

North Sagamore Water District



Regulations for Subdivisions and Large Commercial Buildings

Updated 11/17/2021

- **These regulations apply to:**
 - 1. Any new subdivision or extension of the existing water system.**
 - 2. Commercial buildings where the size is larger than 10,000 square feet of usable space.**
 - 3. All buildings requiring a domestic water service larger than four (4) inches.**

- Applicant's engineer designs the water system showing water mains according to the District's Subdivision Regulations.

- Applicant is required to provide the District with four (4) copies of the water plans stamped by an engineer.

- Applicant is responsible for the installation of the water system infrastructure necessary for the project as well as any system improvements required for the availability of water by the Board of Water Commissioners.

- Upon application, proof of ownership of the property is required, either a copy of the current tax bill or a copy of the deed is acceptable.

- A deposit of one thousand (\$1,000.00) dollars is required at the time of application.

- The North Sagamore Board of Water Commissioners reserves the right to increase or decrease the subdivision system development fee on a case by case basis. These adjustments will be based on the impact the proposed development will have on the current water infrastructure and users.

APPLICATION

Application for water for a subdivision or commercial project shall be accompanied by 4 copies of the preliminary plan submitted to the Town Planning Board with evidence of ownership. The applicant shall also submit, in writing, the average daily demand, maximum daily demand and minimum fire flows that will be required for the project.

The owner or developer shall pay in advance a sum of money to be paid by the District to its engineers, attorney or other counsel for advice and approval of the water system (minimum deposit \$1,000.00).

The Board of Water Commissioners reserves the right to request system upgrades to the existing water system, to be done at the developer's expense, if it deems these upgrades are necessary for the facilitation of the subdivision or project. The scope of this work may be outside the location of the proposed project.

If it is deemed by the North Sagamore Water District that the estimated water use for the project will negatively impact our Water Management Act Permit and withdrawal limits, it will be responsibility of the applicant to work with the District, Town of Bourne and MA Department of Environmental Protection to produce an approved mitigation plan before the availability of water will be approved. The applicant shall be responsible for all costs associated with the implementation of said mitigation plan.

Approvals under these regulations will be valid for two (2) years from the date of the vote of approval from the Board of Water Commissioners. The Applicant will be required to file for an extension if construction of the water system had not begun within this time period.

In addition to these regulations and fees, current North Sagamore Water District Rates and Regulations will also apply to all subdivisions and commercial projects.

PRIOR TO INSTALLATION

A copy of the Definitive Plan as submitted to the Town Planning Board, stamped and signed by a professional engineer shall be required with a worksheet showing complete system to be installed, including mains, gates, valves, hydrants, curb stops, etc.

A minimum system development fee of \$10,000.00 for subdivisions, four copies of approved definitive plans, easement and permits, and two-year performance bond and/or cash (the bond is for two (2) years from completion will be required prior to the installation, 10% of the total expense for the water system. Mylar drawings are required before final acceptance of the system.

Connections fees for commercial buildings larger than 10,000 square feet or requiring domestic water services larger than 4 inches will be calculated based on estimated usage, required max flows and current North Sagamore Water District Rates and Regulations.

SPECIFICATIONS

All water facilities shall be designed in accordance with District Specifications and District approved materials. Any variance from these regulations shall be approved in writing by the Board of Water Commissioners.

PLANS: All plans for extension of mains, installation of equipment (hydrants, main gates, curb stops, mains, etc.) are to be made by a qualified registered engineer. Approvals of such plans are subject to acceptance by the Board of Water Commissioners of the North Sagamore Water District.

SIZE: The standard size for water mains shall be eight (8") inches. Larger sizes may be required by the Board. Smaller sizes shall be subject to Board approval.

LOCATION: All water mains shall be located four (4') feet off the road where practical, and off the property line. All water services shall be installed at a right angle to the water main. All water services shall be installed on or near the center of the lot frontage where practical. All hydrants shall be installed on or near property corner bounds of a lot.

HYDRANTS: The maximum allowable spacing for fire hydrants shall be five hundred (500') feet. Fire hydrants located at intersections shall be supplied from the largest available line. Installation of fire hydrants shall conform to District drawing NSWD #1.

VALVES: The spacing of valves in straight runs shall be determined by the District. The number of valves at tees shall be determined by the District. All intersections shall be triple gated.

DEAD END RUNS: Mains are to be looped to avoid dead end runs. Variances will be allowed for dead-ends under two hundred & fifty (250') feet when there is no reasonable way to loop the main and when our engineers have confirmed that allowing the dead-end will not cause future problems for the District.

LINES AND GRADES: The contractor shall be responsible for setting lines and grades. The developer or owner shall have all radii of corners, road bounds and front corner lots clearly marked and staked.

BLOW OFFS: Blow offs shall be required at the termination of all dead end runs and at all high points in the line where fire hydrants are not provided. A blow off or service tap shall be provided near the area that the new water mains are connected to the public water system, for the purpose of chlorinating.

COVER: All water lines shall have a minimum cover of five (5') feet.

ROADWAYS: All private roads, public roads and easements shall be sub-grade prior to the start of the water main installation. All sub-grades shall be completed to the satisfaction of the Town Highway Surveyor prior to the start of a water main installation.

THRUST BLOCKS: One half cubic yard minimum shall be installed as shown in drawings (NSWD #2 and NSWD #3) to undisturbed earth.

DRAINAGE: All provisions for drainage shall be made and accepted by the Town Planning Board and the Town Highway Surveyor, prior to the start of a water main installation.

SUPPORT PADS: Under all fittings, valves and hydrants, support pads will be used as shown on drawings NSWD#1, #2, & #3.

TRENCHING: Trenching, tamping and backfilling shall be as shown and described in drawing NSWD #4, except in areas of ledge, marsh, or soft conditions.

ASSEMBLY OF PIPE AND COUPLING: According to manufacturer's installation guide.

SERVICE INSTALLATIONS: See drawing NSWD #6. All services shall be at least ten (10') feet from a septic system. Tramping and backfilling shall be in accordance with drawing #4. An aluminum tape installed two feet below the ground level or three feet above the water service is required.

TAPPING WATER MAINS: The tapping of water mains will be allowed while mains are under pressure and with an approved tapping machine.

INSTALLATION OF WATER MAINS: All pipes shall be installed in accordance with Manufacturers Pipe Manual (Reference: trenching, tamping, and backfilling). When the elevation of the existing land goes upward from the black top, the pipe should be a minimum of five (5') feet below the blacktop. Detection tape and wire is to be used. The wire is to be buried on the main with a little dirt between the main and the wire, for detection. If by chance the tape or wire gets broken, it is required to replace that broken tape and/or wire. A short length of pipe may be required on each side of a fitting. Ductile iron or PVC will be required for crossing town and state roads.

INSTALLATION OF HYDRANTS: All hydrants shall be installed with a Ductile Iron or PVC branch line, gate valve and gate box. Hydrants are to be rodded back to gates with $\frac{3}{4}$ threaded rod, or mega lug

at branch. Water main fitting for hydrants branch shall be anchor type tee. The hydrant shall be set upon a cement pad or flat stone. A thrust block of suitable size shall be installed at the rear of the hydrant. Crushed stone for the hydrant drain is also required.

Fire hydrants installed by developers are required to be painted to conform at the expense of the developer. Hydrants bonnets and nozzle caps are to be painted with CODIT brand reflective paint #7216 white. Body is to be painted with OSHA orange (industrial orange) B54E19 – 617 – 1102.

The hydrant is to rest on a BEARING BLOCK OF CEMENT. Drainage wells of ½ cubic yard capacity filled with 2" stone to be used for building below and around the hydrant bottom. Concrete is to be used to back up the hydrants. Concrete is to in proportions of one-part cement, two parts sand and four parts aggregate. Trench is to be 5 ft. bury.

LEDGE INSTALLATIONS: The contractor shall remove all ledge, rock, or stone to a minimum height of eight (8") inches below the bottom of the pipe. The contractor shall install not less than and eight (8") inch layer of clear sand on which the pipe is to be bedded.

MARSH OR SOFT BOG INSTALLATIONS: The contractor shall remove the unstable material to a minimum depth of sixteen (16") inches below the bottom of the water pipe and refill with gravel or tailings in an eight (8") inch layer; rake, level, and smooth; and then cover gravel or tailings with and eight (8") inch layer of clear sand for bedding of pipe.

BEDDING FOR C-900 PIPE: The trench bottom should be smooth and free from large stones, large dirt clods, and any frozen material. Excavation for bells should be provided so that the pipe is uniformly supported along its length. If the trench bottom is rocky or hard, a four (4") inch layer of selected backfill material shall be provided to cushion the pipe.

INSPECTION: All work done and materials used are to be inspected by the District representative whose decision to accept or reject either work or materials shall be in accordance with these regulations. The developer shall be responsible for the cost of the inspector.

TESTING AND CHLORINATING: The contractor shall, in the presence of the District representative, test all water facilities for two continuous periods of time of not less than 1 hour each or the length of time as required by the District representative. The pressure test shall be 150 psi, or 1.5 times the normal static pressure, whichever is higher. The District representative will determine by established formula the allowable leakage on the pressure test. The contractor shall chlorinate the newly installed materials in conformance with AWWA standard for disinfecting water mains (AWWA C601-68). The contractor may be required to re-chlorinate if the water in the project cannot be certified bacteria free. All chlorine is to be pumped into the water mains under pressure.

EASEMENTS: An easement in the road will be required to permit District maintenance. When the roads are accepted by the Town, the easement will be turned over to the Town. All water utility easements through private property will be recorded at the Registry of Deeds prior to acceptance of the water system. Copies of plans and deeds will be given to the District. All plans should be the original

copy with a raised stamp. It will be the responsibility of the applicant to pay for all expenses related to recording the deed and providing copies to the District.

BOOSTER PUMPS AND FACILITIES: A pressure increasing system to provide fire flow or other requirements will be the responsibility of the owner or developer. All pump station designs shall be approved by the District engineer. All pump stations shall be built to mirror the North Sagamore Water District's existing booster pumping facilities. The applicant/owner must present the District with an operational plan annually to be approved by the Board of Water Commissioners. The Board reserves the right to require a permanent bond in the amount of 20% of the total cost of the construction of the facility to be used in the event the owner does not properly maintain the booster pumping station.

IRRIGATION: Any property located within a new subdivision, commercial building of any size or project containing more than one domestic water service, constructed after November 2017, will not be permitted the use of North Sagamore Water District water supply for outside irrigation with an underground and /or automatic irrigation system.

ACCEPTANCE OF WATER INFRASTRUCTURE: Acceptance of new mains from the contractor or developer shall not be final until they have been in the ground and active for at least two years. Developer must also supply 4 copies of accurate as-built Mylar drawings as well as an electronic copy before acceptance of the system.

PRIVATE SERVICES: All water mains and services located on private property shall be installed and maintained by the owner of the property, but shall meet North Sagamore Water District Regulations. For domestic connections larger than four (4) inches, the responsibility of the water main will begin at the tapping sleeve and valve. All fire services, no matter the size, shall be installed and maintained by the applicant.

CONSTRUCTION MATERIALS & EQUIPMENT

All materials and equipment are to be new and first quality. All products shall be manufactured in North America. Shop drawings for all materials to be used must be submitted to the District prior to installation.

HYDRANTS: Hydrants are to be installed at all locations shown on the developer's plans. The developer will furnish all necessary labor, materials and equipment. Hydrants are to be Mueller Super Centurion 250 or Kennedy K81-D, three-way hydrants, working pressure 150 psi, test pressure 300 psi, dry top design; two 2.5" hose nozzles; one pumper nozzle, National Tread design. The hydrant is to be open right. The inlet valve is to be 5". There is to be a 5 ½' bury. Hydrant branch will be cast iron. "O" ring seals; mechanical joint.

CORPORATION STOPS: Ford or Mueller compression style, full port

SERVICE SADDLES: Double banded (stainless steel) Smith and Blair type 317 or equal

CURB STOPS: Ford or Mueller compression style, open left, full port

GATE BOXES: Buffalo slide-type, 5.5" shaft, cast iron; or equal.

CURB BOXES: Buffalo slide-type, 2.5" shaft, cast iron; or equal.

PIPES:

- A. Ductile Iron Class 52 Cement-lined, tyton or equal.
- B. Polyvinyl Chloride (PVC) DR -18 Class 150, must conform to AWWA C-900 and C-905
- C. Service lines - AWWA C-901, CTS, 200 PSI black plastic or Endot Endopure ASTM D2737, 250 PSI

FITTINGS:

- A. Cast iron cement-lined or equal. Suitable for 150 class, 8 ft. bury, and in full conformance with AWWA standards; shall be mechanical joint.
- B. Hydrant Tee shall be anchor type.
- C. Gate valve to conform to AWWA standards, 200psi working pressure, 400psi test pressure, open left. Stem shall be non-rising, mag. Bronze, with tensile strength of 60,000 lbs. "O" ring stem seal, with 2" square operating nut. Mueller resilient Wedge or equal up to 12". Valves larger than 12" must be butterfly style of approved quality.
- D. Tapping Sleeves shall be JCM 432 or equal with stainless steel bolts.
- E. 90-degree bends are not permitted.

These regulations, construction materials and equipment are subject to such additions and amendments from time to time as the Board of Water Commissioners may deem necessary. The Board of Water Commissioners reserves the right to grant variances to these regulations on a case by case basis.



North Sagamore Water District
Application for Water for New Subdivision or Large Commercial Building

Date: _____

Name of Applicant: _____

Address: _____

Phone Number: _____ Fax Number: _____

Email: _____

Name of Development: _____

Location of Development: _____

According to the Rules and Regulations of the North Sagamore Water District, at the time of application the following documents must be received by our office:

- Four copies of Water Plans stamped by an engineer
- Proof of Ownership
- One Thousand Dollar (\$1,000.00) Deposit

I/We the Developer(s) of _____ have received the Regulations for Subdivisions and Large Commercial Buildings as well as the District Rates and Regulations for Supplying Water and agree to comply with the rules and regulations put forth in these documents.

Signature