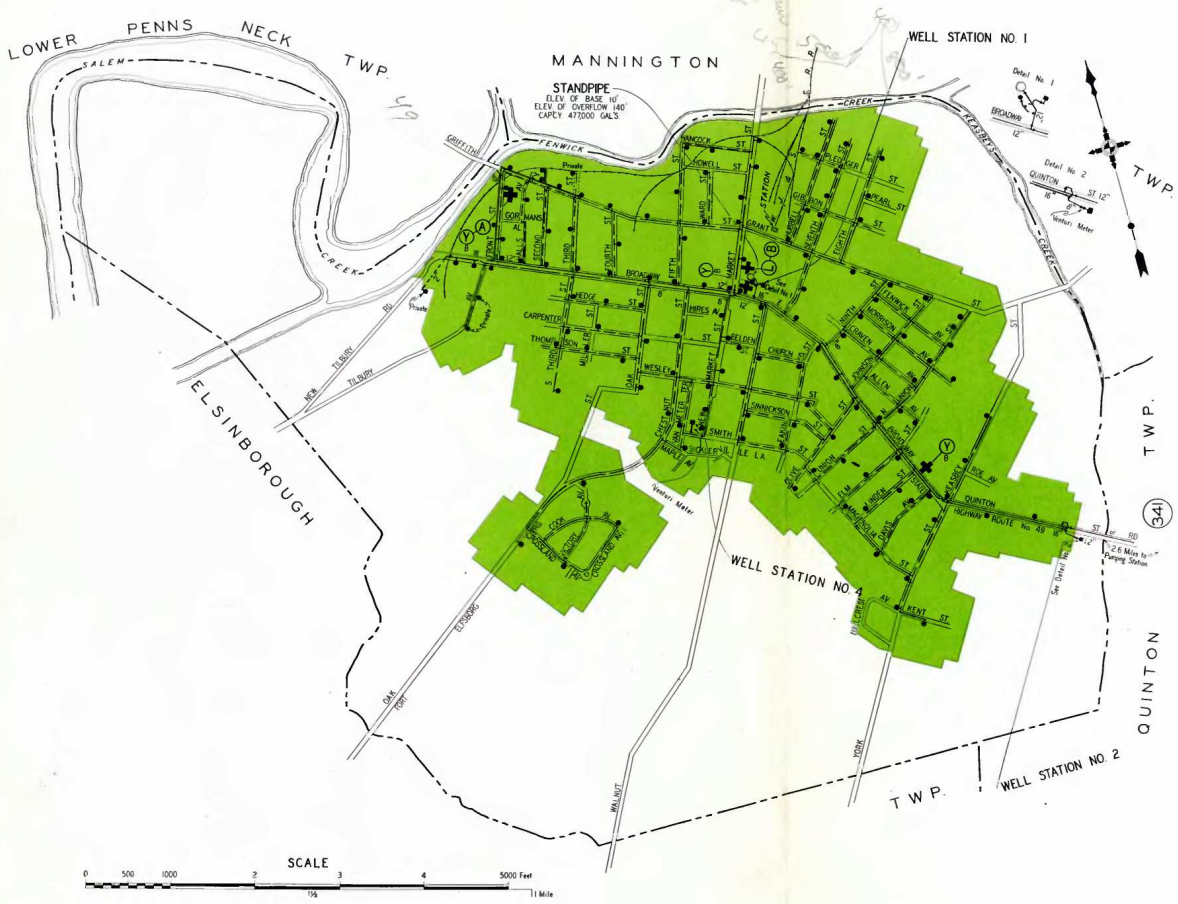
Superseding Map No. 233 of August 15, 1936. Please destroy old issue.



THE FIRE INSURANCE RATING ORGANIZATION OF N. J.
ENGINEERING DEPARTMENT
NEWARK 2, N. J.

City of Salem
Salem County, N. J.

MAY 31, 1949

KEY

PROTECTED FIRE ZONE: Shown in Green.
NOTE.—For description of fire protection, etc., see other side.

Elevations range from 0 to 16 feet above mean sea level.
Water mains 8 inches and larger in diameter
Water mains 6 inches in diameter
Water mains 4 inches in diameter
Fire hydrants shown thus
Gate valves shown thus
Fire house shown thus
Fire apparatus designated by symbols thus
(Y) *Automobile combination pumper and hose car*
(L) *Ladder truck*
(A) *Ambulance, Squad or Auxiliary car*
(B) *Booster car*
Booster tank or tanks on above

May 31, 1949.

CITY OF SALEM, SALEM COUNTY, NEW JERSEY.

Population—1940 Census—8,618.

IN GENERAL: Located on the West Jersey branch of the Pennsylvania Railroad along the Delaware River near the junction of Salem Creek, about 35 miles southwest of Camden. It is an old residential and industrial center with an extensive mercantile district and 2 manufacturing establishments normally furnishing employment for about 2,400. Area about 2 75 square miles, of which about 35% is marshland not subject to immediate development. The city is practically level with elevations ranging from 9 to 16 feet. Streets are mainly improved and in poor to good condition Railroad crossings at grade should not interfere with the response of fire apparatus, but traffic congestion could effect delays in department operations.

WATER SUPPLY: The city owns and operates the supply works, pumping stations, transmission main, and distribution system and furnishes water for domestic and fire protection purposes to Salem and a small area in Quinton east of the pumping station. **Organization:** The water department consists of a superintendent with considerable mechanical experience, appointed for a five-year term, and four pumping station operators. The superintendent maintains the system and makes extensions and repairs with laborers hired as needed. A consulting engineer is employed for major projects which are done under contract Office is in city hall on Market Street in the mercantile district. Storage yard is located at West Broadway, near Salem Creek, and a shop is provided at the pumping station. The superintendent is provided with a ½-ton Ford truck and responds to fire alarms with the necessary equipment for closing valves and making minor repairs. Records are incomplete and a suitable distribution map is available and details as to gate valve locations and direction of operation and general inspections are lacking. **Supply Works:** Built in 1881 and increased in capacity during 1923 and 1936. The snpply is obtained from Laurel Lake, which is supplemented by ponds forming a second reservoir on Deep Run, from a series of direct suction wells at the pumping station and from 3 direct operating Layne deep wells within the City of Salem. The Laurel Lake supply is pumped by low lift units from a concrete raw water well through an aerator to a coagulation basin whence it flows through rapid sand filters to clear water basins, and to clear water well High lift pumping units draft from the clear water well through independent suctions and discharge through about 2 6 miles of 12-inch transmission main to the City of Salem with a standpipe acting as an equalizer. The suction line to the larger high lift pump is also connected to a single well header on which the well vacuum is controlled by the water level in the clear water well. The Layne wells in Salem discharge directly to the distribution system. **Reservoirs:** Laurel Lake is located at pumping station in Quinton, about 3¾ miles southeast of Salem Court House, and is formed by an earth dam with a concrete spillway across a branch of Alloway Creek at about elevation 10. The spillway capacity is reported to be inadequate for the maximum run off and flood conditions are reported to have topped the dam to a depth of 6 inches The reservoir impounds about 500 million gallons over an area of about 1 4 square miles in a watershed of about 2.5 square miles with a minimum daily stream flow of about 0 70 million gallons. Elkinton Pond, House's Pond, and Cobb's Pond on Deep Run about 2 miles east of Laurel Lake constitute a reservoir which affords a secondary source of supply which is pumped on demand through 1,676 feet of cast iron force main and 808 feet of 16-inch Wyckoff wood stave gravity main to an open ditch, whence it follows a natural course to Laurel Lake. This reservoir is formed by a concrete dam with a spillway of adequate capacity which impounds about 200 million gallons at elevation 12 38 on a watershed of 8 5 square miles The daily conversion is limited by the state authorities and by pumping capacity to 2 0 million gallons which is less than the minimum daily run off **Quinton Wells:** Consist of twenty-one 6-inch, 8-inch, and 10-inch direct suction artesian wells 110 to 265 feet deep with an aggregate daily yield of about 0 70 million gallons **Salem Wells—Station No. 1:** Located in Salem center at standpipe. It is a 12-inch Layne well 140 feet deep with a guaranteed yield of 200 g p.m. operated by a Layne deep well turbine driven by a 20-h p. Fairbanks-Morse motor. Motor unit is weather protected, but no building is provided **Station No. 2:** Located on the southerly side of Quinton Street near the easterly municipal limits. It is a 12-inch Layne well 140 feet deep with a guaranteed yield of 500 g.p.m. operated by a Layne deep well turbine driven by a 50-h.p. Fairbanks-Morse motor. Unit is housed in a small brick well station and is equipped with a pressure regulating valve set at 70 pounds. **Station No. 4:** Located on the northerly side of Smith Street between Van Meter Terrace and New Market Street. It is a 12-inch Schultz well 150 feet deep with a guaranteed yield of 300 g p.m., operated by a Cook deep well turbine driven by a 20-h.p. U S. electric motor. Motor unit is weather protected, but no building is provided **Quinton Pumping Station and Filter House:** Built in 1881 Located at Laurel Lake in Quinton. Buildings are 1-story brick with asbestos covered wood roof, wood floor in pump room, electric lighting, and steam heating. Elevation of pump floor about 0. Protection consists of one hydrant with 2½-inch hose and one hand extinguisher. Housekeeping good. Exposure negligible. Oil and waste kept in standard cans. Telephone installed. Station is operated continuously in three shifts with one operator on each shift. **Pumping Equipment — Low Lift Units:** One 2.0-m.g.d. De Laval centrifugal pump driven by a 40-h p. Fairbanks-Morse diesel engine. One 2.304-m.g.d. Fairbanks-Morse centrifugal pump driven by a 20-h.p. Fairbanks-Morse electric motor. **High Lift Units:** One 2.0-m g d. 14-inch by 18-inch Aldrich triplex pump driven by a 120-h.p. Fairbanks-Morse diesel engine. One 1.5-m.g.d. Camden Iron Works centrifngal pump driven by a 100-h.p. Westinghouse motor. This latter unit is located outside station with motor housed in a small shed and is held in reserve. **Filters:** Located in similar building opposite the pumping station and consist of four rapid sand units under small head from the aerator with a by-pass arrangement allowing low lift units to discharge directly to the coagulating basin. The raw water well and clear water well are concrete with capacities of 85,000 gallons each A common suction line is provided for low lift pumps and high lift units have independent suction lines to the clear water well. The coagulating basin is a concrete rectangular structure with a capacity of 375,000 gallons **Elkinton Pumping Station:** Located below the reservoir dam about 2 miles east of the Quinton Pumping Station Building is medium area brick structure with slate roof. **Equipment:** One 2 0-m g.d. Lawrence centrifugal pump driven by a 30-h p. Fairbanks-Morse electric motor This unit is operated only on demand against about 20-foot head at a point where supply line tops the ridge between the two reservoirs **Transmission Main and Distribution System:** The transmission main consists of 2.6 miles of bell and spigot joint cast iron pipe which is in unreliable condition. Considerable trouble has been experienced from leaks and breaks where it crosses a marsh near the pumping station and where it lies under the main roadway, and a new 16-inch main from the city line to the standpipe. The distribution system is in one service of incomplete 4-inch and 6-inch gridiron with arterial reinforcement limited to the 12-inch and 16-inch transmission line which terminates at the standpipe and a single 8-inch line extending through the mercantile district The system is inadequately gated and existing valves are in such condition in some instances as to necessitate a complete shut-down for repairs and connections **Standpipe:** Located near Market Street and East Broadway in mercantile district as shown on map. It is steel 25 feet in diameter by 130 feet high with a capacity of 477 000 gallons Elevation of base about 10. **Consumption:** The average and maximum daily consumption during 1948 was 1.51 and 1 9 million gallons On December 31, 1948 there were 1,909 service connections in Salem and 7 in Quinton One hundred twenty-eight services are metered. **Pipe:** All cast iron, tar coated bell and spigot joint, laid with a 4-foot cover No trouble

CITY OF SALEM, SALEM COUNTY, NEW JERSEY.

Continued.

reported from frozen mains or electrolysis. Total length, exclusive of 12-inch transmission mains outside the municipal limits, 87,675 feet; 39 5% 4-inch, 38.8% 6-inch, 2 5% 8-inch, 13.2% 12-inch, and 6.0% 16-inch **Gate Valves:** There are 128 on the system of various makes. They are generally set with iron boxes at grade. Direction of operation is not uniform and records are incomplete. No regular inspections and condition is assumed to be fair to poor. The fire department is notified when valves are closed shutting hydrants out of service **Hydrants:** There are 136 on the system of Mathews, Darling, and Thompson makes. All have two 2½-inch outlets and 48 have one 4½-inch outlet in addition. All outlets have National Standard threads. About 50% have 6-inch barrels and gated branches and balance are 4-inch with ungated branches Hydrants are inspected semi-annually and at time of inspection they were found in fair to good condition with numerous old installations needing replacement. **Pressures:** A direct reading gauge in Quinton Pumping Station at about elevation 20 shows pressures of 75 pounds with one 2 0-m g.d unit operating and 50 pounds with station idle. A similar gauge in water department office in mercantile district shows a pressure of 50 pounds. Readings taken at 7 well distributed hydrants showed pressures ranging from 40 to 46 pounds with an average of 43 pounds. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured on January 25, 1949 by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow, and pressure during flow were as follows:

Broadway and Market St., 1,680—43—33.
Griffith St. opposite 4th St., 740—41—34.
Broadway W. of Tilbury Rd., 580—41—20.
Oak St. S. of Crossland Rd., 340—43—6.
York St. opposite Kent St., 250—46—2
Keasbey St. 725 ft. N E of Roe Ave., 310—44—*.
Pledger and Hubbell Sts., 340—40—7.

*No reading taken.

Other Water Supply Available to Mercantile District: There are 5 fire cisterns under streets and sidewalks in the district which range in capacity from 10,000 to 16,000 gallons. These are supplied by rain water from roofs and are said to be maintained at a high level at all times. In addition Fenwick Creek normally affords an emergency supply to the fire department engines at a location about 2,500 feet north of the district center.

FIRE DEPARTMENT: A volunteer organization of four companies under the control of the city which owns houses, apparatus, and equipment and appropriated $5,500 for the support of the department in 1948. Total active membership 138 including a chief, 4 battalion chiefs, 4 captains, and 8 lieutenants A minimum of 80 members are available at all times. Chief officers are elected every two years and company officers are elected annually. Selections in all instances are confirmed by the governing body. **Companies—Union Company No. 1:** Company strength 30 members. Located on East Broadway east of Market Street. Building is a 2-story brick structure with metal roof, wood apparatus floor, hot air heat, electric lights, overhead doors, and telephone. **Equipment:** One 1935 Ahrens-Fox 750-g p m. triple combination pumping engine carrying a 100-gallon booster tank, 200 feet of booster hose, 750 feet of 1½-inch hose, 750 feet of 2½-inch hose, 3 short ladders, 3 gas masks, one 2-way deluge set, 1 mechanical foam nozzle, and good minor equipment. **North Bend Hose Company:** Company strength 50 members Located on east side of Front Street 300 feet south of Griffith Street. Building is a 2-story cinder block and brick structure with concrete apparatus floor, tin roof, oil-fired steam heat, hose tower, electric lights, and telephone. **Equipment:** A 1939 American La France 600-g p m. triple combination pumping engine carrying a 200-gallon booster tank, 200 feet of booster hose, 300 feet of 1½-inch hose, 1,000 feet of 2½-inch hose, 3 short ladders, 1 gas mask, 1 distributor, one 2-way deluge and good minor equipment. A 1948 G.M.C. emergency truck carrying 1 salvage cover, 1 gas mask, 1 inhalator, and meager minor equipment. **Liberty Fire Company No. 2:** Company strength 29 members. Located on Market Street north of Broadway. Building is 3-story brick with metal roof, concrete apparatus floor, steam heat, electric lights, and telephone. **Equipment:** A 1939 Ahrens-Fox ladder truck carrying ladders ranging from 10 to 55 feet and totaling 251 feet, 7 salvage covers, 1 foam generator, 1 oxygen mask, and good minor equipment. A 1948 Dodge booster truck carrying a 430-gallon tank, 500 feet of booster hose, 2 short ladders, 5 gas masks, 1 salvage cover, and meager minor equipment **Washington Fire Company No. 3:** Company strength 29 members. Located on East Broadway opposite Linden Street. Building is a 2-story brick structure with metal roof, concrete apparatus floor, stove, hose rack, electric lights, and telephone. **Equipment:** A 1939 American La France 600-g.p m. triple combination pumping engine carrying a 200-gallon booster tank, 200 feet of booster hose, 200 feet of 1½-inch hose, 1,100 feet of 2½-inch hose, 3 short ladders, 1 gas mask, 2 salvage covers, and fair minor equipment. **Hose:** All 2½-inch hose is C.R.L. with National Standard screw couplings. The total supply is 6,500 feet. Hose is tested and repacked in part at monthly drills at 150 to 200 pounds with open nozzles and about 70% of the total supply is over 5 years old. Two hose racks are provided. **Operations:** Department is governed by city ordinance and company by-laws Chief has full control of apparatus and of men at fires and drills. There are four to five appointed drivers in each company. Motors are started daily. **Drills and Training:** The department attends a county fire school and companies drill monthly under the chief officers. Drills consist of hose laying, pump operation, and some ladder work. **Fire Methods:** Chemical and booster streams are used on incipient fires, supported by engine streams with shut-off nozzles. There are 12 suitable gas masks and 12 salvage covers provided. Heavy stream appliances are limited to two delnge sets. **Response to Alarms:** The entire department responds to all city alarms and aid is secured from and rendered to volunteer departments at Pennsville, Penns Grove, and Woodstown at a distance of 6 to 10 miles. **Building Inspection:** The chief of the fire department or an appointed police officer make semi-annual inspections of mercantile occupancies and public buildings in the business district and annual inspections in the outlying areas Inspections are required by ordinance which gives fire chief jurisdiction of rubbish accumulation and burning, explosives and flammables, and general hazards. **Records and Reports:** Records are limited to time and nature of alarm and attendance. Annual reports are made to the mayor and council. **Fire Alarms:** Telephoned through local exchange in a fire-resistive building in the mercantile district to the police desk where there is someone on duty 24 hours a day. Alarms are sounded on 5 sirens located throughout the city.

POLICE DEPARTMENT: Consists of a chief, 10 patrolmen, and 5 special officers, 4 of whom are on duty at all times One car is provided with two-way radio, and answers all fire calls.

BUILDING LAWS: Fire limits have been established including a limited area in the center of the city and an ordinance adopted February 22, 1932 requires noncombustible roofs throughout the city. In general the regulations are entirely inadequate.

FIRE PREVENTION LAWS: An ordinance adopted April 14, 1919 authorizes and requires inspections by the fire chief, prohibits the accumulation of rubbish and requires permits issued by the fire chief for the manufacture, use, transportation, and storage of explosives and flammables and for the making of bonfires. In general the regulations are inadequate 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.

ZONING ORDINANCE: None.