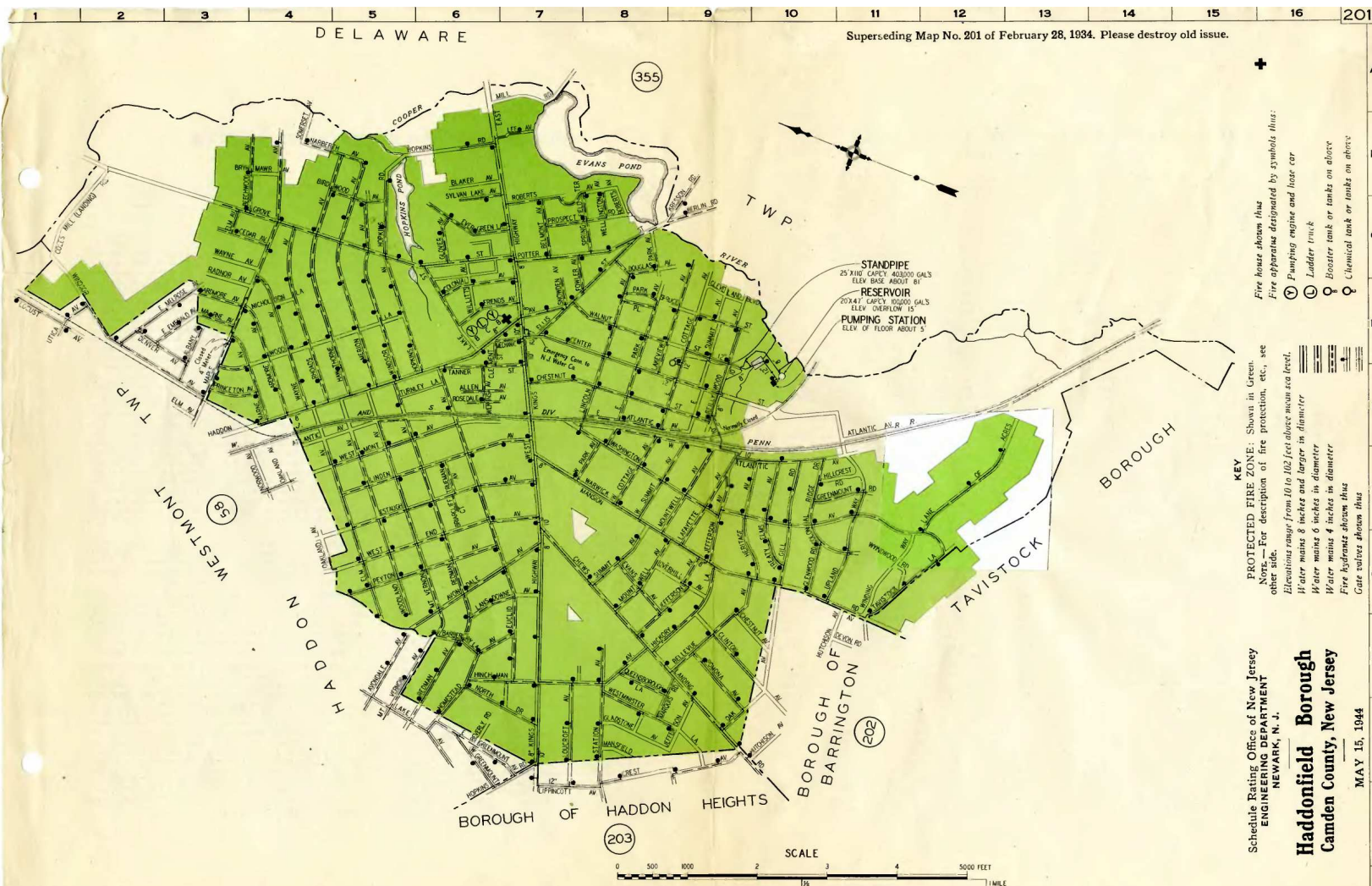


DELAWARE

Superseding Map No. 201 of February 28, 1934. Please destroy old issue.

201



Schedule Rating Office of New Jersey
ENGINEERING DEPARTMENT
NEWARK, N. J.

Haddonfield Borough
Camden County, New Jersey

MAY 15, 1944

May 15, 1944.

HADDONFIELD BOROUGH, CAMDEN COUNTY, NEW JERSEY.

Population — Census of 1940 was 9,742.

IN GENERAL: Located along Kings Highway on the Pennsylvania-Reading Seashore lines about 6 miles southeast of Camden. It is a substantial residential community with a few small industries employing about 200. Area about 3 square miles. Elevations range from 10 to 102 feet. There are about 36 miles of streets, all of which are paved and in good condition. The railroad effects some segregation with one main crossing and 4 secondary crossings at grade. One underpass near the southerly limits would allow access to that area in the event of blocked crossings. Other features are such that, except for some traffic congestion in the business district, there should be no undue delays in the response and operation of the fire department.

WATER SUPPLY: The borough owns and operates the supply works, distribution system, and appurtenances, supplying water for domestic and fire protection purposes to the major portion of Haddonfield. The New Jersey Water Company supplies about 4.7% of the domestic services in the borough and provides a supplementary source of supply through an emergency connection in Kings Highway in the business district. This system consists primarily of parallel 10-inch and 6-inch lines in the Kings Highway extending from two standpipes in Haddon Heights adjoining the southwesterly borough limits. The distribution system consists of 4- and 6-inch mains carrying 14 fire hydrants which are not normally used, but would be available in emergency. **Municipal Water Department—Organization:** The municipal system is under the control of the mayor and commissioners and is in charge of a competent superintendent. Water department employees include 3 pump operators, 1 meter reader, 2 laborers, a pumping station night watchman and a clerk with office in the borough hall who serves the water and sewer departments. Employees are appointed annually and serve at the pleasure of the mayor and commissioners. There is a supply yard and shop at the pumping station and one department truck is provided. Other borough trucks are available for emergency work. The superintendent and employees perform all duties; additional laborers are hired as needed. Major improvements are installed under the supervision of a consulting engineer. Water department employees are prepared to respond to alarms of fire and the superintendent is notified of serious fires and reports to the pumping station. Alarms are received at department quarters by telephone. Records are fairly complete consisting of sectional distribution maps and operating data. **Supply Works:** Built in 1919 and subsequently improved. Water is obtained from 4 deep wells with an aggregate yield of about 35 m.g.d. through 4 low lift turbine pumps. Well pumps discharge through aerators to a concrete settling basin with a capacity of 203,000 gallons and a suction reservoir of 100,000 gallons, from which the high lift pumps take suction and discharge through 5 Hodgkinson rapid sand pressure filters, each rated at about 0.60 m.g.d., to the distribution system with a standpipe acting as equalizer and providing storage. Piping arrangement is such that the filters could be bypassed in emergency. **Well Station No. 1:** Located under the floor of the suction reservoir at pumping station. It is 12 inches in diameter, 230 feet deep, with a capacity of 600 g.p.m. Equipment is of weatherproof type and consists of one 800 g.p.m. Cook deep well turbine driven by a 40-h.p. electric motor mounted on concrete roof of suction reservoir. **Well Station No. 2:** Located near bank of Cooper Creek. It is 12 inches in diameter, 245 feet deep with a capacity of 550 g.p.m. Pump is housed in a small area frame building with composition covered wood roof, concrete floor and electric lights. No heat or hand protection provided. Mild exposure from surrounding woods. Wiring in conduit. Elevation of floor about 60 feet. Equipment consists of a 550-g.p.m. Cook deep well turbine driven by a 20-h.p. G. E. electric motor. **Well Station No. 3:** Located near pumping station in a pump house with conditions similar to Station No. 2 with floor at elevation 60. It is 8 inches in diameter, 222 feet deep

with a capacity of 550 g.p.m. Equipment consists of a 550-g.p.m. Worthington deep well turbine driven by a 20 h.p. G. E. electric motor. **Well Station No. 4:** Located north of the pumping station in a pump house with conditions similar to Station No. 2 with floor at elevation 80. It is 12 inches in diameter, 245 feet deep, with a capacity of 750 g.p.m. This well was being reconditioned at time of inspection due to excessive sand pumping. Equipment consists of one 750-g.p.m. Cook deep well turbine driven by a 40 h.p. G. E. electric motor. **Pumping Station:** Located at foot of Walnut Street along the Cooper River at the south end of the borough, as shown on map. Building is a moderate area brick structure with 50% concrete and 50% slate roof on boarded steel trusses, concrete floor, electric lights, and oil fired steam heat with supplementary heating by electricity and Diesel engine exhausts. Hand protection consists of one 15 pound CO₂ extinguisher. Wiring is well installed in conduits. Housekeeping and general condition good. Elevation of pump room floor about 5 feet. Communications between pump room, engine room, and office are unprotected. **Equipment:** Power is supplied by 2 Diesel powered generators; one is a 130-k.w. Allis Chalmers AC generator driven by a 200-h.p. DeLavernne Diesel engine; the other is a 175-h.p. Allis Chalmers AC generator driven by a 250 h.p. DeLavernne Diesel engine. Starting is by compressed air by a small 5-h.p. electrically powered compressor for which no standby electric service is provided. High lift pump consists of one Pennsylvania, 200-g.p.m. at 231 feet, single stage centrifugal pump driven by a 100-h.p. G. E. electric motor, one Pennsylvania, 800 g.p.m. at 248 feet, 2 stage-centrifugal pump driven by a 75 h.p. G. E. electric motor, and one Pennsylvania, 600-g.p.m. at 231 feet, single stage centrifugal pump driven by a 50-h.p. G. E. electric motor. Pumps take suction from a single 18 inch gated header. The smaller Diesel powered generator can operate the 800 g.p.m. and 600 g.p.m. high lift pumps and sufficient low lift pumps to supply them. The larger Diesel powered generator can operate the 1,200 g.p.m. and 600-g.p.m. high lift pumps and sufficient low lift pumps to supply them. No standby electric service, except for lighting, is provided. Fuel oil is stored outside pumping station in three 6,000-gallon above ground tanks installed in a concrete dike of adequate capacity. **Distribution System:** In one service consisting of 12- and 10-inch supply mains with two 8 inch arteries connecting with incomplete 4- and 6-inch gridiron and dead end mains. There is a double gated 8-inch normally closed emergency connection at Center Street and Kings Highway between the 10 inch New Jersey Water Company main in Kings Highway and the 12-inch Haddonfield main in Center Street at Kings Highway. Pressures on the New Jersey Water Company system at this location are about 15 pounds below that carried in Haddonfield, and it is estimated that this supply would be limited to a rate of about 1.25 m.g.d. under reduced pressures. See map. **Standpipe:** Located on East Cottage Avenue between Walnut and Center Streets as shown on map. It is steel, 25 feet in diameter, 110 feet high, with a capacity of 403,000 gallons. Elevation of base 81 feet. Elevation of overflow 191 feet. **Consumption:** The average and maximum daily consumption during 1943 was 0.722 and 0.98 million gallons. At time of inspection there were 2,968 services, all of which are metered. **Pipe:** All cast iron, tar coated, bell and spigot joint, laid with about a 4-foot cover. No trouble reported from frozen mains or electrolysis. Total length on municipal system, 182,300 feet; 2.5% 12-inch, 2.9% 10 inch, 63% 8 inch, 43% 6-inch, and 45.3% 4-inch. **Gate Valves:** There are 317 on the system mainly of Darling make set with iron boxes at grade. With the exception of 4 valves, the direction of operation is uniform. Inspection is limited to that necessitated by system maintenance. Fire department is notified when valves affecting hydrant supply are operated. **Hydrants:** There are 238 on the system mainly of Darling make of standard type, all of which have two 2½-inch outlets and 4- or 6-inch branches. About 20% have one additional 4½ inch outlet with gated branches. The hy-

HADDONFIELD BOROUGH, CAMDEN COUNTY, NEW JERSEY.

Continued.

drant outlets on the Haddonfield system are National Standard. The New Jersey Water Company hydrants in Haddonfield have 2½-inch outlets with 3 1/16 inches outside diameter and 7 threads per inch, and the large outlets are 5-9/16 inches outside diameter with 7 threads per inch. Municipal hydrants are inspected at least annually and were found to be in good condition at time of inspection. **Pressures:** Recording gauge and direct reading pressure gauge are located in the pumping station at about elevation 80. The recording gauge was not in use at time of inspection but the direct reading gauge showed 78 pounds with a full standpipe. Readings taken at 12 well distributed hydrants showed pressures ranging from 37 to 68 pounds with an average of 56.4 pounds. **Fire Flow Tests:** Probable supply available for fire protection purposes was measured on March 22d, 1944 by means of Pitot tube. Location of hydrant, discharge in gallons per minute, pressure before flow, and pressure during flow were as follows:

Kings Highway and Mechanic St., 1,120—57—48.
Warwick Rd. and Jefferson Ave., 820—46—32.
Tavistock La. and Warwick Rd., 400—37—5.
Chews Landing Rd. and Oak Ave., 530—43—18.
North Dr. and Homestead Ave., 750—58—7.
Westmont and Woodland Aves., 580—60—25.
Grove St. and Beechwood Ave., 280—64—11.
Maple Ave., 1,150 feet E. of Grove St., 120—67—*.
Grove St. and Maple Ave., 500—62—19.
Narberth and Somerset Aves., 140—68—*.
Haddon Ave. near Marne Ave., 630—59—17.
Prospect Rd. and Springfield Ter., 340—56—26.

*No reading taken.

FIRE DEPARTMENT: A part paid and volunteer organization of one company under the control of the borough which owns house, apparatus and equipment and appropriated \$10,450 for the support of the department during 1944. There is a full paid chief and 2 full paid men working 8-hour shifts with a total active volunteer membership of 60 including an assistant chief, captain, and 4 foremen, of whom a minimum of 15 men are available at all times. Paid men have one full day off each week. In addition, as a temporary measure, 2 volunteer members, selected in rotation, sleep at the fire station, and one paid relief man is on duty during time off. Appointments to the paid force are made by the governing body, and volunteer officers are elected annually by the company and confirmed by the commissioners. **Company—Haddonfield Fire Company No. 1:** Located on Haddon Avenue near Kings Highway as shown on map. **Buildings:** A 2-story frame structure with a metal covered wood roof, concrete apparatus floor, electric lights, steam heat, 3 telephones, and an air whistle and tower bell on roof. **Equipment:** One 1920 American La France city service ladder truck carrying 8 ladders ranging from 12 to 40 feet, totaling 204 feet, one 40-gallon chemical tank, which is out of service, 700 feet of 2½-inch hose, 4 salvage covers, and good minor equipment. One 1924 Hale 600-g.p.m. triple combination pumping engine carrying a 150-gallon booster tank, 200 feet of booster hose, 1,050 feet of 2½-inch hose, 200 feet of 1½-inch hose, a deluge set, and good minor equipment. One 1941 Diamond T Hale 500 g.p.m. triple combination pumping engine carrying one 200-gallon booster tank, 200 feet of booster hose, 800 feet of 2½-inch hose, 200 feet of 1½-inch hose, 2 short ladders, and fair minor equipment. In addition there are 2 borough owned 500-g.p.m. trailer pumping engines and 2 O.C.D. units, one of which is a standard trailer and one of which is a skid unit mounted on a borough owned trailer; each carry 500 feet of 2½-inch hose, 300 feet of 1½-inch hose, and standard equipment. Borough trucks are equipped with trailer hitches and borough owned ambulance is maintained by the fire department in fire station. **Hose:** All 2½-inch hose is C.R.L. with Jones snap couplings and threaded adapters. No adequate drying facilities provided. Hose is shifted at least monthly and after use.

There is a total supply of 4,200 feet, all of which is carried on the apparatus. Hose is tested in part at drills at 150 pounds and of the total supply about 45% is more than 5 years old. **Operations:** Department is governed by a municipal ordinance and company by-laws. Chief has full control of apparatus and paid men at all times and of volunteers at fires and drills. Motors are started daily. Equipment is maintained by the paid men and there are 16 appointed drivers. **Drills and Training:** Company drills are held monthly under the supervision of the chief officer. They consist of pump operation, hose and ladder work, and use of appliances. **Fire Methods:** Booster streams are used on incipient fires supported by hydrant and engine lines with shut-off nozzles. Four salvage covers and gas masks are provided and heavy stream appliances consist of a deluge set and cellar distributor. **Response to Alarms:** All apparatus responds to first alarms within the borough, and substantial aid may be secured from the surrounding volunteer departments in Haddon Township, Haddon Heights, and Audubon at one to two miles distant, and from the paid department in Camden about 6 miles distant. **Building Inspection:** There is a borough fire marshal and the fire chief serves as the assistant fire marshal and makes semi-annual inspections of industrial and mercantile establishments, and quarterly inspections of schools. Inspections are not sufficiently comprehensive and records are incomplete. **Records and Reports:** Records are fairly complete and consist of a log book including nature of alarms, estimated losses, equipment used, and attendance. Fire chief reports monthly to the company and annually to the borough commissioners. **Fire Alarms:** Fire alarms are telephoned to the fire station or police headquarters in the borough hall, and are sounded on air whistle or tower bell from controls at fire station. Telephone service at fire station consists of 3 phones, 2 of which are on the Bell system and one on the Keystone system. The Bell Telephone Company Exchange is located in the borough in a modern fire resistive building. In addition 28 street fire and police telephone boxes are available for fire alarm transmission and are connected to a private switchboard at police headquarters where constant desk watch is maintained.

POLICE DEPARTMENT: Consists of a chief, lieutenant, 2 sergeants, and 16 patrolmen working in 8-hour shifts. Two radio equipped police cars are provided. Patrolmen report at half-hour intervals by radio and street boxes. Patrolmen respond to alarms of fire and report unauthorized building construction.

BUILDING LAWS: Building code, adopted September 28th, 1922, provides for the appointment of a building inspector and requires that permits be secured prior to building operations. The code embodies a few general construction requirements but is seriously inadequate from a fire protection standpoint. Fire limits are not established, but buildings within 10 feet of other buildings or property lines must be covered with non-combustible material.

EXPLOSIVES AND FLAMMABLES: Local regulations consist primarily of miscellaneous ordinances including one adopted February 7th, 1916 requiring permits for the storage of explosives, a fire prevention ordinance adopted September 1st, 1936 establishing a bureau of fire prevention and delegating authority for the inspection of premises and the elimination of hazardous conditions to the fire marshal and assistants, an ordinance adopted March 17th, 1936 embodying recommended regulations governing the storage of flammable liquids, and an ordinance adopted February 2d, 1943 regulating the use, storage and sales of miscellaneous hazardous materials. In general the regulations are not sufficiently comprehensive from a fire protection standpoint. 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.

ZONING ORDINANCE: Adopted May 16th, 1939.