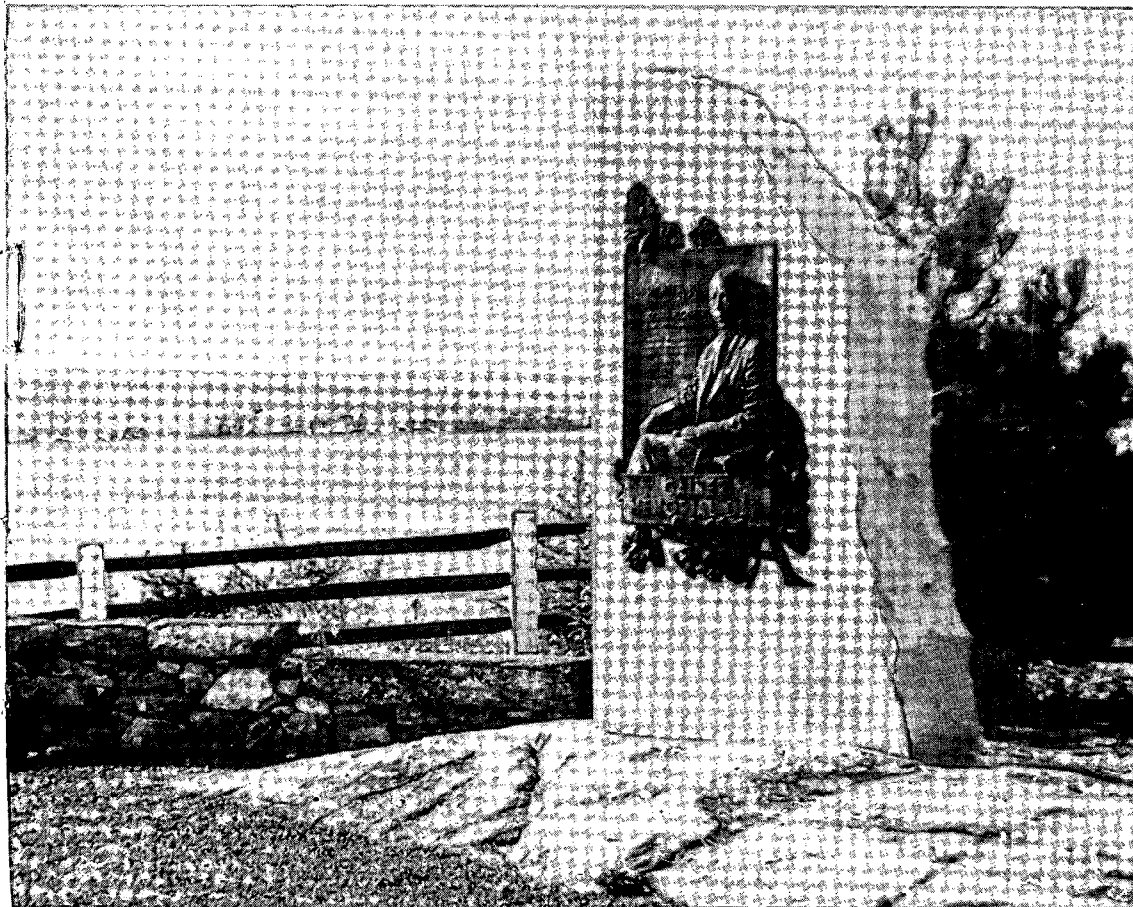


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CITY DOCUMENT



ANNUAL REPORT
of the
WATER SUPPLY BOARD
of the
CITY OF PROVIDENCE

For the Year Ended September 30, 1958

CITY DOCUMENT

ANNUAL REPORT
OF THE
WATER SUPPLY BOARD
OF THE
CITY OF PROVIDENCE
RHODE ISLAND

For the Year Ended September 30, 1958



REPORT

ADMINISTRATIVE OFFICE
WATER SUPPLY BOARD
CITY OF PROVIDENCE
OCTOBER 1, 1958

TO THE HONORABLE WALTER H. REYNOLDS, MAYOR, AND THE
HONORABLE CITY COUNCIL:

Gentlemen:

In compliance with Chapter XX of the Charter of the City of Providence, enacted by the General Assembly of the State of Rhode Island at its January Session, A. D. 1940, and approved April 26, 1940, we have the honor to present the eighteenth annual report of the Water Supply Board for the year ended September 30, 1958.

On January 2, 1958 John A. Doherty was reappointed a member of the Board for the ensuing term ending on the first Monday in January 1962.

At the re-organization meeting held on January 3, 1958, John A. Doherty was reelected Chairman and John J. Deary was reappointed Secretary.

The Board has held regular meetings throughout the year, meeting practically every week, at which careful consideration has been given to the many problems arising in connection with maintenance and operating activities, the Department's financial structure, matters relative to taxes levied on property owned in nearby communities, and other miscellaneous departmental du-

ties which properly come before the Board. Special meetings were held throughout the year for consideration of particular problems which have arisen.

The report of the Chief Engineer with many important tables and statistical data is appended hereto, to which we invite your attention for details and particular information regarding the finances of the Department and conduct of the work during the above period.

Respectfully submitted,

WATER SUPPLY BOARD

JOHN A. DOHERTY, *Chairman*

EARL H. ASHLEY

UGO RICCIO

JOHN J. TIERNEY

MICHAEL N. CARDARELLI, *Ex-Officio*

John A. Doherty
Chairman

IN CITY COUNCIL

FEB 19 1959

READ:

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

D. Everett Whelan
CLERK

REPORT OF THE CHIEF ENGINEER

Providence, R. I.
October 1, 1958

WATER SUPPLY BOARD
CITY OF PROVIDENCE

Gentlemen:

The following is the report of operations of the Providence Water Works for the fiscal year ended September 30, 1958.

During this fiscal year a new rainfall record was established. The rainfall observed amounted to 66.28 inches, or 3.73 inches more than the previous maximum of 62.55 inches recorded during the year ended September 30, 1938. It was approximately double the record minimum of 33.43 inches established last year, and 17.83 inches more than the 43-year average of 48.45 inches. The monthly rainfall exceeded the 43-year averages for each month, with the exception of October, June, and August.

As a result of the record rainfall, the runoff for the year amounted to 32.91 inches. This was more than double the 15.45 inches collected last year, and 7.89 inches more than the 43-year average of 25.02 inches.

Because of the excessive amount of rainfall, the consumption of water was in marked contrast to the amount used last year. The maximum daily consumption for the year occurred on July 2, 1958 when 68,526,000 gallons were consumed; this was 16,174,000 gallons less than the record maximum of 84,700,000 gallons used on June 17, 1957. The average daily consumption for the year amounted to 40,440,986 gallons, which was 3,295,521 gallons less than the 43,736,507 gallons per day consumed last year.

Shortly after the installation of a jacked sewer casing under our Neutaconkanut Conduit, by contractors under the employ of the Johnston Sanitary District, a leak was discovered in the 60-inch conduit bend adjacent to the sewer construction. Because this situation jeopardized the entire distribution system, immediate preparations were made in consultation with the Lock Joint Pipe Company, to effect quick repairs and provide additional reinforcement against further movement or disturbance in this area. The C. L. Guild Construction Co. of East Providence was engaged to install a sheet steel piling bulkhead adjacent to the original thrust and anchorage block, and a reinforced concrete pier wall was installed between the steel piling and the original installation. Additional concrete thrust blocks were installed in two other locations to distribute the entire thrust of 91 tons of pressure over a much greater area of soil contact. The Neutaconkanut Conduit was taken out of service and repairs to the leaking joint were made by interior welding of joint rings, thereby coupling the bend to the upstream and downstream sections of 60-inch concrete pipe. Considerable difficulty was experienced in the operation of 48-inch gate valves both upstream and downstream of the repaired area and in attempting to reopen a 48-inch valve near Fletcher Avenue, after the repairs were made, the valve bonnet suddenly split open and again emergency methods were necessary to effect a second shutdown and remove the damaged valve. The conduit was restored to service by the installation of a section of 48-inch steel pipe and a contract was quickly awarded to the S. Morgan Smith Co. of York, Pennsylvania, to furnish a 48-inch Butterfly Valve for replacement. Upon delivery of the butterfly valve, the installation was completed at a total cost of \$15,639.04 for this single unit. It was quite apparent from these operations that a major valve replacement program was imminent since all of the 48-inch gate valves, which were necessarily operated in connection with this work, were found to be unreliable and incapable of quick and dependable operation in an emergency.

On April 4, 1958, one of the worst cases of main failure in the department's history, occurred in the Olneyville Square section of Providence. At 9:40 P.M. a telephone call was received

from the gasoline station attendant at Hartford Avenue and Plainfield Street, to the effect that apparently a water main had broken in this area. The switchboard was then quickly flooded with other calls of this same nature and the emergency crew was immediately dispatched to the trouble area, arriving there at 9:55 P.M. The crew began closing valves in Hartford Avenue and Manton Avenue on both sides of the break to sectionalize the area. Within a very short time, the operator of our Neutaconkanut Pumping Station notified one of the Division Engineers at his home that the delivery of high service pumping units was falling off quite rapidly, and within minutes the several key personnel in the engineering division had received notification of this serious trouble and quickly reported to the W. S. B. offices. Further reports received from Neutaconkanut Station indicated an alarming drop in storage of Neutaconkanut Reservoir, and shortly thereafter, two regular construction crews, fully manned, were sent to the easterly and westerly approaches to Olneyville Square. At the time the additional crews arrived, it was quite apparent that the break was in the 30-inch main traversing the Olneyville Square area, and they were instructed to isolate this larger main. The sudden drop in Neutaconkanut Reservoir indicated that water was escaping through the broken main at a rate in excess of 140 million gallons per day. This presented an immediate problem in valve operation since the 30-inch pipe line velocities induced by the open break were conceivably in excess of 22 feet per second, and imposed a load on valve operating mechanisms of such magnitude that it was necessary to proceed with closing operations in a slow and cautious manner for fear of damaging or breaking the operating mechanism. The flow through the break was somewhat reduced in a short time, and crews continued working throughout the night until the leakage was brought under control. Arrangements were then made for the engagement of private contractors who proceeded to unwater and excavate the area to permit our crews to repair the damaged main. The broken section was removed and replaced with a new full length of 30-inch pipe, which was obtained from stock held for emergencies of this nature. The work of making repairs was completed and the main was restored to full service on Tuesday, April 8. The

work of private contractors in repairing other utilities and highway and sidewalk damage continued and was completed at a later date.

Plans and specifications for a new 20-inch main in Lloyd Avenue from the existing 30-inch in Thayer Street to Wayland Avenue, a new 16-inch main in Wayland Avenue to Sessions Street, and a new 12-inch main connecting through Sessions Street to the existing mains in Elmgrove Avenue and Cole Avenue to reinforce portions of the Low Service distribution system in the east side area of Providence were completed. After competitive bidding a contract for the work was executed with the Fanning and Doorley Construction Company on April 10, 1958 at a contract price of \$131,942.70.

The work included installation of approximately 3,450 feet of 20-inch, 2,580 feet of 16-inch and 930 feet of 12-inch asbestos cement pipe and appurtenances with numerous connections to the existing mains in the area. The existing 6-inch main in Wayland Avenue was to be removed and replaced with the 16-inch main, all services and hydrants to be connected to the new main. The installation of two 20-inch and one 16-inch butterfly valve was also included in the work to be done.

Construction started on May 5, 1958 but because of delays in obtaining deliveries of the larger size cast iron fittings and other material, the installation was only 50% completed at the end of the year.

Bids were received on October 21, 1957 for the construction of a high service reinforcement main in Atwood Avenue, Johnston. This installation was necessary due to pressure deficiencies occasioned by new developments at the outer limits of our high service distribution system. The results of a Pitometer Survey, including rate of flow and loss of head tests, conducted in the previous year proved conclusively the need of reinforcing this area, and the E. F. Capaldi Construction Company, the lowest bidder, was awarded a contract for the installation of a 16-inch asbestos cement main in Atwood Avenue between Cen-

tral Avenue and Plainfield Street, and a 12-inch asbestos cement main in Plainfield Street between Atwood Avenue and Mill Street. Work began on this project on November 14 and included two stream crossings under state highway bridges, together with new valving and several 12-inch and 8-inch reinforcing connections to existing mains in Atwood Avenue along the route of the 16-inch main. Except for a short period of shutdown due to severe weather in January, the work progressed steadily and the new main was placed in service on March 29, 1958. The final cost of this project, including extensive repairs to state highways, was \$93,006.57.

Studies for expansion of pumping facilities, occasioned by the extremely high demands of the previous year on the High Service portion of the distribution system, were completed and plans and specifications for contractual bidding were prepared. Bids were received on March 24, 1958, and the R. J. Berke Co. of Newton Centre, Mass., the lowest bidder, was awarded a contract in the amount of \$48,984.00 for furnishing and installing at the Neutaconkanut Station, two 10 m.g.d. centrifugal pumps, one unit to be provided with an electric motor drive and the second, an auxiliary unit, to be provided with a gasoline engine drive. The original bid included pumps with an efficiency of only 81 per cent and upon negotiations with the pump manufacturer the efficiency was guaranteed at not less than 86 per cent for an increase in cost of \$375.00 per unit. The work involved in the contract included the removal and replacement of two existing hydraulic cone check valves and the removal and replacement of an existing centrifugal pump, together with an obsolete gasoline engine drive. Approval for manufacture of the new equipment to be installed was given, and the work of piping changes and masonry construction was begun during the year, with erection and completion of the installation scheduled early next year.

The construction of new extensions to the distribution system and replacement and relocation of existing mains required the installation of 57,152.43 feet of various size and type of pipe. The greater part of this footage was installed by private con-

tractors under competitive bidding. Five contracts, involving 63,850 feet of main extensions and replacements, were awarded during the year; three to the Fanning and Doorley Construction Company for 39,415 feet, one to the C. Brito Construction Company for 18,260 feet, and one to Edward F. Capaldi, Inc., for 6,175 feet. Included in the Fanning and Doorley contracts was a contract for the installation of the Low Service Reinforcement Mains in the East Side Section of Providence involving 7,150 feet of main. The contract with Edward F. Capaldi was for the High Service Reinforcement Main in Atwood Avenue and Plainfield Street in the Town of Johnston.

In connection with the construction of the Huntington Avenue Expressway, the M. A. Gammino Construction Company installed 864 feet of mains in new locations, and the Fanning and Doorley Construction Company laid 416 feet of new main in Exchange Terrace and the East Approach to the Union Station in connection with the reconstruction of Exchange Terrace in Providence.

Other extensions, involving the installation of 176 feet of main, were laid by the department forces.

Main extensions were laid in 179 different streets, with approximately 15,228 feet remaining to be laid at the end of the year.

On November 4, 1957 bids were received for the installation of 56 Post Hydrants at various locations on the distribution system, and on November 20, 1957 a contract was executed with John Ambrose of Cranston for the work at a total bid price of \$18,173.00. Under the terms of the contract the contractor furnished all materials except the hydrants which were furnished by the department. Work started on December 23, 1957 and was completed on April 14, 1958, the final estimate amounting to \$17,979.06.

Capital improvements totalled \$640,190.07 during the year, of which \$584,534.41 was expended for improvements to the

distribution system, including regular main extensions, new services, gate valves and hydrants; the remainder being expended for miscellaneous capital items. These improvements were financed out of income without resort to bond issues.

Applications for water service totalled 957 or 118 less than in the previous year. Of this number 113 required extensions to the distribution system. A total of 881 new services were installed, 866 general supplies and 15 fire supplies.

Under the terms of Chapter 1525 of the Ordinances and Resolutions of the City of Providence for 1946, this department was charged with the operation of the sewer rental law, which took effect October 1, 1946. During the fiscal year ended September 30, 1958, the gross sewer rental collection totalled \$137,156.94.

Automotive and construction equipment owned and in use by the department totalled 25 various trucks, 18 passenger cars including 2 jeeps, 9 compressors, various pumps and other miscellaneous equipment. The records of the department indicate that trucks were operated a total of 36,033 truck hours at a cost of 69.6 cents per hour including depreciation, compressors 4,157 hours at 41.6 cents per hour, and passenger cars were driven a total of 198,105 miles at a cost of 6.6 cents per mile.

The Hydro Electric Station at Gainer Dam in Scituate was taken out of service for the period from October 21 to November 14, 1957 for the purpose of making major repairs to the hydraulic turbine, the necessity of which was revealed by an inspection made in October, 1956.

The work of making repairs was performed by our maintenance force under the supervision and direction of a field service representative of the S. Morgan Smith Co. of York, Pennsylvania, who are the manufacturers of this equipment, and included the complete rebuilding of the wicket gate mechanism, replacement of bottom lignum vitae bearings and housing, re-babbiting of turbine and governor shaft bearings, installation of new gate push and pull rods, new eccentric and gate link

pins, and overall adjustment and realignment of the entire assembly.

Coincident with this work, field service representatives of the Lombard Governor Company and the Westinghouse Electric Company were retained for the purpose of making inspections, adjustments and minor repairs to the hydraulic governor and the 1875 KVA 2300 volt A.C. generator. This work was done without incident and was completed prior to completion of work on the turbine.

Repairs made were the first of a major order since the installation of this equipment in 1926, and leaves this installation in as good condition as could be expected consistent with the years of service.

With the installation of eight 12-inch motor operated butterfly valves on the filter effluent piping at the Purification Works, the program of replacing worn and obsolete effluent gate valves, installed in 1926 and 1940, was completed. The total of 28 now installed, which began in the year 1954, and representing a total cost of \$47,988.00, have demonstrated a most satisfactory performance for this major improvement. The new butterfly valves are of a type that is used quite extensively in present day water works design where flow control is required. Each butterfly valve, which performs the combined function of flow control and positive shutoff in a most satisfactory manner, replaces four original valves, the combined operation of which were not in any sense comparable with the new installation.

With the demonstrated successful operation of butterfly type valves on the filter effluent piping, the program of replacing the worn 24-inch filter wash water gate valves, installed in the 1926 and 1940 years, is contemplated for the coming year. Extensive tests and observations of wash water requirements have been made during the latter part of this year relative to valve sizing, velocities, speed of opening, filter sand expansion and rate of wash water rise through filters. This data has been applied to the flow characteristics of butterfly valve design, and

specifications are now being prepared for a contractual purchase of two A.W.W.A. specification rubber lined, motor operated butterfly valves for this purpose. It is quite apparent now, because of the recent numerous wash water gate valve failures, that the replacement program, based on the performance of the two units contemplated, will have to be accelerated at a greater rate than originally planned.

Installation of a radio communications system to operate on an F.C.C. assigned frequency of 153.71 megacycles was begun in January, 1958; and the entire system, comprising 5 base stations, 26 mobile units and one portable unit, was completed and placed in full operation on March 15. The system and equipment, provided for under a contract amount of \$20,441.00, were furnished and installed by Motorola Radio Communications and Electronics, Inc. The successful operation of the past several months has demonstrated quite conclusively the advantages of a rapid and dependable means of communication in dispatching and instructing crews in emergencies where time of control in preventing property damage is of such importance.

Construction began during the year on the Pumping Station in the Garden Hills Development in Cranston. This installation is being constructed by and at the full expense of the developers of Garden Hills and will serve only a certain area within the plat, comprising approximately 200 homes, which will be located above the normal operating level, elevation 140 M.H.W., of the low service distribution system. Architectural services for the pump house structure were furnished by the developer, and engineering plans and specifications for mechanical equipment, electrical work, piping, etc., were prepared by our own engineering force and turned over to the developers. Private bids were solicited by the developer and contracts were awarded by them for the furnishing and installation of mechanical equipment, electrical work, piping, etc., subject to the approval of this department. It is contemplated that this project will be completed early in 1959, along with the completion of a group of new homes to be serviced by this new facility. Some time after completion, this new pumping station with all appurten-

ances will be transferred in ownership to the City of Providence, and will be maintained and operated as a part of our distribution system in accordance with the agreement executed by the Mayor under City Council Resolution No. 353, approved May 3, 1957.

The Master Plan development for improvements at the Water Purification Works has progressed toward a final stage, and on June 18, 1958 the Mayor signed and forwarded an application for advance planning funds for this project to the Housing and Home Finance Agency of the Community Facilities Administration of the Federal Government. This project contemplates a total estimated expenditure of \$1,100,000, and includes major building changes at the Purification Works to permit maximum economy of operation and provide additional room for chemical treatment, storage and handling, laboratory research, group instruction, main entrance lobby, approach driveways and parking areas. Included also is new and enlarged equipment for handling, storing and feeding chemicals, electrical power transmission cables with expanded transformer capacity and a new power distribution center with provision for increased power circuits. The design of the project is to be a joint venture with Oresto DiSaia, Providence architect, selected at a designated fee of \$39,000 to perform all building architectural and building design services, and the department's engineering force to prepare design and details for equipment and mechanical installation.

An application was also made to the Housing and Home Finance Agency of the Community Facilities Administration for advance funds covering costs of preparing final detailed plans and specifications for construction of the proposed 40 million gallon underground concrete Aqueduct Reservoir for distribution storage. This improvement is to be constructed on land recently acquired by condemnation and located off Scituate Avenue near the Scituate Aqueduct in Cranston. The project has been under consideration since 1940, and with the steadily increasing demands on the distribution system, it was concluded that any further delay at this time would seriously affect the

ability of the distribution system to meet peak loads and provide the proper and safe amount of storage required for fire protection purposes. Charles A. Maguire and Associates of Providence have been designated as the consulting engineers, with an estimated fee of \$80,000.00, to prepare the necessary contract plans and specifications for the proposed facilities. The total estimated cost, excluding land, has been set at a figure of \$2,150,000.00.

A complete appraisal of the Providence Water Works, detailing an inventory and original cost of all real estate and improvements, water mains, gate valves, hydrants, services and other items, was completed this year. This appraisal was necessary in order to provide information for a study of our Water Rate Schedule.

Rates for Providence water have remained unchanged since 1923. Efficient management, reduction of unaccounted-for water, and the annual increases in consumption have provided the means for holding the rate-line. However, present water revenues are insufficient to match the increased costs of operation and maintenance, and to provide for debt service requirements on the bonds sold to finance the original construction of the reservoir and purification works. In addition, present revenues must be increased to enable the Water Supply Board to market \$3,250,000 in bonds for construction of a covered storage reservoir in Cranston and for improvements to the purification works.

Accordingly, a detailed rate study was undertaken during the year. This study, only partially completed at the end of the year, will cover the distribution of capital, together with distribution of operation and maintenance costs of Production, Transmission and Distribution for the purpose of establishing an equitable rate schedule for all consumers.

SOURCE OF SUPPLY

SCITUATE WATERSHED—RAINFALL AND RUNOFF

The rainfall on the 92.8 square mile Scituate Watershed above Gainer Dam was measured as usual by rain gages at Rocky Hill, Hopkins Mills, North Scituate, Westcott District and Gainer Dam. For the year ending September 30, 1958, a total of 66.28 inches was recorded which is 17.83 inches greater than the 43-year (1916-1958) average of 48.45 inches. The rainfall for the year was 137% of the long term average, and was the highest for the 43-year period of record. The previous maximum was 62.55 inches, established during the year ended September 30, 1938.

There were four equally long periods of six days of successive rainfall, with the most productive period occurring between July 26 and 31, 1958 when a total of 4.42 inches was recorded; with a maximum of 1.29 inches on July 30 and a minimum of 0.014 inches on July 27. The period May 3 to 8 produced 2.23 inches, the period July 3 to 8 produced 1.55 inches, and the December 6 to 11, 1957 period produced 3.49 inches. There were two equally long periods of nine days when no rainfall was recorded; these occurred from October 9 to 17, 1957, and from March 4 to 12, 1958.

During the months of November and December 1957, and January, February, March, April, May, July and September 1958, the monthly rainfall exceeded the 43-year averages for those respective months; the maximum monthly rainfall occurred in January 1958, when 8.46 inches was recorded, exceeding the average for January by 4.27 inches. The maximum day's rainfall for the year occurred on January 7 when 2.28 inches was recorded, with the station at Hopkins Mills measuring 2.85 inches. The minimum monthly rainfall, 2.69 inches, was measured in June 1958, which was 0.96 inches below the 43-year average for that month.

During the months of January, March, April, May, July, August, and September 1958, the monthly runoff exceeded the 43-year averages for those respective months. The maximum monthly runoff occurred in April, when the amount collected totalled 6.89 inches, or 3.01 inches above the 43-year average for that month. The minimum monthly runoff, 0.06 inches, was collected in October 1957, and was 0.75 inches below the 43-year average for that month. A new record was established for the month of January, when the runoff collected amounted to 6.59 inches, or 1.81 inches more than the previous maximum of 4.78 inches collected during January 1935. In addition, the record for the month of April, 6.89 inches, established in 1940, was equalled during April of this fiscal year.

Statistical rainfall and runoff data for the year ended September 30, 1958, and the years of previous watershed record may be found in Tables 1, 2, 3, and 4 of the Appendix.

SCITUATE WATERSHED STORAGE, DRAFT, AND YIELD

On October 1, 1957 the water in Scituate Reservoir was at elevation 273.47, or 10.54 feet below the spillway level; the total storage then amounting to 26,315,000,000 gallons, or 71.10% of reservoir capacity. At the end of the year, October 1, 1958, the reservoir was at elevation 279.27, or 4.74 feet below the spillway level, with a storage of 31,997,000,000 gallons, or 86.45% of capacity. From October 1, 1957 the elevation dropped steadily to 268.93 on December 7, or 15.08 feet below the spillway level; the total storage then amounting to 21,854,000,000 gallons, or 59.05% of capacity, the smallest amount in storage for the entire year. The record minimum elevation was 264.68 on December 26, 1930; the storage being 18,770,000,000 gallons. On December 8, 1957 the elevation began to rise quite rapidly, reaching spillway elevation 284.01 on March 20, 1958, and continued upward to the maximum elevation for the year of 285.75 on April 14. At this point the total storage amounted to 38,957,000,000 gallons, or 105.26% of capacity. From that date, the storage decreased in a fairly steady manner, with minor fluctuations, to the end of the year, October 1, 1958.

The combined storage on the watershed, including Regulat-ing, Westconnaug, Barden, Moswansicut, Ponaganset and Scituate Reservoirs, on October 1, 1957 amounted to 29,538,000,000 gallons, or 71.6% of combined total capacity; and at the end of the year, October 1, 1958, the combined storage was 36,475,000,000 gallons, or 88.4% of capacity. The maximum combined storage was on April 12, when 43,432,000,000 gallons, which is 105.2% of capacity, was impounded. The minimum combined storage was on December 7, when 25,890,000,000 gallons, which is 62.7% of capacity, was impounded.

Available storage statistics in detail will be found in Table 5 of the Appendix.

The total draft from the Scituate Watershed for the year was 46,126,650,000 gallons, or an average of 126,374,000 gallons per day. The draft for water supply purposes was 16,566,450,000 gallons, or an average of 45,387,000 gallons per day. The discharge into the north branch of the Pawtuxet River totalled 29,560,200,000 gallons, equal to 80,987,000 gallons per day. The discharge to the river was released at rates and during the hours which were most advantageous to the mills on the Pawtuxet River below Gainer Dam.

The yield from the Scituate Watershed for the year was 53,063,650,000 gallons, or an average of 145,380,000 gallons per day, which is 19,006,000 gallons per day more than the total daily draft, and 34,900,000 gallons per day more than the average daily yield for the 43-year period 1916 through 1958.

Draft and yield statistics will be found in Table 6 of the Appendix.

SCITUATE WATERSHED FORESTRY OPERATIONS—1958

Forestry operations during the year 1958 have resulted in further expansion of roadside and shoreline brush control areas, reforestation, plantation pruning, thinning of natural

pine stands and plantations, weeding and other related operations necessary to maintain the health and productivity of the Source of Supply forest cover.

Brush Control

Expansion of our roadside brush control program has extended the area under annual brush control from 12.5 miles to 14.0 miles of our primary road network. Work has been completed on Routes 116, 6 and 101 with emphasis now being shifted to the Tunk Hill Road and Route 14. Completion of these two major roads will allow us to shift the major portion of this effort from roadsides to reservoir shorelines.

In addition to brush control at the Source of Supply, we have also recut the aqueduct properties from the East Portal to Pontiac Avenue during the summer of 1958.

Forestry

As dictated by stand conditions, the adopted forestry program was continued with all activities directed toward:

- (1) Plantation thinning.
- (2) Thinning of natural white pine-pitch pine.
- (3) Conversion of hardwood site possession to pine.

Under our thinning program, we are now operating our 20-30 year old pine plantations for pulpwood. Older plantations which have not been thinned are exhibiting a decreasing rate of growth due to the existence of a greater number of trees per acre than the physical and mineral carrying capacities of the soil can support. It is important that a fast rate of growth be maintained in our plantations if we are to produce good quality lumber at a relative early age. As trees grow older their crowns and roots expand. By the 20th year individual trees are in strong competition with one another for available light, water and mineral nutrients. The cutting of selected trees reduces crown and root competition while leaving the better trees to grow at a satisfactory rate. Trees to be removed are marked by the Forester on the basis of tree form, vigor and

spacing. Volume removal is limited to 1/3 of the total volume and leaves from 400-450 trees per acre after the first thinning. By making a light cut in the first thinning it is possible to return in five years for a second thinning. The ideal thinning leaves a maximum number of trees per acre which can completely utilize the available supplies of light, moisture and mineral nutrients.

Plantation thinning procedures on the watershed are described as follows:

- (1) In alternate row red and white pine plantations, it is usually necessary to remove the white pine almost completely due to heavy weevil damage to the white pine leaders.
- (2) In pure stands of red or white pine, tree marking is entirely on the basis of form, vigor and spacing on a selective basis.

Natural white pine stands exist on the watershed as a result of white pine seed trees discharging large quantities of seed into open fields. Conditions in natural white pine stands differ sharply from those of plantations. In planting an open field, we limit the number of trees to no more than 1,000 per acre. With natural seeding, the number of trees may rise to 2,000 per acre with resulting stand stagnation at an early age. It is fortunate that the majority of natural white pine stands contain an appreciable amount of pitch pine. Pitch pine is an excellent pulpwood species, but is not valuable as lumber. We are able to thin the natural white pine stands at a profit by removing the undesirable stand component, pitch pine, for pulpwood. The physical process of removing pitch pine thins the white pine and leaves the stand in excellent condition for maximum growth.

Our program of converting forest cover from hardwood to pine is continuing. This program involves the removal of hardwoods to liberate a good understory of white pine. This is a reasonable practice wherever pine of sufficient size and stocking occurs as an understory and where the soil is capable

of growing good pine. In all cases, hardwood of poor quality and vigor is removed in order to make way for a crop which can better utilize the site and is more economically valuable. Conversion by the use of a single notch girdle was accomplished on 12.0 acres during 1958.

Pruning operations were carried out on 47.4 acres involving 28,440 trees during 1958 for the following purposes:

- (1) Pruning pine stands before pulpwood operation.
- (2) Pruning lower limbs to reduce roadside fire hazard.

Thinning operations in white pine necessitate the pruning of all dead branches from ground level to a height of 6 feet above ground. This is due to the white pine's habit of retaining dead branches indefinitely, thus making it impossible to approach the bole of the tree to mark or cut it.

The reduction of roadside fire hazard calls for the removal of the lower limbs of all conifers to a nominal height of 7 feet above ground. By removing the lower limbs, we hope to limit roadside fires to surface fires on the ground rather than a fire running through the lower limbs into the crown and producing a devastating crown fire.

The forest fire preventive measures have produced excellent results for the past year. Fortunately there were only two small fires at the Source of Supply, which were quickly brought under control resulting in only approximately one eighth of an acre being burned.

The planting program was continued with the planting of 2700 Red Pine and 2000 White Pine seedlings during the Spring of 1958.

Regular maintenance of property at the Source of Supply was carried on throughout the year.

1958 FORESTRY OPERATIONS—AREA AND YIELD

Pine Pulpwood.....	66.8 acres.....	1012.95 tons.....	15.2 tons/acre
	66.8 acres.....	\$739.18.....	\$11.06 /acre

GAINER DAM—HYDRO-ELECTRIC PLANT

The Hydro-Electric Station at Gainer Dam was taken out of service from October 21 to November 14, 1957, inclusive, for the purpose of making major repairs to the water wheel equipment. During the time of shutdown, water was discharged to the Pawtuxet River below Gainer Dam through the 30-inch blow-off outlet from the 60-inch steel pipe aqueduct. A detailed description of repairs made is included elsewhere herein.

Other than the period of shutdown, satisfactory operation was continued for the balance of the year with the plant operating a total of 275 days or 3,697.5 hours.

Power generated from the discharge of 25,626,320,000 gallons of water through the 1875 KVA Hydro-Electric Turbo Generator to the Pawtuxet River amounted to 4,923,200 Kilowatt hours, or an average of 5,205 gallons per Kilowatt hour. Of the power generated, 4,554,800 Kilowatt hours or 92.5% metered at Hope, R. I., was sold to the Narragansett Electric Company, and 229,564 Kilowatt hours was used at the Purification Works.

The rate of discharge through the station, concentrated during the hours of downstream mill operations, averaged 166.33 million gallons per day. On the basis of the contract year July 1, 1957 to June 30, 1958, the total power generated was 4,141,000 KWH and the power sold to the Narragansett Electric Company, metered at Hope, R. I., was 3,802,000 KWH.

Hydro-Electric Plant statistics on the basis of the "Contract Year," are shown in Table 8 of the Appendix.

WATER PURIFICATION WORKS

The Water Purification Works, located on the North Scituate-Hope Road about three-fourths of a mile from the Scituate Reservoir, has been in continuous and satisfactory operation throughout the year.

Water was drawn from Scituate Reservoir between elevations 213 and 220 and totalled 16,566,450,000 gallons, or an average of 45,390,000 gallons per day; the maximum for any one day being 78,560,000 gallons on July 2, 1958 and the minimum 25,730,000 gallons on December 21, 1957.

This water was treated with Ferri-Floc, aerated, dosed with slaked lime, mixed in the tangential mixer and coagulated in two concrete basins operated in series. Following a sedimentation period averaging approximately three and one half days, it was filtered through rapid sand filters, treated with sodium silicofluoride, and finally chlorinated before being delivered into the Scituate Aqueduct leading to the water distribution system.

With the exception of a few short-period shutdowns to examine plant structures and service equipment, influent flow and chemical treatment were carried on 24 hours daily to obtain a constant and unvarying degree of coagulation and filter efficiency. The Ferri-Floc feeders and the quicklime feeders and slakers are the Omega gravimetric type, the automatic operation of each being controlled by an electric signalling device proportional to the rate of flow of water through the influent Venturi.

Water for dissolving Ferri-Floc and for lime slaking was maintained at a temperature of from 90 to 100 degrees Fahrenheit. The Ferri-Floc was dissolved by using a ratio of three pounds of water to each pound of chemical and the quicklime was slaked by using a ratio of four pounds of water to each pound of lime.

Ferri-Floc used totalled 1,541,316 pounds, or an average of 4,223 pounds daily; with a maximum for any one day of 8299 pounds on February 24, 1958 and a minimum of 2056 pounds on December 21, 1957. The dosage averaged 0.65 grains per gallon, the maximum for any one day being 1.16 grains per gallon and the minimum 0.45 grains per gallon.

Quicklime used during the year totalled 1,568,313 pounds or an average of 4297 pounds daily; with a maximum for any one day of 7588 pounds on July 2, 1958 and a minimum of 2118 pounds on December 21, 1957. The lime dosage averaged 0.66 grains per gallon, the maximum for any one day being 0.87 grains per gallon and the minimum 0.51 grains per gallon.

Filters were operated a total of 72,595.68 hours during the year, at an average of 198.89 filter hours per day; the average length of filter runs being 79.92 hours which is 7.71 hours, or 10.68 per cent more than the average of 72.21 hours for the previous year. The maximum daily average of filter runs was 167.58 hours on September 17, 1958 as compared to a maximum of 137.75 hours during the previous year; and the minimum was 37.62 hours on February 16, 1958 as compared to a minimum of 35.27 hours during the previous year.

Wash water rates varied from 16 to 33 inches rise per minute, the rate of rise being adjusted inversely to the temperature of the wash water. Filters 1 to 10, exclusive of number 2, were washed at rates which varied from 22 to 29 inches rise per minute and an average sand expansion of 32%. These nine filters have sand with an effective size of 0.52 millimeters. Filter number 2 which has 0.65 millimeter sand was washed at rates varying from 29 to 33 inches per minute rise and an average sand expansion of 25%. Filters 11, 12, 13 and 14 which have 0.46 millimeter sand were washed at rates varying from 16 to 24 inches rise per minute and an average sand expansion of 36%. A total of 120 tests were made during the year to determine the sand expansion and rate of rise. The total wash water used was 121,124,000 gallons, an average of 332,000 gallons per day, or 130,945 gallons per wash. The 121,124,000 gallons of wash water used was 8.06% less than the 131,736,000 gallons for the previous year.

The total water filtered for the year amounted to 14,882,434,000 gallons, an average of 40,774,000 gallons daily; the maximum day being 68,386,000 gallons on July 2, 1958 and the minimum 26,084,000 gallons on January 26, 1958. The

average rate of filtration per filter was 4,920,000 gallons per day and the average amount of water filtered per filter per run was 16,380,000 gallons, or 0.99% more than the 16,220,000 gallons for the previous year.

The total plant effluent, or pure water delivered to the Scituate Aqueduct and the Kent County Water Authority, totalled 14,761,310,000 gallons, an average of 40,442,000 gallons per day, with a maximum of 67,811,000 gallons on July 2, 1958 and a minimum of 25,927,000 gallons on January 26, 1958.

With the exception of a few short-period shutdowns to make inspections and adjustments to the fluoridizer and the chlorinators, fluoridation and chlorination of the plant effluent were carried on 24 hours daily. With respect to fluoridation, the City of Providence Water Supply Board is acting solely as the agent of the R. I. State Health Department in carrying out their directives relative to the chemical used, the applied dosage, and the type of feeding equipment. Sodium Silicofluoride has been added in amounts sufficient to produce a fluoride ion concentration throughout the distribution system of 1.2 parts per million from October 1, 1957 to May 31, 1958 and 1.0 part per million from June 1, 1958 to September 30, 1958.

Plant effluent delivered to the Scituate Aqueduct and treated with sodium silicofluoride amounted to 14,352,271,000 gallons, an average of 39,321,000 gallons per day. Sodium silicofluoride used during the year totalled 207,172 pounds, or an average of 568 pounds per day; with a maximum for any one day of 880 pounds on July 1, 1958 and a minimum of 375 pounds on January 26, 1958. The actual dosage of fluoride ion averaged 1.04 parts per million, the maximum and minimum dosages being 1.22 and 0.88 parts per million. Water delivered to the Kent County Water Authority is not treated with sodium silicofluoride.

Chlorination of the plant effluent delivered to the Scituate Aqueduct was carried on continuously out of abundant caution. The amount treated with chlorine totalled 14,445,183,000 gal-

lons, an average of 39,576,000 gallons per day. Water delivered to Kent County is chlorinated separately by their facilities.

Chlorine used during the year totalled 38,533 pounds, or an average of 106 pounds per day; with a maximum for any one day of 194 pounds on July 24, 1958 and a minimum of 63 pounds on January 1, February 1, March 23, April 3, and May 4, 1958. The chlorine dosage averaged 0.32 parts per million, the maximum and minimum dosages being 0.43 and 0.23 parts per million. Chlorine residual of the water at a point adjacent to the main aqueduct averaged 0.024 parts per million, and of the tap water at the Water Supply Board Office 0.009 parts per million.

The following statistics show that the chemical cost of treatment for the year ended September 30, 1958 was \$4.86 per million gallons. This is 7.05% more than the figure of \$4.54 last year. The price per ton of Ferri-Floc increased from a low of \$50.55 per ton last year to a high of \$55.05 this year, an increase of \$4.50 per ton, or 8.90%. The price per ton of quicklime increased from a low of \$20.51 last year to a high of \$21.61 this year, an increase of \$1.10 per ton, or 5.36%. The price per ton of sodium silicofluoride decreased from a high of \$212.00 last year to a low of \$109.40 this year.

Chemicals Used, etc.	Year Ended Sept. 30 1955	Year Ended Sept. 30 1956	Year Ended Sept. 30 1957	Year Ended Sept. 30 1958
Chlorine.....	0.33 P.P.M.	0.41 P.P.M.	0.33 P.P.M.	0.32 P.P.M.
Ferri-Floc.....	0.68 G.P.G.	0.76 G.P.G.	0.59 G.P.G.	0.65 G.P.G.
Quicklime.....	0.66 G.P.G.	0.70 G.P.G.	0.62 G.P.G.	0.66 G.P.G.
Sodium Sili- cofluoride.....	1.01*	1.00*	1.00*	1.04*
Length of Filter Runs.....	77.00 Hrs.	83.27 Hrs.	72.21 Hrs.	79.92 Hrs.
Tap Water Color..	7 P.P.M.	7 P.P.M.	5 P.P.M.	5 P.P.M.
Tap Water Iron...	0.02 P.P.M.	0.02 P.P.M.	0.01 P.P.M.	0.02 P.P.M.
Cost of Chemicals per M. G. of Water Treated..	\$4.59	\$5.16	\$4.54	\$4.86

*Dosage expressed as P.P.M. of Fluoride.

Operating figures and statistics relative to chemical use and cost will be found in Tables 9 and 10 of the Appendix.

The Ferri-Floc used as a coagulant was obtained under contract from Faesy & Besthoff, Inc., New York, for the period October 1, 1957 to March 2, 1958 at \$54.45 per ton, and for the period March 3 to September 30, 1958 at \$55.05 per ton. Specifications for Ferri-Floc read as follows: "The material furnished shall be ferric sulphate. It shall contain not less than sixty-nine per cent (69%) of water soluble ferric sulphate ($\text{Fe}_2(\text{SO}_4)_3$). The content of ferrous iron shall not exceed one and one-half per cent (1.5%) as (Fe). It shall be free of foreign material or material deemed undesirable in water purification processes. The material shall be in granular or lump form. Not more than forty-five percent (45%) shall pass a 20 mesh per inch screen, and no particle shall be larger than will pass a one-inch mesh screen. Deliveries to be made in cars suitably lined to protect the material from moisture and foreign matter." The specifications contain a provision that allows us to penalize the manufacturer at the end of the contract year in event that the total amount of material received falls below an average of sixty-nine per cent (69%) of water soluble ferric sulphate ($\text{Fe}_2(\text{SO}_4)_3$).

Ferri-Floc has been delivered in bulk carload lots to the railroad siding at Washington, R. I., about five and one-half miles from the Water Purification Works. Deliveries to the plant have been made by our force with the use of a Holly Pneumatic Transfer Truck, which removes the Ferri-Floc from the car and delivers it into a storage silo of glazed segment tile masonry. This silo has an inside diameter of 16 feet, a height of 55 feet and a capacity of 180 tons of the material; which, in addition to the 40-tons storage provided in the feeding hopper on the fifth floor of the Purification Works Head House, assures a maximum of approximately 104 average days' supply. The stored Ferri-Floc in the silo is conveyed pneumatically through a 4-inch underground conveyor pipe approximately 600 feet to the concrete feeding hopper within the Purification Works building by means of a motor-driven air blower and control equipment, housed in a single story brick building adjacent to the silo.

Analysis of the Ferri-Floc received has shown an average ferrous iron content of 0.579% which is 0.921% less than the maximum of 1.500% allowed by the specifications. The average water soluble ferric sulphate ($\text{Fe}_2(\text{SO}_4)_3$) content of the eighteen deliveries received was 72.522% or 3.522% more than the minimum of 69% demanded by specification requirements. The average amount of material passing a 20 mesh per inch screen was 30.9% as compared to the permissible maximum of 45.0%. The following table shows the date of delivery, together with the per cent of ferrous iron, per cent of water soluble ferric sulphate and per cent passing a 20 mesh per inch screen.

Date Received	Percent Ferrous Iron	Per cent water soluble Ferric Sulphate	Percent passing a 20 mesh per inch screen
October 18, 1957.....	0.34	71.13	46.8
October 25, 1957.....	0.28	73.57	30.7
November 1, 1957.....	0.20	73.46	48.5
December 9, 1957.....	0.80	71.74	40.8
December 16, 1957.....	0.79	71.35	38.8
December 27, 1957.....	0.78	73.00	22.0
March 3, 1958.....	0.26	73.78	11.9
March 5, 1958.....	0.23	72.64	31.1
March 12, 1958.....	0.17	69.45	28.4
April 4, 1958.....	0.20	72.67	19.3
April 11, 1958.....	0.26	73.64	24.4
May 7, 1958.....	0.71	71.49	32.8
June 16, 1958.....	0.51	71.96	38.0
June 30, 1958.....	Sample lost		
July 6, 1958.....	0.84	71.56	34.4
August 15, 1958.....	1.24	73.86	29.1
August 19, 1958.....	1.34	73.57	25.2
August 27, 1958.....	0.89	74.00	23.4

The table shows that all deliveries tested met specification requirements on the ferrous iron and ferric sulphate contents, but 2 failed to meet screen test requirements. Each time a delivery failed to meet specifications, the manufacturer was notified to this effect and requested to conform to his obligations.

Quicklime was obtained under contract with the F. D. McKendall Lumber Company, Providence, from October 1, to October 8, 1957 at \$21.00 per ton, from October 9, 1957 to

February 4, 1958 at \$21.41 per ton, and from February 5 to May 13, 1958 at \$21.61 per ton. Specifications for the quicklime read as follows: "The material furnished shall be granular or fine grain quicklime, of which 100% shall pass a 4 mesh per inch screen and not less than 85% shall be retained on a 100 mesh per inch screen. Insoluble matter shall be less than 2% and magnesium oxide shall be less than 3%. It shall have an available calcium oxide (CaO) content of not less than 90%. The calculation of the available lime shall be on an 'As Received' basis".

Analysis of the quicklime received from the F. D. McKendall Lumber Company showed an average available calcium oxide (CaO) content of 93.95% which is 3.95% greater than specification requirements. The percent of material passing a 4 mesh per inch screen was 100% on every delivery and the percent retained on a 100 mesh per inch screen averaged 99.0%. The following table shows the date of delivery, together with the percent of available calcium oxide and the percent of material retained on a 100 mesh per inch screen:

Date Received	Percent Available Calcium Oxide	Percent Retained on a 100 mesh per inch screen
October 9, 1957.....	94.4	97.6
October 14, 1957.....	94.4	98.5
January 3, 1958.....	91.4	99.7
January 10, 1958.....	94.4	99.5
January 17, 1958.....	93.4	99.8
February 5, 1958....	94.6	97.7
February 12, 1958.....	93.5	99.4
February 28, 1958.....	95.5	99.6

The table shows that all eight deliveries met specification requirements.

Shipments of quicklime received from May 14 to September 30, 1958 were obtained under contract with the Manchester & Hudson Company, Providence at a price of \$21.60 per ton. These deliveries were subject to the same specifications as the quicklime purchased from the F. D. McKendall Lumber Company.

Analysis of the quicklime received from the Manchester & Hudson Company showed an average available Calcium Oxide (CaO) content of 93.41% which is 3.41% greater than specification requirements. The per cent of material passing a 4 mesh per inch screen was 100% on every delivery and the per cent retained on a 100 mesh per inch screen averaged 99.2%. The following table shows the date of delivery, together with the percent of Available Calcium Oxide and the per cent of material retained on a 100 mesh per inch screen:

Date Received	Percent Available Calcium Oxide	Percent Retained on a 100 mesh per inch screen
May 14, 1958.....	91.6	99.2
May 21, 1958.....	92.7	98.5
May 28, 1958.....	93.3	99.2
July 9, 1958.....	89.9	98.6
July 14, 1958.....	95.5	99.6
July 21, 1958.....	96.2	99.4
September 2, 1958.....	93.3	99.8
September 9, 1958.....	94.3	99.1
September 23, 1958.....	93.9	99.5

The table shows that one of the nine deliveries failed to meet specifications with respect to the percent of available Calcium Oxide; however, the deviation amounted to only 0.1%

The quicklime has been delivered in bulk carload lots to the railroad siding at Washington, R. I. Deliveries to the plant have been made by our force with the use of the same Holly Pneumatic Transfer Truck used for transporting the Ferri-Floc. There is a separate storage silo, 4-inch underground conveyor pipe, feeding hopper, motor-driven air blower and control equipment for the pneumatic handling of the quicklime which is an exact duplicate of the pneumatic handling system for Ferri-Floc. The quicklime storage silo has a capacity for 180 tons of the material; which, in addition to the 40-ton storage provided in the feeding hopper on the fifth floor of the Purification Works Head House, assures a maximum of approximately 102 average days' supply.

The liquid chlorine used to treat the water was obtained under contract from the Fields Point Manufacturing Company,

Inc., Providence, for the period October 1, 1957 to September 30, 1958 at \$0.0875 per pound. This material was delivered to the Purification Plant by our force in lots of 14 cylinders, each containing 150 pounds of chlorine.

The sodium silicofluoride was purchased under contract with the Berkshire Chemicals, Inc., New York, from October 1, 1957 to August 21, 1958 at \$149.80 per ton. A delivery received on August 22, 1958 was obtained from the General Chemical Division, Allied Chemical Corporation, New York, at a contract price of \$109.40 per ton. The specifications covering both contracts were the American Water Works Association Tentative Standard Specifications for Sodium Silicofluoride, AWWA B702-54T, approved as Tentative May 27, 1954. Among other requirements these specifications call for a minimum of 98 percent sodium silicofluoride, which corresponds to approximately 59.4 percent fluoride ion. The following table shows the date of delivery, together with the percent of sodium silicofluoride. The average sodium silicofluoride content was 98.34%.

Date Received	Percent Sodium Silicofluoride
November 7, 1957.....	99.93
January 13, 1958.....	97.87
March 4, 1958.....	97.95
April 9, 1958.....	97.92
May 27, 1958.....	97.64
August 22, 1958.....	98.73

The table shows that four of the six deliveries had a sodium silicofluoride content less than the minimum of 98 percent permitted by the specifications. However, the deviation was very slight, the largest amount being 0.36%.

A special pneumatic conveying system operates to transfer the chemical from the drums to the storage collector supplying the fluoridizer hopper. The fluoridizer is an Omega gravimetric type feeder equipped with a non-flooding gate to prevent any possible overtreatment. The feeder is operated automatically by an electric signalling device proportional to the rate of flow of water to the Scituate Aqueduct.

Number 6 fuel oil used for heating the plant from October 1957 to May 1958 and during September 1958 totalled 66,515 gallons, an average of 5543 gallons per month. Number 2 fuel oil was used during the entire year for heating water and amounted to 4,926 gallons, an average of 411 gallons per month.

WATER PURIFICATION WORKS LABORATORY

The fully equipped and modern laboratory maintained at the Purification Works for control over the quality of the water supply, from the raw water on the watershed to the tap at the consumers' premises, has been in operation throughout the year, with constant vigilance being exercised by the chemists and bacteriologists. Samples of tap water were obtained daily from not less than eight consumers' taps in various parts of the distribution system, the Water Supply Board building in Providence, and from Longview and Neutaconkanut distribution reservoirs. Also, samples for analysis were obtained from the brooks, streams and reservoirs on the watershed, the raw water from the lower intake of Scituate Reservoir, the reservoir surface water, Gainer Memorial Dam meter chamber, Fiskeville Reservoir, twelve locations on the Pawtuxet River below the Dam, the various stages of the purification process, coincident with the investigation of complaints, from extensions to the distribution system, and selected locations in the distribution system.

The total number of samples obtained from all sources during the year amounted to 12,075 which, based on a forty-hour work week means that one sample or another was obtained every 10.3 minutes. Tests made on these samples included chemical, sanitary chemical and mineral analyses, and bacteriological and microscopical examinations. The total number of tests made amounted to 95,026 which, based on a forty-hour work week, means that the water was receiving one test or another every 79 seconds. Each delivery of Ferri-Floc and of quicklime was tested to determine conformance to specifications and the optimum dosages required for coagulation and pH control. Each delivery of sodium silicofluoride was also tested, not only for

conformance to specifications but to assure that the proper concentration of fluoride ion would be maintained throughout the distribution system. Filter washings were regulated by means of tests on the sand expansion and rate of rise of wash water. Samples taken after sterilization of extensions to the distribution system were tested for chlorine residual, B. Coli, 35°C and 20°C bacteria before permitting any extension to be placed in service. Consumer complaints were serviced and recommendations made to eliminate the source of trouble.

Some idea of the laboratory control over the quality of the water supply may be had by a comparison of our sampling schedule with that recommended by the U. S. Public Health Service Standards. The following table taken from the Standards shows the minimum number of bacteriological samples that should be obtained from the distribution system per month for any given population served:

Population Served	Minimum Number of Samples per Month
2,500 and under.....	1
10,000.....	7
25,000.....	25
100,000.....	100
300,000.....	180
400,000.....	200
1,000,000.....	300
2,000,000.....	390
5,000,000.....	500

The population served by the City of Providence water supply is approximately 397,850. From the above table, it may be seen that the minimum number of bacteriological samples that should be obtained from the distribution system per month for this population is 200. The actual number of bacteriological samples obtained in the distribution system for the year amounted to a total of 3,085, or an average of 257 per month, a figure 28.5% greater than recommended by the Standards and more than is required for a population of 500,000. A sample for chemical and sanitary chemical analysis was also obtained with each bacteriological sample.

Coagulation tests were made on one liter quantities of raw water treated with various amounts of Ferri-Floc and slaked

lime, simulating all the operations of the purification processes on a laboratory scale, for the purpose of determining the most economical dosage consistent with good coagulation.

Cooperation in Civil Defense activities again took the form of participation in a state and nationwide Civil Defense exercise in May, 1958. The value of having available the recently procured Survey Meter for determining radioactivity levels in water during emergency conditions was brought out. In addition to this Civil Defense exercise, actual determinations of natural radioactivity in both our untreated and treated waters was carried out at intervals through the cooperation of the State of Rhode Island. Knowledge of the amount of this natural radioactivity will serve to compare with future determinations of activity. We will then be able to determine either the exact amount of any known contamination or will be made aware of any previously unsuspected contamination.

Rigid laboratory control has resulted in the continuation of economies consistent with an excellent quality of water. Constant vigilance over the chemical treatment machinery and the filter controls has aided greatly in keeping the cost of treatment low despite increased costs of chemicals, the filter runs long, and the quality of water at a high degree of purity.

Tables 11 to 21, inclusive, of the Appendix show statistics relative to the quality of the water and the kind and number of laboratory examinations made during the past year.

TRANSMISSION AND DISTRIBUTION

SCITUATE AQUEDUCT

The Scituate Aqueduct, which conveys the effluent water from the Water Purification Works in Scituate to the distribution system, has been in continuous and satisfactory service throughout the year. Maintenance of the property along this line included cutting and burning brush, repairs to grassed embankments, repairs to fencing, and other miscellaneous work as required.

HIGH SERVICE PUMPING STATIONS

Neutaconkanut and Bath Street Pumping Stations, supplying water to the high service portion of the distribution system generally above elevation 140, and to the special high pressure fire service in the congested area of downtown Providence, have been in satisfactory operation throughout the year.

Water pumped into the high service area totalled 2,865,193,000 gallons, or an average of 7,849,844 gallons per day.

Neutaconkanut station pumped 1,078,700,000 gallons through the east Venturi and 735,360,000 gallons through the west Venturi meter for a total of 1,814,060,000 gallons, or 4,970,027 gallons per day, and Bath Street Station pumped 1,051,133,000 gallons, or 2,879,816 gallons per day.

The total power required for pumping at both stations amounted to 1,169,900 kilowatt-hours. Neutaconkanut Station required 742,200 kilowatt-hours, and Bath Street Station 427,700 kilowatt-hours. The cost of power at both stations was \$21,537.12, or \$7.52 per million gallons pumped.

Test runs of the auxiliary gasoline engine driven pump at Neutaconkanut Pumping Station were made weekly, the pump being operated a total of 52 hours and 30 minutes, pumping 17,835,000 gallons during the year. Periodic test runs of the

auxiliary gasoline engine driven pumps at the Bath Street Pumping Station were made throughout the year. These pumps were operated a total of 22 hours, pumping 2,871,000 gallons for the year.

Operating statistics for the high service pumping stations will be found in Tables 22 and 23 of the Appendix.

DISTRIBUTION RESERVOIRS

The 42 million gallon Neutaconkanut Low Service Distribution Reservoir on Neutaconkanut Hill, Johnston, and the 12 million gallon Longview High Service Distribution Reservoir on Mineral Spring Avenue and Smithfield Road in North Providence have been in continuous and satisfactory operation during the year.

Routine maintenance activities were carried on with respect to the care of equipment, grounds, fencing, etc.

Operating statistics for the Distribution Reservoirs will be found in Tables 24 and 25 of the Appendix.

WATER DISTRIBUTION SYSTEM

The water distribution system has been maintained in satisfactory and continuous operation throughout the year. Work done included extensions of mains, the installation of gate valves, hydrants and services, and necessary repairs and replacement of the various appurtenances of the system when and where required. The reconstruction of and repairs to highways during the year accounted for the major part of repairs and replacement of the appurtenances.

The amount of pipe laid during the year, all sizes, totalled 57,152.43 feet including 963.21 feet which replaced existing mains. Included in this amount was 55,311.76 feet laid with asbestos cement pipe and 1,840.67 feet with cement mortar lined cast iron pipe.

A total of 16,763.51 feet of pipe was removed or abandoned, resulting in a net increase to the distribution system of 40,388.92 feet. In the City of Cranston the net increase amounted to 17,845.24 feet, in the Town of Johnston 17,468.42 feet, and in the Town of North Providence 14,637.35 feet. In the City of Providence there was a net decrease of 9,562.09 feet. This decrease was due in part to the abandonment of 11,392.64 feet of main in connection with the development of the West River Industrial Park by the Providence Redevelopment Agency.

At the end of the year the total length of mains in the distribution system aggregated 750.57 miles, including 12.83 miles in the special high service fire system in the City of Providence. Asbestos cement pipe in the system totalled 706,726.72 feet, consisting of 427,466.08 feet of 6-inch, 257,078.62 feet of 8-inch, 16,152.24 feet of 12-inch and 6,029.78 feet of 16-inch. Prestressed reinforced concrete steel cylinder pipe totalled 54,628.28 feet, consisting of 2,380.54 feet of 16-inch, 32,694.08 feet of 24-inch and 19,553.66 feet of 30-inch. Reinforced concrete steel cylinder pipe totalled 36,597.00 feet including 715.00 feet of 36-inch, 15,312.00 feet of 48-inch and 20,570.00 feet of 60-inch. Steel pipe totalled 10,032.00 feet consisting of 1,584.00 feet of 48-inch and 8,448.00 feet of 66-inch. The remaining footage consists of cast iron pipe including 1,937,330.43 feet of 6-inch, 531,557.83 feet of 8-inch, 14,354.15 feet of 10-inch, 356,084.18 feet of 12-inch, 138,877.67 feet of 16-inch, 16,262.24 feet of 20-inch, 66,559.24 feet of 24-inch, 59,383.34 feet of 30-inch, 9,167.03 feet of 36-inch and 25,449.62 feet of 42-inch, totalling 3,155,025.73 feet of cast iron pipe.

Details of pipe laid, removed, replaced, and in use at the end of the year are shown in Tables 26 and 27 of the Appendix.

A total of 201 stop gates were installed during the year, 94 six-inch, 92 eight-inch, 7 twelve-inch, 6 sixteen-inch, 1 thirty-inch and 1 forty-eight-inch. Thirty-six six-inch, 8 eight-inch, 1 twelve-inch, 2 sixteen-inch, 1 thirty-six-inch and 1 forty-eight-inch gates were removed and 31 gates were replaced, 21 six-inch, 6 eight-inch, 2 twelve-inch, 1 sixteen-inch and 1 forty-

eight-inch, making a net of 152 stop gates added to the system during the year. At the end of the year there was a total of 10,103 stop gates in the system ranging from 6-inch to 48-inch including 3 twelve-inch and 15 sixteen-inch rotary plug valves, and 1 forty-eight-inch butterfly valve. A total of 141 six-inch hydrant gates were installed, and 5 six-inch and 25 eight-inch hydrant gates were removed or abandoned. Hydrant gates at the end of the year totalled 3,689 consisting of 1 four-inch, 1,830 six-inch and 1,858 eight-inch. Gates on un-watering hydrants remained the same, the total at the end of the year being 30; eight 6-inch and twenty-two 8-inch. Gates on blowoffs remained the same at 11; one 6-inch, four 8-inch and six 12-inch. The total number of gates, not including service gates, all sizes, in use at the end of the year totalled 13,833.

Details of gates in use on September 30, 1958 are shown in Table 28 of the Appendix.

The number of private pipes connected to the system at the end of the year totalled 294, a reduction of 15 over the previous year. In the City of Providence there was a total of 176, in Cranston 73, in Johnston 21 and 24 in North Providence.

A total of 881 new services, general and fire supplies, were installed during the year; 243 in Providence, 337 in Cranston, 165 in Johnston and 136 in North Providence. Abandoned services reopened totalled 15; eleven in Providence, three in Cranston and one in North Providence. A total of 352 services were removed or abandoned; 243 in Providence, 97 in Cranston, 6 in Johnston and 6 in North Providence. Eighty-nine services were repaired during the year. The number of services in the system at the end of the year totalled 58,936, including both general and fire supplies consisting of 58,878 metered services and 58 unmetered services. Metered services at the end of the year constituted 99.90% of the total services in the system.

Statistics relative to services will be found in Tables 29 and 30 of the Appendix.

Public fire hydrants in use at the end of the year totalled 4,338, post type amounting to 2,296 and flush type 2,042. Post hydrant installations totalled 204, including 21 replacements, and 107 which replaced existing flush hydrants. Twenty-four flush hydrants were abandoned, 18 of which were in connection with the development of the West River Industrial Park.

Statistics relative to public fire hydrants will be found in Tables 31 and 32 of the Appendix.

Leaks in the distribution and transmission mains totalled 74 during the year, 25 occurring at joints and 49 as a result of ruptured mains. Leaks at joints averaged 1 for every 30.02 miles of main, while total leaks averaged 1 for every 10.14 miles of main.

The number of meters repaired and tested in our Meter Repair Shop was 9,187 while those receiving attention in the field numbered 139, making a total of 9,326. The number repaired last year in shop and field was 7,963. The cost of meter repairs in the shop averaged \$2.21 per meter as against \$2.38 last year. Meters requiring servicing in the field involved an average expenditure of \$2.24 per meter during the current year as compared with \$2.21 the previous year.

The number, make and size of meters on active services at the end of the year are shown in Table 33 of the Appendix.

CONSUMPTION

Water consumption for the year ended September 30, 1958 amounted to 14,760,960,000 gallons or an average of 40,440,986 gallons per day. This average was 3,295,521 gallons per day less than the average for the previous year. The decrease occurred during the months of November, 1957, January and February, 1958, and May through September, 1958, ranging from 50,000 gallons per day in January to 17,880,000 gallons per day in June. During the remaining months the average daily consumption exceeded the average for the corresponding months

of the previous year, ranging from 420,000 gallons daily in March to 1,680,000 gallons daily in December.

The maximum daily consumption occurred on July 2, 1958 when 68,526,000 gallons were consumed, which is 16,174,000 gallons less than the record maximum of 84,700,000 gallons on June 17, 1957.

The maximum month's consumption was in July 1958 when 1,396,642,000 gallons were used, and the minimum month was February 1958 when 1,069,675,000 gallons were consumed.

Water consumption statistics will be found in Tables 34, 35, 36, and 37 of the Appendix.

FINANCIAL SUMMARY

The gross income for the year ended September 30, 1958 totalled \$2,592,336.64, an increase of \$6,508.22 over the previous year. Revenue from the sale of water alone was \$2,273,583.77, an increase over the previous year of \$10,703.97. The remaining income of \$318,752.87 was received from other sources, including hydrant rentals, sale of power, installation of services, miscellaneous items, and surpluses in the Meter Revolving Fund and Main Extension Account. The receipts for these items show a decrease of \$4,195.75.

During the year total payments for water main extensions amounted to \$110,969.77, a decrease from the previous year of \$23,016.41. Income from service connection charges amounted to \$71,003.00, an increase over the previous year of \$7,243.64. At the end of the year, unpaid water bills totalled \$201,191.00 as compared with \$158,430.99 at the beginning of the year, or 8.53% of the total net billing. Miscellaneous Accounts Receivable amounted to \$10,269.07 at the end of the year as compared with \$14,042.33 at the beginning of the year.

Operating Expenses, including Taxes, Employees' Retirement System and Social Security payments, totalled \$1,748,649.25, an increase over the previous year of \$167,893.85. This was due chiefly to increases in cost of labor and materials in various divisional operations. However, it was necessary to obtain a transfer from the Water Depreciation and Extension Fund of \$50,000.00 to meet outstanding commitments covering water main extensions. Actually, the increase in Operating Expenses jumped \$217,893.85 over the previous year.

Interest on the Bonded Debt, Payment to the Sinking Fund, plus the appropriation to the Water Depreciation and Extension Fund, totalled \$843,687.39. The aggregate of all expenditures of the Board during the year was \$2,418,649.25; which, deducted from the gross revenue of \$2,592,336.64, leaves a net bal-

ance of \$173,687.39. According to law this reverts to the Sinking Fund for the retirement of water bonds. As none of the bonds mature until 1962, at which time the next \$6,500,000.00 principal will be payable, there was no reduction in the gross bonded indebtedness during the year. The net bonded debt at the end of the present year was \$3,137,916.36, and at the end of the previous year \$3,586,550.25, a reduction of \$448,633.89.

Financial accounts of the department, tabulation of water works property, statements of revenues, various funds, outstanding bonds and sinking fund requirements, inventories and other statistics may be found in Tables 38 to 57 of the Appendix.

A summary of statistics of the Providence Water Supply Board for the year ended September 30, 1958 may be found in Table 58 of the Appendix.

Respectfully submitted,

PHILIP J. HOLTON, JR.

Chief Engineer

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TABLE 1
MONTHLY RAINFALL IN INCHES ON SCITUATE WATERSHED

STATIONS ON WATERSHED		YEAR ENDED SEPTEMBER 30, 1958													
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Monthly Avg.
	Rocky Hill, ...	3.42	5.78	7.31	9.00	4.25	4.72	7.75	3.88	2.84	7.23	4.37	7.23	67.78	5.65
	Hopkins Mills. .	2.61	5.27	7.95	9.01	4.17	6.63	8.20	3.60	2.81	8.17	4.29	6.10	68.81	5.73
	North Scituate.	3.14	5.58	7.52	7.62	4.52	5.07	7.40	3.69	2.56	8.11	4.44	7.01	66.66	5.56
	Westcott	2.72	5.74	7.12	7.85	5.41	4.86	7.26	3.78	3.13	6.43	4.80	5.59	64.69	5.39
	Gainer Dam ...	3.47	5.12	7.47	8.81	4.17	6.04	7.12	4.24	2.10	5.24	5.02	4.66	63.46	5.29
	AVERAGE...	3.07	5.50	7.47	8.46	4.50	5.46	7.55	3.84	2.69	7.04	4.58	6.12	66.28*	5.52

*Total of monthly averages.

***Total of monthly averages.**

TABLE 2
MONTHLY AND YEARLY RAINFALL IN INCHES ON SCITUATE WATERSHED

YEARS ENDED SEPTEMBER 30															Jan.-Dec.	
Year	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Year	Total	
1915-1916.....	2.75(c)	2.88	5.86	1.88	5.88	2.46	3.60	4.83	5.71	7.38	1.33	1.24	45.80	1916	42.56	
1916-1917.....	2.61	2.34	3.30	3.96	2.18	4.91	2.70	4.15	4.54	1.51	6.13	2.66	40.99	1917	43.16	
1917-1918.....	6.71	0.48	3.23	3.56	3.73	2.15	4.56	3.12	4.49	5.13	4.14	8.79	50.09	1918	47.09	
1918-1919.....	1.07	2.60	3.75	4.89	3.42	6.05	4.31	5.99	3.65	5.47	6.65	6.07	53.92	1919	56.42	
1919-1920.....	2.29	5.05	2.58	3.03	6.10	4.90	6.28	3.95	7.93	4.44	3.86	3.04	53.45	1920	55.81	
1920-1921.....	1.34	5.85	5.09	3.46	3.06	3.72	5.45	3.73	4.30	6.80	2.97	2.53	48.30	1921	47.84	
1921-1922.....	1.26	8.02	2.54	1.91	2.67	6.40	1.98	5.22	6.34	8.36	9.09	5.35	59.14	1922	54.76	
1922-1923.....	2.92	1.41	3.11	6.78	1.82	3.73	5.92	1.48	4.93	2.78	2.35	2.15	38.38	1923	48.39	
1923-1924.....	5.67	5.68	5.10	4.49	2.92	2.80	6.12	3.66	1.49	1.72	5.85	5.28	50.78	1924	39.15	
1924-1925.....	0.21	2.23	2.38	4.41	2.22	4.76	2.85	2.72	2.36	6.14	1.70	2.26	34.94	1925	44.45	
1925-1926.....	4.32	4.83	5.18	3.26	6.10	3.73	2.46	2.27	1.74	3.80	3.94	1.89	43.52	1926	43.33	
1926-1927.....	5.04	5.55	3.55	2.98	3.31	1.59	2.56	3.41	3.36	3.99	8.55	2.61	46.50	1927	52.45	
1927-1928.....	5.24	9.22	5.63	2.72	4.32	2.70	5.43	1.45	3.91	5.06	5.50	4.80	55.98	1928	45.59	
1928-1929.....	3.99	2.50	3.21	5.20	4.89	3.92	7.56	3.47	2.27	2.06	2.93	1.35	43.35	1929	43.95	
1929-1930.....	3.09	3.06	4.15	2.86	2.88	3.23	2.03	2.74	3.05	3.33	3.00	1.35	34.77	1930	35.58	
1930-1931.....	3.36	4.65	3.10	6.16	2.57	6.37	3.36	4.19	6.31	3.74	5.96	1.97	49.13	1931	44.43	
1931-1932.....	2.22	1.03	3.16	2.02	2.38	6.16	1.97	2.57	2.75	2.57	6.44	11.75	49.16	1932	58.60	
1932-1933.....	6.63	7.13	2.09	3.87	4.53	4.03	5.24	3.76	4.04	2.00	3.60	7.56	55.37	1933	48.13	
1933-1934.....	3.41	1.48	3.72	3.87	3.81	6.55	6.18	3.98	4.79	2.20	3.89	7.37	48.51	1934	51.14	
1934-1935.....	3.25	4.44	3.55	7.24	3.09	1.93	4.76	2.27	5.12	4.10	1.42	3.59	44.76	1935	41.30	
1935-1936.....	1.04	5.86	0.88	8.81	4.16	9.31	3.80	1.98	2.98	2.63	3.28	7.72	52.45	1936	57.75	
1936-1937.....	2.00	1.25	0.83	5.02	2.45	4.09	3.42	3.05	3.40	1.58	6.47	4.19	48.75	1937	50.58	
1937-1938.....	3.92	8.10	2.89	5.29	2.91	2.70	2.60	4.17	8.62	11.49	3.10	6.76	62.55	1938	57.83	
1938-1939.....	2.64	3.91	3.64	3.08	5.06	5.86	4.53	0.94	2.95	1.20	6.52	3.47	43.80	1939	44.17	
1939-1940.....	5.76	1.40	3.40	2.82	5.97	4.04	6.00	5.76	2.45	4.41	2.01	2.63	46.65	1940	47.18	
1940-1941.....	2.00	6.81	2.28	3.12	3.37	2.97	1.36	3.16	4.92	5.99	4.00	0.20	40.09	1941	37.88	
1941-1942.....	1.75	3.35	3.78	4.95	3.30	6.35	0.89	2.80	3.88	5.38	4.32	1.94	44.69	1942	51.98	
1942-1943.....	4.26	5.32	6.39	3.56	1.95	3.68	3.90	3.87	1.99	3.41	2.15	1.30	41.98	1943	36.84	
1943-1944.....	6.38	3.43	1.22	1.79	2.50	5.05	4.01	1.35	3.75	1.74	2.01	11.03	44.36	1944	48.82	
1944-1945.....	2.71	8.95	4.33	3.45	5.70	2.13	3.36	4.89	5.17	2.84	3.06	2.74	48.92	1945	52.25	
1945-1946.....	2.21	9.03	7.58	3.82	3.81	1.42	2.37	4.92	3.31	2.49	11.48	3.69	56.13	1946	43.01	
1946-1947.....	0.48	1.32	3.60	2.98	2.60	3.85	5.40	3.37	4.10	4.86	2.91	4.02	39.79	1947	47.68	
1947-1948.....	3.76	6.42	3.90	7.14	2.57	4.26	3.97	9.36	4.20	3.73	3.14	1.39	53.55	1948	55.70	
1948-1949.....	4.86	7.43	3.45	4.38	3.62	2.47	4.65	4.03	0.10	1.24	6.07	3.49	45.79	1949	38.58	
1949-1950.....	2.27	7.71	2.79	3.68	4.82	3.99	3.68	3.51	2.93	1.62	5.04	2.03	39.63	1950	45.11	
1950-1951.....	2.23	7.47	4.57	4.95	4.38	5.91	3.97	3.50	2.71	3.36	3.08	2.41	50.08	1951	55.38	
1951-1952.....	4.14	9.64	5.53	4.88	4.81	4.13	4.41	3.97	3.16	1.20	7.33	2.21	55.41	1952	45.26	
1952-1953.....	1.94	3.02	4.20	7.38	4.64	0.33	7.54	3.24	1.67	4.27	2.94	2.71	52.91	1953	61.10	
1953-1954.....	5.57	6.22	5.56	2.91	3.16	4.36	5.37	4.91	1.55	2.76	9.10	7.63	59.10	1954	57.44	
1954-1955.....	3.13	3.67	6.91	1.00	4.96	4.17	4.16	1.78	4.53	2.43	12.75	4.38	56.00	1955	57.74	
1955-1956.....	11.48	5.23	0.72	5.39	4.39	7.91	3.84	2.42	2.10	4.13	1.56	3.98	53.15	1956	49.06	
1956-1957.....	2.96	4.92	5.46	2.90	2.46	3.33	5.01	1.55	0.72	0.96	1.58	1.58	33.43	1957	36.13	
1957-1958.....	3.07	5.50	7.47	8.46	4.50	5.46	7.55	3.84	2.69	7.04	4.58	6.12	66.28	1958	58.88	
Average.....	3.43	4.73	4.07	4.19	3.72	4.44	4.26	3.56	3.65	3.79	4.60	4.01	48.43*	Avg.	48.38	
Maximum.....	11.48	9.64	9.83	8.81	6.10	9.33	7.56	9.36	8.62	11.49	12.75	11.75	66.28	Max.	61.10	
Minimum.....	0.21	0.48	0.72	1.00	1.82	1.42	0.89	0.94	0.10	0.96	1.33	0.20	33.43	Min.	35.58	

(c) Estimated. *Total of monthly averages.

TABLE 3
MONTHLY AND YEARLY RUNOFF IN INCHES ON SCITUATE WATERSHED (92.8 SQ. MI.)

Year	YEARS ENDED SEPTEMBER 30												Jan.-Dec.		
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Year	Total
1915-1916.....	0.75(e)	1.24(e)	3.03(e)	2.50	3.70	3.99	4.64	3.69	3.42	2.74	1.09	0.42	31.21	1916	28.25
1916-1917.....	0.51	0.58	0.97	1.91	1.30	4.29	3.05	2.79	2.18	0.79	0.71	0.63	19.71	1917	22.41
1917-1918.....	1.70	1.39	1.38	1.83	4.04	3.17	3.40	2.24	1.24	0.47	0.82	1.81	23.78	1918	23.75
1918-1919.....	1.02	1.34	2.37	3.81	2.27	5.01	4.43	3.86	1.27	1.35	0.91	3.33	30.97	1919	32.65
1919-1920.....	1.45	2.25	2.71	1.19	1.69	9.60	5.10	3.73	4.15	1.38	0.79	0.34	34.38	1920	33.29
1920-1921.....	0.37	1.73	3.22	2.79	1.69	4.19	3.68	2.85	0.95	2.56	0.93	0.31	25.27	1921	24.52
1921-1922.....	0.24	1.65	2.68	1.13	1.80	4.81	3.92	3.50	2.39	3.50	3.59	4.39	33.60	1922	33.32
1922-1923.....	1.66	1.26	1.37	4.16	2.46	6.10	4.06	2.68	1.15	0.64	0.40	0.25	26.19	1923	29.75
1923-1924.....	1.27	2.01	4.57	4.52	1.88	3.43	5.70	3.38	1.05	0.20	0.56	0.68	29.25	1924	23.31
1924-1925.....	0.49	0.45	0.97	0.91	3.65	3.41	2.46	1.46	0.52	0.58	0.39	0.32	15.61	1925	19.04
1925-1926.....	0.61	1.48	3.25	2.23	3.11	4.38	3.00	1.70	0.62	0.40	0.42	0.17	21.37	1926	21.03
1926-1927.....	0.91	2.48	2.09	3.34	2.64	3.05	3.71	2.03	1.44	0.32	1.59	0.64	21.76	1927	30.14
1927-1928.....	1.05	6.73	4.70	2.62	3.76	2.86	3.18	2.05	1.15	1.08	1.17	0.80	32.05	1928	23.03
1928-1929.....	1.21	0.56	1.99	4.02	3.65	5.56	6.09	3.56	0.48	0.06	0.07	-0.09	27.76	1929	25.18
1929-1930.....	0.07	0.53	1.18	1.96	2.38	2.74	1.84	0.88	0.42	0.09	0.04	-0.11	12.02	1930	11.82
1930-1931.....	0.12	0.63	0.83	1.56	2.11	5.95	3.21	3.10	2.97	0.69	0.85	0.10	22.12	1931	21.67
1931-1932.....	0.07	0.15	0.91	3.35	2.16	4.10	3.08	1.35	0.39	0.07	0.35	3.27	19.25	1932	30.15
1932-1933.....	3.68	6.29	2.26	2.24	2.70	6.28	6.88	1.93	1.57	0.17	0.25	1.52	35.57	1933	27.13
1933-1934.....	0.95	0.82	1.82	3.78	1.18	5.48	6.08	2.88	1.47	0.08	0.14	1.40	26.08	1934	28.94
1934-1935.....	1.33	1.91	3.21	4.78	2.83	4.22	4.05	1.71	1.78	0.62	-0.14	0.26	26.56	1935	21.82
1935-1936.....	-0.13	1.09	0.75	3.94	1.93	11.51	4.45	1.59	0.44	0.03	-0.02	0.82	26.40	1936	31.64
1936-1937.....	-0.16	0.45	6.06	4.59	2.77	3.34	3.79	2.52	0.75	0.02	0.60	0.57	25.90	1937	27.16
1937-1938.....	0.79	4.17	3.25	4.15	2.99	2.99	2.29	1.84	2.85	6.93	1.32	1.66	35.23	1938	33.76
1938-1939.....	1.22	1.90	3.62	2.11	4.12	5.24	4.90	1.08	0.31	-0.24	0.22	0.09	24.57	1939	21.35
1939-1940.....	0.63	1.35	1.54	2.03	1.51	4.86	6.89	3.17	1.65	0.84	-0.14	-0.04	24.29	1940	23.98
1940-1941.....	-0.07	1.63	1.65	1.53	2.88	2.42	1.65	1.16	1.33	0.54	0.10	-0.41	14.41	1941	12.43
1941-1942.....	-0.15	0.32	0.86	1.87	2.54	7.14	1.75	1.06	0.59	0.86	0.26	-0.17	17.13	1942	22.77
1942-1943.....	0.45	1.86	4.56	2.45	3.46	4.40	2.68	3.01	0.36	0.02	-0.16	-0.22	22.87	1943	17.97
1943-1944.....	0.60	0.95	0.42	0.73	1.23	3.24	3.53	1.08	0.43	-0.26	0.31	1.73	13.37	1944	18.61
1944-1945.....	0.50	3.16	3.55	2.91	2.58	5.61	2.15	3.10	1.26	0.15	-0.12	-0.15	24.70	1945	34.02
1945-1946.....	0.06	1.88	4.59	3.93	2.98	3.70	1.43	2.50	1.65	0	2.35	0.56	25.63	1946	21.08
1946-1947.....	0.49	0.30	1.19	2.16	1.52	4.01	3.31	2.86	1.09	0.53	0.12	0.31	17.89	1947	20.47
1947-1948.....	0.23	2.94	1.39	1.55	3.15	7.16	3.76	5.25	3.12	0.56	0.15	-0.21	26.05	1948	20.08
1948-1949.....	0.35	2.24	2.00	3.57	3.22	2.92	3.20	1.78	-0.02	-0.26	0.02	0.09	19.11	1949	16.40
1949-1950.....	0.05	0.57	1.26	2.03	2.42	4.16	3.01	2.20	1.00	-0.11	0.22	-0.02	16.79	1950	19.39
1950-1951.....	0.04	1.85	2.59	3.24	4.95	4.36	4.30	2.70	1.21	0.14	0.07	-0.07	25.38	1951	30.16
1951-1952.....	0.34	4.62	4.30	4.24	3.30	5.02	2.97	2.46	0.98	-0.35	0.53	-0.20	28.21	1952	30.19
1952-1953.....	-0.20	0.37	1.15	4.61	4.35	7.24	6.36	3.20	0.20	0.07	-0.03	-0.13	27.17	1953	32.41
1953-1954.....	0.38	1.86	4.32	2.12	2.66	3.56	4.01	3.71	0.33	-0.01	0.93	3.96	27.83	1954	32.15
1954-1955.....	1.33	3.65	5.90	2.46	3.61	4.26	2.76	1.62	0.89	0.02	4.04	1.19	31.73	1955	35.13
1955-1956.....	7.22	3.86	1.50	3.27	4.09	4.57	6.57	1.98	0.96	0.37	-0.22	0.05	35.92	1956	25.87
1956-1957.....	0.23	1.10	2.90	2.41	2.10	2.78	4.54	0.58	-0.18	-0.41	-0.38	-0.22	15.45	1957	14.20
1957-1958.....	0.06	0.52	2.40	6.59	2.69	6.03	6.89	3.88	0.85	0.85	0.86	1.31	32.91	1958	35.65
Average.....	0.81	1.87	2.49	2.86	2.75	4.72	3.88	2.46	1.22	0.65	0.59	0.72	25.02*	Avg.	25.05
Maximum.....	7.22	6.73	6.06	6.59	4.95	11.51	6.89	5.25	4.15	6.93	4.04	4.39	35.92	Max.	35.65
Minimum.....	-0.20	0.15	0.42	0.73	1.18	2.42	1.43	0.58	-0.18	-0.41	-0.38	-0.41	12.02	Min.	11.82

(e Estimated; *Total of monthly averages.

TABLE 4
MONTHLY AND YEARLY PERCENT OF RAINFALL COLLECTED ON SCITUATE WATERSHED

Year	YEARS ENDED SEPTEMBER 30												Jan.-Dec.	
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Year
1915-1916.....	27.3(e)	43.0(e)	51.7(e)	133.0	62.9	162.2	128.9	76.4	59.9	37.1	82.0	33.9	68.1	1916
1916-1917.....	19.5	24.8	29.4	48.2	59.6	87.4	113.0	67.2	48.0	52.3	11.6	23.7	48.1	1917
1917-1918.....	26.7	31.2	42.7	51.4	108.3	147.4	74.6	71.8	27.6	9.2	19.8	20.6	47.5	1918
1918-1919.....	95.3	51.5	63.2	77.9	66.4	82.8	102.8	64.4	34.8	24.7	54.8	54.8	57.4	1919
1919-1920.....	63.3	44.6	105.0	39.3	27.7	195.9	81.2	94.4	52.3	31.1	20.5	11.2	64.3	1920
1920-1921.....	27.6	29.6	63.3	80.6	55.2	112.6	67.5	76.4	22.1	37.6	31.3	12.2	52.3	1921
1921-1922.....	19.0	20.6	105.5	59.2	67.4	75.2	198.0	67.0	37.7	41.9	39.5	82.0	56.8	1922
1922-1923.....	56.8	89.4	44.0	61.4	135.2	163.5	68.6	181.1	23.3	23.0	17.0	11.6	66.5	1923
1923-1924.....	22.4	35.4	89.6	100.7	64.4	122.5	93.1	92.3	70.5	11.6	9.6	12.9	57.6	1924
1924-1925.....	23.3	20.2	40.8	20.6	164.4	71.6	86.3	53.7	35.6	9.4	22.9	10.8	44.7	1925
1925-1926.....	14.1	30.6	62.7	68.4	51.0	117.4	122.0	74.9	35.6	10.5	10.6	9.0	49.1	1926
1926-1927.....	15.1	38.7	58.9	112.1	79.8	191.8	66.8	59.5	42.8	8.0	18.6	24.5	46.8	1927
1927-1928.....	37.2	73.0	83.5	96.3	87.0	105.9	58.6	141.4	29.4	21.3	21.3	16.7	57.2	1928
1928-1929.....	30.3	46.4	62.0	77.3	74.6	141.8	80.6	102.6	21.1	2.9	2.4	-6.7	64.0	1929
1929-1930.....	2.3	17.3	28.4	68.5	82.6	84.8	90.6	32.1	13.8	2.7	1.3	-8.1	34.6	1930
1930-1931.....	3.6	13.5	26.8	43.9	82.1	93.4	95.5	74.0	47.1	18.4	14.3	5.1	45.0	1931
1931-1932.....	3.2	14.6	28.8	54.4	90.8	66.6	156.3	52.5	14.2	2.7	5.4	27.8	39.2	1932
1932-1933.....	52.5	88.2	108.1	110.9	70.9	95.9	111.3	51.3	30.7	8.5	6.9	20.1	64.2	1933
1933-1934.....	27.9	55.4	48.9	97.7	26.0	136.0	116.0	72.4	38.9	3.6	3.6	19.0	53.8	1934
1934-1935.....	40.9	43.0	90.4	66.0	91.6	218.6	85.1	75.3	34.8	15.1	-9.8	7.2	59.3	1935
1935-1936.....	-12.5	18.6	85.2	44.7	46.4	123.6	117.1	80.3	14.8	1.1	-0.6	10.6	50.3	1936
1936-1937.....	23.0	34.4	61.6	91.4	113.1	81.7	69.9	82.6	22.0	1.3	9.3	13.6	53.1	1937
1937-1938.....	20.2	51.5	112.5	78.4	102.7	110.7	88.1	44.1	33.1	60.3	42.6	24.6	56.3	1938
1938-1939.....	46.2	48.6	99.4	68.5	81.4	89.4	108.2	114.9	10.5	-70.0	3.4	2.6	56.1	1939
1939-1940.....	10.9	96.4	45.3	72.0	25.3	120.3	114.8	55.0	67.3	19.0	-7.0	-1.5	52.1	1940
1940-1941.....	-3.5	23.9	72.4	49.0	87.4	81.5	121.3	36.7	27.0	9.2	2.5	-205.0	35.9	1941
1941-1942.....	-8.6	13.5	22.8	37.8	77.0	85.5	106.6	37.8	15.2	16.0	6.0	-8.8	38.3	1942
1942-1943.....	10.6	35.7	71.4	48.8	177.4	119.2	68.7	77.8	18.1	0.6	-7.4	-16.9	54.5	1943
1943-1944.....	9.4	27.7	34.8	49.3	49.2	64.2	85.9	80.0	11.5	-14.9	-15.4	15.7	30.1	1944
1944-1945.....	18.4	37.4	82.0	84.3	78.2	263.4	64.0	63.4	2.4	5.5	-3.9	5.3	50.5	1945
1945-1946.....	2.7	20.8	30.6	107.9	58.5	104.2	60.3	50.8	49.8	0	20.5	15.2	45.7	1946
1946-1947.....	102.1	22.7	35.5	72.5	123.6	168.1	94.7	84.9	76.6	10.9	4.1	7.7	45.0	1947
1947-1948.....	7.0	43.8	35.3	21.7	123.6	168.1	94.7	56.1	74.3	15.0	4.8	-13.2	54.2	1948
1948-1949.....	7.2	30.1	58.0	51.5	85.0	118.2	68.8	44.2	-20.0	-21.0	0.3	-2.6	41.7	1949
1949-1950.....	2.2	16.4	45.2	55.2	32.4	104.3	81.8	67.7	34.1	-6.8	4.4	-1.0	42.4	1950
1950-1951.....	1.8	25.6	56.7	65.4	110.3	175.8	108.3	51.9	44.6	4.2	2.3	-2.9	50.7	1951
1951-1952.....	8.2	47.9	77.8	86.9	68.6	121.5	67.3	61.7	31.0	-29.2	7.2	-9.0	50.9	1952
1952-1953.....	-10.3	12.2	27.4	62.5	93.8	77.6	84.4	98.8	17.0	1.6	-1.7	-4.7	51.4	1953
1953-1954.....	6.8	29.9	77.7	72.8	84.2	81.6	74.7	73.6	21.3	-0.4	10.2	51.9	47.1	1954
1954-1955.....	42.5	64.6	85.4	246.0	72.8	102.2	66.3	91.0	19.6	0.8	32.7	26.3	56.7	1955
1955-1956.....	62.9	122.7	208.3	60.7	93.2	57.8	171.1	81.8	45.7	8.9	-14.1	1.7	67.6	1956
1956-1957.....	7.8	22.4	53.1	83.1	85.4	83.5	90.6	37.4	-25.0	-42.7	-24.1	-13.9	46.2	1957
1957-1958.....	2.0	9.5	32.1	77.9	59.8	110.4	101.0	101.0	30.9	12.1	18.8	21.4	49.7	1958
Average.....	23.6	39.5	61.2	68.3	73.9	106.3	91.1	69.1	33.4	17.2	12.8	18.0	51.6	Avg.
Maximum.....	233.3	331.2	208.3	246.0	177.4	263.4	198.0	181.1	74.3	60.3	82.0	82.0	68.1	Max.
Minimum.....	-12.5	9.5	22.8	20.6	25.3	57.8	58.6	32.1	-25.0	-42.7	-24.1	-205.0	30.1	Min.

(e) Estimated.

TABLE 5
SCITUATE WATERSHED
(92.8 Square Miles)

STATISTICS OF STORAGE FOR YEAR ENDED SEPTEMBER 30, 1958

	1 REGULATING RESERVOIR		2 WESTCONNAUG RESERVOIR		3 BARDEN RESERVOIR		4 MOSWANSICUT RESERVOIR		5 PONAGANSET RESERVOIR		6 SCITUATE RESERVOIR		Total 1-6	
	Elev.	Avail. Storage M. G.	Elev.	Avail. Storage M. G.	Elev.	Avail. Storage M. G.	Elev.	Avail. Storage M. G.	Elev.	Avail. Storage M. G.	Elev.	Avail. Storage M. G.	Avail. Storage M. G.	% of Total Avail.
1957- 1958														
Oct.	280.20	101	430.32	253	342.10	626	300.15	545	631.38	576	273.47	25,915	28,016	70.5
Nov.	279.40	73	430.05	240	342.60	662	300.75	602	631.22	566	271.19	23,850	25,993	65.4
Dec.	281.00	133	430.47	260	345.12	855	301.20	646	631.48	583	269.42	22,263	24,740	62.2
Jan.	285.75	441	431.87	330	345.67	899	301.99	724	632.73	670	270.66	23,370	25,434	66.5
Feb.	285.70	437	433.97	441	345.40	877	302.13	739	633.98	764	279.27	31,597	34,855	87.7
Mar.	285.90	454	433.57	419	345.80	909	302.20	746	634.73	823	280.98	33,370	36,721	92.4
Apr.	285.85	450	433.97	441	345.65	897	302.15	741	634.73	823	284.82	37,518	40,870	102.8
May	285.75	441	434.57	476	345.64	896	302.20	746	634.48	803	285.62	38,408	41,770	105.1
June	285.60	429	434.27	458	344.90	837	301.98	723	634.03	768	284.67	37,350	40,565	102.1
July	285.50	421	434.17	453	345.13	857	301.90	715	633.73	745	283.80	36,386	39,577	99.6
Aug.	285.71	438	434.42	467	345.63	897	302.04	729	633.78	749	282.10	34,567	37,847	95.2
Sept.	285.53	423	434.27	458	345.28	867	301.88	713	633.58	734	280.42	37,804	35,999	90.6
Max. For Year	285.95	458	435.12	507	346.25	946	302.27	753	634.83	831	285.75	38,557	41,910	105.4
Min. For Year	279.40	73	449.72	225	342.10	626	300.15	545	631.22	566	268.93	21,854	24,368	61.3
			September 27		January 25		January 25		April 12		April 14		April 12	
			December 7		October 1		October 1		November 1		December 7		December 7	

1. Regulating Reservoir—Spillway Elev.	285.50;	Total Storage	438 M.G.;	Dead Storage	7 M.G.;	Total Available Storage	421 M.G.
2. Westconnaug "	434.17;	"	453 "	"	0 "	"	453 "
3. Barden "	343.10;	"	833 "	"	0 "	"	833 "
4. Moswansicut "	301.90;	"	1,781 "	"	1,046 "	"	715 "
5. Ponaganset "	633.05;	"	742 "	"	49 "	"	693 "
Total 1-5		Total Storage 4,257 M.G.;	Dead Storage	1,122 M.G.;	Total Available Storage		3,135 M.G.
6. Scituate Reservoir—Spillway Elev.	284.01;	"	37,011 "	"	400 "	"	36,611 "
Total 1-6		Total Storage 41,268 M.G.;	Dead Storage	1,522 M.G.;	Total Available Storage		39,746 M.G.

Notes: Elevations shown are in feet above mean high water in Providence Harbor.
Statistics shown are for the first day (7 A.M.) of the month indicated.

TABLE 6
SCITUATE WATERSHED
(92.8 Square Miles)

DRAFT AND YIELD FOR YEAR ENDED SEPTEMBER 30, 1958

DRAFT FROM SCITUATE RESERVOIR. Million Gallons				WATERSHED YIELD Million Gallons					
1957- 1958	To River Below Gainer Dam			To Water Purification Works	Total		For Month	Avg. per Day	
	Over Spillway	Through Gatehouse	Total		For Month	Avg. Per Day		1957- 1958	43-Year Mean 1916-1958
Oct.	0	712.38	712.38	1,400.08	2,112.46	68.14	89.46	2.89	42.14
Nov.	0	865.64	865.64	1,224.03	2,089.67	69.66	836.67	27.89	100.53
Dec.	0	886.57	886.57	1,286.98	2,173.55	70.11	3,867.55	124.76	129.54
Jan.	0	847.73	847.73	1,354.65	2,202.38	71.04	10,623.38	342.69	148.79
Feb.	0	1,279.52	1,279.52	1,109.07	2,478.59	88.52	4,344.59	155.16	158.40
Mar.	29.42	4,214.19	4,243.61	1,329.62	5,573.23	179.78	9,722.23	313.62	245.55
Apr.	2,629.27	6,236.87	8,866.14	1,333.03	10,219.17	340.64	11,119.17	370.64	208.58
May	1,194.63	4,926.52	6,121.15	1,344.21	7,465.36	240.82	6,260.36	201.95	127.98
June	80.56	778.58	859.14	1,473.12	2,332.26	77.74	1,344.26	44.81	65.59
July	0	1,473.93	1,473.93	1,618.93	3,092.86	99.77	1,362.86	43.96	33.82
Aug.	0	1,690.35	1,690.35	1,545.34	3,235.69	104.38	1,387.69	44.76	30.69
Sept.	0	1,714.04	1,714.04	1,437.39	3,151.43	105.05	2,105.43	70.18	38.71
For Yr.	3,933.88†	25,626.32	29,560.20	16,566.45	46,126.65	126.37	53,063.65	145.38	110.48

†Includes Flashboard Leakage.

TABLE 7
SCITUATE WATERSHED — REFORESTATION
NUMBER AND KINDS OF TREES PLANTED IN VARIOUS YEARS

Planted During Calendar Year	Balsam Fir	Red Pine	White Pine	Douglas Fir	Austrian Pine	Scotch Pine	Jack Pine	White Spruce	Norway Spruce	Hemlock	Larch	Total Number Planted Yearly
1926	0	160,000	40,000	0	0	0	0	0	0	0	0	200,000
1927	0	60,000	150,000	0	0	0	0	0	0	0	0	210,000
1928	0	10,000	10,000	0	0	0	0	0	0	0	0	20,000
1929	0	10,000	75,000	0	0	0	0	0	0	0	0	85,000
1930	0	40,000	40,000	0	0	0	0	0	0	0	0	80,000
1931	0	40,000	50,000	0	0	0	0	9,000	0	0	0	99,000
1932	0	40,000	40,000	0	0	0	0	20,000	0	0	0	100,000
1933	0	0	0	0	0	0	4,000	0	0	3,000	0	7,000
1934 & 1935	0	755,000	255,000	0	36,000	136,000	0	503,000	204,000	0	0	1,898,000
1936	0	433,700	111,000	0	14,400	0	0	20,000	15,000	26,000	0	640,100
1937	0	481,100	0	0	0	0	0	213,200	0	0	0	694,300
1938	0	229,000	21,693	0	0	0	50,000	0	0	0	0	250,693
1939	0	8,000	761,000	0	0	0	67,750	0	0	0	0	819,000
1940	0	267,387	618,828	0	45,916	0	0	0	0	0	0	999,881
1941	0	51,000	295,650	0	0	0	0	34,350	0	0	0	381,000
1942	0	0	308,120	0	0	0	0	0	0	0	0	308,120
1943	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	1,500	12,000	0	0	0	0	0	0	0	13,500
1952	0	20,000	0	0	0	0	0	10,000	0	0	10,000	40,000
1953	0	10,000	0	0	0	0	0	6,000	0	0	0	16,000
1954	2,000	0	0	2,000	0	0	0	0	0	0	6,000	10,000
1955	0	0	5,000	0	0	0	0	0	0	0	5,000	10,000
1956	0	0	5,000	0	4,500	0	0	0	0	0	0	9,500
1957	0	0	6,000	0	0	0	0	0	0	0	0	6,000
1958	0	2,700	2,000	0	0	0	0	0	0	0	0	4,700
TOTALS	2,000	2,637,887	2,795,791	14,000	100,816	136,000	121,750	817,550	219,000	29,000	21,000	6,894,794

TABLE 8

GAINER DAM HYDRO-ELECTRIC PLANT*
POWER STATISTICS ON THE BASIS OF THE "CONTRACT
YEAR" WITH THE NARRAGANSETT ELECTRIC COMPANY

Contract Year	KWH Generated at Gainer Dam	KWH Used at Gainer Dam and Water Purification Works	Net KWH Delivered to Narrag. Elec. Co.	Payment Received
(Period June 20-30, 1930)....	87,000	6,470	75,100	\$300.40
July 1930—June 1931.....	3,023,000	152,940	2,758,340	20,000.00
July 1931—June 1932.....	4,201,500	158,070	3,980,570	19,600.00
July 1932—June 1933.....	7,024,900	155,210	6,697,656	26,790.62
July 1933—June 1934.....	5,080,900	152,420	4,837,371	19,349.48
July 1934—June 1935.....	7,102,900	174,710	6,756,101	27,024.40
July 1935—June 1936.....	5,761,200	173,530	5,394,176	21,576.70
July 1936—June 1937.....	5,626,000	174,110	5,262,807	21,051.23
July 1937—June 1938.....	6,438,300	156,710	6,069,927	24,279.71
July 1938—June 1939.....	8,915,000	159,860	8,457,980	33,831.92
July 1939—June 1940.....	4,681,100	231,850	4,329,115	17,316.46
July 1940—June 1941.....	3,291,200	185,540	2,982,991	16,000.00
July 1941—June 1942.....	2,585,300	194,250	2,322,916	15,600.00
July 1942—June 1943.....	4,655,800	170,520	4,372,359	17,489.44
July 1943—June 1944.....	2,290,100	183,250	2,096,811	14,597.25
July 1944—June 1945.....	4,146,200	187,080	3,879,622	15,518.49
July 1945—June 1946.....	4,754,100	200,200	4,460,596	17,343.70
July 1946—June 1947.....	3,494,400	251,270	3,224,049	13,600.00
July 1947—June 1948.....	5,576,900	249,940	5,313,209	21,252.84
July 1948—June 1949.....	3,790,500	264,160	3,521,404	14,085.62
July 1949—June 1950.....	1,972,200	303,460	1,548,000	9,288.00
July 1950—June 1951.....	4,965,900	322,220	4,476,900	26,861.40
July 1951—June 1952.....	6,381,400	329,080	5,836,700	35,020.20
July 1952—June 1953.....	4,993,400	351,080	4,429,900	26,579.40
July 1953—June 1954.....	3,945,700	389,050	3,389,000	20,334.00
July 1954—June 1955.....	6,776,900	422,250	6,111,000	36,666.00
July 1955—June 1956.....	9,521,700	480,300	8,747,900	52,487.40
July 1956—June 1957.....	2,195,400	466,480	1,608,100	9,648.60
July 1957—June 1958.....	4,141,000	541,760	3,432,900	**20,597.40

*1875 KVA 3 Phase, 60 Cycles, 2300 Volts, 80 Ft. Head Turbo-Generator.

**Involves net exchange for portion of previous year.

TABLE 9
WATER PURIFICATION WORKS
OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

1957-1958	Influent Aerator Hours Operated	Plant Influent Mil. Gals.		Water Filtered Mil. Gals.		Wash Water Mil. Gals.		Plant Effluent Mil. Gals.		Plant Effluent Flow Hours	Number of Filters In Operation			Avg. Rate of Filtration M.G.D.
		Total	Avg. per Day	Total	Avg. per day	Total	Avg. per Day	Total	Avg. Day		Max.	Min.	Avg.	
Oct.	744.6	1,400.08	45.16	1,322.442	42.650	13,755	0.444	1,308.687	42.216	745.0	14.0	5.0	9.1	4.66
Nov.	720.0	1,274.03	40.80	1,159.946	38.665	11,222	0.374	1,148.724	38.291	720.0	12.0	4.5	8.3	4.67
Dec.	744.0	1,286.98	41.51	1,203.247	38.814	12,171	0.393	1,191.076	38.422	744.0	12.5	4.5	8.3	4.66
Jan.	744.0	1,354.65	43.70	1,220.966	39.386	11,903	0.384	1,209.063	39.002	744.0	14.0	2.5	8.4	4.68
Feb.	720.0	1,190.07	42.82	1,083.480	36.696	11,325	0.364	1,072.135	38.291	720.0	12.0	3.0	8.3	4.67
Mar.	744.0	1,329.62	42.89	1,167.949	37.676	8,484	0.274	1,159.465	37.402	744.0	12.0	4.5	8.1	4.67
Apr.	719.0	1,353.03	45.10	1,210.967	40.365	10,032	0.334	1,200.935	40.031	719.0	13.0	4.0	8.5	4.75
May	740.0	1,344.21	43.36	1,203.823	38.897	8,910	0.287	1,196.913	38.610	740.0	14.0	4.0	8.2	4.75
June	720.0	1,473.12	49.10	1,288.423	42.947	10,867	0.363	1,277.536	42.584	720.0	14.0	4.0	7.7	5.60
July	744.0	1,618.93	52.22	1,404.072	45.293	7,700	0.248	1,396.372	45.044	744.0	14.0	3.0	8.0	5.62
Aug.	743.0	1,545.34	49.85	1,358.490	43.822	6,909	0.223	1,351.581	43.599	744.0	14.0	4.0	7.8	5.62
Sept.	720.0	1,437.39	47.91	1,256.629	41.888	7,876	0.261	1,248.803	41.627	720.0	13.5	5.0	8.7	4.79
Totals	8,754.6	16,566.45	14,882.434	121,124	14,761.310	8,757.0
Average	729.5	45.39	40.774	0.332	40.442	729.7	8.3	4.92

Raw water treated with Ferri-Floc before Influent Aeration.
Quicklime added to Ferri-Floc treated water in conduit opposite Fluoridation Room.
Chlorine added to water after filtration all year.
Sodium Silicofluoride added to water after filtration.
Raw water drawn from lower intake at Garner Memorial Dam all year.

Table 9 (Continued)

WATER PURIFICATION WORKS

OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

1957-1958	Number of Filters Washed			Ferri-Floc Used			Quicklime Used			Chlorine Used			Sodium Silicofluoride Used			Fuel Oil Used for Heating—Gals.	
	Total	Avg. per Day	Average Run in Hours	Lbs.	Avg. per Day	Gr. per Gal.	Lbs.	Avg. per Day	Gr. per Gal.	Lbs.	Avg. per Day	Parts per Mil.*	Lbs.	Avg. per Day	Parts per Mil.*	No. 2	No. 6
Oct.....	96	3.1	72.74	118,986	3,838	0.60	132,339	4,269	0.66	3,782	122	0.36	18,814	607	1.07	462	3,617
Nov.....	79	2.6	78.06	103,045	3,435	0.59	108,925	3,631	0.62	3,341	111	0.36	16,717	557	1.07	110	7,298
Dec.....	86	2.8	71.43	107,696	3,474	0.58	112,861	3,641	0.61	2,675	86	0.28	17,364	560	1.08	9	11,148
Jan.....	97	3.1	65.51	114,815	3,704	0.59	112,818	3,639	0.58	2,563	83	0.26	17,435	562	1.08	21	12,021
Feb.....	94	2.3	57.47	139,526	4,983	0.81	118,469	4,231	0.69	2,305	82	0.26	15,705	561	1.10	216	12,068
Mar.....	76	2.4	83.82	163,410	5,271	0.86	137,110	4,423	0.72	2,484	80	0.26	17,326	559	1.10	556	10,778
Apr.....	88	2.9	73.51	130,311	4,344	0.67	128,187	4,273	0.66	2,548	85	0.26	18,145	605	1.10	253	6,739
May.....	75	2.4	85.66	130,815	4,220	0.68	133,530	4,307	0.69	2,866	92	0.29	18,418	594	1.12	496	2,756
June.....	77	2.6	69.64	142,889	4,763	0.68	145,374	4,846	0.69	3,175	106	0.30	16,109	537	0.95	534	0
July.....	54	1.7	105.02	150,080	4,841	0.65	157,302	5,074	0.68	4,278	138	0.37	18,265	589	0.96	842	0
Aug.....	48	1.5	135.78	131,453	4,240	0.60	148,935	4,804	0.68	4,391	142	0.40	17,101	552	0.93	725	0
Sept.....	55	1.8	120.28	108,290	3,610	0.53	132,463	4,415	0.64	4,125	137	0.40	15,773	526	0.92	702	90
Totals.....	925	1,541,316	1,568,313	38,533	207,172	4,926	66,515
Average.....	2.5	79.92	4,223	0.65	4,297	0.66	106	0.32	568	1.04	411	5,543

Total filter hours for year, 72,595.68; average per day, 198.89.

Average quantity of water filtered per filter per run, 10.38 m. g.

*Dosage expressed as p.p.m. of Fluoride ion.

TABLE 10
WATER PURIFICATION WORKS
CHEMICALS USED DURING THE FISCAL YEAR ENDED
SEPTEMBER 30, 1958

Chemicals	Pounds of Chemicals Used		Total Gallons of Water Treated	Cost of Chemicals	Pounds of Chemicals Used per 1,000,000 Gals. of Water Treated (Avg.)	Cost of Chemicals Per 1,000,000 Gals. of Water Treated
	Total	Lbs. Per Day (Avg.)				
Ferri-Floc	1,541,316	4,223	16,549,350,000	\$42,116.53	93.13	\$2.54
Quicklime	1,568,313	4,297	16,536,890,000	16,825.73	94.84	1.02
Chlorine	38,533	106	14,445,183,000	3,371.64	2.67	0.23
Sod. Silicofluoride	207,172	568	14,352,271,000	15,312.58	14.43	1.07
Totals	3,355,334	\$77,626.48	\$4.86

Price of Ferri-Floc—From Oct. 1, 1957 to Mar. 2, 1958—\$54.45 per ton; from Mar. 3 to Sept. 30, 1958—\$55.05 per ton.

Price of Quicklime—From Oct. 1, 1957 to Oct. 8, 1957—\$21.00 per ton; from Oct. 9, 1957 to Feb. 4, 1958—\$21.41 per ton; from Feb. 5 to May 13, 1958—\$21.61 per ton; from May 14 to Sept. 30, 1958—\$21.60 per ton.

Price of Chlorine—From Oct. 1, 1957 to Sept. 30, 1958—\$0.0875 per pound.

Price of Sodium Silicofluoride—From Oct. 1, 1957 to Aug. 21, 1958—\$149.80 per ton; from Aug. 22 to Sept. 30, 1958—\$109.40 per ton.

TABLE 11
WATER PURIFICATION WORKS
***CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER* IN**
PROCESS OF FILTRATION
YEAR ENDED SEPTEMBER 30, 1958

Monthly Averages	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Alkalinity													
Raw	4.6	4.4	4.5	4.4	3.7	3.7	3.5	3.4	3.6	4.0	4.1	4.2	4.0
Effluent	17.8	15.6	14.7	14.2	14.4	14.6	14.9	15.8	15.8	16.3	17.2	16.6	15.7
Tap	15.5	14.1	13.4	12.5	12.3	12.7	13.1	13.6	14.4	14.5	15.4	15.1	13.9
Hardness													
Raw	10	9	10	10	10	10	10	10	10	10	10	10	10
Effluent	29	27	27	27	28	29	27	28	28	28	28	27	28
Tap	29	27	27	27	28	30	28	28	28	28	28	28	28
Hydrogen Ion Concentration													
Raw	6.3	6.6	6.5	6.5	6.2	6.1	6.2	6.3	6.2	5.9	6.0	6.0	6.2
Aerated Influent	4.4	4.5	4.5	4.5	4.4	4.2	4.3	4.3	4.3	4.2	4.4	4.6	4.4
Treated	10.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.1	10.3
Settled	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.0	10.0	10.1
Filtered	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.0	10.0	10.1
Effluent	10.1	10.2	10.2	10.2	10.2	10.2	10.1	10.2	10.1	10.1	10.0	10.0	10.1
Tap	9.9	10.0	10.0	10.0	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Free CO₂													
Raw	2.3	1.5	1.4	1.4	1.9	2.4	1.8	2.1	3.0	4.8	5.9	6.7	2.9
Aerated Influent	5.1	5.1	4.9	5.1	7.3	8.7	6.9	6.6	6.9	7.1	6.7	6.1	6.4
Phenolphthalein Alkalinity													
Treated	11.5	11.0	10.1	9.4	9.8	10.0	10.4	10.7	11.2	10.9	11.6	11.3	10.7
Settled	11.0	10.2	9.3	8.9	9.1	9.1	9.4	10.0	10.0	9.8	10.6	10.3	9.8
Filtered	11.0	10.2	9.3	8.9	9.1	9.1	9.4	9.9	9.9	9.8	10.5	10.3	9.8
Effluent	11.0	10.1	9.3	8.9	9.0	9.0	9.3	9.9	9.8	9.8	10.5	10.3	9.7
Tap	8.1	7.4	6.7	6.4	6.2	6.3	6.5	7.0	7.3	7.1	7.8	7.5	7.0
Color													
Raw	7	5	5	8	14	14	13	12	14	13	13	17	11
Effluent	4	3	3	3	6	6	5	5	6	5	7	5	5
Tap	4	3	3	3	6	6	5	5	6	6	7	6	5
Turbidity													
Raw	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3
Settled	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Effluent	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron													
Raw	0.11	0.07	0.07	0.10	0.09	0.08	0.05	0.03	0.05	0.07	0.07	0.26	0.09
Settled18	.19	.19	.27	.60	.38	.36	.34	.27	.29	.27	.23	.30
Effluent00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
Tap01	.02	.01	.02	.04	.01	.00	.02	.03	.04	.05	.04	.02
Manganese													
Raw	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.11	0.02
Settled01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00
Effluent00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Tap00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Fluoride													
Raw	0.15	0.14	0.14	0.13	0.14	0.14	0.15	0.14	0.13	0.14	0.15	0.15	0.14
Effluent	0.13	0.14	0.13	0.13	0.12	0.11	0.11	0.12	0.10	0.13	0.13	0.14	0.12
Tap	1.13	1.14	1.15	1.16	1.14	1.11	1.10	1.14	0.94	0.97	1.01	0.99	1.08
Temperature (°F.)													
Air (av. of daily max.)	61	54	46	37	31	45	57	63	69	79	76	69	57
Air (av. of daily min.)	42	35	29	21	15	32	39	45	52	64	61	52	41
Raw water	59	51	43	37	36	39	43	51	54	55	57	57	49
Water on filters	58	50	42	35	35	38	44	53	57	60	61	60	49
Tap	63	59	53	44	42	43	48	57	63	68	68	67	56

*Parts per million, except pH and Temperature.

TABLE 12
WATER PURIFICATION WORKS
***CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN**
VARIOUS BROOKS AND RESERVOIRS ON SCITUATE WATERSHED
YEAR ENDED SEPTEMBER 30, 1958

Monthly Analyses	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Color													
Coventry Brook	**	20	40	40	20	20	28	50	70	30	70	50	40
Wilbur Brook	**	40	60	50	25	25	50	50	100	140	80	80	64
Westconnaug Res.	9	15	30	20	20	20	30	27	20	28	60	15	25
Barden Reservoir	**	20	35	25	25	22	70	25	25	26	40	40	32
Cork Brook	**	10	25	20	12	15	25	20	30	10	20	25	19
Rush Brook	**	18	35	20	25	25	50	54	64	64	50	74	44
Huntinghouse Brook	**	20	25	20	15	18	45	25	40	25	18	40	26
Harrisdale Brook	18	22	20	23	15	16	40	30	40	66	22	35	29
Blanchard Brook	**	45	50	50	45	60	140	200	250	375	200	160	143
Moswansicut Pond	**	10	5	12	12	15	15	20	60	18	10	12	17
Regulating Reservoir	20	20	35	25	15	25	30	25	70	50	60	60	36
Quonapaug Brook	**	50	40	60	40	60	120	180	240	250	250	175	133
Hemlock Brook	13	35	40	28	25	20	80	60	28	25	36	75	39
Betty Pond Stream	**	45	20	18	12	15	20	20	32	25	30	40	25
Spruce Brook	**	30	40	32	18	22	60	40	30	28	50	100	41
Brandy Brook	12	35	50	50	15	50	140	200	175	190	180	101	101
Moswansicut—South	**	20	10	20	18	15	25	35	22	40	80	80	33
Windsor Brook	**	15	25	22	12	15	38	27	30	30	40	40	27
Paine Pond	**	**	60	25	25	15	25	20	8	7	15	25	23
Unnamed Brook—A	**	**	45	50	30	28	72	70	140	150	100	160	85
Unnamed Brook—B	**	**	50	30	15	17	12	45	30	25	25	15	26
Turbidity													
Coventry Brook	**	0.2	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2
Wilbur Brook	**	0.2	0.3	0.2	0.1	0.2	0.3	0.3	0.6	0.1	0.2	0.3	0.3
Westconnaug Res.	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.2
Barden Reservoir	**	0.3	0.4	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Cork Brook	**	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Rush Brook	**	0.1	0.3	0.1	0.3	0.2	0.3	0.2	0.1	0.1	0.3	0.2	0.2
Huntinghouse Brook	**	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.3
Harrisdale Brook	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3
Blanchard Brook	**	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Moswansicut Pond	**	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.1	0.2	0.1	0.2
Regulating Reservoir	1.2	0.1	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.1	0.2	0.2	0.3
Quonapaug Brook	**	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.3	0.2	0.2
Hemlock Brook	0.6	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.3	0.1	0.2	0.2	0.2
Betty Pond Stream	**	0.2	0.2	0.3	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2
Spruce Brook	**	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2
Brandy Brook	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.2	0.3	0.2
Moswansicut—South	**	0.4	0.2	0.3	0.2	0.2	0.1	0.4	0.3	0.2	0.3	0.4	0.3
Windsor Brook	**	0.3	0.3	0.3	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.3	0.2
Paine Pond	**	**	0.4	0.3	0.2	0.2	0.2	0.4	0.3	0.2	0.3	0.3	0.3
Unnamed Brook—A	**	**	0.3	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.2	0.2
Unnamed Brook—B	**	**	0.2	0.3	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2
Iron													
Coventry Brook	**	0.05	0.10	0.05	0.01	0.00	0.07	0.05	0.32	0.08	1.00	0.10	0.17
Wilbur Brook	**	.20	.10	.05	.01	.04	.08	.25	.50	1.20	.90	.38	.34
Westconnaug Res.05	.10	.15	.02	.01	.04	.10	.15	.12	.25	.18	.06	.10
Barden Reservoir	**	.28	.00	.05	.10	.00	.10	.12	.25	.38	.30	.15	.15
Cork Brook	**	.00	.00	.02	.00	.00	.00	.00	.10	.05	.04	.02	.02
Rush Brook	**	.00	.00	.02	.10	.00	.00	.10	.10	.34	.60	.20	.13
Huntinghouse Brook	**	.18	.05	.02	.07	.00	.00	.05	.30	.00	.42	.30	.13

*Parts per million.

**No sample obtained—Brook or Stream was dry.

Note: Unnamed Brook A is just North of Scituate Town Dump. Unnamed Brook B is South-west of the Foster Nike Site.

Table 12 (Continued)
WATER PURIFICATION WORKS
***CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN**
VARIOUS BROOKS AND RESERVOIRS ON SCITUATE WATERSHED
YEAR ENDED SEPTEMBER 30, 1958

Monthly Analyses	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Iron													
Harrisdale Brook ...	0.18	0.15	0.05	0.02	0.05	0.00	0.10	0.22	0.28	0.30	0.40	0.22	0.16
Blanchard Brook ...	**	.15	.10	.05	.06	.00	.25	.32	.70	1.70	1.20	1.20	.52
Moswansicut Pond ...	**	.10	.00	.03	.01	.00	.00	.05	1.60	.00	.00	.00	.16
Regulating Reservoir38	.02	.00	.03	.01	.00	.12	.15	.05	.30	.42	.15	.13
Quonapaug Brook ...	**	.00	.10	.05	.10	.00	.20	.35	.50	1.00	1.35	.60	.39
Hemlock Brook40	.10	.10	.05	.07	.00	.10	.15	.15	.15	.30	.18	.15
Betty Pond Stream ...	**	.00	.00	.04	.30	.00	.05	.10	.10	.08	.08	.30	.10
Manganese													
Coventry Brook ...	**	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wilbur Brook ...	**	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
Westconnaug Res.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
Barden Reservoir ...	**	.01	.00	.02	.00	.00	.00	.01	.00	.00	.00	.00	.00
Cork Brook ...	**	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
Rush Brook ...	**	.01	.00	.02	.00	.00	.00	.01	.00	.00	.00	.00	.00
Huntinghouse Brook ...	**	.01	.00	.02	.00	.00	.00	.01	.00	.00	.00	.00	.00
Harrisdale Brook00	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00
Blanchard Brook ...	**	.02	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00
Moswansicut Pond ...	**	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
Regulating Reservoir00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
Quonapaug Brook ...	**	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00
Hemlock Brook00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Betty Pond Stream ...	**	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
Spruce Brook ...	**	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00
Brandy Brook00	.00	.00	.02	.00	.00	.00	.01	.00	.00	.00	.00	.00
Moswansicut—South ...	**	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
Windsor Brook ...	**	.00	.00	.02	.00	.01	.01	.00	.00	.00	.00	.00	.00
Paine Pond ...	**	.00	.00	.02	.01	.01	.01	.01	.02	.01	.01	.00	.01
Unnamed Brook—A ...	**	.00	.00	.02	.00	.01	.00	.00	.00	.00	.00	.00	.00
Unnamed Brook—B ...	**	.00	.00	.02	.00	.01	.00	.00	.00	.00	.01	.00	.00
Hydrogen Ion Concentration													
Coventry Brook ...	**	6.8	6.4	5.5	6.2	5.8	6.6	6.2	5.9	6.6	6.0	6.7	6.2
Wilbur Brook ...	**	6.2	5.8	5.5	5.4	5.8	6.0	6.0	5.9	6.2	6.1	6.1	5.9
Westconnaug Res.	6.8	6.7	6.5	5.8	5.9	6.0	6.3	6.5	6.4	6.4	6.6	6.8	6.4
Barden Reservoir ...	**	6.9	6.1	5.4	5.4	5.9	5.6	6.4	6.4	6.4	6.4	6.8	6.2
Cork Brook ...	**	6.5	5.9	5.4	5.5	5.8	6.0	6.3	6.4	6.5	6.5	6.3	6.1
Rush Brook ...	**	6.5	5.5	5.4	5.4	5.9	5.6	6.4	6.3	6.4	6.6	6.8	6.1
Huntinghouse Brook ...	**	7.0	6.0	5.8	6.0	6.2	5.8	6.4	6.6	6.8	7.0	6.5	6.4
Harrisdale Brook ...	7.1	7.1	6.3	5.9	6.3	6.3	6.7	6.8	6.5	7.0	5.5	6.5	6.5
Blanchard Brook ...	**	5.0	4.7	5.0	4.8	5.3	5.2	5.4	5.4	5.4	6.3	5.5	5.3
Moswansicut Pond ...	**	6.7	6.2	6.0	6.2	6.1	6.4	6.4	6.5	6.5	6.3	6.4	6.3
Regulating Reservoir ...	7.0	6.5	5.9	5.4	5.7	6.3	6.6	6.6	6.6	6.3	6.3	6.7	6.3
Quonapaug Brook ...	**	5.8	5.2	5.2	5.0	5.5	5.4	5.7	5.7	6.4	5.6	5.8	5.6
Hemlock Brook ...	6.8	5.9	4.9	5.2	5.5	5.9	5.4	6.4	6.0	6.2	5.7	5.4	5.8
Betty Pond Stream ...	**	6.4	6.0	5.1	5.4	5.6	5.7	6.1	5.9	5.8	6.1	6.0	5.8

*Parts per million, except Hydrogen Ion Concentration.

**No sample obtained—Brook or Stream was dry.

Note: Unnamed Brook A is just North of Scituate Town Dump. Unnamed Brook B is South-west of the Foster Nike Site.

Table 12 (Continued)
WATER PURIFICATION WORKS
***CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN**
VARIOUS BROOKS AND RESERVOIRS ON SCITUATE WATERSHED
YEAR ENDED SEPTEMBER 30, 1958

Monthly Analyses	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Hydrogen Ion Concentration													
Spruce Brook	**	7.5	5.2	5.2	5.5	5.9	5.5	6.0	6.2	6.1	5.6	5.6	5.8
Brandy Brook	6.8	6.7	6.1	5.6	6.3	6.5	6.0	6.2	6.2	6.2	6.3	6.1	6.3
Moswansicut—South.	**	6.4	6.1	6.0	6.2	6.4	6.3	6.5	6.6	6.3	6.1	6.6	6.3
Windsor Brook	**	6.6	5.9	5.8	6.0	6.1	5.7	6.4	6.5	6.8	6.3	6.5	6.2
Paine Pond	**	**	5.4	5.2	5.5	5.5	5.8	5.6	5.3	5.1	5.3	5.5	5.4
Unnamed Brook—A..	**	**	6.0	5.2	5.7	5.8	5.8	6.0	6.0	6.3	6.1	6.0	5.9
Unnamed Brook—B..	**	**	5.3	4.5	4.8	4.8	5.4	5.0	6.3	7.3	5.5	5.4	5.4
Free CO₂													
Coventry Brook	**	3.0	2.5	4.0	3.5	3.0	2.0	4.0	3.5	4.0	4.5	4.5	3.5
Wilbur Brook	**	7.0	2.5	3.5	8.0	4.0	5.0	7.0	4.0	8.0	9.0	8.0	6.0
Westconnaug Res.	2.0	3.0	3.0	3.0	3.5	4.0	3.0	3.5	2.5	3.0	4.0	3.0	3.1
Barden Reservoir	**	2.0	2.5	3.0	4.5	4.5	4.5	3.0	3.0	2.0	3.0	2.0	3.1
Cork Brook	**	4.0	3.0	3.5	5.0	5.0	4.0	3.5	3.5	1.0	2.0	4.0	3.5
Rush Brook	**	4.0	3.0	4.0	5.0	4.0	5.0	3.0	3.5	4.5	6.0	3.0	4.1
Huntinghouse Brook.	**	2.5	2.5	3.5	4.5	3.5	5.5	4.0	2.5	2.5	5.0	1.5	3.4
Harrisdale Brook	2.5	2.0	3.0	4.5	8.0	2.5	6.0	4.0	2.5	5.0	5.0	3.5	4.0
Blanchard Brook	**	7.0	2.0	4.0	7.5	2.0	6.0	12.0	2.5	12.5	9.0	4.0	6.2
Moswansicut Pond	**	3.0	2.0	4.0	4.0	3.0	5.0	4.0	2.5	1.5	2.0	2.0	3.0
Regulating Reservoir.	2.5	3.0	2.0	4.5	5.0	3.0	5.0	4.5	3.0	5.0	4.0	3.0	3.7
Quonapaug Brook	**	8.0	5.0	4.5	11.0	3.5	4.5	5.0	6.5	17.0	7.5	6.0	7.1
Hemlock Brook	2.5	5.0	4.0	4.0	9.0	3.0	4.0	4.5	4.0	2.0	3.0	7.0	4.3
Betty Pond Stream..	**	3.5	3.0	5.0	10.0	2.5	4.5	5.0	3.0	5.5	5.0	6.0	4.8
Spruce Brook	**	5.0	3.0	5.5	3.0	2.5	5.0	4.0	3.5	2.0	3.5	5.0	3.8
Brandy Brook	2.5	3.0	2.0	5.0	4.0	3.0	4.0	8.0	2.0	16.5	8.5	4.0	5.2
Moswansicut—South.	**	7.0	2.0	5.5	5.0	4.0	4.0	3.5	2.5	8.0	7.5	5.0	4.9
Windsor Brook	**	2.5	2.0	5.5	4.0	5.0	4.5	3.0	2.0	1.5	3.5	3.0	3.3
Paine Pond	**	**	3.0	4.0	10.0	6.0	6.0	4.0	3.5	5.0	4.0	5.0	5.1
Unnamed Brook—A..	**	**	4.0	4.5	9.0	4.0	6.0	6.0	5.0	6.0	8.0	4.5	5.7
Unnamed Brook—B..	**	**	4.0	4.0	4.5	5.0	6.0	4.0	2.0	1.5	10.0	4.0	4.5
Alkalinity													
Coventry Brook	**	6.0	4.5	2.5	4.0	4.0	4.5	3.0	6.0	5.5	5.0	4.0	4.5
Wilbur Brook	**	4.0	4.0	3.0	3.0	3.0	4.0	4.0	5.0	7.5	4.5	4.5	4.2
Westconnaug Res.	5.0	6.0	4.5	2.5	3.5	3.5	4.5	4.0	5.0	6.5	5.5	4.5	4.6
Barden Reservoir	**	4.5	3.5	2.5	3.5	4.0	3.0	3.5	4.0	4.5	4.0	2.0	3.5
Cork Brook	**	4.5	4.0	2.5	3.5	3.5	3.0	3.5	4.0	4.5	4.0	3.0	3.6
Rush Brook	**	4.5	4.0	2.5	4.0	4.0	3.0	3.5	5.0	7.5	7.0	4.0	4.5
Huntinghouse Brook.	**	10.0	5.0	3.0	5.0	4.0	3.5	4.0	9.0	8.5	11.0	6.5	6.3
Harrisdale Brook	11.5	11.0	5.0	3.0	6.0	4.0	4.5	7.0	9.0	9.0	12.0	7.0	7.4
Blanchard Brook	**	2.0	1.0	1.5	1.0	2.0	2.0	3.5	4.0	6.5	2.5	2.5	2.5
Moswansicut Pond	**	7.0	5.0	4.0	4.0	4.0	5.0	4.0	13.0	6.0	5.0	6.0	5.7
Regulating Reservoir	8.0	5.0	3.0	2.0	3.5	4.0	5.0	5.0	5.5	8.5	6.5	3.0	4.9
Quonapaug Brook	**	6.0	3.0	2.5	4.0	3.0	3.5	5.0	8.0	7.0	4.0	4.5	4.5
Hemlock Brook	5.0	4.0	1.0	2.5	2.5	4.0	2.5	3.5	3.5	5.0	5.0	2.5	3.4
Betty Pond Stream..	**	6.0	4.0	2.5	3.5	3.0	2.5	4.0	3.0	5.0	5.0	3.0	3.8
Spruce Brook	**	5.5	2.0	2.0	3.0	3.0	2.0	3.5	3.5	4.0	3.0	3.0	3.1
Brandy Brook	7.0	4.5	5.0	2.5	3.0	5.0	5.0	6.5	9.0	12.0	9.0	7.0	6.3
Moswansicut—South.	**	7.5	6.5	6.0	3.0	3.0	7.0	10.0	5.0	18.0	11.0	14.0	8.3
Windsor Brook	**	4.5	3.0	2.5	3.5	3.5	2.5	4.5	4.0	5.0	4.5	3.0	3.7
Paine Pond	**	**	2.5	3.0	4.0	3.0	2.5	4.0	3.0	2.5	2.5	2.0	2.9
Unnamed Brook—A..	**	**	4.5	2.5	4.0	3.0	3.5	5.0	5.0	9.0	6.0	5.0	4.8
Unnamed Brook—B..	**	**	3.0	1.0	1.5	2.0	2.5	3.0	3.5	4.5	3.0	2.0	2.6

*Parts per million, except Hydrogen Ion Concentration.
 **No sample obtained—Brook or Stream was dry.
 Note: Unnamed Brook A is just North of Scituate Town Dump. Unnamed Brook B is Southwest of the Foster Nike Site.

TABLE 13
WATER PURIFICATION WORKS
CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN
VARIOUS PARTS OF THE DISTRIBUTION SYSTEM
YEAR ENDED SEPTEMBER 30, 1958

Monthly Averages	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Hydrogen Ion Concentration													
Neutaconkanut Reservoir...	9.9	10.0	10.0	10.0	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Phenix Ave., Cranston...	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Westminster St., Olneyville	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Budlong Road, Cranston...	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Reservoir Ave., Cranston...	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
T. F. Green Airport, War.	9.9	10.0	9.9	9.9	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Biltmore Hotel	9.9	10.0	10.0	10.0	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
Crown Hotel	9.9	10.0	10.0	9.9	10.0	9.9	9.8	9.9	9.9	9.8	9.8	9.8	9.9
State Office Bldg.	9.9	10.0	10.0	10.0	10.0	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
*Longview Reservoir	9.9	10.0	10.0	10.0	9.9	9.9	9.9	9.9	9.9	9.8	9.9	9.9	9.9
Phenolphthalein Alkalinity													
Neutaconkanut Reservoir...	8.0	7.4	6.7	6.4	6.2	6.3	6.6	6.9	7.2	7.1	7.8	7.5	7.0
Phenix Ave., Cranston...	8.0	7.3	6.7	6.3	6.4	6.3	6.5	7.0	7.3	7.2	7.7	7.5	7.0
Westminster St., Olneyville	8.0	7.3	6.6	6.3	6.3	6.3	6.6	6.9	7.3	7.2	7.8	7.6	7.0
Budlong Road, Cranston...	8.1	7.3	6.6	6.3	6.5	6.5	6.6	7.0	7.4	7.3	7.8	7.4	7.1
Reservoir Ave., Cranston...	8.1	7.3	6.7	6.3	6.4	6.4	6.6	6.9	7.4	7.3	7.8	7.5	7.1
T. F. Green Airport, War.	8.1	7.4	6.7	6.3	6.3	6.3	6.6	7.0	7.4	7.3	7.8	7.5	7.1
Biltmore Hotel	8.0	7.4	6.7	6.3	6.3	6.4	6.7	7.0	7.3	7.2	7.9	7.5	7.1
Crown Hotel	8.1	7.3	6.7	6.3	6.4	6.4	6.6	7.0	7.4	7.2	7.8	7.5	7.1
State Office Bldg.	8.1	7.3	6.9	6.4	6.4	6.5	6.7	7.0	7.5	7.4	7.8	7.6	7.1
*Longview Reservoir	9.0	8.4	7.8	7.4	7.0	7.0	7.1	7.5	8.0	7.9	8.5	8.7	7.9
Methyl Orange Alkalinity													
Neutaconkanut Reservoir...	15.5	14.1	13.4	12.5	12.2	12.5	13.1	13.4	14.1	14.5	15.4	15.1	13.8
Phenix Ave., Cranston...	15.5	14.1	13.4	12.4	12.3	12.5	13.1	13.5	14.3	14.5	15.3	15.2	13.8
Westminster St., Olneyville	15.5	14.1	13.4	12.4	12.3	12.6	13.1	13.4	14.3	14.5	15.5	15.3	13.9
Budlong Road, Cranston...	15.5	14.1	13.3	12.4	12.5	12.8	13.1	13.5	14.4	14.6	15.5	15.1	13.9
Reservoir Ave., Cranston...	15.5	14.1	13.4	12.4	12.4	12.6	13.1	13.4	14.5	14.6	15.4	15.2	13.9
T. F. Green Airport, War.	15.5	14.1	13.4	12.3	12.3	12.6	13.2	13.5	14.5	14.6	15.5	15.3	13.9
Biltmore Hotel	15.5	14.1	13.4	12.4	12.3	12.6	13.2	13.5	14.4	14.6	15.5	15.2	13.9
Crown Hotel	15.5	14.1	13.4	12.4	12.4	12.8	13.2	13.5	14.4	14.6	15.4	15.3	13.9
State Office Bldg.	15.5	14.1	13.6	12.4	12.3	12.8	13.2	13.5	14.5	14.7	15.5	15.3	14.0
*Longview Reservoir	17.1	16.3	15.0	14.2	13.7	13.9	13.9	14.1	15.4	15.8	16.5	16.8	15.2
Color													
Neutaconkanut Reservoir...	4	2	2	3	5	6	5	5	6	5	6	5	5
Phenix Ave., Cranston...	4	2	3	3	5	6	5	5	6	5	6	5	5
Westminster St., Olneyville	4	2	2	3	5	6	5	5	6	5	6	5	5
Budlong Road, Cranston...	4	2	2	3	5	6	5	5	6	5	6	5	5
Reservoir Ave., Cranston...	4	2	2	3	5	6	5	5	6	5	6	5	5
T. F. Green Airport, War.	4	2	2	3	5	6	5	5	6	6	6	5	5
Biltmore Hotel	4	2	2	3	5	6	5	5	6	5	6	5	5
Crown Hotel	4	2	3	3	5	6	5	6	6	7	7	5	5
State Office Bldg.	4	2	3	3	5	6	5	5	6	5	6	5	5
*Longview Reservoir	5	4	5	4	5	6	6	6	7	7	7	7	6
Iron													
Neutaconkanut Reservoir...	0.02	0.01	0.02	0.01	0.03	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01
Phenix Ave., Cranston...	.01	.01	.00	.00	.04	.01	.00	.00	.02	.01	.01	.00	.01
Westminster St., Olneyville	.00	.00	.00	.00	.04	.01	.00	.00	.00	.00	.00	.00	.00
Budlong Road, Cranston...	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
Reservoir Ave., Cranston...	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
T. F. Green Airport, War.	.07	.06	.07	.08	.10	.08	.08	.08	.08	.07	.06	.08	.07
Biltmore Hotel	.00	.00	.00	.00	.03	.00	.00	.01	.00	.00	.00	.00	.00
Crown Hotel	.00	.00	.01	.00	.04	.00	.02	.03	.02	.03	.05	.03	.02
State Office Bldg.	.00	.00	.00	.00	.03	.00	.00	.01	.01	.01	.00	.00	.00
*Longview Reservoir	.06	.07	.06	.07	.07	.09	.06	.06	.06	.07	.08	.09	.07

*Sample obtained at Our Lady of Fatima Hospital.

TABLE 13 (Continued)
WATER PURIFICATION WORKS
CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN
VARIOUS PARTS OF THE DISTRIBUTION SYSTEM
YEAR ENDED SEPTEMBER 30, 1958

Monthly Averages	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Chlorides													
Neutaconkanut Reservoir...	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Phenix Ave., Cranston...	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Westminster St., Olneyville	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.0
Budlong Road, Cranston...	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0
Reservoir Ave., Cranston...	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0	3.0
T. F. Green Airport, War.	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Biltmore Hotel	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0	3.0
Crown Hotel	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
State Office Bldg.	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0
*Longview Reservoir	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Nitrites													
Neutaconkanut Reservoir...	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
Phenix Ave., Cranston...	.001	.001	.000	.000	.000	.000	.001	.001	.000	.001	.000	.000	.000
Westminster St., Olneyville	.001	.001	.000	.000	.000	.000	.001	.001	.000	.000	.000	.000	.000
Budlong Road, Cranston...	.001	.001	.000	.000	.000	.000	.001	.001	.000	.001	.000	.000	.000
Reservoir Ave., Cranston...	.001	.001	.000	.000	.000	.001	.001	.001	.001	.000	.001	.000	.001
T. F. Green Airport, War.	.001	.001	.000	.000	.000	.001	.001	.001	.000	.000	.000	.000	.000
Biltmore Hotel001	.001	.000	.000	.000	.001	.001	.001	.000	.001	.000	.000	.001
Crown Hotel001	.000	.000	.000	.000	.001	.001	.001	.000	.001	.000	.000	.000
State Office Bldg.001	.000	.000	.000	.000	.001	.001	.001	.000	.000	.000	.000	.000
*Longview Reservoir001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Taste													
Neutaconkanut Reservoir...	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenix Ave., Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster St., Olneyville	0	0	0	0	0	0	0	0	0	0	0	0	0
Budlong Road, Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
Reservoir Ave., Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
T. F. Green Airport, War.	0	0	0	0	0	0	0	0	0	0	0	0	0
Biltmore Hotel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crown Hotel	0	0	0	0	0	0	0	0	0	0	0	0	0
State Office Bldg.	0	0	0	0	0	0	0	0	0	0	0	0	0
*Longview Reservoir	0	0	0	0	0	0	0	0	0	0	0	0	0
Odor													
Neutaconkanut Reservoir...	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenix Ave., Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster St., Olneyville	0	0	0	0	0	0	0	0	0	0	0	0	0
Budlong Road, Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
Reservoir Ave., Cranston...	0	0	0	0	0	0	0	0	0	0	0	0	0
T. F. Green Airport, War.	0	0	0	0	0	0	0	0	0	0	0	0	0
Biltmore Hotel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crown Hotel	0	0	0	0	0	0	0	0	0	0	0	0	0
State Office Bldg.	0	0	0	0	0	0	0	0	0	0	0	0	0
*Longview Reservoir	0	0	0	0	0	0	0	0	0	0	0	0	0
Fluoride													
Neutaconkanut Reservoir...	1.10	1.15	1.16	1.17	1.16	1.13	1.12	1.14	0.97	0.99	0.97	1.00	1.09
Phenix Ave., Cranston...	1.13	1.15	1.17	1.18	1.12	1.13	1.16	1.17	.94	.99	1.01	1.01	1.10
Westminster St., Olneyville	1.14	1.16	1.16	1.16	1.15	1.15	1.13	1.16	.93	.98	1.01	1.01	1.10
Budlong Road, Cranston...	1.13	1.15	1.16	1.17	1.10	1.08	1.13	1.16	.94	.99	1.00	.99	1.08
Reservoir Ave., Cranston...	1.13	1.13	1.15	1.17	1.08	1.08	1.14	1.16	.92	.98	1.00	.97	1.08
T. F. Green Airport, War.	1.14	1.16	1.15	1.19	1.09	1.13	1.13	1.19	.95	1.00	1.01	1.01	1.10
Biltmore Hotel	1.13	1.16	1.15	1.19	1.15	1.06	1.12	1.17	.94	.99	1.02	1.01	1.09
Crown Hotel	1.14	1.15	1.14	1.19	1.14	1.13	1.13	1.16	.93	.99	1.01	1.01	1.09
State Office Bldg.	1.13	1.15	1.16	1.13	1.15	1.08	1.13	1.16	.93	.97	1.01	1.01	1.08
*Longview Reservoir	1.06	1.13	1.13	1.15	1.10	1.03	1.10	1.12	1.03	.99	.99	.98	1.07

*Sample obtained at Our Lady of Fatima Hospital.

TABLE 14
WATER PURIFICATION WORKS
BACTERIOLOGICAL EXAMINATION OF WATER IN
PROCESS OF FILTRATION
YEAR ENDED SEPTEMBER 30, 1958

1957-58	BACTERIA per ml. (48 HOURS ON AGAR AT 20°C.)											
	Raw Water			Settled Water			Filtered Water			Tap Water		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Oct.	900	5	65	220	0	60	90	1	35	1	0	0
Nov.	50	3	19	300	40	161	250	0	135	6	0	0
Dec.	55	0	16	450	0	184	600	30	133	3	0	0
Jan.	180	2	35	210	1	72	400	0	85	75	0	3
Feb.	260	2	40	250	3	56	120	0	47	2	0	0
Mar.	80	4	18	95	3	22	400	10	58	19	0	1
Apr.	200	7	27	110	8	47	150	4	54	6	0	1
May	40	0	11	150	1	47	110	12	52	1	0	0
June	50	0	18	150	1	40	75	1	35	2	0	0
July	680	1	49	50	0	21	45	1	18	3	0	0
Aug.	70	2	19	40	0	18	50	0	17	4	0	0
Sept	30	0	11	50	0	16	20	0	9	2	0	0
For Year	900	0	27	450	0	62	600	0	57	75	0	0

TABLE 15
WATER PURIFICATION WORKS
BACTERIOLOGICAL EXAMINATION OF WATER IN
PROCESS OF FILTRATION
YEAR ENDED SEPTEMBER 30, 1958

1957-58	BACTERIA per ml. (24 HOURS ON AGAR AT 35°C.)											
	Raw Water			Settled Water			Filtered Water			Tap Water		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Oct.	150	2	21	90	0	7	300	0	12	5	0	1
Nov.	22	0	3	60	0	4	25	0	2	500	0	21
Dec.	180	0	9	55	0	3	240	0	13	210	0	10
Jan.	2400	0	98	450	0	24	45	0	2	75	0	3
Feb.	80	0	9	110	0	13	90	0	5	130	0	7
Mar.	95	1	12	13	0	2	30	0	2	32	0	2
Apr.	180	0	18	60	0	5	60	0	4	6	0	1
May	12	0	4	20	0	3	125	0	10	20	0	1
June	200	0	12	170	0	19	130	0	6	120	0	5
July	1600	0	116	20	0	3	100	0	7	400	0	16
Aug.	80	0	12	13	0	1	200	0	9	6	0	0
Sept.	110	0	14	25	0	2	10	0	1	1	0	0
For Year	2400	0	27	450	0	7	300	0	6	500	0	6

TABLE 16
WATER PURIFICATION WORKS
BACTERIOLOGICAL EXAMINATION OF WATER IN
PROCESS OF FILTRATION
YEAR ENDED SEPTEMBER 30, 1958

1957-58	B. COLI											
	Raw Water			Settled Water			Filtered Water			Tap Water		
	No. of 10 ml. Portions Tested	No. of Tests Confirmed	Index per ml.	No. of 10 ml. Portions Tested	No. of Tests Confirmed	Index per ml.	No. of 10 ml. Portions Tested	No. of Tests Confirmed	Index per ml.	No. of 10 ml. Portions Tested	No. of Tests Confirmed	Index per ml.
Oct.	81	58	.072	54	1	.002	54	2	.004	135	0	.000
Nov.	72	66	.092	48	0	.000	48	2	.004	120	0	.000
Dec.	75	70	.093	50	6	.012	50	0	.000	125	0	.000
Jan.	78	55	.070	52	0	.000	52	1	.002	130	0	.000
Feb.	72	27	.037	48	1	.002	48	0	.000	120	0	.000
Mar.	78	8	.010	52	0	.000	52	0	.000	130	0	.000
Apr.	78	14	.018	52	1	.002	52	0	.000	130	0	.000
May	75	6	.008	50	1	.002	50	0	.000	125	0	.000
June	75	1	.001	50	0	.000	50	0	.000	125	0	.000
July	78	5	.006	52	6	.011	52	3	.006	130	1	.001
Aug.	75	3	.004	50	4	.008	50	1	.002	125	0	.000
Sept.	75	9	.012	50	1	.002	50	1	.002	125	0	.000
For Year	912	322	.035	608	21	.003	608	10	.002	1520	1	.000

TABLE 17
WATER PURIFICATION WORKS
BACTERIOLOGICAL EXAMINATION OF WATER IN VARIOUS
BROOKS AND RESERVOIRS ON SCITUATE WATERSHED
YEAR ENDED SEPTEMBER 30, 1958

Monthly Analyses	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Bacteria Per Ml.													
48 Hours on Agar at 20° C													
Coventry Brook	**	140	70	350	50	60	160	160	260	150	1600	210	292
Wilbur Brook	**	120	95	270	85	35	170	330	450	140	1000	300	272
Westconnaug Res.	150	150	140	300	270	70	250	430	90	650	1100	200	317
Barden Reservoir	**	140	160	550	60	120	380	35	20	300	75	110	177
Cork Brook	**	70	170	450	45	50	400	85	45	110	2500	160	371
Rush Brook	**	190	250	1200	350	140	2700	400	320	80	2800	420	805
Huntinghouse Brook	**	400	650	3500	95	350	3500	1100	380	260	280	900	1038
Harrisdale Brook	1800	150	400	2000	170	190	6000	140	550	250	350	750	1063
Blanchard Brook	**	300	280	2500	300	110	350	150	12000	220	3000	380	1781
Moswansicut Pond	**	120	120	600	40	45	110	210	2100	140	500	90	370
Regulating Reservoir	450	250	210	500	450	60	400	320	900	300	2500	170	543
Quonapaug Brook	**	600	70	260	50	20	550	170	500	280	2200	230	448
Hemlock Brook	180	170	140	290	90	90	1100	250	130	90	90	340	247
Betty Pond Stream	**	160	130	850	180	60	450	40	240	560	450	310	312
Spruce Brook	**	500	90	300	30	130	1500	140	220	170	2400	190	515
Brandy Brook	0	225	300	3300	70	270	600	190	750	500	600	360	597
Moswansicut—South	**	750	800	1100	300	190	1800	260	480	650	7500	1200	1366
Windsor Brook	**	**	210	800	160	45	150	170	500	50	1800	220	411
Paine Pond	**	**	600	190	250	130	900	250	4500	390	2700	400	1031
Unnamed Brook—A	**	**	80	250	140	150	100	550	800	750	3600	190	661
Unnamed Brook—B	**	**	80	250	140	150	100	550	800	750	3600	190	661
Bacteria Per Ml.													
24 Hours on Agar at 35° C													
Coventry Brook	**	30	180	250	5	14	100	90	380	5	1700	35	254
Wilbur Brook	**	250	65	65	24	17	25	95	320	20	750	150	162
Westconnaug Res.	140	150	40	18	5	5	50	160	60	140	430	140	112
Barden Reservoir	**	35	17	75	15	10	38	10	25	60	60	80	39
Cork Brook	**	12	60	50	7	5	10	40	15	75	2300	90	242
Rush Brook	**	55	25	40	28	7	600	110	110	90	3500	110	425
Huntinghouse Brook	**	180	150	55	19	13	2100	370	80	180	400	290	349
Harrisdale Brook	280	130	170	230	25	32	1200	400	350	70	380	260	294
Blanchard Brook	**	85	50	110	20	35	45	220	1600	95	1200	90	323
Moswansicut Pond	**	45	11	160	140	1100	9	70	700	150	650	70	282
Regulating Reservoir	160	60	14	50	50	4	110	130	180	750	2600	110	352
Quonapaug Brook	**	50	26	70	55	11	80	105	160	300	3200	130	381
Hemlock Brook	17	20	40	40	6	5	70	75	130	45	45	220	59
Betty Pond Stream	**	45	32	90	42	10	90	70	110	280	800	140	155
Spruce Brook	**	90	30	35	35	22	160	80	30	130	130	80	75
Brandy Brook	0	40	40	250	17	300	180	170	500	350	450	350	221
Moswansicut—South	**	160	550	130	30	600	450	60	210	600	6000	1800	963
Windsor Brook	**	0	250	110	8	80	35	85	130	250	350	160	133
Paine Pond	**	**	30	80	90	90	30	80	70	45	900	400	182
Unnamed Brook—A	**	**	320	55	15	130	60	110	1400	120	740	250	320
Unnamed Brook—B	**	**	13	30	5	350	12	90	280	190	650	170	179
B. Coli													
Index Per 100 Ml.													
Coventry Brook	**	25	25	25	6	5	13	25	110†	70	110†	110†
Wilbur Brook	**	70	110†	70	6	6	110†	110†	70	110†	110†	110†
Westconnaug Res.	6	25	6	25	13	13	25	70	110†	110†	110†	110†
Barden Reservoir	**	25	110†	25	70	0	110†	6	0	70	110†	70
Cork Brook	**	13	13	70	25	0	25	25	6	25	110†	70
Rush Brook	**	70	25	70	70	25	25	70	110†	110†	110†	110†
Huntinghouse Brook	**	25	110†	70	13	70	110†	110†	70	110†	110†	110†
Harrisdale Brook	25	110†	110†	70	110†	6	110†	70	110†	70	110†	110†
Blanchard Brook	**	110†	70	110†	70	25	25	70	110†	110†	110†	110†
Moswansicut Pond	**	6	25	25	0	25	70	70	110†	110†	110†	70
Regulating Reservoir	13	110†	25	25	70	25	70	6	25	70	110†	110†
Quonapaug Brook	**	110†	70	70	13	70	70	25	25	110†	110†	110†
Hemlock Brook	0	25	70	25	13	110†	110†	25	6	6	25	110†
Betty Pond Stream	**	6	25	70	70	13	70	25	70	25	110†	70
Spruce Brook	**	110†	25	25	70	0	25	25	13	70	110†	110†
Brandy Brook	0	70	25	110†	70	70	70	110†	110†	70	110†	110†
Moswansicut—South	**	70	110†	110†	110†	110†	110†	110†	110†	110†	110†	110†
Windsor Brook	**	110†	25	25	25	6	25	110†	930	430	4600	210
Paine Pond	**	**	110†	70	70	13	70	70	25	70	110†	110†
Unnamed Brook—A	**	**	25	25	70	25	70	25	70	110†	110†	110†
Unnamed Brook—B	**	**	25	25	20	25	70	6	70	110†	110†	70

†Indicates Index of 110+

**No sample obtained—Brook or Stream was dry.

Note: Unnamed Brook A is just North of Scituate Town Dump. Unnamed Brook B is Southwest of the Foster Nike Site.

TABLE 18
WATER PURIFICATION WORKS
BACTERIOLOGICAL EXAMINATION OF WATER IN
VARIOUS PARTS OF THE DISTRIBUTION SYSTEM
YEAR ENDED SEPTEMBER 30, 1958

Monthly Averages	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
Bacteria Per Ml.													
48 Hours on Agar at 20° C													
Neutaconkanut Reservoir ..	0	0	0	0	1	1	1	0	0	1	0	0	0
Phenix Ave., Cranston....	0	0	0	1	1	0	1	0	1	1	0	0	0
Westminster St., Olneyville	0	0	1	0	1	0	2	0	0	1	0	0	0
Budlong Road, Cranston...	0	0	4	1	0	0	1	1	1	1	0	1	1
Reservoir Ave., Cranston...	0	0	0	0	0	1	1	1	2	0	0	0	0
T. F. Green Airport, War..	0	0	2	0	0	0	0	0	0	0	0	0	0
Biltmore Hotel	0	0	0	0	0	0	1	1	0	0	1	0	0
Crown Hotel	0	0	0	0	0	0	1	0	0	0	0	3	0
State Office Bldg.....	0	0	0	0	0	0	1	0	0	0	0	0	0
*Longview Reservoir	0	0	0	0	0	0	1	0	1	1	0	0	0
Bacteria Per Ml.													
24 Hours on Agar at 35° C													
Neutaconkanut Reservoir ..	2	1	3	164	7	5	9	0	1	33	0	0	19
Phenix Ave., Cranston....	2	13	27	28	8	1	1	26	28	47	5	2	16
Westminster St., Olneyville	0	3	28	63	5	7	2	5	10	19	0	0	12
Budlong Road, Cranston...	0	64	12	50	3	1	0	13	8	34	1	1	16
Reservoir Ave., Cranston...	1	0	1	8	2	1	17	9	8	19	23	8	8
T. F. Green Airport, War..	15	5	0	42	5	4	5	2	3	8	0	0	7
Biltmore Hotel	1	0	52	17	8	1	43	19	14	24	0	0	15
Crown Hotel	9	7	3	7	0	5	1	1	2	2	0	0	3
State Office Bldg.....	11	2	0	3	12	3	3	5	11	67	1	0	10
*Longview Reservoir	1	0	71	18	10	0	13	1	1	42	0	0	13
B. Coli													
Index Per Ml.													
Neutaconkanut Reservoir ..	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Phenix Ave., Cranston....	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000
Westminster St., Olneyville	.000	.000	.000	.000	.000	.000	.000	.001	.001	.000	.000	.000	.000
Budlong Road, Cranston...	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Reservoir Ave., Cranston...	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
T. F. Green Airport, War..	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Biltmore Hotel000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Crown Hotel000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000
State Office Bldg.....	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
*Longview Reservoir000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

*Sample obtained at Our Lady of Fatima Hospital.

TABLE 19
WATER PURIFICATION WORKS
MINERAL ANALYSIS OF WATER—YEAR ENDED SEPT. 30, 1958

Parts per Million	RAW WATER*					TAP WATER				
	1957		1958			1957		1958		
	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.	Avg.	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.	Avg.
Aluminum	0.00	0.01	0.02	0.02	0.01	0.01	0.03	0.05	0.08	0.04
Arsenic	0.00	0.00	0.00	0.00	0.00	0.00
Calcium	3.54	2.80	2.50	2.58	2.88	9.62	8.59	10.50	9.24	9.49
Chloride	3.00	3.00	2.97	2.83	2.98	3.00	3.00	3.00	3.00	3.00
Copper	0.02	0.05	0.05	0.06	0.05	0.00	0.02	0.02	0.01	0.01
Fluoride	0.14	0.14	0.14	0.15	0.14	1.14	1.14	1.06	0.99	1.08
Hardness	10	10	10	10	10	28	28	28	28	28
Iron	0.08	0.09	0.04	0.13	0.09	0.01	0.02	0.02	0.04	0.02
Lead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium	1.00	1.50	0.70	0.57	0.94	0.70	0.40	0.60	0.24	0.49
Manganese	0.02	0.01	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00
Phenolic Compounds	0.013	0.005	0.009	0.001	0.000	0.001
Selenium	0.00	0.00	0.00	0.00	0.00	0.00
Silica	4.00	5.10	5.00	4.50	4.65	4.00	4.80	4.50	4.50	4.45
Sulphate	8.40	7.80	7.50	7.90	16.20	13.40	11.70	13.77
Total Solids	30	35	33	36	34	52	57	55	58	55
Less On Ignition	12	14	13	16	14	20	15	13	19	17
Total Alkalinity	4.50	3.93	3.50	4.10	4.01	14.33	12.50	13.70	13.00	13.88
Phenolphthalein Alk.	0.00	0.00	0.00	0.00	0.00	7.40	6.33	6.93	7.47	7.03
Zinc	0.0	0.0	0.0	0.0	0.0	0.0

*Water from bottom of Scituate Reservoir as received at Purification Works.

TABLE 20
WATER PURIFICATION WORKS
SANITARY CHEMICAL ANALYSIS (P.P.M.)—YEAR ENDED SEPT. 30, 1958

1957- 1958	RAW WATER*										TAP WATER										1957- 1958		
	Ammonia					Dissolved Oxygen					Ammonia					Dissolved Oxygen							
	Free		Alb.		Nitrates	Chlorides	P.P.M.		% Sat.	Total Solids	Loss on Ignition	Free		Alb.		Nitrates	Chlorides	P.P.M.		% Sat.		Total Solids	Loss on Ignition
Oct.	0.012	0.058	0.000	0.00	3.0	9.7	93.5	29	11		0.012	0.024	0.000	0.01	3.0	52	21	Oct.			
Nov.	0.012	0.036	0.000	0.00	3.0	10.4	91.8	28	12		0.012	0.076	0.000	0.00	3.0	47	19	Nov.			
Dec.	0.016	0.068	0.000	0.00	3.0	12.5	96.1	34	13		0.012	0.040	0.001	0.00	3.0	56	19	Dec.			
Jan.	0.012	0.056	0.000	0.00	3.0	13.2	91.5	35	14		0.016	0.044	0.000	0.00	3.0	59	21	Jan.			
Feb.	0.032	0.068	0.000	0.01	3.0	12.0	92.7	34	15		0.024	0.052	0.000	0.01	3.0	54	11	Feb.			
Mar.	0.006	0.010	0.000	0.01	3.0	12.2	99.8	36	13		0.004	0.034	0.000	0.02	3.0	58	13	Mar.			
Apr.	0.024	0.084	0.000	0.02	3.0	10.7	99.0	33	13		0.007	0.046	0.001	0.01	3.0	54	13	Apr.			
May	0.020	0.046	0.000	0.00	3.0	10.3	99.3	34	17		0.008	0.030	0.001	0.00	3.0	55	12	May			
June	0.032	0.048	0.000	0.00	2.9	7.3	70.4	32	10		0.016	0.022	0.001	0.00	3.0	56	15	June			
July	0.028	0.046	0.000	0.03	2.8	5.8	60.8	41	18		0.006	0.030	0.000	0.01	3.0	63	17	July			
Aug.	0.024	0.046	0.000	0.08	3.0	4.7	49.3	37	17		0.002	0.029	0.000	0.08	3.0	58	27	Aug.			
Sept.	0.080	0.086	0.000	0.04	3.0	3.2	31.4	31	12		0.002	0.022	0.000	0.02	3.0	53	13	Sept.			
Avg.	0.025	0.054	0.000	0.02	3.0	9.3	81.3	34	14		0.010	0.037	0.000	0.01	3.0	55	17	Avg.			

*Water from bottom of Sciuate Reservoir as received at Purification Works.

TABLE 21

WATER PURIFICATION WORKS

LABORATORY EXAMINATIONS MADE DURING THE FISCAL YEAR ENDED SEPTEMBER 30, 1958

SOURCE OF WATER TESTED	Frequency of Test or Examination	Number of Tests or Analyses Made During the Fiscal Year					
		Chemical	Bacteriological	Microscopical	Sanitary Chemical	Mineral	Miscellaneous
I BROOKS AND STREAMS ON WATERSHED							
Fourteen Brooks, Two Streams and One Pond.....	Monthly.....	1,407	1,930	..	94	..	3,431
II SMALLER STORAGE RESERVOIRS ON WATERSHED							
Regulating Reservoir.....	Monthly.....	84	106	190
Westonburg Reservoir.....	Monthly.....	84	102	186
Barden Reservoir.....	Monthly.....	77	93	170
Moswansicut Pond.....	Monthly.....	77	96	173
III SCITUATE RESERVOIR							
Surface Water.....	Bi-Weekly.....	208	325	24	156	..	713
Subsurface Water (See Purif. Wks.—Raw Water).....
IV PAWTUCKET RIVER—BELOW GAINER DAM							
Gainer Dam Meter Chamber.....	Bi-Weekly.....	182	156	..	338
Fiskeville, R. I.....	Bi-Weekly.....	182	156	..	338
Twelve other locations on Pawtuxet River.....	Bi-Weekly.....	2,342	2,184	..	4,526
V WATER PURIFICATION WORKS							
Raw Water (from Bottom of Scit. Res.).....	Daily.....	2,983	3,796	24	1,440	..	8,570
Raw Water (from Bottom of Scit. Res.).....	Bi-Weekly.....	26*	..	50
Raw Water (from Bottom of Scit. Res.).....	Monthly.....	72**	..	72
Raw Water (from Bottom of Scit. Res.).....	Every 13 weeks.....	36	36
Aerated Influent.....	Daily.....	720	720
Settled.....	Daily.....	1,836	1,836
Mixer.....	Daily.....	2,464	1,245	4,069
Settled.....	Bi-Weekly.....	24	26*	..	50
Settled.....	Monthly.....	48**	..	48
Filtered.....	Daily.....	1,080	1,080
Unchlorinated Effluent.....	Monthly.....	..	1,276	..	48**	..	48
Unchlorinated Effluent.....	Daily.....	3,184	1,440	..	5,900
Unchlorinated Effluent.....	Bi-Weekly.....	24	26*	..	50
Unchlorinated Effluent.....	Monthly.....	24
Chlorinated Effluent.....	Daily.....	1,512	1,767	..	1,260	..	4,539
Raw Water (from Bottom of Scituate Reservoir).....	Daily at 3:00 P.M.....	996	1,188	..	996	..	3,180
Unchlorinated Effluent.....	Daily at 3:00 P.M.....	..	1,000	..	996	..	2,992

TABLE 21 (Continued)
WATER PURIFICATION WORKS
LABORATORY EXAMINATIONS MADE DURING THE FISCAL YEAR ENDED SEPTEMBER 30, 1958

SOURCE OF WATER TESTED			Number of Tests or Analyses Made During the Fiscal Year						
		Frequency of Test or Examination	Chemical	Bacteriological	Microscopical	Sanitary Chemical	Mineral	Miscellaneous	Total
VI	NEUTACONKANUT DISTRIBUTION RESERVOIR	Sample from nearby Tap.....	1,512	1,764	24	1,008	4,284
		Sample from nearby Tap.....	24
		Sample from nearby Tap.....
VII	LONGVIEW DISTRIBUTION RESERVOIR	Sample from nearby Tap.....	1,512	1,764	24	1,008	4,284
		Sample from nearby Tap.....	24
		Sample from nearby Tap.....
VIII	DISTRIBUTION SYSTEM	Water Supply Board Bldg. Tap Water.....	2,432	2,130	24	1,520	..	304	6,386
		Water Supply Board Bldg. Tap Water.....	60**	60
		Water Supply Board Bldg. Tap Water.....	32	..	32
		Water Supply Board Bldg. Tap Water.....	288	1,288
		Water Supply Board Bldg. Tap Water.....	616	384	..	490	2,206
		***Sectional Tests	1,021	1,026	..	122	1,148
		Consumers' Complaints (62 during the year)	..	1,026
		Sterilization of Newly Laid Mains.....	..	12,204	..	6,972	29,634
		†Sectional Tests	10,458
	
IX	MISCELLANEOUS TESTS	Coagulation Tests to Determine Chemical Dosages.....	188	88	276
		Analysis of Ferri-Floc used for Treatment.....	51	17	68
		Analysis of Quicklime used for Treatment.....	17	34	51
		Analysis of Sodium Silicofluoride used for Treatment.....	6	6
		Water, Filter Sand and Other Materials.....	494	1,137	..	76	..	186	1,893
	
	
Totals			38,721	34,028	168	20,692	68	1,349	95,026

*For Oxygen Consumed only.
**Excludes of Oxygen Consumed
***Composite of 13 Weekly Samples
****Samples from 8 Random Dwellings (location changed monthly).
†Samples from seven fixed locations.

TABLE 22
WATER DISTRIBUTION SYSTEM
NEUTACONKANUT HIGH SERVICE PUMPING STATION
OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

ELECTRICALLY-DRIVEN PUMPS										GASOLINE ENGINE-DRIVEN PUMP									
1957-1958	No. 1—10" Pump 2700 GPM. TDH 90'				No. 2—12" Pump 3800 GPM. TDH 104'				Power Used*		No. 3—16" Pump 7500 GPM. TDH 80'				Total Water Pumped — Mil. Gals.		Fuel Oil Used For Heat- ing — Gals.		
	Operated		Water Pumped — Mil. Gals.		Operated		Water Pumped — Mil. Gals.		KWH	Cost	Water Pumped — Mil. Gals.		Gasoline Used — Gals.		Oil Used — Qts.				
	Days	Hours and Minutes	Days	Hours and Minutes	Days	Hours and Minutes	Days	Hours and Minutes											
	28	559-00	88.71		5	96-00	25.91		46,200	\$ 905.98	3	3-00	1.05	59	2	115.67	3.73	252	
Oct.	30	713-45	99.56		0	0	0		43,200	867.12	4	4-00	1.36	105	22	100.92	3.36	468	
Nov.	31	740-00	100.58		0	0	0		36,000	779.44	4	4-00	1.37	109	2	101.95	3.29	646	
Dec.																			
Jan.	31	713-00	98.33		6	17-00	2.56		50,100	947.33	5	5-00	1.64	124	2	102.53	3.31	719	
Feb.	28	653-00	87.00		0	0	0		45,000	885.98	5	4-00	1.34	89	4	88.34	3.16	918	
Mar.	31	727-30	98.39		1	3-30	.62		43,200	865.31	5	7-30	1.98	178	4	100.99	3.26	813	
Apr.	10	171-15	28.38		26	593-00	152.04		69,300	1,179.95	5	5-00	1.86	122	5	182.28	6.08	297	
May	1	0-45	0.20		31	718-00	191.94		79,800	1,380.07	4	4-00	1.46	100	3	193.60	6.25	61	
June	1	13-00	2.93		30	716-00	192.26		66,600	1,218.57	4	4-00	1.38	86	0	196.57	6.55	0	
July	6	79-00	17.55		31	740-00	201.00		105,900	1,697.49	4	4-00	1.47	105	8	220.02	7.10	0	
Aug.	4	18-00	4.60		31	743-00	205.78		78,300	1,350.22	4	4-00	1.43	110	2	211.81	6.83	0	
Sept.	0	0	0		30	703-15	197.88		78,600	1,262.18	4	4-00	1.53	104	2	199.41	6.65	0	
Totals	201	4,388-15	626.23		191	4,331-45	1,169.99		742,200	\$13,339.64	50	52-30	17.87	1,291	56	1,814.09	4.97	4,174	

*Naragansett Electric Co. Power Rate G.
†Engine Test Run.

TABLE 23
WATER DISTRIBUTION SYSTEM
BATH STREET HIGH SERVICE PUMPING STATION
OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

1957- 1958	ELECTRICALLY-DRIVEN PUMPS										GASOLINE ENGINE-DRIVEN PUMPS										TOTAL WATER PUMPED Mil. Gals.	Fuel Oil Used for Heating Gals.					
	Pump No. 1 2000 GPM. TDH 98'					Pump No. 2 2000 GPM. TDH 98'					Power Used*					Pump No. 3 2000 GPM. TDH 98'; 150 HP Sterling Engine							Pump No. 4 2000 GPM. TDH 98'; 150 HP Sterling Engine				
	Operated					Operated					KWH	Cost	†Operated					†Operated									
	Water Pumped Mil. Gals.					Water Pumped Mil. Gals.							Days	Hours and Minutes	Days	Hours and Minutes	Water Pumped Mil. Gals.	Gasoline Used Gals.	Oil Used Qts.	Days			Hours and Minutes	Water Pumped Mil. Gals.	Gasoline Used Gals.	Oil Used Qts.	
	Days	Hours and Minutes	Water Pumped Mil. Gals.	Days	Hours and Minutes	Days	Hours and Minutes	Days	Hours and Minutes	Days																	Hours and Minutes
Oct.	28	599-15	80.43	3.69	31,360	4	28-00	3.69	31,360	\$ 662.96	0	0-00	0	3	0	1	1-00	0.08	4	0	84.20	2.72	0				
Nov.	21	337-45	47.31	22.64	33,320	10	162-00	22.64	33,320	624.83	1	1-00	0	7	0	1	1-00	0.13	6	0	70.22	2.34	200				
Dec.	17	281-15	39.51	33.80	24,220	14	241-00	33.80	24,220	518.35	1	1-00	0	7	0	1	1-00	0.14	7	0	73.59	2.37	183				
Jan.	16	262-30	36.92	35.86	30,940	16	256-30	35.86	30,940	596.20	2	2-00	0	18	0	2	2-00	0.26	18	0	73.31	2.36	400				
Feb.	16	270-00	38.16	33.64	32,480	14	240-00	33.64	32,480	613.32	0	0-00	0	0	0	0	0-00	0.00	0	0	71.80	2.56	359				
Mar.	16	261-30	36.71	33.38	28,700	15	252-00	33.38	28,700	570.14	1	1-00	0	7	0	1	1-00	0.14	8	0	72.36	2.33	200				
Apr.	13	211-15	29.18	31.89	22,960	15	227-00	31.89	22,960	553.49	1	0-30	0	4	0	1	0-30	0.07	4	0	61.21	2.04	200				
May	26	496-45	69.39	27.00	38,080	13	196-15	27.00	38,080	741.45	1	1-00	0	6	0	1	1-00	0.14	6	0	96.67	3.12	0				
June	25	414-00	55.61	50.86	33,740	24	378-00	50.86	33,740	691.09	1	1-00	0	6	0	1	1-00	0.13	5	0	106.73	3.56	0				
July	29	468-30	61.40	65.20	61,460	30	495-30	65.20	61,460	1,008.33	1	1-00	0	9	0	1	1-00	0.13	10	0	126.86	4.09	0				
Aug.	26	405-00	53.38	62.47	50,820	28	468-30	62.47	50,820	875.99	1	1-00	0	2	0	1	1-00	0.14	3	0	116.33	3.75	0				
Sept.	27	361-30	48.37	49.25	39,620	28	367-30	49.25	39,620	741.33	1	1-00	0	7	0	1	1-00	0.13	6	0	97.88	3.26	0				
Totals	260	4,369-15	596.57	451.68	427,700	211	3,312-15	451.68	427,700	\$8,197.48	11	10-30	1.42	76	0	12	11-30	1.49	77	0	1,051.16	2.88	1,542				

*Narransett Electric Co. Power Rate G.
†Engine Test Run.

TABLE 24
WATER DISTRIBUTION SYSTEM
NEUTACONKANUT DISTRIBUTION RESERVOIR*
OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

1957- 1958	OPERATING CHARACTERISTICS DURING MONTH													
	7 A.M. Statistics on First Day of Month		Water Level			Storage—Mil. Gals.			Daily Water Level Fluctuation—Ft.			Daily Storage Fluctuation—M. G.		
	Water Level	Storage Mil. Gals.	Max.	Min.	Avg.†	Max.	Min.	Avg.†	Max.	Min.	Avg.	Max.	Min.	Avg.
Oct.	226.41	41.05	226.65	223.18	226.33	41.48	35.38	40.91	3.23	1.37	2.19	5.67	2.41	3.84
Nov.	226.41	41.05	226.70	223.56	226.35	41.57	36.05	40.95	2.89	0.95	1.96	5.07	1.66	3.44
Dec.	226.69	41.55	226.78	223.83	226.32	41.72	36.52	40.90	2.92	1.03	1.96	5.15	1.80	3.45
Jan.	226.65	41.48	226.78	222.16	226.13	41.72	33.58	40.57	4.50	0.64	2.11	7.92	1.13	3.71
Feb.	225.20	38.93	226.55	223.22	226.20	41.30	35.45	40.69	2.69	0.99	1.98	4.47	1.74	3.32
Mar.	226.48	41.18	226.73	223.87	226.39	41.63	36.59	41.02	2.51	0.78	1.93	4.69	1.37	3.39
Apr.	226.50	41.21	226.82	215.00	226.32	41.79	20.97	40.90	11.52	1.09	2.57	20.28	1.91	4.51
May	226.51	41.23	226.78	222.92	226.42	41.72	34.92	41.07	3.80	0.96	1.83	6.69	1.69	3.22
June	226.60	41.39	226.89	223.01	226.56	41.91	35.08	41.32	3.86	1.13	2.09	6.80	1.98	3.68
July	226.86	41.86	226.93	222.97	226.56	41.99	35.01	41.32	3.65	0.53	2.01	6.43	0.93	3.54
Aug.	226.72	41.61	226.88	223.75	226.57	41.90	36.38	41.34	2.74	1.06	2.01	4.83	1.85	3.54
Sept.	226.62	41.43	226.77	223.38	226.45	41.70	35.73	41.12	3.36	1.22	2.26	5.92	2.15	3.97
For Year	—	—	226.93	215.00	226.38	41.99	20.97	41.01	11.52	0.53	2.08	20.28	0.93	3.63

*Storage capacity at overflow elevation of 227.00—42,090,000 gallons. †Average of 7 A.M. statistics.
 Note.—Water levels are elevations in feet above mean high water in Providence harbor.

TABLE 25

WATER DISTRIBUTION SYSTEM
LONGVIEW DISTRIBUTION RESERVOIR*

OPERATING STATISTICS FOR YEAR ENDED SEPTEMBER 30, 1958

1957- 1958	OPERATING CHARACTERISTICS DURING MONTH													
	7 A.M. Statistics on First Day of Month		Water Level			Storage—Mil. Gals.			Daily Water Level Fluctuation—Ft.			Daily Storage Fluctuation—M. G.		
	Water Level	Storage Mil. Gals.	Max.	Min.	Avg.†	Max.	Min.	Avg.†	Max.	Min.	Avg.†	Max.	Min.	Avg.
Oct.	304.50	11.71	305.13	301.96	304.55	12.00	10.53	11.73	2.67	0.50	1.54	1.24	0.23	0.72
Nov.	304.20	11.56	305.00	302.83	304.63	11.94	10.93	11.77	2.03	0.50	1.33	0.94	0.24	0.62
Dec.	304.40	11.66	305.16	301.97	304.64	12.01	10.54	11.77	2.64	0.94	1.54	1.22	0.44	0.72
Jan.	304.70	11.80	305.13	302.60	304.65	12.00	10.83	11.78	2.50	1.10	1.67	1.16	0.51	0.78
Feb.	304.20	11.56	305.03	302.22	304.56	11.95	10.65	11.73	2.46	0.97	1.54	1.14	0.30	0.70
Mar.	304.68	11.79	305.20	302.56	304.60	12.03	10.81	11.75	2.21	1.20	1.64	1.02	0.56	0.76
Apr.	304.55	11.73	304.95	301.04	304.32	11.92	10.10	11.62	3.09	0.76	1.88	1.43	0.35	0.87
May	304.30	11.61	304.93	301.26	304.49	11.91	10.20	11.70	3.41	1.40	2.01	1.58	0.62	0.93
June	304.70	11.80	304.95	300.24	304.56	11.92	9.73	11.73	4.47	1.24	2.30	2.07	0.57	1.07
July	304.46	11.69	304.91	298.96	304.42	11.90	9.14	11.67	5.71	0.56	2.18	2.64	0.27	1.01
Aug.	304.43	11.67	305.00	301.62	304.55	11.94	10.37	11.73	3.00	0.90	1.80	1.39	0.42	0.84
Sept.	304.80	11.85	305.41	302.00	304.56	12.13	10.55	11.73	3.41	0.85	1.78	1.69	0.39	0.86
For Year	—	—	305.41	298.96	304.54	12.13	9.14	11.73	5.71	0.50	1.77	2.64	0.23	0.82

*Storage capacity at overflow elevation of 306.00=12,400,000 gallons. †Average of 7 A.M. statistics.
Note:—Water levels are elevations in feet above mean high water in Providence harbor.

TABLE 26
WATER PIPE LAID, REMOVED, ADDED AND REPLACED
YEAR ENDED SEPTEMBER 30, 1958

	PIPE LAID IN FEET (Including Pipe Replaced)					PIPE REMOVED IN FEET (Including Pipe Replaced)				
	6"	8"	12"	16"	Totals	6"	8"	12"	16"	Totals
Providence.....	3,296.32	2,495.33	0	0	5,791.65	13,474.09	1,879.65	0	0	15,353.74
Cranston.....	5,778.66	12,001.07	958.42	0	18,738.15	892.91	0	0	0	892.91
Johnston.....	1,996.60	9,459.71	407.60	5,730.17	17,594.08	0	79.27	46.39	0	125.66
North Providence..	4,124.85	10,903.70	0	0	15,028.55	391.20	0	0	0	391.20
Totals.....	15,196.43	34,859.81	1,366.02	5,730.17	57,152.43	14,758.20	1,958.92	46.39	0	16,763.51

	NET LENGTH IN FEET ADDED TO DISTRIBUTION SYSTEM					PIPE REPLACED IN FEET				
	6"	8"	12"	16"	Totals	6"	8"	12"	16"	Totals
Providence.....	-10,177.77	+ 615.68	0	0	- 9,562.09	446.35	0	0	0	446.35
Cranston.....	+ 4,885.75	+12,001.07	+ 958.42	0	+17,845.24	0	0	0	0	0
Johnston.....	+ 1,996.60	+ 9,380.44	+ 361.21	+5,730.17	+17,468.42	0	*79.27	*46.39	0	125.66
North Providence..	+ 3,733.65	+10,903.70	0	0	+14,637.35	391.20	0	0	0	391.20
Totals.....	+ 438.23	+32,900.89	+1,319.63	+5,730.17	+40,388.92	837.55	79.27	46.39	0	963.21

*Replaced with 16-inch.

TABLE 27

PUBLIC WATER MAINS IN USE ON SEPT. 30, 1958

PUBLIC WATER MAINS IN USE ON SEPT. 30, 1958																SPECIAL HIGH PRESSURE FIRE SERVICE	
Diameter of Pipe	Providence*		Cranston		Johnston		N. Providence		Pawtucket		Smithfield		Total*		Providence		
	Feet		Feet		Feet		Feet		Feet		Feet		Feet		Feet		
	Miles		Miles		Miles		Miles		Miles		Miles		Miles		Miles		
6-inch....	1,512,439.49	286.45	602,717.30	114.15	108,024.90	20.46	140,662.01	26.64	870.75	0.16	0	0	2,364,714.45	447.86	82.06	0.02	
8-inch....	332,092.94	62.90	234,680.04	48.23	111,229.70	21.07	89,056.23	16.87	0	0	0	0	787,508.93	149.06	1,577.52	0.30	
10-inch....	14,354.15	2.72	0	0	0	0	0	0	0	0	0	0	14,354.15	2.72	0	0	
12-inch....	228,173.69	43.21	99,220.61	18.79	9,369.86	1.77	28,387.99	5.38	44.47	0.01	146.00	0.03	365,342.62	69.19	6,893.80	1.31	
16-inch....	82,516.46	15.63	3,512.31	0.67	6,393.63	1.21	0	0	0	0	0	0	92,422.40	17.50	54,865.59	10.39	
20-inch....	16,262.24	3.08	5,405.43	1.02	31,347.98	5.94	2,368.71	0.45	0	0	0	0	16,262.24	3.08	0	0	
24-inch....	55,831.76	10.57	31,607.31	5.99	0	0	3,753.06	0.71	0	0	0	0	94,933.88	17.98	4,299.44	0.81	
30-inch....	43,576.63	8.25	0	0	0	0	0	0	0	0	0	0	78,937.00	14.95	0	0	
36-inch....	4,555.68	0.86	5,326.35	1.01	0	0	0	0	0	0	0	0	9,882.03	1.87	0	0	
42-inch....	2,893.25	0.55	22,556.37	4.27	0	0	0	0	0	0	0	0	25,449.62	4.82	0	0	
48-inch....	14,918.00	2.83	1,584.00	0.30	394.00	0.07	0	0	0	0	0	0	16,896.00	3.20	0	0	
60-inch....	5,559.00	1.03	10,671.00	2.02	4,340.00	0.82	0	0	0	0	0	0	20,570.00	3.90	0	0	
66-inch....	0	0	8,448.00	1.60	0	0	0	0	0	0	0	0	8,448.00	1.60	0	0	
Totals.....	2,313,173.29	438.10	1,045,728.72	198.05	271,100.07	51.34	264,228.02	50.04	915.22	0.17	146.00	0.03	3,895,291.32	737.74	67,718.41	12.83	

*High Pressure Fire Service in Providence not included.

TABLE 28

GATES IN USE ON SEPT. 30, 1958

City or Town	Stop Gates												Gates on Public Fire Hydrants			Gates on Unwater- ing Hydrants			Gates on Blowoffs			Total Gates in use at end of year	
	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"	Total	4"	6"	8"	Total	6"	8"	12"	Total			
Providence	4563	910	20	*601	*250	23	70	33	7	1	10	*6488	0	618	1844	2462	2	14	1	2	1	20	*8970
Cranston	1635	604	0	194	*9	0	9	13	10	9	*4	*2487	1	725	2	728	3	5	0	2	3	13	*3228
Johnston	279	206	1	25	*12	0	5	0	0	0	2	*530	0	220	12	232	3	0	0	0	2	5	*767
N. Providence ..	354	180	0	62	0	0	2	0	0	0	0	598	0	267	0	267	0	3	0	0	0	3	868
Totals	6831	1900	21	*882	*271	23	86	45	17	10	*16	*10103	1	1830	1858	3689	8	22	1	4	6	41	*13833

Note: Above table includes all gates in the special high pressure fire system in Providence (129) and gates on Neutaconkanut Conduit and Scituate Aqueduct east of the Siphon Chamber.
 *Totals include 3-12" and 5-16" Rotary Plug Valves in Providence, 5-16" Rotary Plug Valves in Cranston, 5-16" Rotary Plug Valves in Johnston, and 1-48" Butterfly Valve in Cranston.

TABLE 29
SERVICE PIPES INSTALLED, REOPENED, REMOVED, REPAIRED FOR YEAR ENDED SEPT. 30, 1958

City or Town	INSTALLED			REOPENED			REMOVED			REPAIRED		
	General		Fire Supply	General		Fire Supply	General		Fire Supply	General		Fire Supply
	Copper 3/4"-2"	Cast Iron 4"-8"	Cast Iron 4"-8"	Lead or Copper 5/8"-1"	Cast Iron 4"	Cast Iron	Lead or Copper 1/2"-1 1/2"	Cast Iron 2"-4"	Cast Iron 4"-6"	Lead or Copper 1/2"-2"	Cast Iron 2"-4"	Cast Iron 4"-8"
Providence	220	11	12	9	2	0	236	2	5	35	3	3
Cranston	332	2	3	3	0	0	97	0	0	18	1	0
Johnston	165	0	0	0	0	0	5	1	0	13	0	1
North Providence	136	0	0	1	0	0	6	0	0	15	0	0
Totals	853	13	15	13	2	0	344	3	5	81	4	4

Total number of services in the system as of Sept. 30, 1958—58,936.

TABLE 30
NUMBER AND SIZE OF ACTIVE SERVICES
AS OF SEPTEMBER 30, 1958

	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	16"	24"	30"	Total
Providence	270	26,802	6,783	1,280	593	179	390	6	951	834	57	4	5	2	.	.	38,156
Cranston	5	7,193	6,400	561	49	150	174	.	59	62	16	.	2	.	.	.	14,771
North Providence	1,117	1,594	303	6	81	39	.	8	6	2	3,156
Johnston	797	1,732	228	10	34	36	.	2	5	2	2,846
Warwick	1	.	.	2	.	.	1	4
East Smithfield	1	.	1	.	.	.	2
Kent County WA	1	.	1
Totals	275	35,909	16,509	2,472	658	444	639	6	1,020	908	78	4	10	2	1	1	58,936

TABLE 31
PUBLIC FIRE HYDRANTS

HYDRANT ACTIVITIES DURING YEAR ENDED SEPT. 30, 1938					
	Providence	Cranston	Johnston	North Providence	Totals
Post Hydrant Installations	111	59	15	19	204
Post Hydrants Replaced	2	10	4	5	21
Flush Hydrants Removed	129	0	2	0	131

TABLE 32
PUBLIC FIRE HYDRANTS

HYDRANTS IN DISTRIBUTION SYSTEM ON SEPT. 30, 1938**					
	Providence	Cranston	Johnston	North Providence	Totals
Post Hydrants	1,049	734	248	265	2,296
Flush Hydrants	2,038	0	4	0	2,042
Total	*3,087	734	252	265	*4,338

*Includes 95 Post Hydrants and 66 Flush Hydrants in Special High Pressure Fire Service in Providence.
 **Hydrant statistics in the City of Warwick and the East Smithfield Water District are not included, as those distribution systems are not owned or maintained by the Providence Water Works.

TABLE 33
NUMBER, MAKE AND SIZE OF METERS ON ACTIVE SERVICES
AS OF SEPTEMBER 30, 1958

PROVIDENCE

MAKE	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	16"	Total
Crown.....	95	41	12	59	18	1	3	1					230
Empire.....	804	40	15	121	43	1	1			2			1,027
Hersey.....				2	3	2	13	71	6				97
Thomson.....	10,090	953	425	61	133	3	4						11,669
Trident.....	20,273	2,139	637	854	1,102	93	73	56	14	5			25,246
Venturi.....												2	2
TOTALS.....	31,262	3,173	1,089	1,097	1,299	100	94	128	22	5		2	38,271

***CRANSTON**

MAKE	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	16"	Total
Crown.....	13			5	1								19
Empire.....	146	4		11	5								166
Hersey.....				1				4	4				9
Thomson.....	2,876	79	41	9	12								3,017
Trident.....	10,572	522	204	135	159	2	6	9	2	1	1		11,633
Venturi.....											2		2
TOTALS.....	13,607	605	245	180	178	2	6	13	6	1	3		*14,846

*Includes 1-6" Trident Compound Meter supplying City of Warwick.
2-6" Trident protectus Meters supplying City of Warwick.
1-10" Trident Protectus Meter supplying City of Warwick.
1-12" Trident Crest Meter supplying Kent County Water Authority.
1-12" Venturi Meter supplying Kent County Water Authority.

***JOHNSTON**

MAKE	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	16"	Total
Crown.....				2									2
Empire.....	2			3									5
Thomson.....	317	15	5		2								339
Trident.....	2,246	175	36	29	18				1				2,505
TOTALS.....	2,565	190	41	34	20				1				*2,851

*Includes 1-8" Trident Crest Meter supplying East Smithfield Water Co.

***NORTH PROVIDENCE**

MAKE	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"	16"	Total
Crown.....			1										1
Empire.....	3			4	1								8
Hersey.....								5					5
Thomson.....	481	14	9	1	1								506
Trident.....	2,333	179	90	23	13	1	2	3			1		2,645
TOTALS.....	2,817	193	100	28	15	1	2	8			1		*3,165

*Includes 1-12" Trident Crest Meter supplying East Smithfield Water Co.

TABLE 34

CONSUMPTION OF WATER—MILLION GALLONS

YEAR ENDED SEPTEMBER 30, 1958

1957- 1958	LOW SERVICE*				HIGH SERVICE†				TOTAL SERVICE*†				1957- 1958
	Max. Day	Min. Day	Avg. Day	Total	Max. Day	M'n. Day	Avg. Day	Total	Max. Day	M'n. Day	Avg. Day	Total	
Oct.	43.89	26.15	35.77	1,108.82	7.72	5.79	6.45	200.02	51.60	31.93	42.22	1,308.84	Oct.
Nov.	37.81	24.48	32.57	977.08	6.09	5.15	5.70	171.04	43.55	29.62	38.27	1,148.12	Nov.
Dec.	38.17	23.23	32.76	1,015.61	6.49	4.80	5.66	175.40	43.98	30.23	38.42	1,191.01	Dec.
Jan.	39.02	21.02	33.41	1,035.77	6.36	4.88	5.68	176.08	44.60	26.16	39.09	1,211.85	Jan.
Feb.	36.69	21.39	32.49	909.77	6.13	4.92	5.71	159.91	42.54	27.10	38.20	1,069.68	Feb.
Mar.	35.14	23.50	31.81	986.09	5.94	5.04	5.59	173.41	42.02	28.73	37.40	1,159.50	Mar.
Apr.	54.25	30.35	31.91	957.43	10.01	5.48	8.12	243.61	59.82	30.35	40.03	1,201.04	Apr.
May	35.48	19.08	29.24	906.48	10.15	8.40	9.36	290.08	45.09	27.48	38.60	1,196.56	May
June	46.88	21.43	32.46	973.77	14.02	8.57	10.11	303.41	60.90	30.68	42.57	1,277.18	June
July	52.69	18.65	33.86	1,049.74	15.84	8.40	11.19	346.90	68.53	27.05	45.05	1,396.64	July
Aug.	43.23	21.21	33.02	1,023.62	12.69	8.88	10.58	327.96	55.92	30.09	43.60	1,351.58	Aug.
Sept.	40.87	21.98	31.71	951.42	10.84	9.11	9.92	297.55	51.71	31.39	41.63	1,248.97	Sept.
For Year	54.25(a)	18.65(b)	32.59	11,893.40	15.84(c)	4.80(d)	7.85	2,865.37	68.53(e)	26.16(f)	40.44	14,760.97	For Year

(a) April 14; (b) July 6

(c) July 2; (d) December 25

(e) July 2; (f) January 26

*Includes water supplied to City of Warwick, Kent County Water Authority and to State Institutions.

†Includes water supplied to East Smithfield Water Co.

TABLE 35
WATER SOLD TO STATE INSTITUTIONS, AND CITY OF WARWICK
YEAR ENDED SEPTEMBER 30, 1938

1957-1958	STATE INSTITUTIONS						CITY OF WARWICK										
	S.S. 50,767 Sackanosset Rd. Cranston	S.S. 24,215A East St. Cranston	8" Tri-Prot. Meter	Total Gallons per Month	Avg. Gallons per Day		S.S. 47,269 Petta- consett Cranston	10" Tri- Protectus Meter	Gallons per Month	S.S. 47,475 Pawtuxet Bridge Cranston	6" Tri- Comp Meter	Gallons per Month	S.S. 61,515 Oaklawn Avenue Cranston	6" Tri- Protectus Meter	Gallons per Month	Total Gallons per Month	Avg. Gallons per Day
	12"x5.50" Venturi Meter	Gallons per Month															
Oct. . .	36,887,000	42,900		36,929,900	1,191,287		57,936,500		1,462,500	1,462,500		4,292,625	4,292,625	6,776,400	70,468,025	2,273,162	
Nov. . .	38,818,000	47,775		38,865,775	1,295,526		54,252,700		1,764,000	1,764,000		4,171,425	4,171,425	5,654,325	65,842,450	2,194,748	
Dec. . .	35,922,000	21,000		35,943,000	1,159,451		50,622,700		413,250	413,250		3,777,000	3,777,000	5,021,775	59,834,725	1,930,152	
Jan. . .	41,413,000	36,000		41,449,000	1,337,065		61,706,500		0	0		4,499,700	4,499,700	5,412,225	71,618,425	2,310,272	
Feb. . .	26,170,266	25,980		26,196,246	935,580		38,356,800		750	750		2,941,425	2,941,425	3,744,675	45,023,650	1,607,988	
Mar. . .	29,738,941	29,520		29,768,461	960,273		43,260,100		150	150		3,079,950	3,079,950	4,287,225	50,626,525	1,633,114	
Apr. . .	36,318,522	66,209		36,384,731	1,212,824		66,340,300		7,650	7,650		4,859,325	4,859,325	6,855,000	78,062,275	2,602,076	
May. . .	35,146,956	64,082		35,211,038	1,135,840		58,807,800		8,025	8,025		4,497,150	4,497,150	6,722,400	70,035,375	2,259,206	
June. . .	36,318,522	66,209		36,384,731	1,212,824		55,118,500		31,275	31,275		4,399,875	4,399,875	7,784,175	67,333,825	2,244,461	
July. . .	38,435,000	0		38,435,000	1,239,839		83,843,700		2,058,225	2,058,225		8,532,825	8,532,825	18,778,050	113,212,800	3,652,026	
Aug. . .	38,715,000	1,500		38,716,500	1,248,919		73,148,500		1,685,250	1,685,250		5,807,250	5,807,250	11,059,650	91,700,650	2,958,085	
Sept. . .	38,335,000	0		38,335,000	1,277,833		61,897,137		1,495,425	1,495,425		4,477,775	4,477,775	5,758,125	73,623,462	2,454,115	
For Year	432,218,207	401,175		432,619,382	1,185,259		705,271,237		8,926,500	8,926,500		55,330,425	55,330,425	87,854,025	857,382,187	2,348,992	

TABLE 36
WATER SOLD TO EAST SMITHFIELD WATER COMPANY AND
KENT COUNTY WATER AUTHORITY
FOR YEAR ENDED SEPTEMBER 30, 1958

1957- 1958	EAST SMITHFIELD WATER COMPANY				KENT COUNTY WATER AUTHORITY			
	S.S. 51,198 Waterman Street No. Prov.	S.S. 52,403 Dean Avenue Smithfield	Total Gallons per Month	Average Gallons per Day	S.S. 58,985 Oaklawn Avenue Cranston	S.S. 60,757 Purification Works Scituate	Total Gallons per Month	Average Gallons per Day
	12" Tri-Crest Meter	8" Tri-Crest Meter			12" Tri-Crest Meter	12" Venturi Meter		
	Gallons per Month	Gallons per Month			Gallons per Month	Gallons per Month		
Oct.	4,596,000	3,011,250	7,607,250	245,395	3,898,500	29,327,000	33,225,500	1,071,790
Nov.	4,373,250	3,251,250	7,624,500	254,150	2,022,750	29,317,000	31,339,750	1,044,658
Dec.	4,001,250	2,945,250	6,946,500	224,080	5,921,250	31,066,000	36,987,250	1,193,137
Jan.	4,827,000	3,504,750	8,331,750	268,766	5,489,250	30,537,000	36,026,250	1,162,137
Feb.	3,206,020	2,207,413	5,413,433	193,336	4,412,680	25,100,000	29,512,680	1,054,024
Mar.	3,497,480	2,408,087	5,905,567	190,502	2,994,320	26,304,000	29,298,320	945,107
Apr.	4,612,250	3,611,000	8,223,250	274,108	4,643,682	20,962,000	25,605,682	853,522
May	4,463,468	3,494,516	7,957,984	256,709	4,493,886	19,819,000	24,312,886	784,286
June	4,761,032	3,727,484	8,488,516	282,950	4,643,682	21,509,000	26,152,682	871,756
July	4,781,250	3,484,500	8,265,750	266,637	6,183,750	26,295,000	32,478,750	1,047,702
Aug.	4,957,500	3,314,250	8,271,750	266,830	4,842,000	25,148,000	29,990,000	967,419
Sept.	4,803,000	3,415,500	8,218,500	273,950	4,359,750	18,078,000	22,437,750	747,925
For Year	52,879,500	38,375,250	91,254,750	250,013	53,905,500	303,462,000	357,367,500	979,089

TABLE 37

AVERAGE DAILY CONSUMPTION OF WATER PER MONTH IN MILLION GALLONS

Year Ending Sept. 30	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Avg. for Year
1877.....	2.61	2.22	2.30	2.27	2.26	1.84	2.25	2.53	2.94	2.91	2.76	3.01	2.53†
1878.....	2.84	2.39	2.38	2.82	2.93	2.59	2.38	3.22	3.48	3.78	3.52	3.32	2.97
1879.....	3.36	2.89	2.97	2.94	2.86	2.90	2.96	3.68	5.05	4.18	3.92	3.82	3.46
1880.....	3.67	3.35	3.22	3.54	4.07	3.13	2.98	3.54	3.81	4.05	4.46	4.16	3.66
1881.....	3.92	3.60	3.38	3.30	3.27	3.06	3.05	3.24	4.02	4.69	5.09	3.84	3.70
1882.....	3.40	3.33	3.65	3.94	3.74	3.91	3.43	3.82	4.64	5.24	5.18	4.70	4.08
1883.....	3.81	3.67	3.58	4.24	3.87	3.90	3.43	3.79	4.70	4.38	4.06	4.82	4.02
1884.....	4.24	3.67	3.99	4.48	4.73	4.80	4.10	4.10	5.44	5.56	5.01	4.92	4.59
1885.....	4.37	4.20	4.71	4.82	4.75	4.83	4.33	4.53	4.93	6.02	4.88	4.94	4.78
1886.....	4.62	4.24	4.94	5.06	4.90	4.84	4.41	4.90	5.16	5.58	5.00	5.08	4.89
1887.....	4.80	4.40	5.10	5.44	5.79	5.39	4.86	4.84	6.17	6.51	5.87	5.32	5.37
1888.....	5.34	5.18	5.51	5.72	7.34	5.80	5.27	5.75	6.14	5.69	5.59	5.52	5.74
1889.....	5.41	5.17	6.14	6.34	6.79	6.28	6.84	6.60	6.90	8.11	7.13	6.72	6.54
1890.....	6.28	6.08	6.83	6.35	6.53	6.72	6.67	7.55	7.75	7.73	7.78	7.57	6.99
1891.....	7.53	7.32	7.69	7.65	7.83	7.62	7.27	6.77	8.37	9.30	9.11	8.63	7.92
1892.....	8.00	7.65	8.48	9.30	8.85	8.74	8.07	8.58	9.92	10.78	10.50	9.48	9.03
1893.....	8.79	8.85	8.61	9.11	9.07	9.09	8.73	9.97	11.28	12.39	10.76	10.22	9.66
1894.....	10.20	8.86	9.08	9.02	9.82	8.60	7.70	8.78	9.49	8.99	9.50	9.10	9.10
1895.....	8.15	8.19	9.56	10.19	8.79	8.74	8.60	9.26	9.64	9.93	9.70	8.83	9.13
1896.....	8.49	8.05	8.98	8.83	8.52	8.44	8.06	8.27	8.90	9.13	8.70	9.07	8.62
1897.....	8.76	8.29	8.63	8.56	9.09	8.68	8.38	8.35	10.04	10.10	9.44	9.84	9.01
1898.....	8.94	8.75	9.64	9.45	9.53	8.91	8.52	9.18	11.18	10.21	10.12	9.70	9.51
1899.....	9.15	9.27	9.53	9.81	9.49	9.66	9.23	8.59	10.48	12.11	10.95	11.71	10.00
1900.....	9.99	9.54	9.95	10.09	10.52	10.20	8.92	10.05	11.50	12.02	11.69	11.15	10.47
1901.....	10.91	10.70	11.02	11.65	11.00	10.92	10.52	10.48	11.85	12.09	11.97	11.66	11.23
1902.....	11.89	11.81	12.85	12.84	12.62	11.92	12.33	13.92	13.02	13.54	12.91	13.76	12.78
1903.....	13.09	13.89	13.49	14.29	14.58	13.42	12.07	12.72	13.94	14.21	13.18	13.85	13.56
1904.....	14.57	14.88	14.60	14.20	14.63	13.88	13.85	14.77	15.06	16.34	14.30	13.99	14.59
1905.....	13.73	14.96	14.63	15.00	15.07	14.77	14.49	15.01	15.69	15.08	15.74	16.06	15.02
1906.....	15.02	14.37	14.25	15.74	16.24	16.26	15.62	16.29	17.18	18.50	18.00	15.02	16.04
1907.....	15.34	15.13	15.34	15.46	16.07	15.21	14.53	14.67	16.63	16.77	15.42	15.62	15.52
1908.....	15.83	15.80	15.44	15.16	14.87	14.88	13.94	14.04	15.54	17.71	16.15	14.80	15.35
1909.....	14.76	14.66	15.28	15.62	15.65	15.22	14.74	14.72	15.53	17.13	15.95	15.61	15.40
1910.....	15.56	14.98	16.11	16.39	16.27	16.00	15.30	16.19	17.09	19.36	17.09	16.08	16.37
1911.....	16.29	16.49	16.44	18.12	18.14	17.16	16.39	16.70	17.32	20.54	17.62	17.06	17.36
1912.....	17.36	16.72	17.17	17.49	17.98	17.59	17.06	17.12	18.95	19.55	18.40	17.12	17.71
1913.....	16.76	16.87	17.27	17.83	18.52	17.60	16.99	17.43	20.24	17.62	17.09	18.51	17.73
1914.....	17.29	16.43	17.27	17.07	17.60	17.44	16.80	16.68	18.04	16.49	16.76	17.80	17.14
1915.....	16.90	17.03	17.79	18.16	18.47	18.57	17.43	17.57	17.82	17.90	16.58	18.76	17.75
1916.....	18.51	18.08	18.50	19.73	20.62	19.31	18.09	17.67	18.28	19.61	20.03	18.76	18.93
1917.....	18.62	18.71	20.64	23.82	22.98	23.07	22.43	22.31	21.85	22.23	21.50	20.63	21.56
1918.....	20.42	20.31	21.04	21.72	20.94	19.35	19.45	19.60	21.77	20.70	20.40	20.68	20.53
1919.....	20.62	20.18	21.64	23.80	23.16	23.03	20.67	20.45	20.98	21.06	21.58	21.89	21.59
1920.....	21.41	20.46	20.97	21.64	21.43	20.77	20.21	20.92	22.84	21.18	21.63	22.86	21.36
1921.....	22.84	22.16	22.18	24.14	23.64	22.01	21.64	21.49	22.18	21.91	22.11	22.53	22.40
1922.....	22.78	23.23	23.08	23.66	24.96	23.84	22.95	24.12	24.49	23.90	24.08	24.31	23.78
1923.....	24.68	24.09	23.33	24.19	24.58	23.44	23.51	23.28	24.10	25.11	22.48	22.51	23.78
1924.....	22.84	23.70	23.76	24.22	23.61	22.70	23.13	23.03	24.82	23.54	23.20	23.81	23.53
1925.....	23.41	22.47	23.29	23.95	24.12	24.25	23.36	22.80	24.16	24.80	23.94	23.53	23.67
1926.....	21.76	22.60	23.24	22.92	22.41	22.57	22.32	22.68	23.62	23.27	22.27	23.27	22.74
1927.....	23.37	22.99	22.39	23.04	22.80	23.21	22.79	23.83	23.05	24.31	26.69	25.38	23.65
1928.....	26.82	25.54	26.17	26.84	27.01	25.42	23.05	22.91	25.73	26.53	24.94	24.24	25.43
1929.....	23.83	24.24	24.29	23.85	24.88	23.34	23.38	25.15	26.85	26.81	25.95	27.45	25.00
1930.....	26.30	24.04	23.80	23.71	24.36	23.64	23.11	23.76	25.35	26.20	26.22	26.31	24.73
1931.....	25.36	23.42	23.82	23.20	23.23	22.99	22.72	23.47	25.27	25.34	25.16	24.59	24.05
1932.....	24.15	23.65	23.51	24.00	24.25	24.01	23.41	25.32	26.92	28.77	27.65	26.00	25.14
1933.....	24.89	24.43	25.04	25.55	28.05	26.38	24.78	25.78	27.95	31.00	28.77	26.39	26.58
1934.....	26.50	25.39	25.16	26.35	27.06	26.31	25.71	27.02	27.47	29.47	31.14	28.23	27.15
1935.....	29.45	28.03	27.42	27.97	28.73	26.44	25.75	27.02	30.27	30.23	30.79	29.23	28.44
1936.....	27.94	26.72	27.06	25.77	26.13	27.16	25.73	25.93	28.45	31.43	31.85	29.18	29.79
1937.....	27.84	26.42	25.57	25.11	24.67	24.38	23.56	24.56	27.13	26.34	28.82	28.34	26.07
1938.....	27.90	27.21	26.85	27.07	27.62	27.16	26.25	27.48	30.84	32.81	33.62	30.31	28.77
1939.....	30.12	28.96	28.26	28.74	28.06	27.23	25.77	26.15	28.49	30.10	31.57	28.96	28.54
1940.....	29.55	27.86	28.36	28.67	29.02	28.78	29.07	29.91	31.74	32.87	32.66	33.78	30.19
1941.....	32.74	31.44	31.84	31.34	31.21	29.84	29.18	29.76	31.34	32.13	32.14	32.11	31.26
1942.....	29.88	29.27	30.40	29.93	30.67	30.35	30.05	29.65	35.13	36.35	35.47	33.71	31.74
1943.....	31.87	31.25	32.35	32.29	32.52	32.95	31.51	34.27	36.80	39.10	40.60	35.43	34.26
1944.....	33.77	32.77	33.33	34.89	34.57	33.78	33.37	33.23	35.44	35.73	36.34	34.67	34.32
1945.....	32.74	32.27	33.21	34.01	33.69	33.80	33.64	33.59	36.70	40.70	35.92	36.69	34.75
1946.....	36.37	35.34	35.58	35.95	35.83	35.01	33.27	33.94	35.72	37.35	39.34	39.21	36.78
1947.....	38.91	36.19	35.55	34.84	37.31	36.92	36.15	33.95	36.90	39.33	41.55	39.76	37.28
1948.....	36.27	35.34	35.11	33.98	34.00	33.88	33.12	35.12	46.65	44.56	40.18	35.77	37.01
1949.....	34.61	35.94	34.51	33.92	34.34	34.71	33.39	34.90	40.27	43.27	41.40	38.24	36.64
1950.....	39.96	36.91	34.80	36.10	35.92	34.81	34.21	37.21	39.31	43.49	39.98	38.20	37.59
1951.....	36.92	34.79	33.63	34.20	34.59	33.98	34.33	41.21	54.79	40.66	40.11	37.78	37.78
1952.....	37.09	35.75	35.27	34.59	33.95	34.20	34.61	35.63	50.68	46.76	43.63	43.95	38.86
1953.....	38.20	35.43	35.03	34.85	35.63	35.31	35.10	35.05	45.09	45.27	40.72	39.22	37.92
1954.....	39.84	37.82	37.17	37.24	38.42	37.85	37.00	41.54	44.52	49.90	47.08	42.25	40.91
1955.....	40.29	38.30	38.18	38.42	39.31	38.37	38.55	40.08	49.50	44.93	48.86	41.70	41.38
1956.....	40.78	38.65	36.74	39.14	38.43	36.98	38.50	44.48	60.45	57.12	48.16	45.16	43.74
1957.....	42.22	38.27	38.42	39.09	38.20	37.40	40.03	38.60	42.57	45.05	43.60	41.63	40.44

†Average for 9 months

TABLE 38
FINANCIAL STATEMENT OF THE PROVIDENCE
WATER SUPPLY BOARD FOR THE YEAR
ENDED SEPT. 30, 1958

REVENUE

Water Rents	†\$2,273,583.77
Hydrant Rental	83,009.38
Electric Power	23,790.90
Setting Meters	4,555.75
Repairing Meters	1,428.19
Rents from Non-Operating Property	1,047.26
Repairs to Water Services	218.82
Repairs to Distribution Mains	702.00
Repairs to Hydrants	149.70
Installation of New Fire Supplies	2,266.00
Installation of New Water Services	71,003.00
Installation of New Water Mains	110,969.77
Revolving Fund—Water Meters	6,662.39
Sale of Scrap Iron, Brass, Lead, Etc.	8,770.91
Sale of Lumber, Pulpwood, Etc.	1,027.21
Sale of Obsolete Equipment	336.00
Sundries	2,815.59
Total Revenue	\$2,592,336.64

DISBURSEMENTS

Operating Expense:	
Salaries	\$766,089.28
Services Other Than Personal	106,677.26
Materials and Supplies	242,958.36
Special Items	7,783.23
Capital Outlay	55,655.66
Other Structures and Improvements (Water Main Extensions)	229,216.51
Taxes	294,480.94
Employees' Retirement System	30,234.00
Social Security F.O.A.S.I.	15,554.01
Total Operating Expense	*\$1,748,649.25
Interest on Bonds	570,000.00
Depreciation and Extension Fund	100,000.00
Payable to Sinking Fund	** 173,687.39
Total Disbursements	\$2,592,336.64
Gross Water Rents	\$2,342,424.97
Minus Refunds (Current Year)	68,508.72
Minus Refunds (Prior Year) ...	332.48
Net Water Rents	†\$2,273,583.77

*See Table 39 for detailed account of Operating Expense.

**Subject to change due to anticipated discounts on Outstanding Commitments.

TABLE 39
WATER SUPPLY BOARD OPERATING EXPENSES
FOR THE YEAR ENDED SEPT. 30, 1958

ADMINISTRATIVE	
Salaries:	
001 Officials	\$19,989.31
Clerical—Chief Engineer's Office	3,760.40
Clerical—Accounting	41,955.92
Engineering	55,635.22
Labor—General	9,952.90
008 Sick Leave Payrolls	2,891.13
009 Vacation Payrolls	5,831.02
Total	\$140,015.90
Services Other Than Personal:	
102 Expert Consultant and Other Service Fees \$	15.00
109 Fees Not Otherwise Classified	1,160.00
111 Telephone and Telegraph	2,000.00
112 Postage, Freight and Express	43.50
116 Transportation of Persons—Other	54.91
118 Travel Subsistence—Other	27.18
121 Printing, Binding and Reproduction	
Services	1,337.27
131 Light and Power	1,721.02
141 Repairs—Office Machinery	340.00
142 Repairs—Automobiles	268.07
146 Repairs—Plant Equipment	99.96
149 Repairs—Other Equipment	35.50
150 Repairs—Structures and Improvements	192.00
151 Maintenance and Servicing	645.60
181 Laundry and Cleaning	100.00
183 Dues and Subscriptions	172.20
199 Miscellaneous Services	8,833.73
Total	\$17,045.94
Outstanding Commitments	25.00
Total—Services Other Than Personal	\$ 17,070.94
Materials and Supplies:	
201 Stationery and Office Supplies	\$ 1,624.68
202 Small Tools and Shop Supplies	41.09
211 Motor Fuel	447.03
213 Tires and Tubes	227.94
214 Repair Parts and Supplies—Trucks and	
Autos	55.87
221 Repair Parts and Supplies—Office Ma-	
chinery	41.47
222 Repair Parts and Supplies—Plant Equip-	
ment	440.00
231 Medical, Chemical and Laboratory Sup-	
plies	6.41
241 Fuel	919.24
244 Housekeeping Supplies and Minor Equip-	
ment	28.79
252 Seeds, Fertilizer, Trees and Shrubs	120.73
259 Other Agricultural, Horticultural and	
Landscaping Supplies	54.73
267 Paint and Painters' Supplies	28.81
268 Plumbing and Electrical Supplies	16.61
272 Valves and Fittings	6.37
Total	\$ 4,059.77
Outstanding Commitments	9.43
Total—Materials and Supplies	\$ 4,069.20
Special Items:	
331 Payment of Claims and Damages	\$ 56.91
350 Blue Cross and Physicians Service	1,336.65
Total	\$ 1,393.56

Capital Outlay:

501	Office Furniture, Machinery and Equip- ment	\$ 835.32
502	Books, Maps and Charts	24.25
	Total	\$ 859.57
	Outstanding Commitments	79.00
	Total—Capital Outlay	\$ 938.57
	Total—Administrative	\$ 163,488.17

SOURCE OF SUPPLY

Hydro Electric Station:

Salaries:

001	Labor—Operation	\$ 6,281.50
	Repairs—Structures and Improvements..	18.60
	Repairs—Machinery and Equipment....	4,136.47
	Total	\$ 10,436.57

Services Other Than Personal:

111	Telephone and Telegraph	\$ 172.15
112	Postage, Freight and Express	46.70
142	Repairs—Trucks and Autos	35.00
146	Repairs—Plant Equipment	1,333.00
151	Repairs—Machinery and Equipment	791.02
199	Miscellaneous Services	1,734.70
	Total	\$ 4,112.57

Materials and Supplies:

201	Stationery and Office Supplies	\$ 285.03
202	Small Tools and Shop Supplies	2.75
212	Lubricants	52.96
214	Repair Parts and Supplies—Trucks and Autos	22.91
222	Repair Parts and Supplies—Plant Equip- ment	9.21
241	Fuel	215.20
266	Lumber and Hardware	64.91
267	Paint and Painters' Supplies	10.10
268	Plumbing and Electrical Supplies	417.32
269	Construction and Maintenance Materials and Supplies Not Otherwise Classified.	104.95
271	Pipe	98.00
272	Valves and Fittings	18.17
	Total	\$ 1,301.51

Water Purification Plant:

Salaries:

001	Supervision	\$16,098.13
	Labor—Operation	38,927.94
	Technical	21,580.58
	Clerical—Laboratory	1,321.44
	Repairs—Structures and Improvements..	448.65
	Repairs—Machinery and Equipment	5,005.17
	Repairs—Care of Grounds	2,267.39
	Total	\$ 85,649.30

Services Other Than Personal:

102	Expert Consultant and Other Service Fees	\$ 35.00
111	Telephone and Telegraph	1,062.93
112	Postage, Freight and Express	137.32
141	Repairs—Office Machinery	62.95
142	Repairs—Trucks and Autos	506.57
146	Repairs—Plant Equipment	1,733.91
149	Repairs—Other Equipment	398.45
150	Repairs—Structures and Improvements.	2,463.00
151	Maintenance and Servicing	994.10
181	Laundry and Cleaning	208.06
183	Dues and Subscriptions	9.23
199	Miscellaneous Services	354.23
	Total	\$ 7,965.79

Materials and Supplies:	
201 Stationery and Office Supplies	\$ 692.28
202 Small Tools and Shop Supplies	471.79
204 Wearing Apparel and Personal Supplies ..	232.35
212 Lubricants	135.03
213 Tires and Tubes	97.41
214 Repair Parts and Supplies—Trucks and Autos	230.38
222 Repair Parts and Supplies—Plant Equipment	3,267.03
229 Repair Parts and Supplies—Other Equipment	176.94
231 Ferric Sulphate	39,509.28
231 Lime	15,272.58
231 Chlorine	3,123.75
231 Sodium Silico Fluoride	11,984.00
231 Miscellaneous Chemical Supplies	131.80
231 Miscellaneous Laboratory Supplies	914.77
241 Fuel	5,011.93
244 Housekeeping Supplies	535.02
252 Seeds, Fertilizer, Trees and Shrubs	230.00
259 Other Agricultural, Horticultural and Landscaping Supplies	183.75
262 Cement, Plaster and Related Products ..	146.02
263 Fabricated Metal Products	160.00
266 Lumber and Hardware	280.46
267 Paint and Painters' Supplies	479.72
268 Plumbing and Electrical Supplies	967.91
271 Pipe	63.94
272 Valves and Fittings	154.09
279 Water System Materials and Supplies Not Otherwise Classified	45.49
299 Miscellaneous Materials and Supplies ..	72.01
Total	\$ 84,569.93
Special Items:	
302 Liability Insurance	\$ 27.17
Total	\$ 27.17
Capital Outlay:	
502 Books, Maps and Charts	\$ 6.50
541 Laboratory Equipment	110.00
561 Shop and Plant Equipment	4,370.50
571 Agricultural and Landscaping Equipment ..	673.00
Total	\$ 5,360.00
Scituate Reservoir:	
Salaries:	
001 Labor—Operation	\$ 3,253.30
Repairs—Structures and Improvemnts ..	40.30
Repairs—Care of Grounds	2,331.55
Total	\$ 5,625.15
Services Other Than Personal:	
111 Telephone and Telegraph	\$ 181.83
121 Printing and Binding	84.00
142 Repairs—Trucks and Autos	115.81
Total	\$ 381.64
Materials and Supplies:	
213 Tires and Tubes	\$ 114.32
Total	\$ 114.32
Other Reservoirs:	
Salaries:	
001 Labor—Operation	\$ 2,771.80
Repairs—Structures and Improvements ..	19.48
Repairs—Care of Grounds	106.36
Total	\$ 2,897.64

Services Other Than Personal:

142 Repairs—Trucks and Autos	\$ 220.35
Total	\$ 220.35

Materials and Supplies:

214 Repair Parts and Supplies—Trucks and Autos	\$ 4.34
Total	\$ 4.34

Reforestation:

Salaries:

001 Supervision	\$ 5,122.72
Labor—Operation	1,934.10
Repairs—Care of Grounds	13,262.63
Total	\$ 20,319.45

Services Other Than Personal:

102 Expert Consultants and Other Service Fees \$	25.00
142 Repairs—Trucks and Autos	106.91
143 Repairs—Construction and Other Auto-motive Equipment	17.93
149 Repairs—Other Equipment	62.85
151 Maintenance and Servicing	25.00
183 Dues and Subscriptions	7.50
199 Miscellaneous Services	6.00
Total	\$ 251.19

Materials and Supplies:

201 Stationery and Office Supplies	\$ 2.67
202 Small Tools and Shop Supplies	122.84
213 Tires and Tubes	66.32
214 Repair Parts and Supplies—Trucks and Autos	6.72
231 Medical and Chemical Supplies	3.58
241 Fuel	334.56
244 Housekeeping Supplies and Minor Equipment	128.79
252 Seeds, Fertilizer, Trees and Shrubs	437.43
259 Other Agricultural, Horticultural and Landscaping Supplies	1,325.36
265 Fabricated Metal Products	26.17
266 Lumber and Hardware	6.40
Total	\$ 2,460.84

Capital Outlay:

511 Trucks and Autos	\$ 1,350.39
521 Construction and Engineering Equipment	2,748.90
571 Agricultural and Landscaping Equipment	760.82
Total	\$ 4,860.11

General:

Salaries:

001 Supervision	\$ 1,525.06
Clerical	1,198.62
Labor—Operation	2,938.34
Repairs—Structures and Improvements	156.07
Repairs—Machinery and Equipment	897.11
Repairs—Care of Grounds	6,224.18
Repairs—Care of Grounds—Rockland Cemetery	960.28
008 Sick Leave Payrolls	6,225.46
009 Vacation Payrolls	6,684.97
025 Injured Employees' Payrolls	202.96
Total	\$ 27,013.05

Services Other Than Personal:

102 Expert Consultant and Other Service Fees \$	5.00
109 Fees Not Otherwise Classified	25.00
142 Repairs—Trucks and Autos	839.91

143	Repairs—Construction and Other Auto-	
	motive Equipment	24.91
149	Repairs—Other Equipment	181.13
150	Repairs—Structures and Improvements..	141.00
199	Miscellaneous Services	6.00
Total		\$ 1,222.95

Materials and Supplies:

202	Small Tools and Shop Supplies	\$ 59.11
204	Wearing Apparel and Personal Supplies..	42.73
211	Motor Fuel	1,160.33
212	Lubricants	46.22
213	Tires and Tubes	260.68
214	Repair Parts and Supplies—Trucks and	
	Autos	456.82
231	Medical, Chemical and Laboratory Sup-	
	plies	6.00
252	Seeds, Fertilizer, Trees and Shrubs	372.00
259	Other Agricultural, Horticultural and	
	Landscaping Supplies	137.67
262	Cement, Plaster and Related Products..	37.24
265	Fabricated Metal Products	163.83
266	Lumber and Hardware	93.79
299	Miscellaneous Materials and Supplies...	441.09
Total		\$ 3,277.51

Special Items:

350	Blue Cross and Physicians Service	\$ 1,440.50
Total		\$ 1,440.50
Outstanding Commitments — Services Other		
Than Personal		25.00
Outstanding Commitments—Materials and Sup-		
plies		9,778.05
Outstanding Commitments—Capital Outlay		33,161.96
Total—Source of Supply		\$ 312,476.89

TRANSMISSION AND DISTRIBUTION

Pumping Station:

Salaries:

001	Labor—Operation	\$16,643.48
Total		\$ 16,643.48

Services Other Than Personal:

111	Telephone and Telegraph	\$ 392.64
131	Light and Power	21,333.61
146	Repairs—Plant Equipment	691.89
151	Maintenance and Servicing	443.86
162	Rental of Automotive and Construction	
	Equipment	160.00
181	Laundry and Cleaning	36.00
199	Miscellaneous Services	314.33
Total		\$ 23,372.33

Materials and Supplies:

201	Stationery and Office Supplies	\$ 142.31
211	Motor Fuel	168.87
212	Lubricants	41.48
222	Repair Parts and Supplies—Plant Equip-	
	ment	460.11
241	Fuel	650.74
252	Seeds, Fertilizer and Shrubs	14.70
259	Other Agricultural, Horticultural and	
	Landscaping Supplies	22.73
261	Gravel, Sand and Stone	105.75
266	Lumber and Hardware	11.47
268	Plumbing and Electrical Supplies	192.67
Total		\$ 1,810.83

Pipe Lines:

Salaries:

001	Supervision	\$ 7,755.15
	Clerical	7,249.73
	Labor—Operation	94,063.42
	Repairs—Trucks and Autos	7,096.54
	Repairs—Care of Grounds	9,490.03
	Repairs—Transmission Mains	6,295.15
	Repairs—Distribution Mains	11,067.71
	Repairs—Gates and Valves	14,962.90
	Repairs—Hydrants	8,470.28
	Repairs—Services	13,928.00
	New Work—Distribution Mains	2,418.65
	New Work—Gates and Valves	7,499.99
	New Work—Hydrants	12,788.68
	New Work—Services	45,581.22
	New Work—Meters (Emergency)	50.77
	Retirement Work—Distribution Mains	1,719.45
	Retirement Work—Gates and Valves	4,764.70
	Retirement Work—Hydrants	8,930.90
	Retirement Work—Services	3,810.64

Total \$267,943.91

Services Other Than Personal:

102	Expert Consultant and Other Service Fees \$	65.00
109	Fees Not Otherwise Classified	176.72
111	Telephone and Telegraph	1,591.72
112	Postage, Freight and Express	267.14
116	Transportation of Persons—Other	41.96
118	Travel Subsistence—Other	78.07
121	Printing and Binding	13.70
131	Light and Power	506.67
141	Repairs—Office Machinery	31.05
142	Repairs—Trucks and Autos	1,410.83
143	Repairs—Construction and Other Auto-	
	motive Equipment	165.73
151	Maintenance and Servicing	35.00
153	Repairs—Street Openings	9,556.22
162	Rental—Automotive and Construction	
	Equipment	762.55
163	Rental—Other Equipment	245.60
165	Rental of Land	259.00
199	Miscellaneous Services	3,009.41

Total \$ 18,216.37

Materials and Supplies:

201	Stationery and Office Supplies	\$ 466.63
202	Small Tools and Shop Supplies	1,969.10
204	Wearing Apparel and Personal Supplies	632.37
211	Motor Fuel	4,059.02
212	Lubricants	329.16
213	Tires and Tubes	415.72
214	Repair Parts and Supplies—Trucks and	
	Autos	3,354.59
231	Medical, Chemical and Laboratory Sup-	
	plies	314.69
241	Fuel	289.52
244	Housekeeping Supplies and Minor Equip-	
	ment	105.70
261	Gravel, Sand and Stone	673.46
262	Cement, Plaster and Related Products	765.59
264	Fabricated Cement Products	108.78
265	Fabricated Metal Products	86.27
266	Lumber and Hardware	981.03
267	Paint and Painters' Supplies	379.78
268	Plumbing and Electrical Supplies	3,740.59
271	Pipe—Cast Iron	5,319.99
271	Pipe—Service	8,659.27
271	Pipe—Other	2,885.55
272	Hydrants, Valves and Fittings	65,214.94
272	Gates and Valves	15,132.65
273	Special Castings	549.75
279	Water System Materials and Supplies Not	
	Otherwise Classified	217.67
299	Miscellaneous Materials and Supplies	252.23

Total \$116,904.05

Special Items:

331	Payment of Claims and Damages	\$	65.00
	Total	\$	65.00

Capital Outlay:

512	Trucks and Tractors	\$	1,468.00
521	Construction and Engineering Equipment		5,635.00
	Total	\$	7,103.00

Other Structures and Improvements:

721	New Main Extensions	\$229,216.51
	Total	\$229,216.51

Distribution Reservoirs:

Services Other Than Personal:

111	Telephone and Telegraph	\$	110.00
131	Light and Power		106.30
	Total	\$	216.30

General:

Salaries:

001	Labor—Operation	\$12,741.94
	Repairs—Trucks and Autos	2,497.89
008	Sick Leave Payrolls	8,938.41
009	Vacation Payrolls	10,743.74
025	Injured Employees' Payrolls	544.00
	Total	\$ 33,465.98

Services Other Than Personal:

149	Repairs—Other Equipment	\$	39.05
150	Repairs—Buildings		84.32
181	Laundry and Cleaning		100.00
199	Miscellaneous Services		36.00
	Total	\$	259.37

Materials and Supplies:

202	Small Tools and Shop Supplies	\$	73.55
229	Repair Parts and Supplies—Other Equip- ment		103.45
241	Fuel		714.18
244	Housekeeping Supplies and Minor Equip- ment	\$	16.78
265	Fabricated Metal Products		58.42
266	Lumber and Hardware		24.90
268	Plumbing and Electrical Supplies		10.87
	Total	\$	1,002.24

Special Items:

350	Blue Cross and Physicians Service	\$	2,937.95
	Total	\$	2,937.95
	Outstanding Commitments — Services Other Than Personal		1,621.95
	Outstanding Commitments—Materials and Sup- plies		3,045.55

Total—Transmission and Distribution..... \$ 725,824.82

METERING

Salaries:

001	Supervision	\$12,189.15
	Clerical	52,606.28
	Labor—Operation	35,091.75
	Repairing Meters	12,511.39
	Removing and Setting Meters	13,402.45
	Testing Meters	4,007.22
	Inspection—Services	3,667.65

General Operation	9,964.70
008 Sick Leave Payrolls	3,997.81
009 Vacation Payrolls	6,549.10
025 Injured Employees' Payrolls	91.35
Total	\$154,078.85

Services Other Than Personal:

102 Expert Consultant and Other Service Fees \$	75.00
109 Fees Not Otherwise Classified	21.00
111 Telephone and Telegraph	2,147.22
112 Postage, Freight and Express	941.13
116 Transportation of Persons—Carfares ..	744.10
121 Printing, Binding and Reproduction Services	42.00
131 Light and Power	1,517.49
141 Repairs—Office Machinery, Furniture and Furnishings	910.80
142 Repairs—Trucks and Autos	396.64
151 Maintenance and Servicing	79.39
181 Laundry and Cleaning	100.00
199 Miscellaneous Services	24,503.13
Total	\$ 31,477.90

Materials and Supplies:

201 Stationery and Office Supplies	\$ 4,562.41
202 Small Tools and Shop Supplies	714.82
204 Wearing Apparel and Personal Supplies..	257.64
211 Motor Fuel	1,396.17
212 Lubricants	92.88
213 Tires and Tubes	564.67
214 Repair Parts and Supplies—Trucks and Autos	672.25
221 Repair Parts and Supplies—Office Machinery	8.60
229 Repair Parts and Supplies—Other Equipment	115.20
231 Medical, Chemical and Laboratory Supplies	47.77
241 Fuel	895.94
244 Housekeeping Supplies and Minor Equipment	142.79
266 Lumber and Hardware	16.93
267 Paint and Painters' Supplies	26.26
268 Plumbing and Electrical Supplies	478.42
272 Valves and Fittings	219.17
274 Meter Parts	3,495.86
299 Miscellaneous Materials and Supplies...	532.00
Total	\$ 14,239.78

Special Items:

331 Payment of Claims and Damages	\$ 100.00
350 Blue Cross and Physicians Service	1,819.05
Total	\$ 1,919.05

Capital Outlay:

501 Office Furniture, Machinery and Equipment	\$ 899.46
511 Automobiles	1,377.56
512 Trucks and Tractors	1,530.00
591 Equipment Not Otherwise Classified ..	425.00
Total	\$ 4,232.02
Outstanding Commitments — Services Other Than Personal	262.61
Outstanding Commitments—Materials and Supplies	380.21

Total—Metering.....	\$ 206,590.42
Taxes	294,480.94
Employees' Retirement System	30,234.00
Social Security F.O.A.S.I.	15,554.01

TOTAL—OPERATING EXPENSE \$1,748,649.25

TABLE 40
STATEMENT OF REVENUE—ESTIMATED AND ACTUAL
FOR THE YEAR ENDED SEPTEMBER 30, 1958

Account	Estimated Revenue	Actual Revenue
Water Rents	\$2,240,000.00	\$2,273,583.77
Hydrant Rental	80,000.00	83,009.38
Electricity.	25,000.00	23,790.90
Stores Account (Meters).....	10,000.00	6,662.39
Repairing and Setting Meters.....	7,000.00	5,983.94
Fire Supplies and Miscellaneous Repairs	10,000.00	3,336.52
New Service Installations.....	50,000.00	71,003.00
New Main Extensions.....	100,000.00	110,969.77
Rentals.	1,000.00	1,047.26
Other miscellaneous Receipts.....	10,000.00	12,949.71
Total.....	\$2,533,000.00	\$2,592,336.64

TABLE 41
SUMMARY OF ANNUAL WATER WORKS REVENUES
1930-1958

Fiscal Years Ended Sept. 30	Receipts From Sale of Water	Misc. Receipts	Total
1930.....	\$1,384,369.54	\$218,844.87	\$1,603,214.41
1931.....	1,414,836.00	237,172.64	1,652,008.64
1932.....	1,375,450.77	223,058.31	1,598,509.08
1933.....	1,345,444.69	212,066.79	1,557,511.48
1934.....	1,387,876.73	184,133.47	1,572,010.20
1935.....	1,409,269.47	237,518.68	1,646,788.15
1936.....	1,427,881.10	265,357.71	1,693,238.81
1937.....	1,429,107.08	229,317.39	1,721,424.47
1938.....	1,426,986.49	106,359.70	1,533,346.19
1939.....	1,491,918.63	124,901.37	1,616,820.00
1940.....	1,551,917.24	115,540.98	1,667,458.22
1941.....	1,615,351.79	114,960.58	1,730,312.37
1942.....	1,679,058.50	103,368.22	1,782,426.72
1943.....	1,629,268.35	86,580.98	1,715,849.33
1944.....	1,761,016.12	87,946.71	1,848,962.83
1945.....	1,812,311.82	99,271.44	1,911,583.26
1946.....	1,808,993.17	123,247.90	1,932,241.07
1947.....	1,877,471.18	124,372.47	2,001,843.65
1948.....	2,005,242.58	222,419.41	2,227,661.99
1949.....	2,031,633.37	229,317.72	2,260,951.09
1950.....	2,082,814.82	199,061.80	2,281,876.62
1951.....	2,078,209.84	214,868.70	2,293,078.54
1952.....	2,053,427.76	322,761.07	2,376,188.83
1953.....	2,093,625.85	343,477.23	2,437,103.08
1954.....	2,146,947.18	302,707.38	2,449,654.56
1955.....	2,166,180.84	379,010.13	2,545,190.97
1956.....	2,236,331.86	371,715.61	2,608,047.47
1957.....	2,262,879.80	322,948.62	2,585,828.42
1958.....	2,273,583.77	318,752.87	2,592,336.64

TABLE 42

**STATEMENT OF WATER WORKS
DEPRECIATION AND EXTENSION FUND**

	Investment	Cash	Due From Other Funds	Total
Balance Sept. 30, 1957	\$1,065,000.00	\$ 14,298.06	\$115,000.00	\$1,194,298.06
Increase During Year Ended Sept. 30, 1958		258,722.28		
Disbursements During Year Ended Sept. 30, 1958	665,000.00		115,000.00	
Accounts Receivable Year Ended Sept. 30, 1958			100,000.00	
Balance Sept. 30, 1958	\$ 400,000.00	\$373,020.34	\$100,000.00	\$ 873,020.34

TABLE 43

**STATEMENT OF WATER WORKS
DEPOSIT AND REFUND ACCOUNT**

Cash Balance Sept. 30, 1957	\$22,138.00
Receipts for Year Ended Sept. 30, 1958	NIL
Total Available	\$22,138.00
Disbursements for Year Ended Sept. 30, 1958	\$22,138.00
Accounts Payable for Year Ended Sept. 30, 1958	NIL
Total Deductions	\$22,138.00
Cash Balance Sept. 30, 1958 (Account Closed)	NIL

TABLE 44

STATEMENT OF WATER SUPPLY BOARD BONDS OUTSTANDING
AND SINKING FUND REQUIREMENTS ON A 3% BASIS
AS OF SEPTEMBER 30, 1958

Bonds Payable from Sinking Fund	Rate of Int. %	Year of		Bonds		Sinking Fund Requirements On a 3% Basis
		Issue	Maturity	Issued	Outstanding	
Water Supply.....	4½	1922	1962	\$1,000,000.00	\$1,000,000.00	\$ 855,973.41
" "	4	1922	1962	2,000,000.00	2,000,000.00	1,699,358.98
" "	4	1932	1962	1,000,000.00	1,000,000.00	816,434.09
" "	4	1922	1962	2,500,000.00	2,500,000.00	2,034,794.70
" "	4½	1924	1964	2,000,000.00	2,000,000.00	1,561,904.66
" "	4	1924	1964	1,500,000.00	1,500,000.00	1,128,565.74
" "	4	1925	1965	2,500,000.00	2,500,000.00	1,839,854.34
" "	4	1928	1968	1,500,000.00	1,500,000.00	967,577.31
Total Water Supply Debt and Sinking Fund Requirements.....						\$14,000,000.00
Sinking Fund Assets Allocated to Water Supply Debt per City Controller's Report on Sinking Fund Sept. 30, 1958 (Includes \$173,687.39* Water Operating Balance for Year Ended Sept. 30, 1958 plus Prior Year Adjustments of \$1,630.55 or a total of \$175,317.94).....						\$10,862,083.64
Amount of Deficit of Requirements on 3% Basis.....						\$62,379.59

*Subject to change due to anticipated discounts on Outstanding Commitments, see Table No. 39.

TABLE 45

A SUMMARY OF INVENTORIES OF
PERSONAL PROPERTY
AT SEPTEMBER 30, 1958

REMOVABLE PROPERTY INVENTORY \$123,706.71

SOURCE OF SUPPLY:

Hydro-Electric Station	\$ 10,423.48	
Purification Works	24,581.51	
Laboratory	5,186.01	
General	2,547.08	42,738.08

TRANSMISSION AND DISTRIBUTION:

Pipe Lines	\$129,245.18	
Pumping Stations	330.55	
Garage	5,787.33	135,363.06

METERING: 29,996.59

SUPPLIES: 3,873.17

Total Personal Property Inventory \$335,677.61

TABLE 46

STATEMENT OF STORES REVOLVING FUND
FOR THE YEAR ENDED SEPT. 30, 1958

Cash Balance Sept. 30, 1957	\$10,000.00
Outstanding Commitments Sept. 30, 1957	9,756.12
Receipts—Oct. 1, 1957 to Sept. 30, 1958	50,727.90
Total Available	\$70,484.02
Disbursements Sept. 30, 1958	\$38,283.43
Outstanding Commitments Sept. 30, 1958	15,538.20
Transferred as Income to General Fund	6,662.39
Total Disbursements	60,484.02
Cash Balance Sept. 30, 1958	\$10,000.00

TABLE 47

STATEMENT OF THE TRANSMISSION AND
DISTRIBUTION REVOLVING FUND FOR
THE YEAR ENDED SEPT. 30, 1958

Cash Balance September 30, 1957	\$ 5,166.05
Receipts Oct. 1, 1957 to September 30, 1958	4,242.62
Accounts Receivable	7,040.15
Total Available	\$16,448.82
Disbursements (Transferred to Water Maint. Sept. 30, 1958)	\$7,040.15
Outstanding Commitments September 30, 1958	NIL
Total Disbursements	7,040.15
Cash Balance September 30, 1958	\$ 9,408.67

TABLE 48

**RELOCATION OF MAIN-BRANCH AVENUE
RAILROAD CROSSING ACCOUNT FOR THE
YEAR ENDED SEPT. 30, 1958**

Transferred from Depreciation and Extension Fund—February 27, 1957	\$75,000.00
Transferred from Depreciation and Extension Fund—April 5, 1957	15,000.00
Total Available	<u>\$90,000.00</u>
Disbursements September 30, 1958	\$85,265.56
Outstanding Commitments September 30, 1958	<u>NIL</u>
Total Disbursements	<u>85,265.56</u>
Cash Balance September 30, 1958	<u>\$ 4,734.44</u>

TABLE 49

**STATEMENT OF THE ATWOOD AVENUE
REINFORCEMENT MAIN ACCOUNT**

Transferred from Depreciation and Extension Fund—July 12, 1957	\$85,000.00
Transferred from Depreciation and Extension Fund—June 6, 1958	11,000.00
Total Available	<u>\$96,000.00</u>
Disbursements September 30, 1958	\$93,006.57
Outstanding Commitments September 30, 1958	<u>NIL</u>
Total Disbursements	<u>93,006.57</u>
Cash Balance September 30, 1958	<u>\$ 2,993.43</u>

TABLE 50

STATEMENT OF THE EAST SIDE
REINFORCEMENT MAIN ACCOUNT

Transferred from Depreciation and Extension Fund Feb. 14, 1958	\$154,000.00
Disbursements Sept. 30, 1958	\$61,410.21
Outstanding Commitments Sept. 30, 1958	70,532.49
Total Disbursements	131,942.70
Cash Balance Sept. 30, 1958	\$ 22,057.30

TABLE 51

STATEMENT OF THE MISCELLANEOUS WATER
MAIN EXTENSIONS ACCOUNT FOR
THE YEAR ENDED SEPT. 30, 1958

Transferred from Depreciation and Extension Fund July 29, 1957	\$15,000.00
Transferred from Depreciation and Extension Fund July 15, 1958	50,000.00
Total Available	\$65,000.00
Disbursements Sept. 30, 1958	\$11,228.96
Outstanding Commitments Sept. 30, 1958	37,547.78
Total Disbursements	48,776.74
Cash Balance Sept. 30, 1958	\$16,223.26

TABLE 52
STATEMENT—ACCOUNT FOR
INSERTING NEW VALVES

Transferred from Water Depreciation and Extension Fund May 12, 1958	\$10,000.00
Disbursements Sept. 30, 1958	\$8,741.79
Outstanding Commitments Sept. 30, 1958	NIL
Total Disbursements	8,741.79
Cash Balance Sept. 30, 1958	\$ 1,258.21

TABLE 53
STATEMENT OF THE ACCOUNT FOR
NEW VALVES—NEUTACONKANUT CONDUIT

Transferred from Depreciation and Extension Fund—February 7, 1958	\$25,000.00
Disbursements September 30, 1958	\$23,484.00
Outstanding Commitments September 30, 1958	NIL
Total Disbursements	23,484.00
Cash Balance September 30, 1958	\$ 1,516.00

TABLE 54

STATEMENT—OLNEYVILLE
SQUARE REPAIR ACCOUNT

Transferred from Water Depreciation and Extension Fund June 12, 1958	\$85,000.00
Disbursements Sept. 30, 1958	\$80,488.54
Outstanding Commitments Sept. 30, 1958	NIL
Total Disbursements	<u>80,488.54</u>
Cash Balance Sept. 30, 1958	\$ 4,511.46

TABLE 55

STATEMENT—ALTERATIONS NEUTACONKANUT
PUMPING STATION ACCOUNT

Transferred from Depreciation and Extension Fund Mar. 13, 1958	\$65,000.00
Disbursements Sept. 30, 1958	\$20,539.74
Outstanding Commitments Sept. 30, 1958	29,194.26
Total Disbursements	<u>49,734.00</u>
Cash Balance Sept. 30, 1958	\$15,266.00

TABLE 56

STATEMENT OF CONSTRUCTION
NEW AQUEDUCT RESERVOIR ACCOUNT

Transferred from Depreciation and Extension Fund Feb. 17, 1958	\$45,000.00
Disbursements Sept. 30, 1958	\$43,625.25
Outstanding Commitments Sept. 30, 1958	NIL
Total Disbursements	<u>43,625.25</u>
Cash Balance Sept. 30, 1958	\$ 1,374.75

TABLE 57
TAXES PAID TO VARIOUS CITIES AND TOWNS
(ASSESSED AS OF DECEMBER 31, 1956)

LOCATION OF PROPERTY	LAND AREA (ACRES)	ASSESSED VALUATIONS			TAX	
		Land	Bldgs. & Imp.	Total	Rate per \$100	Amount Paid
City of Warwick.....	0.06	\$ 160.00	\$ 0	\$ 160.00	\$2.50	\$ 4.00
City of Cranston.....	110.19	26,540.00	941,000.00	967,540.00	3.40	32,896.36
Town of Foster.....	1,936.04	119,900.00	0	119,900.00	2.55	3,057.45
Town of Glocester.....	73.30	13,300.00	0	13,300.00	2.75	365.75
Town of Johnston.....	103.13	38,330.00	292,670.00	331,000.00	2.45	8,109.50
Town of No. Providence.....	8.58	175,000.00	0	175,000.00	3.20	5,600.00
Town of Scituate.....	13,182.24	607,000.00	6,183,000.00	6,790,000.00	3.60	244,440.00
Total Real Estate.....	15,413.54	\$980,230.00	\$7,416,670.00	\$8,396,900.00	\$294,473.06*

*In addition to this amount, \$7.88 was paid to the Harmony Fire District.

TABLE 58

SUMMARY OF STATISTICS

PROVIDENCE WATER SUPPLY BOARD

FOR THE YEAR ENDED SEPT. 30, 1958

PROVIDENCE*	PROVIDENCE	RHODE ISLAND
(City or Town)	(County)	(State)

GENERAL STATISTICS

Population of Providence	235,950
Estimated population supplied in suburbs	161,900
Total population supplied	397,850
Date of Construction.....	1870-76; 1915-28; 1935; 1938-40; 1954
By whom owned.....	City of Providence
Source of Supply.....	Surface water collected in Scituate Reservoir and five smaller reservoirs on north branch of Pawtuxet River.
Available Storage Capacity of six impounding reservoirs.....	39,746 m.g.
Mode of supply.....	80.6% by gravity; 19.4% by pumping

STATISTICS OF CONSUMPTION OF WATER

1. Estimated population supplied	397,850
2. Total raw water influent for the year, gallons	16,566,450,000
3. Average daily raw water influent, gallons	45,390,000
4. Raw water consumption per capita, gallons daily	114.1
5. Total consumption for the year, gallons	14,760,960,000
6. Passed through meters, gallons	13,594,034,250
7. Percentage of consumption metered	92.09%
8. Average daily consumption, gallons	40,440,986
9. Per capita consumption, gallons daily	101.6
10. Gallons per day to each tap	686
11. Cost of supplying water, per million gallons, based on total maintenance	\$75.09
12. Cost of supplying water, per million gallons, total maintenance plus fixed charges	\$120.48

FILTRATION

1. Type of filters	Rapid Sand
2. Number of filter units	14
3. Capacity of filter plant	14 units @ 7.5=105 m.g.d.
4. Chemicals used	Ferri-Floc, Quicklime, Chlorine and Sod. Silicofluoride
5. Total water filtered during the year, gallons	14,882,434,000
6. Average quantity filtered per day, gallons	40,774,000
7. Total filtered water delivered to the distribution system during the year, gallons	14,761,310,000

*Supplying Providence, Cranston, Johnston, and portions of North Providence, Warwick, Smithfield, Coventry and West Warwick.

TABLE 58—Continued

SUMMARY OF STATISTICS PROVIDENCE WATER SUPPLY BOARD FOR THE YEAR ENDED SEPT. 30, 1958

STATISTICS RELATING TO DISTRIBUTING SYSTEM MAINS*

1. Kind of Pipe	Asbestos Cement, Cast Iron, Steel and Concrete
2. Sizes	From 6 to 66 inches
3. Extended during year (net)	40,388.92 feet
4. Discontinued during year	15,800.30 feet
5. Total now in use	737.74 miles
6. Number of leaks per mile	0.10
7. Length of pipes less than 6 inches in diameter	0
8. Number of hydrants added during year	52
9. Number of hydrants now in use	4,177
10. Number of stop gates added during year	152
11. Number of stop gates now in use	9,974
12. Number of stop gates smaller than 6 inches	0
13. Range of pressure on mains	14 to 95 pounds

HIGH PRESSURE FIRE SERVICE

Kind of Pipe	Cast Iron
Sizes	6, 8, 12, 16 and 24 inches
Extended during year (net)	0 feet
Discontinued during year	0 feet
Total now in use	12.83 miles
Hydrants added during year	0
Hydrants now in use	161
Stop gates added	0
Stop gates now in use	129
Number of blow-offs	0
Range of pressure on mains	94 to 130 pounds

SERVICES

14. Kind of pipe	lead, copper and cast iron
15. Size	$\frac{1}{2}$ inch to 16 inches
16. Number of service taps added during year	881
17. Number now in use	58,936
18. Number of meters added	1,981
19. Number of meters now in use	59,133
20. Percentage of services metered	99.9

*Not including high pressure fire service.

THE CITY OF PROVIDENCE

WATER SUPPLY BOARD

JOHN A. DOHERTY, CHAIRMAN

EARL H. ASHLEY

UGO RICCIO

JOHN J. TIERNEY

MICHAEL N. CARDARELLI, EX-OFFICIO

552 ACADEMY AVENUE

PROVIDENCE 8, R. I.

PHILIP J. HOLTON, JR.

CHIEF ENGINEER

JOHN T. WALSH

LEGAL ADVISOR

February 16, 1959

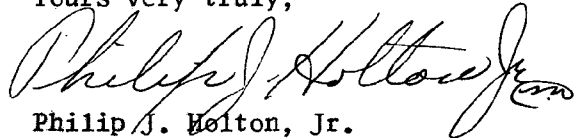
Mr. Everett Whelan
City Clerk
City Hall
Providence 3, R. I.

Dear Mr. Whelan:

At the meeting of the Water Supply Board held to-day, the Annual Report for the year ending September 30, 1958 was approved.

It is requested that this report be placed on the docket for the meeting of the City Council on Thursday, February 19th.

Yours very truly,



Philip J. Holton, Jr.

Chief Engineer

PJH/M

THE CITY OF PROVIDENCE

WATER SUPPLY BOARD

JOHN A. DOHERTY, CHAIRMAN

EARL H. ASHLEY

UGO RICCIO

JOHN J. TIERNEY

MICHAEL N. CARDARELLI, EX-OFFICIO

552 ACADEMY AVENUE

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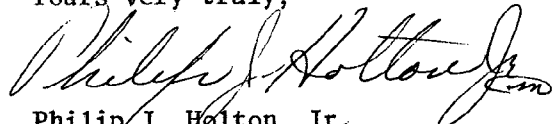
Mr. D. Everett Whelan
City Clerk
City Hall
Providence, Rhode Island

Dear Mr. Whelan:

I am enclosing copy of the Annual Report of the Water Supply Board for the fiscal year ended September 30, 1958, which has been signed by John A. Doherty, Chairman of the Board.

Thirty copies are being forwarded to your office for presentation to the members of the City Council at the next meeting on February 19th.

Yours very truly,


Philip J. Holton, Jr.
Chief Engineer

PJH/M
Encl.