

SECTION 22 42 16 COMMERCIAL LAVATORIES AND FAUCETS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Solid surface commercial undermount lavatory units.
- B. Engineered stone commercial undermount lavatory units.
- C. All-in-One chrome-plated cast alloy touch-free soap, water, and hand dryer.

1.2 RELATED SECTIONS

- A. Division 10 Section "Toilet, Bath and Laundry Accessories" for matching design soap dispensers.
- B. Division 22 Section "Domestic Water Piping Specialties" for thermostatic mixing valves.
- C. Division 22 Section "Commercial Lavatories" for commercial lavatory units with modular integrated accessories.

Specifier: [Bradley Corporation's CSI_3-Part_Spec_Guideline_Section 22 42 16.04 – Commercial Lavatory Decks and Faucets \(Single and multi-station Omni Decks\)](#) Division 22 Section "Commercial Lavatory Decks and Faucets" for single- and multiple- station lavatory decks.

[Bradley Corporation's CSI_3-Part_Spec_Guideline_Division 22 Section "Healthcare Plumbing Fixtures"](#) for healthcare lavatories.

[Bradley Corporation's CSI_3-Part_Spec_Guideline_Division 22 Section "Emergency Plumbing Fixtures"](#) for emergency shower and eyewash fixtures.

1.3 REFERENCES

- A. American Society of Sanitary Engineering (ASSE):
 - 1. ASSE 1070 - Water Temperature Limiting Devices.
- B. Home Innovation Lab Certified
 - 1. CSA B45.5/IAPMO Z124 - Plastic Lavatories.
- C. ASTM International (ASTM):
 - 1. ASTM C 170 - Standard Test Method for Compressive Strength of Dimension Stone.
 - 2. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
 - 3. ASTM D 785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.
 - 4. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 5. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. Canadian Standards Association (CSA):
 - 1. CSA B125 - (See ASME A112.18.1 - Plumbing Fixture Fittings).
- E. GREENGUARD Environmental Institute (GREENGUARD):
 - 1. GREENGUARD certified low emitting products.
- F. International Association of Plumbing and Mechanical Officials (IAPMO):
 - 1. Universal Plumbing Code (cUPC both U.S. and Canada).
 - 2. IAPMO IGC 156.
 - 3. IAPMO IGC 127 (washbar only).
- G. International Code Council (ICC):
 - 1. ICC/ANSI A117.1 – Accessible and Usable Buildings and Facilities.
- H. National Fire Protection Association (NFPA):
 - 1. NFPA 70 – National Electrical Code.

- I. NSF International:
 - 1. NSF/ANSI 372 - Lead-Free content requirement.
- J. State of Texas:
 - 1. Texas Accessibility Standards (TAS).
- K. Underwriters Laboratories, Inc. (UL):
 - 1. UL 723 - Test For Surface Burning Characteristics of Building Materials.
 - 2. UL499, CAN/CSAC22.2 No. 36-08 (Hand dryer only).
 - 3. UL 1951 - Electric Plumbing Accessories.
- L. United States Green Building Council (USGBC):
 - 1. LEED Green Building Rating System (LEED).
- M. US Federal Government:
 - 1. Public Law 102-486 - Energy Policy Act of 1992 (EPACT).
 - 2. U.S. Architectural & Transportation Barriers Compliance Board. Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG).

1.4 ACTION SUBMITTALS

- A. Product Data: For each product:
 - 1. Manufacturer's data sheets indicating operating characteristics, materials and finishes.
 - 2. Include details of electrical and mechanical operating parts.
 - 3. Provide mounting requirements and rough-in dimensions.
 - 4. Mark each sheet with product drawing designation.
- B. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency, when requested by Architect.
- C. Shop Drawings: Prepared by manufacturer. Include mounting and rough-in requirements and power, signal, and control wiring diagrams.
- D. LEED Submittals:
 - 1. Product Data for [Credit WE 2] and [Credit WE 3]: Documentation indicating compliance with requirements.
 - 2. Product data for Credit MR 4: Indicate percentages by weight of postconsumer and preconsumer recycled content, and product cost.

1.5 INFORMATION SUBMITTALS

- A. Sample warranty.
- B. Manufacturer's certificates.
- C. Indoor environmental quality certificates.

1.6 MAINTENANCE SUBMITTALS

- A. Furnish indicated spare parts that are packaged with identifying labels listing associated products.
- B. Operation, care and cleaning instructions.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 5 years' experience in the manufacture of plumbing fixtures. Manufacturers seeking approval must submit the following:
 - 1. Product data, including test data from qualified independent testing agency indicating compliance with requirements.
 - 2. Samples of each component of product specified.
 - 3. List of successful installations of similar products available for evaluation by Architect.
 - 4. Submit substitution request not less than 15 days prior to bid date.

- B. Source Limitations: Obtain each type of plumbing fixture and compatible accessories through one source from a single approved manufacturer.
- C. Laminar-Flow, Faucet-Spout Outlets:
 - 1. NSF Standard: Comply with NSF 372 for faucet-spout outlet materials that will be in contact with potable water.
 - 2. Product shall meet a weighted average of not more than 0.25 percent lead as required by the U.S. Safe Drinking Water Act.
 - 3. Description: Chrome-plated-brass, faucet-spout outlet that produces non-aerating, laminar stream. Include external or internal thread that mates with faucet outlet for attachment to faucets where indicated and flow-rate range that includes flow of faucet.
- D. Accessibility Requirements: Comply with requirements of ADA \ ANSI 117.1 and with requirements of authorities having jurisdiction.
 - 1. 306 Knee and Toe Clearance.
 - 2. 308 Reach Range.
 - 3. 309.4 Operation.
 - 4. 606.4 Faucets.
 - 5. 606.5 Exposed Pipes & Surfaces with access panels.
- E. Water Flow and Consumption Requirements: Comply with EPACT.
- F. Electrical Components: Listed and labeled per NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- G. Comply with Public Law 102-486, Energy Policy Act.
- H. Indoor Environmental Quality Certification: Provide certificate indicated that products have been certified under the following programs, or a comparable certification acceptable to Owner:
 - 1. GREENGUARD Indoor Air Quality Certified.
 - 2. GREENGUARD Certified for Children and Schools.
 - 3. Product shall be certified Green Guard Gold certificate.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship within the following periods:
 - 1. Solid surface material: 15 years.
 - 2. Engineered natural quartz material: 10 years.
 - 3. WashBar: 1 year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products of Bradley Corporation, Menomonee Falls, WI 53051, (800)272-3539, fax (262)251-5817; Email [in-fo@BradleyCorp.com](mailto:info@BradleyCorp.com); Website www.bradleycorp.com.
 - 1. Submit comparable products of one of the following for approval by Architect:
 - a. **[Insert name of manufacturer of comparable product.]**
 - 2. Submit requests for substitution in accordance with Instructions to Bidders and Division 01 General Requirements.
 - 3. Provide specified product; Owner will not consider substitution requests.

2.2 MATERIALS

- A. Solid Surface Material: Where indicated as constructed of solid surface material, fabricate plumbing fixtures from thermoset bio-based resin certified by approved independent testing agency as complying with the requirements of CSA B45.5IAPMO Z124, **[with minimum 25 per-cent preconsumer recycled content and]** with the following minimum properties:

1. Basis of Design Product: **Bradley, [Terreon][TerreonRE]**, or a comparable product fabricated from one of the following materials:
 - a. DuPont, Corian Products.
 - b. Wilsonart International, Inc., Gibraltar Products.
 2. Thickness: **1/2 inch (13 mm)**, minimum.
 3. Liquid Absorption: 0.025 percent in 24 hours, per ASTM D 570.
 4. Tensile Strength: **5000 psi (34 MPa)**, minimum, per ASTM D 638.
 5. Thermal Expansion: 2.30, per ASTM D 696.
 6. Hardness: 55-60, per ASTM D 785.
 7. Fire Resistance: Class 1, per ASTM E 84.
- B. Lavatory Deck and Bowl Material: Fabricate lavatory units from molded engineered stone material consisting of natural quartz, granite, and other minerals in a matrix of thermoset acrylic modified bio-based polyester resin, certified by approved independent testing agency as complying with CSA B45.5/IAPMO Z124, with the following minimum properties:
1. Basis of Design Product: **Bradley, Evero Geo Series**. 20 percent recycled content.
 2. Basis of Design Product: **Bradley, Evero Pearl Series**. 70 percent recycled content.
 3. Surface Burning Characteristics: Smoke developed, less than 450; flame spread, less than 25, per ASTM E 84.
 4. Flexural Strength: **3267 psi (22.5 MPa)**, minimum, per ASTM D 790.
 5. Compressive Strength: **11,500 psi (79 MPa)**, minimum, per ASTM C 170.
 6. Moisture Absorption: 0.065 percent in 24 hours, per ASTM D 570.
 7. Hardness: 6 – 7 Mohs Scale, per ASTM D 785.
 8. Thickness: **1/2 inch (12.7 mm)**.

2.3 UNDERMOUNT LAVATORY

- A. Lavatory System:
1. One piece chrome plated touch-free time of flight sensor activated soap, water, and hand dryer.
 2. Single piece cast-formed undermount basin to eliminate caulk lines and seams with countertop material.
 3. Undermount basin and drain engineered to evacuate water and dissipate air flow.
 4. Basin system includes drain assembly, plumbing connections, and access panel.
- B. Commercial Undermount Lavatory with All-In-One Touch-Free Soap, Water, and Hand Dryer.
1. Basis of Design Manufacturer/Model: **Bradley, Lavatory System, Model No. [WB1-WB-TR1 (WashBar WB1 w/Touch-Free Time of Flight Sensor Activation & Terreon Undermount Basin)][WB2-WB-TR1 (WashBar WB2 w/Touch-Free Time of Flight Sensor Activation & Terreon Undermount Basin)][WB1-WB-ER1 (WashBar WB1 w/Touch-Free Time of Flight Sensor Activation & Evero Undermount Basin)][WB2-WB-ER1 (WashBar WB2 w/Touch-Free Time of Flight Sensor Activation & Evero Undermount Basin)]**.
 2. Overall Unit Size: **21-5/8 inches (549 mm)** wide by **11-1/2 inches (292 mm)** depth.
 3. Bowl Color: **[insert Bradley color required]**.
 4. Trench Drain Cap Type: **[Stainless steel trench drain cap and drain tailpiece.][Slotted stainless steel trench drain cap w/vandal screws and drain tailpiece.]**

Specifier: Please visit <https://www.bradleycorp.com/maintenance/soap-dispensers> for soap recommendations. Soap Type: **[Foam Soap Dispenser - 1 gallon (3.8 L) soap container by others.][Liquid Soap Dispenser - 1 gallon (3.8 L) soap container by others.]**

6. Water Supply: **[Navigator® thermostatic mixing assembly (supply hoses and shut-offs included.)][Single Tempered Line Assembly (supply hoses and shut-offs included).]**
7. Flow Control Type (Non-aerated): **[0.35 gpm (1.3 Lpm) PCA Silicone Tip, Multiple Individual Laminar Flow Streams.][0.50 gpm (1.9 Lpm) PCA Silicone Tip, Multiple Individual Laminar Flow Streams.]**

Total rated power of each WashBar station is 1200W. Each WashBar is powered by one 12VDC power supply that plugs directly into its dryer or the electrical outlet. A properly grounded, dedicated 120VAC, 20A GFCI minimum outlet must be provided and must be located no more than 4 feet from the installation of the dryer assembly. One duplex outlet is required per station to power the WashBar and dryer. Hand Dryer Power Requirements: DC Motor 120V/60Hz, 20A, 1200 W. The single sided dryer shall dry hands in approximately 15 seconds depending on user preference. The decibel range with hands in air stream shall be 76 dB (high speed) to 64 dB (low speed).

9. Trap enclosure Color: [STAIN Swing Down Stainless Steel.][STAIN-E Swing Down Stainless Steel w/Enclosed Bottom.][PWB Swing Down Matte Black Powder-Coated Stainless Steel.][PWB-E Swing Down Matte Black Powder-Coated Stainless Steel w/Enclosed Bottom.][NONE No Access Panel.]

2.4 SENSOR-OPERATED WASHBAR

- A. Sleek single Casting WashBar with integral soap, faucet and single nozzle hand dryer with heated air and adjustable speeds, infrared control, smart technology with adjustable LED lighting and easy to identify icons and external tempering control **FCT# ____**:

1. Basis of Design Manufacturer/Model: **Bradley WB1.**
2. Function: Blue LED lights help guide the user, indicating the functions. The LED light will change from blue to green to signify that the function is in use. Each function is easily identified by the corresponding icon on the WashBar top surface. Each sensor includes a turn-off delay of 1-2 seconds to aid in a smooth, controlled hand-washing
3. Body: Stainless steel. Load tested to **500 pounds (227 Kg)**, WashBar is secured to the basin with two anti-rotational shanks.
4. Chrome Finish: "PC" Polished Chrome.
5. Physical Vapor Deposition (PVD) Finish: "BB" Brushed Black Stainless.
6. Physical Vapor Deposition (PVD) Finish: "BS" Brushed Stainless.
7. Physical Vapor Deposition (PVD) Finish: "BZ" Brushed Bronze.
8. Physical Vapor Deposition (PVD) Finish: "BR" Brushed Brass.
9. Physical Vapor Deposition (PVD) Finish: "BN" Brushed Nickel.
10. Tempered Water Supply: [Single tempered line][Single thermostatic mixing valve].
11. Flow Control: [**0.35 gpm (1.33 Lpm)**] PCA Silicone Tip, Non-Aerated. [**0.50 gpm (1.9 Lpm)**] PCA Silicone Tip, Non-Aerated. [None.]
12. Soap Type: [Foam Soap Dispenser][Liquid Soap Dispenser]. Soap system accommodates up to a **1 gallon (3.8 L)** container.
13. Hand Dryer: DC Motor 120v/60hz, 20 Amp.
14. Sensor Module: Water-conserving, durable sensor unit with adjustable timing turn-off delay and stationary object automatic timed cutoff, with diagnostic signal light.
 - a. Sensing Distance: **5 inches (127mm)**.
15. Power Supply: 120V 2A 12V DC adapter that plugs directly into the electrical outlet.
16. Thermostatic Mixing Valve: Thermostatic mixing valve, ASSE 1070 listed, with stop/strainer/check valves, and flexible stainless steel connectors.

- B. Sleek single Casting WashBar with integral soap, faucet and single nozzle hand dryer with heated air and adjustable speeds, infrared control, smart technology with adjustable LED lighting and easy to identify icons and external tempering control **FCT# ____**:

1. Basis of Design Manufacturer/Model: **Bradley WB2.**
2. Function: Blue LED lights help guide the user, indicating the functions. The LED light will change from blue to green to signify that the function is in use. Each function is easily identified by the corresponding icon on the WashBar top surface. Each sensor includes a turn-off delay of 1-2 seconds to aid in a smooth, controlled hand-washing
3. Body: Stainless steel. Load tested to **500 pounds (227 Kg)**, WashBar is secured to the basin with one anti-rotational shank.
4. Chrome Finish: "PC" Polished Chrome.
5. Physical Vapor Deposition (PVD) Finish: "BB" Brushed Black Stainless.
6. Physical Vapor Deposition (PVD) Finish: "BS" Brushed Stainless.
7. Physical Vapor Deposition (PVD) Finish: "BZ" Brushed Bronze.
8. Physical Vapor Deposition (PVD) Finish: "BR" Brushed Brass.
9. Physical Vapor Deposition (PVD) Finish: "BN" Brushed Nickel.
10. Tempered Water Supply: [Single tempered line][Single thermostatic mixing valve].
11. Flow Control: [**0.35 gpm (1.33 Lpm)**] PCA Rubber Tip Aerator. [**0.50 gpm (1.9 Lpm)**] PCA Rubber Tip Aerator. [None.]
12. Soap Type: [Foam Soap Dispenser][Liquid Soap Dispenser]. Soap system accommodates up to a **1 gallon (3.8 L)** container.
13. Hand Dryer: DC Motor 120v/60hz, 20 Amp.
14. Sensor Module: Water-conserving, durable sensor unit with adjustable timing turn-off delay and stationary object automatic timed cutoff, with diagnostic signal light.
 - a. Sensing Distance: **5 inches (127mm)**.
15. Power Supply: 120V 2A 12V DC adapter that plugs directly into the electrical outlet.

16. Thermostatic Mixing Valve: Thermostatic mixing valve, ASSE 1070 listed, with stop/strainer/check valves, and flexible stainless steel connectors.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessible sinks at juvenile/handicapped/elderly and enhanced reach mounting heights according to ICC/ANSI A117.1.
- B. Install accessible sinks at juvenile/handicapped/elderly mounting heights according to Canadian Authority Having Jurisdiction.
- C. Assemble fixtures, accessories, and associated fittings and trim in accordance with manufacturer's instructions.
- D. Install fixture supports firmly attached to building structure.
- E. Install fixtures level, plumb, and in accordance with manufacturer's rough-in instructions.
- F. Install water supply piping. Provide stop on each supply in readily-serviceable location. Fasten supply piping to supports or substrate.
- G. Install trap and waste piping to each fixture.
- H. Install escutcheons at exposed piping penetrations in finished locations and within cabinets.
- I. Seal joints between fixtures and walls, floors, and countertops with mildew-resistant silicone sealant meeting requirements in Division 07 Section "Joint Sealants."

3.2 CLEANING AND PROTECTION

- A. Repair or replace defective work, including damaged fixtures and components.
- B. At time of Substantial Completion:
 - 1. Clean unit surfaces per manufacturer's care instructions, test fixtures, and leave in ready-to-use condition.
 - 2. Fill soap dispensers.
 - 3. Turn over keys, tools, maintenance instructions, and maintenance stock to Owner.
- C. Protect units with water-resistant temporary covering. Do not allow temporary use of plumbing fixtures. Remove protection at Substantial Completion and dispose.

3.3 TESTING AND ADJUSTING

- A. Set field-adjustable temperature set points of temperature-actuated water mixing valves. Adjust set point within allowable temperature range.
- B. Test and adjust installation.

END OF SECTION