



# MANCHESTER-BY-THE-SEA

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DPW Director

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## **Department of Public Works Rules & Regulations**

**\*\*please note that some of these requirements will not apply to every project\*\***

1. All utility work shall be completed in accordance with the Town's standard construction specifications, this document, including but not limited to (with all applicable updates):
  - A. Rules & Regulations of the Water Department, Dated 1970
  - B. Rules & Regulations of the Sewer Department, Dated 1970, Updated in 1992
  - C. Stormwater Management Rules & Regulations, Dated November 2024
2. All earth moving activities greater than 20,000 Square Feet, and/or grade changes over two (2) feet shall be completed in accordance with this document.
3. Provide a site plan, designed and stamped by a MA Registered Professional Civil Engineer (hereinafter referred to as "the Engineer") showing existing and proposed utilities, grading & site improvements.
  - A. Sewer & drainage piping proposed shall include profiles with the site plan.

### **B. Water**

#### *I. Existing*

- a. Licensed plumber to complete building inspection to locate all water lines (noting location, size and material) connected to the building(s). The Engineer shall incorporate this information in the site plan, along with the water lines (location, size, material) in the abutting street(s).
- b. Reuse of existing water services is not permitted for a redevelopment or development. All existing services shall be cut and capped at the main in the street. Tee service connections shall be removed from the main and replaced with a minimum of 4 feet of new CLDI class 56 watermain using a mechanically restrained coupling.
- c. Saddled service connections shall be removed from the main and replaced with a stainless-steel repair clamp.

#### *II. Proposed*

- a. The Engineer to provide a letter stating that the Town's watermains to serve the proposed development have adequate flow and pressure for both domestic and fire service, if applicable. Back-up data, including engineering calculations and the results of hydrant flow tests (within one year), shall be included in the letter.
  - i. If Town watermain is inadequate to support the projects demand, the applicant will bear all costs to upgrade the Town's water system to achieve

demand requirements of the proposed project to the satisfaction of the DPW Director.

- b. Provide proposed water demand peak flows of the proposed connection.
- c. Provide detailed information on the water meter(s) location in the building(s) that demonstrates clear access for future maintenance and that no other connections (tees) exist before the Town's meter(s). (Horseshoe connections are not allowed). Meter shall be located as close as possible to where the water service enters the building.
- d. Separate fire and domestic services (1 inch minimum) are required with valves on each service at the main for the fire and large domestic services (4 inch and above) and on the sidewalk for smaller domestic services (less than 4 inch).
- e. Piping under foundations should be avoided.
- f. A minimum of 4 feet horizontal separation shall be maintained between the domestic and fire services.
- g. An individual service per building is required and shall be connected directly to a Town water main. Note that domestic services shall be independent from fire services, no combined services will be allowed.
- h. Water pipe material shall be copper Type-K (1-to-3-inch services) or CLDI class 56 (4 inch and above) for distribution piping. No other types shall be allowed.
- i. The minimum watermain size required for ANY main extension shall be 8", per Chapter 9 of MassDEP Guidelines for PWS and will require a hydrant at the end of the main, if the main is not being looped.
- j. All water gate valves shall be open right.
- k. Any proposed fire hydrants shall be Darling B-84-B, 5/1/2 open left.
- l. Hydrants must be located no more than 600' from any building or structure or from another hydrants.
- m. Water taps shall be completed using a saddle and include a stop & waste curb stop off the street with the drain on the meter side of the service.
- n. The length of water service connections shall be minimized and connected directly from the main to the building perpendicularly for both domestic and fire services.
- o. Provide fire sprinkler system design confirming the required size of the fire service for the building (containment backflow preventer required).
  - i. The proposed fire service design shall include existing water demand peak flow and Fire Protection Engineer calculations.
- p. Identify if an irrigation system will be installed (backflow preventer required)
- q. If the proposed service is only one diameter smaller than the Town water main, a tee connection will be required. A triple gate configuration may also be required if determined by the DPW Director where existing valves on the Town water main at that location do not provide adequate control.
- r. A potable water containment backflow prevention device will be required for all commercial and mixed-use properties as well as residential buildings with 10 or more units.
- s. Containment and fire sprinkler backflow devices shall be located as close as possible to where the water service enters the building, and after the Town's meter.
- t. All backflow devices shall be tested as soon as the water is turned on to the building; if the devices pass the test, the water may remain on. Proof of the

passed test shall be submitted to the DPW before signing off on the Certificate of Occupancy.

- u. Horizontal Separation: Whenever possible sewers shall be laid at a minimum of at least 10 feet, horizontally, from any existing or proposed water main and services. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water main and/or service if:
  - i. It is laid in a separate trench, or if;
  - ii. It is laid in the same trench with the water mains and/or services located at one side on a bench of undisturbed earth, and if;
  - iii. In either case the elevation of the top (crown) of the sewer is at least 18-inches below the bottom (invert) of the water main and/or service.
- v. Vertical Separation: Whenever sewers must cross under water mains and/or services, the sewer shall be laid at such an elevation that the top of the sewer is at least 18-inches below the bottom of the water main. When the elevation of the sewer cannot be varied to meet the above requirements, the water main shall be relocated to provide this separation or re-constructed with mechanical-joint pipe for a distance of 10 feet on each side of the sewer. One full length (18 ft) of water main and/or service should be centered over the sewer crossing so that both joints will be as far from the sewer as possible.
- w. When it is not feasible to obtain horizontal and/or vertical separation as stipulated above, both the water main and sewer shall be constructed of mechanical-joint cement lined ductile iron pipe or other equivalent based on watertightness and structural soundness. Both pipes shall be pressure tested by an approved method to assure watertightness. Concrete encasement may be required by the DPW Director.
- x. All new services and all re-laid services that are over 100 feet in length from the centerline of the street shall have a meter manhole constructed at the owners expense at the property line on the owners property at the street where the service enters.
- y. Meters shall be set by an employee of the Water Department or authorized agent of the Town.
- z. The extension of all must be completed in accordance with the Town's standards, under the supervision and inspection of the Town for acceptance. All inspection and supervision costs must be paid by the property owner or applicant for said main extension.

### C. Sewer

#### I. *Existing*

- a. Licensed plumber to complete building inspection to locate all sewer lines (noting location, size and material) connected to the existing building(s). Engineer shall incorporate this information on the site plan, along with the sewer lines (location, size, material) in the abutting street(s).
- b. Dye testing of all pipes leaving the building(s) shall be performed to confirm connectivity to Town sewer lines in the abutting street(s).
- c. If reuse is proposed, Closed-Circuit Television (CCTV) inspection of sewer service is required along with a letter from the Engineer stating that the sewer service is in good condition and is adequate for reuse.

- d. If reuse is not proposed, services shall be cut and capped at the Town main in the street at the main.
- e. Provide existing sewer discharge peak flows for the project.
- f. Sump pump or roof drain connections to the sewer are not allowed and shall be redirected by the applicant at the applicant's expense if currently existing; Engineer to certify on proposed drawing.

## *II. Proposed*

- a. The Engineer shall provide a letter to the DPW Director stating that the Town sewer system to serve the proposed development has adequate capacity and is in good condition to accommodate the proposed flows. Back-up data, including engineering calculations and the results of all sewer inspections, shall be included in the letter. Cleaning and CCTV inspections of the sewer main based on the Pipeline Assessment Certification Program (PACP) standards will be required showing the full circumference of the pipe. DPW Director to determine cleaning and CCTV limits, assumed to be at least two (2) segments downstream of connection (3 manholes). A copy of the video and logs shall be submitted with the application. If the CCTV investigations indicate that the sewer does not have adequate capacity to accommodate the proposed project, the DPW Director may require the applicant to upgrade the Town's system for the proposed project at the cost of the applicant to the satisfaction of the DPW Director.
- b. Provide proposed sewer discharge peak flows.
- c. Sewer pipe material shall be PVC SDR 35 for gravity mains and Green C900 DR-18 (235 psig) for force mains. Joints shall be rubber gasketed, cement is not allowed.
- d. Minimum service size shall be four (4") and sloped not less than 2%.
- e. An individual service per building is required and shall be connected directly to a Town sewer main in a uniform grade, and straight alignment. Changes in direction or grades shall only be made through a manhole.
- f. Illicit connections of sewer to drain system not allowed.
- g. Sump pump or roof drain connections to the sewer are not allowed.
- h. All proposed manhole structures within the public right of way shall have extended bases to inhibit floatation.
- i. Grease, oil, and sand interceptors shall be provided when in the opinion of the DPW Director are necessary for the proper handling of liquid wastes.
- j. No stormwater or drainage mains shall be connected to the sewer main.
- k. The extension of all must be completed in accordance with the Town's standards, under the supervision and inspection of the Town for acceptance. All inspection and supervision costs must be paid by the property owner or applicant for said main extension.

## D. Other Utilities

### *I. Existing*

- a. Provide information (location, size material) of existing gas, electrical and telecommunication services on site plan.

### *II. Proposed*

- a. Provide location of proposed gas services and all electrical and telecommunication conduits on site and in the Town right-of-way.

- b. A petition for grant of location through the Town is required for all relocation, size increase or new electrical and telecommunications conduits within the Town right-of-way.
  - c. All structures to be installed in public right of way (including sidewalks) shall be H-20 rated.
- 4. **Provide a grading and drainage plan, stamped by a MA Professional Civil Engineer (hereinafter referred to as "the Engineer"), documenting stormwater management system and runoff from impervious surfaces will be captured and kept on the private property as required by federal, state and local regulations. Provide an Application**

A. Stormwater/Drainage

*I. Existing*

- a. Licensed plumber to complete building inspection to locate all drain lines (location, size and material) connected to the existing building(s) (including, but not limited to, sump pumps and roof drains). The Engineer shall incorporate this information on the plan, along with the drain lines (location, size, material) in the abutting street(s).
- b. Dye testing of all pipes leaving the building(s) shall be performed to confirm connectivity to drain lines in the abutting street(s).
- c. If reuse is proposed CCTV inspection of drain service will be required along with a letter from the Engineer stating that the drain service is adequate for reuse. Reuse is only allowed if demonstrated by the Engineer that management of stormwater on site is not possible.
- d. If reuse is not proposed, services shall be cut and capped at the main in the street.

*II. Proposed*

- a. The Engineer shall provide a completed Massachusetts Stormwater Handbook Checklist & Report.
- b. Perform any necessary field investigations, including soil testing, prior to completing the stormwater design to provide complete understanding of runoff/stormwater management. Result of field investigations shall be included with Stormwater Report,
- c. Provide all calculations and plans (such as drainage areas, flow paths, etc.) from the Engineer in designing the stormwater system(s).
- d. If 100% recharge to groundwater cannot be obtained, at a minimum, all projects shall be designed to retain the volume of stormwater runoff equivalent to, or greater than, 1 inch for new development (or 0.8 inch for redevelopment) multiplied by the total post-construction impervious surface area.
- e. The Engineer shall provide a letter to the DPW Director to document:
  - (i) the constraints limiting recharge;
  - (ii) the amount and low impact design (LID) measures implemented to retain minimum stormwater volume onsite;
  - (iii) the Town drain system to serve the proposed development has adequate capacity;
  - (iv) the Town drain system is in good condition to accommodate proposed flows;

- (v) Back-up data and engineering calculations to support the statements made in Items 1 through 4.
- f. When evaluating the available capacity of the Town's drainage infrastructure to receive proposed stormwater runoff from the project, the evaluation may be performed by either modeling the Town's drainage infrastructure along the required CCTV limits including all contributory drainage areas (these must be delineated and all runoff from these areas included in the modeling) and using the NRCC 1-year design storm.
- g. Cleaning and CCTV inspections of the Town drain based on PACP standards will be required showing the full circumference of the pipe. The DPW Director will determine CCTV limits, assumed to be at least 2 pipe segments downstream (3 manholes). A copy of the video and logs shall be submitted with the letter. (Note: if the Town's drainage system does not have the capacity or is in poor condition, any and all deficiencies identified in the system, shall be corrected by the applicant, at the applicant's expense, to the satisfaction of the DPW Director)
- h. If a connection (overland, direct pipe, etc.) to the Town drainage system is proposed, demonstrate that the Municipal Separate Storm Sewer System (MS4) requirements have been met. At a minimum, non-roof runoff must receive 90% TSS removal.
- i. Connection of site drainage to catch basins is not allowed.
- j. Stormwater discharge from private property to Town property not allowed (e.g. downspouts, sump pumps cannot splash to sidewalks).
- k. Connection of storm drainage to Town sewer system not allowed.
- l. All proposed structures within the public right of way shall have extended bases to inhibit floatation.
- m. An Operation and Maintenance (O&M) manual of any on-site private stormwater management systems must be included in the deed/trust documentation through a restrictive covenant. O&M plans must include detailed information for operation and maintenance of the on-site system, including, but not limited to, party responsible, plan showing location of system (access/safety feature), equipment needed, schedule for routine and non-routine maintenance, annual inspection by third party engineer, vendors, and checklists/log form.
- n. The extension of all must be completed in accordance with the Town's standards, under the supervision and inspection of the Town for acceptance. All inspection and supervision costs must be paid by the property owner or applicant for said main extension.

#### B. Grading

- I. Existing and proposed elevations/contours shall be included on site plans and/or grading and drainage plans. If plans indicate a change in elevation of more than two feet, a Drainage Alteration Permit is required. The application shall include a letter (and associated plans/calculations) signed, stamped, and dated by the applicant's Massachusetts Registered Professional Civil Engineer stating and demonstrating that the *"proposed grade changes will not adversely affect existing drainage and groundwater conditions, which would affect the public health, safety and welfare of any public way or adjoining real property"* have been met.

## **5. Provide a site layout and materials plan**

- A. When a project includes any ledge removal, a pre-construction survey of all properties within "500" feet of the project site is required.
- B. When a project includes the demolition of an existing building, DPW will not sign off on the building permit until utility demolition or redevelopment application has been approved by DPW.
- C. Roadway, striping, sidewalk, curbing, driveways, shall be constructed in accordance with MassDOT standards.
- D. New concrete sidewalks along the property frontage. Sidewalks must comply with state code CMR 521. Cross slopes shall be designed to 1.5% max (2% max with 0.5% construction tolerance). Granite curb shall be removed and reset as determined by DPW Director. When a handicap ramp is proposed as part of the sidewalk replacement, the reciprocal ramp shall also be replaced on the opposite side of the street and the crossing shall be re-striped.
- E. For public tree removal or excavation within the drip line canopy – see tree ordinance requirements or as directed by the DPW Director.
- F. Before any lot or area may be used as a parking lot for the accommodation of more than two vehicles, plans shall be submitted to determine compliance with prevailing standards for entry and exit provisions, curbing and drainage in accordance with Town Bylaws.
- G. The impervious surface area of a parking lot, and all entrance and exit drives, shall be set back a minimum of two (2) feet from all lot lines. This buffer/ setback shall consist of a pervious surface.
- H. Curb cut openings shall be in accordance with Town Bylaws.
- I. Provide dimensions of the building and parking areas for the existing and proposed conditions of the site.
- J. Identify snow storage locations on the plans both during construction and for future use.

## **6. Provide an erosion control plan**

- A. Show erosion control protection and truck wash exit area (with detail) to ensure compliance with environmental requirements.
- B. Provide catch basin silt sacks in the catch basins adjacent to/receiving runoff from the site.
- C. Provide a copy of the National Pollutant Discharge Elimination System (NPDES) General Permit for Dewatering and Remediation Discharges (DRGP).

## **7. Temporary water for construction use**

- A. Provide information on proposed source of water for demolition and construction activities.
- B. Temporary hydrant use is only allowed for demolition or short construction periods (less than 1 month). For water use longer than 1 month, a secured and heated (if applicable) temporary connection will be required.
- C. An RPZ backflow preventor device and a Neptune water meter with an e-coder register head that measures in cubic feet will be required and shall be provided by the contractor.
- D. Submit detailed sketch of proposed temporary hydrant use or connection.

- 8. Record Drawing/ As-built requirements: Once the work is completed, and prior to a sign off for occupancy by the DPW Director, the following must be submitted:**
- A. An as-built drawing stamped/signed/dated by the civil design engineer of record showing any changes to the design based on the actual work completed and shall include profiles. This as-built drawing shall be submitted in two electronic file formats, PDF and CAD, suitable for the Town's access and use;
  - B. A completed tie card (a blank template is available through the DPW) for each water, sewer and drain service constructed. This tie card information shall also be included on the as-built, and;
  - C. A certification letter stamped, signed and dated by the civil design engineer of record, stating that the work was completed in substantial compliance with the design documentation for which the permit(s) were issued and the systems are functioning as intended by the engineer's design. The letter must identify all deviations from the design drawings with an explanation for the deviation, as well as any subsequent requirements by the DPW Director to accept the deviation;
  - D. Documentation that the existence of any on-site private stormwater management system has been recorded at the Registry of Deeds. A copy of the operation and maintenance (O&M) manuals/plans for the on-site private stormwater management systems built.
- 9. Disclaimers:**
- 1. **The DPW Director may require an Engineering Peer Review of the project documents and/or Clerk of the Works assigned to the construction of the project, by one of the Town's on-call Engineers. Either of these tasks will be at the applicant's expense.**
  - 2. **Every effort has been made to create a comprehensive list of requirements; however, the DPW Director may require additional information or services not included in this document.**
  - 3. **This document is subject to change at the DPW Director's discretion as approved by the Select Board.**

If you would like additional Town infrastructure information, please visit the Town's Department of Public Works website at: <https://www.manchester.ma.us/223/Public-Works>.

Sincerely,



Charles J. Dam  
Director of Public Works