

City of Milwaukee
Department of Public Works

Milwaukee Water Works

Material Specifications for
Cast Iron Service Boxes
(Buffalo Pattern)



City of Milwaukee Specification No. 30-C-1
Revised December 17, 2019

- I. **GENERAL REQUIREMENTS:** Vendors bidding through the Department of Administration – Business Operation Division, Procurement Services Section, shall comply with the latest version of City of Milwaukee Specification No. 70b-D-7, except as modified herein. **MATERIALS FURNISHED UNDER THIS SPECIFICATION SHALL COMPLY WITH AND BE CERTIFIED WITH THE PROVISIONS OF THE CITY OF MILWAUKEE ORDINANCE 310-18.9 AND THE AMERICAN IRON AND STEEL REQUIREMENT (AIS) OF THE DRINKING WATER STATE REVOLVING FUND (DWSRF).**
- II. **TECHNICAL REQUIREMENTS**
- A. **Description:** A service box is installed to provide access to the operator of a direct buried curb stop. Service boxes specified herein shall be screw type.
- A Service Box – Complete, shall consist of a base section, top section with cover and if necessary, one intermediate extension section to achieve a nominal length of seven feet.
- The top section shall be designed to thread onto the base or extension section so that the length of the unit can be continuously variable within the range specified. Additional extension sections designed to fit on the base shall be used to achieve a service box length in excess of seven feet. The top section shall be designed to receive a circular cover, which is bolted in place.
- B. **Material:** The service box and component parts shall be cast iron in accordance with ASTM-A48 Class 20, 30, 35 or approved equal.
- C. **Service Box Design:** The service box and component parts shall be of the "Buffalo Pattern" design in substantial accordance with drawings SB-1 thru SB-5 and SB-11 thru SB-15. The service box shall be a 2-1/2 inch or 3 inch diameter unit, screw type, cast iron, in accordance with the following requirements:
1. The 2-1/2 inch diameter base section shall be constructed in accord with drawing SB-2. An enlarged base adapter, for ball curb stops up to 2", shall be constructed in accord with drawing SB-10. The 3 inch diameter base section shall be constructed in accord with drawing SB-12.
 2. The standard service box retracted length shall be 66" maximum and the extended length shall be 78" minimum. The 30" long nominal top section shall be between 28" and 32" in length. The base section may be composed of two castings to provide the overall length required. The intermediate extension section, if furnished, shall be of sufficient length to allow the top section to be turned down the required distance without interruption.
 3. The nominal length of service box extensions shall be the length specified on the bid form.

4. The cover shall be the standard drop type with locking plate and bolt. The word "WATER" shall be cast in the top of the service box cover. The cover bolt shall be brass with a standard 27/32" pentagon head, 1/2" - 13 threads, and sufficient length.

- D. Tolerances:** The service box and component parts shall be constructed within dimensional tolerances that will assure interchangeability with service boxes manufactured in accord with the drawings. The minus tolerance for metal thickness shall not be more than 0.10 inch. An additional tolerance of 0.02 inch shall be permitted over areas not exceeding 8 inches in any direction.
- E. Enlarged Base Adapter:** The service box adapter as shown in drawing SB-10 is to adapt 2-1/2" service boxes for use over 2" ball curb stops. The adapter shall be furnished with the 3" maximum O.D. of the stem portion and the 3-3/4" minimum base clear opening as shown.
- F. Workmanship and Finish:** The cast iron service box and components shall be free from blowholes, cold shots, shrinkage defects, cracks, other injurious defects and shall have a normal smooth casting finish.
- G. Coating:** All cast iron service box component parts and cover shall be thoroughly coated with asphaltum pitch varnish or approved equal.
- H. Certification:** Certification of compliance with provisions of the American Iron and Steel Act shall be furnished with every order.

III. **ACCEPTABLE BRANDS:** Following brands are acceptable to the City of Milwaukee:

Bingham & Taylor - All component parts except E-14 enlarged base

Tyler - All component parts 6500 Series