TOWN OF WELLESLEY
DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

SEWER SERVICE CONNECTION PROCEDURES AND SPECIFICATIONS

March 2005
Latest Revision July 2025

TOWN OF WELLESLEY DPW

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1. Applicant requests sewer house connection.

2. Applicant receives a copy of the Sewer Service Connection Procedures and Specifications.

3. If a subsurface sewage disposal system is to be abandoned the applicant or contractor shall fill out an application for Abandonment of Subsurface Sewage Disposal System at the Wellesley Health Department, (781-235-0135) Annie F. Warren Building, 90 Washington Street, Wellesley, prior to abandonment of existing on-lot wastewater systems. The applicant shall arrange for pumping and filling of the existing cesspool. A copy of this application must be received by the DPW Engineering Division prior to the acceptance of the project or the sewer inspection fee.

4. For new houses and houses that are knocked down and rebuilt, the Applicant submits to the Engineering Division for review and approval a design plan showing the proposed sanitary sewer connection for the property, prepared by a Professional Engineer Licensed in the Commonwealth of Massachusetts.

5. For existing houses, the Applicant can request the DPW Engineering Division perform a Feasibility Study to determine the feasibility of an existing house being connected to the Towns' sanitary sewer system.

6. If the work to be accomplished is within 200 feet of the banks of a river or major stream or in wetlands area or wetlands buffer zone, the applicant or their must contact the Town of Wellesley Wetlands Administrator (781-431-1019 Ext 2292) and if applicable meet the requirements of the Wetlands Protection Act, prior to commencement of work. An Order of Conditions may be required.

7. Applicant obtains price quotes from contractors and selects a contractor.

8. Applicant decides whether or not to proceed with the sewer connection.

9. If work will involve **excavation within the public way**, the applicant's contractor is required to obtain a Street Occupancy Permit in accordance with the Rules and Specifications Regulating Street Excavation, Obstructions and Driveway Aprons, latest edition.

10. Applicant obtains a Street Occupancy and Trench Permit online through Viewpoint Cloud (wellesleyma.viewpointcloud.com/categories/1079) and pays all permitting fees including a sewer inspection fee in the amount of $750. Applicant informs the Engineering Division of date work will begin, and inspections must be scheduled a minimum of 72 hours (excluding weekends and holidays) in advance by contacting the Street Permit Engineer. Work must be completed within 365 days from the date of application.

11. Engineering Division inspects work for conformance with Town specifications, standard details, necessary permits and updated records and plans.

For the full document, go to http://www.wellesleyma.gov and in the search bar in the upper right, type in “Sewer Service Connection Procedures and Specifications”. Click search and the document is the first PDF shown.

SEWER SERVICE CONNECTION PROCEDURES

AND SPECIFICATIONS

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SEWER SERVICE CONNECTION PROCEDURES AND SPECIFICATIONS

1.0 Mandatory Inspection of Building Connections

1.1 Notification

The Contractor shall notify the Engineering Division that the sewer service is available for inspection. Notification to be provided at least 72 hours before inspection is desired. The Engineering Division will perform inspections on sewer services from 8:00 AM to 3:00 PM, Monday through Friday, or as agreed to in advance with the Engineering Division. No sewer service inspections will be performed on Saturdays, Sundays or Holidays. No new work shall commence on a Friday.

It is the responsibility of the Contractor to ensure that the connection is inspected, in its entirety, from the foundation to the connection with the public sewer or existing lateral. Work must be exposed for inspection and be constructed in accordance with these specifications. Under no circumstance shall the sewer work be backfilled without an inspection by the Engineering Division.

If an inspection was not performed at the time of installation, the Engineering Division may require re-excavation of a buried sewer utility at no expense to the Town.

2.0 Safety and MassDOT Highway Division Permit

2.1 Traffic Control & Safety

a. All excavations for sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard in accordance with M.G.L. Chapter 82A and 520 CMR 14.00 et. seq. (as amended). Streets, sidewalks, parkways and other public property disturbed during the course of the work shall be restored in a manner satisfactory to the Town.

b. If work is being performed in a public way, it shall be at the discretion of the Chief of Police to require an assigned Police Detail to any and all work performed in the public way.

c. Any work within a State Highway shall be coordinated with the MassDOT Highway Division. The Engineering Division shall obtain all permits to open the State Highway for connection to its public sewer. Any costs associated with this work will be at the expense of the applicant.

3.0 Materials

3.1 Trench Backfill and Pipe Bedding Material

Placement of backfill and pipe bedding material shall include the working of material to achieve suitable moisture content and secure maximum compaction of

the backfill.

Backfill and bedding material must be approved by the Engineering Division prior to placement. Material shall be granular fill, gravel, rock, or combinations thereof, free of humus, organic matter, vegetative matter, frozen material, clumps of material, sticks, and debris and containing no stones having a dimension greater than 4 inches. No backfill shall be placed on or against structures, pipes, or any other masonry until a visual inspection has been performed by the Engineering Division. Unacceptable material shall be removed at the direction of the Engineering Division.

3.2 Bituminous Concrete

Asphaltic concrete shall be hot plant mix, type I-1 material conforming to the requirements of MA Highway Section 420, entitled, “Class 1 Bituminous Concrete Base Course” of the Standard Specifications of the MassDOT Highway Division. The Contractor shall place a temporary hot patch (“QPR” or approved equal) on the surface of the fill and thoroughly compact. Temporary paving shall be completed within a period of time not to exceed 5 days from the date of backfill. Temporary pavement shall match existing pavement thickness or 4” – 6” minimum thickness as directed and be maintained in a satisfactory condition until the permanent pavement is placed.

No permanent pavement shall be placed over a backfilled trench within the same construction season after completion of the backfilling. The Contractor shall remove the temporary pavement, a portion of the gravel base and the edges of the existing pavement shall be straightened before applying the permanent pavement. The permanent pavement shall consist of a minimum of 2.5" of binder and 1.5" top course after compaction, or shall match the thickness of the existing pavement, whichever is greater. All seams (joints) between existing and new pavement surface shall be sealed with asphalt sealer and sand cover. The Contractor may be required to come back the following year to perform permanent repair work if the temporary patch work was performed late during the previous season. The Contractor will be responsible to maintain the temporary patch throughout the moratorium winter months.

3.3 Controlled Density Fill

Controlled Density Fill (CDF) where required, shall be a mixture of Portland Cement, fly ash, aggregates, water and admixtures proportioned to provide a non-segregating, self-consolidating, free-flowing and excavatable material that will result in a hardened, dense, non-settling fill. CDF may be used at any location on the project at the option of the Contractor for stabilization material, trench backfill material and pavement base material. CDF is required for backfill material associated with outside drop manholes, and any construction within critical work areas, or for paved roadways having been paved or surfaced within five (5) years, or at the discretion of the Engineering Division.

a. Placement

CDF is a heavy material and during placement will exert a high fluid pressure against any pipe, manhole, or other material it contacts. The resultant pressure will tend to cause pipe and manholes to float or shift. CDF shall be placed in such a manner as to prevent flotation or shifting of pipe and

manholes. CDF shall not be placed on frozen ground or during times when the air temperature is 38ºF or less and falling. No CDF shall be placed underwater.

b. *Curing*
Contractor shall provide adequate steel plates (minimum k-36 steel and one inch thick) to span trenches or otherwise prevent traffic or construction equipment from coming in contact with CDF until the CDF has hardened sufficiently to prevent rutting. Steel plates must be secured to the existing pavement to prevent the plates from moving. Contractor shall provide cold patch on all edges of steel plates used for vehicular transition in any affected area.

4.0 General Construction

4.1 Clearing and Work Near Public Shade Trees

Where clearing is necessary, it shall be completed prior to the start of trenching. Trees and brush shall be cut as near to the surface of the ground as practicable and piled for disposal. Contractor shall remove all organic material, grub stumps and strip loam & subsoil to granular mineral material. The Contractor shall contact the DPW Park Division prior to commencing work near any Public Shade Trees (trees located within the public right-of-way).

4.2 Bituminous Concrete and Concrete Pavement Removal and Replacement

All bituminous and concrete pavements, regardless of the thickness, shall be saw cut where required prior to excavation of trenches. Width of the pavement cut shall be at least 6 inches greater than the required width of the trench at ground surface on each side. Pavement removed from the site and shall not be used in backfilling the trench.

After the trench has been backfilled and compacted in accordance with design specifications, the Contractor shall bring the trench to a smooth even grade at the proper depth below the existing surface to provide for the required depth of pavement. The Contractor shall saw cut the existing pavement to a straight line and remove any pavement that has been damaged during work and as required by the Engineering Division

The entire existing paved surface shall be cleaned and the sawn edges prepared with tack before resurfacing commences. The trench shall be repaired per the specifications set forth in the Street Occupancy Permit issued by the Engineering Division.

At the end of each working day where trenches are covered with steel plates, each edge of such plates shall either be beveled or protected by a ramp with a slope of 24 inches horizontally to 1 inch vertically. Ramps shall be constructed of bituminous concrete patch material.

4.3 Blasting

Blasting for excavation will be allowed only after securing the approval of and a permit from the Wellesley Fire Department and only when proper precautions are

taken for the protection of persons and property. Any damage caused by the blasting shall be repaired at the Contractor's expense. The Contractor's method of procedure and blasting shall conform to all applicable State laws and municipal ordinances.

4.4 Trench Width

In all cases, trench width shall be confined to public ways or within areas for which construction easements have been obtained, unless special arrangements have been made with the affected property owners beforehand and approved by the Engineering Division.

4.5 Grade

The bottom of the trench shall be carried to the lines and grades shown on the plans with proper allowance for pipe thickness and for proper bedding.

4.6 Shoring, Sheeting and Boxing of Trenches

Whenever required by regulations or necessary to prevent caving during excavation in gravel, sandy soil, or other unstable material, the trench shall be adequately sheeted and braced.

4.7 Location of the Excavated Materials

During trench excavation, the Contractor shall place the excavated material so it will not obstruct a traveled roadway or street; and unless otherwise approved by the Engineering Division, all streets and roadways shall be kept open to at least one-way traffic or as directed by the Wellesley Police Department.

4.8 Removal of Water

The Contractor shall provide and maintain ample means and devices to promptly remove and properly dispose of all water, including flow from existing sewer lines entering the trench excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and inspection, until the backfilling above the pipe has been completed accordingly.

The Contractor shall be responsible for dewatering the trench. If the Contractor wishes to de-water into the Towns drainage system, the DPW must approve any and all means for the transfer, treatment and disposal thereof before any discharge occurs. The dewatering operation must take place in accordance with the Town of Wellesley Municipal Stormwater Drainage System Rules and Regulations, latest edition. The Contractor shall dispose of the water and or sewage in accordance with state and local regulations. Precautions shall be taken against erosion and sedimentation control must be maintained at all times.

4.9 Trench Backfill Compaction

After the Contractor has backfilled the pipe zone of the trench as required, they shall then backfill the balance of the trench, where fill is required, with bank-run gravel. Backfill material shall be placed in twelve-inch lifts, power tamped and moistened when required to secure maximum compaction of the backfill.

Any subsequent settlement of the trench or ditch shall be considered to be the result of improper compaction and shall be corrected by the Contractor at no expense to

the Town.

4.10 Excess Excavated Material

All excess excavated material shall be hauled and properly disposed of by the Contractor. The Contractor shall make their own arrangements for the disposal of the excavated material.

4.11 Asbestos Pipe Regulations

AC, transite and Orangeburg pipe materials are known to contain asbestos which is regulated by Federal Regulations, 40 CFR 763 Subpart G (EPA) – Asbestos Worker Protection, also called the "EPA Asbestos Worker Rule", 29 CFR 1926.1101 (OSHA) – Asbestos Standard for the Construction Industry (required by 40 CFR 763), Massachusetts Regulations, 310 CMR 7.15 (Mass. DEP) Asbestos (Air Pollution Control) and 453 CMR 6.00 (Mass. DLS) The Removal, Containment, or Encapsulation of Asbestos (Workers Health Protection), and which requires specialized training and licensing for handling and disposal. A notification must be sent to MassDEP on the Asbestos Notification Form ANF-001, 10 working days prior to commencement of the asbestos removal.

5.0 Sewer Pipe Materials

5.1 Materials

Pipe and fittings used in building sewer construction shall be smooth wall inside and out, and must be Polyvinyl Chloride (PVC) and must conform to ASTM D - 3034. The pipe shall be colored green for in-ground identification as sewer pipe. The pipe shall be of the size and type indicated on the plans and shall conform to the appropriate specifications. Green tracer tape shall be placed in the trench 16 inches below grade and above the sewer service pipe.

Ductile iron (DI) pipe must meet ASTM A-746-99 (pressure class 350) or AWWA C-151 (pressure class 350) with exterior asphaltic coating per AWWA C-151 and interior asphaltic coating meeting AWWA C-151 or polyethylene lining complying with ASTM D-1248 of nominal 40-mil thickness.

6.0 Installation Requirements

6.1 Application for Sewer Service Connection or Sewer Service Repairs

Required permits, plans, and an application for sewer service connection must be submitted to and approved by the DPW Engineering Division prior to the installation or repair of a sewer. A separate sewer service application is required for each house.

6.2 Approved Contractors

All Contractors who wish to perform work related to sewer service connections must be pre-approved by the DPW Engineering Division. Any Contractors who have not yet been approved must submit three references to the Engineering Division for review. Each reference shall contain a contact person, phone number, and listing of projects successfully completed.

6.3 Minimum Size, Fittings and Clean-outs

Building sewers must be a minimum of 4 inches in diameter and sized based on the anticipated flows. Building sewers must have a wye clean-out located within 3 to 10 feet from the building exterior wall. All pipe, fittings and inspection within 10 feet of the building foundation are subject to the approval of the Wellesley Plumbing Inspector.

For interior cleanouts located at the cellar floor, an adequate removable cover shall be provided to assure access to the cleanout. The opening around the sewer pipe through the cellar wall shall be filled with concrete so as to form a watertight connection.

Any change in direction of the pipe will require a precast manhole with rubber boots. All clean-outs must be a minimum of 4 inches and the same diameter as the horizontal building sewer into which the clean-out is connected;. All clean-outs must be extended to finished grade and capped. All clean-out caps must be properly sealed and be installed in a location that is easily accessible for maintenance.

6.4 Pipe Slope

Building sewers must be installed at a minimum pipe slope of 1.0%. In cases where sewers are to be constructed on steep slopes for which high velocities are indicated, the maximum pipe slope should not exceed 10.0%. Suitable drop manholes shall be provided to break steep slopes and to limit velocities to not more than 10 feet per second. The Town, depending on site conditions, may modify the slope requirements.

6.5 Connection to Main Line Sewer

a. No saddle connections to the sewer will be allowed in new subdivision construction. Connections to the lateral sewer shall be made at existing wye locations. When no wye exists, a tap shall be made with an approved tapping machine and a strap-on style wye saddle shall be installed.

b. Sewer services must not connect directly into any manhole without the prior written approval of the DPW Engineering Division.

c. A backwater valve must be furnished inside of the building if there is less than three vertical feet between the crown of the public sewer, at which the sewer service connection is being made, and at the invert of the sewer cleanout in the building. The backwater valve must be located on the lowest branch of plumbing, and is subject to inspection by the Wellesley Plumbing Inspector.

6.6 Pipe Cover

a. Building sewers must maintain a minimum cover (from finished grade to top of pipe) of 3 feet adjacent to the building foundation and 5 feet of cover at the street line. A drop manhole shall be constructed at the terminus of the pipe when necessary to provide the minimum 3 feet of cover. Where an existing sewer pipe exits an existing building with less than 3 feet of cover, the Contractor shall install the connection so as to meet minimum cover

requirements as soon as is practical and pipe with less than three feet of cover shall be wrapped with pipe insulation.

b. Pipe placed under the cellar wall shall have a maximum depth of 18 inches below the cellar floor. Pipe shall not be placed under a garage slab.

c. Ductile iron pipe shall be used when the sewer line is less than 3 feet below existing finished grade.

6.7 Future Connections

If a new sewer main is available for another property to connect in to, provision for future connection of that property shall be provided by the Contractor and recorded with the DPW Engineering Division.

Building sewers installed for future connections must be terminated at the limit of the right of way or easement and plugged to ensure water tightness. A standard wood 2" x 4" with the top four feet painted green must be installed at the end of the plugged line and recorded with the DPW.

6.8 Grease Traps

All restaurant and food service establishments, as defined 105 CMR 590.000 or any successor regulation, shall be equipped with a grease trap which complies with the construction and maintenance specifications set forth in Title V of the State Environmental Code 310 CMR 15.000.

Installation of a grease trap shall require the installation of an inspection manhole, immediately downstream of the grease trap. This inspection manhole shall be used to confirm the serviceability of the grease trap.

Grease traps shall be installed on a level base that has been mechanically compacted and onto which 6 inches of crushed stone has been placed to minimize settling. Tanks located in heavy traffic areas or under parking lots must be designed to withstand an H-20 loading. Grease traps shall be watertight.

In cases where the tank or vault is installed in an area with high groundwater, or subject to possible flooding, a monolithic tank may be required. Also, buoyancy calculations must be provided and tank anchors provided if required.

Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at their own expense and reported to the DPW Engineering Division on an annual basis. Guidance on sizing and design of outside grease traps is provided in the attached "Wellesley Outside Grease Interceptor Guidance" Sheet. Alternative grease traps may be allowed with written approvals of the DPW, the Health Department, and the Plumbing Inspector.

6.9 Reuse of Existing Connections and Stubs

The entire sewer service shall be constructed of new materials. The reuse of existing connections previously in service or stubs pre-constructed to the

property lines is not allowed. The reuse of existing connections or preconstructed stubs will be at the sole discretion of the DPW Engineering Division. The Contractor shall obtain a video camera inspection to determine the existing condition of the connection or stub desired to be re-used. If it is determined that the existing connection or stub cannot be reused, and that the connection must be made to a sewer main within a public way, then the Contractor must obtain a Street Occupancy Permit before continuing work within the public way. The Contractor should be aware of the requirements for excavating in newly reconstructed public streets and allowable dates for opening public streets. Also, existing connections or stubs that are not used must be removed and properly capped at the property line or at the sewer main.

6.10 *Trenching Requirements for Sewer and Water Pipe*

Sewer and water service pipes shall be laid in separate trenches. The sewer and water service connections must have a 10 foot separation per MADEP requirements and Town of Wellesley Sewer Regulations. Exceptions to this requirement may be granted by the Town of Wellesley DPW if there are extenuating circumstances.

7.0 Workmanship

7.1 Preparation of Trench

The gravel base for the pipe shall be placed in the trench to a minimum depth of 6 inches below the invert of the pipe. The base shall be a minimum of 4 inches for service laterals. The base shall be placed and leveled to approximate flow line grade in advance of the pipe laying. Immediately following the placement of each pipe, the crushed gravel base shall be placed to the centerline of the pipe and properly tamped.

7.2 Preparation of Sewer Pipe

All pipes and fittings shall be carefully inspected before being laid and no cracked, broken or defective pipe or fittings shall be used in the work. The ends of the pipe shall be cleaned with a brush, washed and thoroughly scrubbed where necessary to remove dirt or other foreign material.

Extreme care shall be exercised to insure that the inside surfaces of the bell are smooth and free from any projections which would interfere with the assembly or water tightness of the joint.

7.3 Laying and Jointing Pipe and Fittings

The Contractor shall layout their own work and be responsible for the execution of the work to such lines and grades to comply with the specifications stated herein. PVC pipe is flexible in nature and may be out of grade and alignment through the middle of a pipe length even though each end is on grade and in alignment as evidenced by a pipe laser or grade boards. To prevent the above situation from occurring, the Contractor shall check the elevation of the top of each length of PVC pipe laid at each end and at the midpoint. The midpoint elevation shall be within 0.01 foot of the average elevation of the two ends.

7.4 Sewer Installation

PVC sewer pipe shall be installed in accordance with the manufacturer's recommended installation procedures. PVC sewer pipe shall be connected to concrete manholes by means of an approved coupling with an elastomeric gasket, an approved waterstop, or a flexible sleeve. Use of Portland Cement grout for connecting PVC sewer pipe to manholes will not be permitted, unless previously authorized by the DPW Engineering Division. Pipe laying shall proceed upgrade with the bell ends of bell and spigot pipe pointing in the direction of flow. Each piece shall be laid true to line and grade and in such a manner as to form a close concentric joint with the adjoining pipe in order to prevent any sudden offsets in the flowline.

a. Pipe Installation

The installation of sewer pipe shall commence at the lowest point along the sewer and shall proceed so that the spigot end of the section being laid is placed into the bell end of the pipe already laid. Every precaution shall be taken to prevent foreign materials from entering the pipe while it is being placed in the trench. During laying operations, no debris, tools, clothing or other materials shall be placed in the pipe. The DPW Engineering Division shall inspect any and all piping before backfilling occurs. No dewatering of the trench shall take place into the sewer pipe or any related appurtenance.

b. Testing of Sewer Pipe & Appurtenances

Prior to final acceptance of a sewer main extension or building sewer, the DPW Engineering Division may require the following testing to identify sources of inflow/infiltration (I/I).

- Low Pressure Air Test (Adapted from ASTM F 1417-11a Standard Practice for Installation Acceptance of Plastic Non-Pressure Sewer Lines Using Low-Pressure Air).
- Video camera inspection and/or smoke testing of all lines in the presence of the Engineering Division. Site inspection of the owner's premises, including the interior of the building.
- Manhole Vacuum Test (Adapted from ASTM C 1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test).

8.0 Low Pressure Air Test

This practice is performed on lines after all connections and service laterals have been plugged and braced adequately to withstand the test pressure.

8.1 Preparation of the Sewer Line

a. Clean the section of sewer line to be tested by flushing or other means prior to conducting the low-pressure air test. This cleaning serves to eliminate debris and produce consistent results.

8.2 Procedure

a. Isolate the section of sewer line to be tested by inflatable stoppers or other suitable test plugs or caps. The ends of all branches, laterals, tees, wyes, and

stubs included in the test section shall be plugged or capped to prevent air leakage. All plugs and caps shall be securely braced to prevent blow-out. One of the plugs or caps shall have an inlet tap, or other provision for connecting an air hose to a portable air control source.

b. Connect the air hose to the inlet tap and to the portable air source and control equipment. Add air slowly to the test section until the pressure inside the test section reaches 4.0 psig. After the pressure of 4.0 psig is obtained, regulate the air supply so that the pressure is maintained between 3.5 to 4.0 psig for at least 2 min. A minimum of 3.5 psig is required.
c. Determine the rate of air loss by the constant pressure method. The requirements for air loss shall be considered satisfied if the air loss does not exceed the specified leakage rate in cubic feet per minute per square foot of internal pipe surface area.

9.0 Vacuum Test (Negative Air Pressure)

All lift holes and pipes entering the manhole are to be plugged. A vacuum will be drawn and the vacuum drop over a specified period of time is used to determine the acceptability of the manhole.

9.1 Preparation of the Manhole

a. All lift holes shall be plugged with an approved non-shrink grout.
b. All pipes entering the manhole shall be plugged, taking care to securely brace the pipes and plugs from being drawn into the manhole. The manhole shall be set to finish grade and all paving (if applicable) completed.
c. A failed Vacuum Test warrants the Contractor to notify the Engineering Division before such repair takes place.

9.2 Procedure

a. The test head shall be placed at the inside of the top of the frame and the seal inflated in accordance with the manufacturers' recommendations.
b. A vacuum of 10 inches of mercury shall be drawn, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches.
c. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches meets or exceeds the values indicated by ASTM C 1244-11 determined by depth and diameter of manhole.

10.0 Manhole and Cleanout Construction

10.1 Scope

This item includes the work necessary for the construction of precast manholes and cleanouts, including: concrete; furnishing and placing of the concrete precast sections; eccentric cones, pipe and fittings; cast iron frames and covers; and all appurtenances, in direct relation to the residential sewerage connection. See attached construction detail drawings.

10.2 Materials

10.21 Concrete

Concrete used in the construction of the manhole base and other structures specified shall be so proportioned and mixed as to meet a

3,000 psi compression test after 28 days.

10.22 Precast Manhole Sections

Precast concrete sections for manholes shall be minimum of 48 inches in interior diameter, except that 30 inches may be used for manholes located off the road, with approval from the DPW Engineering Division. Manhole cone sections shall be eccentric with a wall thickness of a minimum of 5 inches and reinforcement similar to that of manhole sections. The tops and bottoms of the manhole cones shall be parallel. Any manhole having a depth greater than 9 feet shall have an extended base.

10.23 Precast Concrete Bases

Precast concrete base sections or manhole bases shall be approved and inspected by the DPW Engineering Division prior to installation.

10.24 Special Fittings

The wyes, tees and bends used in the construction of the drop manholes assembly and the cleanouts shall be either PVC or ductile iron. The pipe and fittings shall conform to these Specifications. Drop manhole assemblies shall be encased in CDF or as required by the DPW Engineering Division.

10.25 Manhole Frames and Covers

All manholes frames and covers shall be East Jordan Iron Works No. V-1115-3 Frame & V 1115 Cover, or approved equal. The castings shall be tough, close-grained, gray iron, free from blowholes, shrinkage and cold shuts. They shall conform to ASTM A 48 Class 30 and shall be sound, smooth, clean and free from blisters and all defects. All castings shall be planed and ground where necessary to ensure perfectly flat and true surfaces. Manhole covers shall be true and shall seat within the ring at all points. Covers shall have a maximum of two holes. Covers used in the roadway shall be labeled per the DPW Engineering Division standard. Off-roadway covers shall be labeled with the word “SEWER”, cast upon the cover.

10.26 Manhole Steps

Steps for precast manholes shall be made of steel reinforced polypropylene plastic, or approved equal. All steps shall be in conformance with ASTM C-478 and shall be aligned vertically. All steps within a manhole shall be of the same design, type and size. Mixing of unmatched steps within the same manhole is not permitted.

Steps shall be placed where there are no incoming or outgoing lines. Loose steps shall be cause for rejection of that manhole cone or section.

10.27 Manhole Blockouts/Plugged Boot

Provide manhole blockouts and or plugged boots for sewer extensions as shown on the plan or as required by the DPW Engineering Division. The intent of the blockout is to provide a means by which future sewer lines can be connected to the manhole with a minimum of inconvenience. The method of construction shall provide a watertight blockout and shall be

approved by the DPW Engineering Division. Construct invert channels to the manhole wall at the blockout in accordance with the invert elevation directed by the Design Engineer.

10.28 Manhole Tables

a. All tables in manholes within right of ways, paper streets, and easements shall be made of red brick or approved equal.
b. Manholes on private property, at the discretion of the Contractor may choose to have a piped invert. This shall utilize two 45-degree bends and a straight section no less than 24 inches in length. A concrete table shall be poured and shaped so as to provide positive drainage to the manhole invert, and a cutout provided in the center section PVC. All tables in manholes within right of ways, paper streets, and easements shall be made of red brick or approved equal.

10.29 Manhole Inverts

The inverts of the manholes shall be constructed in conformance with the details shown on the plans. The manhole inverts shall provide a smooth flow-through characteristic. No sharp edges or rough sections which will tend to obstruct the flow of sewerage will be permitted. All cement mortar used in the construction of the inverts shall be toweled smooth. The Contractor may, at their option, use precast bases with prepared and formed inverts (channels).

10.30 Drop Manholes

Outside drop manholes shall be constructed as required or at the location shown and as detailed on the approved plans. The outside drop in its entirety shall be encased in flowable fill. A drop pipe inside the manhole may be approved by the Town, when it is deemed appropriate by the Town.

10.31 Manholes on Private Property

A manhole on private property may be constructed having a minimum inside manhole diameter of 30 inches at its base. A manhole frame and cover having a minimum weight of 208 pounds may be used. The cover opening shall have a minimum of 18 inches width and 1 inch in depth. The frame shall have a minimum of 6 inches in height. Manhole steps shall be installed if so directed.

11.0 Installation of Grinder Pumps and Sewage Ejectors to the Sewer System

11.1 In cases where the existing sewer will not drain by gravity to the sewerage system, or in cases where backflow may occur and a check valve is deemed unacceptable, a pump system shall be employed. If a sewer pump system is required, the applicant shall have a Registered Professional Engineer licensed in the Commonwealth of Massachusetts design the pump system and submit the design plans to the DPW Engineering Division for review and approval. The electric motor, storage tank, check valve, controls, alarm/disconnect panel and all other pump system components shall be sized and designed by the Registered Professional Engineer.

11.2 A pump system shall consist of a precast pump chamber, with a minimum storage capacity of 1,000 gallons. A minimum ½ horsepower grinder style pump and a piped connection rated for pressure in excess of 150 PSI shall be utilized.

Alternatively, a pump system may consist of a factory assembled grinder style pump mounted in a precast fiberglass storage tank, similar to an Environmental One grinder pump system or approved equal.

11.3 Pumps must be situated in a precast tank. Any backup into the building will be the sole responsibility of the property owner. The Town of Wellesley is not liable or responsible in any way for damages due to sewage backups served by grinder/ejector pumps, or the force main line itself.

11.4 The operation, maintenance, repair and replacement of the pump and appurtenances shall be the sole responsibility of the Property Owner. This also includes the force main and/or gravity sewer from the building to its connection into the Wellesley public sewer.

11.5 Force main connections to the Town of Wellesley sewer system shall be allowed only as approved by the DPW Engineering Division.

11.6 It is preferred that the force main shall connect to a sewer manhole on private property, then the connection shall flow by gravity to the existing sewer main.

11.7 If minimum cover cannot be achieved, Schedule 80 PVC, PE, or Ductile Iron pipe shall be used, and the pipe shall be insulated. All force mains on private property shall be a minimum of 2" schedule 40 PVC, or as approved by the Town Engineer.

11.8 Inspection of pump system shall be performed by the DPW Engineering Division. Contractor shall provide water and shall run the pump through several cycles. Connection shall be inspected for workmanship and materials, and either be passed or failed at the time of inspection. The Contractor shall furnish necessary equipment and labor for accomplishing a pressure test, on the completed force main. The force main shall be pressure tested by water or air pressure equal to two times the total dynamic head pressure of the pump. The pressure shall be held for a period of at least 15 minutes with a maximum pressure drop of 5 PSI. A copy of the certified test report shall be submitted to the DPW Engineering Division.

11.9 Each force main shall be installed separately and multiple force mains will not be permitted to be installed inside a larger diameter pipe sleeve.

11.10 All pumps must be equipped with a high water level alarm located in the building served.

11.11 If a pump chamber is located under a driveway, roadway or area where vehicles or heavy equipment may pass over it shall be designed to withstand an H-20 loading.

12.0 Abandonment of Subsurface Sewage Disposal System

12.1 Application for Abandonment of a Subsurface Sewage Disposal System The Property Owner or Contractor shall arrange for pumping and filling of the existing cesspool. The Property Owner or Contractor shall notify the Town of Wellesley Health Department prior to abandonment of existing on-lot

wastewater systems (781-235-0135). An application for abandonment of a subsurface sewage disposal system must be completed by the homeowner or Contractor and submitted to the Health Department. A sample copy of the application is included the Appendix.

13.0 Sewer Connection Design Plan Submittal

13.1 The applicant shall have a Registered Professional Engineer licensed in the Commonwealth of Massachusetts design the proposed sewer connection and submit the design plan(s) to the DPW Engineering Division for review and approval. The plan(s) shall be submitted at or prior to submission of the sewer application form.

The proposed sewer connection shall be designed to meet the Town of Wellesley Sewer Service Connection Procedures and Specifications. The plan must show the proposed sewer service as well as other proposed utilities to the house. The plan must also include required details, pipe inverts, pipe sizes, pipe material and other information required to install the proposed sewer connection.

14.0 Sewer Service Repairs

14.1 An application for sewer service connection must be completed prior to the repair of a sewer. All sewer service repair work shall be inspected by a representative of the DPW Engineering Division. The building owner is responsible for the entire sewer service (from the building foundation to the Town sewer main). The DPW Engineering Division shall determine the length of sewer to be repaired, up to and including the entire service if necessary. All repairs will be made at the building owner's expense.

APPENDIX

SEWER SERVICE CONNECTION PROCEDURES

CHECKLISTS, FORMS AND DETAILS

David J. Hickey Jr., P.E.
TOWN ENGINEER
George J. Saraceno
ASSISTANT TOWN ENGINEER

TOWN OF WELLESLEY
WELLESLEY, MASSACHUSETTS 02481-3123
DPW
ENGINEERING DIVISION

20 MUNICIPAL WAY
781-235-7600

Sewer Service Connection - Procedure Summary

____1. Contractor has obtained a copy of the Sewer Service Connection Procedures from the Wellesley DPW Engineering Division.

____2. If a new connection is to be made for a new house or a sewer pump system is required, Contractor has supplied the Engineering Division with a design plan for a connection. Design plans and any required submittals shall be designed, signed and stamped by a Registered Professional Engineer Licensed in the Commonwealth of Massachusetts and submitted to the Engineering Division for review and approval.

____3. If a new connection is to be made to an existing house, a feasibility study showing the proposed connection is to be performed by the Engineering Division.

____4. All contractors who wish to perform work connecting to the public sewer must be pre-approved by the Town of Wellesley DPW Engineering Division. Any contractors who have not yet been approved must submit three references to the Engineering Division for review. Each reference shall contain a contact person, telephone number and listing of projects successfully completed.

____5. Prior to the start of any work related to the sewer service connections, the contractor has signed and dated the application form, and paid the application fee online through Viewpoint Cloud at https://wellesleyma.viewpointcloud.com/categories/1079. No work can be started until application fee is paid. Work must be completed within 1 year from the date of application or application and fee are null and void and must be re-submitted.

____6. If work will involve excavation in the public way, prior to the start of construction the contractor is required to obtain a Street Occupancy Permit in accordance with the Rules and Specifications Regulating Street Excavation, Obstructions and Driveway Aprons (latest edition). Permit applications shall be online through Viewpoint Cloud prior to the start of construction.

____7. Area of excavation has been pre-marked by contractor, DIGSAFE has been notified (811 or 1-888-344-7233), and all utilities in premarked area have been marked out by the owners of the utilities prior to the start of construction.

____8. If necessary the applicant shall arrange for pumping and filling of the existing cesspool. The applicant or contractor shall notify the Town of Wellesley Health Department (781-235-0135), and fill out an application prior to the abandonment of existing on-lot wastewater systems. The contractor must submit a copy of the approved application to the Engineering Division prior to acceptance of the sewer application for the house service connection.

____9. Engineering Division must be contacted a minimum of 72 hours prior to the start of construction. All inspections of work will be performed between Monday and Friday within the hours of 8:00 a.m. and 3:00 p.m. No work regarding the start of a sewer house connection shall begin on Friday. No work is allowed on weekends or holidays without the approval of the Chief of Police and the Town Engineer.

____10. Connection to existing stubs will not permitted. Existing vitrified clay, fiber pipe (Orangeburg) and transite pipe will automatically require replacement. At the sole discretion of the Engineering Division, if extenuating circumstances exist, the proposed connection may be made to an existing sewer stub after the existing stub is inspected. The cost of the inspection of an existing sewer stub shall be the obligation of the owner of the property to be served.

____11. All work will be inspected and approved by the Engineering Division prior to backfilling.

____12. All patches in the street and sidewalk must be constructed according to the “Construction Requirements for the Installation and/or Repair of Underground Facilities and Paving in the Public Way”. These requirements and standard details for construction can be obtained at the DPW Engineering Division office or at the Town of Wellesley DPW website.

____13. Sewer Service Connection Log has been updated, Notice to Management sent, and Tie Card Completed.

TOWN OF WELLESLEY
DEPARTMENT OF PUBLIC WORKS - ENGINEERING DIVISION

20 MUNICIPAL WAY
781-235-7600
FAX 781-237-0047

Sewer Service Connection

Address:_____ **Date:**_____

Type of installation: □ New connection □ Sewer re-connection □ Sewer repair □ Pump System
Connection type at main: □ Saddle □ Manhole □ Chimney □ Other: _____
Sewer & water location: □ Separate trenches. □ Shelved _____ feet apart □ Other: _____
Sewer Service line : Slope: _____ Depth at main: _____ Size: _____

Checklist:

Checkbox	Item
1.	Approved bedding material on site (1/2" to 3/4" crushed stone or approved equal).
2.	4" or 6" Green SDR35 PVC pipe with integral wall, bell and spigot joints with rubber rings used
3.	Minimum cover over sewer pipe at building is 3'. Minimum cover at street line is 5'.
4.	Trench bottom has been compacted and has min. 4" of bedding material. Top of pipe covered with min. 4" bedding material.
5.	Pipe laid in upstream direction with the bell ends toward the rising grade. Pipe slope min. 1%, max. 10%
6.	If the difference in elevation between the cleanout at the building and the crown of the sewer main is under 3', a backwater valve must be installed. Notify Plumbing Inspector that a backwater valve is required.
7.	Manholes constructed at all changes of direction and/or slope. Manhole is debris free
8.	White SCH40 PVC pipe is used for a maximum of 10' from foundation wall. Coupling installed.
9.	Cleanout constructed 3' to 10' from foundation using SCH40 PVC pipe. Cleanouts must be constructed with a wye connection and a 45° bend. Tees are not acceptable. Cleanout to be located in an accessible area and cleanout cap to be glued. See Standard Details in Service Connection Procedures.
10.	Trench inspected by DPW staff prior to backfill. Trench compacted in 1' lifts using suitable backfill material (no blasted ledge, or stones over 4" diameter). Green tracer tape set above sewer pipe, 16" below grade.

Sewer Service Connection Sketch:

I hereby certify that the sewer service connection constructed at the address above has been installed in accordance with the Wellesley DPW Sewer Service Connection Procedures. All items are to be checked and completed. The connection process is not complete until this checklist has been signed, dated, and returned to the Engineering Division for approval.

Company Name: _____ Contractor's Name: _____

Contractor's Signature: _____ Inspected by: _____

SEWER HOUSE CONNECTION FEASIBILITY STUDY

STREET ADDRESS_____ **CELLAR**_____

FLOWLINE_____

DATE_____ **CESSPOOL**_____

STUDY PERFORMED BY: _____ **GAS**_____

FACTORS AFFECTING CONSTRUCTION

Approx. Distance Excavated_____ Approx. Depth_____

Ledge		Yes	No	?	Existing Iron Pipe		Yes	No
Patch:	Street	Yes	No		Utilities Crossed:	Gas	Yes	No
	Sidewalk	Yes	No			Water	Yes	No
	Driveway	Yes	No			Drain	Yes	No
	Walkway	Yes	No			Other	Yes	No
Machine Digging		Yes	No		Hand Digging		Yes	No
Manholes		Yes	No		Pump		Yes	No
Backwater Valve		Yes	No					

Through Wall or Under Floor _____

Cesspool Treatment _____

COMMENTS_____

_____

_____

_____

HOUSE DRAWING SHOWING LOCATION OF SERVICE

Fee: $50.00

Wellesley Health Department 781-235-0135
APPLICATION FOR ABANDOMENT OF SUBSURFACE SEWAGE DISPOSAL SYSTEM

Date: _____

Name of Property Owner_____

Street Address where system is located: _____

Owner's Agent _____

Agent's Telephone number_____

Explain the reason(s) abandonment is necessary, and where connection to municipal or private sanitary sewer will be or has been made:

_____

_____

Abandonment of the system requires the following 2 inspections and signoffs from an agent of the Wellesley Health Department:

1. The cesspool/septic tank must be pumped of its entire contents by a licensed septage hauler permitted to operate in the Town of Wellesley. The Health Agent must be able to view the cesspool/septic tank after it has been pumped.
Date of Inspection: _____
Signoff by Health Agent _____

2. The tank shall be excavated and removed from the site, or the bottom of the tank shall be opened or ruptured after being pumped of its contents so as to prevent retainage of water and the tank shall be completely filled with clean sand, gravel, or stone. The cesspool may be crushed in place and filled with clean sand, gravel or stone.
Date of Inspection: _____
Signoff by Health Agent _____

3. Despite the prior two directions, if a cesspool or septic tank or portion of a leaching area is within the proposed footprint of the new building or closer than twenty feet of the full foundation or ten feet from a slab foundation all the structures and contaminated material must be removed and relocated.

Please contact the Health Department to schedule the dates of inspection.

Wellesley Outside Grease Interceptor Guidance

Currently no formal regulatory documents are implemented to require the installation of grease interceptors in Wellesley. **However existing regulations do prohibit the discharge of grease into the public sewer system.** For new establishments it is highly recommended that the following design procedures be used to avoid future required costs. As noted existing regulations prohibit the discharge of grease into the public sewer system; therefore if problems with grease are realized we can and will enforced corrective actions. It is therefore prudent to adhere to these recommendations.

For restaurants:

Where food preparation and disposal is conducted on-site. Outside grease interceptors should be installed and based on the following design considerations:

Interceptor vaults shall be constructed of reinforced precast concrete or approved equal. The vault must be constructed of at least two chambers, where the influent chamber, of a two chambered vault, shall be between sixty and eighty percent of the total storage volume. All influent pipe must discharge below the operating liquid level of the interceptor. The effluent pipe of each chamber must be baffled. Such baffling shall be PVC pipe with a vertical tee fitting. The top 'vent' of the tee must extend at least 3-inches above the operating liquid level. The bottom 'inlet' of the tee must not extend to within 18-inches of the vault floor within the influent (first) chamber. The bottom 'inlet' of the tee must not extend to within 9-inches of the vault floor within other chambers. Any other form of baffling must be approved.

Each chamber shall have a 24-inch diameter access manhole, with frame and cover suitable for the appropriate design load.

The volume of the interceptor, namely the effective capacity, is based on the volume of all chambers between the floor and the operating liquid level (the invert of the discharge pipe).

The volume sizing of the interceptor vault is as follows:

Effective Capacity = (S) x (GS) x (Hr/12) x 1.5

(S) is the number of seats

(GS) is the gallons per seat, using 25 gals./seat in restaurants with reusable utensils and/or plates and 15 gallons per seat in restaurants with disposal utensils and/or plates.

(Hr/12) is the daily hours of operation divided by 12.

1.5 is the loading factor to be applied to all design calculations. The minimum effective capacity shall be 1,000 gallons.

For example: A 75 seat restaurant open 15 hours per day with reusable utensils and/or plates, shall be sized as follows: Effective Capacity of Interceptor = (75) x (25) x (15/12) x (1.5) = 3,515 gallons. Considerations may be made to seek approval for 'rounding down' when reasonable.

TOWN OF WELLESLEY
WELLESLEY, MASSACHUSETTS 02481

DAVID J. HICKEY JR., P.E.
TOWN ENGINEER

GEORGE J. SARACENO
ASSISTANT TOWN ENGINEER

20 MUNICIPAL WAY
781-235-7600

DPW ENGINEERING DIVISION

ATTENTION ENGINEERS AND BUILDERS

Before you plan your foundation elevation, be aware that the sewer regulations state, ***"A backwater valve will be required whenever there is less than three vertical feet between the crown of the public sewer, at which the sewer service connection is being made, and the invert of the sewer cleanout in the building."***

As stated in the attached complete Sewer Service Connection Procedures and Specifications, without the three-foot elevation, you will be **required** to have a backwater/check valve on the plumbing or the pump to pass final inspection.

For sewer profile information and a complete copy of the Sewer Regulations, please contact the DPW Engineering Division at 781-235-7600, ext 3315.

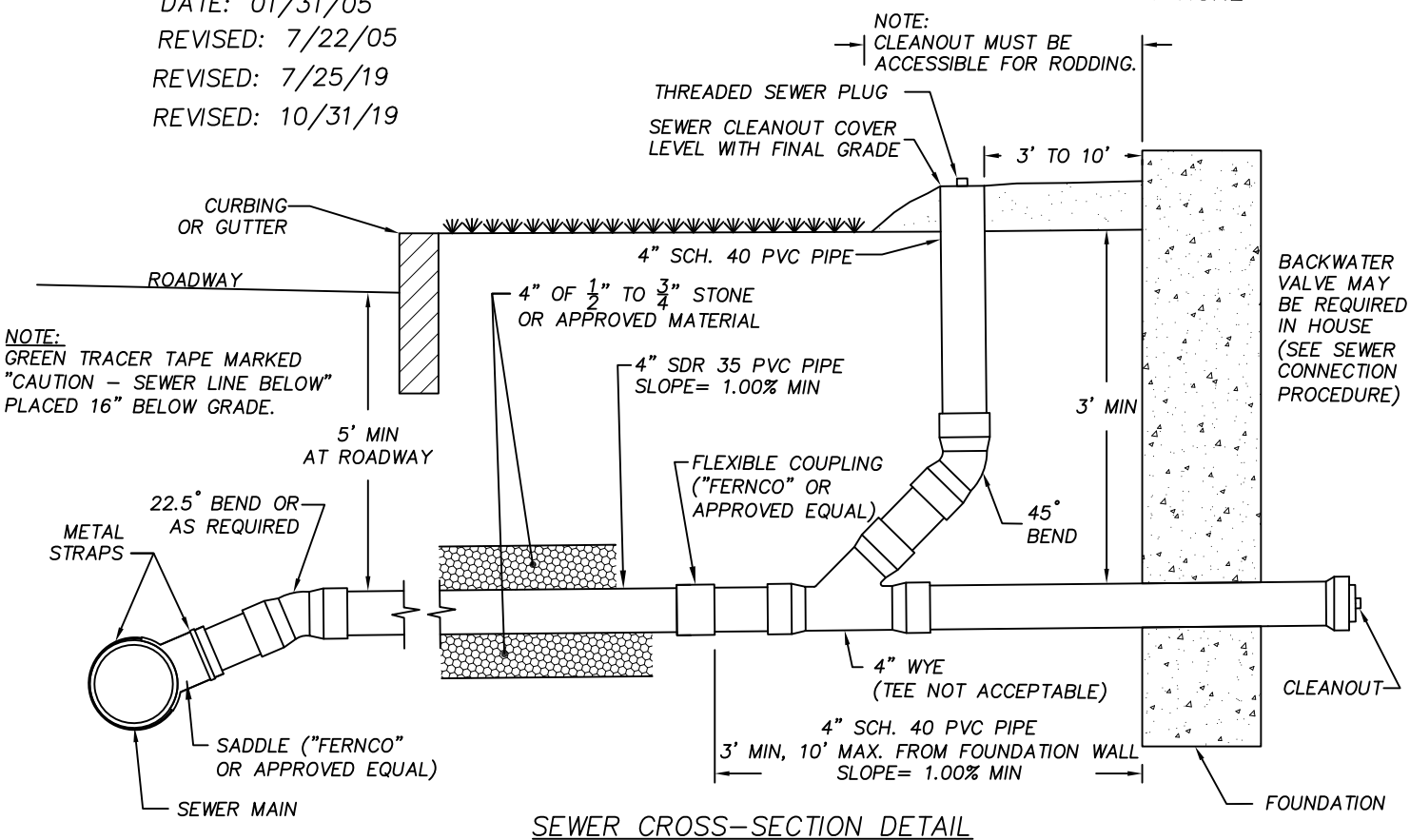
TOWN OF WELLESLEY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

2-2B

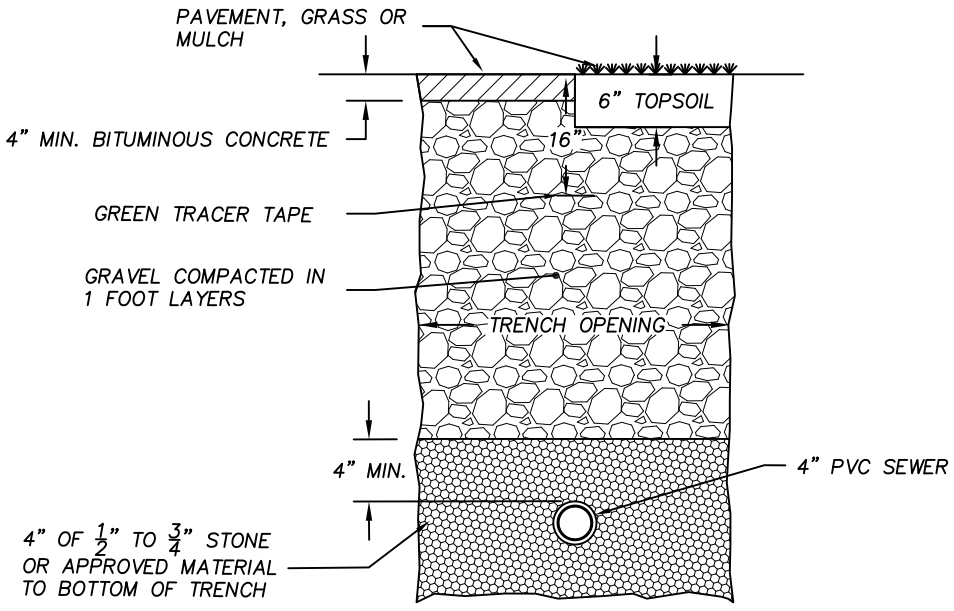
SEWER SERVICE CONNECTION WITH OUTSIDE CLEAN–OUT

DATE: 01/31/05
REVISED: 7/22/05
REVISED: 7/25/19
REVISED: 10/31/19

SCALE: NONE



SEWER CROSS–SECTION DETAIL



TRENCH CROSS–SECTION DETAIL

TOWN OF WELLESLEY

DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

2-2A

SEWER SERVICE CHIMNEY CONNECTION

DATE: 1/17/02

REVISED: 7/22/05

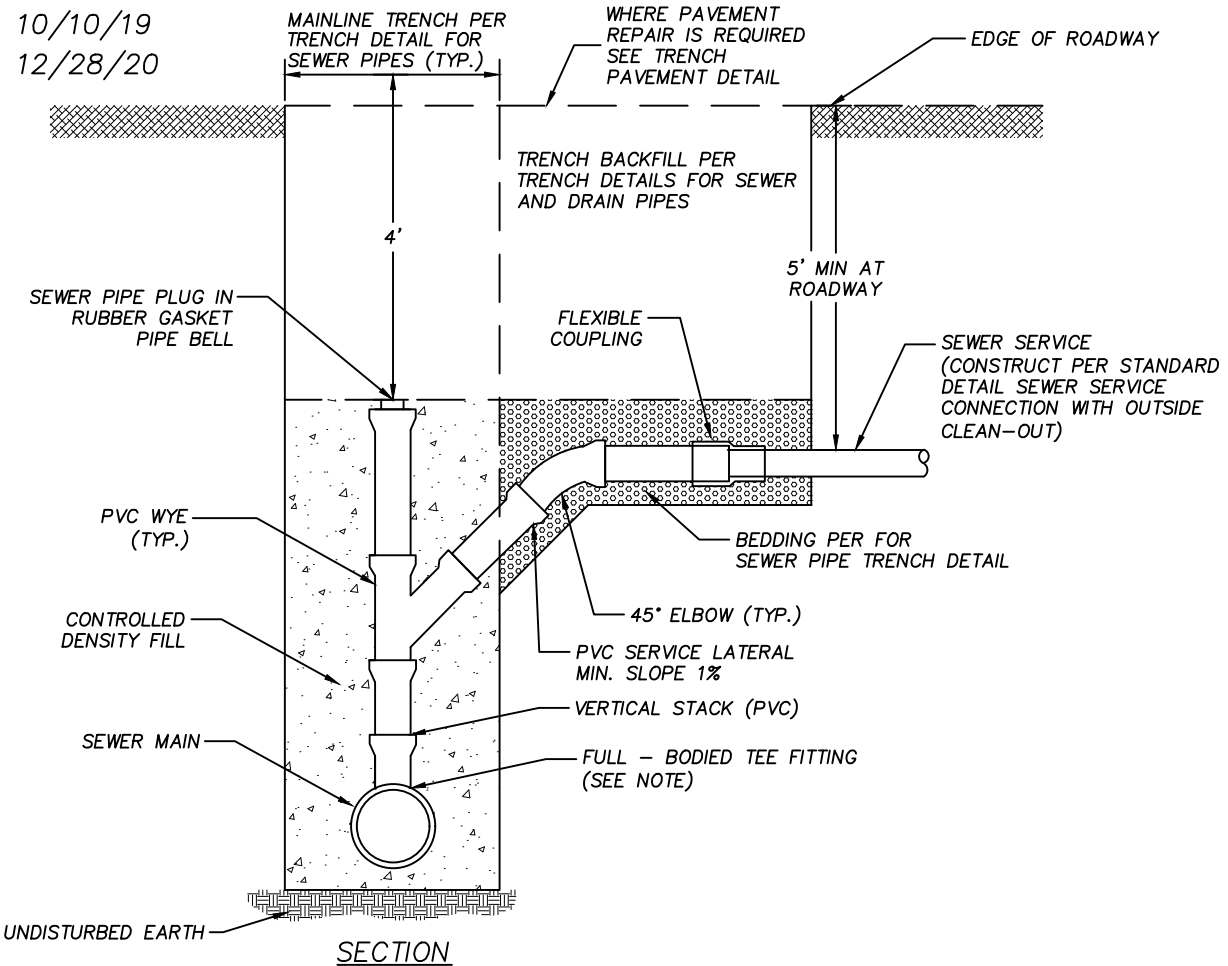
REVISED: 8/29/08

REVISED: 9/25/19

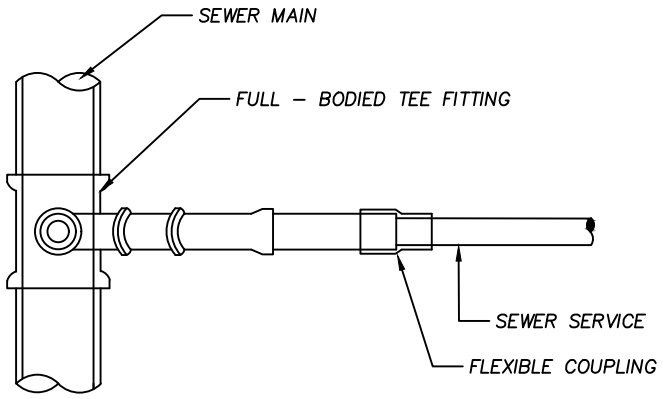
REVISED: 10/10/19

REVISED: 12/28/20

SCALE: NONE



SECTION



PLAN

TOWN OF WELLESLEY

DEPARTMENT OF PUBLIC WORKS

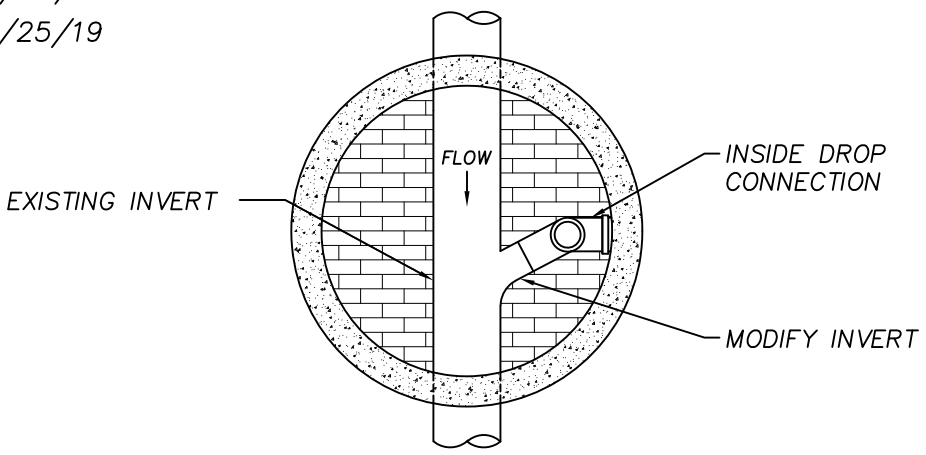
ENGINEERING DIVISION

2-1E

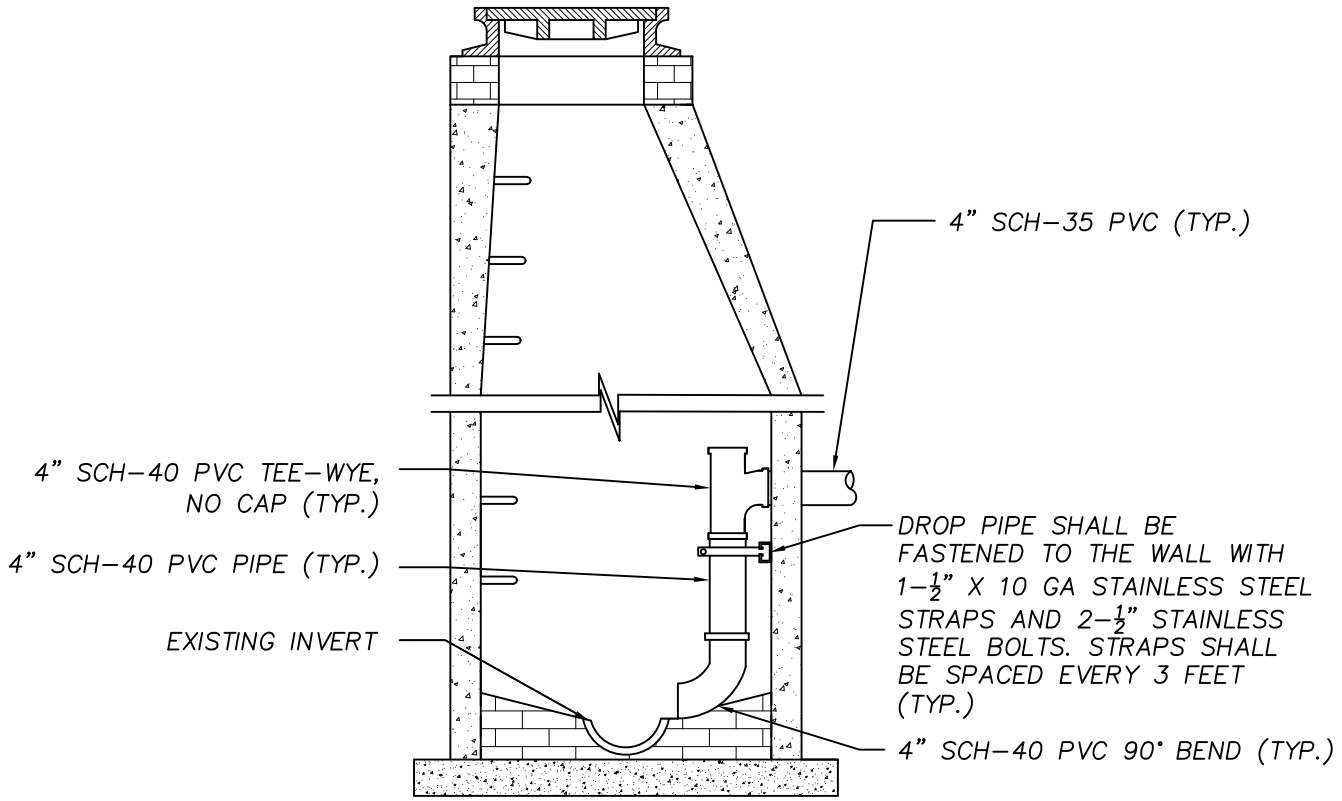
SEWER SERVICE INSIDE DROP CONENCTION

DATE: 12/2/04
REVISED: 7/22/05
REVISED: 8/29/08
REVISED: 8/25/19

SCALE: NONE



PLAN



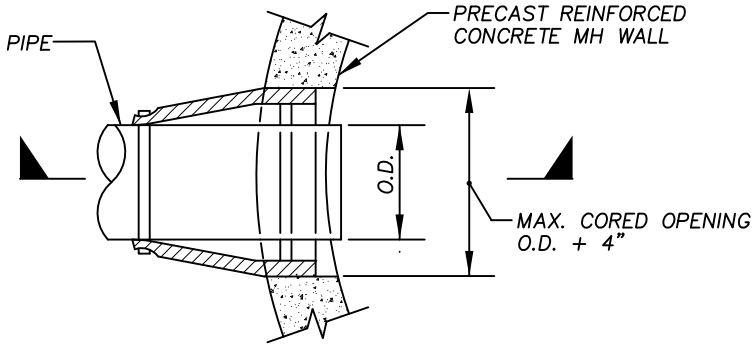
SECTION

TOWN OF WELLESLEY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CONNECTION TO SEWER MANHOLE

2-2D

DATE: 1/29/20

SCALE: NONE



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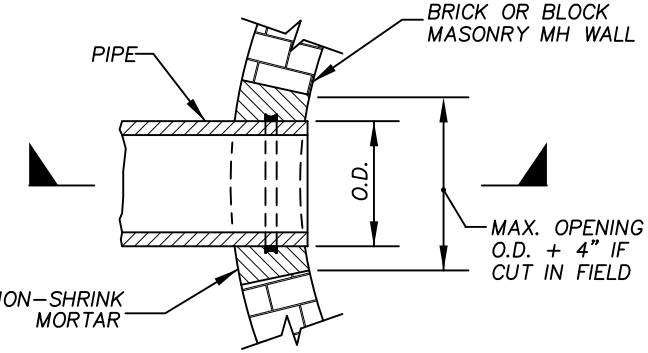
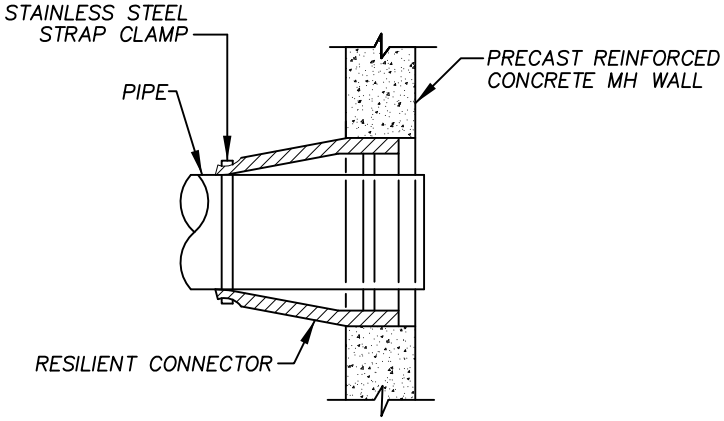


PLAN



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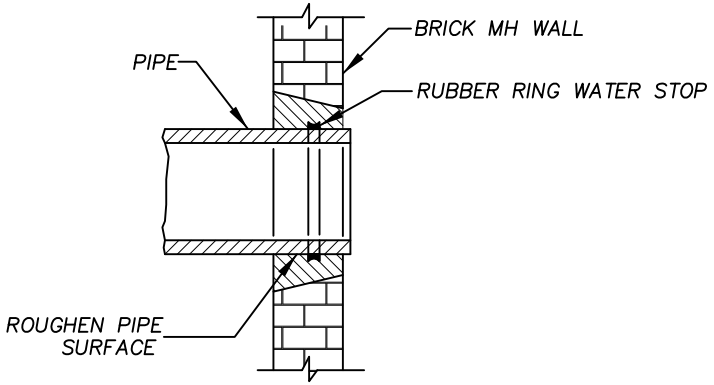


SECTION

CONNECTION TO PRECAST SEWER MANHOLE

CONNECTION TO BRICK SEWER MANHOLE

TOWN OF WELLESLEY

DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

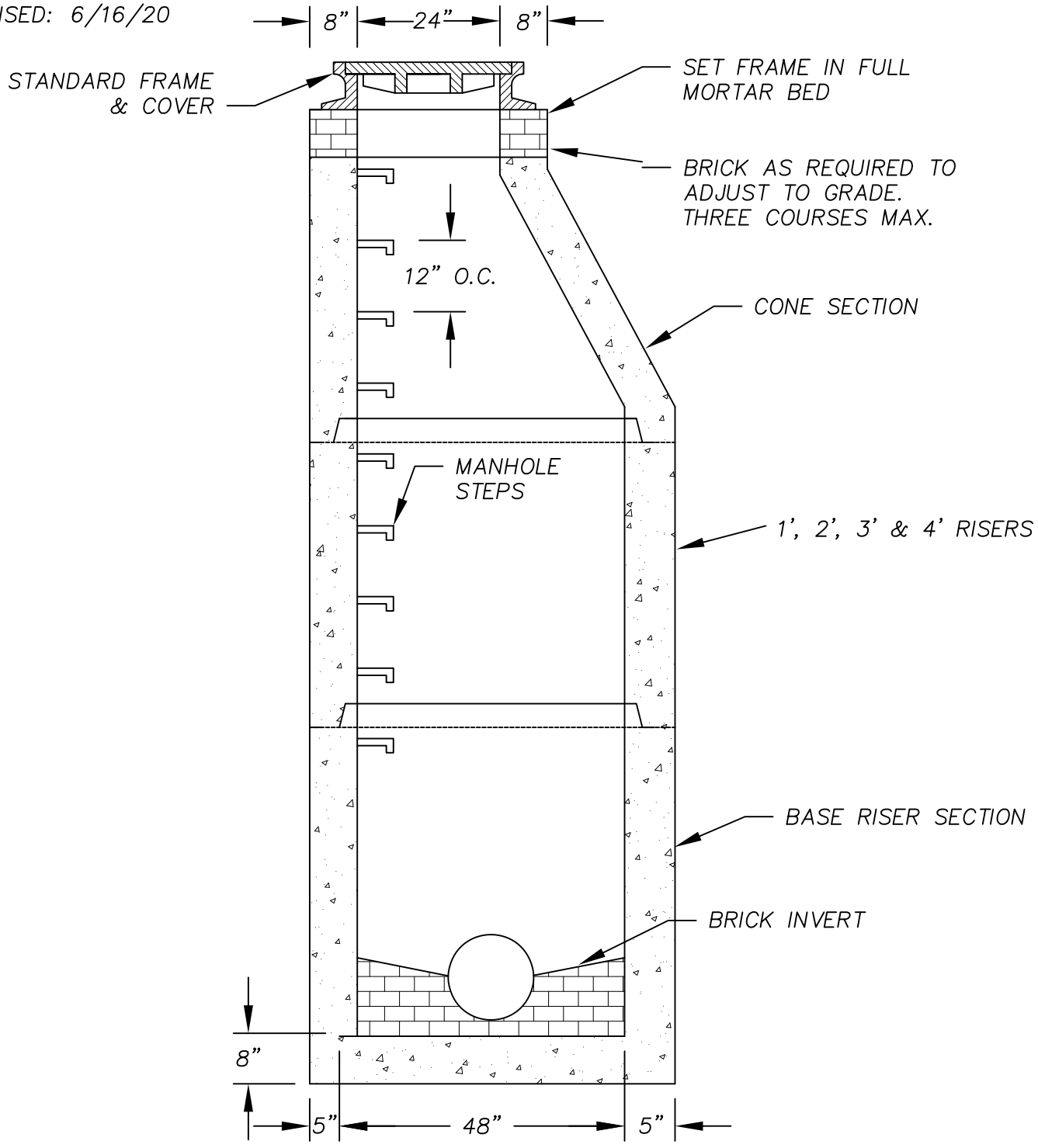
PRECAST REINFORCED CONCRETE MANHOLE

(4.0 FT DIAMETER)

2-1B

DATE: 1/17/02
REVISED: 7/22/05
REVISED: 1/31/08
REVISED: 6/16/20

SCALE: NONE



TOWN OF WELLESLEY

DEPARTMENT OF PUBLIC WORKS

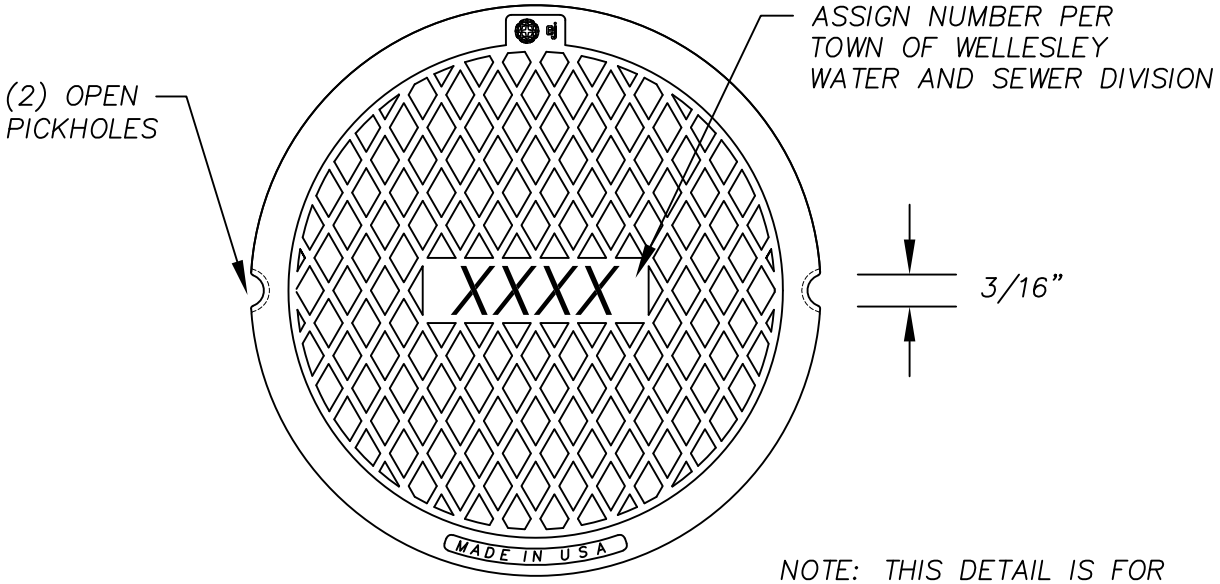
ENGINEERING DIVISION

2-1A

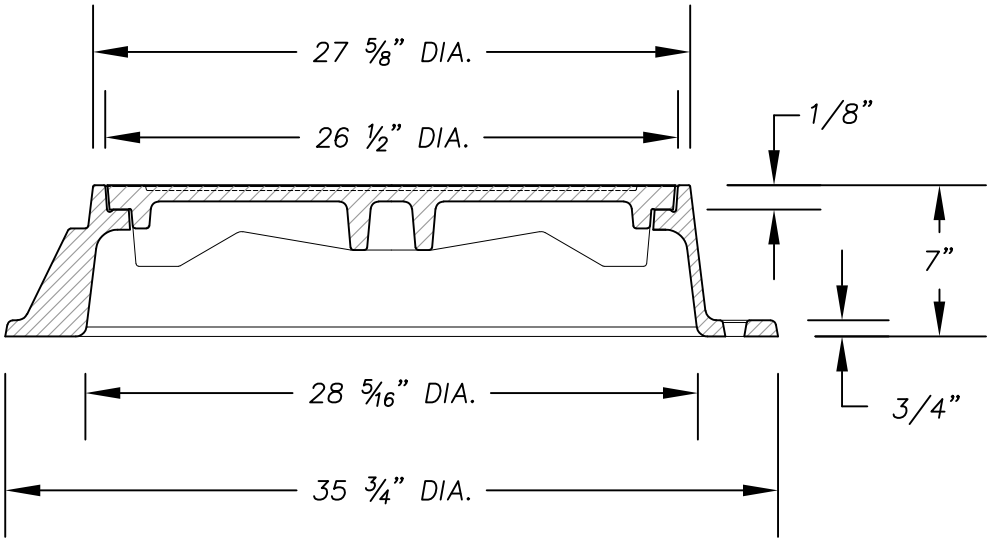
SEWER MANHOLE FRAME & COVER

DATE: 1/31/2005
REVISED: 7/22/05
REVISED: 1/31/08
REVISED: 3/15/14

SCALE: NONE



NOTE: THIS DETAIL IS FOR SEWER MANHOLES WITHIN TOWN RIGHT-OF-WAY.



STANDARD 4' DIAMETER MANHOLE
EAST JORDAN IRON WORKS No. V-1115-3 FRAME & V 1115
COVER OR APPROVED EQUAL

TOWN OF WELLESLEY

DEPARTMENT OF PUBLIC WORKS

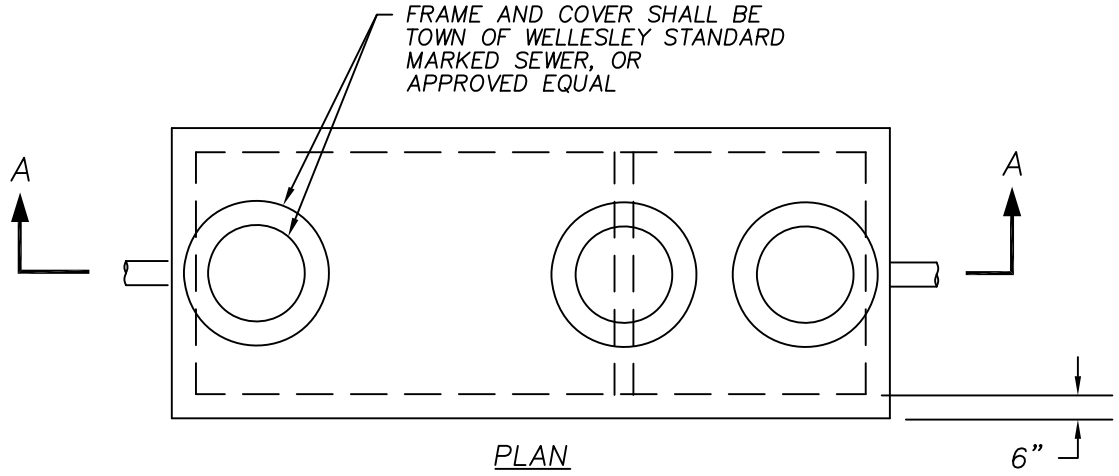
ENGINEERING DIVISION

IN–LINE GREASE TRAP

2-11

DATE: 1/29/2020

SCALE: NONE



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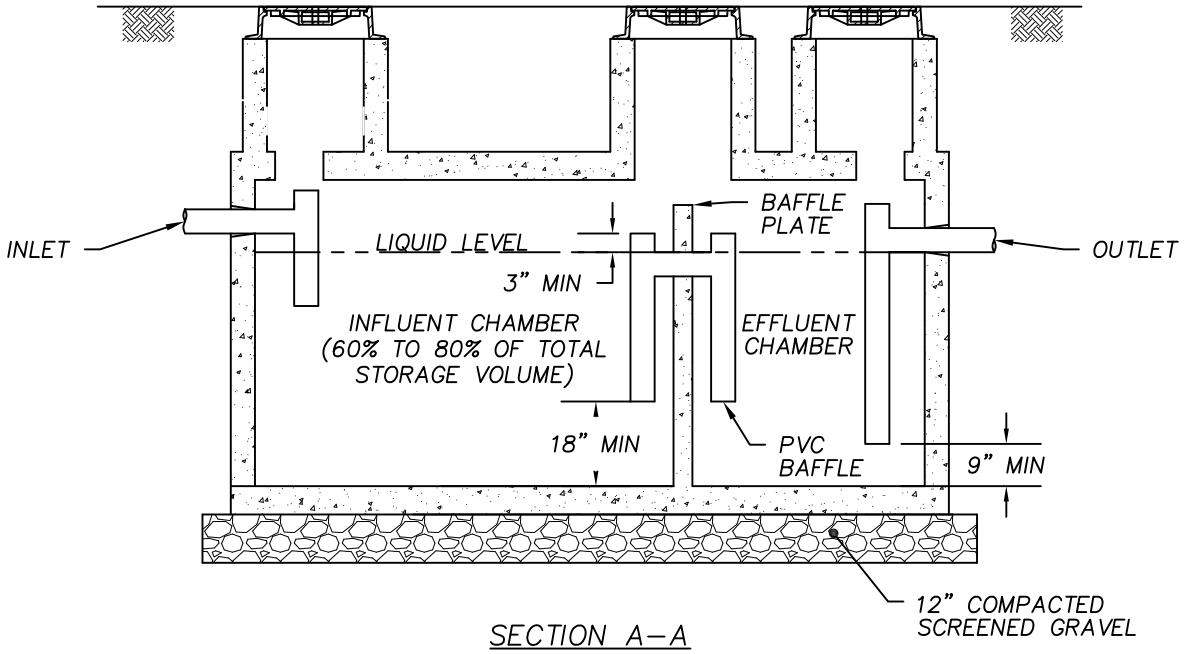

SECTION A–A

GREASE INTERCEPTOR SIZING:

EFFECTIVE CAPACITY = (S) x (GS) x (HR/12) x 1.5

(S)= NUMBER OF SEATS;
(GS)= GALLONS PER SEAT (FOR RESTAURANTS WITH REUSABLE UTENSILS AND/OR PLATES, (GS) = 25 GALLONS PER SEAT; FOR RESTAURANTS WITH DISPOSABLE UTENSILS, (GS) = 15 GALLONS PER SEAT) AND
(HR)=DAILY HOURS OF OPERATION.

NOTE: THE MINIMUM EFFECTIVE CAPACITY SHALL BE 1,000 GALLONS.