

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American Society for Testing and Materials International (ASTM).
 - .1 ASTM A 126-95(2001), Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
 - .2 ASTM B 62-02, Specification for Composition Bronze or Ounce Metal Castings.
 - .2 Canadian Standards Association (CSA International).
 - .1 CSA-B64 Series-01, Backflow Preventers and Vacuum Breakers.
 - .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
 - .4 Plumbing and Drainage Institute (PDI).
 - .1 PDI-WH201-92, Water Hammer Arresters Standard.
- 1.2 ACTION AND INFORMATIONAL SUBMITTALS
- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet for fixtures and equipment.
 - .2 Indicate dimensions, construction details and materials for specified items.
 - .3 Submit WHMIS MSDS. Indicate VOC's for adhesive and solvents during application and curing.
 - .3 Instructions: submit manufacturer's installation instructions.
 - .4 Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals, include:
 - .1 Description of plumbing specialties and accessories, giving manufacturers name, type, model, year and capacity.
 - .2 Details of operation, servicing and maintenance.
 - .3 Recommended spare parts list.

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| <u>1.3 QUALITY ASSURANCE</u> | .1 | Health and Safety:
.1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements. |
| <u>1.4 DELIVERY, STORAGE AND HANDLING</u> | .1 | Waste Management and Disposal:
.1 Separate waste materials for reuse and recycling in accordance with 01 10 10 - General Instructions.
.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
.3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, packaging material in appropriate on-site bins for recycling.
.4 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
.5 Fold up metal and plastic banding, flatten and place in designated area for recycling. |

PART 2 - PRODUCTS

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| <u>2.1 FLOOR DRAINS</u> | .1 | Floor Drains and Trench Drains: to CSA B79. |
| | .2 | Type 1: General duty; cast iron body round, adjustable head, sediment basket nickel bronze strainer, integral seepage pan, and clamping collar. |
| <u>2.2 WATER HAMMER ARRESTORS</u> | .1 | Stainless steel Copper construction, bellows piston type: to PDI-WH201. |
| <u>2.3 VACUUM BREAKERS</u> | .1 | Breakers: to CSA-B64 Series, vacuum breaker laboratory faucet intermediate. |
| <u>2.4 WATER FILTERS</u> | .1 | Inline cartridge filter with built-in shutoff, standard cartridge size, spanner wrench, and carbon cartridge. |
| | .2 | 7.6 LPM rated flow. |
| | .3 | Provide two spare cartridges per filter supplied. |

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2.5 EMERGENCY
DRENCH SHOWER UNIT

- .1 Ceiling mounted drench shower with flow control.
- .2 Shower head: 254 mm diameter corrosion resistant stainless steel shower head treated with antimicrobial coating.
- .3 Operation: Recessed stainless steel wall cabinet with brass stay open ball valve and pull down lever. Valve to have stainless steel ball and stem.
- .4 Water supply: NPS 1.
- .5 Identification sign: 203 mm x 273 mm universal emergency sign for wall mounting.
- .6 Location: as indicated.

2.6 EMERGENCY EYE/
FACE WASH FIXTURE

- .1 Sink deck mounted swing out eye/face wash.
- .2 Head: Corrosion resistant stainless steel head treated with antimicrobial coating with flow controlled inverted directional laminar flow to sweep contaminants away from the nasal cavity.
- .3 Valve: Stay open chrome plated brass ball valve with stainless steel ball and stem.
- .4 Operation: hand operated by a large, highly visible stainless steel push handle.
- .5 Water Supply: NPS ½.
- .6 Pipe and fittings: Chrome plated brass.
- .7 Identification sign: 203 mm x 273 mm universal emergency sign for wall mounting.

2.7 EMERGENCY
DRENCH SHOWER AND
EYE/FACE WASH UNIT
FLOW ALARM SYSTEM

- .1 Suitable for connection to drench shower with NPS 1 inlet piping rated for an activation flow of 9.1 LPM and to eye/face wash with NPS ½ inlet piping and rated for an activation flow of 5.7 LPM.
- .2 System to be fully grounded and electrically insulated from water piping for safety.
- .3 Power supply: 120/1/60 with 0.5 amp current draw.

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| <u>2.7 EMERGENCY
DRENCH SHOWER AND
EYE/FACE WASH UNIT
FLOW ALARM SYSTEM
(Cont'd)</u> | <p>.4</p> <p>.5</p> <p>.6</p> <p>.7</p> | <p>Flow Switches: UL listed and CSA approved. Watertight and completely assembled for easy hook-up to alarm assembly.</p> <p>Strobe light: UL Listed and CSA approved. Light intensity to be 258,000 maximum effective candella on horizontal axis. Safety amber-colored glass complete with dust cover. All solid state components with no moving parts for maintenance-free operation.</p> <p>Audible Horn: UL listed, externally adjustable from 78-103 decibels at 3.0 meters. Horn designed to sound away from the injured person.</p> <p>On/Off Switch: Enables horn to be turned off while the strobe light continues to flash and the water flows.</p> |
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PART 3 - EXECUTION

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| <u>3.1 MANUFACTURER'S
INSTRUCTIONS</u> | <p>.1</p> | <p>Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.</p> |
| <u>3.2 INSTALLATION</u> | <p>.1</p> <p>.2</p> | <p>Install in accordance with National Plumbing Code of Canada and local authority having jurisdiction.</p> <p>Install in accordance with manufacturer's instructions and as specified.</p> |
| <u>3.3 WATER HAMMER
ARRESTORS</u> | <p>.1</p> | <p>Install on branch supplies to fixtures or group of fixtures where indicated.</p> |
| <u>3.4 EMERGENCY
DRENCH SHOWER AND
EYE-FACE WASH</u> | <p>.1</p> <p>.2</p> <p>.3</p> | <p>Install equipment where indicated as per manufacturers recommendations.</p> <p>Provide escutcheon on shower head pipe penetration in ceiling.</p> <p>Install two flow switches and one alarm unit per laboratory. Wiring as indicated on electrical drawings by Division 26.</p> |

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3.4 EMERGENCY
DRENCH SHOWER AND
EYE-FACE WASH
(Cont'd)

- .4 Mount signs in a visible area.
- .5 Flush and disinfect units prior to commissioning.

3.5 START-UP

- .1 Timing: start-up only after:
 - .1 Pressure tests have been completed.
 - .2 Disinfection procedures have been completed.
 - .3 Certificate of static completion has been issued.
- .2 Provide continuous supervision during start-up.

3.6 TESTING AND
ADJUSTING

- .1 Timing:
 - .1 After start-up deficiencies rectified.
 - .2 After certificate of completion has been issued by authority having jurisdiction.
- .2 Floor Drains:
 - .1 Check security, accessibility and removability of strainer.
 - .2 Clean out baskets.
- .3 Vacuum breakers, backflow preventers, backwater valves:
 - .1 Test tightness, accessibility for O&M of cover and of valve.
 - .2 Simulate reverse flow and back-pressure conditions to test operation of vacuum breakers, backflow preventers.
 - .3 Verify visibility of discharge from open ports.
- .4 Access doors:
 - .1 Verify size and location relative to items to be accessed.
- .5 Water hammer arrestors:
 - .1 Verify proper installation of correct type of water hammer arrester.