



TOWN OF BEDFORD

DEPARTMENT OF PUBLIC WORKS

314 THE GREAT ROAD
BEDFORD, MASSACHUSETTS 01730

TEL: 781-275-7605
FAX: 781-275-9010

Water and Sewer Connection Standards and Specifications

General Work Rules:

- Work hours shall be between 7:00 am and 3:30 pm unless approved otherwise
- No work shall be done on Saturday or Sunday or Holidays observed by the Town of Bedford
- All water and sewer work must be done by a licensed Town of Bedford drainlayer who is listed on the Approved Drainlayer list
- All underground pipe work must be inspected by the Department of Public Works prior to being backfilled
- Inspections can be requested from the Department of Public Works between 8:00 am and 1:00 pm by calling 781-918-4259 with 48 hours' notice in order to schedule such inspections.
- A water/sewer permit and trench permit must be issued before work may commence
- If work will be performed within the right-of-way, a Street Opening Permit must be issued
- The contractor must identify a "Competent Person" who understands and can enforce OSHA excavation requirements and Commonwealth trench excavation laws and regulations

Residential Sewer Connections:

Min pipe size	6 inch
Pipe Material	SDR 35 PVC
Min pipe size for more than one unit	8 inch
Min cover over pipe	4 ft
Min pipe slope	2%, ¼ inch per ft
Min horizontal separation from water service	10 ft
Min horizontal separation from other utilities	5 ft
Pipe bedding	Crushed stone, 6 inch below pipe to top of pipe
Min distance below water service	18 inches
Max distance between cleanouts	100 ft
Max bend without cleanout	22°
Max depth of cleanout	5 ft
Cleanout at building exterior	Required
Manhole at junction of 2 services	Required
Max length of service without manhole	200 ft
Max bend without manhole	45°
Min distance between bends	10 ft
Min manhole inner diameter outside Town ROW	2 ft 6 inch
6 inch service connection to vitrified clay main	Cut in Wye
6 inch service connection to asbestos cement main	Wye or Saddle

8 inch service to town main	In trench 2 ft above pipe
Buried traceable warning tape	Required
Design sketch with ties	Required
Certified "As-built" for service length > 250 ft	Required
Pressure test for service length > 250 ft Manhole	Required
Professional Engineer design for service length > 250 ft	Required

Notes:

- All non-PVC sewer services shall be video inspected with recording submitted to Public Works for review at time of permit application. The video recording must be in digital format and stored on USB drive or DVD to be given to DPW. It will be at the Town's discretion if improvements will be required on the existing sewer service.
- Design Sketch with Ties must be created showing ties to any manholes, cleanouts, bends, and connections to public sewer as well as house corners and include depth at property line on an 8.5 x11 sheet of paper in legible writing.

Sewer Pump & Force Main Connections:

Approval by Public Works	Required
Professional Engineer design	Required
Certified "As-built" plan	Required
Min cover over pipe	4.5 ft
Flushing manhole(s)	As required by Public Works
Min pipe diameter	2 inch
Pipe material	SDR 21 PVC
Layout	No 90° bends
Buried traceable warning tape	Provide warning tape 2 ft above pipe

Extension of Town Sewer Main

Min pipe diameter	8 inch
Pipe material	PVC
Min pipe thickness	SDR 35
Pipe bedding	Crushed stone, 6 inch below pipe to top of pipe
Max distance between manholes	300 ft
Min pipe cover	4.5 ft
Min design flow velocity	2 Ft per second
Design by Professional Engineer	Required
“As-built” Plan	Required
Video Inspection	Required
Pipe Deflection Test	Required: 7 ½% max
Manhole Vacuum Test	Required: 10 inch Hg for 1 inch lengths< 10ft; 1.5 inch length >10ft
Pressure Testing	Required; 4 psi for 8 minutes, 8 inch pipe
Min horizontal separation from water main	10 ft
Min distance above water main	18 inches
Buried traceable warning tape	Provide warning tape 2 ft above pipe
Sewer manhole frame and cover	Lebaron LT 105 or approved equal

Residential Water Service Connections:

Min pipe size	1 inch
Pipe material	Type K copper
Pipe bedding	Sand; 6 inch below to 6 inch above pipe
Min pipe cover	4.5 ft
Min horizontal separation from sewer service	10 ft
Min distance above sewer service	18 inches
Min horizontal separation from other utilities	5 ft
Curb stops	Open left ball valve rated 300 psi Cambridge brass only
Corporations	Ball valve type rated to 300 psi, AWWA Approved
Service boxes	Slide type, buffalo style
One Outside Metal Spigot	Required on new construction

Notes:

- If lead service or components are encountered during construction, the contractor must notify the Water and Sewer Division at 781-918-4255
- 1 inch service taps shall be performed by the contractor
- Service taps greater than 1 inch shall be approved by the Department of Public Works and will require a saddle
- Design Sketch with ties must be created showing ties to service box, any unions, and house corners with the depth of curb stop on an 8.5 x11 sheet of paper in legible writing.

Extension of Town Water Main

Min pipe diameter	8 inch
Pipe material	Cement lined Ductile Iron
Min pipe thickness	Thickness class 52
Bedding	Sand' 6 inch below pipe to 12 inch above
Gate Valves	Open left; 200 psi resilient seat, non-rising stem with 316 stainless steel bolts AWWA approved
Hydrants	Kennedy K81 style, open left, all stainless steel rods and bolts
Valve box top	Heavy duty; 2 inch recessed top flange
Valve box lid	Heavy duty; solid interface between lid and top without fluted or scalloped design
Valve box base section	Belled type
Valves and fittings	Secured with mechanical joint and restraint; stainless steel
Buried traceable warning tape	Provide warning tape 2 ft above pipe
Design by Professional Engineer	Required
As-built Plan	Required
USA Made Castings	Required
Pressure Testing	150% operating pressure for 2 hours with no decrease in pressure
Disinfection	Follow AWWA C651-14; Chlorinate, let stand for 24 hours then flush, then 3 hours later sample for bacteria with HPC testing procedures. Must have 2 consecutive clean samples.