



## TOWN OF BELLEVILLE, ESSEX COUNTY, NEW JERSEY.

Population — 1940 Census — 28,167.

**IN GENERAL:** Located on the west bank of the Passaic River north of and adjoining the City of Newark. It is a residential and industrial town with about 85 industries employing about 10,700. Area 3.3 square miles. Elevations range from 4 to 184 feet. Roads are mainly concrete and macadam in good condition. Several railroad crossings, a few severe grades, and traffic on main highways should not seriously interfere with the response and operation of fire department.

**WATER SUPPLY:** Water for domestic and fire protection purposes is furnished by the town which owns and operates the distribution system except for a comparatively small area in the southwestern portion which is owned and operated by the City of Newark from which system the entire town is supplied. **Organization:** System is under the supervision of the Director of Public Works and organization includes a superintendent, a clerk, a plumber, and 4 laborers. Superintendent responds to alarms of fire with a well-equipped truck. Records consist of general and detailed plans of the distribution system. However, records have not been brought up to date. **Supply Works:** The supply is purchased from the City of Newark. For details on supply works see National Board of Fire Underwriters' report on Water Supply Works of Northern New Jersey. There are several normally closed emergency connections with the Newark distribution system and with several transmission mains of the City of Newark as well as one small emergency connection with the Nutley distribution system. **Distribution System:** In two services; see map. The Belleville High Service is supplied by gravity from the mains of the City of Newark through a 12-inch metered connection to the 74-inch transmission mains from Wanaque Watershed and through two 8-inch metered connections with 36-inch and 42-inch transmission mains from the Pequannock Watershed. The Belleville Low Service is supplied through a 10-inch metered connection to a 24-inch gravity line from the Belleville Reservoir and through a pressure regulator on the 12-inch high service artery in William Street. There are also numerous division valves normally closed through which a supply from the high service is available and in emergency there is a closed connection to a 48-inch Kearny supply main in Holmes Street. The gridiron is somewhat irregular. **Consumption:** The average daily consumption during 1946 was 2,425 m.g.d. exclusive of that supplied to a small area directly from the City of Newark distribution system. To date there are approximately 7,000 services on the municipal system, all of which are metered. **Pipe:** All pipe is cast iron, tar coated, bell and spigot joint, laid with a 4-foot minimum cover. Total length, 308,790 feet; 0.3% 16-inch, 12.9% 12-inch, 9.6% 8-inch, 76.7% 6-inch, and 0.5% 4-inch. No trouble from frozen mains or electrolysis. **Gate Valves:** There are 1,062 valves mainly of A. P. Smith manufacture set in vaults or in iron boxes to grade. Approximately fifty valves open in a clockwise direction. There are no routine inspections made of valves at the present time. **Hydrants:** There are 569 hydrants of standard type with 6-inch branches with the exception of 3 which have 8-inch branches. Hydrants are mainly of Smith, Ludlow, and Mathews makes. Accurate statistics are not available, but about 80% of the hydrants have one 4½-inch and two 2½-inch outlets; about 17% have two 2½-inch outlets; 2% have one 4½-inch and one 2½-inch outlets, and 1% have four 2½-inch outlets. Hose outlets are 3 inches outside diameter with 8 threads per inch, and steamer outlets have National Standard threads. About 375 hydrants have gated branches. Hydrants are flushed and serviced annually. Those hydrants operated during flow tests were found to be in good condition. **Pressures:** Readings taken at 9 hydrants well distributed on the high service showed pressures ranging from 60 to 104 pounds with an average of 84 pounds. Readings taken at 2 hydrants on the low service showed pressures of 60 and 63 pounds with an average of 61.5 pounds. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured on May 19, 1938 by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow, and pressure during flow were as follows:

**High Service—**

Washington Ave. and William St., 2,110—104—75.  
 Washington Ave. and Van Houten Pl., 1,540—99—69.  
 Washington and Carner Aves., 600—94—56.  
 Little St. and Linden Ave., 1,560—84—47.  
 Greylock Parkway and Adelaide St., 1,620—60—30.  
 Mt. Prospect Ave. and Maier St., 940—65—37.  
 Mill St. and Montgomery Pl., 600—89—67.  
 Belleville and Hewitt Aves., 560—82—64.  
 Joralemon and Center Sts., 1,060—80—67.

**Low Service—**

Holmes and Cortlandt Sts., 1,730—60—42.  
 Little and Ralph Sts., 1,020—63—46.

**FIRE DEPARTMENT:** A paid and call department with 4 engine companies and one truck company. The department is under the general supervision of the Commissioner of Public Safety. Department manning consists of 32 paid men including a chief, 2 deputy chiefs, 4 captains, and 25 firemen and 23 call men. Appointments to the paid force are made under State Civil Service regulations. Full paid membership works on 10-hour and 14-hour shifts, alternating every third day. Off-shift men are required to respond on chain telephone call communication and records indicate that normal response from the off-shift platoon is 15 men. There is a minimum of 10 call members available during the day and a minimum of 18 at night. Fire department appropriation for 1948 was \$106,200 including \$4,500 for new equipment. **Companies—Headquarters:** Located at Washington and Division Avenues about one-half mile north of principal mercantile district. Building is a 2½-story brick and tile structure with concrete apparatus floor, asbestos shingle wood roof, steam heat, electric lights, 2 telephones and hose tower. Membership 17 including 2 deputy chiefs on alternate duty in addition to the chief officer on duty during the day. **Equipment—Engine Company No. 1:** One 1939 Ahrens-Fox 1,000-g.p.m. triple combination pumping engine carrying one 100-gallon booster tank, 200 feet of booster hose, 1,250 feet of 2½-inch hose, 400 feet of 1½-inch hose, one 30-foot extension ladder, and fairly complete minor equipment. One 1940 Oldsmobile coupe chief's car carrying considerable minor equipment. One 1939 Ford coupe is provided for service and inspection detail. **Engine Company No. 2:** One 1946 Seagrave 750-g.p.m. triple combination pumping engine carrying a 100-gallon booster tank, 200 feet of booster hose, 1,500 feet of 2½-inch hose, 800 feet of 1½-inch hose, one 30-foot extension ladder, and one 10-foot collapsible ladder, and fairly complete minor equipment. **Ladder Company No. 2:** One 1940 Seagrave 65-foot aerial ladder truck carrying 9 ladders ranging from 14 to 50 feet in length, totaling 210 feet, a 100-gallon booster tank and booster pump, a 2,500-watt flood light generator with two 500-watt flood lights, one 250-watt spot light, a life net, 1,200 feet of 1½-inch hose, 200 feet of booster hose, a ladder pipe, and fairly complete minor equipment. **Engine Company No. 5:** Apparatus in reserve assigned to this company consists of a Ford-Darley triple combination pumping engine with 500-g.p.m. front mounted pump and 150-gallon booster tank carrying 200 feet of booster hose, 900 feet of 2½-inch hose, 500 feet of 1½-inch hose, 2 short ladders, and fairly complete minor equipment. **Station No. 1:** Located on William Street near Washington Street one block west of the center of the principal mercantile district. Building is a 2-story brick structure with concrete apparatus floor, slag roof, steam heat, electric lights, telephone, hose tower, and fire alarm headquarters. Membership 10 including 2 captains. Equip-

ment—**Engine Company No. 4:** One 1942 Seagrave 500-g.p.m. triple combination pumping engine carrying a 100-gallon booster tank, 200 feet of booster hose, 1,250 feet of 2½-inch hose, 550 feet of 1½-inch hose, a deluge set, one 30-foot extension ladder, one 10-foot folding ladder, and fairly complete minor equipment. One Buick ambulance carrying emergency medical equipment and inhalator. **Station No. 3:** Located on Franklin Street near Magnolia Street in the Silver Lake Section about 2 miles west of the principal mercantile district. Building is a 2-story brick structure with concrete apparatus floor, slag roof, steam heat, electric lights, and telephone. Membership 4 paid men including a captain. **Equipment—Hose Company No. 3:** One 1931 Seagrave 600-g.p.m. triple combination pumping engine carrying a 100-gallon booster tank, 200 feet of booster hose, one 30-foot extension ladder, one 10-foot folding ladder, and fairly complete minor equipment. **Hose:** All 2½-inch hose is C.R.L. with New York type screw couplings. It is tested on delivery at 250 pounds and thereafter semi-annually at 200 pounds. There is a total supply of 10,150 feet, of which 5,800 feet is carried on the apparatus and 3,050 feet is in reserve at headquarters and 1,300 feet is in reserve at Station No. 1. Of the total supply 6,400 feet is more than 5 years old and 5,000 feet is more than 7 years old. Hose is shifted after use at fires and drills and dried in hose towers. **Operations:** Department is governed by printed rules and regulations issued in 1936 and being revised at time of inspection. The chief as executive head of the department has control of men, apparatus, and equipment and has power of suspension. General administration and discipline is good. **Drills and Training:** During seasonable weather weekly company drills are held in the use of all equipment with men rotating so as to have training in both engine and ladder company evolutions. Training program is hampered by lack of drill tower and training facilities. However, men appear to be well versed in modern fire methods and pump operation. **Fire Methods:** Booster streams are used on incipient fires supported by direct streams. Pumps are connected on orders. Gas masks, flood lighting equipment, heavy stream appliances and salvage equipment are provided and used to good advantage. **Response to Alarms:** Two engine companies and a ladder company respond to all first alarms at principal mercantile, industrial, and other high value districts and to school and institutional boxes. In the Silver Lake area the response includes the engine company from Station No. 3 and an engine and truck from headquarters. Second alarms call out the entire department, three whistles are sounded and the chain telephone communication is provided for calling off-shift and volunteer members. **Building Inspection:** All mercantile apartments, schools and industrial plants are inspected semi-annually by officers and men in rotation on their off-shift time. A complete ordinance was recently adopted by reference. Mainly complete notes with some sketches on standard inspection forms are kept on file. **Records and Reports:** Company fire reports are sent to headquarters daily. The chief keeps a well posted record of all fires and losses and submits a generally complete monthly report and annual report to the commissioner. **Fire Alarm System:** The fire alarm system is part of the fire department and is under the supervision of the Commissioner of Public Safety. It is maintained by the Town Signal Department operated by a superintendent and assistant with laborers as needed. Automobile trucks and a coupe are provided for general maintenance and repair work. Headquarters equipment is located in a small brick addition with concrete floor and plaster joisted ceiling at the rear of No. 1 fire station. Unprotected windows and communications with the fire station form moderate to severe exposures. Equipment is of the Gamewell automatic type and consists of a metal cabinet terminal board, four circuit slate charging and operating boards, a four-circuit repeater, an open circuit register, a low current relay for testing boxes and a ¼-h.p. motor generator set for use in emergency, or for overcharging. An interfering breakwheel transmitter with character wheels for each box is located on ground floor of fire headquarters. Circuits are protected at entrance to fire station by vacuum arresters and 3-ampere cartridge fuses, on terminal board by carbon block arresters, 3/10-ampere fuses and 3-ampere cartridge fuses, by ½-ampere enclosed fuses on switchboard and 3-ampere fuses on the battery rack. Inside wiring is in conduit. Current for operation of system is supplied by 4 oxide film rectifiers serviced from the 110-volt lighting circuit. There are four sets of batteries on standard mountings floating on rectifier. Each fire station has two gongs and a punch register on a box circuit. A compressed air whistle on a tower with pressure tanks in basement is located at Station 2 and a gong and indicator are at two factories where manually operated steam whistles are sounded. A gong and register are in residences of the superintendent and assistant superintendent and a gong is in the chief's residence. Police and fire headquarters each have a gong, register and transmitter. There are 69 Gamewell succession type fire alarm boxes; two of which are not accessible to the public. All boxes are on poles near street intersections. No special indicating lights are provided; red bands with aluminum strips are painted on poles. Box cases are grounded. Boxes are in good condition. There are four all metallic normally closed box circuits and one alarm circuit to which all box and alarm instruments are connected. Total length of box circuits is approximately 30 miles, of which most is overhead mounted on utility company poles below power wires and is No. 10 triple braid copper. Circuits tested daily for voltage and grounds, boxes tested monthly. Alarms of fire may be telephoned to fire headquarters. A reserved line connects special phones in fire alarm and police headquarters. Alarms are sounded by means of breakwheel transmitter.

**POLICE DEPARTMENT:** Consists of a chief, 2 deputy chiefs, 1 captain, 4 lieutenants, 4 sergeants and 33 men. An automobile truck, 7 cars, and 2 motorcycles are in service. Radio communication is provided and a 3-circuit Gamewell police telephone recall system has 19 boxes with a telephone and punch register at fire and police headquarters. Patrolman on beat responds to alarms of fire and reports unauthorized building construction to building inspector.

**BUILDING LAWS:** Code adopted in 1926 and since amended provides for the appointment of a building inspector, requires that application be made and plans and specifications in duplicate submitted and approved before permit is issued for construction or alteration of any building. The building laws, while containing some good regulations, are not sufficiently adequate to properly regulate building construction and are deficient in requirements for protection to exposed windows, vertical openings and openings in fire walls and for improved construction, and private fire protection. No fire limits are established and wood shingle roofs are not prohibited.

**FIRE PREVENTION LAWS:** Municipal regulations include an ordinance adopted July 22, 1947 providing for the enforcement of the fire prevention ordinance recommended by the National Board of Fire Underwriters, by the chief of the department or his authorized representatives. An oil burner ordinance adopted on December 23, 1935 is modeled on the standard regulations. General enforcement of the ordinances and control for hazardous materials and processes is effected under the supervision of the chief of the department. State laws adequately cover the storage and shipment of explosives, the transportation of flammables, and the construction of motion picture booths. They also restrict the discharge of fireworks to responsible bonded parties.