



RULES AND REGULATIONS Governing Applications To THE BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

**FOR CONSTRUCTION OF COMPREHENSIVE WATER DISTRIBUTION SYSTEMS
IN THE TOWNSHIP OF BERKELEY**

April 2013
Revised May 2021

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INTRODUCTION

The Berkeley Township Municipal Utilities Authority was created by Ordinance of the Township of Berkeley adopted on February 16, 1988 pursuant to Municipal Utilities Authorities Law N.J.S.A. 40:14B-1 et. Seq.

N.J.S.A. 40:14B-20 grants Authorities the right "to make and enforce bylaws or Rules and Regulations for the management and regulation of its business and affairs and for the use, maintenance and operation for the utilities system and any other of its properties, and to amend the same".

These Rules and Regulations are adopted pursuant to that grant of power and are applicable to all properties within the Township of Berkeley and outside the Township of Berkeley through Agreements with other Municipalities, which properties require domestic, commercial or industrial water use pursuant to these Rules and Regulations.

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I. DEFINITIONS

As used in these Rules and Regulations, unless a different meaning clearly appears from the context, the following words shall have the following meanings:

Applicant: A developer who has filed an application with the Authority pursuant to these Rules and Regulations; or property owner or property owners.

Authority: The Berkeley Township Municipal Utilities Authority and its designated representatives, including but not limited to, the Authority Engineer, the Authority Attorney and the Authority Auditor.

Block: An area delineated as such on the Tax Map of the Township of Berkeley.

Developer: 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, and who is submitting an application for the installation of utility improvements.

Development: The division of a parcel of land into two or more parcels; the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure.

Easement: The right to use the land of another for a specific purpose not inconsistent with the general property rights of the owner.

Engineering Fees: The fees calculated by multiplying the number of hours spent by the Authority's Engineer by the appropriate hourly fees as set forth in the Authority Engineer's fee schedule. The Authority Engineer's fee schedule is available and may be requested from the Executive Director of the Authority.

Equivalent Dwelling Unit: For establishing connection fees, shall be defined as follows:

1. Residential:
 - a. Each single family dwelling or portion of a structure normally occupied by a single family.
 - b. Each single family apartment dwelling in a multiple family structure or structures.
2. Each classroom in a school

3. The first lodging accommodation and each additional two lodging accommodations, without kitchen or efficiency kitchens, in a motel or hotel. This definition does not include other primary, accessory, or incidental uses on the premises such as restaurants, cocktail lounges, etc.
4. For each commercial, industrial, professional, institutional, public, or other user not heretofore mentioned, one unit shall equal 200 gallons per day of estimated water consumption or fraction thereof. (Example: estimated average consumption of 500 gallons per day divided by 200 gallons per day = 3 units).

House Service Connection: The pipe and appurtenances between the Authority's street main and the individual curb shutoff.

Lot: A tract or parcel of land intended for separate use, development or transfer of ownership.

Plat: A map of a development.

Right-of-way: Land subject to use as a street, alley, or crosswalk or for drainage or other public purposes. (See Easement)

Sketch Plan: The sketch map of a development of sufficient accuracy to be used for the purpose of discussion and classification and meeting the requirements of these Rules and Regulations.

Street: Any street, avenue, boulevard, road, land viaduct, bridge, alley or other way which is an existing state, county, or municipal roadway, including the land between the street lines whether improved or unimproved, and may comprise pavement, shoulders, gutters, sidewalks, parking areas and other areas within the street lines, (See right-of-way).

Township: The Township of Berkeley, including, but not limited to the Berkeley Township Planning Board, Berkeley Township Zoning Board of Adjustment and the Berkeley Township Zoning Officer, in the County of Ocean, State of New Jersey.

II. CONDITIONS REQUIRING INSTALLATION OF WATER SYSTEMS, EXTENSIONS OR CONNECTIONS

Any developer shall be required to obtain approval for his development from the Authority subject to the following:

- A. All residential subdivisions, whether major or minor classified as such by the Township, regardless of water usage, and all non-residential buildings, such as schools, commercial, professional and industrial buildings, and all other structures where the Authority estimates a daily water use of four hundred (400) gallons or more, shall be required to install a water distribution system to be connected with the nearest water main approved to service Authority's franchise area.
- B. In the event that a major subdivision is deemed by the Authority to be too remote from the Authority's water system or a water main approved to service the Authority's service area, the installation of a comprehensive water system consisting of a well supply, pump stations, treatment plant, storage facilities and distribution system shall be required.
- C. The installation of any gasoline, natural gas or oil line and/or underground storage tank with a capacity of more than 500 gallons within 50 feet of a water main or line owned or maintained by the Authority shall require the prior approval of the Authority.

The Authority reserves the right to impose special conditions on any development where water use exceeds 400 gallons per day.

In all instances where an owner or developer owns more than one contiguous buildable lot but applies to develop less than all lots owned, the Authority reserves the right to require water system extension, expansion or connection.

Mandatory water hook-up in the franchise area of the Berkeley Township Municipal Utilities Authority and the sealing of water supply wells for the Township of Berkeley shall be in accordance with Ordinance 90-16-OAB, which is incorporated herein and made part hereof by reference.

III. GENERAL SUMMARY OF REQUIREMENTS FOR SUBMITTING APPLICATION

Each application shall be certified by both the Applicant and the Applicant's Engineer to demonstrate the Applicant's knowledge and compliance with the Authority's Rules and Regulations.

If an Applicant files an application which is absent the requisite certifications or which in the opinion of the Authority's Engineer deviates substantially from the Authority's Rules and Regulations or which has not adequately addressed the Authority's review comments resulting from prior phase applications, the application will be returned to the Applicant without review.

A. Application for Preliminary Approval of Plans for Water Systems

An applicant for preliminary approval shall be required to provide:

1. Preliminary Application Forms
2. General Plan
3. Fees
4. Preliminary Engineer's Report
5. Attend Meetings

B. Application for Tentative Approval of Plans for Water Systems

An applicant for tentative approval shall be required to provide:

1. Tentative Application Forms
2. Engineer's Estimate
3. Engineer's Report
4. General Map
5. Plan and Profiles
6. Specifications
7. Details of Construction
8. Fees
9. Attend Meetings

C. Approval of Plans by State and County Agencies and Others

D. Application for Final Approval of Plans for Water Systems

An applicant for final approval must provide:

1. Final Application Forms
2. Engineer's Estimate
3. Engineer's Report
4. General Map
5. Plan and Profiles

6. Specifications
7. Details of Construction
8. NJDEP Permit
9. Fees
10. Attend Meetings

E. Application for Individual Water Connections

An applicant for water connection must submit:

1. Duplicate Application Form
2. Connection fee as per current rate schedule

F. Revised Applications

An applicant for a revised approval shall be required to submit:

1. Revised Application Forms
2. Engineer's Estimate
3. Engineer's Report
4. General Map
5. Plan and Profiles
6. Specifications
7. Details of Construction
8. Fees
9. Attend Meetings

IV. APPLICATIONS TO THE AUTHORITY

All applications must be complete and submitted at least fourteen (14) calendar days before a regularly scheduled meeting of the Authority. All items must be collated and packaged together for each application. Application number, once assigned, shall appear on all subsequent documents submitted.

Should it be found upon review of any application by the Authority's Engineer that the application is deficient in any items as required above, the application shall be deemed to be incomplete and shall not be heard at the Authority's meeting until all deficiencies are corrected. If, upon review of the plan submission, it should be determined that the plans or technical submissions are deficient in the requirements set forth herein, the application shall also be deemed incomplete. Resubmission of any plan which has been deemed incomplete must be accompanied with the required application number.

All applications are to be signed by the applicant or an officer of the applicant. If the applicant is not the owner, the owner must also sign. The applicant or his representative should be present at the agenda meeting to discuss the application.

Concurrent submission of applications for two or more different stages (e.g. Preliminary and Tentative) of Authority approval on any project may be permitted in the discretion of the Authority.

Approved Preliminary applications will be null and void after a one-year period from the date of approval, approved Tentative applications will be null and void after a one-year period from the date of approval, and approved Final applications will be null and void after a one-year period if no construction takes place or after a three-year period if all work has not been completed. Date of approval is the date of the meeting at which the Authority grants its total or conditional approval of an application.

Applicants requesting special meetings of the Authority and/or its staff and professionals to consider their applications, will be responsible for payment of all expenses which are incurred by the Authority (such as advertising costs, secretarial costs, attendance of staff members, attendance of professionals, etc.) in conducting such a meeting. The expenses for secretarial costs and staff members shall be at one and one-half times their hourly rate.

No capacity shall be reserved in the Authority's water system for any development until that development has received final approval as required by Section III D and Section IV D.

A. Application for Preliminary Approval of Plans for Water System

1. Preliminary Application Forms

An application for preliminary review of the proposed water system for the proposed development, shall be submitted to the Authority for a ruling on whether a comprehensive water system is required.

This application shall be filed, together with the appropriate Preliminary Application filing/review fee, in duplicate, on a form which may be obtained from the Authority, a copy of which is included herewith as Exhibit A.

2. General Plan

The applicant shall furnish four (4) copies of a general plan showing the location of the development in the Township with the location of the nearest existing Authority facilities in the area, a description of the proposed method of connection, and four (4) copies of a detailed sketch plat. The sketch plat may be incorporated in the general plan. Plans shall be of uniform size, either 24" x 36" or 30" x 42".

The General Plan shall be based on an Engineering survey or similarly accurate information and drawn at a scale of not more than two hundred (200) feet to the inch and shall contain at least the following information:

a. General Information:

1. Proposed development name, identifying title, or Block and Lot No.(s)
2. Name and address of the owner of the tract
3. Name and address of the developer (if other than the owner)
4. Name, address, and professional seal of person preparing plan
5. Development details
6. Key map showing the location of the tract in the municipality. Drawing scale shall be 1" = 1,000 feet
7. The location of that portion of the tract which is to be developed relative to the entire tract
8. The location of all existing sewers and water mains on the tract. Also indicated to the same scale as the rest of the plan shall be the proposed location of connection to the existing water system.

3. Fees

Fee as per the fee schedule attached shall accompany the application, a copy of which is included herewith as Exhibit G.

4. Preliminary Engineer's Report

Provide calculations for expected flow with peaking factor and adequate fire flow. A Hardy-Cross Analysis must be submitted, as required by the Authority, for all subdivisions & developments.

5. Attend Meetings

In addition, the applicant should appear before the Authority at a regularly scheduled agenda meeting to informally discuss the application with the Authority. The purpose of the informal discussion shall be to establish the general guidelines to be followed by the applicant in developing the water plan for the project.

B. Application for Tentative Approval of Plans for Water Systems

1. Tentative Application Forms

If a water system is required, the applicant must submit an application, in duplicate, for tentative approval on a form which may be obtained through the Authority, a copy of which is included herewith as Exhibit B.

The then current Water System Master Plan, with these Rules and Regulations, will govern the approximate sizes and location of mains, and places of connection.

If the size of any water main, as shown by the applicant's Engineer, and checked by the Authority's Engineer, is inadequate for the future requirement of the area, or if the Authority requires a booster pumping station of greater capacity or head than that required by the Applicant, or if the Authority requires a water storage tank of greater capacity or head than that required by the applicant, the applicant shall install the larger facility or facilities if required to do so by the Authority. The Authority agrees to pay the applicant the difference between the direct costs to the applicant of the oversized facilities and the direct costs of the facility which would have been otherwise installed by the applicant.

Payment by the Authority shall be in the form of a credit to the applicant against the required connection fees or, if insufficient, in accordance with a Water Agreement.

The Authority will not charge the applicant the increased cost of the Authority's Engineer's review and inspection when the increased cost of construction is for facilities required by the Authority above that required by the applicant.

Individual connections shall be provided for each individual family dwelling proposed for connection. Each connection shall be provided with a curb stop at the curb line, edge of road or easement line.

Where the Authority issues a conditional tentative approval, the applicant must make a resubmission indicating compliance with the conditions enumerated.

Where necessary, approval of plans for construction and operating permits by the New Jersey Department of Environmental Protection (NJDEP) or other agencies will be required by the Authority as a condition of the Authority's Tentative approval.

The applicant shall obtain permits for all stream crossings or encroachments from the NJDEP Division of Water Resources, where required. Permits to construct water mains or other structures within the right-of-way limits of State, County, and Municipal roads and all railroads must be secured and paid for by the applicant.

The applicant must also secure any necessary permits or clearances from any public utilities or agencies involved.

Where application for permit to construct is required, one original and three copies must be prepared by the applicant in the name of the Authority. The application will be endorsed by the Authority and returned to the applicant. The applicant shall submit the application to the State of New Jersey Department of Environmental Protection, with required copies of plans, specifications, Engineer's Reports and NJDEP application fee.

Additional studies, calculations, reports, drawings or additional copies of any data necessary for the applications shall be submitted, if required, by the Authority.

2. Engineer's Estimate of Construction Cost (4 copies)

The cost estimate shall consist of the Applicant's Engineer's cost estimate which shall be subject to the approval of the Authority's Engineer.

The cost estimate shall be in the form as provided in Exhibit F. Cost estimates will not be approved with unit prices which are less than the minimum unit prices provided in Exhibit F.

3. Engineer's Report (4 copies)

A complete engineer's report, setting forth the basis of design shall be submitted to the Authority for each project.

All water mains shall be designed to carry the peak hour flows, and, where fire protection is provided, the required fire demand plus the required domestic demand. Average daily consumption shall be as per N.J.A.C. 5:21 (Residential Site Improvement Standards).

For commercial, industrial, or special types of residential developments, design flows shall be in accordance with NJDEP Safe Drinking Water Act Regulations, latest revision, and are subject to approval by the Authority's Engineer.

The Authority will establish flow standards for any construction not included in the above.

Minimum size of water mains shall be as per N.J.A.C. 5:21-5.3. (Residential Site Improvement Standards).

Materials used in construction of water mains shall be ductile iron pipe, Class 52 minimum. House connections shall be Type K copper, one (1) inch diameter minimum. Each house connection shall include a curb stop and valve box assembly.

4. General Map of the Entire Development

Four copies of a general map of the entire development shall be furnished, showing the water distribution system, valves, hydrants, booster pumping stations, pressure zones, water supply, treatment and storage facilities for the entire development and necessary off-site facilities and the location of that portion of the tract to be developed relative to the entire tract.

5. Plans and Profiles of all Proposed Water Pipelines and Structures:

Four sets of drawings shall be submitted. The Plans shall contain the following:

a. General Information

1. Proposed development name, identifying title, or block and lot #'s
2. Name and address of the owner of the tract
3. Name and address of the developer, if other than owner

4. Name, address and professional seal of person preparing plans
 5. Drawings uniform in size, either 24" x 36" or 30" x 42"
 6. Drawings at a scale of not more than fifty (50) feet to the inch
- b. Site Information
1. A key map showing the location of the tract in the municipality. Drawing scale shall be 1" = 1,000 feet
 2. Existing contours of one (1) foot intervals on the tract. Datum, symbols and conventions shall refer to established USGS elevations and standards.
 3. Locations of all existing buildings, streets, waterways, and other significant features
 4. Locations of all existing sewers, laterals, water mains, water services, culverts, fire hydrants, storm drains, catch basins, manholes, and other manmade features on and within three hundred (300) feet of the tract
 5. Locations of all existing easements and rights-of-way on the tract
- c. Planning Information
1. Proposed location of all roads, curbs, and sidewalks within and adjacent to the tract, with a notation as to the proposed widths of their rights-of-way.
 2. Proposed locations and widths of all easements and rights-of-way to be established on the tract and the purpose for which they are to be established.
 3. Designations as to the proposed use of each lot and an indication of the types, location, and number of buildings and units proposed.
- d. Engineering Information
1. Proposed locations for all proposed water mains, valves, water services, curb stops, meter pits, fire hydrants, booster

pumping stations, water supply and treatment facilities, storage tanks, storm and sanitary sewers, laterals, clean outs, and their accompanying manholes, inlets, culverts and appurtenances.

2. Water mains to be constructed as close to the road profiles, with four foot of cover, as possible.
3. Pipe sizes, types and strength classifications.
4. Benchmarks, referring to established USGS elevations, shall be permanently established for the area and shall be set at all supply, treatment and storage facilities
5. Proposed contours of one (1) foot intervals for the whole tract.
6. Storage shall consist of an elevated tank or standpipe and shall be constructed of steel
7. "Plan" and "Plan and Profile" drawings shall show:
 - a. All existing and proposed utilities including water supply, sanitary sewers, storm drains, manholes, pumping stations and existing grades and proposed profiles.
 - b. Gradients, lengths, sizes, materials, and strength classifications of all pipes.
 - c. Clearances between any pipe crossings.
 - d. Standard drawing scales (1" = 50' Horizontal, 1" = 5' Vertical) on each sheet.
 - e. Sheets numbered consecutively.
 - f. An index of the streets shall also be shown on each sheet.
8. Plans for water supply, treatment, storage facilities or the like shall include a general site plan with property boundaries and site contours, proposed structures, wells, pumping stations, treatment plants and/or storage facilities with capacities, proposed mechanical and piping plans, electrical plans, and underground piping and underground and overhead wiring and other details necessary for review of the proposal including landscaping. Automatic on-site standby power facilities shall be provided. A flow diagram shall be included for treatment plants.

The details of all storage facilities shall include tank dimensions, minimum water level and overflow levels, capacity, foundation, piping, valve pit dimensions, etc.

The detail plans for wells shall show the depth, size and construction of each well. The ground strata through which the well is to be driven shall be shown in cross section.

The method and equipment proposed for applying a disinfection method shall be clearly indicated. If treatment beyond disinfection is required, the plans shall show details of each unit of the works, the method of applying chemicals, master meter, piping and valves, etc.

9. Individual connections provided for each individual family dwelling shall be provided with a curb stop at the curblines, edge of road or easement line.

e. Facilities Outside the Township

In the event that a proposal involves use of a water supply system lying entirely or partially outside of the Township limits, submission shall include comprehensive plans of all mains, treatment works, pumping stations, and all connecting appurtenances.

f. Easements

All required easements to be deeded to the Authority shall be clearly indicated on the drawings. Easements shall be unrestricted and shall be a minimum of twenty (20) feet wide unless depth of pipe, soil conditions, or additional utilities require wider.

Where water lines are to be installed in streets which will not be dedicated to the Township of Berkeley, the County of Ocean or State of New Jersey, the width of the easement(s) shall be the entire width between the curb lines.

6. Specifications for the Construction of Water Facilities

Four copies of complete specifications for the construction of the proposed water system and appurtenances, including wells, booster stations, tanks and treatment plants, shall accompany the plans. They may be omitted for water main extensions, provided that approved specifications for the water system are already filed and reference is made to them in the application and on the drawings.

7. Details of Construction

Four copies of details of fittings, blowoffs, hydrants, thrust blocks, etc. shall accompany the plans. Details shall be drawn to standard scales to show clearly the nature of design. They may be omitted for water extensions provided that approved details of construction for the water system are already filed and reference is made to them in the application and on the drawings.

8. Fees

The proper review fee for review of the application shall be based on the review fee schedule, a copy of which is included herewith as, Exhibit G.

9. Attend Meetings

The applicant should appear at a regularly scheduled Authority agenda meeting for informal discussion of the project.

C. Approval of Plans by State and County Agencies and Others

Approval of plans by the New Jersey Department of Environmental Protection (NJDEP) where required or other agencies will be required by the Authority as a condition of the Authority's Tentative approval.

The applicant shall obtain permits for all stream crossings or encroachments from the NJDEP Division of Water Resources, where required. Permits to construct water lines or other structures within the right-of-way limits of State, County, Municipal roads and all railroads must be secured and paid for by the applicant.

The applicant must also secure any necessary permits or clearances from any public utilities or agencies involved.

D. Application for Final Approval of Plans for Water Systems

1. Final Application Forms

Upon notification by the Authority that tentative approval has been given to the proposed water system with its appurtenances, or that all conditions of Tentative approval have been satisfied, the applicant may file an application for Final approval of plans and specifications and for authorization to proceed with construction.

This application will be filed, in duplicate, on a form furnished by the Authority, a copy of which is included herewith as, Exhibit C.

2. Engineer's Estimate of Construction Cost
Four (4) copies of the approved Tentative Engineer's estimate
3. Engineer's Report
Four (4) copies of the approved Tentative Engineer's report
4. General Map
Four (4) copies of the approved Tentative General Map
5. Plans and Profiles
Four (4) copies of the approved Tentative Plans and Profiles
6. Specifications
Four (4) copies of the approved Tentative Specifications
7. Details of Construction
Four (4) copies of the approved Tentative Details of Construction
8. NJDEP Construction Permit

Where required, two certified copies of the NJDEP permit to construct the facilities shall be filed with the application for final approval. Permit shall be obtained by Applicant.
9. Fees
 - a. Application fees, Review fees & Inspection fees shall be based on the fee schedule attached Exhibit G.
 - b. Connection fees (as set forth in the Authority's current rate schedule) shall be paid in full.
10. Attend Meetings

The applicant should appear at a regularly scheduled Authority agenda meeting.

E. Application for Individual Water Connections

Owners of the property desirous of making connection to existing water mains shall file an application for water connection with the Secretary of the Authority on a form which may be obtained from the Authority, a copy of which is included herein as Exhibit D. This application shall be accompanied by the appropriate application, inspection, and connection fees as set forth in the Rules & Regulations and the Authority's Rate Schedule. The applicant shall be responsible for the cost of the wet tap connection to the existing street main.

A house service connection shall be defined as the pipe and appurtenances between the Authority's street main and the individual curb stop/shutoff.

The wet tap and the service to the curb stop shall be installed as per the Authority's specifications and all connections from the curb stop to the house shall be governed by the Township of Berkeley Board of Health Ordinances. Connections from the curb stop to the dwelling are under the jurisdiction of the Board of Health through its plumbing inspector. Wet taps shall be made to a water main only under the supervision and inspection of the Authority's representative. A wet tap installation shall not be located within 12 feet of a dead-end hydrant. Connections shall be made in accordance with the attached drawings.

The Applicant's Contractor will be responsible for locating and protecting all existing utilities including, but not necessarily limited to water, steam, oil, and gas mains; sanitary sewers, storm drains, telephone and electric conduits, etc., which may be encountered during the construction operation. The Contractor shall be held solely responsible for locating all underground structures. The Contractor shall, at his own expense, arrange with the owners of such utilities for their aid and assistance in locating and protecting them and shall pay all charges, costs and expenses in connection therewith. He shall also provide the Authority with copies of correspondence requesting mark-outs from the various utilities. (call before you dig 1-800-272-1000)

The Applicant's Contractor shall be required to obtain any and all necessary Road Opening Permits and shall post adequate insurance coverage and a cash bond in the amount set forth by the Authority covering the specified wet tap connection which is being applied for.

CASH BOND AMOUNT
\$2,500.00

The cash bond will be held for one year from the satisfactory acceptance of the work.

The applicant will be required to ensure that his contractor can perform all work in a timely manner. Contractor must show, for inspection to the Authority's personnel, all related equipment necessary to complete a wet tap.

The Applicant's Contractor shall post with the Authority a certificate of insurance evidencing insurance coverage for Bodily Injury and Property Damage Insurance and Protective Bodily Injury and Protective Property Damage Insurance in the sum of \$500,000 for any one person for injury and accidental death, and subject to the same limit for each person, \$1,000,000 on account of one accident, and \$250,000 for Liability for Property Damage. The insurance coverage shall likewise cover the operation of owned, non-owned and hired vehicles for liability for bodily injury, accidental death, and property damage in the amounts as set above and name the Berkeley Township Municipal Utilities Authority as an additional insured.

F. Revised Application

Whenever there is substantive change in the configuration of the system and/or revision of the road pattern, and/or any off-site change related to the project or section is proposed, a revised application for the previous stage of approval is required.

G. Performance/Maintenance Guarantees – Type

The Authority shall accept a performance or maintenance guarantee in the form of:

1. Cash.
2. A surety bond from a bonding company licensed to do business in the State of New Jersey and in a form and content approved by the Authority.
3. An Irrevocable Letter of Credit issued by a recognized lending institution authorized to do business in the State of New Jersey and in a form and content approved by the Authority. All Letters of Credit must automatically extend any expiration deadlines unless specifically waived by the Authority.

The performance/maintenance guarantees are subject to review and approval by the Authority Attorney.

H. Guarantees Required: Surety; Release

Prior to filing the final subdivision plat, the Applicant shall provide and the Authority shall accept a performance guarantee for the purpose of assuring the installation and maintenance of improvements. For commercial site plans, the performance guarantee shall be submitted by the Applicant at least thirty (30) days prior to the start of construction.

1. The performance guarantee shall be in an amount equal to 120% of the estimated cost of construction of the required improvements, as determined by the Authority Engineer in accordance with the method of calculation set forth herein.

The Applicant's Engineer shall prepare, for the Authority Engineer's review, an itemized estimate of cost of the improvements covered by the performance guarantee, which itemized estimate of cost shall be appended to each performance guarantee posted by the obligor.

2. The time allowed for installation of the improvements for which the performance guarantee has been provided may be extended by the Authority by resolution. As a condition of any such extension, the amount of any performance guarantee shall be increased or reduced, as the case may be, to the amount of 120% of the estimated cost of construction determined as herein provided.
3. If the required improvements are not completed or constructed in accordance with the performance guarantee, the Applicant and surety, if any, shall be liable thereon to the Authority for the reasonable cost of the improvements not completed or constructed and the Authority may, either prior to or after receipt of the proceeds thereof, complete such improvements. Such completion or construction of improvements shall be subject to the provisions of the "Local Public Contracts Law, N.J.S.A." (40A:1101 et seq.)
4. Upon substantial completion of all required improvements (except for the top course of paving) and the connection of same to the Authority system, the Applicant may request of the Authority in writing, by certified mail addressed in care of the Chairman, that the Authority Engineer prepare, in accordance with the itemized estimate of cost appended to the performance guarantee, a list of all uncompleted or unsatisfactory completed improvements. If such a request is made, the Applicant shall send a copy of the request to the Authority Engineer. The request shall indicate which improvements have been completed and which improvements remain uncompleted in the judgment of the Applicant. Thereupon the Authority Engineer shall inspect all improvements covered

by the Applicant's request and shall file a detailed list and report, in writing, with the Authority, and shall simultaneously send a copy thereof to the Applicant not later than 45 days after receipt of the Applicant's request.

The list prepared by the Authority Engineer shall state, in detail, with respect to each improvement determined to be incomplete or unsatisfactory, the nature and extent of the incompleteness of each improvement or the nature and extent of, and remedy to correct any completed improvement determined to be unsatisfactory. The report prepared by the Authority Engineer shall identify each improvement determined to be complete and satisfactory together with a recommendation as to the amount of reduction to be made in the performance guarantee relating to the completed and satisfactory improvement, in accordance with the itemized estimate of cost appended to the performance guarantee.

5. The Authority, by resolution, shall either approve and accept the improvements determined to be complete and satisfactory by the Authority Engineer, or reject any or all of such improvements for cause expressed in said resolution, and shall approve and authorize the amount of reduction to be made in the performance guarantee relating to the improvements accepted, in accordance with the itemized estimate of cost appended to the performance guarantee. This resolution shall be adopted not later than 45 days after receipt of the list and report prepared by the Authority Engineer. Upon adoption of the resolution by the Authority, the Applicant shall be released from all liability pursuant to its performance guarantee, with respect to those approved and accepted improvements, provided that a percentage of the amount of the performance guarantee shall be retained to ensure completion and acceptability of all improvements.

The Applicant's request for a reduction in the amount of the performance guarantee must be accompanied by an affidavit certifying that all of the contractor(s) and supplier(s) have been paid in full as of the date of the request.

- a. The amount of the performance guarantee may be reduced to 30% of the amount of the estimate of cost of construction upon successful completion of the preliminary testing of the system after all of the structures, mains, service connections and appurtenances have been installed. The preliminary testing is optional and not a requirement of the Authority.

The performance guarantee may be released by the Authority upon the completion of all final punchlist items, resolution of all outstanding complaints, submission of all closeout documents and delivery of a maintenance guarantee by the Applicant to the Authority in a form and content satisfactory to the Authority Attorney and upon formal acceptance of the improvements by the Authority.

A maintenance guarantee shall be posted with the Authority which shall be for a period of 2 years after final acceptance of the improvement, in the amount of 15% of the cost of the improvement, which cost shall be determined by the Authority Engineer according to the method of calculation set forth herein.

In the event that the Applicant has made a cash deposit with the Authority as part of the performance guarantee, then any partial reduction granted in the performance guarantee shall be applied to the cash deposit in the same portion as the original cash deposit bears to the full amount of the performance guarantee.

6. If any portion of the required improvements is rejected, the Authority may require the Applicant to complete or correct such improvements and, upon completion or correction, the same procedure of notification, as set forth in this section shall be followed.
7. Nothing herein, however, shall be construed to limit the right of the Applicant to contest by legal proceedings any determination of the Authority or the Authority Engineer.
8. Prior to the filing of the final subdivision plat, the Applicant shall deposit basic inspection fees as set forth herein. For commercial site plans, the basic inspection fees must be deposited at least thirty (30) days prior to the start of construction. The basic inspection fees are intended for the normal and customary service required to inspect the installation of the facilities. The Applicant shall reimburse the Authority for all reasonable inspection fees paid to the Authority Engineer for the inspection of improvements; provided that the Authority shall require of the Applicant a deposit for the inspection fees in the amount not to exceed, except for extraordinary circumstances, the greater of \$500.00 or 5% of the cost of improvements. The minimum inspection fee is \$500.00. For those projects for which the reasonably anticipated inspection fees are less than \$10,000, fees may, at the option of the Applicant, be paid in two installments. The initial amount deposited by an Applicant shall be 50% of the reasonable anticipated fees. When the balance on deposit is reduced to 10% of the reasonably anticipated fees because of payment to the Authority Engineer for inspection, the Applicant shall deposit the remaining

50% of the anticipated inspection fees. For those projects for which the reasonably anticipated fees are \$10,000 or greater, fees may, at the option of the Applicant, be paid in four installments. The initial amount deposited by the Applicant shall be 25% of the reasonably anticipated fees. When the balance on deposit is reduced to 10% of the reasonably anticipated fees because of payments to the Authority Engineer for inspection, the Applicant shall make additional deposits of 25% of the reasonably anticipated fees. The Authority Engineer shall not perform any inspection if sufficient funds to pay for those inspections are not on deposit. In addition to the above, the Applicant shall be required to pay additional inspection fees to cover extra work, overtime costs or any extraordinary circumstance as documented by the Authority Engineer. The Applicant shall not be responsible for additional inspection fees related to any additional piping and oversizing as may be required by the Authority.

9. In the event that final approval is by stages or sections of the project, the provisions of this section shall be applied by stage or section.
10. To the extent that any of the improvements have been dedicated to the Authority on the subdivision plat or site plan, the Authority shall be deemed, upon the release of any performance guarantee required pursuant to this section, to have accepted dedication for public use of improvements made thereon according to site plans and subdivision plats approved by the Authority.

I. Installation of Improvements Prior to Filing Plat

Nothing herein shall prevent an Applicant from installing required improvements prior to the filing of the final subdivision plat provided that final approval has been granted by the Authority, all regulatory construction permits have been secured, and inspection fees are posted with the Authority pursuant to the itemized estimate of cost of construction as approved by the Authority Engineer.

Prior to filing the final subdivision plat, the Applicant shall post a performance guarantee to guarantee the completion of any remaining improvements not yet completed.

Upon completion of required improvements or release of a performance guarantee, a maintenance guarantee shall be posted with the Authority. The amount, terms and conditions of any maintenance guarantee shall be as set forth in this section.

J. Deposits with Authority; Escrow; Interest

Whenever an amount of money in excess of \$5,000.00 shall be deposited by an Applicant with the Authority for professional services employed by the Authority to review Applications for a project, for Authority inspection fees in accordance with this section, the money, until repaid or applied to the purposes for which it is deposited, including the Applicant's portion of the interest earned thereon, except as otherwise provided in this section, shall continue to be the property of the Applicant and shall be held in trust by the Authority. Money deposited shall be held in escrow. The money shall be deposited in a banking institution or savings and loan association in this State insured by an agency of the federal government, or in any other fund or depository approved for such deposits by the State, in an account bearing interest at the minimum rate currently paid by the institution or depository on time or savings deposits. The Authority shall notify the Applicant in writing of the name and address of the institution or depository in which the deposit is made and the amount of the deposit. The entire amount shall belong to the Applicant and any unused portion shall be refunded to him by the Authority upon the final acceptance of the project.

The provisions of this section shall apply only to that interest earned and paid on a deposit after the effective date of the adoption of these revised Rules and Regulations.

K. Escrow Payments for Professional Services

The Authority shall make all of the payments to professionals, including but not limited to engineers, attorneys and accountants for services rendered to the Authority for review of applications for development, review and preparation of documents, inspection of improvements or other purposes within these Rules and Regulations. Such fees or charges shall be based upon a schedule established by resolution. The application review and inspection charges shall be limited only to professional charges for review of applications, review and preparation of documents and inspections of developments under construction and review by outside consultants when an application is of a nature beyond the scope of the expertise of the professionals normally utilized by the Authority. The only costs that shall be added to any such charges shall be actual out-of-pocket expenses of any such professionals or consultants including normal and typical expenses incurred in processing applications and inspecting improvements.

If the Authority requires of the developer a deposit toward anticipated Authority expenses for these professional services, the deposit shall be placed in an escrow account pursuant to N.J.S.A.(40:14B-20.1) and these Rules & Regulations. The amount of the deposit required shall be reasonable in regard to the scale and complexity of the development. The amount of the initial deposit required shall be established by the rules and regulations of the Authority or by

resolution of the Authority, or both. For review of applications for development proposing a subdivision, the amount of the deposit shall be calculated based on the number of proposed lots. For review of applications for development proposing a site plan, the amount of the deposit shall be based on the area of the site to be developed, or the square footage of buildings to be constructed, or both.

Each payment charged to the deposit for review of applications, review and preparation of documents and inspection of improvements shall be pursuant to a voucher from the professional, which voucher shall identify the personnel performing the service, and for each date the services were performed, the hours spent to one-quarter hour increments, the hourly rate and the expenses incurred. All professionals shall submit vouchers to the Authority on a monthly basis in accordance with schedules and procedures established by the Authority. If the services are provided by an Authority employee, the employee shall prepare and submit to the Authority a statement containing the same information as required on a voucher, on a monthly basis. The professional shall send an informational copy of all vouchers or statements submitted to the Authority simultaneously to the applicant. The Authority shall prepare and send to the applicant a statement which shall include an accounting of funds listing all deposits, interest earnings, disbursements, and the cumulative balance of the escrow account. This information shall be provided on a quarterly basis, if monthly charges are \$1,000 or less, or on a monthly basis if monthly charges exceed \$1,000. If an escrow account or deposit contains insufficient funds to enable Authority to perform required application reviews or improvement inspections, the Authority shall provide the applicant with a notice of the insufficient escrow or deposit balance. In order for work to continue on the development or the application, the applicant shall within a reasonable time period post a deposit to the account in an amount to be agreed upon by the Authority and the applicant. In the interim, any required health and safety inspections shall be made and charged back against the replenishment of funds.

The close-out procedure to all deposits and escrow accounts shall commence after the Authority has granted final approval and signed the subdivision plat or site plan, in the case of application review escrows and deposits, or after the improvements have been approved as provided in section previous sections. The applicant shall send written notice by certified mail to the Authority, and to the relevant Authority professional, that the application or the improvements, as the case may be, are completed. After receipt of such notice, the professional shall render a final bill to the Authority within 30 days, and shall send a copy simultaneously to the applicant. The Authority shall render a written final accounting to the applicant on the uses to which the deposit was put within 45 days of receipt of the final bill. Any balances remaining in the deposit or escrow account, including interest, shall be refunded to the developer along with the final accounting.

L. Maintenance Guarantees – Limitations

The Authority shall not require that a maintenance guarantee required pursuant to this section be in cash or that more than 15% of a performance guarantee be in cash.

M. Easement Documents

The Applicant shall submit to the Authority within sixty (60) days from the date of final approval, a proposed deed of easements describing by metes and bounds all the lands to be dedicated to the Authority for utility purposes.

When blanket easements are required, the Applicant shall add the following note to the Final Plat: The Berkeley Township Municipal Utilities Authority shall have an easement of access for the purpose of maintaining the on-site comprehensive water system. Said easement is hereby granted to the Berkeley Township Municipal Utilities Authority over all or any part of Block_____, Lot_____ for said purpose.

N. Application for a Water Connection in Conjunction with Final Approval of Newly Constructed Water Facilities

This application shall be filed in duplicate on a form provided by the Authority. The Applicant shall pay a connection fee, as provided in the current schedule of rates and charges adopted by the Authority, which shall be paid to the Authority upon submission of an application for connection.

In the event that the Applicant is required to provide a comprehensive system of “Dry Lines” and individual water systems, then the Applicant shall pay said connection fee at the time of the installation of the dry lines.

If the fee is paid, the Applicant may represent to each buyer of the facilities covered by the application that said connection fees have been paid, and will not be subject to a connection fee when the water system becomes active.

Connection fees shall be paid by the developer at the time of the installation of a “dry” water system. The developer shall install the water service lines from the water main to the location of the water meter setter.

Should Applicant’s property abut or be contiguous with any street or lands in which there is an operational water line, the Applicant shall apply for connection to such line on a form provided by the Authority and shall pay such fees therefor as may be required.

Water connections shall be made to a water main only by the contractor approved by the Authority to make such connections.

Approval of the municipal Plumbing Inspector shall be required by the Authority prior to use of any service to a building. The above shall also apply where a landowner is required by the Authority to connect to an operational water main.

The landowner is solely responsible for the maintenance and/or repair of the water pipe between the building and the Authority's shut-off.

O. Off-Site Water Facilities

When off-site water facilities are required, said facilities are to be completely constructed, including all pavement restorations, before connecting any on-site facilities to the water system.

P. Additional Construction Work

The Authority may reimburse the Applicant for any required oversizing of the water main based on the actual construction cost. The Applicant shall submit to the Authority the contractor's cost proposal for the installation of the required oversizing of the water main for the Authority Engineer's review no later than thirty (30) days prior to the commencement of construction. Payment shall be made to the Applicant by the Authority upon the acceptance of the completed work and related pavement restoration work by the Authority Engineer.

Q. Water Service Billing

Billing for water service flows shall be determined from readings taken from a water meter. The water meter shall be installed on the service line in the building at a location approved by the Authority. The water meter and appurtenances must be installed by the Applicant and inspected by the Authority before the connection to the water system is made. Bypass lines around the water meter shall be strictly prohibited.

V. DETAILED INFORMATION ON DESIGN AND CONSTRUCTION OF WATER SYSTEMS

A. General Criteria

The following requirements are to be considered requirements for the design and construction of water systems. All references to standard specifications A.W.W.A., A.S.T.M., A.N.S.I., and the like, shall be to the latest revision thereof.

Regardless of size of development, the distribution system shall be capable of supplying the necessary domestic flow and fire protection or peak hour flow, whichever is greater, based upon the complete development.

1. Distribution System and Appurtenances

In the design of the water distribution system, a $C=100$ friction index based on the Hazen and Williams formula shall be used.

Where practical, hydrants shall be located wherever possible at each street intersection and shall be so distributed that in no instance shall hydrant spacing exceed 600 feet measured along street right-of-way. Hydrants shall be provided at all high points in the system.

The design of the distribution system shall be based upon the peak day demand plus fire demand calculated in accordance with Insurance Services Office (ISO) Standards under firm condition and minimum capacity in the elevated water storage tanks. The Hardy-Cross method or an equivalent method shall be used in balancing loops.

The minimum size of water mains shall be eight (8) inches, except at the end of a permanent cul-de-sac where a 6" main may be used, unless another size is required for fire flow and other criteria. Minimum depth of cover shall be four (4) feet from the top of the pipe to the finished grade.

Distribution mains shall be inter-connected into closed loops so that the supply may be brought to the consumer from more than one direction. Where dead ends are unavoidable, they shall be permitted provided that there are no more than 20 dwelling units permanently, or no more than 50 dwelling units temporarily. All dead end lines shall be provided with a means of flushing. Hydrants shall be located at the ends of lines providing fire protection and valves of full line size at ends of all dead end lines particularly those which may be extended in the future.

At street intersections, valves shall be located in each leg of the intersection on distribution mains so that not more than one block, or more than one fire hydrant, shall be out of service for one single break. Line valves shall be provided at least every 1,000 feet. At street intersections, valves shall be located in line with curb lines for ease in finding in the event of a break. Butterfly valves shall be furnished on 20" mains or larger and so indicated on the plans.

Where the Authority deems that a hydrant(s) cannot be utilized, an approved air release valve shall be installed in a vault and located at all high points in the distribution system, with proper means of drainage provided. Pressure reducing valves in suitable vaults shall be installed where required by the Authority. Bypasses shall be included.

Unrestricted easements to the Authority water mains shall be a minimum of 20 feet wide. The pipe shall be placed ten (10) feet off either easement line to allow sufficient room for maintenance or installation for future pipe. Valves in easement or unpaved areas shall have a 2' x 2' x 4" thick concrete pad surrounding the valve box set to the final proposed grade for easy location purposes.

2. Storage Tanks

Storage in elevated tanks or standpipes shall have a total effective capacity which, when combined with pumping capacity, shall be at least equal to the fire demand flow for a 3 hour period plus the average day demand and the demand equalization.

The water levels in all elevated storage shall be as required by the latest revision of the Water Supply Master Plan.

A double acting altitude valve shall be used for water level control in elevated storage tanks and standpipes. The storage tank shall be furnished with a separate supply pipe and withdrawal pipe to provide mixing. A bypass line and valve shall also be provided.

Hydropneumatic systems will not be accepted.

3. Water Supply

The average daily, peak daily and peak hourly water demand rates for commercial, industrial and institutional areas shall be considered separately in the computation of the total system demand and the quantities to be added shall be determined by the applicant and approved by the Authority.

Fire protection shall be furnished for all developments. In any event, the applicant shall provide the required fire flows in all areas in addition to the peak daily requirements.

The required fire flow is the rate of flow needed for fire fighting purposes to confine a major fire to the buildings within a block or other group complex. The determination of this flow depends upon the size, construction, occupancy, and exposure of buildings within the surrounding block or group complex; consideration may be given to automatic sprinkler protection.

There is a practical limit to the amount of fire flow that can be expected to be obtained from the Authority's System. In instances where said fire flow cannot be provided by the Authority, the Rules and Regulations require Developers within the Authority's service area to design and construct comprehensive water system improvements to provide water for their development. Said improvements include but are not limited to water supply well(s), treatment plant(s), storage facilities, pump station(s), transmission / distribution system improvements and on-site standby power facilities complying with the BTMUA Rules and Regulations and the latest revision of the NJDEP Safe Drinking Water Act Regulation.

A required fire flow shall be determined at appropriate locations in the system. The minimum recognized water supply shall be 1,000 gpm for 2 hours for fire protection plus consumption at the peak daily rate. A water supply shall be considered to be adequate if it can deliver the required fire flow for the number of hours specified in the following table by the Insurance Service Office during the peak day without adversely affecting the Authority's system:

<u>Required Fire Flow</u> (gpm)	<u>Required Duration</u> (hours)
3,501 to 12,000	4
2,501 to 3,500	3
2,500 and less	2

In the event that the design peak hour demand flow rate exceeds the peak day consumption plus the fire flow rate required above, the system shall be designed for the greater rate.

Sprinkler demand and necessary provisions therefore shall be in addition to the above.

Treatment facilities shall be so designed to produce water after treatment that is reasonably uniform and of the following quality:

Maximum Permissible

<u>Characteristic</u>	<u>Concentrate in ppm</u>
Iron	0.3
Manganese	0.05
Hardness	250.0
Chlorides	250.0
Sulfate	250.0
Taste and Odor	3 - Threshold Odor Number
pH	6.5 to 8.5 (no units)
Turbidity	0.3 NTU (95% of samples)
Color	10 C.U. (Standard Cobalt Scale)

B. Construction of Distribution System

1. Pipe Materials

Pipe material to be used in construction of water mains shall be cement lined ductile iron pipe.

For bridge crossings, or other special aerial installations, pipe material shall be steel.

Ductile iron pipe shall be centrifugally cast in metal or sand molds in accordance with A.N.S.I. specification A21.51, minimum thickness Class 52, unless otherwise required. The joint shall conform with the requirements A.N.S.I. A.21.11 and shall be of a type that employs a single elongated groove gasket to effect a joint seal such as US Pipe Company's "Tyton-Joint", approved equal.

The outside of the pipe shall be coated with a uniform thickness of a hot applied coal tar and the inside of the pipe shall be lined with a National Science Foundation (NSF) approved cement and bituminous seal in accordance with the American Standard Specifications for Cement mortar lining for cast iron pipe and fittings A.N.S.I., A21.4.

Ductile iron pipe and fittings shall be provided with an 8 mil thick polyethylene film encasement. The polyethylene film encasement shall be effective in isolating the pipe surface from contact with corrosive environments.

Serrated silicon bronze wedges shall be installed in accordance with the manufacturer's recommendations for all push-on joints. A minimum of two (2) wedges shall be installed per joint to provide electrical conduction.

Steel pipe shall conform to AWWA C-200. Steel pipe under 12" in diameter shall be Schedule 80; 12" and over shall have a wall thickness of 0.500 inches. Steel pipe shall be cement mortar lined and coated in accordance with AWWA C104. Buried steel pipe shall be wrapped in accordance with AWWA C203, standard for coal-tar protective coatings. Exposed steel pipe shall be primed (2 mil. dry) and painted, 3 coat vinyl (2 mil. dry), (4 mil. total, min.).

2. Pipe Bedding and Trenching

Trench dimensions, maximum depths, and bedding requirements (including cradles and encasement) for water mains, etc. shall be in accordance with the manufacturer's recommendations and at a minimum shall conform to the details shown on the Water Systems Detail Drawings included as part of these Rules and Regulations.

The applicant's application for tentative review by the Authority shall include trenching dimensions and bedding details including reinforcing bar schedules for concrete cradles where applicable.

3. Valves

Mechanical joint valves under 20" shall be Mueller Company Model A-2360-20, or approved equal, resilient wedge non-rising stem gate valves manufactured to AWWA Specifications with square operating nuts.

Mechanical joint valves 20" and over, for horizontal installations shall be Groundhog Buried Service butterfly valves as manufactured by Henry Pratt Company, or approved equal.

Flanged gate valves shall be Mueller Company Figure A-2360, or approved equal, resilient wedge, non-rising stem valves manufactured to AWWA standards with square operating nuts. Flanged ends shall be ANSI standard 125 lb. Drilling.

All valves shall open left or counter-clockwise.

Valve boxes shall be Tyler Pipe Valve Box, Model 6855 "sliding-type" with cover, or approved equal. Typically, valve boxes shall be of the "sliding-type" variety. In easement or unpaved area, valve boxes shall be the sliding-type, Tyler Pipe Valve Box, Model 6855. Cover shall be lettered "WATER". It shall be the responsibility of the Contractor to furnish valve boxes of suitable length for each

location such that the rim of the box shall be flush with the ground or paving surfaces.

Ductile iron elbows, tees, crosses and sleeves shall be either US Pipe Company, or approved equal, fittings. Flanged end fittings shall conform to ANSI Standard B-16 drilled for 125 lb. service.

4. Hydrants

The hydrants shall be Mueller A-423 with Aqua-Grip assembly, 5-1/4" valve opening, 6" mechanical joint inlet connection, 5'-0" bury, National Standard 2-1/2" hose nozzles and one 4-1/2" pumper nozzle National Standard Thread, or approved equal.

After construction and before acceptance, fire hydrants will be flow tested and painted in a color or colors as directed by the Authority.

5. House Service Connections

Each new house service connection shall include a corporation stop, a minimum of 1" diameter Type K copper service pipe and compression fittings, curb stop and box, and service pipe extension beyond the curb stop for connection by others. 1" Diameter Type "K" copper shall conform to ASTM Spec. B-88 and B-251. Curb stops shall be Mueller Model H-15209 or equal.

Corporation stops shall be Mueller Company Model B-25008 for 1" and 2" sizes or approved equal.

Curb boxes shall be Mueller Figure H-10314 Arch Pattern Base for 1" size and H-10310 for 2" sizes with rod and cover or approved equal. Cover shall be lettered "WATER". It shall be the responsibility of the applicant's contractor to furnish curb boxes of suitable length for each location such that the rim of the box shall be flush with the ground.

Each curb box shall have a secondary cast iron type protection box in accordance with the construction details equal to Campbell Foundry model 4155. Cover shall be marked "Water".

A wet tap installation for a house service connection shall not be located within 12 feet of a dead-end hydrant.

Where comprehensive water systems are constructed by developers, the inside water meter and appurtenances shall be furnished by the applicant and shall be of manufacturer and type approved by the Authority. Meters shall be equipped with remote outside receptacles to be mounted outside of the building. The

developer's contractor shall install wiring from the meter to the remote outside receptacle locations. Meters shall read in "gallons".

Meters for individual water connections, up to and including 2 inch diameter, will be provided by the Authority. All others will be furnished by the applicant.

6. Water Meters

All new water service connections shall include a positive displacement type meter with an encoder register and a meter transceiver unit that are compatible with the Authority's "Touch Read" or "Advanced Metering Infrastructure" (AMI) based meter reading system. All plumbing shall be installed so as to accommodate the installation of the meter at a location approved by the Authority. Where the construction of more than one unit is contemplated, the meter location shall be standardized by the Applicant. The Applicant shall furnish and install a water meter, meter setter including an inlet shut-off valve, electrical grounding jumper, outlet double check valve backflow preventer and other appurtenances as required by the Authority on the service line in the building at a location approved by the Authority. The presence of a backflow preventer will require the Applicant to install an expansion device on the hot water heater. The water meter shall be a positive displacement type meter manufactured by Sensus Technologies, Inc. The water meter shall be compatible with the Authority's ECR/AMR reading system. The Meter Interface Unit (MIU) shall be located approximately 48 inches high on the street side of the building, or on the side of the building within 2 feet of the street side. The wire from the water meter to the transmitter shall be continuous without splice connections. The water meter shall read in gallons and be owned and maintained by the Authority. The size of the water meter shall be the same size as the service line. The minimum size meter shall be $\frac{5}{8}$ " x $\frac{3}{4}$ ". Bypass lines around the water meter shall be strictly prohibited. The water meter must be installed by the Applicant and inspected by the Authority before the connection to the water system is made. If directed by the Authority, the Applicant shall install a pressure reducing valve between the outlet side of the shut-off valve and the inlet side of the water meter. The pressure reducing valve shall be the same size as the service line.

There shall be no shrubs, fences or obstructions whatsoever which prevent easy access to the MIU. The water service shall not be used until the installation of the meter and all accessories has been completed and the Authority has determined the system is operating properly.

When dry lines are installed, the Applicant shall be required to install a water meter setter including an inlet shut-off valve, jumper, backflow preventer, outlet shut-off valve and their appurtenances as required by the Authority on the service line in the building at a location approved by the Authority. Connection fees shall be paid by the developer at the time of the installation of the dry lines.

The developer shall install the water service lines from the water main to the location of the water meter setter. **The presence of a backflow preventer will require the Applicant to install an expansion device on the hot water heater.** The house shall be prewired for Authority's ECR/AMR reading system. The wire shall be continuous without splice connections from the water meter setter location to a point located approximately 48 inches high on the street side of the building or on the side of the building within 2 feet of the street side. The size of the water meter setter shall be the same size as the service line. The minimum size water meter setter shall be a $\frac{5}{8}$ " x $\frac{3}{4}$ ". The water meter setter must be installed by the Applicant and inspected by the Authority.

No meters are to be installed in a crawl space on new construction or existing structures.

On all commercial projects, the Applicant shall furnish and install a strainer on the inlet side of the water meter.

7. Commercial Connections

All of the service connection components for commercial (non-residential) connections shall conform to the standards of AWWA C800. Separate service connections shall be made for domestic and fire supply to each commercial building.

Domestic service pipe shall be 1" minimum diameter Type "K" Copper and shall be installed with a minimum of four feet of cover. Typically, domestic water meters will be required to be installed interior to an existing commercial structure. New commercial construction is always required to have space provided for a domestic water meter assembly.

Meter pit assemblies, if found by the Authority to be absolutely necessary due to space restrictions on existing structures, shall include a PVC meter box with a lockable lid. Meter installation components shall include an inlet ball valve, meter yoke, outlet dual check valve, and all fittings. If meter pits are installed, the meter pits shall be located within the public right-of-way.

Corporation stops shall be Mueller Company H-15000 or equal. The outlet end of the corporation stop shall have a union coupling connection for the copper water tube. Tapping of the main shall be carried out by personnel with at least three years experience and that are experienced in this work using equipment designed for use with the corporation stops specified. Stops shall be installed so as to ensure a watertight connection.

All corporation stops and service fittings shall be of the same size as the service pipe.

C. Construction of Water Production Wells for Residential, Commercial and Industrial Developments

Wells shall be constructed and protected against possible contamination in accordance with AWWA A100 and NJDEP requirements utilizing triple casing and double concrete sealing. Well casings shall be welded and made up with threaded couplings, and its protective casing shall have tight joints throughout its entire length.

A gamma ray log and/or a caliper log shall be provided for each well. The well shall be tested and the flow from the well shall be averaged over a 72-hour period and shall not be less than 300 gpm with a drawdown of not lower than 15 feet above the top of the screen or pump, whichever is higher. Static readings of the well shall be taken every three hours for twelve hours prior to starting the test. During the test, one hour will be permitted for adjustment of equipment during each eight hour period except that the pumping shall be continuous during the final eight hours.

Test water levels readings shall be taken at the following time intervals.

6 readings every 5 minutes for 30 minutes.
3 readings every 10 minutes for 30 minutes.
4 readings every 15 minutes for 60 minutes.
2 readings every 30 minutes for 60 minutes.
1 reading every 60 minutes for remaining test time

Area of influence of the well shall be determined by at least two observation wells. Observation shall be made at all existing wells within a 1,000 foot radius regardless of well depth.

Wells shall be at an elevation at least two (2) feet higher than the maximum flood level and high enough to permit drainage away from the facilities. All wells, treatment plants and above ground appurtenances shall be located at least 500 feet from any possible source of contamination and shall be enclosed with a six foot high chain link fence with full pipe supports. They shall be provided with a double gate entrance for pedestrian and truck use.

The maximum pumping permitted from each well field shall be taken at fifty (50) percent of the normal capacity of the well as determined from the aforementioned 72 hour test. Automatic emergency standby electrical power must be provided.

D. Construction of Treatment Plants

No general rules can be formulated for the design of treatment plants and each case will be considered individually based upon the raw water quality. The type and method of treatment must be approved by the New Jersey State Department Environmental Protection.

Treatment plant plans and specifications must include provisions for lawns, shrubbery, paved roads and sidewalks. Plants shall be architecturally compatible with the environment.

The entire property must be surrounded by a six foot high chain link fence with full pipe supports.

Detailed estimates of operating and maintenance costs of the proposed treatment plant must be submitted with the Engineer's estimate.

Automatic emergency standby electrical power must be provided.

All water shall be chlorinated before it enters the distribution systems and shall have a residual of 0.2 ppm throughout the system.

All standards of U.S. Public Health Service applicable to protection of the water sources, wells, water mains, equipment and treatment works shall be met in the design of treatment plants.

The finished water shall meet, in addition to the standards set forth in Section A.3 above, all other potable water standards adopted by the State of New Jersey, Department of Environmental Protection and U.S. Environmental Protection Agency.

Adequate light, ventilation, heat and potable water supply shall be provided at the plant. The treatment plant building structure shall be of similar construction to the Station Road WTP including block and brick construction with a wood frame or truss roof. The treatment plant specifications shall include provisions for landscaping, paved roads and parking and chain link fencing. Complete repair and operating tools and accessories shall be provided with the treatment facilities and wells.

E. Construction of Pumping Stations

At least two pumps shall be provided, each capable of handling the total ultimate peak daily flow. If more than two pumps are used, their capacities shall be such that upon failure of the largest pump, remaining units will handle the peak flow.

An auxiliary emergency standby generator shall be provided for electrically driven pumps. The generator shall be sized to start the second pump with the first pump running and with accessory equipment on line. Automatic start and transfer provisions shall be included.

Minimum pipe size in pump stations shall be 6 inch diameter.

All facilities shall be designed for ease of maintenance. Sump pump, dehumidifier and lifting ring provision shall be included.

Automatic sound alarms shall be installed independently of station power and shall give warning of high and low pressure and power failure both locally and remotely by telemetering the alarm to the Authority offices and to the Police Station.

Adequate light, ventilation, heat and fresh water supply shall be provided.

Pump station building structure shall be block and brick construction with a wood frame or truss roof.

Complete repair tools, manufacturer's recommended spare parts and accessories shall be provided with the pumps.

Pumping station plans and specifications must include provisions for crushed stone ground cover, shrubbery, paved roads, and the entire facility must be surrounded by a six foot high chain link fence with full pipe supports. A truck gate must be provided.

VI. INSPECTION DURING CONSTRUCTION

A. General

The Applicant shall contact the Authority to schedule a pre-construction meeting which shall take place no less than 72 hours prior to the Applicant's intended date of construction commencement. The Applicant shall not proceed with construction until such time that the Authority has given the Applicant express written consent to proceed with construction. All work performed shall be under the jurisdiction of the Authority. The Authority shall have access to all work performed and the Applicant shall arrange for the Authority to be present during all phases of construction. The Authority requires full time inspection by the Authority or its designated representative. The cost of full time inspection shall be the sole responsibility of the Applicant and shall be funded through the Developer's Escrow described in Section IV, Item K of the Rules and Regulations. All Engineering Fees will be calculated utilizing the Engineer's approved Rate Schedule in effect at the time work is performed. At no time may any connections be made to a street main whether pressure tested or not unless the connection is made under the direct supervision and inspection of the Authority. Any work done in the absence of the Authority or its designated representative, as well as any work buried in violation of the Authority's direction that such work be left visible for inspection, shall be excavated for thorough inspection if so ordered by the Authority. Any such excavation shall be undertaken at the expense of the Applicant and at no time shall the cost of any such excavation be borne by the Authority. All defective work disclosed by testing in accordance with these Rules and Regulations will be corrected by the Applicant in the presence of the Authority at the sole cost of the Applicant. The Authority shall be reimbursed by the Applicant for the full time inspection of the corrective work in accordance with the Engineer's approved Rate Schedule described above.

The Applicant shall submit a progress report together with the cost of construction at the end of each month to the Authority.

After the final pavement overlay has been completed, all water facilities must pass a final inspection. All of the water gate valve boxes must be set flush with the final pavement overlay. The water lateral shut-offs (curb boxes) must be checked for operation with a valve key. The secondary cast iron type protection box must be visible and set flush to grade. All water service laterals must be marked with a "W" chiseled in the curb. All of the fire hydrants must be set to the proper height and rotated so that the pumper nozzle faces perpendicular to the street. No water lateral shut-offs (curb boxes) are permitted in driveways or sidewalks. Following the final inspection, all final punchlist work must be completed within thirty (30) days.

No service connections shall be made to a street main whether pressure tested or not, unless said connection is made under the review and inspection of the Authority's representative.

B. Leakage and Testing

The contractor shall furnish all labor, materials and equipment necessary for the testing. Preliminary pressure and leakage tests shall be made as required to reasonably assure a successful final acceptance test which will be made under the inspection of the Authority having jurisdiction. The water system shall be tested after all the underground utilities (gas, electric, telephone, etc.) have been completed, the road gravel base has been installed to subgrade and the curbs and sidewalks have been completed. Preliminary tests which may be performed by the developer do not preclude the final tests which are required by the Authority.

No work shall be closed or covered up until it has been duly inspected and approved for proper and satisfactory construction and installation. Should uncompleted or unapproved work be covered, the Applicant shall uncover all work so that it can be properly inspected and approved; and after such inspection and approval he will properly repair and replace all work found defective, unsatisfactory, and not in accord with the Plans and Specifications, and after such repair and replacement, he will bring all work to the completeness and status existing before it was closed and covered. After absorption is complete, the pipe(s) and appurtenances shall be pressure-tested for a period of one hour under a pressure equal to twice the maximum possible pressure in each pressure zone but in any case not less than 150 p.s.i. A leakage test shall be conducted after the satisfactory completion of the pressure test.

The duration of each leakage test shall be 2 hours; and during this period, the main shall be subjected to a pressure equal to twice the maximum possible pressure in the pressure zone, but in any case not less than 150 p.s.i. and shall not be permitted to fall more than 10 p.s.i. below that amount.

Leakage is defined as that quantity of water to be supplied into the newly laid pipe, or any valved section thereof, necessary to maintain the specified leakage pressure after the pipe has been filled with water and the air expelled.

No pipe installation will be approved until the leakage is less than the number of gallons per hour as determined by the following formula:

$$L = SDP^{0.5} / 133,200$$

Where:

L = Allowable leakage in gallons per hour

S = Length of pipe tested (feet)

P = Average test pressure during the test (p.s.i.)

D = Nominal diameter of pipe (inches)

If leakage occurs greater than the allowable quantity specified, the defective joints or pipes shall be located and repaired until the leakage is within the acceptable allowance. Leakage tests shall be conducted in accordance with AWWA C-600.

C. Disinfection

Before being placed in service, all water mains, appurtenances, pipe, treatment units and storage tanks shall be disinfected. The mains and tanks shall first be thoroughly flushed to remove all dirt and foreign matter and then filled with water containing a dosage of 50 ppm of chlorine. The chlorinated water shall be retained in the mains and tanks for at least 12 hours after which the mains and tanks shall be flushed. After flushing, the water mains shall stand for 24 hours before being sampled and tested by a state approved testing agency.

The Applicant may, at his option, chlorinate storage tanks by spraying all interior surfaces with a solution containing 500 ppm concentration of chlorine. A solution of not less than one percent of the tank capacity shall be prepared at this concentration and sprayed on all surfaces. The tank shall then stand with drain closed for at least 12 hours. When the required time has elapsed, the tank shall be drained and flushed with water.

After flushing, the mains and tanks shall be filled with water and stand for 24 hours before a bacterial analysis, by a licensed laboratory, shall be made. The results shall meet the standards as set forth by the New Jersey Department of Environmental Protection. Disinfection shall be done in accordance with AWWA, C651, C652 and C653 Standards.

VII. AS-BUILT DRAWINGS, EASEMENT MAPS AND DESCRIPTIONS AND MANUALS

After construction and before final acceptance by the Authority, the applicant shall furnish the Authority one (1) complete set of record drawings, in electronic format approved by the Authority's Engineer, and two (2) sets of prints of each drawing showing the details of the distribution system, all facilities, connections, etc., as actually constructed. The data including depth at curb box, length of house connection from curb box to main, and location by triangulation of corporation stop, curb box and any valve not in pavement all of which can be shown on an Individual Water Connection Application. As-built drawings shall be signed and sealed by a licensed Land Surveyor.

After construction and before final acceptance by the Authority, two (2) complete and up to date sets of operation and maintenance manuals including materials and parts listings, approved by the Authority's Engineer, shall be furnished.

After construction and before final acceptance by the Authority, the applicant shall furnish one (1) complete set in electronic format and two (2) sets of prints of maps together with metes and bounds descriptions shall be sealed by a licensed Land Surveyor. The applicant shall also provide the Authority with a properly executed Deed of Conveyance for the easements to be conveyed to the Authority in form recordable in the office of the Ocean County Clerk.

VIII. ACCEPTANCE OF IMPROVEMENTS BY THE AUTHORITY

After construction of all proposed improvements has been completed the applicant shall:

Obtain from the Authority Engineer a certification that the construction as been completed in accordance with the approved plans and specifications.

Submit deeds with metes and bounds description to all lands, easements, and improvements not previously transferred, together with title policies.

Submit Affidavits of Title for land, easements, and equipment and a recitation thereon that everything conveyed to the Authority has been paid for in full. Corporate resolution authorizing said transfers if applicable.

Submit copy of filed subdivision plat showing all easements containing the filed plat number and filing date.

Submit surveys for sites and easements dedicated to the Authority and sealed by a licensed New Jersey Land Surveyor.

Submit Bills of Sale for all equipment and facilities, including warranties from manufacturers of equipment.

Submit releases from the general site contractor(s) who furnished and installed the facilities.

Furnish three sets of sealed prints and one copy in electronic format of the as-built plans prepared by a licensed New Jersey Land Surveyor.

Post Surety Maintenance Bond (or irrevocable letter of credit) in a form and content approved by the Authority and to the satisfaction of the Authority Attorney equal to 15% of the Estimate of Cost, guaranteeing the satisfactory performance and functioning of the improvements for a minimum of two (2) years.

Provide an affidavit that all submittals are true, accurate and complete and that all conveyances are free from any lien or encumbrances.

IX. USE OF SYSTEM

A. Use of Water System by Authority

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

No water service shall be provided where sanitary sewer facilities are to be installed until the sanitary sewer facilities are in operation.

B. Unauthorized 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 express permission of the Authority.

X. COMPLIANCE WITH RULES AND REGULATIONS

A. General

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

The Applicant shall exercise all construction constraints required to conform to the New Jersey Department of Environmental Protection Regulations.

B. Noncompliance

The Authority reserves the right to refuse to any applicant the privilege of connecting to the Authority's system, or to compel discontinuance of use of the water system.

**WATER SERVICE
PRELIMINARY APPLICATION**

APPLICATION No. _____ FILED _____

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

APPLICATION FOR PRELIMINARY APPROVAL OF PLANS FOR *WATER SERVICE*
FOR SUBDIVISION OR OTHER DEVELOPMENT IN THE TOWNSHIP OF BERKELEY,
COUNTY OF OCEAN, STATE OF NEW JERSEY.

This application must be completed and filed in *duplicate*, accompanied by the appropriate fee as per Rules and Regulations with the Authority, 14 calendar days in advance of a regularly scheduled meeting of the Authority.

It is the responsibility of all applicants to obtain and abide by the Authority's Rules and Regulations in effect at the time of the submission of this Application.

Application is hereby made for a preliminary review of water service plans for the proposed subdivision or other development for a ruling on whether individual or comprehensive water system is required. For a comprehensive water system, provide a Hardy Cross analysis.

1. Applicant's name: _____
Address: _____ Phone: _____
Tax Identification No.: _____
Email Address: _____
2. Name and address of present owner (if other than No. 1 above):
Name: _____
Address: _____
3. Interest of applicant if other than owner; and indicate any interest in any adjoining properties: _____

4. Date classified as major subdivision by the Planning Board _____

5. Location of subdivision _____
(Blk. & Lot Nos. & Street Frontage)
6. Number of proposed units to be served _____

7. Area of entire tract _____ and portion being serviced:

8. Development Plans:
- a. Subdivision _____
 - b. Site Plan _____
 - c. Other (specify) _____
9. Name and profession of person designing water system:
- Name: _____ Profession: _____
- Address: _____ Phone: _____
10. Does applicant or owner agree to convey by deed to the Authority easements to all areas on preliminary plan showing water system and all rights to water system? _____
11. Describe your proposal for water service.

12. If a water system is required, will applicant post Performance and Maintenance Bonds? _____
(yes or no)
13. List plans and other material accompanying application and number of each.
- | | ITEM | NUMBER |
|----|-------|--------|
| a. | _____ | _____ |
| b. | _____ | _____ |
| c. | _____ | _____ |
| d. | _____ | _____ |
| e. | _____ | _____ |
| f. | _____ | _____ |

14. Attach 2 blue on white prints of your basic layout and tie in plan.

Signature of Applicant _____

Signature of Owner (if not applicant) _____

Make all checks payable to the **Berkeley Township Municipal Utilities Authority**

Enclose executed copy of W-9 Form (Request for Taxpayer Identification Number and Certification)

(Do not write below this line)

Date received and fee collected

_____ Date _____ Fee Paid _____

Action of the Berkeley Township Municipal Utilities Authority

Date _____ Approved _____ Approved Conditionally _____
Disapproved _____

Recommendation of the Berkeley Township Municipal Utilities Authority Engineer

DATE: _____

Berkeley Township Municipal Utilities Authority

**WATER SERVICE
TENTATIVE APPLICATION**

APPLICATION No. _____ FILED _____

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

APPLICATION FOR TENTATIVE APPROVAL OF PLANS FOR *WATER* SERVICE FOR
SUBDIVISION OR OTHER DEVELOPMENT IN THE TOWNSHIP OF BERKELEY,
COUNTY OF OCEAN, STATE OF NEW JERSEY.

This application must be completed and filed in *duplicate*, accompanied by the
appropriate fee as per Rules and Regulations with the Authority, 14 calendar days in
advance of a regularly scheduled meeting of the Authority.

**It is the responsibility of all applicants to obtain and abide by the Authority's Rules and
Regulations in effect at the time of the submission of this Application.**

Application is hereby made for a Tentative Approval of plan of water system and
appurtenances.

1. Applicant's name: _____
Address: _____ Phone: _____
2. Name and address of present owner (if other than No. 1 above):
Name: _____
Address: _____
3. Preliminary Application No. _____ Approved _____
Date
4. Does the Tentative Plan follow the Preliminary Plan in regard to Lot Layout and
Area covered? _____ If not, indicate changes and reasons
for changes:

5. Number of units proposed for Tentative Approval _____

6. Name and profession of person designing water system:
Name: _____ Profession: _____
Address: _____ Phone: _____

7. Describe your proposal for water service: _____

8. Estimated cost of construction: _____

9. Application Fee: _____

10. List plans and other material accompanying application and number of each.

	ITEM	NUMBER
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____
e.	_____	_____
f.	_____	_____

11. Attach 2 blue on white prints of your basic layout and tie in plan.
Signature of Applicant _____
Signature of Owner (if not applicant) _____
Make all checks payable to the **Berkeley Township Municipal Utilities Authority**

(Do not write below this line)

Date received and fee collected

Date

Fee Paid

Action of the Berkeley Township Municipal Utilities Authority

Date _____ Approved _____ Approved Conditionally _____

Disapproved _____

Recommendation of the Berkeley Township Municipal Utilities Authority Engineer

DATE: _____

Berkeley Township Municipal Utilities Authority

**WATER SERVICE
FINAL APPLICATION**

APPLICATION No. _____ FILED _____

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

APPLICATION FOR FINAL APPROVAL OF PLANS FOR WATER SERVICE FOR
SUBDIVISION OR OTHER DEVELOPMENT IN THE TOWNSHIP OF BERKELEY,
COUNTY OF OCEAN, STATE OF NEW JERSEY.

This application must be completed and filed in *duplicate* 14 calendar days in advance of a regularly scheduled meeting of the Authority accompanied by the appropriate fees as per Rules and Regulations.

It is the responsibility of all applicants to obtain and abide by the Authority's Rules and Regulations in effect at the time of the submission of this Application.

Application is hereby made for a final approval of plan of water system and appurtenances.

1. Applicant's name: _____

Address: _____ Phone: _____

2. Name and address of present owner (if other than No. 1 above):

Name: _____

Address: _____

3. Tentative Application No. _____ Approved _____
DATE

4. NJDEP Permit No. _____

Approved: Construction, date: _____ Operation, Date _____

5. Does the Final Plan follow exactly the Tentative Plan in regard to details and
area covered? _____ If not, indicate significant
changes and reasons _____

6. Number of units proposed for Final Approval _____

7. List plans and other material accompanying application and number of each.

	ITEM	NUMBER
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____
e.	_____	_____
f.	_____	_____

- 8. Attach 4 blue on white prints of your tentative approved plans.
- 9. Engineer’s Estimate, including as-built plans \$_____
- 10. Application Fee \$_____
- 11. Construction Inspection Fee \$_____
- 12. Amount of Performance Bond \$_____

Signature of Applicant _____

Signature of Owner (if not applicant) _____

Make all checks payable to the **Berkeley Township Municipal Utilities Authority**

(Do not write below this line)

Date received and fee collected

_____	_____
Date	Fee Paid

Action of the Berkeley Township Municipal Utilities Authority

Date _____ Approved _____ Approved Conditionally _____

Disapproved _____

Recommendation of the Berkeley Township Municipal Utilities Authority Engineer

DATE: _____

Berkeley Township Municipal Utilities Authority

INDIVIDUAL WATER CONNECTION APPLICATION

APPLICATION NO. _____

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

Premises to be connected: Blk. No. _____ Lot Nos. _____

Street Location _____

Name of Owner: _____

Address of Owner: _____

Telephone Number of Owner: _____

Builders Name, Address & Telephone Number: _____

Connection Fee: *See Berkeley Township MUA Rate Schedule*

Payment in Cash: \$ _____, or two installments as follows:

Payment No. 1 \$ _____, due with this application.

Payment No. 2 \$ _____, due on _____
(Date)

Payment No. 3 \$ _____, due on _____
(Date)

Connection fees may be made in two payments – the first half must be paid before obtaining a plumbing permit. The second half must be paid with interest charged at 8%.

Dated: _____

Signature of Applicant

Berkeley Township M.U.A. Approval

NOTE:

Applicant to provide opening for tap by the M.U.A. Applicant to check with M.U.A. to set up date for tap. Applicant is responsible for wet tap charges to be billed on a time and material basis.

Where water main is located in the street, it is applicant's responsibility to apply to the Township Clerk for a road opening permit.

Applicant to attach sketch of an adequate scale indicating tie-in location related to the property and building. Street name and Block and Lot No. to be shown.

It is the responsibility of all applicants to obtain and abide by the Authority's Rules and Regulations in effect at the time of the submission of this Application.

**WATER SERVICE
APPLICATION FOR EXTENSION OF APPROVAL**

APPLICATION NO. _____ FILED _____

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

APPLICATION FOR EXTENSION OF APPROVAL OF PLANS FOR *WATER* SERVICE FOR SUBDIVISION OR OTHER DEVELOPMENT IN THE TOWNSHIP OF BERKELEY, COUNTY OF OCEAN, STATE OF NEW JERSEY.

This application must be completed and filed in *duplicate*, 14 calendar days in advance of a regularly scheduled meeting of the Authority accompanied by the appropriate fees as per Rules and Regulations.

It is the responsibility of all applicants to obtain and abide by the Authority's Rules and Regulations in effect at the time of the submission of this Application.

Application is hereby made for extension of a _____
(Preliminary, Tentative, Final)

approval of plans (Approved, Date: _____) of water system and appurtenances.

1. Applicant's Name: _____
Address: _____ Phone _____
2. Name and address of present owner (if other than No. 1 above):
Name: _____
Address: _____ Phone _____
3. Construction cost estimate upon which original application fees were based:

4. Current estimate of construction cost: _____
5. Application Fee: _____
6. Status of project: _____

7. Reason for requesting extension: _____

8. Attach 2 blue and white prints of your plans.

Signature of Applicant _____

Signature of Owner (if not Applicant) _____

Make all checks payable to the **Berkeley Township Municipal Utilities Authority**.

(Do not write below this line)

Date received and fee collected
_____ Date _____ Fee Paid _____

Action of the Berkeley Township Municipal Utilities Authority
Date _____ Approved _____ Approved Conditionally _____
Disapproved _____

Recommendation of the Berkeley Township Municipal Utilities Authority Engineer

DATE: _____

Berkeley Township Municipal Utilities Authority

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

Development Construction Cost		Potable Water System		DATE _____	
Unit Price Estimating Schedule				PAGE ____ OF ____	
Application No. _____		Development Name: _____			
ITEM	ITEMS DESCRIPTION	UNITS	QUANTITY	MINIMUM UNIT COST	ITEM COST
1	6" Ductile Iron Pipe	LF		\$55.00	
2	8" Ductile Iron Pipe	LF		\$65.00	
3	10" Ductile Iron Pipe	LF		\$70.00	
4	12" Ductile Iron Pipe	LF		\$75.00	
5	16" Ductile Iron Pipe	LF		\$90.00	
6	6" Gate Valve & Valve Box	EA		\$1,500.00	
7	8" Gate Valve & Valve Box	EA		\$1,500.00	
8	10" Gate Valve & Valve Box	EA		\$2,500.00	
9	12" Gate Valve & Valve Box	EA		\$2,950.00	
10	16" Gate Valve & Valve Box	EA		\$3,750.00	
11	20" Butterfly Valve & Valve Box	EA		\$4,000.00	
12	Dewatering	LF		\$20.00	
13	Fire or Flush Hydrant with Valve Assembly	EA		\$6,500.00	
14	Blow-off Hydrant	EA		\$3,875.00	
15	House Service Connections Including:	EA		\$1,600.00	
	1" type K copper				
	1" corporation stop & tapping				
	1" curb stop with box				
16	5/8" x 3/4" house water meter with ECR transmitter	EA		\$400.00	
17	Fittings	LBS		\$5.00	
	Connections to Existing Mains				
18	Standard Type	EA		\$3,000.00	
19	6" Wet Tap	EA		\$5,500.00	
20	8" Wet Tap	EA		\$8,000.00	
21	12" Wet Tap	EA		\$12,000.00	
22	Air Release Valve and Manhole	EA		\$4,200.00	
	Off Site Road Restoration:				
23	Gravel/Dirt	SY		\$35.00	
24	Pavement	SY		\$85.00	
25	Additional Items as Needed:				
	a)				
	b)				
	c)				
	d)				
	e)				

NOTES:

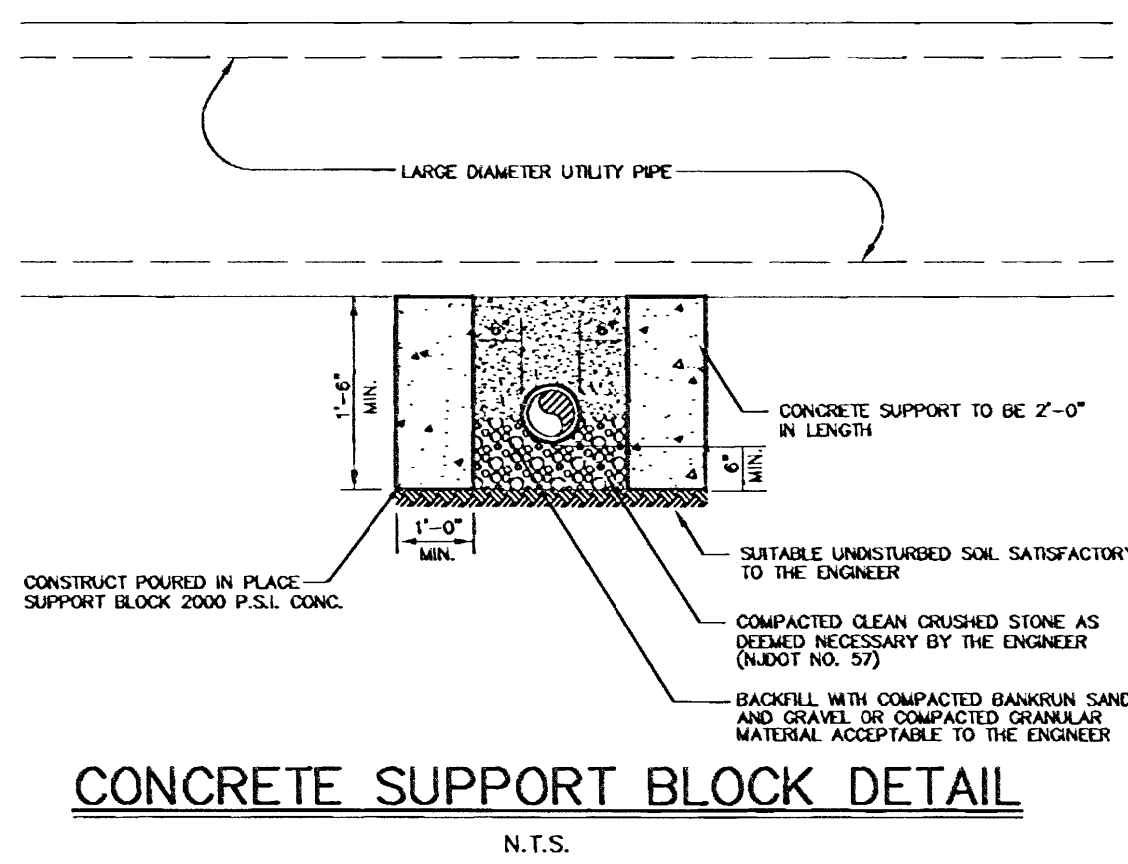
Prices for larger size services and appurtenances will be determined
at time of application.

FILING, REVIEW AND INSPECTION FEES

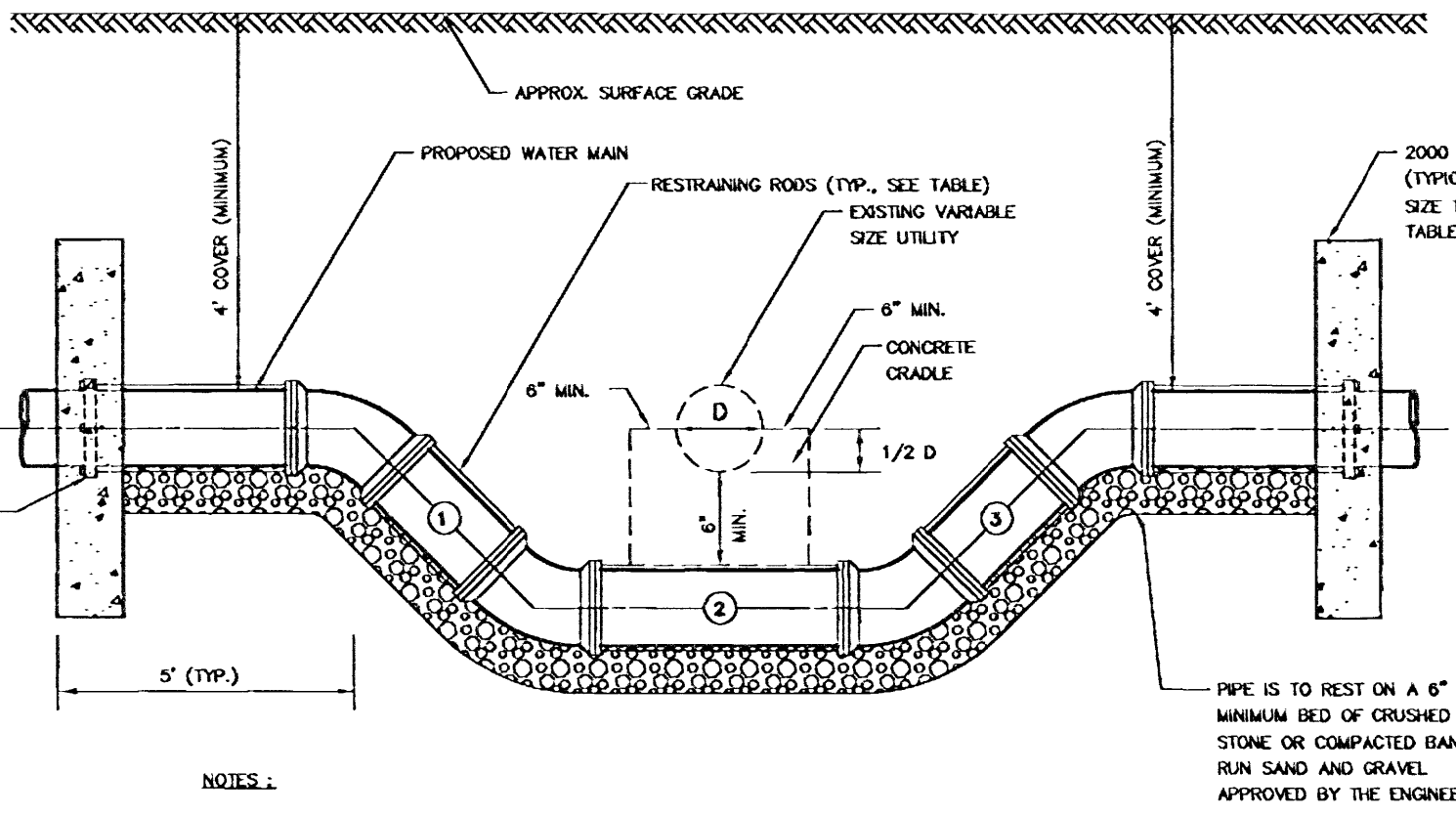
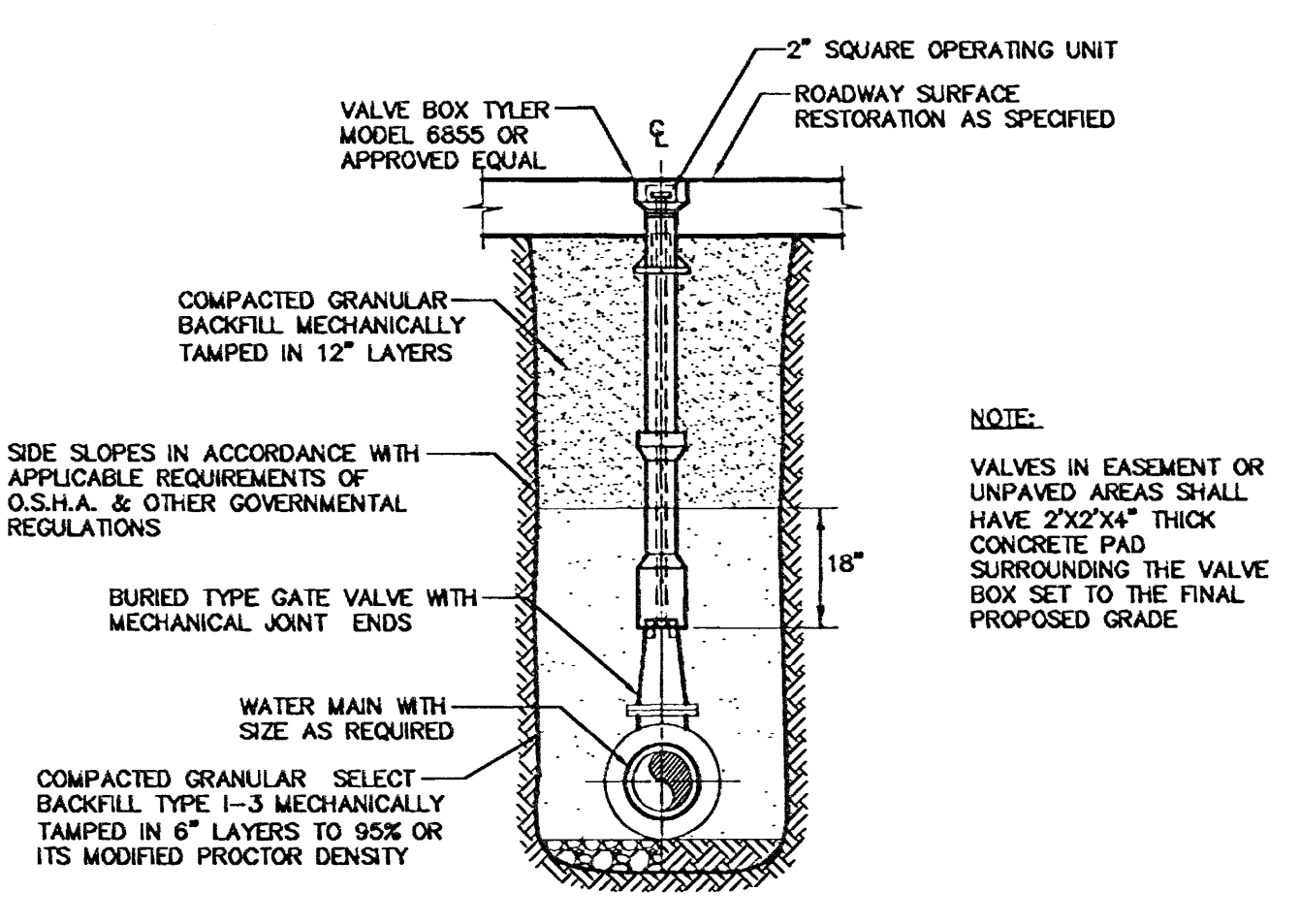
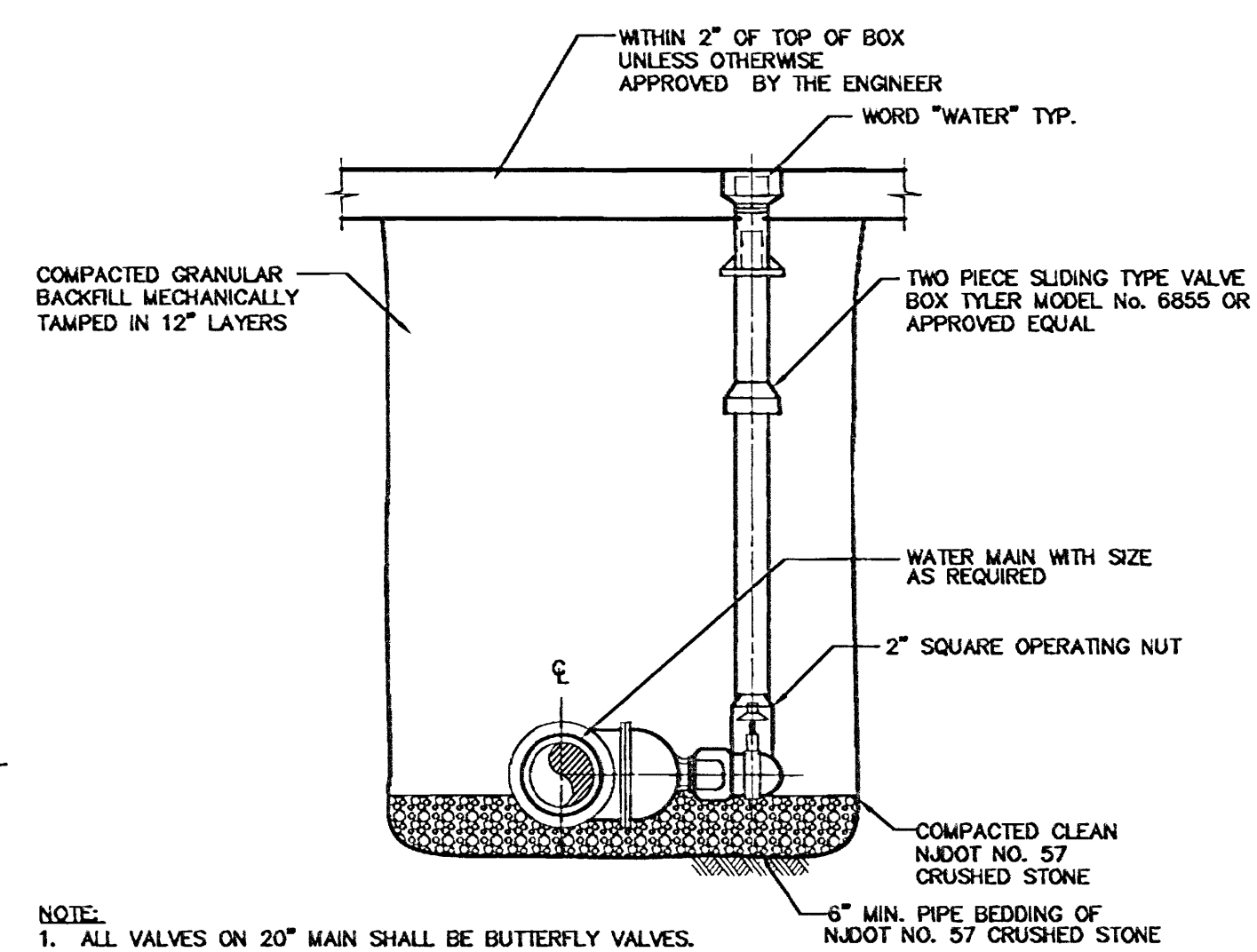
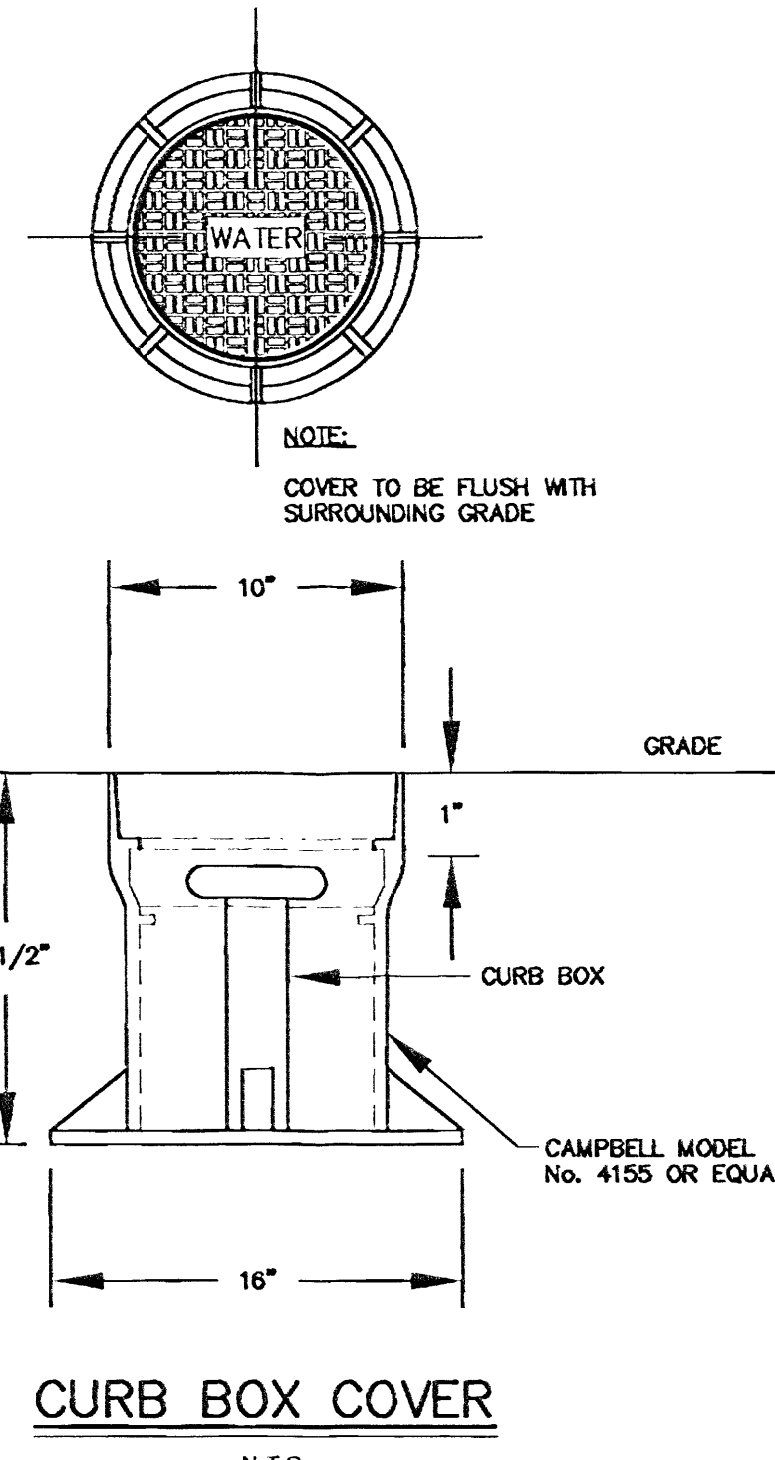
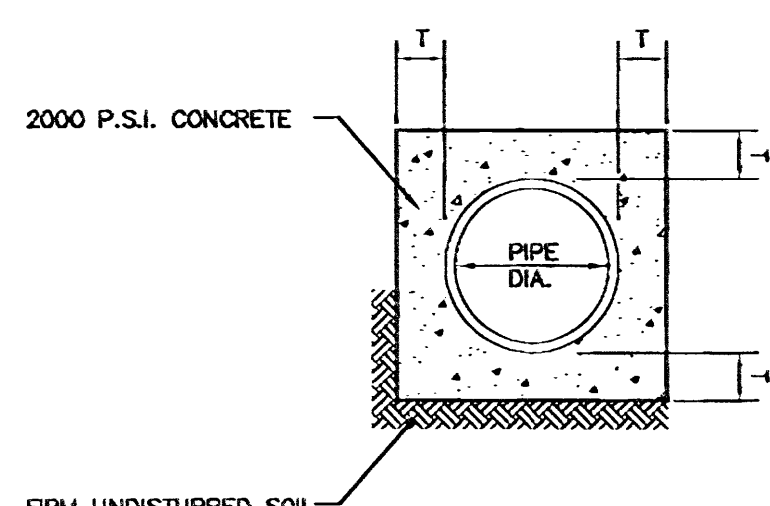
Where mains are to be constructed by anyone other than the Authority, the applicant shall make application and pay fees listed below:

- A. Application for Review of Preliminary Plans:
Base Fee (Minor Subs, etc.) -----
Major Subdivision or Major Site Plan -----\$50.00 per unit
(\$650.00 minimum)
- B. Application for Tentative Approval
Review Fee ----- 3% of estimated
construction cost
(\$650.00 minimum)
- C. Application for Final Approval
Review Fee ----- 2 ½% of estimated
construction cost
(\$650.00 minimum)
- Inspection Fee ----- 5% of estimated
construction cost
(\$750.00 Minimum)
- D. Assimilation of record drawings into overall GIS----- 2% of estimated
construction cost
(\$500.00 minimum)
- E. Attorneys Fees and Expenses-----\$3,000.00
The Applicant shall be responsible for all attorney fees
and expenses incurred by the Authority. In the event
that attorney fees and expenses exceed the initial
escrow the Applicant shall, before final approval, pay to
the Authority any and all amounts necessary to pay
said fees and expenses.
- F. Accountants Fees and Expenses
The Applicant shall be responsible for all accountant
fees and expenses if applicable, billed at current
contractual hourly rate.

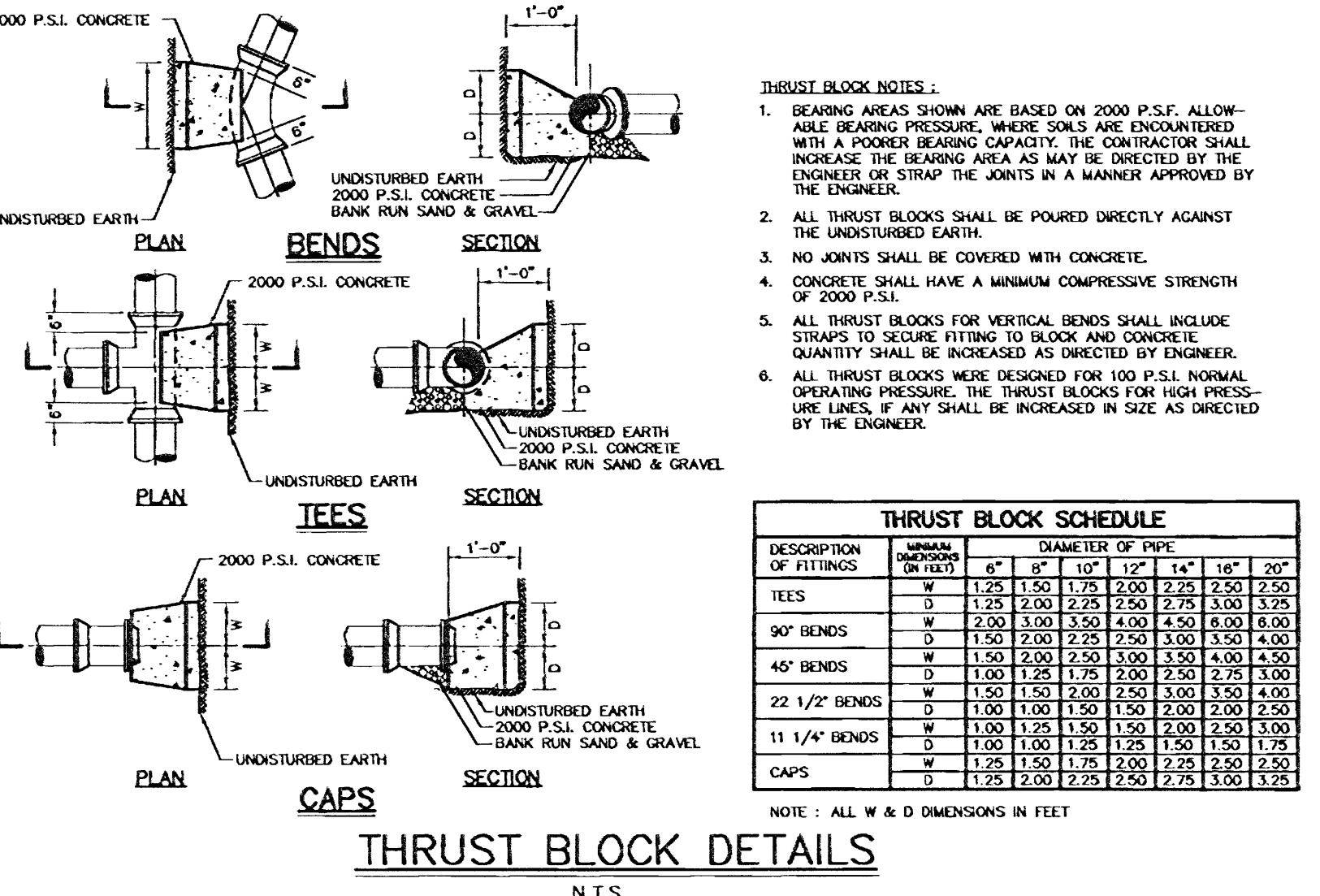
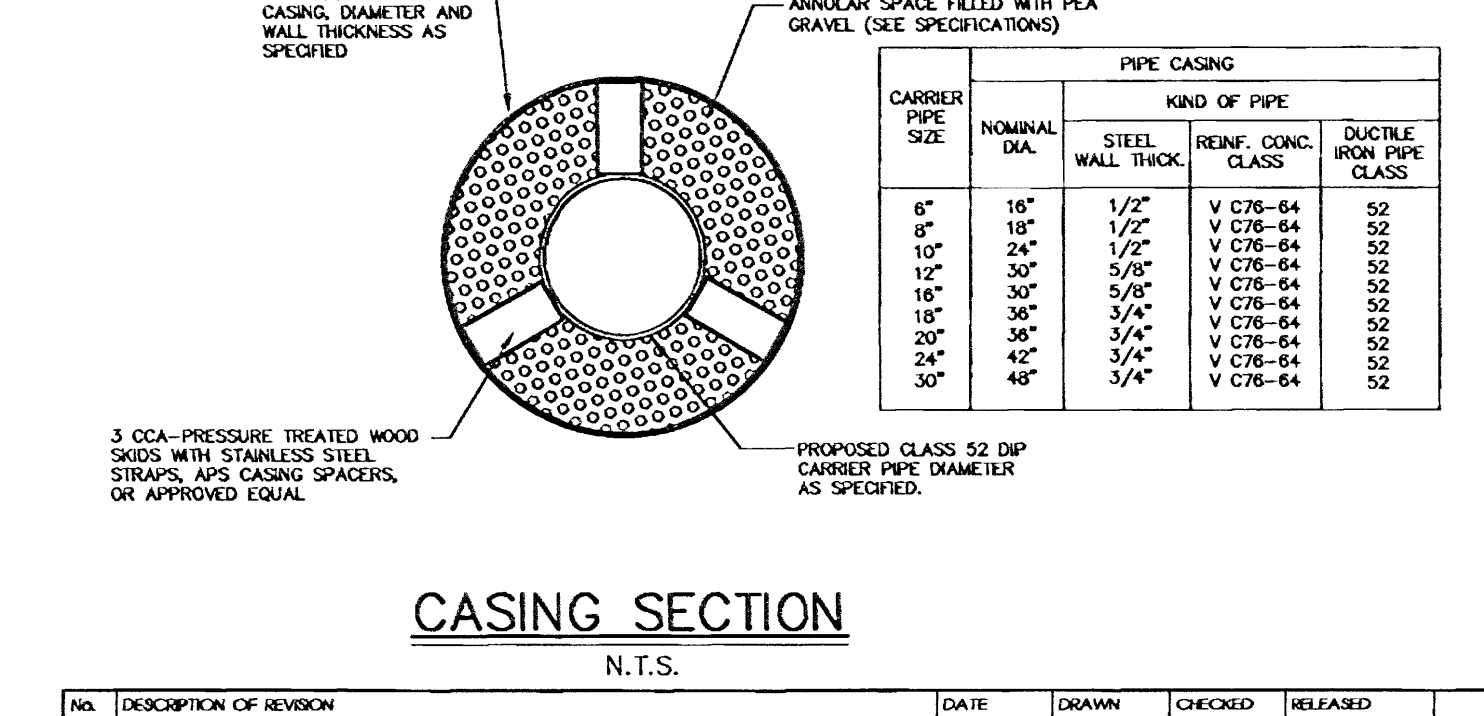
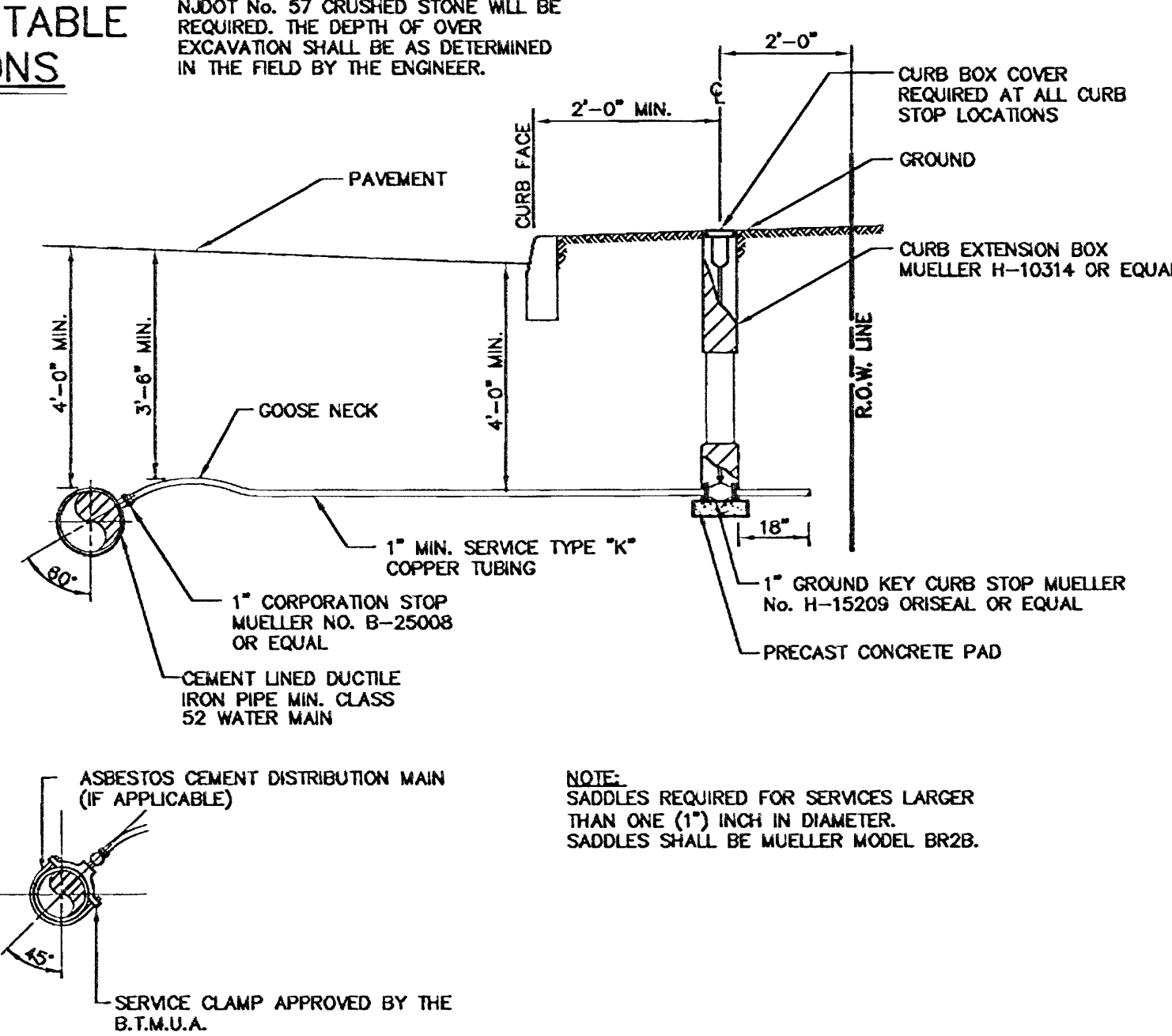
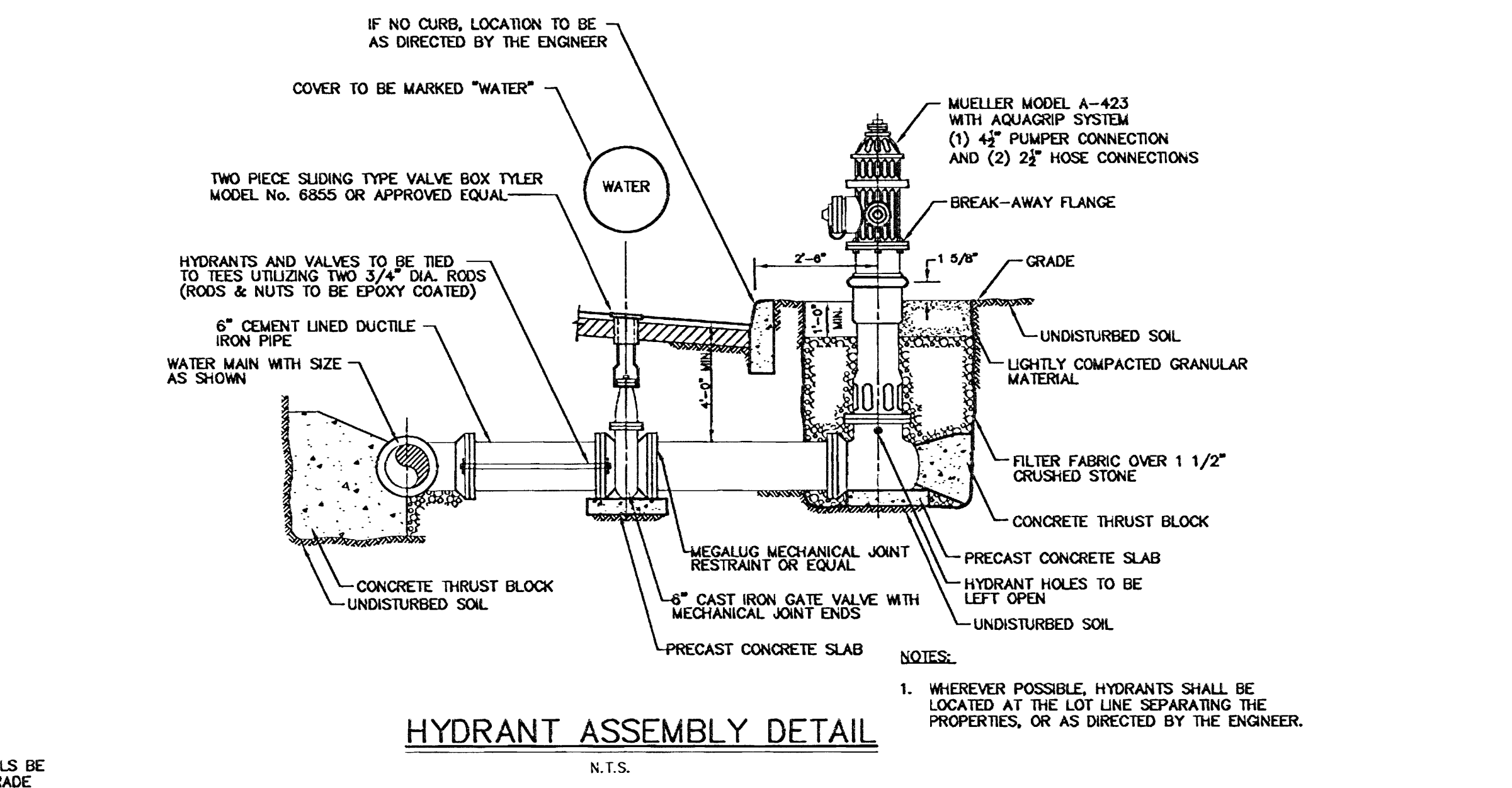
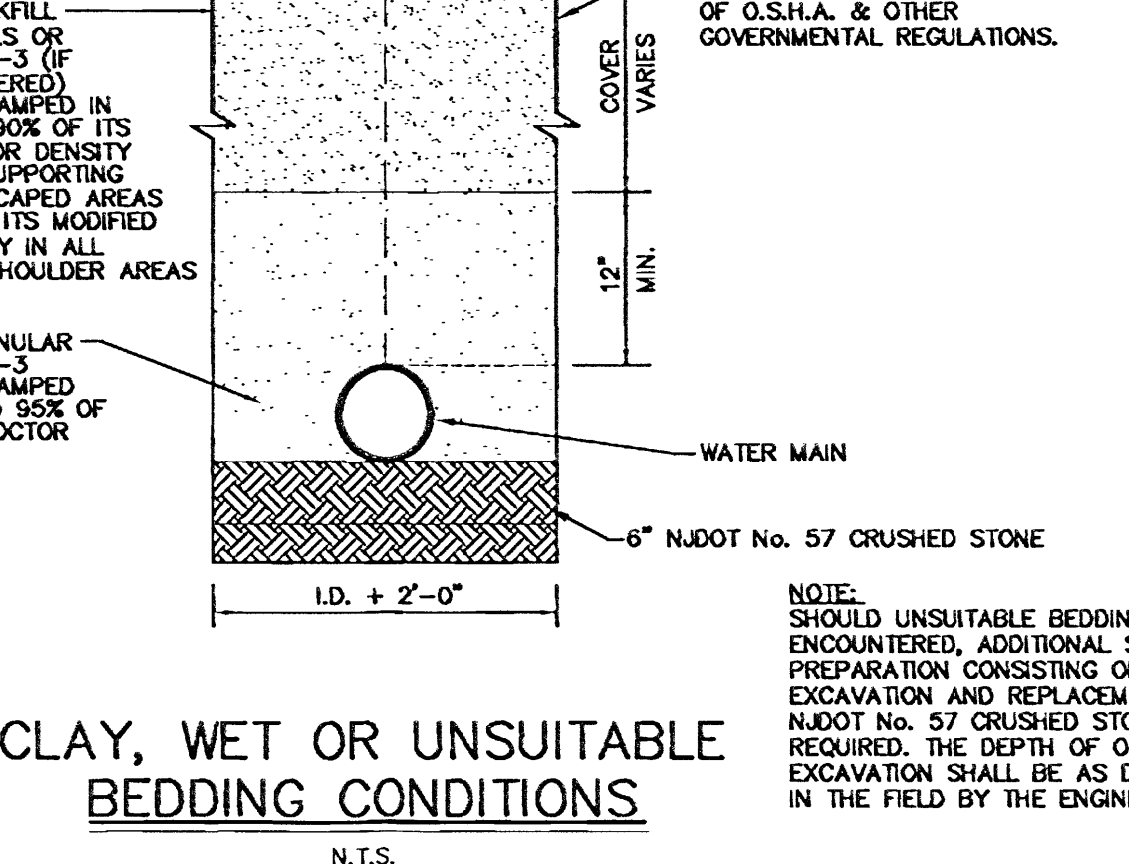
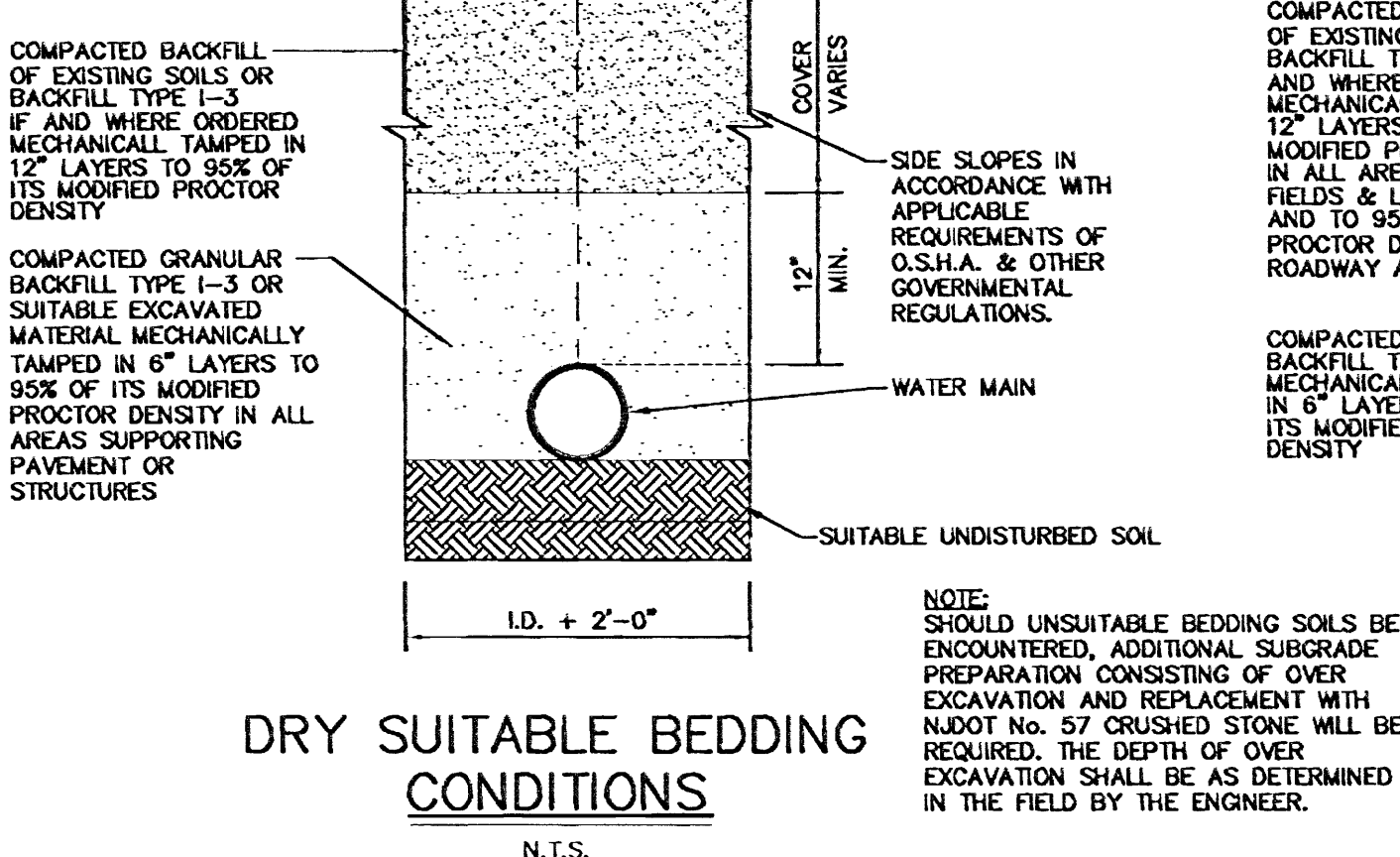
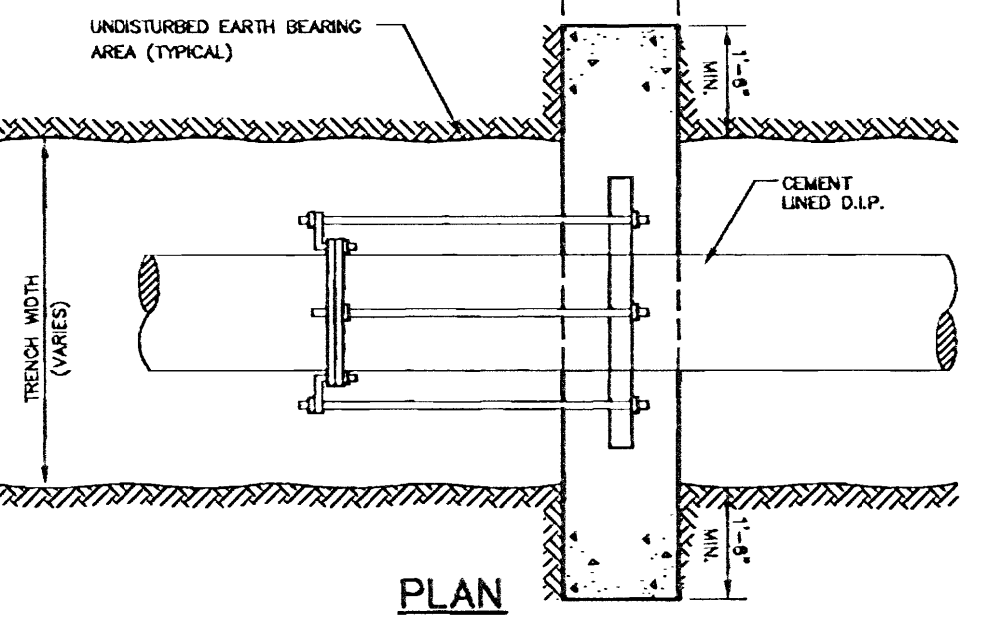
Applications for extensions of approval with no changes must be accompanied by a review fee of \$500.00. Application for revisions after submittal and initial review must be accompanied by a minimum review fee of \$500.00 or 50% of the original application fee, whichever is greater.



DIMENSIONS															
DIA.	6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"	42"	48"	54"	
T	5"	5.5"	5.5"	6"	6"	6"	6"	6"	6"	7"	8"	9"	10"	10"	12"



WATER MAIN SIZE		RESTRAINING ROSS (A-307) COLLAR (2000 PSI MIN.)			CONCRETE THURST COLLAR (2000 PSI MIN.)			WATER MAIN SIZE		RESTRAINING ROSS (A-307) COLLAR (2000 PSI MIN.)			CONCRETE THURST COLLAR (2000 PSI MIN.)		
NO.	SIZE (IN.)	W (FT.)	H (FT.)	T (FT.)	NO.	SIZE (IN.)	W (FT.)	H (FT.)	T (FT.)	NO.	SIZE (IN.)	W (FT.)	H (FT.)	T (FT.)	
1	8" & LESS	2	5/8	3.5	2.5	1.5	14" to 16"	4	5/8	3/4	5	4	2		
2	10" to 12"	2	5/8	4	3	1.5	18" to 20"	4	5/8	6.5	4	2			



THURST BLOCK SCHEDULE		Diameter of Pipe		Length of Block		Weight of Block	
DESCRIPTION OF FITTINGS	THURST BLOCK	6"	8"	10"	12"	14"	16"
TEES	W	1.25	1.50	1.75	2.00	2.25	2.50
90° BENDS	W	1.25	1.50	1.75	2.00	2.25	2.50
45° BENDS	W	1.25	1.50	1.75	2.00	2.25	2.50
22 1/2° BENDS	W	1.25	1.50	1.75	2.00	2.25	2.50
11 1/4° BENDS	W	1.25	1.50	1.75	2.00	2.25	2.50
CAPS	W	1.25	1.50	1.75	2.00	2.25	2.50

BERKELEY TOWNSHIP MUNICIPAL UTILITIES AUTHORITY
OCEAN COUNTY, NEW JERSEY

RULES AND REGULATIONS
CONSTRUCTION DETAILS FOR WATER DISTRIBUTION SYSTEM

CONSTRUCTION DETAILS SHEET 1 OF 1

(732) 727-8000 CONSULTING AND MUNICIPAL ENGINEERS (732) 462-7400

340 BORDENTOWN AVENUE, PARK, NEW JERSEY 08069-1922 340 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731-1919

JOHN H. ALLGAR, P.E. & P.P. DAVID J. SAMUEL, P.E. & P.P. JOHN J. STEFANI, P.E. & P.P.
N.J. REG. NO. 2588 N.J. REG. NO. 2588 N.J. REG. NO. 2588
JAY B. CONNELL, P.E. & P.P. MICHAEL J. MCCLELLAND, P.E. & P.P. GREGORY R. VALES, P.E. & P.P.
N.J. REG. NO. 2588 N.J. REG. NO. 2588 N.J. REG. NO. 2588

MICHAEL J. MCCLELLAND, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LIC. 32468

As Shown DATE MARCH 2013
DRAWN BY PGB DESIGNED BY KMC
CHECKED BY KMC SHEET 1 of 1

5.22.13