
PART 1 – GENERAL

These standards apply to the installation of plumbing fixtures, trim and accessories.

1.01 RELATED SECTIONS

- A. Section 211100 – Interior Water Pipe and Fittings.
- B. Section 211200 – Sanitary Waste, Vent and Storm System.

1.02 DESIGN CRITERIA

A. Drawings and Specifications:

1. Provide fixture and equipment schedules, fixture locations and riser diagrams scheduled on drawing sheets. Indicate cold, hot, waste and vent sizes in accordance with Uniform Plumbing Code. Fixture Data sheets shall be provided in specifications. For any required fixtures not included, design team shall present a proposed fixture data sheet for review.
2. All invert elevations of sanitary sewer lines leaving a building shall be indicated on drawings and of sufficient depth to permit future connection of a waste line from any point in the lowest level of the building.
3. Domestic water service (both hot and cold) to all buildings and all tenant spaces (no matter what activities occur within the tenant space) shall have a Washington State Department of Health approved reduced pressure principle backflow preventer assembly (RPBA) located in a safe and readily accessible area outside the tenant space to serve as premises isolation to protect the Port's public water system. Properly vented drainage piping (including an approved air gap between the RPBA and the pipe) shall extend from immediately below each RPBA and be hard piped to a floor drain or sanitary sewer tie-in. The drain shall be adequately sized to handle the anticipated maximum discharge from the RPBA under full dynamic flow conditions without overflowing. Do not assume that the funnel assembly that comes with the RPBA is adequately sized to meet this requirement. Submit detailed hydraulic calculations stamped by a registered Professional Engineer as part of the Application for Connection. Under no circumstances shall the drainage be directed onto the floor. The RPBA and supporting appurtenances shall be installed in strict conformance with latest industry practices, including AWWA's cross connection control manual, UPC, and other applicable industry publications. A detail showing the premises isolation cross connection installation shall be clearly shown in the design documents, including the specific size and slope of the drain piping. The Port's Water

System Manager can provide guidance during design process to meet these requirements.

4. Provide shut-off valves on all water lines to fixture groups. (Sustainability Feature: limited water system loss due to drain down for maintenance)
5. Water velocities shall not exceed 5 fps during normal peak demand conditions. (Sustainability Feature: higher velocities restrict expansion of system without pipe replacement and also promote pipe “wire drawing” leaks.)
6. Single Plumbing Chases shall be a minimum 24-inch clear depth and back-to-back Plumbing Chases shall be a minimum 36-inch clear depth. Piping shall be arranged in the chase so that a maintenance worker should be able to reach the farthest fixture in the chase for service. (Sustainability Feature: access for emergency repairs saves water and less material destroyed in order to get to piping behind finished walls.)
7. Trap primers with access shall be scheduled and shown on the design drawings. Trap primer piping shall be shown on drawings.
8. Provide water hammer arrestors per PDI Standard WH-201 and wherever flow velocity is subject to sudden change. Water hammer arrestors shall be provided for each plumbing fixture or group of fixtures on same supply line. (Sustainability Feature: limited water system loss due to water pressure surges.)
9. Dielectric fittings as specified in Section 200300 shall be used in lieu of dielectric unions. (Sustainability Feature: limited water system loss due to leakage at fitting.)
10. Locate mixing valves for easy access with access panel.
11. Concealed plumbing components shall have access doors indicated on drawings.
12. Provide an approved waterproof membrane beneath the floor topping for a minimum of five feet by five feet and install clamping ring type floor drains watertight. New installations shall have the entire restroom floor covered with the waterproof membrane. Refer to 200300 for additional requirements.
13. Double wall semi-instantaneous heat exchangers shall be provided for domestic hot water service with re-circulation pump. (Sustainability Feature: Heating domestic water with energy efficient heat exchanger rather than individual electric water heaters.)
14. All Food/Drink Service Waste shall be routed through 304 stainless piping to a Port of Seattle approved grease interceptor. (Sustainability Feature: Cast

iron waste pipes would corrode within three years in grease waste environment – replacement materials saved.)

15. All domestic water piping shall be sloped to facilitate drainage at low points to suitable drain locations.
16. Provide seismic flex loops where required. Seismic loops shall be factory pre-fabricated. Movement shall be calculated by structural engineer on each project based elevation and seismic conditions. Design team shall specify movement conditions for each project.
17. Provide stop/check valves in each (hot and cold) supply to each fixture to prevent hot and cold water from intermixing upstream of fixtures. (Sustainability Feature: keeps hot water from back flowing through fixture.)
18. Floor drain shall have minimum 3" waste connection.
19. In order to protect the STIA potable water supply, each water service to a lease holder shall have an approved Reduced Pressure Back Flow Prevention device (RPBP) installed, including lines serving soft drink dispensing machines.
20. All RPBP's shall be provided with a strainer upstream of the RPBP's and isolation valves on both sides of the strainer to allow removal without need for drainage of the entire system.
21. Drainage piping from a reduced pressure backflow preventer shall be sized per Uniform Plumbing Code for the maximum discharge rate indicated by the RPBP manufacturer.
22. All required calculations shall be provided so that any changes that become necessary during construction or after are made efficiently.
23. Coordinate electrical connection requirements for any all fixtures with electrical engineer.
24. Each Restroom shall be provided with a non-potable (purple) flush piping system that connects only to the flush valve piping and will be provided with an approved reduced pressure principle backflow preventer for connection to the non-potable water source. (Purple) pipe will be routed to a nearby mechanical space on ramp level unless otherwise approved by AV/F&I. (Sustainability Feature: Water use reduction when connected to water reuse supply.)

1.03 QUALITY ASSURANCE


Provide plumbing work conforming to requirements of uniform plumbing code and Port of Seattle Standards.


PART 2 - PRODUCTS


2.01 PLUMBING FIXTURES


Refer to plumbing fixture data sheets below:


Note: Dual Flush flushometers not for “Men’s” Rooms



Plumbing Fixture Data Sheet		Lunch Room Sink	S1
Sink:	Elkay Lustertone DLR252210. Acorn, Just or approved equal	 <i>Picture shown may not include all options and accessories indicated</i>	
Faucet:	Chicago 200-AGN8AE3-317AB, T&S Brass, or Zurn		
Drain/Stops:	Just J-35, McGuire, Brasscraft, Dearborn Brass, Elkhart Brass, B&K, Mueller		
Specification: 304 Stainless Steel, 18 gauge, heavy duty sound insulation, self-rimming, countertop mounted sink. Faucet to be 8" rigid gooseneck spout with aerator, ADA handles, include hand sprayer. Drain to be type 304 stainless steel crumb cup strainer with stainless steel basket, 4" long chrome plated brass tailpiece and chrome plated brass p-trap. Garbage disposal not allowed. <u>(Sustainability Feature: 18 gauge has longer life cycle than standard 20 gauge.)</u>			


Plumbing Fixture Data Sheet		Shower Accessories	SH1
Fittings:	Symmons Safetymix Model 1-117-FS-X-CHKS, Kohler K-76466, Am Std. 1662.743 or approved equal.		
Description:	Shower system with hand shower, lever handle, pressure balancing mixing valve with adjustable stop screw to limit handle turn, showerhead, single mode with adjustable flood or mist spray #4-231, lever diverter with volume control for showerhead and hand shower #4-458, open-flo wall/hand shower #FS, with flexible 5 foot metal hose and inline vacuum breaker, wall hook for mounting hand shower, 2.5 gpm, polished chrome finish. ADA Compliant.		
Mounting:	Wall mounted. Just J-35, McGuire, Brasscraft, Dearborn Brass, Elkhart Brass, B&K, Mueller		
Specification:			

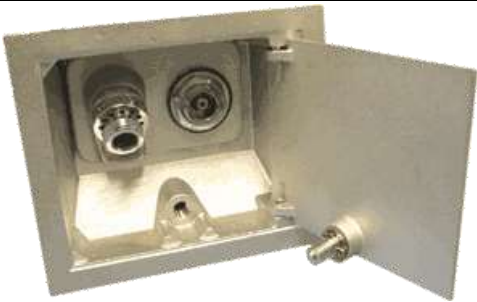
Plumbing Fixture Data Sheet		Service Sink - Corner Mounted	S2
<div> <div>Service Sink:</div> <div>American Standard Florwell 7741.000, Kohler K-6710 Whitby, or Zurn Z5850</div> </div> <div> <div>Material</div> <div>Enamel Cast Iron ASME A112.19</div> </div> <div> <div>Mounting</div> <div>Corner mount, 28x28x13</div> </div> <div> <div>Faucet:</div> <div>Chicago 897 with vertical wall support, hose thread outlets, integral vacuum breaker, check valves between hot and cold water connections, pail hook, and 4" color coded wrist blade handles. Acceptable alternates, American Standard 8344, or T&S Brass B-0665</div> </div>	<div>  <p>Picture shown may not include all options and accessories indicated</p> </div>		
<div> <div>Accessories</div> <div> Include vinyl coated rim guard, 3" chrome plated brass grid strainer. <u>(Sustainability Feature: keeps hot water from back flowing through fixture.)</u> </div> </div>			

Plumbing Fixture Data Sheet		Thermostatic Mixing Valve	TMV1
Manufacturer:	Leonard XL-186-670-LF-DT series, Armstrong RADA, or Holby(certified to ASSE 1070)	 <hr data-bbox="630 854 1136 858"/> <p><i>Picture shown may not include all options and accessories indicated</i></p>	
Material:	Rough Bronze		
Type:	Adjustable temperature		
Mounting:	Recessed or exposed in back of house closets. Include 16 gauge type 304 stainless steel cabinet and 12 gauge stainless steel locking access panel for recessed applications.		
Specification:	Highly responsive copper encapsulated thermostat assembly Locking temperature adjustment (tamper-resistant) Lead free bronze, brass, stainless steel and engineered polymer internal components Integral check valves on hot and cold inlets Approach temperature 5°F (2.8°C) above set point Maximum inlet pressure 125 PSI Minimum flow rate: 2.5GPM cold water bypass capable of by passing cold water in the event the hot water supply fails with the recirculation connection. <u>(Sustainability Feature: thermostatic valve regulates water temperature more precisely and uses less water.)</u>		


Plumbing Fixture Data Sheet		Thermostatic Mixing Valve Undersink	TMV2
Manufacturer:	Leonard 170-LF, Powers LFE480, or Watts LF70A		
Material:	Bronze		
Type:	Adjustable temperature		
Mounting:	Exposed or recessed applications.		
		<i>Picture shown may not include all options and accessories indicated</i>	
Specification:	Highly responsive copper encapsulated thermostat assembly Locking temperature adjustment (tamper-resistant) Lead free bronze, brass, stainless steel and engineered polymer internal components Integral check valves on hot and cold inlets Approach temperature 5°F (2.8°C) above set point Minimum flow rate: 0.25 GPM		


Plumbing Fixture Data Sheet	Trap Primer	TP1
<p>Manufacturer: PPP Prime-Time, Zum, MiFab</p> <p>Materials: Steel Cabinet</p> <p>Type: Pre-assembled in a cabinet for surface or recessed mounting, solenoid valve type, serves 4-30 traps.</p> <p>Valve: "Mini-Prime for 1-4 FD's 120/220 solenoid valve</p> <p>Protection: Atmospheric vacuum breaker</p>	 <p><i>Picture shown may not include all options and accessories indicated</i></p> 	
<p>Specification:</p>	<p>Package to include atmospheric vacuum breaker, pre-set 24 hr clock, manual override switch, solenoid valve, 3 wire connection, 3/4" fpt connection, calibrated manifold for equal water distribution, 5/8" or 1/2" outlet compression fittings. Unit to supply minimum of 2 oz. of water at 20 psig at a factory setting of 10 seconds. Unit to be pre-assembled in a steel cabinet for flush or surface mounting. Specify number of drains to be served for manifold size from 4,6, 8, 20, 23, 13-20, or 21-30 drains."</p>	
<p>Accessories</p>	<p>1/2" or 5/8" fittings, dry wall or fire rated cabinet and access doors. Include cylinder lock for access doors. Include prime coat access door for recessed applications in public areas. Include stainless steel access for back-of-house applications. <u>(Sustainability Feature: electronic trap primer uses less water than typical manual trap primers.)</u></p>	


Plumbing Fixture Data Sheet		Urinal – Wall Mounted	U1
Urinal:	American Standard Washbrook 6590.001 or Crane Crawford 7399	 <p>I. Picture shown may not include all options and accessories indicated</p>	
Material:	Vitreous China		
Bowl Type	ADA Compliant, wall mounted, washout flushing action, ¾" inlet top spud, flushing rim, elongated rim 14 inches from finished wall extended sides, low consumption 0.125 - 1 gpf.		
Accessories:	Zurn Aquasense ZER6003AV-EWS-CPM series exposed, with manual override button, quiet diaphragm, chrome plated, vandal resistant top cap, internal siphon protection. Battery powered infrared sensor. Acceptable Alternate: Sloan Royal 186-0.5-SMO. <u>(Sustainability Feature: on flush water reuse or rain water capture fixtures set flushometer to 1 gallon per flush!)</u>		
Support:	Jay R Smith 06036series, Zurn, Wade, Josam Heavy duty carriers Light commercial carriers not allowed.		


Plumbing Fixture Data Sheet		Wall Hydrant	WH1
<div><div><div>Wall Hydrant:</div><div>Material:</div><div>Type:</div><div>Mounting:</div></div><div>Woodford model B65, JR Smith, or Zurn Rough Bronze Non-freeze Recessed</div></div>		<div><p>Picture shown may not include all options and accessories indicated</p></div>	
<div><div>Specification:</div><div>Recessed type wall hydrant. Freeze proof, bronze recessed hydrant, with chrome face plate, 3/4" vacuum breaker, T-handle key, and nickel bronze box. (Sustainability Feature: T-handle prevents unauthorized use of water.)</div></div>			

Plumbing Fixture Data Sheet		Emergency Eye Wash	EW1
<p>Manufacturer: Haws 7778B, Bradley, Guardian</p> <p>Material: 18 gauge 304 Stainless Steel</p> <p>Type: Wall Mount</p> <p>Mounting: 16 gauge type 304 stainless steel bracket.</p> <p>Heads: Soft Flo type 303 Stainless Steel anti-surge heads w/ built-in 1.2 GPM controls</p> <p>Face Ring: Stainless Steel type 304, simultaneous w/ heads</p> <p>Valve: Stainless Steel ball/stem</p> <p>Dust Cover: Stainless Steel</p> <p>Waste: 1-1/4" IPS Chrome 6: straight</p>	 <p><i>Picture shown may not include all options and accessories indicated</i></p>		
Accessories:	Universal Sign (8x10), test cards, integral type 304 stainless steel water strainer.		
Installation:	Contractor to provide trap for wall waste connection.		
Options:	Include Model TWBS.EWE fully packaged and tested system of blending tempering water valve that blends hot and cold water sized to handle a minimum of 5 gpm. Unit to be constructed of bronze, brass, copper, and/or stainless steel. Unit to blend hot/cold water to set point as pressure fluctuations of up to 50%. Initial setting of tempered water to be 80 degrees F in accordance with ANSI Z358.1-2004. Unit to consist of thermostatic mixing valve, high temperature limit valve, bypass valve, and glass lens temperature gauge. Include isolation check valves. Locate near fixture in sealed stainless steel cabinet wall cabinet with access door labeled Emergency Eye Wash or in an adjacent space as required in design documents.		

Plumbing Fixture Data Sheet		Emergency Shower	ES1
<p>Manufacturer: Haws 8330, Guardian, Speakman</p> <p>Material: Type 304 Stainless Steel pipe and fittings along with cast finished stainless steel 9" diameter floor flange..</p> <p>Type: Free standing combination shower and eye/face wash including a stainless steel round bowl. Include stainless steel head with flow control, 316 stainless steel ball valve with type 304 stainless steel strainer. Soft Flo type 303 Stainless Steel anti-surge heads w/ built-in 1.2 GPM controls with stainless steel dust covers.</p> <p>Supply: 1-1/4" NPT female inlet</p>	 <p><i>Picture shown may not include all options and accessories indicated</i></p>		
Accessories:	Universal Sign (8x10), test cards, integral type 304 stainless steel water strainer.		
Installation:	Contractor to provide trap for wall waste connection.		
Options:	Include Model TWBS.EWE fully packaged and tested system of blending tempering water valve that blends hot and cold water sized to handle a minimum of 5 gpm and maximum of 20 gpm. Unit to be constructed of bronze, brass, copper, and/or stainless steel. Unit to blend hot/cold water to set point as pressure fluctuations of up to 50%. Initial setting of tempered water to be 80 degrees F in accordance with ANSI Z358.1 - 2004. Unit to consist of thermostatic mixing valve, high temperature limit valve, bypass valve, and glass lens temperature gauge. Include isolation check valves. Locate near fixture in sealed stainless steel cabinet wall cabinet with access door labeled Emergency Shower/Eye Wash or in an adjacent space as required in design documents.		


Plumbing Fixture Data Sheet		Public Electric Water cooler	EWC1
Manufacturer: Elkay EZSTL8WSLK or equal by Haws or Sunroc Material: 18 gauge 304 Stainless Steel Type: Barrier Free, ADA compliant, lead free Mounting: MLP200 heavy gauge galvanized steel Bubbler: Flexguard safety Valve: brass, lead free Chiller: R-134A Filter: None	 <p><i>Picture shown may not include all options and accessories indicated</i></p>		
Features: GreenSpec Refrigeration: Instantaneous cooling chiller R-134A, capacity defined as 80 deg F inlet temp, 90 deg F room temp, producing 50 deg F water. <u>(Sustainability Feature: Water cooler/bottle filler sans filter saves filter replacements and landfill discharge.)</u>			

Plumbing Fixture Data Sheet		Floor Drain	FD1
Manufacturer:	Zurn Z-415-SH-ZB-P-VP, JR Smith, Josam		
Material:	Cast Iron Body		
Type:	Bottom outlet		
Mounting:	Tile or concrete		
		<i>Picture shown may not include all options and accessories indicated</i>	
Features:	Combination invertible membrane clamp and adjustable collar, polished nickel bronze strainer, 8"x8" nickel bronze vandalproof top, trap primer connection.		


Plumbing Fixture Data Sheet		Funnel Floor Drain	FD2
Manufacturer:	Zurn Z-415-E-ZB-P-VP, JR Smith, Josam		
Material:	Cast Iron Body		
Type:	Bottom outlet		
Mounting:	Tile or concrete		
Features:		Combination invertible membrane clamp and adjustable collar, polished nickel bronze strainer, 4" diameter funnel, trap primer connection, vandalproof top.	


Plumbing Fixture Data Sheet		Floor Drain	FD1
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Manufacturer:	Josam 49320A series, JR Smith, Zurn	
Material:	Cast Iron Body	
Type:	Bottom outlet	
Mounting:	Tile or concrete	
		<i>Picture shown may not include all options and accessories indicated</i>
Features:	Combination invertible membrane clamp and adjustable collar, nickel bronze traffic top, internal dome polished nickel bronze strainer, trap primer connection.	


Plumbing Fixture Data Sheet		Lavatory – Wall Mounted	L1
Lavatory:	American Standard Murro Model 0955.151EC Kohler Brennam 1997-1L <u>RETAIL COST: \$145</u>	 <p>Picture shown may not include all options and accessories indicated</p>	
Faucet:	Eco friendly faucet with cover plate or equivalent with proven three year record of medium to heavy use between battery changes. 15 second minimum run time		
Stops:	Jay R Smith, Wade, Zurn, Josam, McGuire ST02LK, Dearborn Brass, Brasscraft, Elkhart Brass, B&K, or Mueller.		
Carrier:	Josam, Zurn, J.R. Smith 085X Floor mount carrier capable of supporting 500 pounds.		
Soap Disp:	Stainless Sensor Operated automatic, ADA Compliant matching the faucet.		
Features:	Vitreous china wall mounted lavatory. Rear overflow, recessed self-draining deck, concealed arm supports. ADA compliant installation. Include knee contact guard. Contact Boiler Room personnel 206-787-5475 for obtaining knee guard mounting plate. Contractor to obtain and install for ease of shroud installation and removal. Solid brass chrome plated grid strainer. Faucet to be chrome plated brass, ultra-low consumption, integral strainer, mixing valve and lithium battery. Include micro-turbine or other technology that provides for no power connection and means to recharge batteries. Mount on 4" chrome plated cover plate. Include chrome plated grid strainer. Provide proof that faucet batteries will last three years without a change. <u>(Sustainability Feature: water turbine recharge saves on battery/electrical use.)</u> Recommended for "family toilet rooms and for all employee restrooms.		

Plumbing Fixture Data Sheet	Employee Lavatory	L2
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Manufacturer:	Bradley SS-3N/IR, Acorn Meridian 3793, or Sloan EW-7300.	 <p><i>Picture shown may not include all options and accessories indicated</i></p>
Material:	Polyester resin basin, acrylic laminate or type 304 stainless steel, access panels, vandalproof sprayhead and infrared sensor.	
Type:	3 bowl, individual infrared lavatory sensors and solenoids, 0.5 gpm max flow per head, pressure balance mixing valve, checkstops, waste, vent, and traps. Unit to be completely vandalproof.	
Mounting:	Wall or floor mounted with access cover for drains and piping.	
Support:	Heavy Gauge Type 304 Stainless Steel.	
Features:	Unit sprayhead assembly to be pre-plumbed, pre-wired, and provide dry surface ledge above water spray area. All water and waste connections to be concealed in frame. Infrared sensor controlled by individual solenoid valves. Include all packaged waste and supply connections to wall, thermostatic mixing valve with stops, strainer, and check calves.	
Accessories:	Include wall hung frame, integral liquid soap dispensers, and thermostatic mixing assembly.	
Solar Option:	Individual infrared controls powered by solar panels mounted on dry shelf. No AC power required or batteries. System provides power through PV cells to convert light into electricity to power the solenoid.	




Plumbing Fixture Data Sheet	Water Closet – Wall Mounted	WC1
<p>Manufacturer: American Standard AFWall 2257.101, Kohler K72514, Sloan ST-2459 Vitreous china.</p> <p>Material:</p> <p>Bowl Type: Siphon jet, back outlet, elongated, 1.1-1.6gpf, 1-1/2 inch top spud.</p> <p>Mounting: Wall mounted. 4 bolt carrier for new construction.</p> <p>Features: Flushometer - Zurn Aquavantage Model #: Z6000-WS1-DF-X</p>	 <p>1.6gpf</p>	
<p>Exposed, quiet diaphragm, chrome plated, vandal resistant top cap, internal siphon protection. Lifting the handle up initiates a reduced flush of 30% for evacuation of liquid waste. Pushing the handle down actuates a full flush for solid waste. Include wall plate with graphics and instruction for user operations. Include a pressure vacuum breaker. Acceptable Alternate: Sloan UpperCut WES-111.</p> <p>Toilet Seat – Church 9500SSC Color white. Extra heavy weight injection molded solid plastic, open front, less cover elongated bowl, large molded in bumpers, concealed check hinges with 300 series stainless steel posts with integral checks that stop seat up to 11 degrees beyond vertical, 300 series stainless steel hardware. Acceptable Alternates: Toto SC534 with check Hinge, Bemis 1655SSC, or Beneke 527SS</p> <p>Outlet & Support - 4 inch no-hub with 2 inch vent outlet. Extra heavy (750 lbs. min) Jay R. Smith 0230Y-M54-XX series, Zurn, Wade, Josam extra heavy duty carriers. Light commercial carriers not allowed. <u>(Sustainability Feature: dual flush saves water.)</u></p>		

Plumbing Fixture Data Sheet	Gas Water Heater	SS1




<div> <div> Water Heater: </div> <div> Bradford White LG2100H853N A.O. Smith, Rheem. </div> </div>	
<div> <div> Description </div> <div> Atmospheric Vent High Input Model, electronic ignition, T&P relief valve (route to drain), low NOx emissions </div> </div> <div> Provide with 4" lip powder coated steel drip pan beneath entire heater. </div>	

Picture shown may not include all options and accessories indicated

Plumbing Fixture Data Sheet		Electric Water Heater	SS1
<div> <div>Water Heater:</div> <div> Bradford White LE112T3-1 A.O. Smith, Rheem. </div> </div> <div> <div>Description</div> <div> Fast acting surface-mount thermostat with high limit energy cut-off (manual reset) for safety. 1" (25mm) Non-CFC foam insulation covers the sides and top of the tank, reducing heat loss. Heavy gauge steel automatically formed, rolled, and welded. 208V, 240V </div> </div> <div> <div>Drain Pan</div> <div> Provide with 4" lip powder coated steel drip pan beneath entire heater. </div> </div> <div> <div> <div>■</div> <div>T&P Relief Valve—route to drain</div> </div> </div>			

Plumbing Fixture Data Sheet		Public Lavatory	L3
Manufacturer:	.Bradley Verge 2 Station Lavatory Sink, LVSD2 <u>RETAIL COST \$4600.</u>	  	
Material:	Single piece molded design eliminates caulk lines and seams, unmatched durability, unit is constructed of Evero Natural Quartz Surface - a blend of natural quartz, granite, exotic materials and bio-based resin.		
Faucet:	Eco friendly faucet with cover plate or equivalent with proven three year record of medium to heavy use between battery changes. 15 second minimum run time		
Type:	2 fitting, individual lavatorys. Unit to be completely vandalproof.		
Mounting:	Wall mounted with access cover for drains and piping.		
Support:	Heavy Gauge Type 304 Stainless Steel. Capable of supporting the fixture plus at least an additional 400 pounds.		
Soap Disp.:	Stainless Sensor Operated automatic, ADA Compliant matching the faucet.		
Accessories:	Include wall hung frame, use L1 accessories, faucet and soap dispensers. <u>(Sustainability Feature: water turbine recharge saves on battery/electrical use.)</u>		

Picture shown may not include all options and accessories indicated

Plumbing Fixture Data Sheet		Public Lavatory	L4
Manufacturer:	.Bradley Verge 1 Station Lavatory Sink, LVSD1	   <p><i>Picture shown may not include all options and accessories indicated</i></p>	
Material:	Single piece molded design eliminates caulk lines and seams, unmatched durability,unit is constructed of Evero Natural Quartz Surface - a blend of natural quartz, granite, exotic materials and bio-based resin.		
Faucet:	Eco friendly faucet with cover plate or equivalent with proven three year record of medium to heavy use between battery changes. 15 second minimum run time		
Type:	2 fitting, Faucet and soap individual lavatory. Unit to be completely vandalproof.		
Mounting:	Wall mounted with access cover for drains and piping.		
Support:	Heavy Gauge Type 304 Stainless Steel. Capable of supporting the fixture plus at least an additional 400 pounds.		
Soap Disp.:	Stainless Sensor Operated automatic, ADA Compliant matching the faucet.		
Accessories:	Include wall hung frame, use L1 accessories, faucet and soap dispensers. (Sustainability Feature: water turbine recharge saves on battery/electrical use.) Not recommended unless as part of a suite with double Verge lavs.		

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2.02 ACCESSORIES

A. Floor Drains:

Refer to plumbing fixture data sheets above.

B. Trap Primers:

Refer to plumbing fixture data sheets above.

C. Water Hammer Arresters:

Manufacturers: J.R. Smith, PPP, Josam. Factory fabricated, PDI certified unit with stainless steel construction and nitrogen charge, copper type K with air charge. (Sustainability Feature: Water Hammer Arrestors save water from overflowing when pressure fluctuations occur.)

D. Thermostatic Mixing Valves:

Refer to plumbing fixture data sheets above.

E. Vacuum Breakers:

Manufacturer: Watts NF8, Zurn, Wade, or approved equal. Provide with a flow-thru pattern, on the water supply to each fixture, which has a water connection or hose attachment located below the rim.

F. Wall Hydrant:

Refer to plumbing fixture data sheets above.

G. Hose Bibb:

Refer to plumbing fixture data sheets above.

H. Yard Hydrant:

Refer to plumbing fixture data sheets above.

I. Floor Cleanout:

Refer to plumbing fixture data sheets above.

J. Wall Cleanout:

Refer to plumbing fixture data sheets above.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Plumbing fixture supports:

1. Support wall mounted fixtures rigidly with metal supporting members so no stress is transmitted to connections. Fit fixtures on finished walls without noticeable warpage on either the wall or fixture.
2. Anchor support to floor slab with anchor bolts.

B. Fixture General Fixtures, General:

1. Locate fixtures where indicated on the Drawings. Drawings shall locate drain/wastes from lavs to be upstream of urinal/water closet drain/waste stream. (Sustainability Feature: urinal waste mixed with lav drains to minimize corrosive build-up.) Refer to Architectural Drawings for mounting heights. Locate in accordance with details and dimensions on Drawings. Use the type of mountings specified.
2. Secure the floor outlet of floor-mounted fixtures rigidly to the drainage connections and the floor.
3. Make connections gas tight and water tight.
4. Use one-piece special molded gaskets for connections between earthenware of fixtures and soil pipe flanges. Do not use bulk material, including putty and plastic, for gaskets.
5. Provide individual vents for each fixture.
6. Provide separate traps for each fixture, where manufacturers do not supply trap for fixture.
7. Stops: Provide stops in each water connection to each fixture, except where a fitting has integral stops. (Sustainability Feature: stops prevent water loss due to back flow.)

Unless otherwise specified, provide water based silicone sealer between the top and the sides of plumbing fixture edges and adjacent wall [and countertop] surfaces. Apply per manufacturer's recommendations to form a smooth unobtrusive joint. Install 1 sample joint on each type of fixture for the Architect's review before proceeding with installation of remainder of this sealant.

C. Water Closet Flush Valves:

Install flush valves with handles facing the wide side of the toilet stall per ADA requirements.

D. Kitchen and Laboratory Fixtures and Equipment:

1. Rough-in and connect water, drain and vent piping for plumbing fixtures and equipment.
2. Provide stops and supply piping for fixtures and equipment.
3. Install faucets and fittings shipped loose with fixtures and equipment.

3.02 FIELD TESTS

- A. Tests shall be witnessed by the Commissioning Authority.
- B. Infrared Sensor Operated Faucets: Test each faucet to verify the temperature control and that the sensor operates as specified. Prepare a report indicating results of test.
- C. Infrared Sensor Operated Flush Valves: Test each flush valve to verify that the sensor operates as specified. Prepare a report indicating results of test.

3.03 CLEANING

Prior to acceptance of building, thoroughly clean exposed portions of plumbing installation, removing labels and traces of foreign substance, using only a cleaning solution approved by manufacturer of plumbing fixture and Port of Seattle Representative and being careful to avoid damage to finished surfaces.

3.04 DEMONSTRATION

Subject systems to such operating tests as are required to demonstrate that the equipment installed will operate within the specified limits through normal ranges and sequences including simulation of possible abnormal conditions. Operate every device manually and automatically, in accordance with its purpose. Operating test duration; not less than 6 hours after major corrections have been made. If tests do not demonstrate satisfactory system performance, correct deficiencies and retest systems.

END OF SECTION