











- KEY**
- PROTECTED FIRE ZONE: Shown in Green.
- Note.— Fire protection report on file in Engineering Department of F. I. R. O. of N. J.
- Elevations range from 0 to 237 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:
-  Pumping engine and hose car
  -  Ladder truck
  -  Booster tank or tanks on above
  -  Chemical tank or tanks on above

**STANDPIPES**  
 ELEV. OF BASES 180'  
 ELEV. OF OVERFLOWS 210'  
 CAP'CS. 158,640 AND 228,225 GAL'S

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

**Highlands Borough**  
**Monmouth County, New Jersey**

FEBRUARY 15, 1951

## HIGHLANDS BOROUGH, MONMOUTH COUNTY, NEW JERSEY.

Population — Census of 1940 — 2,076. Summer estimate — 6,000.

**IN GENERAL:** A seashore community on the Shrewsbury River and Sandy Hook Bay between Atlantic Highlands and Sea Bright. There are 2 railroad stations on the Central Railroad of New Jersey. No manufacturing. Area, about 0.8 square miles. Elevations range from 0 to 237 feet. Main thoroughfares are paved, others are gravel in good to poor condition. Railroad crossings at grade are reported as not having interfered with the response of fire apparatus.

**WATER SUPPLY:** Borough owns supply works and distribution system and furnishes water for domestic and fire protection purposes to the borough only. **Organization:** The system is in charge of a pumping station supervisor and a water supervisor. The pumping station supervisor operates the pumping station with two assistants. Laborers are hired as needed. The pumping station supervisor also has charge of the sewage disposal plant. A truck and some small supplies are available. Records are not complete and up to date. **Supply Works:** Built in 1908. Supply is obtained from 3 deep wells, one 687 feet deep with a 7-inch casing and a yield of 275 g.p.m., one 213 feet deep with a 3-inch casing and a yield of 60 g.p.m., and one 263 feet deep with a 4-inch casing and a yield of 175 g.p.m. Water is raised from these wells by 3 deep well pumps which discharge into two 500-g.p.m. slow sand filters, whence it flows by gravity to a suction basin and is pumped from there, by means of 2 high lift pumps, into the distribution system with the 2 standpipes acting as equalizers. **Pumping Station:** Located on Miller Street as shown on map. Elevation of floor about 20 feet. Building is a 1-story frame structure with exposed wood roof covered with composition shingles, a concrete floor, telephone, electric lights, and a coal stove for heat. No hand protection. Exposures negligible. Housekeeping good. **Equipment:** A single stage 500-g.p.m. Worthington centrifugal high lift pump driven by a 50-h.p. Westinghouse induction motor. One 500-g.p.m. single stage Fairbanks-Morse high lift centrifugal pump driven by a 50-h.p. Fairbanks-Morse induction motor. One Fairbanks-Morse-Price 275-g.p.m. deep well pump driven by a 20-h.p. Fairbanks-Morse 20-h.p. induction motor. One Fairbanks-Morse-Price deep well pump of 60-g.p.m. capacity driven by a 5-h.p. Fairbanks-Morse induction motor. One Fairbanks-Morse-Price deep well pump of 175-g.p.m. capacity driven by a 10-h.p. Fairbanks-Morse induction motor. The last 2 pumps are each located in 1-story stuccoed frame buildings with composition roofs just outside of pumping station. **Distribution System:** In one service. See map. All mains are either 6-inch or 4-inch. There are many long unsupported dead ends. Arteries and gridiron are poorly laid out. **Standpipes:** There are 2 located as shown on map. The bases are at about elevation 180 feet. They are both steel, one 36 feet in diameter by 30 feet high, the other 30 feet in diameter by 30 feet high. The larger one has a capacity of 228,225 gallons and the smaller one a capacity of 158,640 gallons. **Consumption:** The average and maximum daily consumption during 1944 was 0.45 and 0.60 m.g.d. There are 1,185 services, 10% of which are metered. **Pipe:** Cast iron, tar coated, bell and spigot joint, laid with a 4-foot cover. No trouble reported from frozen mains or electrolysis. Total length, 38,050 feet; 41.4% 6-inch and 58.6% 4-inch. **Gate Valves:** There are 30 of various makes, the majority being Kennedy, set in iron boxes at grade. They are operated semi-annually. Direction of operation is uniform. **Hydrants:** There are 61 of Mathews and Kennedy makes. They are all of standard type; 9 of them have two 2½-inch outlets and 4-inch or 6-inch barrels, while the balance have two 2½-inch outlets, one 4½-inch outlet, and 4-inch or 6-inch barrels. About 90% are gated. All outlet threads are National Standard. They are inspected semi-annually and were found to be in fair condition at time of inspection. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured on July 22d, 1936 by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow, and pressure during flow were as follows:

Bay Ave and Miller St, 676—94—24

Portland Rd and Hillside Ave, 119—80—5

Bayside Dr and Willow St, 252—79—14.

**FIRE DEPARTMENT:** A volunteer organization under the control of the borough which owns quarters, apparatus, and equipment and makes an annual appropriation for the support of the department. Total active membership 50 including 15 who are in the service. Officers include a chief, assistant chief, 2 captains, and 2 lieutenants who are elected annually and confirmed by the mayor and council. An average of 15 men are available during the day and 28 during the night. All apparatus except the 1921 Mack 500-g.p.m. engine is housed in fire house located at the corner of Valley and Bay Avenues. The 1921 Mack is housed in a garage near the corner of Valley Avenue and State Highway No. 36. The fire house is a 2-story frame structure with concrete apparatus floor, wood shingle and composition covered wood roof, steam heat, electric lights, and telephone located in the police department section of the building. **Equipment:** One 1942 Mack 750-g.p.m. triple combination pumping engine carrying a 150-gallon booster tank, 150 feet of booster hose, 1,200 feet of 2½-inch hose, 2 short ladders, and good minor equipment. One 1929 American La France 500-g.p.m. triple combination pumping engine carrying a 100-gallon booster tank, 150 feet of booster hose, 1,000 feet of 2½-inch hose, 400 feet of 1½-inch hose, 2 short ladders, and good minor equipment. One 1921 Mack 500-g.p.m. triple combination pumping engine carrying a 200-gallon booster tank, 800 feet of 2½-inch hose, 150 feet of booster hose, 2 short ladders, and a small amount of minor equipment. This engine is kept in reserve. One 1923 Mack city service ladder truck carrying a 35-gallon chemical tank, 150 feet of chemical hose, ladders ranging from 12 feet to 50 feet, totaling 206 feet, and considerable minor equipment. **Hose:** All 2½-inch hose is C.R.L. with National Standard screw couplings. It is tested annually at 200 pounds. It is shifted only at fires and drills. There is no reserve hose and no hose drying facilities are provided. **Operations:** Chief has control of apparatus at all times and of men at fires and drills. He has power to suspend members and prefer charges to the borough council. There are 10 appointed drivers. Motors are started at least twice each week. **Drills and Training:** At least 12 drills a year are held under the direction of the chief officers. They consist of pump operation, hose laying, ladder raising, and use of equipment. **Fire Methods:** Chemical or booster streams are used on small fires supported by engine and hydrant lines with shut-off nozzles. Six salvage covers, 6 all-service gas masks, and a deluge set are provided. **Response to Alarms:** Entire department responds to all alarms. Outside aid may be secured from Atlantic Highlands, Sea Bright, and Middletown Township under the Monmouth County cover-up system. **Building Inspection:** The fire chief, who is designated as the fire prevention inspector, makes inspections of all mercantile buildings. **Records and Reports:** Good records of all fires are kept in standard fire department log and an annual report is made to the mayor and council. **Fire Alarms:** Alarms of fire are telephoned to the borough hall or police department during the day. At night they are telephoned to police department and County Police Radio Station at Freehold. Alarms are then sounded on siren at fire house.

**POLICE DEPARTMENT:** Consists of a chief and 3 paid men with one man on duty at all times. Six special officers are available. A police car is provided with one-way radio tuned to the county police radio at Freehold.

**BUILDING LAWS:** A building code was adopted April 25th, 1944 which generally follows the Code of Suggested Ordinances for Small Municipalities. Some important items such as wall thicknesses and limits of heights and area were not covered, but may be covered in an ordinance to be adopted later. Fire limits have been established covering the entire borough, and wood shingle roofs are prohibited.

**EXPLOSIVES AND FLAMMABLES:** A fire prevention ordinance was adopted April 11th, 1944 which generally follows the fire prevention ordinance of the suggested code for small municipalities. The state laws adequately cover the storage and shipment of explosives and flammables and the construction of motion picture booths. They also restrict the discharge of fireworks to responsible bonded parties.