Hot Water Supply
HWR	Hot Water Return
LL	Landlord
LV	Low Voltage
MAX	Maximum
MECH	Mechanical
MC	Mechanical Contractor
MDP	Main Distribution Panel
MEP	Mechanical, Electrical, and Plumbing
MFG	Manufacturer
MIN	Minimum
MS	Mop Sink
NL	Nightlight
NTS	Not to Scale
PC	Plumbing Contractor
PP	Prep Sink
POC	Point of Connection
PM	Project Manager
REF	Reference
REQ(D)	Required(d)
REV	Revision
SHT	Sheet
SPECS	Specification(s)
SF	Square Feet
SST	Stainless Steel
TEL	Telephone
TEMP	Temporary
TYP	Typical
TMV	Temperature Mixing Valve
TW	Tempered Hot Water
UNO	Unless Noted Otherwise
V	Vent
W	Sanitary Waste
WH	Water Heater
WP	Weather Proof
WCO	Wall Cleanout

Plumbing Symbol Legend

	S or W	Sanitary or Waste Piping
	V	Vent Piping
	GW	Grease Waste
	CD	Condensate Drain
	CW	Cold Water Piping
	HW	Hot Water Piping
	CWF	Cold Water Filtered
	TW	Tempered Water
	G	Gas Piping
	BV	Ball Valve
	GV	Gate Valve
	CH. V	Check Valve
	RV	Relief Valve
	HB	Hose Bibb
	WCO	Wall Cleanout
	FCO	Floor Cleanout
	FD	Floor Drain (Square)
	FD	Floor Drain (Round)
	HD	Hub Drain
	FS	Floor Sink (Square)
	FS	Floor Sink (Round)
	WM	Water Meter
	POC	Connect to Existing

Existing piping shown in a lighter shade.



Starbucks Coffee Company  
2401 Utah Avenue South  
Seattle, Washington 98134  
(206) 318-1575

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Architect of Record  
**NORR**  
ARCHITECTS PLANNERS  
325 N. LaSalle St. Suite 700 Chicago, IL 60654  
t 312.424.2400 f 312.424.2424 | www.norr.com

ENGINEER OF RECORD  
  
William J. Alkameyer, P.E.  
353 Marshall Avenue  
St. Louis, Missouri 63119  
Phone (314) 772-1782  
Fax (314) 772-0108  
Engineering Consultant

Revision Schedule			
Rev	Date	By	Description

Project Name:  
**Exchange Street**  
Project Address:  
**176 Middle Street  
Portland, ME 04101**

Store #: 7408  
Project #: 03196-029  
Concept: NCS  
Palette: HERITAGE  
Issue Date: 03.25.2013  
Design Manager: ERICA ZAKAMAREK  
LEED® AP:  
Production Designer: NORR  
Checked by: JAK / SWE

Sheet Title:  
**Plumbing Specifications**  
  
Scale: 1/4" = 1'-0"

Sheet Number:  
**P-001**

PLUMBING FIXTURE SCHEDULE - "P"				
DESIGN ID	COUNT	DESCRIPTION	RESP.	COMMENTS
10369	1	Faucet - Swing Spout with Sprayer	WH	
X0006	1	Custom Stainless Steel 3 Comp Work Sink - 66in	VD	Manufacturer: Elkay Contact: Arianne Auckerman Email: Arianne.Auckerman@elkay.com
X0120	1	GREASE TRAP	GC	See Grease Trap Calculation on sheet P-112
DRAIN				
10309	4	DRAIN - FLOOR SINK WITH HALF GRATE SQUARE - 12IN 305MM	WH	Jay R. Smith Model #304-12 or Equal.
FAUCET				
10152	1	FAUCET - DOUBLE LABORATORY WITH BENT RISER SPOUT	WH	
10153	1	FAUCET - WATER TOWER - 12IN 305MM	WH	
10215	2	FAUCET - DOUBLE LABORATORY WITH SWING SPOUT	WH	
10597	1	FAUCET - SINGLE HANDLE	WH	FC MODEL. 0.5 GPM AERATOR
10874	1	FAUCET - HOT WATER DISPENSER	WH	
10943	1	FAUCET - SINGLE LABORATORY WITH SWING SPOUT	WH	
11003	1	FAUCET - DIPPERWELL	WH	
13588	1	FAUCET - HAND SINK WALL MOUNTED	WH	
OTHER				
11109	1	WATER HEATER 50GAL 190L ELECTRIC	GC	Rheem Fury Model #43V50SE2
SINK				
10505	1	SINK - RINSE DROP IN - 27X20IN 685X510MM	WH	
10549	1	SINK - WORK DROP IN SST - 12X20IN 305X510MM	WH	
10581	1	SINK - WORK WALL MOUNTED SST	WH	INTEGRAL FAUCET WITH 0.5 GPM AERATOR

SPECIALTY EQUIPMENT SCHEDULE - "E"				
DESIGN ID	COUNT	DESCRIPTION	RESP.	COMMENTS
EQUIPMENT				
11851	1	BREWER CLOVER	VD	
ICE				
10344	1	ICE - BIN DROP IN 95LB	VD	ELKAY
10527	1	ICE - BIN DROP IN 45LB	WH	

CASEWORK SCHEDULE - "C"				
DESIGN ID	COUNT	DESCRIPTION	RESP.	COMMENTS
COUNTERTOP				
11915	1	COUNTERTOP - HAND SINK STAINLESS - 15IN 380MM	VD	STAINLESS STEEL
12769	1	COUNTERTOP - ESPRESSO RINSE SINK AND ICE BIN STAINLESS - RH - 140IN 3555MM	VD	STAINLESS STEEL

Existing Items to be Relocated - DO NOT ORDER				
Design ID	Count	Description	Category	Should Be Ordered
Specialty Equipment				
10102	1	ICE - BIN 590LB	Specialty Equipment	No
10746	1	BREWER DUAL SOFT HEAT	Specialty Equipment	No
10871	1	ICE - MACHINE 625LB AIR COOLED SIDE VENT	Specialty Equipment	No
11070	1	DISHWASHER SANITIZER	Specialty Equipment	No
12694	2	ESPRESSO MACHINE MASTRENA	Specialty Equipment	No