

**RULES AND REGULATIONS
FOR THE
WATER SUPPLY SYSTEM**

**TOWNSHIP OF BARNEGAT
OCEAN COUNTY, NEW JERSEY**

December 2013

TOWNSHIP OF BARNEGAT
WATER SUPPLY SYSTEM
RULES AND REGULATIONS

TABLE OF CONTENTS

I.	INTRODUCTION AND GENERAL INFORMATION	<u>PAGE</u>
	A. Introduction and Purpose	I-1
	B. Township Municipal Building	I-1
	C. Definitions	I-1
	D. Conditions Requiring the Installation of Water Supply Systems	I-3
II.	WATER SYSTEM STANDARDS FOR SUBDIVISIONS AND DEVELOPMENTS	
	A. Requirements	II-1
	B. Procedures	II-2
	C. Detailed Requirements of Applications	II-5
III.	WATER SYSTEM STANDARDS FOR CONNECTIONS OTHER THAN DEVELOPMENTS (INDIVIDUAL CONNECTION)	
	A. Individual House Connections	III-1
	B. Requirements – Individual Water Connections	III-1
	C. Procedure – Individual Water Connections	III-2
	D. Large Commercial and Industrial Connections	III-3
	E. Requirements – Large Commercial and Industrial Units	III-3
	F. Procedures – Large Commercial and Industrial Units	III-4
IV.	DESIGN CRITERIA	
	A. General	IV-1
	B. Water Mains	IV-1
	C. Gate Valves	IV-2
	D. Hydrants	IV-2
	E. House Service Connections	IV-2
	F. Meters	IV-3
	G. Storage	IV-3
	H. Miscellaneous	IV-3

V. MATERIALS AND INSTALLATION

A.	Materials	V-1
B.	Installation of Water Mains	V-2
C.	Disinfection of Water System Facilities	V-3
D.	Use of the Water System	V-3
E.	Compliance with Rules and Regulations	V-3

VI. WATER SYSTEM DETAILS

Fire Hydrant Assembly	VI-1
1" House Service Connection	VI-2
1 ½"- 2" Service Connection	VI-3
Curb Box Protection Box	VI-4
Bedding Detail (Water Main)	VI-5
Trench Backfill Requirements	VI-6
Temporary Blow-off Hydrant	VI-7
Underground Gate Valve	VI-8A&B
Tapping Valve and PVC Pipe Valve Restraint	VI-9
Concrete Cradle	VI-10
Joint Restraint/Table of Thrust Blocks	VI-11
Typical Highway Crossing	VI-12
Typical Stream Crossing	VI-13
Typical Jacked/Bored Steel Casing	VI-14

VII. APPLICATION AND PERMIT FORMS

Exhibit A - Deed of Easement and Right of Way	VII-1
Exhibit B - Application for Review of Preliminary Plans for Water System Facilities	VII-3
Exhibit C - Application for Review of Final Plans for Water System Facilities	VII-6
Exhibit D - Application for Certification of Completion for Water System Facilities	VII-10
Exhibit E - Bill of Sale/Resolution of Sale	VII-12
Exhibit F - Contractor's Affidavit	VII-14
Exhibit G - Corporate Resolution	VII-15
Exhibit H - Individual Water Service Connection	VII-16

APPENDIX I – WATER METER INSTALLATION & SETTING INSTRUCTIONS

APPENDIX II – FEE SCHEDULE

I. INTRODUCTION AND GENERAL INFORMATION

RULES AND REGULATIONS

I. INTRODUCTION AND GENERAL INFORMATION

A. INTRODUCTION AND PURPOSE

These rules and regulations have been established to facilitate the review of applications to the Township of Barnegat for the construction of (Potable Water) Water System Facilities. All residential subdivisions and developments, receiving preliminary subdivision or site plan approval after June 3, 1997, are also required to follow the requirements promulgated in the Residential Site Improvement Standards (RSIS), N.J.A.C. 5:21, incorporated herein.

All individual property owners as well as subdividers and developers of residential, commercial or industrial properties, are required by Resolution of the Township, to submit applications for all phases of planning, design, and construction of Potable Water. Applications for review as well as governing rules and regulations are required to provide for the unified and systematic construction of distribution, collection, and treatment facilities within the Township. The need for these rules and regulations are further strengthened by the imperative to foster and promote the protection of the natural resources of the Township of Barnegat, to abate pollution, and to provide for the public welfare.

B. TOWNSHIP MUNICIPAL BUILDING

1. The principal office of the Township and place of business is located at 900 West Bay Avenue, Barnegat, New Jersey 08005.
2. Application for review of Plans, Permit Application, and payment of fees, shall be made at the Township Municipal Building and to the Township Clerk.
3. The Township Clerk will be available at the Township Municipal Building for the purpose of official business from Monday through Friday, between the hours of 8:30 a.m. to 4:30 p.m., prevailing time except on legal holidays.

C. DEFINITIONS

Unless the context of these rules and regulations specifically indicates otherwise, the following meanings shall apply as indicated hereafter:

1. "Applicant" shall mean the individual, corporation, partnership or authorized agent making application to the Township.
2. "As Built" shall mean a record of the Potable Water Facilities or Sanitary Sewerage Facilities, as constructed.

3. "Clerk" or "Township Clerk" shall mean the duly appointed Clerk of the Township.
4. "Commercial Concern" shall mean any concern engaged in service, trade, business, traffic or commerce in general, exclusive of Industrial concerns.
5. "Developer" shall mean the legal or beneficial owner or owners of a lot or of any land proposed to be included in a proposed development, including the holder of an option or contract to purchase, or other person having an enforceable proprietary interest in such land.
6. "Development" shall mean the division of any parcel of land into two or more parcels; the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any building or other structure, or of any mining, excavation, or landfill; and any use or change in the use of the building or other structure, or land, or extension of use of land, for which permission may be required per the Municipal Land Use Law.
7. "Equivalent Dwelling Unit or EDU" shall mean the number of equivalent single family units derived by dividing the total anticipated daily water demand for a proposed use by that generated by a typical single family dwelling (240 gallons per day). Portions of an EDU are rounded up to the next whole unit.
8. "Estimated Project Cost" shall mean the estimated cost of construction, right of ways, easements, engineering, bonds, insurance, legal and administrative services.
9. "House Service Connection" shall mean the connection from the water main in the street or easement to the curbstop.
10. "Industrial Concern" shall mean any concern engaged primarily in manufacturing or processing operations.
11. "Master Plan" shall mean the plan for providing water and sewer system facilities in the Township prepared by the Township Engineer together with any supplements, amendments, alterations, or additions thereto or hereafter in existence, as approved by the Township.
12. "May" means permissive - "shall" means mandatory.
13. "Owner" shall mean the property upon whose behalf an application for water or sewer connection is made to the Township.
14. "Planning Board" shall mean the Planning Board of the Township of Barnegat as created under State statute.

15. "Plumbing Inspector" shall mean the person duly designated by the Township as the subcode official administering the "State Uniform Construction Code Act."
16. "Professional Engineer" shall mean a person licensed to practice Professional Engineering in the State of New Jersey.
17. "Secretary" shall mean the duly designated Secretary of the Township Water and Sewer Utility.
18. "Street" shall mean any and all streets, avenues, highways, and roads, whether publicly used or dedicated with or without acceptance by the Township, County or State.
19. "Township" shall mean the Township of Barnegat in the County of Ocean, State of New Jersey.
20. "Township Water and Sewer Engineer" shall mean the Consulting Engineer duly authorized by the Township to review and inspect all Water System and Sewer System Facilities.
21. "Township Water Main" shall mean a water main owned by the Township in public streets or easements including house service connections up to the curb stop.
22. "Water System" shall mean all wells, water treatment plants, water storage tanks, pumping stations, transmission mains, distribution mains, valves, house services and all other water appurtenances owned by the Township.
23. "Water Treatment Plant" shall mean any arrangement of devices and structures used for the treating of water in the Township other than that used on/and for one property under one ownership as an individual water treatment system.

D. CONDITIONS REQUIRING THE INSTALLATION OF WATER SYSTEMS

Residential subdivisions or any multi-family structure, regardless of volume of use, and all non-residential development, such as schools, commercial buildings, industrial buildings and all other structures shall be required to install a water system and appurtenances to connect with the nearest existing water main in the Township. Any major subdivision involving a new street shall make provisions for water mains.

In the event that the Applicant's lands are deemed by the Township to be too remote from an existing water main, then a well, treatment plant for the treatment of water and storage facility will be required, said plant and the location thereof to be subject to approval by the Township in accordance with the standards and requirements as hereinafter set forth. Credit, against connection fees, may be

given for permanent facilities that can be incorporated into the Township's system.

Wherever a water system shall be available in any given area of Barnegat Township, the potential users whose properties lie along the route of the said water system shall be required to tie into said system and make use thereof and be subject to such costs and charges as shall be promulgated from time to time by the Township pursuant to statutory authorization.

II. WATER SYSTEM STANDARDS FOR SUBDIVISIONS AND DEVELOPMENTS

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A. REQUIREMENTS

1. Approval of all water system facilities is required for all proposed subdivisions and developments in the Township.
2. Each proposed subdivision and development must meet the standards, specifications and all relevant ordinances of the Township.
3. Each subdivision or development shall install a water system with at least one house connection provided for each lot. In condominium or cooperative developments where there are no lot lines or in garden apartment house projects for rental, at least one building connection shall be provided for each structure. The size of the building connection will be based upon the number of fixture units as determined by the Building Code of the Township; however, in no event shall the building service be less than 3/4" in diameter.
4. System design and placement shall comply with all applicable NJDEP rules, NJAC 5:21 Residential Site Improvement Standards (RSIS), American Water Works Association (AWWA) standards, and Standards of the Pinelands Comprehensive Management Plan. The above rules and standards are incorporated herein by reference, with the strictest standards governing.
5. Pumping stations, transmission mains and storage facilities, other than those provided for on the comprehensive master plan, must receive specific Township approval.
6. For those locations which are remote from an existing water main, the Township shall decide the most suitable method for providing water service, either through the construction of an extension to an existing Township water main or by the construction of water supply and treatment facilities. The cost of a water main extension or water supply and treatment facility to service the proposed facilities of the applicant shall be reviewed by the Township during the preliminary review period. If it is determined that the extension of an existing Township water main or water supply and treatment facilities is the most practical means available to provide service, then the Township will notify the applicant. The applicant shall perform the engineering design and construction of the required water facilities.
7. All required easements in approved form and executed by the property owner and other parties of interest shall be submitted in the exact form shown in Exhibit "A".

8. Inspection of the construction of water system facilities, including mains, pumping stations, wells, treatment plants, storage tanks, and appurtenances will be performed by the Township Water and Sewer Engineer.
9. As-Built plans (plan and profile) acceptable to the Township Water and Sewer Engineer must be submitted to the Township prior to the water system being placed into operation. Upon completion of all the work in the development and prior to the release of the performance bond, the applicant shall submit digital copies of the As-built utilities for Approval. Digital copies shall be geo-referenced relative to the NJ State Plane Coordinate System. Utility as-builts shall identify the actual field location of all installed utilities. Offsets dimensions (from curb, edge pavement, or easement line) shall be supplied for water mains. As-builts shall reflect the addition or deletion of bends as installed in the field. Building service connections shall be triangulated to nearest identified building corners and provided in a tabulated form.
10. The water demand for the proposed project shall be projected using N.J.A.C. 7:10-12.6 and RSIS 5:21-5.3.
11. Each construction plan must contain the following approval block on the original reproducible:

WATER SYSTEM FACILITIES
APPROVED BY THE TOWNSHIP OF BARNEGAT

Township Engineer

Date

B. PROCEDURES

1. The applicant may obtain a copy of the "Rules and Regulations" at the Township Municipal Building together with all pertinent application forms. The Rules and Regulations are also available on the Townships website. The applicant shall complete the appropriate forms for either review of preliminary plans or for review of final plans and specifications. Applications are as follows:

a. Application for Review of Preliminary Plans

An application in proper form for Review of Preliminary Plans in the exact form shown in Exhibit "B", shall be submitted to the Township together with required fees. Four (4) sets of plans shall accompany the submission.

The review of preliminary plans by the Township Engineer will, in general, determine the following information:

1. The extent and scope of the facilities required.
2. The acceptable water supply for the development or subdivision, either by the construction of an extension to a Township water main or by the construction of interim supply and treatment facilities.
3. The size and extent of water mains, storage tanks and pumping stations required under the Master Plan.

The review period for preliminary plans shall be consistent with the extent of the subdivision or development submitted. In general, this period will not extend beyond sixty (60) days from the date of acceptance for review unless extenuating circumstances require an extension of time. Such circumstances shall be communicated to the applicant.

Formal acceptance of preliminary plans shall be made by resolution and constitute approval by the Township of the facilities proposed, dependent upon submission and approval of final plans and specifications for the facilities. Final plans and specifications shall include the Township Engineer's comments. Preliminary approval will be revoked and void if the applicant has not made final application within six (6) months of the grant of preliminary approval.

b. Application for Review of Final Plans and Specifications.

An application in proper form for Review of Final Plans and Specifications in the exact form as shown in Exhibit "C", shall be submitted to the Township Clerk together with the required fees.

Following the presentation or submission of the application to the Township, the Township Engineer shall review the final plans and specifications of the applicant in accordance with the preliminary plans, previously reviewed and approved, Township Engineer comments and the Technical Specifications, included herein.

Final plans shall be complete in all respects, including all required plans and profiles and construction details. Specifications shall be complete in all respects with technical parts to include material and descriptive sections, as outlined in Section IV.

Final plans and specifications shall be based upon approved preliminary plans, previously submitted and approved. In all cases, information or changes requested during the preliminary review shall be included in the final plans. Upon review of final plans and specifications, required local, State and Federal Permit Forms (if any) shall be prepared by the applicant for submittal by the Township. All fees required by these local, State or

Federal forms shall be paid by the applicant, at the time of submission by the Township.

The review period for final plans and specifications shall be consistent with the extent of the subdivision or development submitted. In general, this period will not extend beyond sixty (60) days from the date of acceptance for review, unless extenuating circumstances require an extension of time. Such circumstances shall be communicated to the applicant.

The review shall include an evaluation of the design as presented as to conformance to the detailed Rules and Regulations of the Township, the minimum State Standards, and acceptable engineering design practices. Upon completion of review, the Township Engineer shall make recommendations to the Township for final consideration as to final approval.

2. Prior to receiving final approval and during the review period, the applicant shall be required to submit the required engineering and inspection fees. In addition, easements shall be conveyed to the Township in a form that is approved by the Township (See Exhibit "A") as well as a resolution authorizing said conveyance, if applicable.
3. Final approval of plans and specifications by the Township shall constitute authorization to start construction, contingent upon all other permits and approvals being received prior to the start of construction.
4. When the Township has granted final approval, the applicant shall deliver reproducible copies of the design to the Township for the appropriate execution. Thereafter, the applicant shall deliver four copies of the plans and specifications to the Township for distribution, as well as, four additional copies to the Township Engineer for use during construction.
5. Any subsequent changes to the approved plans and specifications must be approved by the Township
6. "Preliminary and Final Approval" will be revoked and void if the applicant has not commenced construction within the time period as specified in the Municipal Land Use Laws(MLUL).
7. A water service connection fee, determined in accordance with the Fee Schedule, shall be paid for each water service connection prior to obtaining a building permit for the building, which will be connected to the particular water service connection.

C. DETAILED REQUIREMENTS OF APPLICATIONS

1. General

- a. All applications must be signed by the applicant or a duly authorized agent or representative and include proof of authorization by signed affidavit.
- b. The review period shall, in general, run for a maximum of sixty days from the date of acceptance for review.

2. Instruction for Applications for Review of Preliminary Plans

Applicant shall file the proper form with the Township Clerk to include four copies of the following:

- a. An overall plan of the proposed subdivision/development on a scale of not less than 1" = 200' with a key map at a scale not less than 1" = 1000'.
- b. An overall plan of the proposed water facilities(size and location), showing method of connection to the existing water system, proposed units to be serviced and any proposed pumping stations, storage tanks, wells, and treatment plants which will be required.
- c. A complete Engineer's Report of the proposed water system setting forth the basis of design.

Basis of design for all water facilities shall be in accordance with accepted design practice and existing State standards. All engineering plans, and reports must bear the seal and signature of a professional engineer authorized to practice in the State of New Jersey.

The Engineer's Report shall contain information as to:

- a. Estimated ultimate population to be served by the system.
- b. Estimated water demands and usage, including, required fire flow demand, peak hour flows, maximum daily demand, maximum monthly demand, average daily demand, and average monthly demand. Estimated demands shall be in accordance with NJAC 7:10 and/or NJAC 5:21.
- c. Effect on existing water system, if applicable.
- d. That portion of the system to be built at the present time (i.e. phasing of project if applicable).

3. Instructions for Application for Review of Final Plans

Applicant shall file the proper form with the Township Clerk to include the following:

- a. Four copies of the most recent drawings now under consideration of the Township Planning Board. Final plans shall bear a block for the signatures of approval of the Township as required on the preliminary plans.
- b. Easements in a form approved by the Township, as well as a resolution authorizing the conveyance if applicable.
- c. Engineering and inspection fees in accordance with the Fee Schedule.
- d. Four copies of the plans (including plan and profile sheets) and specifications of all proposed water mains.
- e. Four copies of Engineer(s) Report.
- f. Four copies of the plans and details for water system related buildings, structures, and appurtenances.
- g. Four copies of the construction specifications for the proposed project.
- h. All application forms required for outside approvals and permits, such as State and County, filled out in required duplication in the Township's name. Copies of plans, specifications and Engineer's Report required for submittal to the County and State Agencies shall be supplied upon final review and approval by the Township.
- i. All application fees for review and approval of permits required by State and County Agencies are to be paid by the applicant.

4. Detailed Instructions for Required Submittals

a. Construction Plans and Profiles:

Construction plans shall be similar in scale to those submitted as preliminary plans and shall bear the approval signatures required for final approval. Construction plan and profile sheets shall be of a minimum horizontal scale of 1" = 50' with a vertical scale of 1" = 5' and shall show all proposed mains and appurtenances relative to other underground utilities (i.e. sanitary sewer, storm sewer, gas, elec./TV/ cable), approximate ground elevation, existing and other proposed underground pipes and structures pertinent to

construction, street and right-of-way identification, as well as stream crossing cover requirements and concrete encasements. All construction "plan and profile sheets" shall be numbered consecutively and shall contain match lines and an appropriate title box and scales. A cover sheet shall be included having a location plan showing the work of a scale not less than 1" = 500' and a sheet index for the plans, plan and profile sheets and details. All plans shall be of uniform size, 24 x 36 inches with a 1/2 inch border on top, bottom and right side and a 1-1/2 inch border on left side.

b. Construction Drawings for Pumping Stations, Storage Tanks, Wellhouses, and Treatment Plants (if required).

Construction drawings for pumping stations, storage tanks, wellhouses, and treatment plants shall include a site plan of the proposed facility showing property boundaries, natural features such as tree growth, streams, contours, etc., existing and proposed underground piping and utilities, building site orientation and any proposed underground structures.

The detailed plans shall show the arrangement of mechanical and electrical equipment, piping, valves, fittings, etc., both within and outside the structure. Appropriate sections shall be included to clearly identify all aspects of the work. The plans shall depict a general architectural scheme, the planting scheme for cover trees and shrubs, as well as site improvements. Details required shall include a flow schematic and hydraulic profile for any proposed treatment plant as well as additional details required by the Township Engineer in his preliminary review.

5. Specifications

Complete specifications for the construction work proposed shall accompany the detailed plans for mains, pumping stations, storage tanks, wellhouses, and treatment facilities. Specifications for water mains shall include all references to equipment specified as required. Specifications for pumping stations, storage tanks and treatment plants shall include all pertinent data required, including copies of site borings taken.

6. Cost Estimates

7. A detailed estimate of the project cost shall be prepared by the Township Engineer that shall include an estimate of the construction costs plus any contingency, the cost of right-of-way or easements, as-built plans, etc. This construction estimate, prepared by the Township Engineer, at his sole discretion, shall be considered the basis for any performance, cash and

maintenance bonds required, and all review and inspection fees required, these being dependent upon an estimated construction cost.

8. Certificate of Completion

Following the completion of the work, the applicant shall make application to the Township for a Certificate of Completion in the exact form as Exhibit "D", to include the following:

- a. A statement by the applicant that construction has been satisfactorily completed and that digital As-Built plans, prepared by the applicant's engineer, have been approved by the Township Water and Sewer Engineer.
- b. One Digital Copy (on Compact Disc), one reproducible copy, on material acceptable to the Township Water and Sewer Engineer and three prints of the As-Built plans, marked with the approval of the Township Engineer as follows

RECORD PLANS

Accepted by Township Water and Sewer Engineer

_____ Date _____

- c. Such legal documents as are necessary to convey the interests in the facilities to the Township, in the exact form as shown in Exhibit "E".
- d. Affidavit that all contractors, subcontractors, and materials men have been paid in the exact form as shown in Exhibit "F".

8. Performance and Maintenance Guarantees

- a. "Performance Guarantee" and "Maintenance Guarantee" shall mean either cash or third party Surety Bonds from a reputable insurance company in a form that is acceptable to the Township of Barnegat.
- b. Prior to the commencement of any construction of facilities that either will be dedicated to the Township or will remain as private property, the Applicant shall post with the Township a performance guarantee covering said improvements. The amount to be posted under the performance guarantee shall be 120% of the estimated cost of the improvements to be constructed, plus the estimated costs of all inspection fees. The estimated costs shall be

prepared by Township Water and Sewer Engineer. The Township's Solicitor shall approve the form of the performance guarantee before it shall be accepted.

- c. The Applicant may request a reduction in the performance guarantee posted if at least 70% of the improvements to be constructed under the performance guarantee are satisfactorily completed and tested in accordance with the Township Rules, Regulations and Specifications; and if the improvements, in the opinion of the Township are adequately protected from future damage due to continuing construction. The Township may allow up to a maximum of a 70% reduction of the dollar value of the improvements that are satisfactorily completed, tested and protected before final acceptance.
- d. Maintenance guarantee shall be posted upon final acceptance of the improvement for a two (2) year period in an amount of 15% of the estimated cost of the improvements constructed. Final acceptance of the improvements constructed shall not occur until the date that the maintenance guarantee, in a form satisfactory to the Township's Solicitor, shall be received by the Township.
- e. The Applicant shall provide all labor and equipment to facilitate and provide access to all installed facilities during the Township Water and Sewer Engineer's final inspection of the facilities for the purposes of release of both Performance and Maintenance Guarantees.

III. WATER SYSTEM STANDARDS FOR CONNECTIONS OTHER THAN DEVELOPMENTS (INDIVIDUAL CONNECTIONS)

III. WATER SYSTEM STANDARDS FOR CONNECTIONS OTHER THAN DEVELOPMENTS

A. INDIVIDUAL WATER CONNECTIONS

1. Property owners of existing residential lots, who are required to connect to an existing Township Water Main shall file an "Application for Individual Water Service Connection" with the Township Clerk together with the required fee(s) as set forth in the Township Fee Schedule.
2. If no water service connection exists for the subject property, the owner must obtain and file with the Township an "Application for Installation of Water Service Connection". The application shall be completed in all respects and shall be accompanied by a plot plan which shows the proposed location of the water service connection relative to the other existing or proposed improvements. The application shall be accompanied by the Fee(s) in accordance with the Township(s) Fee Schedule.
3. The applicant and/or contractor is responsible for obtaining all necessary road opening/access permits and payment of any fee(s) associated therewith.
4. The applicant shall submit to the Township Water and Sewer Engineer, shop drawings and/or submittals for the materials of construction. All materials of construction shall be in accordance with specification contained herein.
5. The applicant is responsible for all necessary applications to the Township Building Department (i.e. plumbing permits), and the elimination/abandonment or disconnection of any existing private well.

B. REQUIREMENTS - INDIVIDUAL WATER CONNECTIONS

1. No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any Township water main or appurtenance thereof without first obtaining written authorization from the Township.
2. All costs and expenses required for the installation and connection of a house or building water service connection shall be borne by the owner. The owner shall be liable to the Township for any loss or damage that may directly or indirectly be occasioned by the installation of any water service connection or any other cause.
3. Each separate and independent residential unit shall be provided with an individual and separate water service connection.

4. In all cases, the water connection shall be installed at an elevation below grade sufficient for frost protection. Because of economics, the Township is not obligated to serve basement fixtures. The Township Engineer for unusual circumstances will consider exceptions submitted in writing at the time of application. The applicant will be responsible for any additional cost incurred by the Township.
5. The installation of water service connection to the Township water main shall conform to the rules and regulations contained herein as well as those of the building and plumbing codes of the Township. No deviation from the prescribed procedures and materials will be allowed unless prior approval is obtained from the Township.
6. All excavations for water service connection installations shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, curbs, parkways and other public properties disturbed during the course of the work shall be restored in a manner satisfactory to the Township and the Township Engineer.
7. No person shall perform any of the work set forth in these rules and regulations for any other person in the Township, unless he shall be licensed plumber or utility contractor authorized to perform work in the Township.
8. The water demand for the proposed connection shall be projected using N.J.A.C. 7:10-12.6 and RSIS 5:21-5.3.

C. PROCEDURE - INDIVIDUAL HOUSE CONNECTIONS

1. Property owners of residential lots, who are required to connect to an existing water main of the Township, a licensed plumber, or contractor must obtain, and file with the Township an "Application for Water Service Installation". The application, together with the required fees as set forth in the Fee Schedule adopted by the Township shall be submitted to the Clerk's Office. Two (2) copies of the application shall be submitted to the Township together with the required fee(s) in cash, cashier's check or certified check made payable to Barnegat Township.
2. The connection fee does not include the costs of a road opening permit and bond, which may be required by the Township. All road opening permits must be obtained by the applicant.
3. The application shall be completed in all respects, excepting the permit number and inspection dates, and shall include a plot plan, showing the planned water service connection or water main location, with sufficient dimensions to indicate compliance with the rules and regulations and to permit future location of the water main and water service, pipe sizes, fittings and pipe materials must also be indicated.

4. The Township shall review the application as to completeness and compliance and, upon approval, authorize the issuing of a "Permit for Installing of Water Service". This permit must be posted in clear view, at the site of the connection during the entire period of construction.
5. Upon completion of all pipe work and prior to backfilling and connection to the water service, the applicant shall request the Township to inspect the completed work. The applicant shall notify the Township Water and Sewer Engineer and the code enforcement official a minimum of two working days prior to the date upon which he would anticipate the work to be inspected.
6. After inspection and approval of the installation by the Township and code enforcement official, the applicant shall complete the connection to the building unit and backfill the trench with tamped material to the surface.
7. The owner is responsible for maintaining the water connection in a safe condition from the building to the curb stop.

D. LARGE COMMERCIAL AND INDUSTRIAL CONNECTIONS

1. Commercial and Industrial units shall file an application with the Township together with the required information and fees as outlined hereafter.
2. Each separate and independent commercial unit shall be provided with an individual and separate water service connection.
3. The Township may require additional review as prescribed for developments and subdivision, dependent upon the extent of the commercial or industrial complex proposed. Commercial units, anticipating flows similar to residential connections, will provide facilities in accordance with regulations applicable to residential connections.

E. REQUIREMENTS - LARGE COMMERCIAL AND INDUSTRIAL UNITS

1. No large commercial or industrial unit shall make any connection into, use, alter, or disturb any Township water main or appurtenance thereof without first obtaining a written authorization from the Township. Application for authorization shall be on forms provided and shall be applied for in accordance with rules and regulations for subdivisions and developments as found in the appropriate section.
2. All costs and expenses required for the installation and connection of a large commercial or industrial building water service connection shall be borne by the applicant. The owner shall be liable to the Township for any loss or damage that may directly or indirectly be occasioned by the installation of any water service connection or any other cause.

3. The water demand for the proposed connection shall be projected using N.J.A.C. 7:10-12.6 and RSIS 5:21-5.3.

F. PROCEDURES - LARGE COMMERCIAL AND INDUSTRIAL UNITS

1. Exhibit B - Application for Review of Preliminary Plans

- a. The owner must obtain, complete and file in proper form with the Township, an "Application for Review of Preliminary Plans" in the exact form as Exhibit B together with the required 'fees at least twenty-eight (28) days prior to a regular Township meeting, to be scheduled for review on the agenda for that meeting.
- b. Following presentation or submission of the Application to the Township, the Township Engineer shall review the proposed commercial or industrial unit to determine the extent of water facilities to be required.
- c. Applicants shall include a detailed Engineer's Report with estimate(s) of the daily water consumption including average day, maximum day and peak hour flow demand. Demand estimates shall be in accordance with NJAC 7:10 Fire flow and storage requirements in accordance with NFPA and/or ISO shall be included in the application.
- d. The Township shall review the method and location of water metering for the proposed water facilities.
- e. The review period for preliminary plans shall be consistent with the extent of the commercial or industrial unit proposed. In general, this period will not extend beyond sixty (60) days from the date of acceptance for review unless extenuating circumstances require an extension of time. Such circumstances shall be communicated to the applicant.
- f. Acceptance of preliminary plans shall be made by resolution and constitute approval of the Township of the facilities proposed, dependent upon submission and of final plans and specifications for the facilities. Final plans and specifications shall include the Township Engineer's comments. Preliminary approval will be revoked and void if the applicant has not made final application within six (6) months of the grant of "Preliminary Approval".

2. Exhibit C - Application for Review of Final Plans and Specifications

- a. The owner must obtain, fill out in proper form and file with the Township Clerk an "Application for Review of Final Plans and Specifications in the exact form as Exhibit C together with the

required fees at least twenty-eight (28) days prior to the regular Township meeting, so as to be included on the agenda for that meeting.

- b. Following presentation or submission of the application for review by the Township, the Township Engineer shall review the final plans and specifications of the applicant in accordance with the preliminary plans, previously reviewed and approved Township Engineer's comments and the technical specifications.
- c. Final plans shall be complete in all respects, including all required plans, profiles and construction details. Specifications shall be complete in all respects with technical parts to include material and descriptive sections.
- d. In all cases, information or changes requested by the Township under the preliminary review shall be included under the final plans.
- e. All required permits, whether County, State or Federal shall be secured by the applicant prior to the start of any construction. No tie-in to any Township water main will be allowed or approved until all permits are secured.
- f. The review period for final plans and specifications shall be as required by the extent of the commercial or industrial unit proposed. In general, this period will not extend past sixty (60) days from the date of acceptance unless extenuating circumstances require an extension of time. Such circumstances shall be communicated to the applicant.
- g. The review shall include a check of the plans and specifications, by the Township Water and Sewer Engineer as to conformance to the rules and regulations of the Township, minimum State standards and accepted engineering design practices.
- h. Upon completion of review, the Township Engineer shall make his recommendations to the Township as to final approval.
- i. Notification of final acceptance of plans and specifications shall constitute authorization to commence construction, assuming all permits and approvals are received prior to the anticipated date for the start of construction.
- j. The applicant will not be required to pay performance, cash and maintenance guarantees for any onsite facilities which will not be owned or maintained by the Township, however, an inspection

fee will be required of the owner, in accordance with the Fee Schedule adopted by the Township.

- k. Preliminary and final approval will be revoked and void if the applicant has not commenced construction within one year of the grant of final approval.

IV. DESIGN CRITERIA

IV. DESIGN CRITERIA

A. General

1. The design shall comply with the N.J.D.E.P. Safe Drinking Water Act Regulations, NJAC 7:10-11, Standards for Construction of Public Community Water Systems, and/or NJAC 5:21 Residential Site Improvement Standards except as otherwise indicated or modified herein.
2. Demand rates for the design of system shall be based on the rates for all uses connected to the system.
3. The system shall be capable of providing the greater of the required fire demand plus either the required maximum daily demand or the peak hour flows.
4. Maximum daily demand is determined by multiplying the average daily demand by a factor of 1.5. For residential projects the average daily demand shall be based on Table 5.1 of the RSIS.
5. Peak hour flows for residential projects shall be based on Table 5.2 of the RSIS.
6. Peak daily flows shall be considered as three (3) times the average daily flows.
7. Fire protection flows shall be provided as per the ISO standard, *Fire Suppression Rating Schedule*, or AWWA M31 "Manual of Water Supply Practices – Distribution System Requirements for Fire Protection," ISO method, incorporated herein by reference.

B. Water Mains

1. Distribution mains shall be looped. The design of the loops shall include balancing according to the Hardy-Cross, or an equivalent, method.
2. Dead end lines shall be permitted as part of a looped system where there are no more than 20 dwelling units, or the equivalent, permanently connecting to the line. Up to 50 dwelling units, or the equivalent, may be connected to a temporary dead end line.
3. Water mains shall generally be located on the north and west sides of the street. Where practicable, the main alignment shall parallel the curb line at a distance of 3 to 5 feet from the street side of the curb line.
4. Water mains shall be sized to maintain a minimum pressure of twenty pounds per square inch (20 psi) at street level and at all points in the distribution system under all required flow conditions. Fire flow demand

rate shall be determined in accordance with the Fire Suppression Rating Schedule, published by the Insurance Services Office (ISO). Large commercial and industrial units shall be considered on an individual basis dependent on the occupancy hazard in accordance with NFPA. Mains shall be a minimum of eight (8) inches in diameter.

5. Water mains shall not be located on private property, unless the main(s) is (are) privately operated, or an easement is provided. Unrestricted easements to the Township for water mains shall be a minimum of 20 feet wide, unless the depth of the pipe, soil conditions or additional utilities require wider easements. If the easement is located adjacent to a municipal right of way, a narrower easement may be acceptable. Mains shall be positioned in the easement such that the Township can safely maintain the water main without encroaching on private property.

C. Gate Valves

1. Valves, except on a permitted dead end, shall be located on distribution mains so that no more than one hydrant would be out of service as a result of a single water main break. They shall be located in all smaller branches off larger mains and where eight in or larger main lines intersect, a valve shall be located in each branch. At street intersections, valves shall be located near pipe intersections for ease in finding in the event of a water main break.
2. In addition to the above requirements, water mains shall be valved so that not more than one-fifth of a mile would be affected by a single water main break. Valves 16 inches and larger shall be provided with a geared operator.

D. Hydrants

1. Hydrants shall be spaced to provide adequate fire flow. The distance between any residential dwelling and a hydrant shall not exceed 400 ft. Each hydrant shall be supplied by a six-inch diameter pipe with a six-inch gate valve. Each hydrant shall have one 4-1/2 inch pumper nozzle and two 2-1/2 inch hose nozzles. Hydrant valve opening shall be 5-1/4". Hydrants shall be provided with concrete thrust block at 90 elbow to hydrant and with concrete collar around riser pipe at grade. Feed line to hydrant shall be ductile iron pipe as specified elsewhere herein.

E. House Service Connections

1. A house service connection shall be defined as the pipe and appurtenances between the Township's street main and the curb stop. A house service connection shall be comprised of a corporation stop at the main and a curb stop and curb box located two feet behind the curb, all in accordance with standard details.

2. House service connection pipe shall be a minimum of 1 inch diameter type K copper, not less than 4 feet deep.

F. Meters

1. All connections shall have a water meter placed inside a meter pit located immediately adjacent to the Township ROW, just behind the Township owned curb stop. Meter Pits shall be in accordance with standard details contained herein.
2. Meter sizes 2" and larger are to be supplied and installed by the applicant. A "meter setup fee" will apply and is necessary for setup of meter and billing account. Meters less than 2" in size, will be supplied and installed by the Township upon receipt of the appropriate meter fee.

G. Storage

Storage capacity shall be based on the total of the following:

1. Average daily demand, or percentage thereof.
2. Fire storage, based on required fire flow and duration in accordance with the Fire Suppression Rating Guide.
3. Equalization storage, based on water system operation design.

H. Miscellaneous

1. The sizes, type, location and construction details of pumping stations, storage facilities, wells, treatment plants and other special water system facilities shall be designated by the Township individually as the case may arise.

V. MATERIALS AND INSTALLATION

V. MATERIALS AND INSTALLATION

A. MATERIALS

1. Pipe, Pipe Fittings and Joints

All water mains shall be either cement lined ductile iron pipe (DIP) or polyvinyl chloride pipe (PVC) pressure pipe.

All DIP shall conform to the requirements of AWWA C151 "Ductile-Iron Pipe, Centrifugally Cast for Water ", and shall be designed in accordance with AWWA C151, "Thickness Design of Ductile-Iron Pipe".

All fittings shall conform to the requirements of AWWA "C110 Ductile-Iron and gray-iron fittings, 3 in. through 48 in., for water and other liquids".

All ductile iron pipe and fittings shall be cement lined conforming to the requirements of AWWA C104, "Cement-mortar lining for ductile-iron and gray-iron pipe and fittings for water".

All ductile iron pipe and fitting joints shall be either mechanical joint or push on type joint, conforming to the requirements of AWWA C111, "Rubber-gasket joints for ductile-iron and gray-iron pressure pipe and fittings".

When required by the Engineer, ductile iron pipe and fittings shall be encased in polyethylene, conforming to AWWA C105, "Polyethylene encasement for ductile-iron piping for water and other liquids".

All PVC pressure pipe shall conform to the requirements of AWWA C900, "Polyvinyl Chloride (PVC) Pressure pipe, 4 in. through 12 in., for water". Minimum pressure class for PVC pipe shall be Class 150, DR 18.

All pipe shall be installed with an 8-guage polyethylene coated tracer wire placed directly under the pipe. Wires shall be extended up through valve boxes with a minimum of 18" additional wired for access by the water dept. personnel.

2. Gate Valves

Gate valves shall be resilient seated wedge type, conform to the requirements of AWWA C500, "Gate valves, 3 through 48 in., for water and sewage systems". Valve boxes shall be of the adjustable type. Valve boxes and covers shall be cast iron. Covers shall bear the word "WATER".

3. Hydrants

Hydrants shall conform to the requirements of AWWA C502, "Dry Barrel Hydrants". Public (Barnegat Township) hydrants shall have a valve opening size of 5-1/4" and shall be Mueller "Centurion", model A-423. Hydrants shall have breakaway flange and stem coupling.

To allow for differentiation of privately and publicly owned hydrants, privately-owned hydrants shall be Kennedy Valve "Guardian", model K81D.

4. House Service Connections

Materials for connections including Type K copper, saddle or corporation stop, curb stop and curb box shall be as shown in the standard details.

5. Meters

The Township approved water meter shall be a magnetic drive, encoder register, positive displacement type cold water meter. Portions of the meter which comes in contact with the flow of water shall be a composite material in full compliance with AWWA C710, C707, NSF 61 Annex G. Water meter shall read in gallons. Meter and register shall be compatible with open architecture radio read equipment

Meters shall be installed within a meter pit which furnished by the applicant. Refer to the standard details of construction contained herein.

6. Miscellaneous

Specifications for materials for other miscellaneous water system facilities shall be established by the Township Engineer as required. All AWWA and ASTM references shall be the latest revision thereof.

B. INSTALLATION OF WATER MAINS

All ductile iron pipes shall be installed and tested for leakage in accordance with AWWA C600, "Installation of Ductile-Iron Water Mains and Appurtenances".

All PVC pipe shall be installed and tested for leakage in accordance with AWWA C605 , "Underground Installation of Polyvinyl Chlorine (PVC) Pressure Pipe and Fittings for Water" and applicable manufacturer's instructions.

All installation and leakage testing of pipe (150% of working pressure for a 2 hr. duration) shall be performed under the direct supervision of the Township Engineer or his representative.

C. DISINFECTION OF WATER SYSTEM FACILITIES

All water system facilities which are constructed or modified shall be disinfected in accordance with AWWA C651, "Disinfecting water mains". Hydrants shall be flushed prior to bacteriological testing. Copies of satisfactory bacteriological tests shall be filed with the Township.

D. USE OF THE WATER SYSTEM

1. Use of the water system by the Township:

During construction and before final acceptance, the Township shall have the right to use any portion completed without waiving its right to order correction of any defects.

2. Illegal Use of System

Use of the active portion of the water system for construction, flushing of sewers, and the like is strictly prohibited without the expressed permission of the Township. A hydrant meter/permit must be obtained from the Township Water Department prior to use of any water from any hydrant except for purposes of fighting a fire.

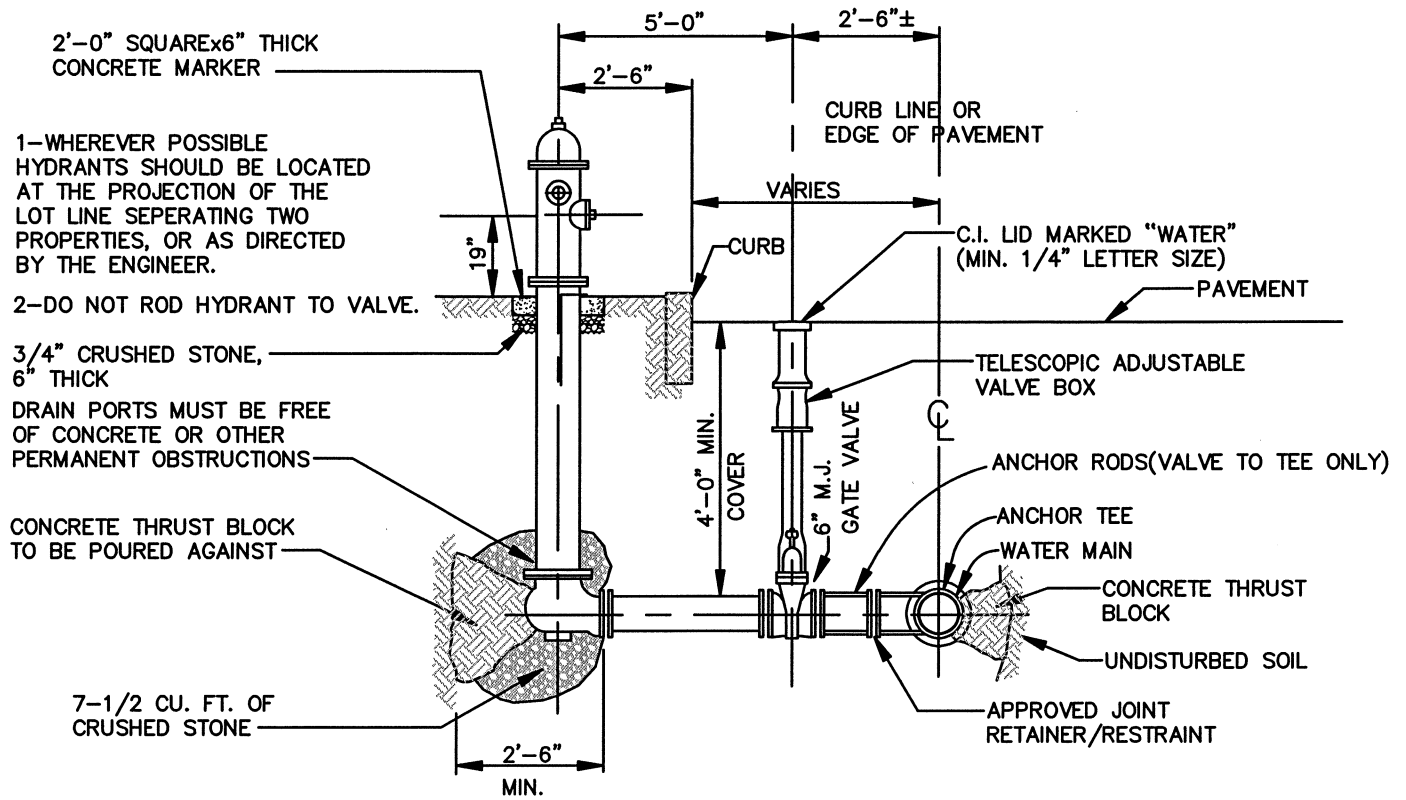
E. COMPLIANCE WITH RULES AND REGULATIONS

These Rules and Regulations are minimum requirements, and are not intended to replace detail specifications, which are the responsibility of the applicant. They are intended to apply to the usual and not to the exceptional conditions. They are subject to amendment and the Township of Barnegat reserves the right to specify more or less stringent requirements in any case as in its judgment may be in the interest of attaining a functional water facility.

The applicant shall comply with all of the Rules and Regulations as set forth herein. Failure to do so will result in a work stoppage directive by the Township.

Any variations to these Rules and Regulations must be provided in the form of a waiver by the Township in writing.

VI. WATER SYSTEM DETAILS

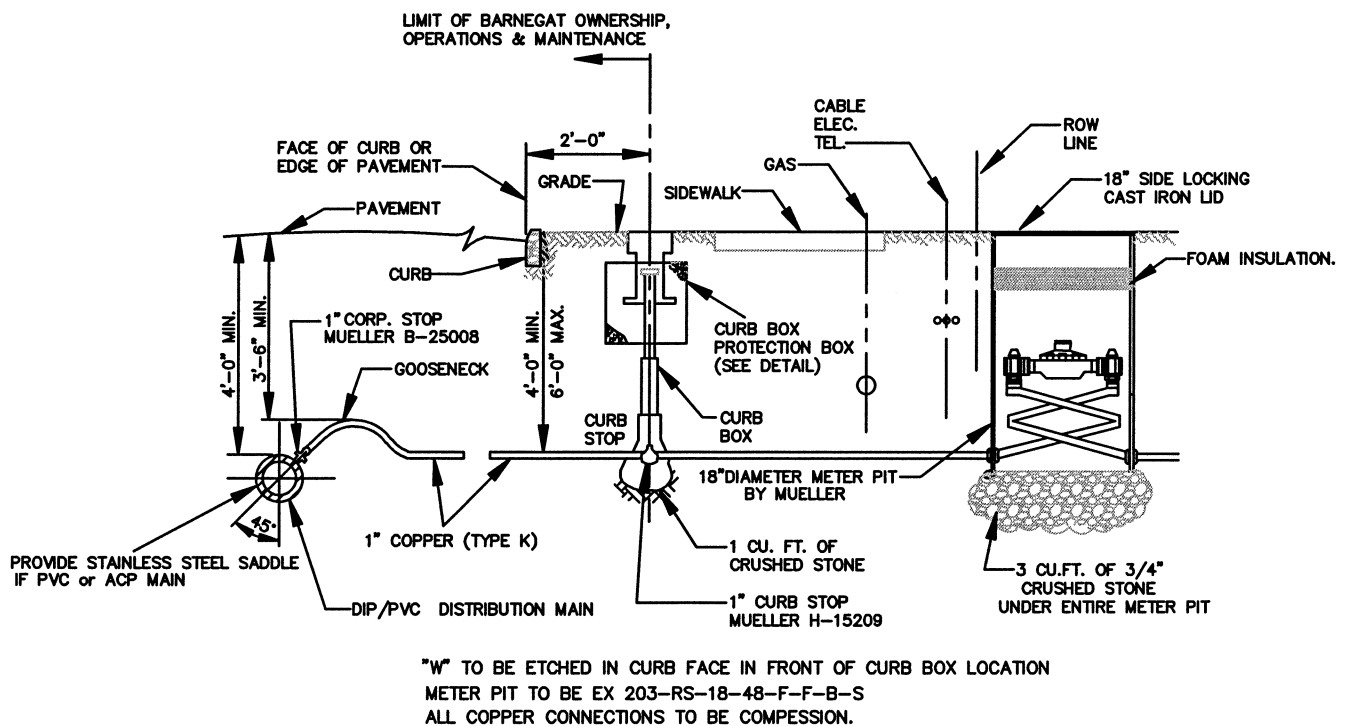


FIRE HYDRANT ASSEMBLY

NOT TO SCALE

PLATE VI-1

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

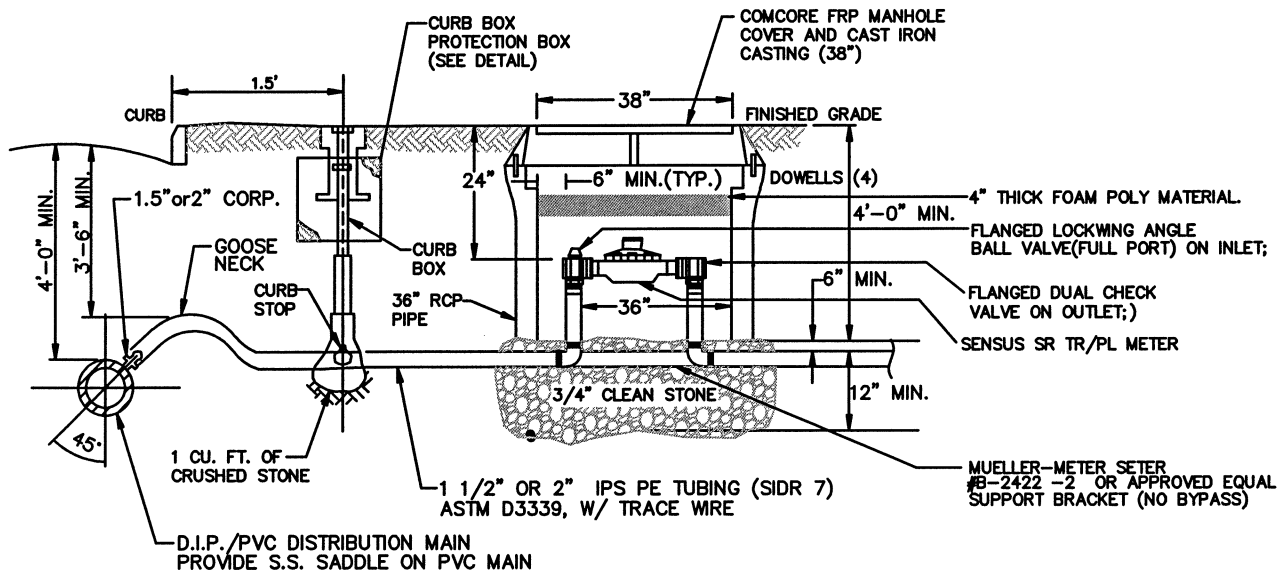


HOUSE SERVICE CONNECTION

NOT TO SCALE

PLATE VI-2

WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY



NOTE: METER PIT TO BE LOCATED
CLOSE TO R.O.W. LINE

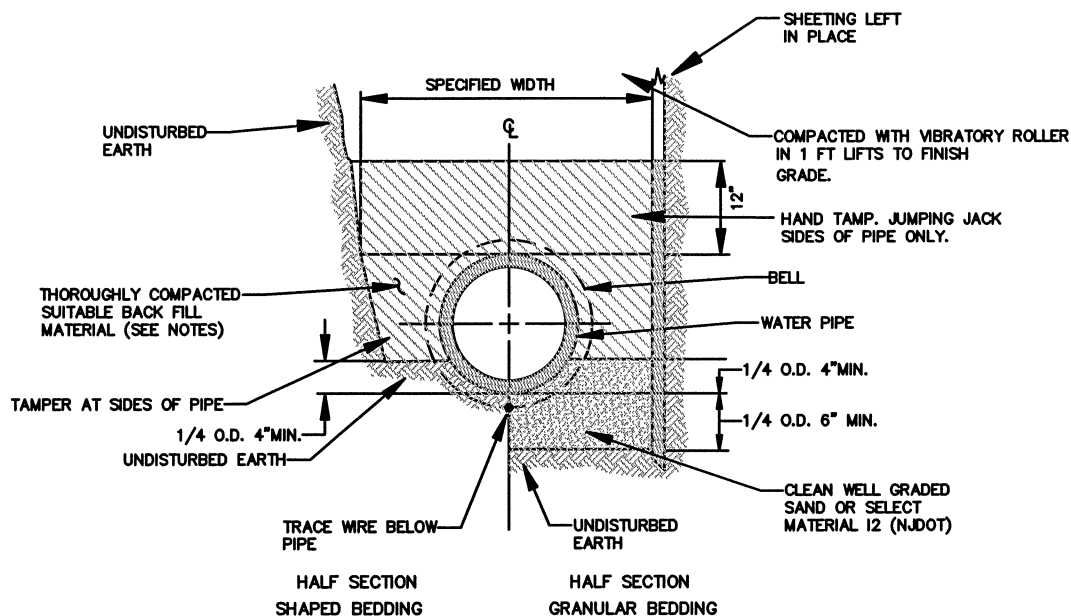
1 1/2" - 2" METER PIT DETAIL
NOT TO SCALE

PLATE VI-3

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



ORDINARY BEDDING

BEDDING DETAIL(WATER MAIN)

NOT TO SCALE

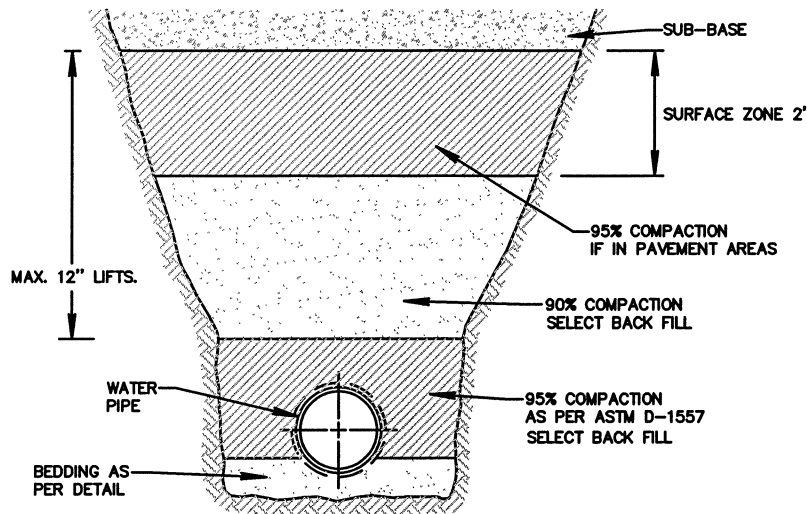
COLUMNS 1	TABLE OF TRENCH WIDTHS			
	2 SPEC. WIDTH	3 STONE OR GRAVEL BEDDING		5 CONC. CRADLE
		TO 1/4 POINT	TO 1/2 POINT	
PIPE DIA.				
6"-8"	3'-0"	3'-0"	3'-0" TO 4'-0"	OVER 4'-0"
10"-12"	3'-0"	3'-6"	3'-6" TO 5'-0"	OVER 5'-0"
16"-24"	3'-6"	4'-0"	4'-0" TO 5'-6"	OVER 5'-6"

NOTES

1. ALL TRENCHES & EXCAVATIONS TO BE GIVEN THE STEEPEST SIDE SLOPE PRACTICAL.
2. IF THE WIDTH OF THE TRENCH AT OR BELOW THE OUTSIDE TOP OF THE PIPE EXCEEDS THE WIDTH IN COLUMN 2, THE SPACE BETWEEN THE PIPE AND THE SIDE OF THE TRENCH OR SHEETING SHALL BE BACK FILLED WITH CLEAN WELL GRADED SAND OR SELECT MATERIAL 1 2 BEDDING TO THE 1/4 POINT OF THE PIPE. IF THE TRENCH WIDTH EXCEEDS THE WIDTH IN COLUMN 3, THE CLEAN WELL GRADED SAND OR SELECT MATERIAL 1 2 SHALL BE BROUGHT UP TO THE 1/2 POINT OF THE PIPE. IF THE TRENCH WITH EXCEEDS THE WIDTH IN COLUMN 4, THE CONTRACTOR SHALL PROVIDE A CLASS "B" CONCRETE CRADLE INSTEAD OF CLEAN WELL GRADED SAND OR SELECT MATERIAL 1 2 BEDDING TO THE 1/2 POINT OF THE PIPE, 20" DIA. OR SMALLER.
3. COMPACTED BACK FILL SHALL BE AS A MINIMUM 90% OF MAXIMUM DRY DENSITY OF SOIL AS DETERMINED BY A.S.T.M. D-1557 (MODIFIED PROCTOR DENSITY)
4. COMPACTION OF THE TOP 2 FEET OF THE TRENCH (SURFACE ZONE) UNDER AREAS TO BE PAVED SHALL ACHIEVE AS A MINIMUM 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY A.S.T.M. D-1557.
5. AIR RELEASE ASSEMBLY TO BE INSTALLED AT ALL PIPELINE HIGH POINTS.
6. SUITABLE BACK FILL MATERIAL SHALL BE SELECT MATERIAL 1-2 (NJDOT) WHEN ONSITE SUITABLE MATERIAL IS NOT AVAILABLE.
7. LIMITS OF TRENCH TO BE CUT TO A NEAT EDGE AND SEALED WITH EMULSIFIED ASPHALT
8. ON AREAS SEALED WITH EMULSIFIED ASPHALT, DRY SAND SHALL BE SPRINKLED TO PREVENT PICK UP BY TRAFFIC.

PLATE VI-5

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



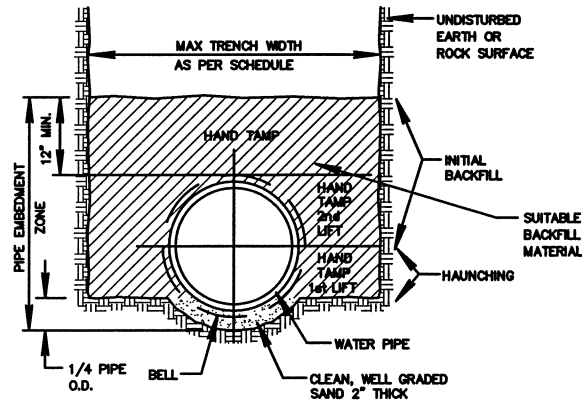
TRENCH BACK FILL REQUIREMENTS

GENERAL NOTES

NOT TO SCALE

- SUITABLE BACK FILL MATERIAL SHALL BE SELECT MATERIAL 1-2 (N.J.D.O.T.) WHEN ON SITE SUITABLE MATERIAL IS NOT AVAILABLE.
- CHOKED CRUSHED STONE MAY BE SUBSTITUTED FOR SELECT MATERIAL NO. 6 (1-2) (N.J.D.O.T.) AS APPROVED BY THE ENGINEER. CHOKED CRUSHED STONE SHALL BE CRUSHED STONE (COARSE AGGREGATE NO. 57 AS PER N.J.D.O.T. SPECIFICATIONS) CHOKED WITH SAND WHICH WILL PASS A NO. 10 SIEVE AND BE RETAINED ON A NO. 200 SIEVE.
- ALL TRENCHES AND EXCAVATION TO BE GIVEN THE STEEPEST SLOPE PRACTICABLE.
- COMPACTED BACK FILL SHALL BE AS A MINIMUM 90% OF MAXIMUM DRY DENSITY OF SOIL AS DETERMINED BY ASTM D-1557.
- COMPACTION OF TOP 2 FEET OF (SURFACE ZONE) UNDER AREAS TO BE PAVED SHALL ACHIEVE AS A MINIMUM 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
- LIMITS OF TRENCH TO BE CUT TO A NEAT EDGE AND SEALED WITH EMULSIFIED ASPHALT.

ALL TRENCHES AND EXCAVATIONS SHALL FOLLOW OSHA REGULATIONS (54FR45894) TO PROVIDE FOR THE PROTECTION OF PERSONNEL IN OR NEAR AN EXCAVATION.

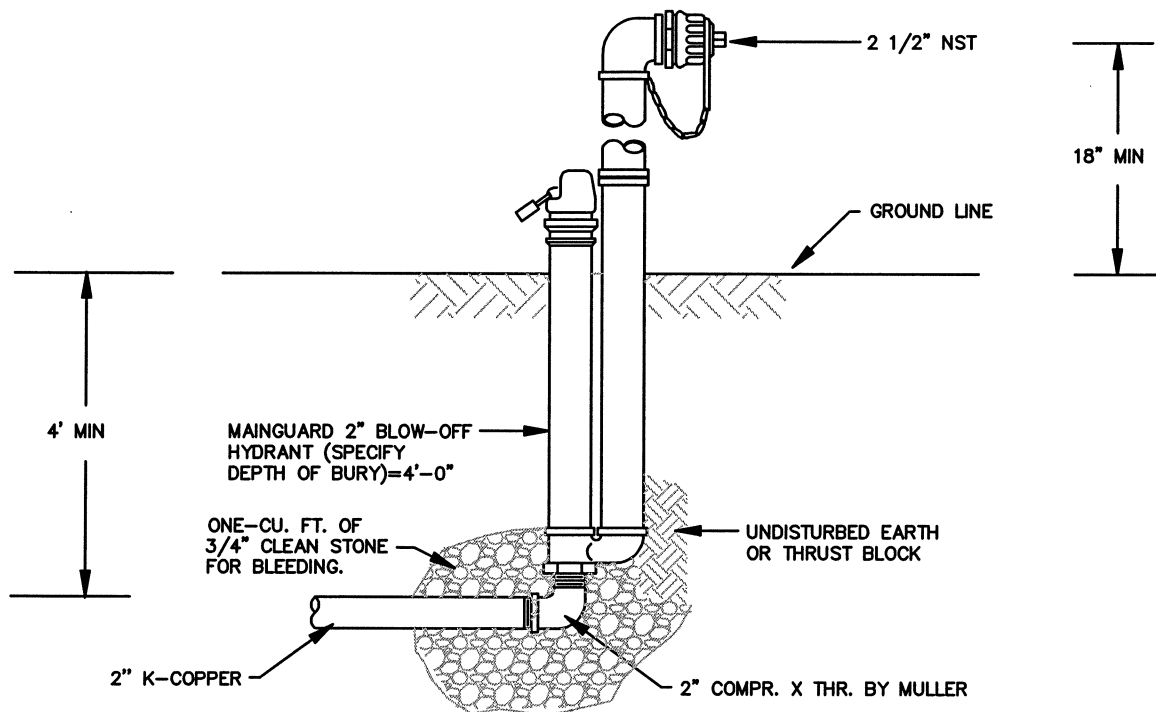


**SHAPED BEDDING
CLASS "B"
FIRST CLASS BEDDING**

NOT TO SCALE

PLATE VI-6

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



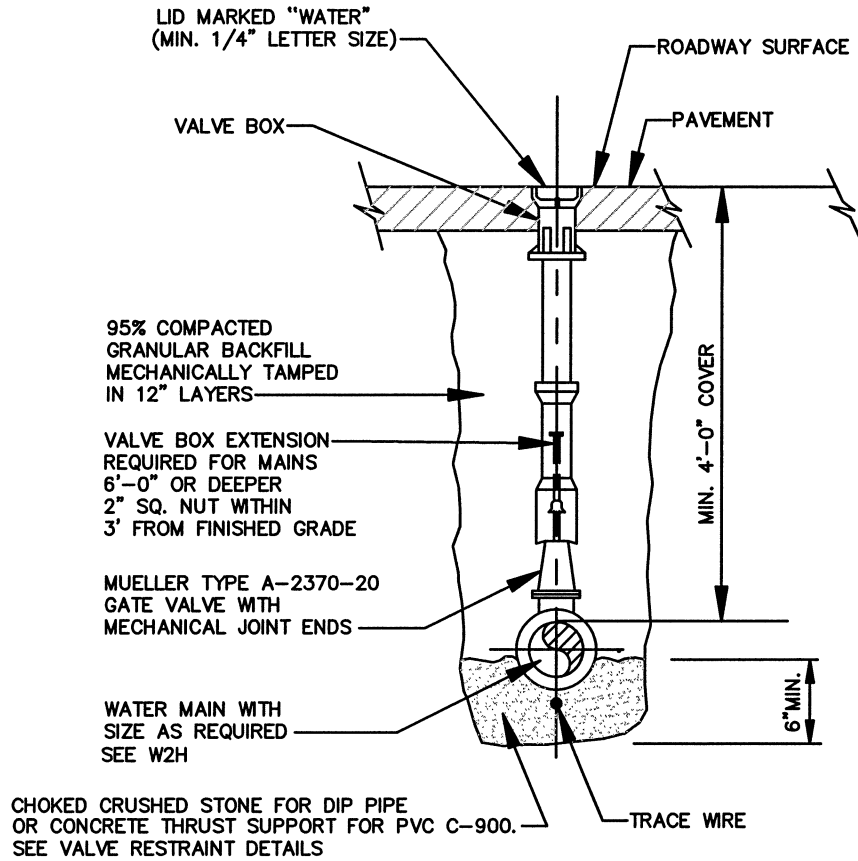
TO BE USED WITH ENDCAP ON MAIN WHERE MAINS ARE TO BE EXTENDED FOR FUTURE USE.

TEMPORARY BLOW OFF HYDRANT

NOT TO SCALE

PLATE VI-7

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



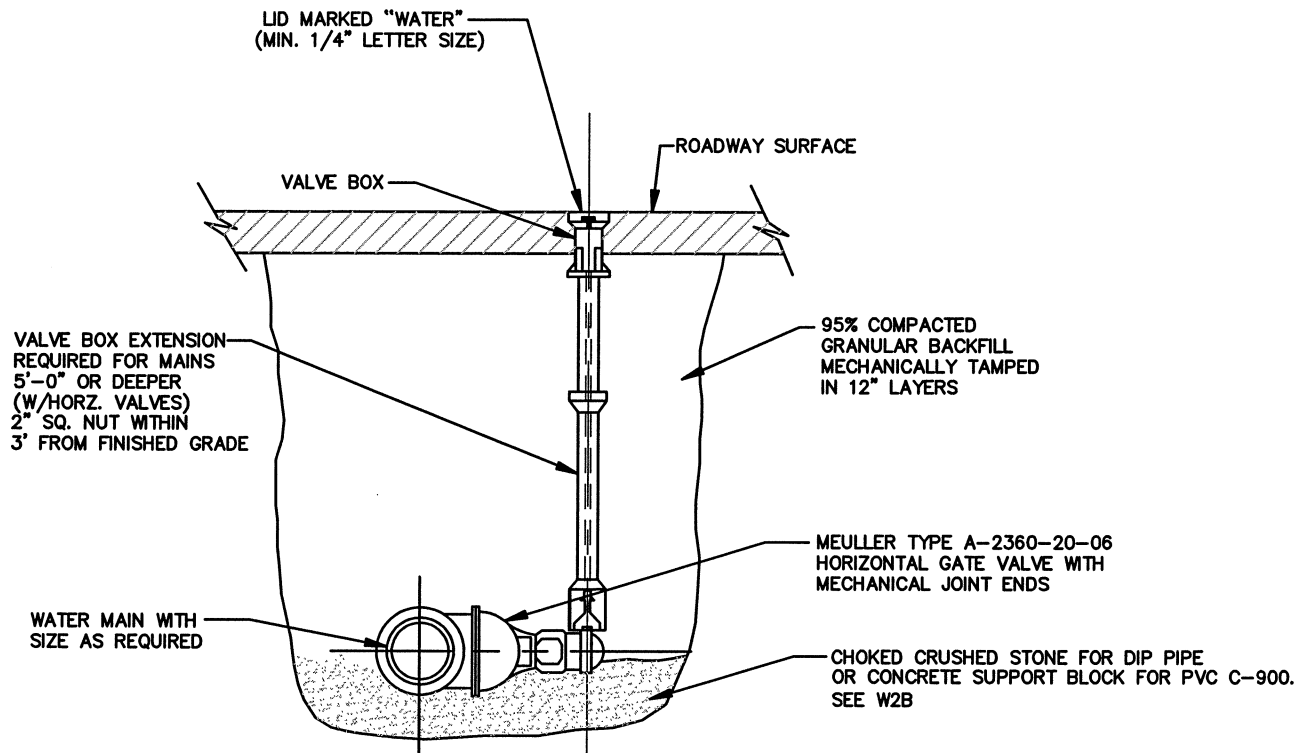
VALVES 12" DIA. AND UNDER

UNDERGROUND GATE VALVE DETAILS

NOT TO SCALE

PLATE VI-8A

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



VALVES 14" DIA. AND LARGER

UNDERGROUND GATE VALVE DETAILS

W2C

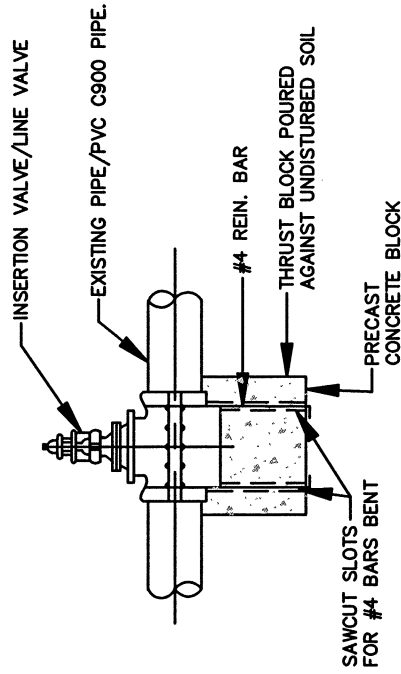
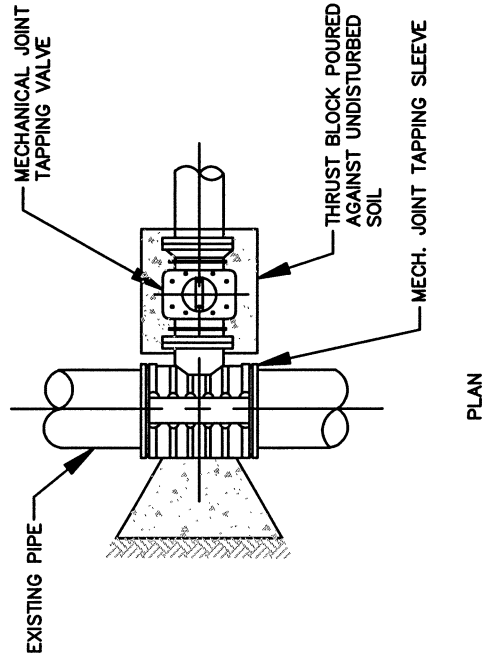
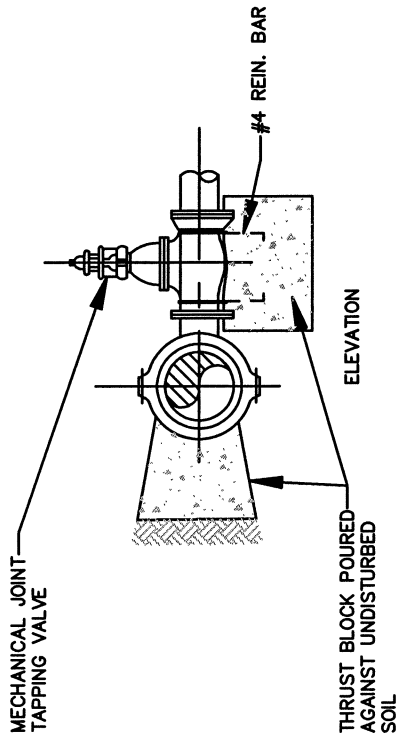
N.T.S.

PLATE VI-8B

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

TAPPING NOTES:

1. INSTALLATION OF TAPPING SLEEVE AND VALVE AND INSERTION VALVE SHALL BE CONDUCTED UNDER "WET" CONDITIONS. EXISTING MAINS SHALL BE LEFT IN SERVICE AT ALL TIMES DURING TAPPING FOR INSERTION.
2. CONCRETE THRUST BLOCK UNDER VALVES SHALL HAVE A SOIL BEARING AREA EQUAL TO THAT OF A 45° ELBOW.
3. TAP SLEEVE MUST BE PRETESTED PRIOR TO TAPPING
 - A. 150 PSI—WATER (2 HOURS)
 - (OR) B. 150 PSI —AIR (15 MIN)



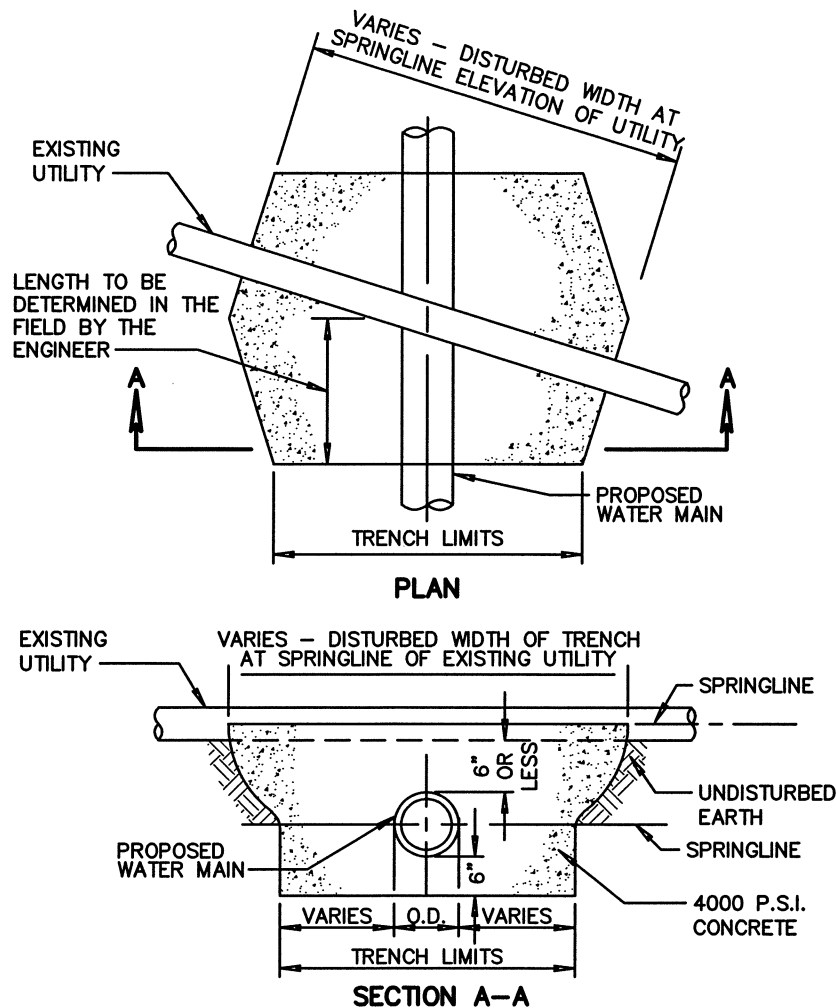
**CONCRETE THRUST SUPPORT
INSTALLED W/PVC C900 PIPE.**

NOT TO SCALE

TAPPING SLEEVE AND VALVE

PLATE VI-9

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



NOTES:

1. AT CROSSINGS OF SEWER LINES AND WATER MAINS, THE TOP OF THE SEWER LINES SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN (SEWER SERVICE LATERALS ARE NOT SUBJECT TO THIS REQUIREMENT). IF SUCH VERTICAL SEPARATION IS NOT POSSIBLE, THE SEWER LINE SHALL BE OF WATERTIGHT CONSTRUCTION, THAT EXTEND A MINIMUM OF 10 FEET FROM THE WATER MAIN ON EACH SIDE (7:10-11.10(C)5).
2. WHERE WATER MAINS CROSS UNDER OR OVER AN EXISTING STORM DRAIN OR OTHER UTILITY OTHER THAN SANITARY SEWER, AND WHERE THE MINIMUM DISTANCE BETWEEN THEM IS 6" OR LESS, THE ENGINEER MAY ELECT TO CONSTRUCT A CONCRETE CRADLE TO THE SPRINGLINE OF THE UPPER PIPE. THE WIDTH OF THE CRADLE SHALL BE EQUAL TO THE ACTUAL EXCAVATED WIDTH OF THE TRENCH (6" BELOW THE LOWER PIPE) AND VARIES TO THE DISTURBED TRENCH WIDTH AT THE SPRINGLINE OF THE UPPER PIPE. THE LENGTH VARIES AND IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

WATER MAIN CONCRETE CRADLE

NOT TO SCALE

PLATE VI-10

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

NUMBER AND SIZE OF RODS REQUIRED AND PIPE LENGTH IN FEET* TO BE RESTRAINED									
PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG			45°			22 1/2°		
	NO.	SIZE		NO.	SIZE		NO.	SIZE	
4	2	3/4"	30'	2	3/4"	10'	2	3/4"	5'
6	2	3/4"	40'	2	3/4"	10'	2	3/4"	5'
8	4 OR 2	3/4" OR 7/8"	50'	2	3/4"	15'	2	3/4"	5'
10	4 OR 2	3/4" OR 1"	60'	2	3/4"	20'	2	3/4"	5'
12	4	7/8"	70'	2	3/4"	20'	2	3/4"	5'
14	4	1"	80'	2	3/4"	25'	2	3/4"	5'
16	4	1"	80'	2	3/4"	25'	2	3/4"	5'




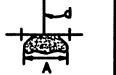
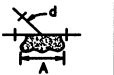

NOTE:

1. USE OF MECHANICAL JOINT RETAINER GLANDS SHALL PROVIDE A THRUST RESTRAINT SYSTEM EQUIVALENT TO THAT LISTED ON THE TABLE FOR CLAMPS AND RODS.
2. LENGTHS ARE BASED ON THE FOLLOWING CRITERIA: 150 P.S.I. MAXIMUM PRESSURE AND 3'-8" OF COVER. TABLE IS FOR USE WITH C.I./D.I.P./P.V.C.(C-900). ONLY. IF TEST CONDITIONS ARE MORE SEVERE OR LARGER PIPES ARE PROPOSED, THEN SPECIAL COMPUTATIONS MUST BE MADE BY THE DESIGNER.

* LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND.

JOINT RESTRAINT SCHEDULE
FOR D.I.P.-C.I.P-PVC (C-900) ONLY

A = CONTACT BEARING AREA OF BLOCK WITH EARTH, SQUARE FEET

DIAMETER (d) OF PIPE	5°-22 1/2° ELBOW	23°-45° ELBOW	46°-90° ELBOW	TEE CONNECTION	45° WYE	PLUG
						
	A	A	A	A	A	A
4"	0.5	1.4	2.6	1.8	2.2	2.0
6"	1.5	3.0	6.0	4.0	4.5	4.5
8"	2.5	5.0	9.5	6.5	9.5	8.0
10"	4.1	8.0	13.0	9.5	12.5	12.5
12"	5.5	11.5	19.0	13.2	16.0	18.0
16"	9.0	18.0	33.0	23.0	27.0	32.0
20"	14.0	28.0	51.0	36.0	42.0	50.5

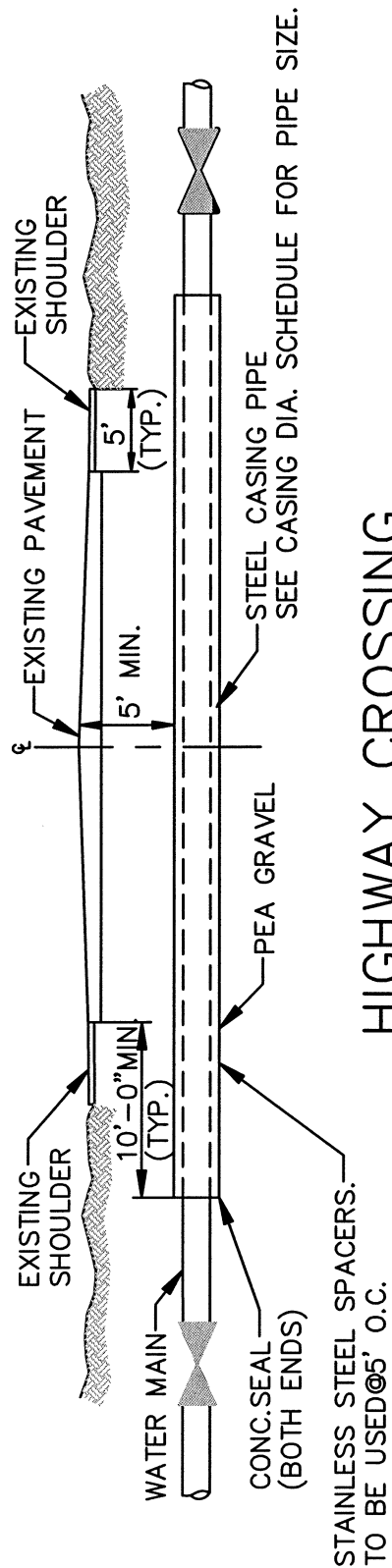
NOTES

1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 1,000 POUNDS PER SQUARE FOOT FOR A LESSER SOIL BEARING CAPACITY THESE AREAS SHALL BE INCREASED ACCORDINGLY.
2. ALL CONCRETE THRUST BLOCKS SHALL BE CLASS "B"
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. NO JOINT SHALL BE COVERED WITH CONCRETE.
5. APPROVED MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL VERTICAL BENDS AND MAY BE USED IN LIEU OF THRUST BLOCKS AT HORIZONTAL BENDS AT THE OPTION OF THE ENGINEER..
6. ALL BOLTS, NUTS, WASHERS, RODS, THRUST RESTRAINT BOLTS AND CLAMPS,ETC TO BE #304 STAINLESS STEEL
7. 6 MIL. POLY SHEETING SHALL BE PLACED BETWEEN FITTINGS AND CONCRETE THRUST BLOCKS.

TABLE OF THRUST BLOCKS

PLATE VI-11

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

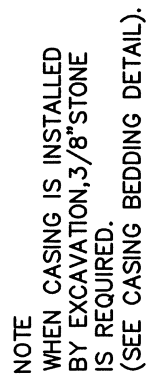


HIGHWAY CROSSING

NOT TO SCALE

PLATE VI-12

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**



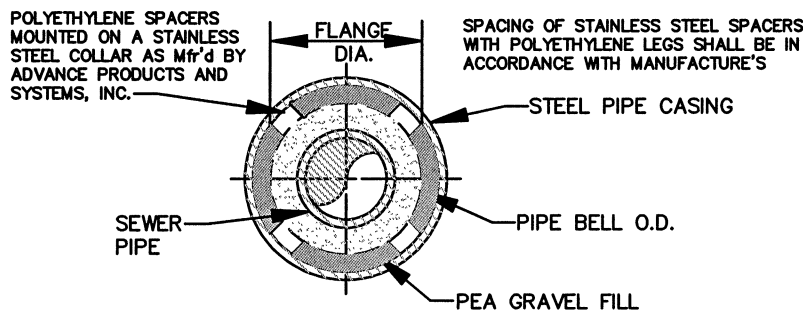
NOT TO SCALE

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

PIPE CARRIER	STEEL PIPE CASING		
	NOMINAL DIA.	STEEL WALL THICKNESS	
6"	18"	3/8"	0.375
8"	21"	3/8"	0.375
10"	24"	3/8"	0.375
12"	26"	13/32"	0.406
16"	30"	1/2"	0.500
20"	36"	1/2"	0.500

NOTES:

1. ALL PIPING THROUGH CASING SHALL BE MECHANICAL JOINT OR B.J., LOCKING P.V.C. PIPE.
2. PROCESS OF MANUFACTURE—COLD FORMED AND WELLED.
3. SPECIFICATION —ASTM—53.
4. GRADE OR CLASS—35,000 PSI MIN.
5. TYPE OF JOINT—BUTT—WELD
6. TYPE OF COATING (EXT.)—BITUMINOUS (2 COATS)
7. SHUT OFF VALVES SHOULD BE PLACED AT BOTH ENDS OF CASED PIPE ESPECIALLY UNDER STREAM CROSSING.



NOTE

1. STEEL PIPE SHALL CONFORM TO ASTM STANDARD A-53, A-155 WITH EXCEPTION TO HYDROSTATIC TEST REQUIREMENTS. THE OUTSIDE OF THE PIPE SHALL BE COATED WITH A UNIFORM THICKNESS OF HOT APPLIED COAL TAR COATING IN ACCORDANCE WITH THE SPECIFICATION OF AWWA-C 210-78.
2. THE VOID BETWEEN THE PIPE AND STEEL CASING SHALL BE BLOWN IN WITH PEA GRAVEL UNLESS OTHERWISE REQUIRED BY THE JURISDICTIONAL AUTHORITY.
3. EACH END OF THE CASING SHALL BE SEALED WITH A WATERTIGHT MASONRY BULKHEAD.
4. A CERTIFIED WELDER MUST BE USED FOR ALL WELDED JOINTS. CERTIFICATION TO THE STAFF ENGINEER PRIOR TO WELDING TO BE DONE.

DETAIL OF JACKED/BORED STEEL CASING PIPE
NOT TO SCALE

PLATE VI-14

**WATER SUPPLY SYSTEM
STANDARD CONSTRUCTION DETAILS
BARNEGAT TOWNSHIP
OCEAN COUNTY NEW JERSEY**

VII. APPLICATION AND PERMIT FORMS

DEED OF EASEMENT AND RIGHT OF WAY

THIS INDENTURE made this _____ day of _____ 20____ by and between:

and

TOWNSHIP OF BARNEGAT, a body public, corporate and politic, of the County of Ocean, State of New Jersey, hereinafter referred to as "GRANTEE".

W I T N E S E T H

The Grantor, in consideration of the sum of ONE DOLLAR (\$1.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, does hereby give, grant and convey unto the Grantee, its successors and assigns forever, an easement and a free uninterrupted and unobstructed right of way, under, across and over the property of the grantor, situated in the Township of Barnegat, County of Ocean, and State of New Jersey, which easement is more particularly described on Schedule A, which is attached hereto and made a part hereof, as though set forth at length.

For the purpose of installing, laying, operating, maintaining, inspecting, removing, repairing, replacing, relaying and adding to from time to time, pipe or pipes with necessary fittings, appurtenances and attached facilities, included services and connections for water mains.

Together with the right to the grantee, its successors and assigns, to enter in and upon the premises described above with men and machines, vehicles and materials, at any and all times, for the purpose of maintaining, repairing, renewing or adding to the aforesaid water mains and appurtenances, and for doing anything necessary, useful or convenient, for the enjoyment of the easement herein granted.

To have and to hold the above granted easement and right of way unto the said grantee, its successors and assigns forever.

The grantee agrees by the acceptance of the Deed of Easement and Right-of-Way that upon any opening made in connection with any of the purposes of this easement and right-of-way, said opening shall be backfilled and resurfaced to as nearly as possible the same conditions as existed when said opening was made, all such work to be done at the expense of the grantee.

It is understood and agreed that the grantor is not to convey title to the grantee to that portion of the premises described in Schedule A, but an easement.

And the said Grantor and Grantee do further covenant and agree as follows:

1. That the Grantor is seized of the easement and right of way herein granted, and has good right to convey title to the same and does warrant and agree to defend the Grantee at his own cost and expense any and all claims relative to said title.
2. That the Grantee shall quietly enjoy the easement and right-of-way granted herein.
3. All shrubs, trees, driveways and other appurtenances disturbed by Grantee shall be restored to their original condition as reasonably possible. This provision shall survive the closing of title.
4. The Grantor hereby transfers any title that the Grantor may have to the underground water system, which he constructed in the aforesaid easement to the Township of Barnegat.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal the day and year first above written.

_____ By _____

STATE OF NEW JERSEY)

: S.S.:

COUNTY OF OCEAN

BE IT REMEMBERED, that on this _____ day of _____, 20____ before me, the subscriber, an attorney-at-law, personally appeared, who, being by me duly sworn on oath, deposes and makes proof to my satisfaction, that _____ is the secretary of the corporation named in the within Instrument, that _____ is the president of said corporation; that the execution, as well as the making of this instrument, has been duly authorized by a proper resolution of the Board of Directors of said corporation; that deponent well knows the corporate seal of said corporation; and that the seal affixed to said instrument is the proper corporate seal and was thereto affixed and said instrument signed and delivered by said president as and for the voluntary act and deed of said corporation in presence of deponent, who thereupon subscribed her name thereto as attesting witness.

Sworn to and subscribed before me the date aforesaid _____
_____.

Review Application No. _____

TOWNSHIP OF BARNEGAT

Application for Review of
Preliminary Plans
For
Water System Facilities

This Application must be filed, in duplicate, with the Township Clerk and shall be accompanied by an application fee determined in accordance with the Fee Schedule.

Application is hereby made for review and approval of preliminary plans for the construction of water system facilities.

1. Applicant's Name: _____

Address: _____ Phone: _____

2. Name and Address of Present Owner if Other than above: _____

3. Location of Proposed Construction:

Street: _____ Tax Map No.(s) _____

4. Number of Proposed Connections to be Served: _____

Estimated Average Daily Usage or Flow per Connection (in Gallons per Day): _____

5. Name and Profession of Person Designing Plans: _____

Name: _____ Profession: _____

Address: _____ Phone _____

6. Describe your proposal for water supply: _____

7. List Plans and Other Supporting Data Accompanying this application: _____

Signature of Applicant

Date

MAKE ALL CHECKS PAYABLE TO: TOWNSHIP OF BARNEGAT

For Official Use Only

Date Received and Fee Collected by Township Clerk:

Date: _____ Fee: _____

Engineer's Review Remarks: _____

Review remarks: _____

Approved: _____ Disapproved: _____

Recommendations: _____

Date: _____

Township Clerk: _____

Review Application No. _____

TOWNSHIP OF BARNEGAT

Application for Review of Final Plans
For
Water System Facilities

This application must be filed, in duplicate, with the Township Clerk and shall be accompanied by application and inspection fees determined in accordance with the Fee Schedule.

Application is hereby made for review and approval of final plans for the construction of water system facilities.

1. Applicant's name: _____
Address: _____ Phone: _____
Name and address of present owner if other than above: _____

2. Location of Proposed Construction: _____
Street: _____
Tax Map Block No. _____
3. Number of Proposed Units to be Served; _____
4. Name and Profession of person designing plans:
Name: _____ Profession: _____
Address: _____ Phone: _____

5. Description of Use: _____
Commercial Units: _____

Industrial Units: _____

Residential Units: _____

6. Does applicant have title in order to convey by fee to the Township, easements to all areas showing water system facilities and all rights to the water system facilities: _____

7. Describe proposed source of water supply: _____

8. List plans and other supporting data accompanying this application:

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

- 9 Preliminary Application No. _____

Date Approved: _____

10. Does the final plan follow exactly the preliminary plans approved by the Township; _____

If not, indicate changes _____

11. Date of filing final plan with Township Planning Board: _____

12. Calendar days required to complete the entire project, after approval is granted: _____

Signature of Applicant

Date

MAKE ALL CHECKS PAYABLE TO: TOWNSHIP OF BARNEGAT

For official Use Only

Date received and fee collected by Township Clerk:

Date: _____

Application Fee: \$ _____

Date: _____

Inspection Fee \$ _____
(Cash, certified check)

Easements Received: _____

Latest revision date on drawings: _____

Engineer's Review Remarks: _____

REVIEW REMARKS: _____

Approved: _____ Disapproved: _____

Recommendations: _____

Township Clerk

Date

Application No. _____

TOWNSHIP OF BARNEGAT

Application for Certification of Completion
For
Water System Facilities

1. Applicant's name: _____
Address: _____ Phone _____
2. Name and address of present owner if other than above: _____

3. Final Application No.: _____
Date of approval: _____
4. Dates of construction:
Starting: _____ Finishing: _____
5. Have as-built plans for the construction been approved by the Township Engineers?
☐ YES ☐ NO
6. Have water facilities been tested by the Contractor and witnessed/approved by the Township Engineers?
☐ YES ☐ NO
7. Have connection fees and all other fees been paid by the Applicant?
☐ YES ☐ NO
8. Have the legal documents been drawn up and received by the Township, transferring interest in the water system facilities to the Township?
☐ YES ☐ NO

Signature of Applicant

Date

For Official Use Only

Date received: _____

Township Engineer's Remarks: _____

Date as-built plans received: _____

Date conveyance of facility received: _____

Action of the TOWNSHIP OF BARNEGAT

Remarks: _____

Date connection fees received: _____

Action of the TOWNSHIP OF BARNEGAT

Remarks: _____

Approved: _____ Disapproved: _____

Certificate of Completion granted: _____
(date)

Township Clerk: _____

BILL OF SALE

KNOW ALL MEN BY THESE PRESENTS:

THAT _____ for and in consideration of the TOWNSHIP OF BARNEGAT, Barnegat Township, New Jersey granting to _____ for the installation of water mains. The aforesaid _____ does hereby convey and transfer all of its right, title and interest in and to said water mains and all the appurtenances connected thereto for the operation of said water mains to the aforesaid Township of Barnegat.

THE said _____ does hereby warrant and represent that all equipment, materials, and labor have been paid for in full.

TO have and to hold the same unto the Township of Barnegat forever; and _____ covenants and chattels unto the Township of Barnegat against all and every person or persons, except as otherwise herein stated.

ALL the terms, covenants and conditions herein contained shall be for and shall insure to the benefit of and shall bind the respective parties hereto, and their legal representatives, successors and assigns. In all references herein to any parties, persons, entities or corporations the use of any particular gender or the plural or singular number is intended to include the appropriate gender or number as the text of the within instrument may require.

IN WITNESS WHEREOF, _____
 _____ has caused this instrument to be signed by
 its proper corporate officers and its corporate seal to be affixed, the day of _____
 _____, 20_____
 _____:

RESOLUTION OF SALE

BE IT RESOLVED that the transaction herein referred to, being herewith approved _____, president and _____, secretary of this corporation be and they are hereby direct, authorized and empowered to execute, acknowledge and deliver such documents, instruments and papers and perform such acts as may be legally, properly and reasonably required or necessary for the purpose of _____

I, _____ secretary of a corporation of _____ certify that the foregoing is a true copy of a Resolution as it appears in the records of the corporation and as was duly and legally adopted at a meeting of the Board of Directors of the corporation called for that purpose and held on _____ pursuant to and in accordance with the Certificate of Incorporation and By-laws thereof; that it has not been modified, amended or rescinded and is in full force and effect as of the date hereof.

Dated: _____

President

Attest: _____
Secretary

CONTRACTOR'S AFFIDAVIT

STATE OF NEW JERSEY)

:SS.

COUNTY OF OCEAN

_____ of full age, being duly sworn, according to law upon his oath dispossesses and says that:

1. I am an officer of _____
a corporation of the State of _____, said corporation being the owner of the property designated in _____ attached hereto and made a part hereof.
2. I do hereby state and represent that all subcontractors and materialmen who have supplied any labor and/or material on the aforementioned property have been or are being paid in full in accordance with an agreement entered into between the above-mentioned corporation and the supplier or contract, and that no stop notice, mechanics' notice of intention and/or mechanics' lien or any other lien has been filed against the aforesaid premises, which would adversely affect the easement granted to the Township of Barnegat.

Signature/Date

Sworn to and subscribed to _____ before me this day of _____
_____, 20____.

CORPORATE RESOLUTION

At a special meeting held by _____, held at its principal office located at

_____, on _____, 20_____

_____, a majority of Directors were present at said meeting. Upon motion duly made, seconded and carried by unanimous consent, it was RESOLVED, that the Corporation grant to the Township of Barnegat a _____

_____ easement on _____ for a total price of \$1.00, and it was further RESOLVED, that the proper corporate officers are hereby authorized and empowered to execute any and all documents necessary to consummate the above transaction.

By: _____

I hereby certify that the above is a true copy of the Resolution duly adopted at a special meeting held by _____ on _____.

Secretary

INDIVIDUAL WATER SERVICE INSTALLATION

Application No. _____

TO BE FILED IN DUPLICATE

TOWNSHIP OF BARNEGAT
WATER SYSTEM1. Premises to be connected _____
(Street address)_____
(Block)_____
(Lot)

2. Name and Address of Owner:

Name: _____

Address: _____

Phone: _____

It is understood and agreed that the applicant has elected to install a water service and that same will be installed at the sole expense of the applicant with no cost attaching to the Township. It is also agreed that the Township shall be the sole owner of the water service constructed. The applicant is responsible to obtain the necessary road opening permit for construction of said water service.

The applicant is to pay the required connection and inspection fees as stipulated in the FEE SCHEDULE.

CONNECTION FEE: \$ _____ (Before construction)

*INSPECTION FEE: \$ _____ (Before construction)

Signature of Applicant_____
Date***DO NOT WRITE BELOW THIS LINE***

Action of Township: _____

Date Application Received: _____

Amount of Fees Received: _____

Date Approved: _____

TOWNSHIP OF BARNEGAT

**PLEASE CONTACT BIRDSALL SERVICES GROUP, INC. (TOWNSHIP ENGINEER) BEFORE ANY CONNECTIONS ARE MADE - 698-1144 A 48 HOUR NOTICE MUST BE GIVEN PRIOR TO CONSTRUCTION OF ANY WATER SYSTEM CONNECTION OR EXTENSION.*

APPENDIX I

Installation and Setting Instructions For PD Water Meters

General Requirements

1. Important Considerations

- Service lines, valves, connections and meters must be watertight.
- Provide an upstream shut-off valve of high quality and with low pressure drop.
- **Install the meter horizontally in the line to obtain optimum performance.**
- Be sure the meter is easily accessible for service and inspection.
- Protect the meter and service against frost, flooding, mechanical damage and tampering.
- Be sure meter can easily be read at the unit or provided with a remote reading register.
- The service and meter installation should not be an obstacle or hazard to the customer or interfere with public safety.

2. Meters should be transported, installed, and protected with care.

3. Special fittings and accessories are available to provide easier meter installation.

- Copper meter setters, re-setters, horns and meter yokes are available for holding the service pipe in proper alignment to the meter and laying length spacing. For many installations, the metal setters and meter yokes can provide an electrical continuity to protect meters and consumers from dangerous electrical shock.

4. Meters may be installed indoors or outdoors. When meters are installed outdoors, they are usually located in a meter box. The box should have a two to three inch clearance around the meter to avoid damage or strain to the service piping, meter, or the meter box in case the box settles after installation.

- The service pipe entering and exiting the meter box should be properly bedded to insure that it is not axially misaligned and lies evenly on the bottom of the pipe trench. Care should be taken when placing the backfill material to cover the service pipe should be done carefully to ensure that pipe alignment is maintained and the service pipe will not be damaged by eventual ground shifts.

5. Indoor meter settings may be located in basements, crawl spaces, utility rooms, or in a garage.

- Before a meter is removed for service or replaced, indoor settings must be checked for

Instructions for Replacing an Existing PD Meter

1. Before proceeding, check the piping around the existing meter setting for suitable condition. If there is corrosion or damage repair the piping system.
2. Check to be sure that a suitable electrical grounding wire is properly attached to the upstream and downstream pipe connections of the meter. DO NOT remove the meter without an alternate ground path permanently in place.
3. Close the inlet side valve to the meter. Then depressurize the system by opening a faucet to relieve water pressure until water flow stops. Do not remove the meter if flow continues. Check valves and make necessary repairs to the curb (shut-off) valve or inlet side valve as needed. When water flow stops, isolate the meter by closing the outlet side valve of meter setting. Provide necessary protection for the floor below the meter setting in case of water spills or leaks during removal of the existing meter, installation of a new meter, and opening line pressure upon completion of the setting.
4. Loosen meter couplings, remove the meter and the old gaskets in the coupling nuts. Clean coupling nuts and remove any pipe dope or dirt from the threads.
5. Check existing setting for alignment and spacing. Correct any misalignment and spacing in the setting.
6. Place new connection gaskets inside the coupling nuts. Place the meter between the coupling nuts with the inlet and outlet of the meter corresponding to the direction of flow in the service line.
 - Engage the coupling nuts with the threaded meter ends.
 - Check that the coupling nuts are properly aligned to prevent cross-threading (stripping) damage to the threaded meter ends. (For the best method and for properly starting the meter coupling nuts to the meter ends, see instructions for New Meter Installations, item 4.)
 - Turn the coupling nuts until they are hand-tight. Apply a partial turn using an open-end wrench, DO NOT over tighten. Pipe dope or sealants are not required or recommended.
7. Open the inlet shut-off valve slowly to fill and pressurize the meter. Check for leaks around the meter and connections.
 - Open the meter outlet valve slowly to pressurize the consumer side of the system.
 - Open a faucet to allow any trapped air to escape. Turn off the faucet when normal water flow occurs.

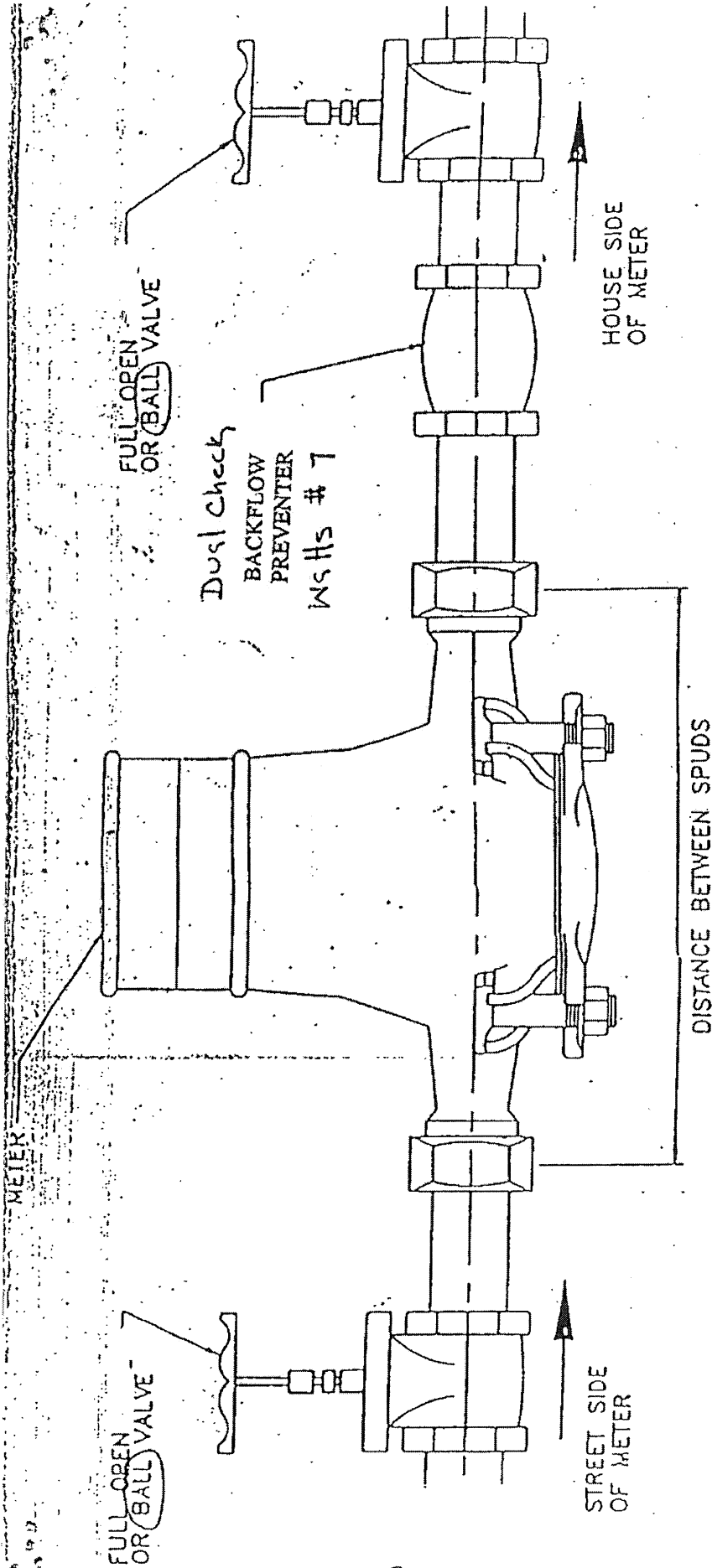
- The meter should be set in a horizontal position, protected from freezing, damage and tampering.
 - NOTE: Make sure the line opening in which the meter is to be set matches the laying length of the meter allowing for a small amount of additional space for coupling gaskets. Be sure that the inlet and outlet sides of the meter setting are axially aligned to the pipe.
 - CAUTION: Do not attempt to use any meter as a lever or crowbar to straighten misaligned meter settings. Damage to the meter may result.
 - DO NOT attempt to set a meter into a meter opening which is too long and attempt to force the piping into place with the coupling nuts on the meter setting. This can cause serious damage to the threaded ends of the meter and housing.
 - Additional problems can be avoided by correcting any irregularities in pipe spacing and misalignment before placing the meter into its setting.
4. Install the new meter by placing new connection gaskets inside the connection coupling nuts. Set the meter between the coupling nuts with the direction of flow through the meter corresponding to the direction of flow through the system.
 - Engage the coupling nuts to the threaded meter ends. Check to ensure that the nuts are properly aligned to avoid cross threading (stripping) damage to the threaded meter ends.
 - The best method for properly starting meter coupling nuts is to position the nuts squarely against the meter spud end. Turn the nut counterclockwise (in reverse) while holding the nut against the meter spud end. When the first threads on both the coupling nut and the meter spud end coincide, a slight click will be heard and the movement of the nut into the starting position will be felt. At this point, turn the nut clockwise to complete the connection. In a good installation, this can be accomplished by turning the nut by hand until it is tight. When hand-tight, apply a partial turn using an open-end wrench. DO NOT over tighten. Pipe dope or sealants are not required or recommended.
 5. Take precautions for leakage in case water leaks or spills as the service pressure is carefully turned on.
 6. Be sure to shutoff valves on the inlet and outlet side of the meter. Open the curb (shut-off) valve slowly to pressurize the service line to the meter setting. Next, slowly open the inlet side valve which will fill the meter with water. Check for leaks around the meter and connections. Open the meter outlet side valve slowly to pressurize the consumer side of the system. Open a consumer faucet to allow entrapped air to escape. Turn off the faucet when normal water flow occurs.

electrical continuity through the service pipe (provided the pipe is metallic). The AVVWWA policy states service pipes are not to be used as electrical ground. (Check local codes and practices.) A permanent ground strap or metal setter which provides electrical continuity must be used if electrical grounding to water services is used.

- Water dripping on the floor is undesirable. The meter installation should include a valve just downstream from the meter to prevent damage to the floor during meter servicing or removal from the line.
 - For meters that are located indoors, a remote reading system is recommended. This eliminates access problems and avoids customer complaints concerning strangers entering the home. The system is installed so that the meter can be read at a convenient outdoor location. Meter setters reduce mechanical stress on meters, provide electrical continuity, and ease meter installation
6. Services, especially water meters, should be protected from freezing. The amount of earth covering service lines must be adequate to protect against frost penetration. Because of the relatively small volume of water in service lines, these pipes freeze more rapidly than mains.
- Where outside meter settings are used, the meter boxes and pits should be excavated below the frost line. Even though the meter itself is not installed below the frost line, the heat rising from the warmer earth excavation below the frost line will reduce the possibility of freezing.
 - With proper precautionary measures, the number of frozen services and meters can be held to a minimum.
 - For those locations in which a remote possibility of freezing exists, bronze meters with cast-iron bottoms are recommended

Instructions for Setting Disc Meter In A New Installation

1. When cutting into a new section of service pipe, the service pipe must be flushed to remove all chips, pipe dope, or any other residue resulting from the plumbing at the line and meter setting.
2. Prior to the existing service line being cut, a suitable electrical grounding line must be attached to the service line, spanning the section of the service which is to be removed for the installation of the meter. When the line is cut the grounding wire will provide an alternate path for any electrical potential that may exist across the opening in the line. NOTE: The curb (shut-off) valve must be closed during the cutting operation relieving water pressure in the service line.
3. Install the correct size inlet and outlet meter valves, meter couplings, meter setters in conformance with local plumbing codes and recommended practices.



1" METER = 10.5"

5/8" x 3/4" METER = 7.5"

NOTE:

TYPICAL METER LAYOUT BARNEGAT TOWNSHIP WATER & SEWER UTILITY

METER IS TO BE INSTALLED HORIZONTALLY AND NOT MORE THAN 3 FEET FROM FLOOR IN A HEATED AREA, UNOBSTRUCTED, READILY ACCESSIBLE FOR SERVICE

METER IS TO BE INSTALLED PRIOR TO ANY CONNECTIONS TO THE BUILDING

9421-849

APPENDIX II

TOWNSHIP OF BARNEGAT
WATER SUPPLY SYSTEM
FEE SCHEDULE

REFER TO BARNEGAT TOWNSHIP CODE, CHAPTER 74, WATER/SEWER UTILITY, FOR
SCHEDULE OF FEES.