

City of Milwaukee
Department of Public Works

Milwaukee Water Works

Material Specifications for
Tee Head Bolt and Nut
Special Design



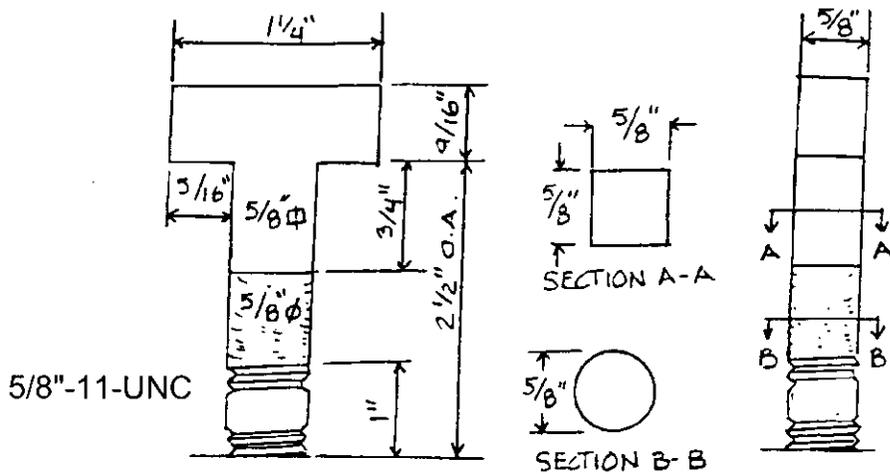
City of Milwaukee Specification No. 30-E-6
Milwaukee Water Works Specification No. 5H-P-3/06
Revised March 14, 2006

841 N. Broadway
Zeidler Municipal Building
Room 409
Milwaukee, Wisconsin 53202

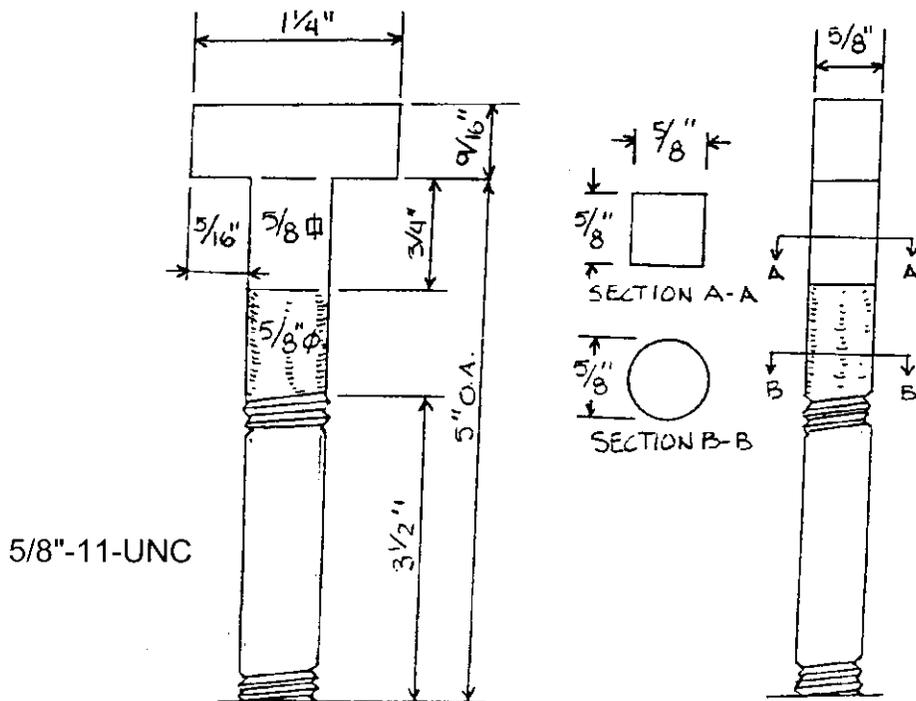
www.water.mpw.net

TEE HEAD BOLT AND NUT – SPECIAL DESIGN

- I. **GENERAL REQUIREMENTS:** Vendors bidding through the Department of Administration - Business Operations Division, Procurement Services Section shall comply with the latest version of City of Milwaukee Specification No. 70b-D-7, except as modified in the technical requirements as described herein.
- II. **TECHNICAL REQUIREMENTS:**
- A. Description: The Tee Head bolts shall conform to the dimensions indicated on attached drawings A, B, and C for each size and type of bolt.
- The nuts shall be heavy hexagon design.
- B. Standards: Tee Head bolts shall be 300 Series 18-8 stainless steel material meeting the requirements of ASTM A – 193 or ASTM A – 276 or high strength low alloy steel meeting ASTM A – 242.
- Nuts shall be made of the same material as the bolts.
- C. Markings: Markings on the bolts and nuts shall be in conformance with the manufacturers designation and in accord with the industry's standard.
- The container in which the bolts and/or nuts are shipped shall be marked or have an attached label which lists the heat period or ladle of the material used.
- D. Certification: A certification shall be furnished by the manufacturer for each size bolt and nut furnished. It shall list for stainless steel, the nickel and chromium contents. For HSLA steel, it shall list carbon, copper, manganese, phosphorous, and sulfur. Yield strength, tensile strength, and elongation of the sample taken and tested at the plant shall also be shown. This information shall be available prior to or at the time of delivery.



TYPE I



TYPE II

WATER ENGINEERING DIVISION
MILWAUKEE WATER WORKS
DEPARTMENT OF PUBLIC WORKS

TEE HEAD BOLTS TYPE I and II

NOTE:

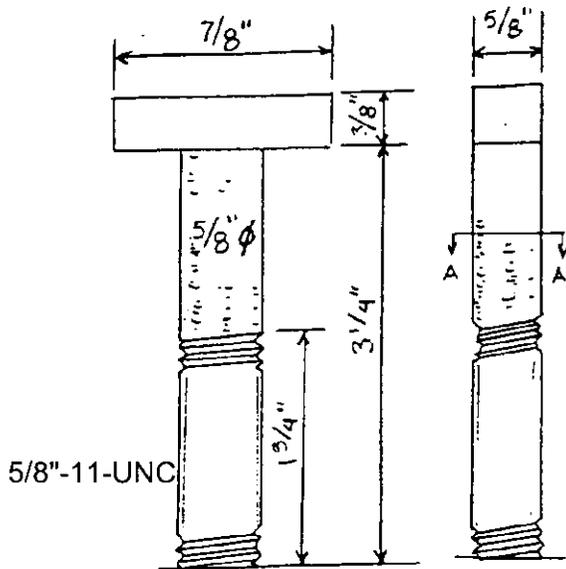
THE THREADED END OF THE BOLT SHALL BE ROUNDED. THE BOLT SHALL HAVE NO SHARP EDGES.

THE BOTTOM OF THE TEE HEAD WHERE IT ABUTS THE SHANK SHALL HAVE A 1/16" ROUNDED FILLET.

Dale E. Mejick 7/2/93 *James Cook* 7/21/93
ENGINEER IN CHARGE SUPERINTENDENT

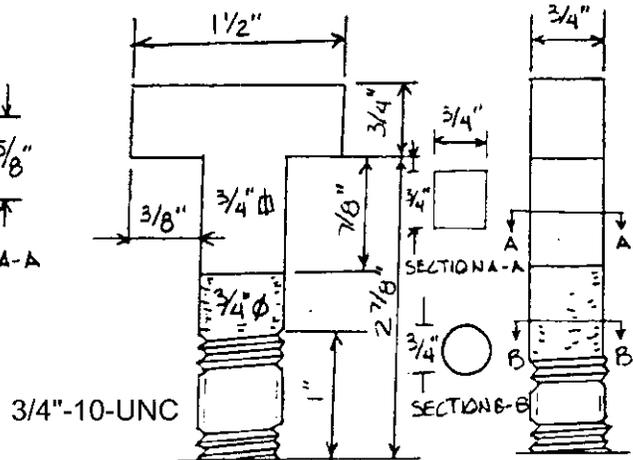
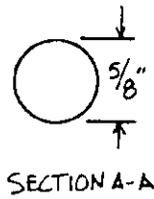
DRAWN D.P.S.
 CHECKED D.E.M.
 FILE 5H-P-7/93

DATE JULY 19, 1993
 SCALE NTS
 DWG. A REV 1



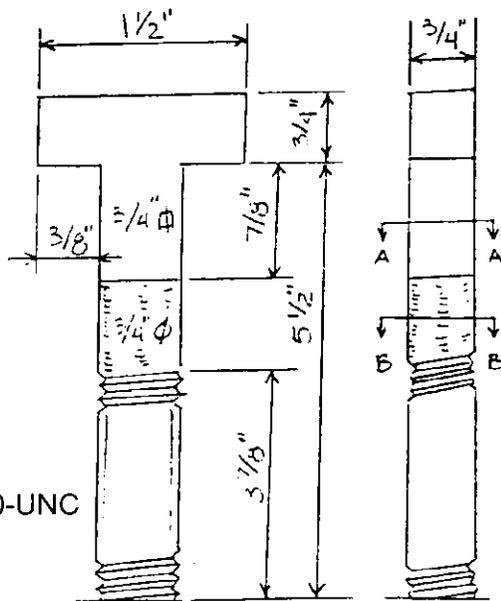
5/8"-11-UNC

TYPE III



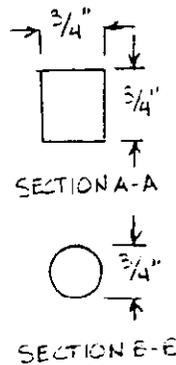
3/4"-10-UNC

TYPE IV



3/4"-10-UNC

TYPE V



NOTE:

THE THREADED END OF THE BOLT SHALL BE ROUNDED. THE BOLT SHALL HAVE NO SHARP EDGES.

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WATER ENGINEERING DIVISION
MILWAUKEE WATER WORKS
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TEE HEAD BOLTS TYPE III, IV and V

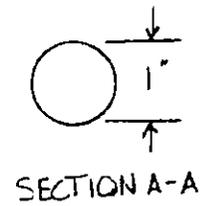
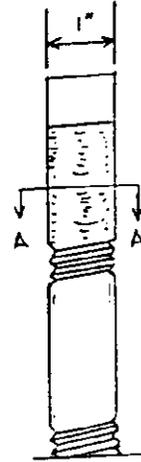
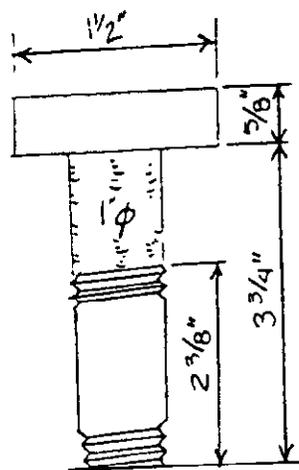
Dale L. Mejaki 7/21/93 *Jesse Cook* 7/21/93
Asst. ENGINEER IN CHARGE SUPERINTENDENT

DRAWN D.P.S.
CHECKED D.E.M.
FILE 5H-P-7/93

DATE JULY 19, 1993
SCALE NTS
DWC B

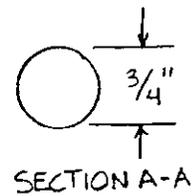
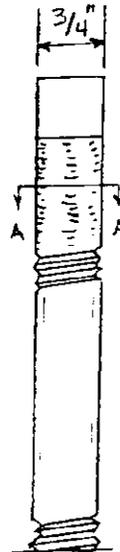
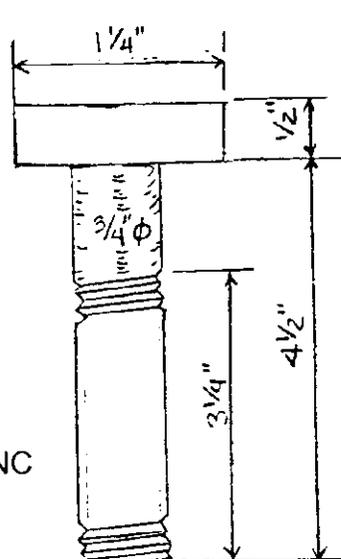
REV 1

1-8"-UNC



TYPE VI

3/4"-10-UNC



TYPE VII

NOTE:

THE THREADED END OF THE BOLT SHALL BE ROUNDED. THE BOLT SHALL HAVE NO SHARP EDGES.

THE BOTTOM OF THE TEE HEAD WHERE IT ABUTS THE SHANK SHALL HAVE A 1/16" ROUNDED FILLET.

WATER ENGINEERING DIVISION
MILWAUKEE WATER WORKS
DEPARTMENT OF PUBLIC WORKS

TEE HEAD BOLTS TYPE VI and VII

Dale E. Mejaki 7/21/93 *Jeanne Cosko* 7-21-93
 Assoc. ENGINEER IN CHARGE SUPERINTENDENT

DRAWN D.P.S.
CHECKED D.E.M.
FILE SH-P-7/93

DATE JULY 19, 1993
SCALE NTS
DWG C