



LYNNFIELD WATER DISTRICT WATER SYSTEM SPECIFICATIONS

Water Services

- Water services shall be Type K copper tubing in accordance with ASTM B88, with a minimum size of 1-inch.
- Services shall be direct tapped to the water main. Taps shall be installed on the main at an angle of 30-degrees to 45-degrees to horizontal.
- Services shall be installed in a minimum 6-inch sand bedding all around.
- Corporation stops shall be brass in accordance with AWWA C800, low-lead alloy, as manufactured by Red Head Co., or Mueller Co.
- Curb stops shall be brass in accordance with AWWA C800, low-lead alloy, inverted key style, no drain, open counterclockwise, as manufactured by Red Head Co. or Mueller Co.
- Curb stops shall be installed on a brick, concrete block or flat stone.
- Curb boxes shall be cast iron, sliding Eire type, minimum shaft size of 1-inch, with a brass pentagonal nut and the word "WATER" cast in the lid, as manufactured by Mueller Co. Boxes shall be equipped with a plug cover and 30-inch stationary extension rod with pinned connection to the curb stop.
- Water services shall be installed with a minimum of 5-feet of cover.

Distribution System

- Water mains
 - Cement-lined Class 52 ductile iron pipe in accordance with AWWA C151.
 - Water mains shall be disinfected and tested in accordance with the latest version of AWWA C651, and MassDEP requirements.
 - Pressure testing shall be in accordance with the latest version of AWWA C600.
 - Fittings shall be cement-lined ductile iron with mechanical joint ends in accordance with AWWA C110 or C153.
 - Water mains shall be installed with a minimum of 5-feet of cover.
 - Water mains shall be installed with a minimum of 6-inches of compacted gravel under and to the sides of the pipe, and 12-inches over the top of the pipe.
- Valves shall be resilient seat ductile iron gate valves meeting the requirements of AWWA C515, with 200 psi working pressure, mechanical joint ends, and stainless-steel nuts and bolts. Valves shall open counterclockwise (left).
- Valve boxes
 - Valve boxes shall be cast iron, adjustable sliding, heavy pattern type, with a 7-1/4-inch cover, with "WATER" stamped on the cover.
 - Boxes shall be provided with a Styrofoam mud plug with a plastic handle.
- Hydrants
 - Hydrants shall conform to AWWA C502, with a 5-1/4-inch main valve and 6-inch inlet, and be Waterous Pacer only, Alpha style.
 - Hydrants shall have a 4-1/2-inch pumper and two 2-1/2-inch hose connections, with NST threads.



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- Hydrants shall open counterclockwise (left).
- A flat stone or concrete block shall be installed under the hydrant.
- The break-away flange shall be approximately 4-inches above finished grade.
- In addition to mechanical restraint, a concrete thrust block shall be installed behind the hydrant against undisturbed earth.
- A minimum of 2 cubic yards of crushed stone shall be installed to at least 6-inches above the drain holes.
- Hydrants shall be painted in accordance with District standards and shall be provided with a fiberglass snow flag with spring.
- Couplings shall be restrained Romac Alpha style.
- Anchor tees shall be used with valves wherever possible.
- Tapping sleeves shall be full length ductile iron with mechanical joint ends.
- Appropriately sized concrete thrust blocks shall be provided where mechanical restraint cannot be provided.
- ALL pipes, fittings, valves, hydrants, couplings, and other appurtenances shall be mechanically restrained.

Miscellaneous

- Water system improvements shall be in accordance with:
 - 310 CMR 22.00 – Massachusetts Regulation of Drinking Water
 - Massachusetts Department of Environmental Protection - Drinking Water Policies and Guidance
 - Lynnfield Water District regulations and specifications.
- Shop drawings for all system components shall be submitted to the District for review and approval prior to installation.
- Equipment and materials not included in the above specifications shall be submitted for review and approval by the District.
- All equipment and materials shall be American made.
- Typical construction details for water mains, water services, hydrants, valves and other appurtenances shall be provided for review and approval by the District.
- Water mains for new developments shall be looped whenever possible.
- All work shall be performed in accordance with the requirements of the Lynnfield Water District and MassDEP unless otherwise specified.
- No water mains or services shall be backfilled before review by a representative of the Lynnfield Water District.
- As-built plans shall be submitted to the District in electronic format, as well as one set of reproducible plans. These will include ties to valves, curb boxes, and service corporations.

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