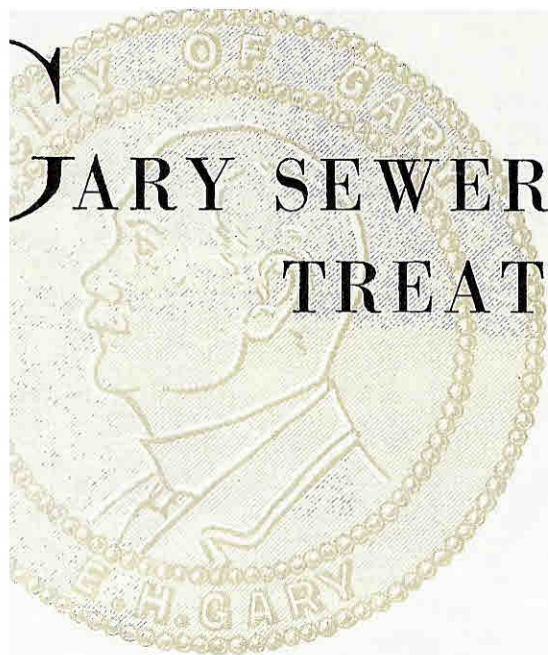


Gary SEWERS AND SEWAGE
Treatment Project



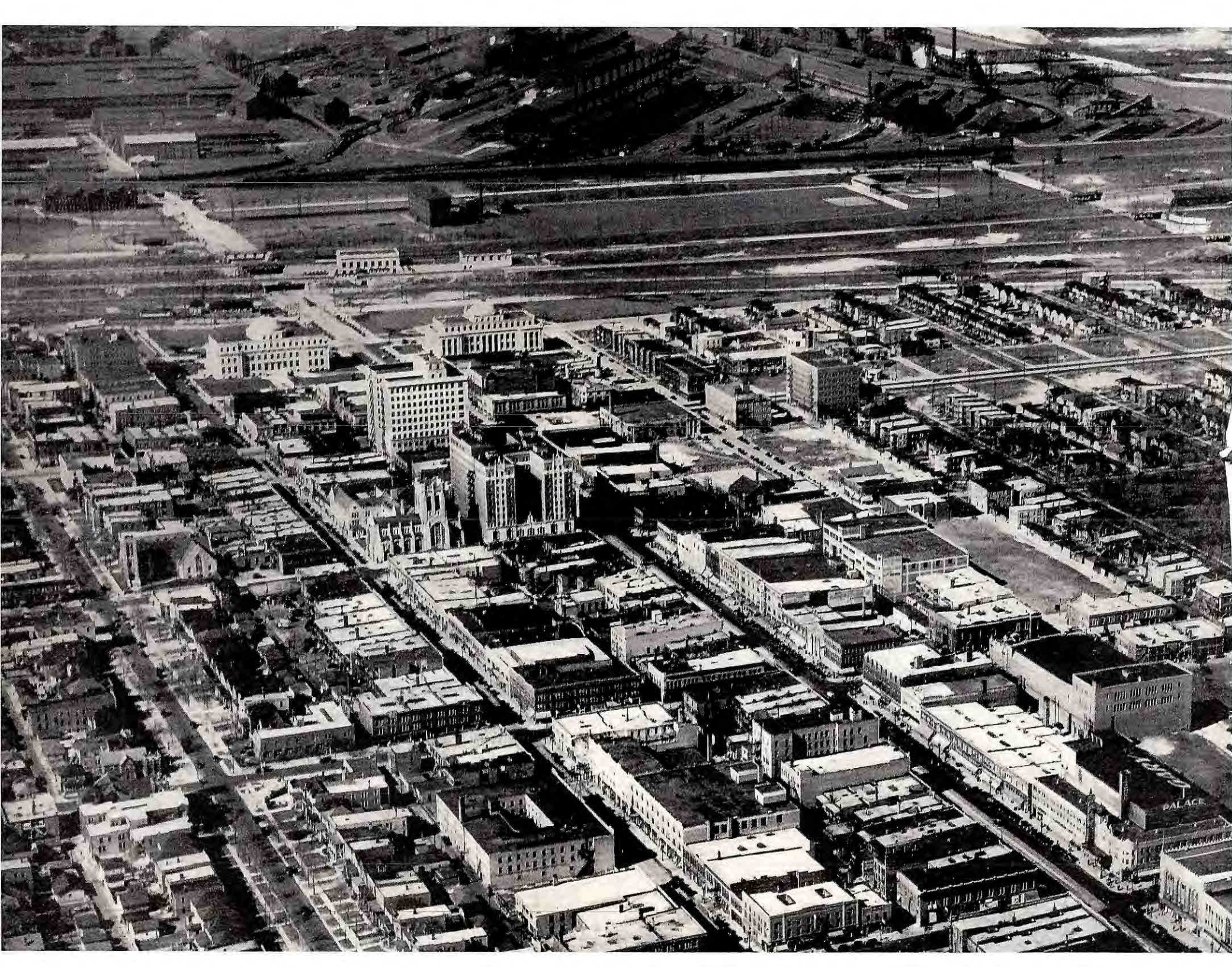
GARY SEWERS AND SEWAGE TREATMENT PROJECT

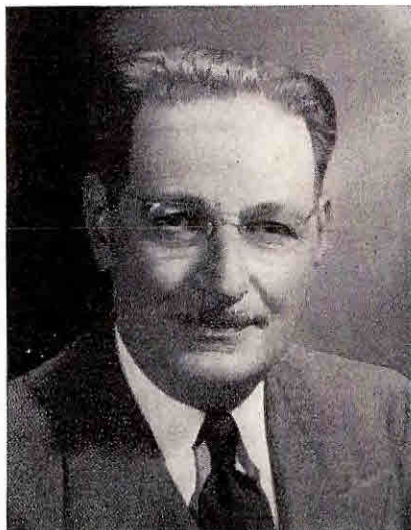
Dedicated to
THE CITIZENS OF GARY

Ernst A. Schaible . . . *Mayor*

Board of Sanitary Commissioners

W. P. COTTINGHAM
THOMAS O'BRIEN
BOYD E. PHELPS





Health OF GARY'S CITIZENS GUARDED BY NEW SEWER AND SEWAGE TREATMENT PROJECT

By ERNST A. SCHAIBLE, *Mayor*
City of Gary

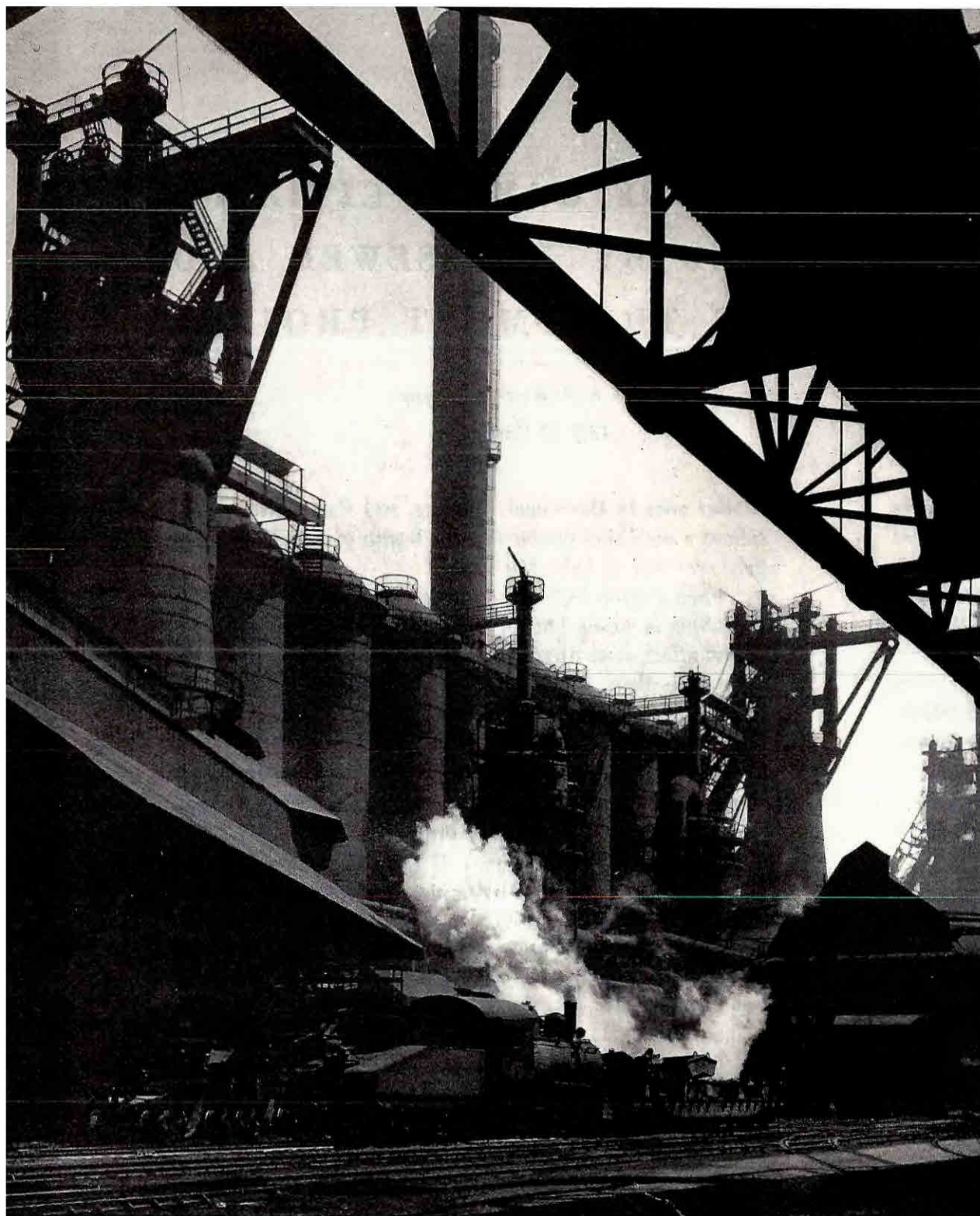
GARY is a city of 112,000 people according to the census taken this year. In 1906, the year the stake was driven that located our magic city, the population was estimated at 334. As the city has grown and conditions of living have changed and been improved, new problems relating to the welfare of Gary's citizens have arisen and been solved. Among these problems have been the building of highways, the regulation of automobile traffic, provisions for schools, parks and recreational activities, and many others relating directly or indirectly to the well-being of our citizens. Councilmen, mayors, and other officials have solved these problems during their terms of office or left them for completion by succeeding administrations.

One of the largest projects affecting the health and welfare of our citizens that has been undertaken since Gary's first sewers were laid is now complete and in operation. It is the new sanitary system consisting of sewers and sewage treatment plants. The sewers laid at this time will relieve overloaded conditions of old sewers and resulting flooded basements, provide sewers for parts of the city where none existed before, and necessary interceptors to convey the flow to the treatment plants. These treatment plants, together with

similar ones in Hammond, Whiting, and East Chicago, will relieve a condition threatening the health of people living at the lower end of Lake Michigan.

When a sewer backs up and floods our basement we know something is wrong but we are not aware of conditions that do not affect us so directly. Heretofore, all sewage from the cities of northern Indiana has been disposed of without treatment to render it harmless. Its flow into Lake Michigan caused a condition that resulted in an order from the State Board of Health to abate such a nuisance by the building of sewage treatment plants. Gary is the first of the four cities in Lake County to complete its sanitary program.

The sewage treatment part of Gary's plan consisted of the rehabilitation of the Miller plant and the building of a new one. The Miller plant, which is located on Burns ditch, south of Miller, was built in 1929, to treat sewage from the Miller and Aetna districts. It never was operated because of lack of funds. The plant has been remodelled to meet requirements of the State Board of Health. It now is in operation, and in addition to the Miller and Aetna districts it handles the flow from new sewers in the beach area within the city limits. The new plant is located on the Grand Calumet river



between Clark road and the Pennsylvania and South Shore Line tracks. This plant handles sewage from Gary proper and in addition all wet garbage from the entire city.

Instead of being burned in the incinerator, all wet garbage will be ground to a soupy consistency and fed into the treatment plant with the sewage where it will help make gas to run that plant.

In this day of technological development, we are likely to think of the change of sewage from a harmful waste to a harmless substance as resulting from treatment with chemicals or by a mechanical process. It is neither, for the change is brought about by the action of microscopic organisms or bacteria that attack the waste and change its nature. The action is the same as that which takes place in a stream except that it is speeded up by providing artificial means. The process, which may be termed as digestion, takes place at the Miller plant in a large tank and a bed of limestone. At the Gary plant it takes place in long tanks, where air is passed through the

Gary's growth since 1906 paralleled the industrial development that is expressed by this blast furnace scene from the world's largest steel mill.

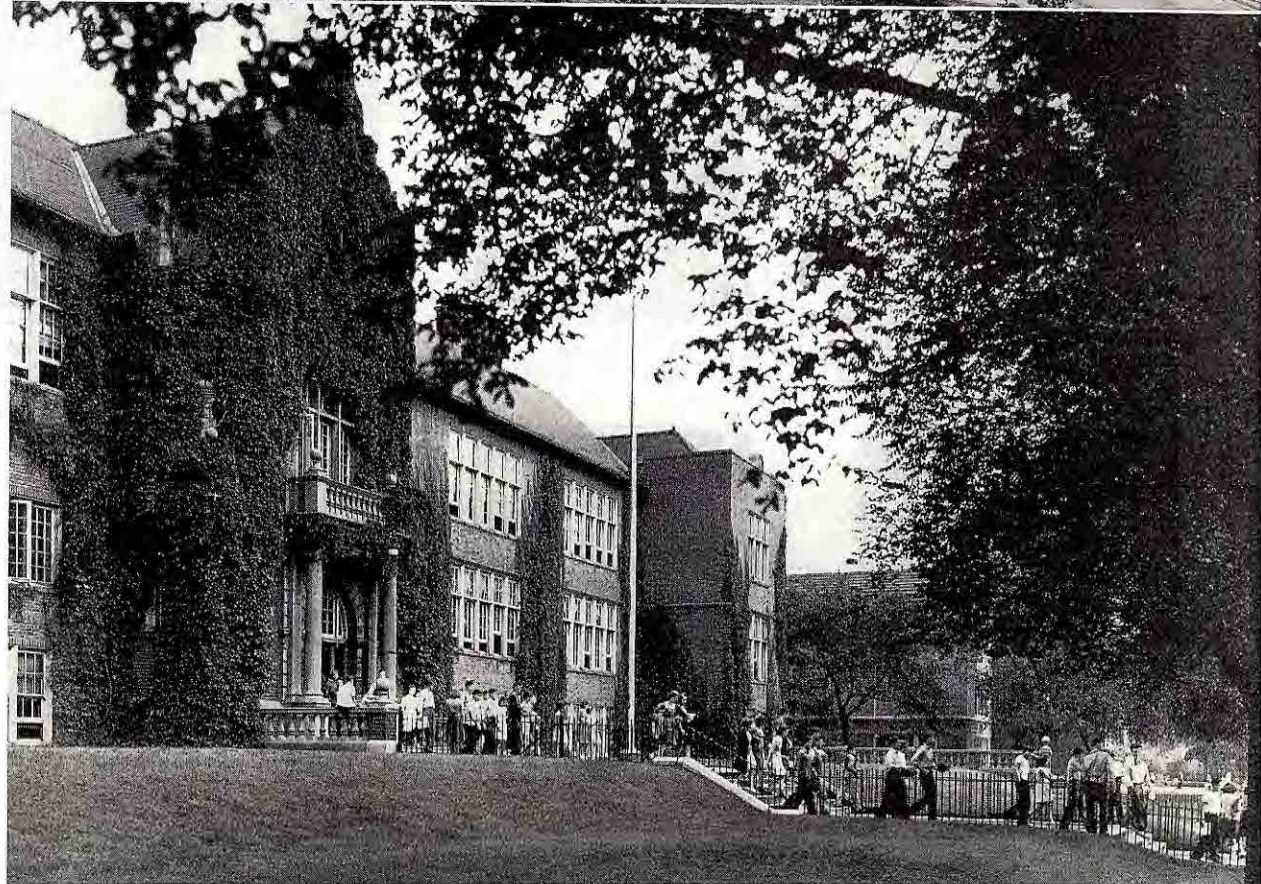
sewage, and in eight cistern-like tanks known as digesters. The products resulting from the treatment of sewage are water with a low bacteria count, a black loam that is suitable for filling, and the gas that is used in the plant.

An economy feature of the Gary treatment plant is the use of gas, that is a product of the plant, to run the pumps and blowers, and to heat the buildings and digestion tanks. This gas is produced by the sewage treatment process in the digesters in quantities large enough to provide all power and fuel needed for these purposes under normal conditions. In emergency, gas and electricity can be secured from outside sources. Electricity is used at all times to run smaller pumps and other equipment.

This was an opportune time for building the new sewers and treatment plants. Funds equal to 45 per cent of the total cost of the project were provided by the Public Works Administration, and the balance of 55 per cent was raised by a bond issue that bears $3\frac{1}{4}$ per cent interest. The P.W.A. grant was for \$2,166,133 and the bond

(Continued on Page 28)

Top—The gateway to Gary, the Magic, Steel City. Below—The Emerson School, birthplace of Gary's internationally famous school system.



FEDERAL AND STATE OFFICIALS INTERESTED IN GARY SEWERS AND SEWAGE TREATMENT PROJECT . . .



FRANKLIN D. ROOSEVELT
*President, United States of
America*



FREDERICK VAN NUYS
*United States Senator of
Indiana*



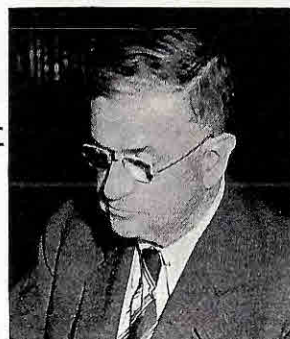
SHERMAN MINTON
*United States Senator of
Indiana*



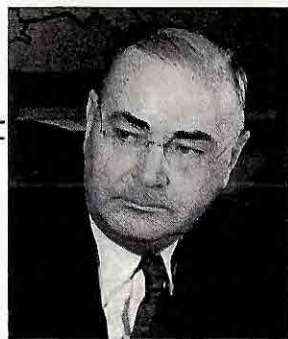
WILLIAM T. SCHULTE
*Representative in Congress
First District, State of
Indiana*



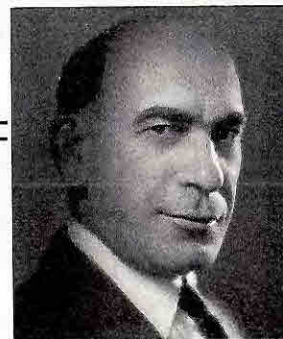
M. CLIFFORD TOWNSEND
Governor of Indiana



H. L. ICKES
Secretary of the Interior



JOHN M. CARMODY
*Federal Works
Administrator*



D. R. KENNICOTT
*Regional Director
Federal Works Agency*



FORREST M. LOGAN
*State Director
Works Progress
Administration*



C. S. BRIGNALL
*Chief Engineer
Works Progress
Administration*



FREDERICK J. ANDERSON
*Resident Engineer-Inspector
Public Works
Administration*



DR. VERNE K. HARVEY
*Secretary-Director
State Board of Health*



B. A. POOLE
*Chief Engineer
Bureau of Sanitary
Engineering*

BOARD OF SANITARY COMMISSIONERS



WILLIAM P. COTTINGHAM
1939-1940



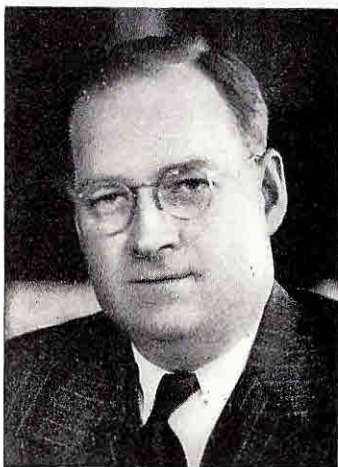
THOMAS O'BRIEN
1940



BOYD E. PHELPS
1938-1940



RALPH E. ROWLEY
1938-1940



FRED F. EICHHORN, *Attorney*
1938-1940



WILLIAM W. MATHEWS
Superintendent



EVELYN CHARLSTON
Clerk



R. H. ATCHESON
1938



RALPH ENOCH ROWLEY

1871-1940

*President Board of
Sanitary Commissioners
1938-1940*

NO greater tribute can be paid to Ralph E. Rowley than to say that he served his community unselfishly and efficiently as a citizen and as a public official. His first interests always were those which were best for Gary. During his twenty-five years as councilman, every thought and action was an exemplification of that creed. His last undertaking is realized in the completion and dedication of Gary's new sewers and sewage treatment project.

It is proper and fitting that we recognize Mr. Rowley's leadership and interest in civic affairs at this time. As the first president of the Board of Sanitary Commissioners, he took a leading part in the planning, financing, and building of Gary's new sanitary system, which means so much to the health and welfare of Gary's citizens. His interest in the

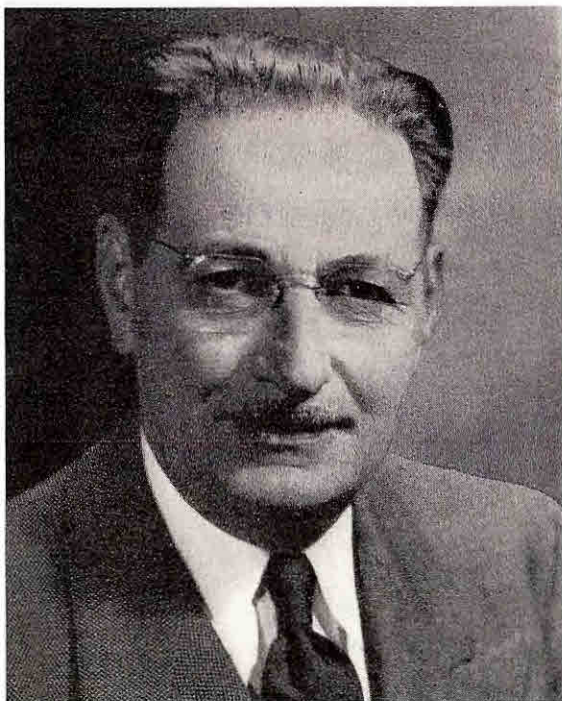
city's welfare, and his training and experience as an engineer, always made him the promoter of or booster for the best plans and materials that could be had. Through his efforts and coordinating ability the plans, specifications, and details of building this project have been completed and now it is in operation.

During his 25 years as councilman, Mr. Rowley served as president of the council, chairman of the finance committee, and chairman of the ordinance committee. He also served as president of the City Plan Commission and as a member of the Board of Trustees of Public Parks.

The outstanding event in Mr. Rowley's life was that of laying out the city of Gary. He was one of three engineers whose transits and lines started the conversion of a dune-land into a city with the largest steel mills in the world. In commenting on these times, Mr. Rowley has said, "Yes, I guess I am one of the truly original pioneers. I was here before Gary. I have watched the development of this wonderful city since we drove the first stake in laying it out on March 12, 1906. I always feel proud when I remember that I have had a small part in the building of this modern city and its world-famous steel plant."

At the time of Mr. Rowley's death, the city council adopted a resolution which read in part:

"This pioneer has given to the city of his adoption the splendid contribution which came from his ability and kindness. As an engineer and a man he helped construct the permanent foundations of Gary. As a member of this body he helped to build a wonder city upon those foundations, and he lived in the community he helped to make, an unassuming citizen, an able public official, and a kindly man."



Ernst A. Schaible . . . Mayor

COUNCILMEN



JOHN SABO
Comptroller



WILLIAM P. COTTINGHAM
City Engineer



ELLIS C. BUSH
City Attorney



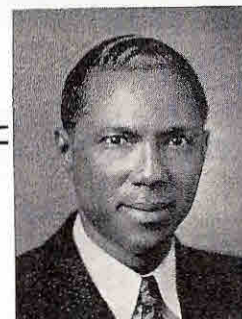
WALTER CICHOWLAZ



OSCAR CONWAY



ROBERT DAVIS



WILBUR J. HARDAWAY



MICHAEL J. HARTNETT



EDWARD KRIEGER



KATHERINE PATTON



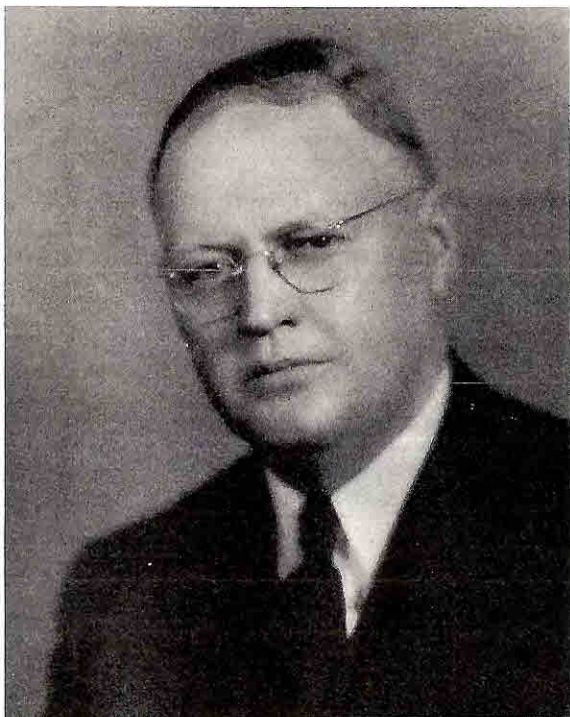
THOMAS ROBINSON



HAROLD STACK

OFFICIALS OF THE CITY OF GARY

During the administration of these men, the sewers and sewage treatment plants were built.



L. B. CLAYTON *Mayor*

COUNCILMEN

FORMER OFFICIALS, CITY OF GARY

During their administration the resolution establishing the Gary Sanitary District was passed and arrangements were made for financing the sewer and sewage treatment project.



RAY J. MADDEN
Comptroller



R. H. ATCHESON
City Engineer



FRED F. EICHHORN
City Attorney



ROBERT L. ANDERSON



WILLIAM BURKE



HERMAN A. GREEN



MICHAEL J. HARTNETT



EDWARD KRIEGER



KATHERINE PATTON



C. E. ROLF



L. B. SNOWDEN



JAMES A. SWEENEY

IMPORTANCE OF SEWAGE TREATMENT BY NORTHERN INDIANA CITIES

By B. A. POOLE, Chief Engineer

Indiana Bureau of Sanitary Engineering



THE aggressive action taken by the city of Gary in building its new sewers and treatment plants displays exceptional interest in correcting conditions that threatened the health of its citizens and in helping the state to complete

its program for treatment of all sewage. Gary's system is the first to be completed of those that are to be built by municipalities in northern Indiana. After Hammond, Whiting, and East Chicago have their plants in operation the unhealthy condition that has existed at the foot of Lake Michigan will have been corrected.

The polluted condition of the lake water first was reported by Brewster and Barnard of the Indiana State Board of Health, in 1908. They recommended treatment of the sewage of Hammond, Whiting, and East Chicago in order that the water supply of these cities would be safeguarded. At that time the sewage from Gary, with a population of less than 15,000 people, was not considered as contributing to the pollution of the southern end of Lake Michigan.

During 1924-1925 Crohurst and Veldee of the United

States Public Health Service made an investigation similar to that of Brewster and Barnard. Their report was published in 1927. During 1926 and 1927 Streeter, also of the United States Public Health Service, investigated the conditions at a group of Great Lakes water plants. The first of these studies was from the standpoint of sewage disposal, the second from the standpoint of water purification. The conclusions were the same; namely that the section of Lake Michigan between the Indiana Harbor Ship Canal and the Calumet River was so heavily polluted with domestic and industrial wastes that it could not be purified by established methods; and that sewage treatment must come as an aid to water purification.

Between 1931 and 1937 the Indiana State Board of Health conducted additional water pollution surveys in the Calumet District. These surveys confirmed the earlier findings and provided additional information on the volume of waste produced by various municipalities. As was to be expected, wastes from Gary now were contributing to the condition of pollution. The Grand Calumet River, which once carried the wastes of a city of 15,000 could not assimilate that of a thriving city of 100,000 people, although the flow of water in the stream had been increased greatly.

As a result of the conditions disclosed by these investigations, the State Department of Commerce and Industries

formally ordered the installation of sewage treatment works by the four cities in northern Indiana. The Gary project was started with the establishment of the Sanitary District of Gary in May, 1938. Construction of the sewers and sewage treatment plants was started officially on December 29th. Operation of the Miller plant was begun on November, 1939, and of the main plant in August, 1940.

The state's program for the ultimate treatment of all sewage within Indiana will be 75 per cent complete by December 31, 1940. When this plan is finished the dangerous threat to the health of our citizens will be corrected. The eternal vigilance of water-treatment plant personnel can protect the peoples' health. It is a well established fact, however, that the best operated plants are insufficient to insure the public against the threat of water-borne disease when the sources of raw water are polluted to a point beyond the plants' capacity to correct them.

The fact that the Calumet district has experienced a steady decline in the number of typhoid fever and diarrhea cases during these years can be credited largely to its water-treatment plant personnel. The treatment of sewage will further

insure the elimination of these health hazards. In recent years a number of authorities have advanced the theory that epidemics of infantile paralysis may be traced to improper sewage disposal. Developments in the next few years may indicate definitely that sewage treatment is the proper means of combating this dreaded disease, as well as other forms of sickness which have not been traced directly or indirectly to bathing in or drinking of contaminated water.

Commercial interests will benefit from the treatment of wastes through having a more healthy group of employees and through the correction or elimination of other conditions. Expensive dredging operations will be minimized and commercial fishing interests will profit by an increased yield of fish.

The citizens of Gary should feel proud and satisfied over the achievement of their sanitary board and city officials who so aggressively attacked a problem that threatened the health of all residents on the southern end of Lake Michigan. Not only is the health of Gary citizens protected by their new sewers and sewage treatment plants, but it is done by one of the most efficient sewage systems in the state.



PLANNING AND BUILDING GARY'S NEW SEWERS INCLUDING REHABILITATION OF MILLER TREATMENT PLANT



By CHARLES W. COLE
Charles W. Cole and Son
Consulting Engineers

GARY'S new sewers and the rehabilitation of the Miller sewage treatment plant are steps taken to correct conditions resulting from the rapid growth of the city. What was in existence at the start? What

was ultimately wanted? What was done to bridge the gap between the two? The answers to these three questions tell the complete story of the sewer section of the Gary Sewers and Sewage Treatment Project that has just been completed.

In existence at the start of the project was a sewer system built in part when the city was first platted in 1906-07. The remainder was built as needed up to 1938. Three conditions not contemplated in the original designing resulted in the overloading of practically every main trunk line. The first was that sewers were needed and built before building operations began in 1906-07. In their design an attempt was made to forecast the direction of the city's growth. These forecasts proved erroneous in many instances and resulted in the overloading of some main trunk lines. Secondly, the water level of the Grand Calumet river was higher in 1938 than it was when the main sewers were originally designed.

This condition impeded the flow from the sewers and thereby decreased their carrying capacities. The third condition was the character of the surfaces to be drained. Gary's streets originally were macadam and much of the storm water settled through them into the sandy soil beneath. Through the years, however, came the general use of pavements with impervious surfaces and the close building up of all residential areas. Now storm water is shed directly into the sewers instead of a large part of it soaking away into the sandy subsoil. These three conditions created backwater in several main sewers which not only affected their capacity but retarded the flow to such an extent that sludge and sand accumulated, requiring large expenditures annually for their removal and the repair of joints broken by the back pressure.

A study of these facts readily indicated to the Board of Sanitary Commissioners that new trunk sewers were needed to relieve the overloaded condition. These sewers would be in addition to the intercepting sewer needed to carry the sanitary flow from the main trunk outlets to the contemplated sewage treatment plant.

The first step toward planning for Gary's new sewers was to make a detailed engineering study of the conditions so that a remedy could be devised. A corps of 10 field engineers cooperating with designers went over the entire sewer

system. Dry and wet weather flows of all the main trunk sewers were measured at 72 continuous hourly periods. Weather reports from many years back were studied. Inspections made of the condition of all main sewers and high water marks during rains were recorded and studied. Data were gathered from property owners who had suffered from flooded basements. These several hundred complaints were carefully analyzed. A survey was made of the percentage of impervious surfaces in all districts, and a study was carried out on the probable development of areas not yet sewered. Observation was made of improper action of existing structures at peak loads, and a study was made of the exceedingly heavy infiltration of ground water into the existing sewers along with the expected infiltration into sewers to be installed. Lastly, a thorough study was made of the city's growth and of independent estimates of its future growth.

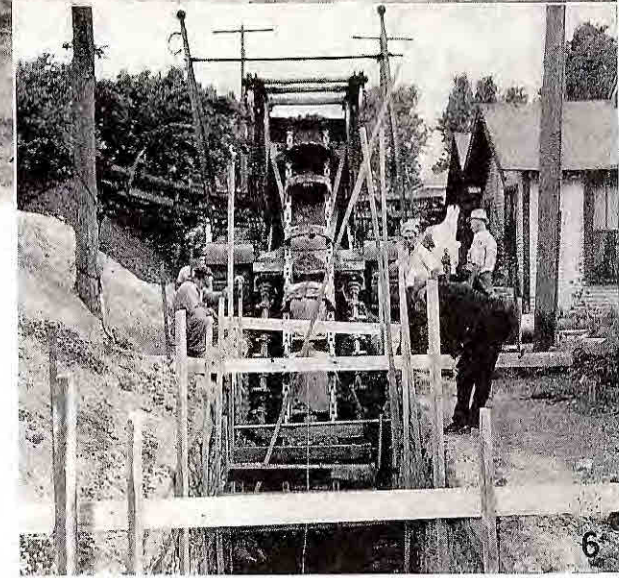
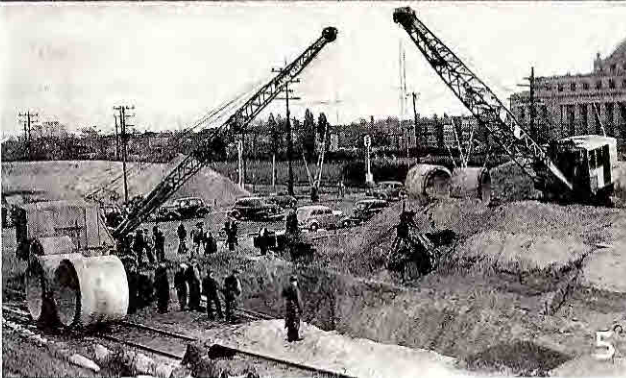
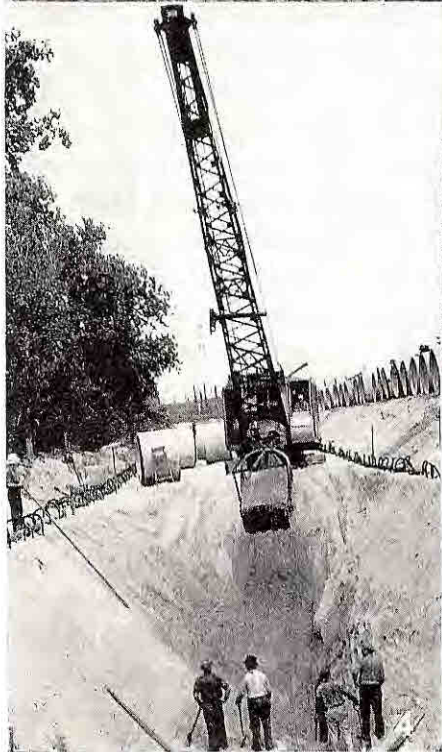
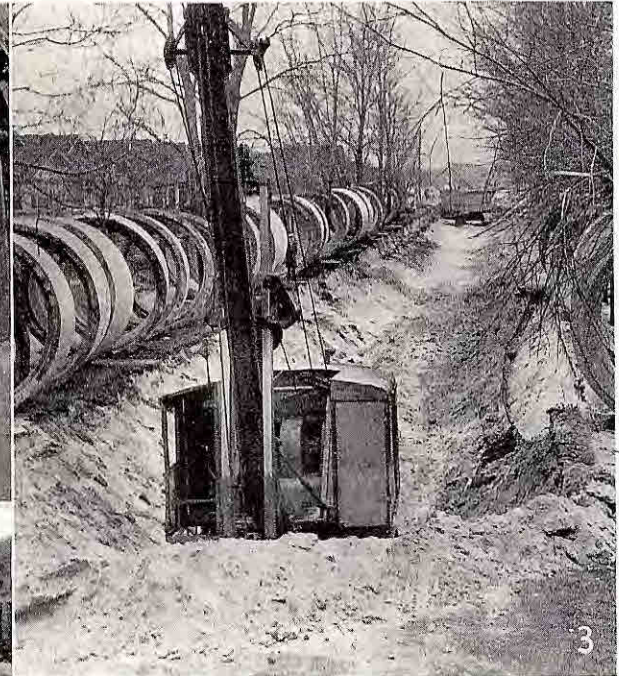
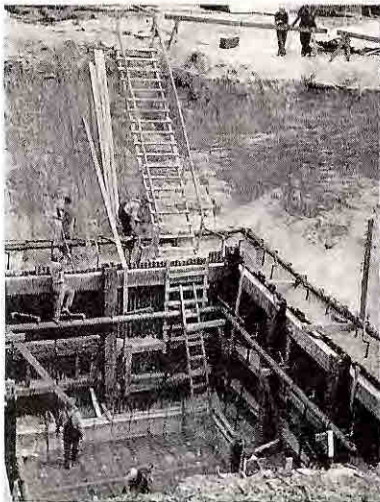
All of these data were assembled and studied for some length of time by experienced designers and the Board of Sanitary Commissioners. From this study came a four-part program designated as "Section One—Sewers—Gary Sewers and Sewage Treatment Project." The program was taken up as follows. PART I—Rehabilitation of the existing Miller District sewage disposal plant. PART II—Installation of intercepting trunk sewers in built-up districts that had no sewer systems, thereby immediately relieving unsanitary conditions. PART III—Installation of a main intercepting sewer to convey the sanitary flow from the main sewer outlets to the proposed treatment plant. PART IV—Installation of relief intercepting sewers in the present built-up districts to remedy the existing flooded conditions and disintegrating sewers.

After this program was completely laid out, actual work was started on the sewer section of the sanitary program.

The contract for the rehabilitation of the Miller District treatment plant was awarded December 29, 1938, to J. S. Barrett, the lowest of five bidders. Work was completed October 25, 1939. The plant was constructed in 1928 and designed to serve the suburb of Aetna, the old town site of Miller, and the beach area within the city limits. It was never operated because of the lack of funds and also because provisions had not been made for the flow of sewage to the trunk sewer. When the initial survey of the plant was made it was found that vandals had completely stripped it of all appurtenances. It was necessary to replace these and then add modernized equipment to meet the specifications of the Indiana State Board of Health. The new equipment included a dry weather flow regulator, a grit chamber, a final settling tank, gas collectors, a service building, and an entrance road to the plant.

The plant consists of a pump house with three centrifugal raw sewage pumps of the vertical type, each driven by automatically controlled electric motors. Two of the pumps have a capacity of 1,200 gallons per minute each, and the third has a capacity of 800 gallons per minute.

Raw sewage is pumped to two sets of Imhoff tanks where primary settling of solids and digestion of the settled sludge are accomplished. These tanks are equipped with a gas collection arrangement to provide waste gas for heating buildings. The two sets of tanks have a designed capacity of 2,000,000 gallons per day, and the present flow to the plant is about 1,400,000 gallons per day. The exact flow, however, will fluctuate a great deal in various seasons due mostly to the heavy infiltration of water into the original district sewer. From the tanks the effluent is discharged to a dosing tank which in turn discharges the water at regular intervals through 435 sprinkler heads onto filter beds of rock averaging six feet thick and covering an area of an acre.



DIGGING GARY'S SEWERS

1—Foundation for Marquette pumping station
 2—Digging tunnel for interceptor . . . 3—Using
 a Diesel-powered shovel . . . 4—Using a crane
 and grab-bucket . . . 5—Filling cut at Broad-
 way . . . 6—Trench excavator opening cut.

The finely suspended solids which have not settled out in the Imhoff tanks create a floc upon the stone, upon which a biological action by aerobic bacteria takes place. From these beds the effluent runs through the new final settling tank, 60 feet in diameter, which settles out the floc that may pass from the filter beds. The purified water is then discharged into Burns ditch, which empties into Lake Michigan about six miles east of the plant.

Part two of the program—sanitary intercepting sewers in unsewered districts—was divided into two projects: first, the Miller Beach area lying north of the New York Central railroad to the lake, and from Lake street east to the County line; and, second, the Pittman Square district, south of 47th street. The contract for the 3.7 miles of sewers in the Miller Beach area was awarded to the Powers-Thompson Construction company, lowest of 14 bidders. Work was started March 23, 1939, and completed January 17, 1940.

The Miller Beach area contained approximately 450 homes without sewer facilities and was considered an exceptionally fast growing district. To keep the cost of this part of the project at a minimum, the Board of Sanitary Commissioners decided to build a sanitary trunk sewer, with storm sewers to be constructed later. Because of the extreme variation in the contour in this dune area, the sewer was placed in the natural valley between the two sand ridges. Because of this low location, it was necessary to construct an automatic sewage lift station on the east boundary of Marquette Park. Many difficult construction problems had to be met on this part of the work because of the necessarily deep cuts through the sand.

The next step was the Pittman Square sewer, called the south side interceptor. The contract for this work was let to

George Pontarelli, the lowest of five bidders. It was started June 1, 1939, and completed March 26, 1940.

The Pittman Square district consists of small homes and is about one-half improved. The soil is a heavy blue clay which is very impervious. The area had no access to sewers, so the sanitary sewer was included in the project to relieve a very unhealthy condition which had arisen within the city limits. Sewer facilities now are available for property owners to connect lateral sewers.

The sewer area south of the 43rd avenue ridge was experiencing flooded conditions in times of rain due almost entirely to an overloaded sewage lift station at 46th avenue and Alley 1-E. To relieve this condition a 54-inch tunnel was constructed through the 43rd avenue ridge from 46th avenue, thus making possible the elimination of the 46th avenue pumping station with its large annual operating costs.

Part three of the program—the main interceptor—was started April 15, 1939, and completed March 30, 1940. The contract was held by the Public Construction company, the lowest of 14 bidders. This part of the program called for the interception of the sanitary flow of the four main trunk sewers which were discharging the city's sewage into the Grand Calumet river, and the delivery of the sewage to the proposed main sewage treatment plant.

Two methods of carrying out this part of the program were presented: first, through pressure mains from each sewer with accompanying pumping stations, and, second, through a large gravity sewer. In the first method the original cost of installation was lower, but there would be a heavy annual maintenance cost for the several pumping stations. The original cost of the second method was higher, but there would be no additional cost for maintenance. However, there was

an objection raised over the heavy infiltration of water expected in a gravity sewer which must be laid below the level of the ground water.

After thorough study it was decided that the original added cost of the second plan would be less than maintenance of the pressure system over a period of years, and also that the infiltration could be kept at a minimum through the use of the latest improvement in sewer pipe joints—the rubber gasket joint. Because of the objection to the expected heavy infiltration, a very severe specification of 1,000 gallons per inch of diameter per mile of sewer was placed in the contract. Through the use of the new joint and the outstanding workmanship in its installation, actual tests on the completed sewer showed infiltration of only 10 per cent of the allowed amount.

In the construction of this main interceptor, regulating structures with automatically operated equipment were installed at each of the four points of discharge. These regulators are designed to permit only the dry weather or sanitary flow to enter the interceptor. In times of rain, the regulators will close so that only two and one-half times the dry weather flow can enter the interceptor. In this way the storm water is forced to discharge into the river thus relieving the treatment plant of handling it. The regulators also are designed so that they can be adjusted for increasing sanitary flows as the city grows.

The sewer is from 19 to 30 feet underground, the lowest point being 12 feet below the level of Lake Michigan. This deep cut created difficult engineering and construction problems, for at times ground water 20 to 23 feet deep had to be pumped out before the pipe could be put into place.

The fourth and final part of the program—storm relief sewers—was subdivided into four “natural” sections, namely, the Glen Park area, the East Side district, the West Side

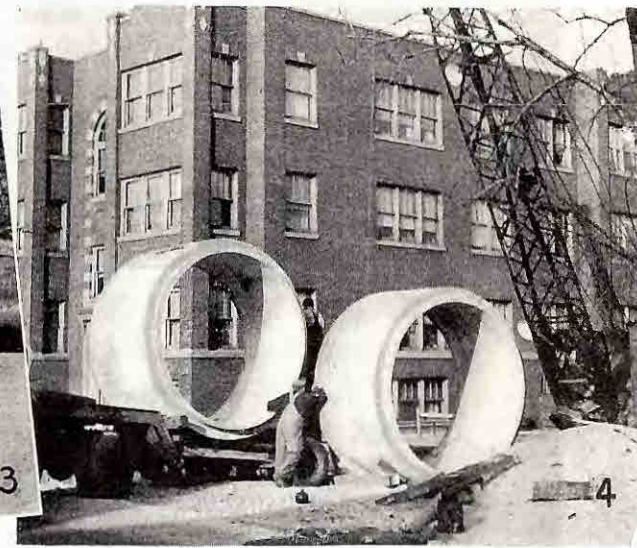
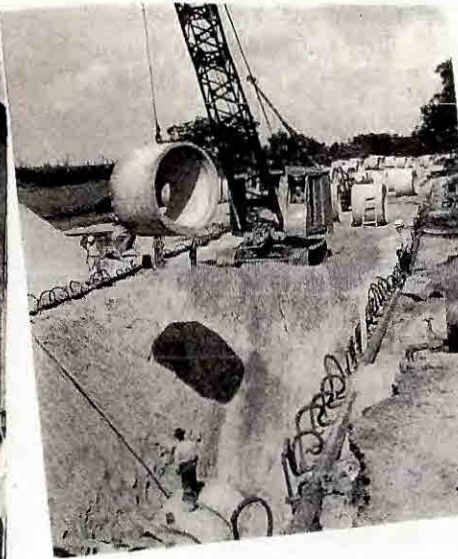
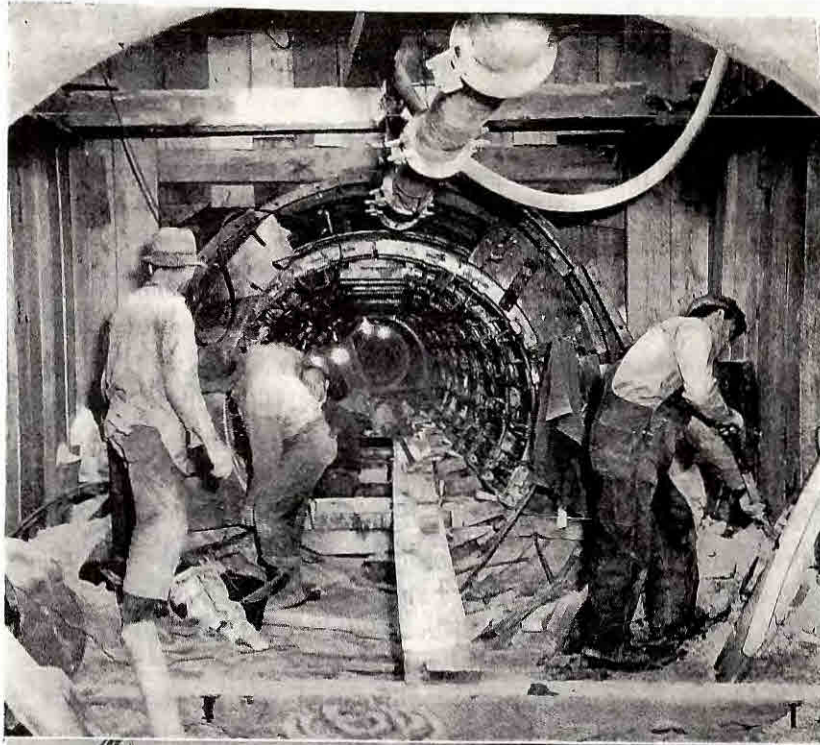
district, and the South Side district. In collecting data for the design of the relief sewers, complete detailed estimates were made of two systems: first, high level separate storm sewers and, second, additional combination sanitary and storm trunk lines. The second system was decided upon because of the lower cost of collecting the greatest amount of storm water and relieving more sewers at their weakest points.

In the Glen Park area, the chief cause of trouble was in the more recent installation of an under-designed sewer, sending the sanitary sewage to Alley 9-E sewer and the Grand Calumet river and diverting the storm overflow into the Little Calumet river. This overflow structure, in times of heavy rains, was unable to discharge the complete storm water flow into the river with the result that at times there was back pressure in the sewer great enough to raise manhole covers. To overcome this condition, a regulator and gate valve structure were installed at the Little Calumet river and Alley 1-E, and the former overflow structure was removed.

In the East Side district the relief of the overloaded sewers was accomplished by installing a combination intercepting sewer along east Seventh avenue from Alley 9-F to Alley 2-E and by installing a storm sewer regulator and an outfall sewer at 25th avenue from Alley 9-E sewer to the Little Calumet river. The outfall sewer will discharge storm water from the area south of the Pennsylvania railroad tracks, leaving a greater carrying capacity in the Alley 9-E sewer.

Contracts for the installation of the Glen Park regulator, the 25th avenue outfall sewer and the East Seventh avenue intercepting sewer were awarded to the Public Construction company, the lowest of three bidders. Work was started December 19, 1939.

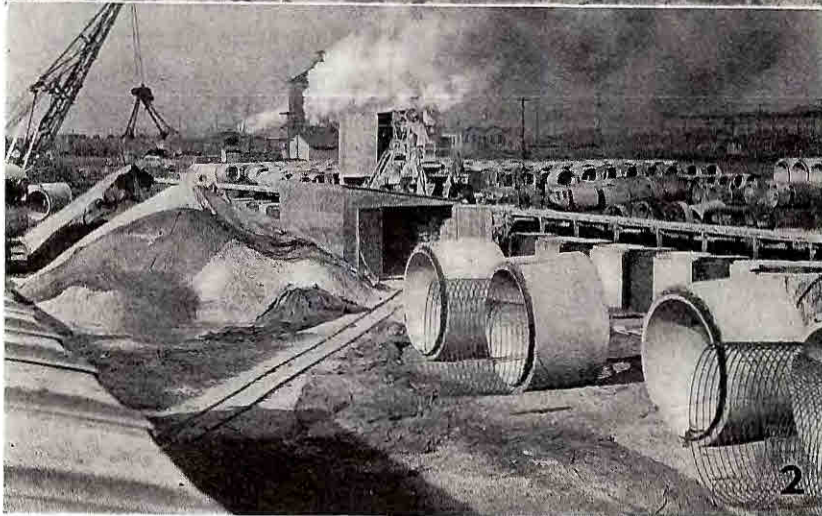
In the West Side district it was found that the sewers were

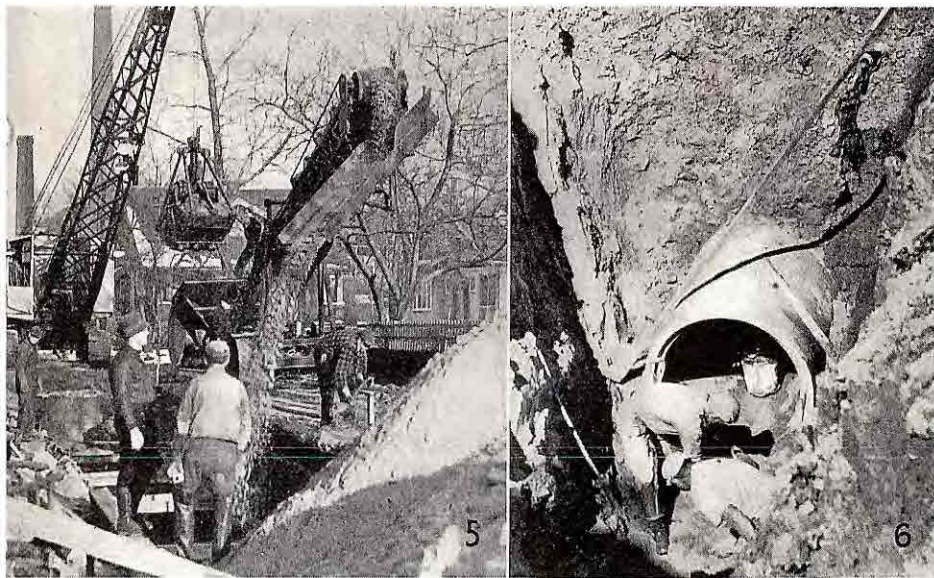


CONSTRUCTION VIEWS, GARY SEWER PROJECT

1—Tunnel for monolithic concrete sewer . . . 2—Yard where concrete tile was made . . . 3—Lowering 72-inch tile . . . 4—Unloading 108-inch tile . . . 5—Pouring concrete for Pierce Street interceptor . . . 6—Laying sewer in Glenn Park.

undersize and in exceptionally bad condition. Back pressure of the storm water had opened practically all the pipe joints allowing an infiltration of fine sand and causing the undermining of most of the alley pavements. To relieve this condition the Pierce street intercepting sewer was built. It intercepts the sewers of the west side at overloaded points and relieves the main trunk sewers in Alley 4-B and 5-A. It flows to the bank of the Grand Calumet river along Pierce street and discharges its sanitary flow into the main intercepting sewer. The storm flow is discharged through tide gates into the Grand Calumet. A long program of small lateral sewer repairs will be needed, however, before the damage already caused has been eliminated.





A part of the Pierce street section of the project included the replacement of an old brick sewer in Alley 4-W, which was in danger of complete collapse. To replace this sewer was a difficult job well carried out, for it required the supporting of main telephone conduits, high tension underground electric conduits, a 24-inch water line, and a four-inch gas line while the work was being done. Bontrager Construction company was the lowest of four bidders on this interceptor, and work was started August 31, 1939.

The final part of the program was the relief of South Side district sewers. As was characteristic of some developed areas in Gary, there were many flooded basements in this district. To relieve this condition a combination intercepting sewer was installed along 16th avenue from Alley 2-E to Alley 9-E to serve the area east of Broadway, and another interceptor was installed from Alley 2-E west along 17th avenue to

Jefferson street, north to 16th avenue, west to Van Buren street, and thence to the Pierce street interceptor at Harrison street. For this work the Permanite Construction company was the lowest of six bidders. Work got under way December 14, 1939.

In the four parts of the "Sewer Section of the Gary Sewers and the Sewage Treatment Project" there are 17.36 miles of new sewers. The major items going into these sewers were 16.31 miles of concrete sewer pipe, 12 inches to 108 inches in diameter; .15 miles of monolithic sewer, 36 inches to 96 inches in diameter; .9 miles of sewer tunnel, 30 inches to 108 inches in diameter; 271 manholes; 9 junction chambers; 3 outfall structures; 8 regulator structures; and 1 pumping station.

The major materials needed and used and the amounts of each were 3,308,000 pounds of reinforcing steel, 38,520 cubic yards of concrete, 602,000 pounds of steel liner plates, 311,572 sacks of cement, 244,000 pounds of iron castings, 20,500 tons of sand, 29,164 tons of gravel or stone, 99 tons of steel sheeting, and 623,000 board feet of lumber.

In carrying out this huge project there were several outstanding construction features which should not be overlooked. There was a wide use of rubber gaskets in sewer joints, with an admix to the cement mortar to retard shrinkage, in order to cut infiltration of ground water to a minimum. The crossing of all heavily traveled streets and railroad tracks was accomplished by sewer tunnels, using steel tunnel plates and thereby causing no interruption to traffic. Because most of the new intercepting sewers had to be placed below the level of the existing trunk sewers, large amounts of ground

water had to be pumped and deeper cuts were necessary than in most sewer construction jobs. Still another outstanding feature of the project was that 98 per cent of all the pipe used was of cement and steel, both Gary products. The pipe was made within the city limits with Gary labor.

Too much credit cannot be given the field crew, composed entirely of Gary engineers, under whose direct supervision the actual construction work was done. This crew was headed by Frank Heydorn, resident engineer acting for the consulting engineer. He was assisted by Stephen Curtis, assistant resident engineer; F. V. Cupp, Ralph Kitterman, James Michalos, project engineers; Donald Churchill, office engineer; V. F. McIntyre, Lynn Feiger and C. Ensweiler, field engineers; and William Burke, Charles Doyle, and E. Price, inspectors.

Through the supervision and ability of these men it was possible to obtain a system of intercepting and relief sewers far above the average in construction and as good as any ever constructed in any municipality.

The complete Gary sewer system also has been laid out on a large study map for use in intelligent planning for the future. In making the studies of Gary's sewer problems, a comprehensive plan was provided for the future development of the system as the city grows. Some provisions made in the plan we know are needed at this time but cannot be made because of the lack of funds. Other features will be needed in the near future. All recommendations have been prepared in completely finished plans and specifications ready for execution.



Sprinkler heads distribute partially treated sewage over a bed of limestone, at the Miller treatment plant, where a biological action by aerobic bacteria takes place.



Gary's MAIN SEWAGE TREATMENT PLANT

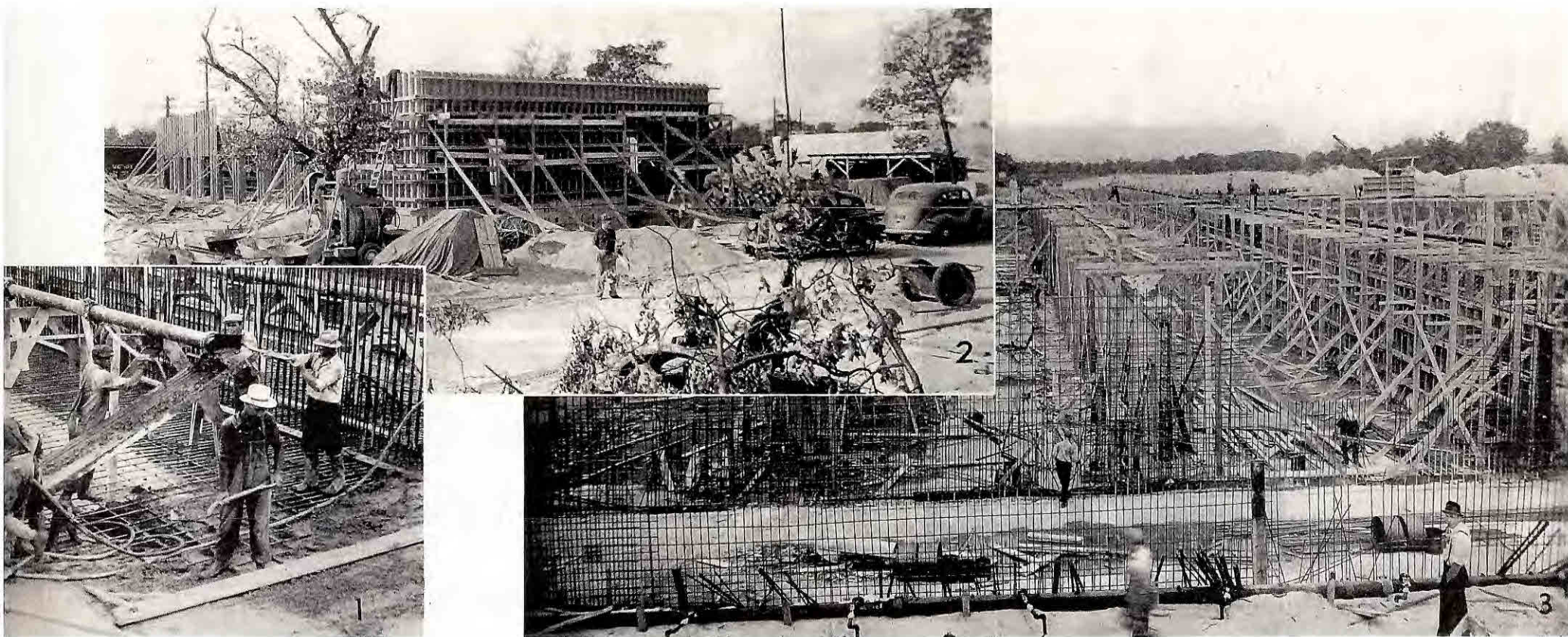
Where Domestic and Industrial Wastes Are Converted Into Harmless Substances

By LOUIS R. HOWSON
Alvord, Burdick & Howson
Consulting Engineers

THE sewage treatment and garbage grinding plant at Gary is an industrial plant adapted to the disposal of municipal wastes. Probably few people have any appreciation of the magnitude of its work, which is illustrated by the volume of sewage handled and the volume of the by-products. The volume of sewage handled when the plant is operating at rated capacity will be 166,000 tons per day, the equivalent of 4,000 railroad tank cars. It would take a train of tank cars 35 miles long to transport one day's sewage flow at Gary. One month's flow would fill tank cars from Gary to New York with enough left over to reach from Gary to Milwaukee. In

the process of disposal, a by-product gas, about one-third richer than ordinary city gas, is produced. When operating at rated capacity there will be approximately 350,000 cubic feet of this gas produced daily, or enough to supply 4,000 families for cooking requirements. This gas is used in the disposal process for operating gas engines and for heating. There also will be produced a dried sludge—approximately 35 tons of rich black dirt per day. This material is excellently adapted for lawns and shrubbery and will be particularly valuable in a dune sand area such as Gary.

The treatment plant occupies about one-half of a 52-acre



PICTURE SHOWING CONSTRUCTION OF MAIN SEWAGE TREATMENT PLANT

1—Pouring concrete floor in aeration basins . . . 2—Forms set for pump, blower and administration building . . . 3—Forms and reinforcement of 300 foot long aeration basins . . . 4—Forms for one of eight digesters about ready to receive concrete . . . 5—Excavating for foundation of main building . . . 6—Early stage in pouring of foundation and footings.

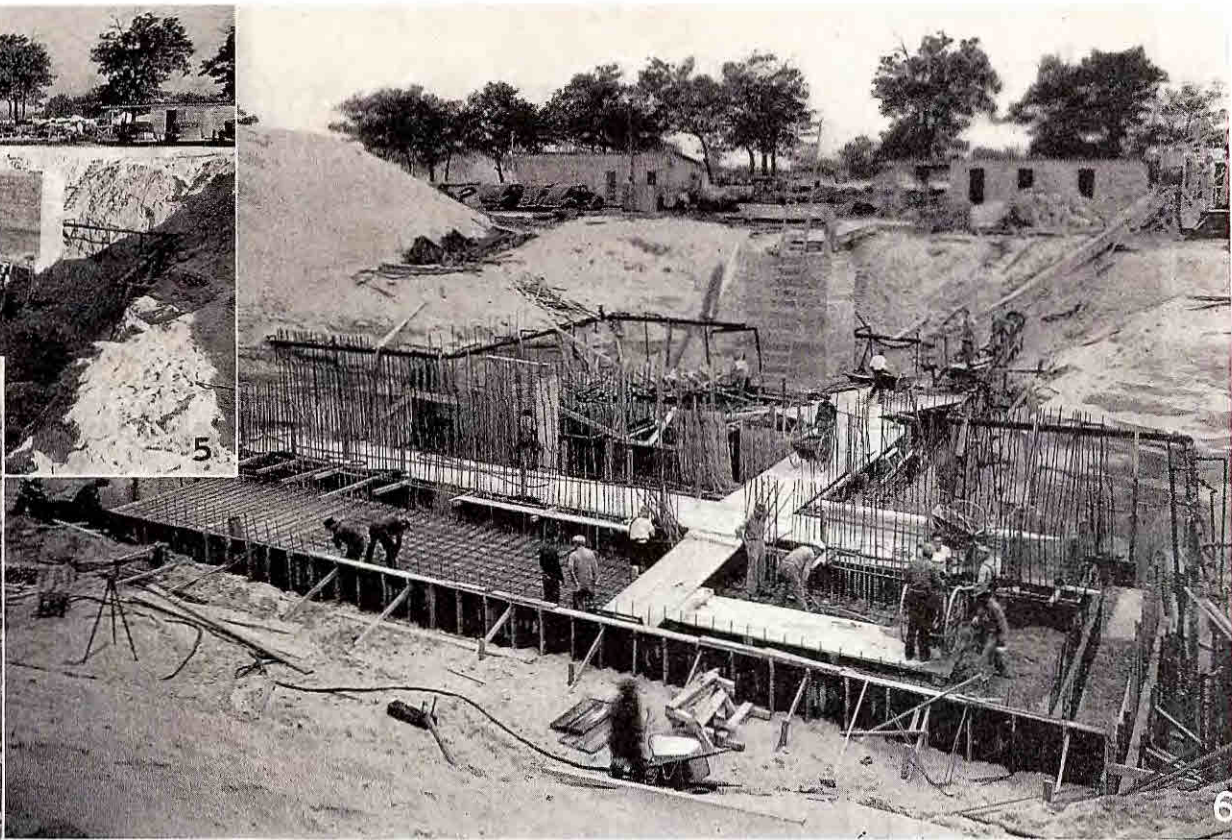
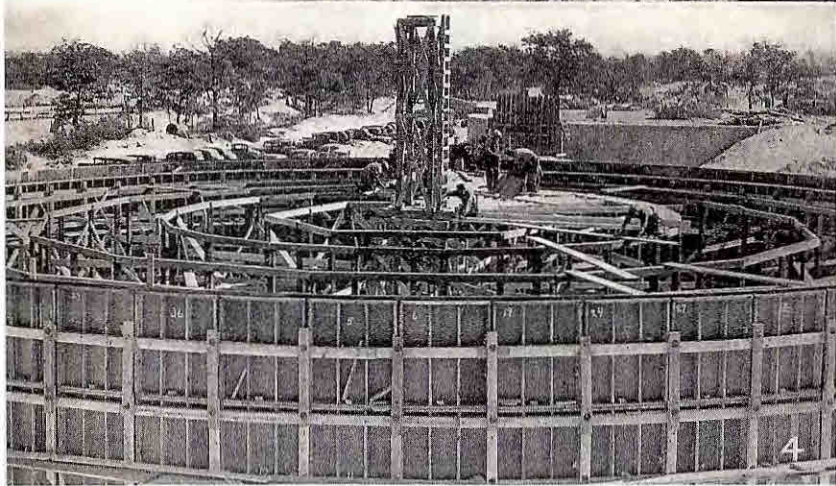
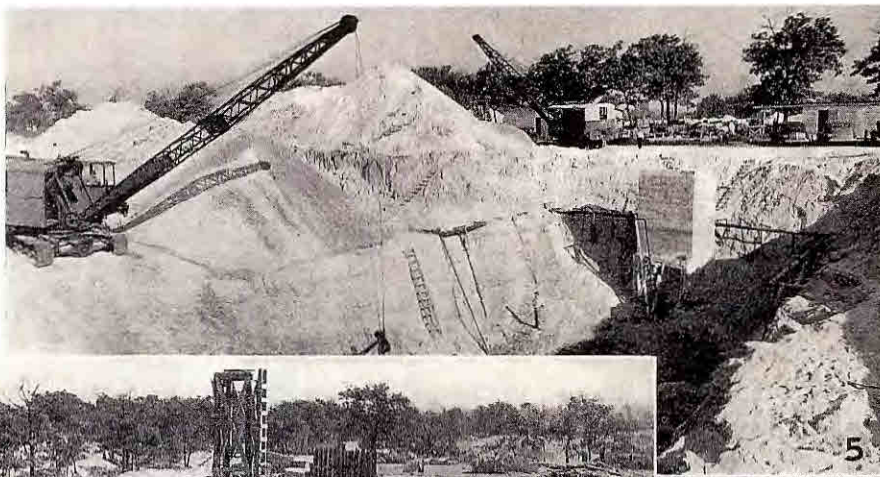
tract bounded by the Calumet river on the north, the South Shore Electric Railway on the south, the Pennsylvania Railway on the east, and the industrial highway at the west. The old two-lane industrial highway passes directly through the site.

A visitor to the plant may be surprised to find that the treatment of such offensive wastes as sewage and garbage can be carried on with so complete freedom from nuisance. This is accomplished by the adoption of the most recent developments in the activated sludge process, exacting attention to details of engineering design, and pleasing archi-

tectural treatment, the whole set in an attractive environment of natural and formal planting.

Gary is fortunate in its location as the most easterly of the four major cities in the Calumet area and accordingly upstream from the sewage outlets of all its neighbors. Gary also has been fortunate in that its wastes have been diluted by the abundant flow of condensing water from the Carnegie-Illinois steel works into the Grand Calumet river. Without this dilution sewage treatment at Gary would have been necessary long ago.

Sewage treatment at Gary was considered over thirty



years ago when the town was laid out and the first sewers built. Advancement in the art of sewage treatment in these thirty years has been so great that the plant now built occupies less than 10% of the area that would have been required by any process developed as practicable thirty years ago. The plant at Gary is the first major one completed in the Calumet area. It is the largest in Indiana, aside from Indianapolis, and larger than any in Illinois, outside of the Chicago Sanitary District. It is believed to represent the last word in sewage treatment.

The Gary plant is one of a very small number treating garbage solids in combination with sewage solids, but of these plants it is much the largest.

Sewage treatment is simply an accelerated method of accomplishing what nature does more liesurely in the natural water courses by sedimentation, aeration and sunlight. It consists essentially of the following steps:

- (a) The separation of the solids from the liquid. Sewage is over 99.9 per cent water and less than one tenth of one per cent solids.
- (b) The "digestion" or fermentation of the solids part by bacterial action, in heated tanks, under conditions favorable to their development. This process results in "sludge," an inoffensive black dirt.
- (c) The replenishing of the liquid with oxygen so that it will be stable, free from odor and low in bacteria.

The Gary sewage treatment plant was built to accomplish these results in the most economical, satisfactory manner.

The sewage reaches the treatment plant through two main intercepting sewers. The one from the east is 84 inches in diameter, so large that a man can walk erect in it very comfortably. The sewer entering from the west is 42 inches in diameter. These sewers reach the plant approximately 25 feet below ground level.

The first stage of the sewage treatment process is the passing of the sewage through five "comminutors" which consist of sharp, revolving cutters that macerate any solids in the sewage to a fine pulp which can pass through the remainder of the plant without the difficulties encountered through clogging pipes, pumps, and other restricted openings. These comminutors are located in an underground concrete chamber in front of the main building.

From the comminutor chamber the sewage passes to a pump well located under the pump room floor. The sewage pumps lift it approximately 30 feet to an elevation from which the remainder of the passage through the plant is entirely by gravity. There are five of these sewage pumps, two of which are driven by electric motors and the other three by large gas engines which operate with the gas developed in the sewage disposal process. Practically all of the pumping will be done by gas engines without cost for power, thus resulting in a saving of several thousand dollars a year which would otherwise be required for electric energy.

The pumps discharge through a 48-inch steel pipe to the grit chambers. These are rectangular concrete pits in which coarser solid matter such as crushed egg shells and chicken bones from the garbage, and the sand and grit washed into the sewers from the streets, will settle out. This gritty

material, which is washed by elevating it through the sewage flow with worm screws, drops into cars and is delivered to dumps over a narrow gage industrial track. About one or two cubic yards of this gritty material will be removed each day. It is suitable for filling purposes.

From the grit chambers the sewage flows to four basins known as primary settling basins, each of which is 75 feet square and approximately 10 feet deep. The sewage stays in these tanks about one hour, during which time practically all of the settleable solids drop to the bottom. Each tank is equipped with a revolving mechanism with squeegees operating on the bottom. These squeegees force the solids to a hopper at the center of the tank from which they are pumped to the digestion tanks for decomposition and the collection of gas.

From the primary settling tanks the clarified liquid passes to the aeration tanks. It is in these tanks that the oxygen is supplied which so alters the character of the liquid that it will not again become offensive to sight or smell. These basins are ten in number, each 30 feet wide, located side by side, and each approximately a city block in length. Near the floor of each tank is a large air pipe into which are connected 225 porous tubes each 3 inches in diameter and 24 inches long. Through the pores of these tubes compressed air discharges into the liquid in very fine bubbles causing the liquid to circulate rapidly in a spiral sort of motion. The sewage liquid stays in these tanks about five hours, during which time most of the purification is effected.

From the aeration tanks the sewage flows to eight 75-foot square by 10-foot deep final settling tanks. The sewage stays in these tanks about two hours, and when it leaves them the purification process is completed, and the effluent is clear,

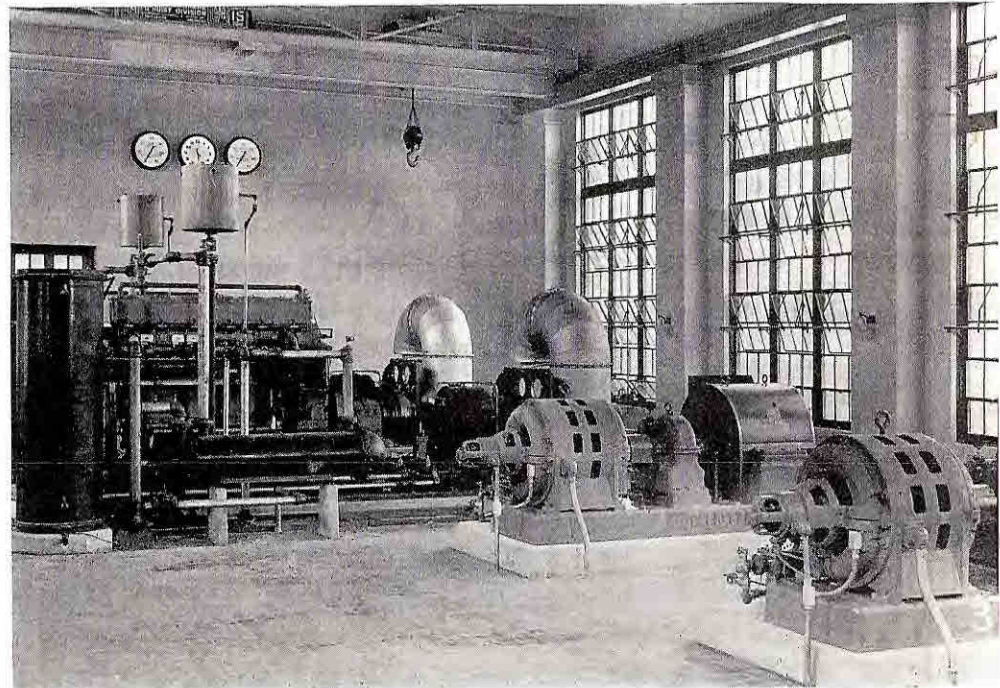
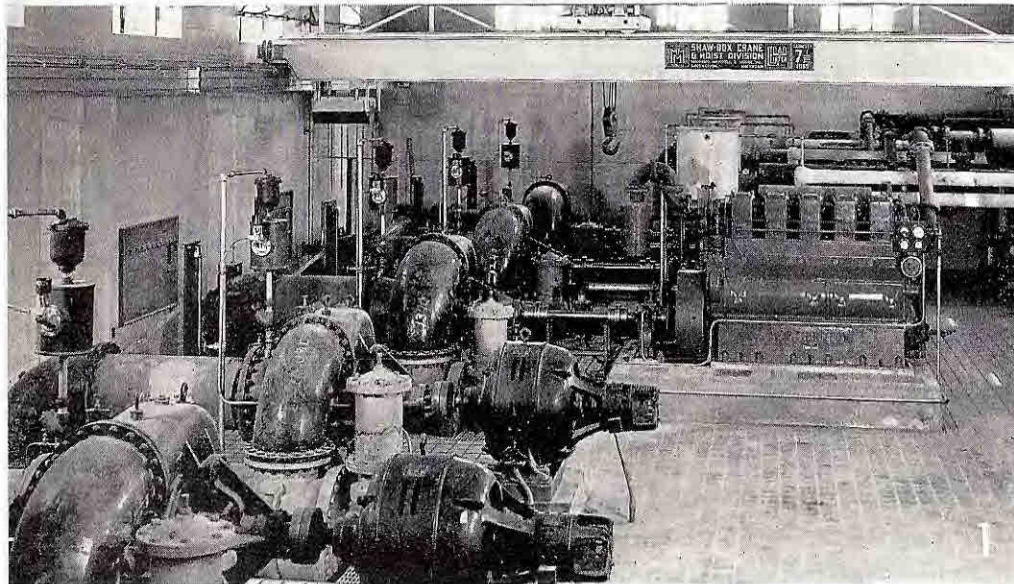
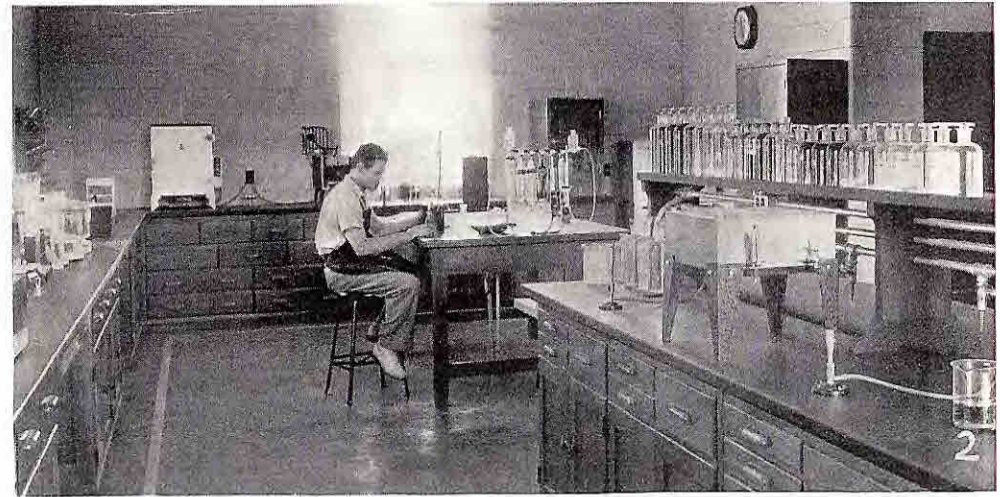
odorless, and approaching sparkling. It can be discharged into a dry water course without any danger of subsequent nuisance.

As illustrative of the character of this effluent, the Sanitary District has constructed a small rock fountain directly in front of the main power building. All of the water flowing in this fountain, rock garden and fish pond is purified sewage effluent.

The solid matter which settles out in these tanks is returned to primary settlers and then to the digestion tank. Part or about 25 per cent is diverted to the aeration basins where the bacteria which it contains aids in the process.

INTERIOR VIEWS OF MAIN BUILDING

1—Pump room which houses gas and electric driven pumps for raising sewage . . . 2—View of one end of testing laboratory showing Chief Chemist Ross at pipettes . . . 3—Blower room where gas and electric driven blowers force air into aeration basins.



The solids which have settled in the primary settling tanks are pumped to the digestion tanks. There are eight of these tanks each 90 feet in diameter by 23 feet average depth. Five of the tanks are provided with pipe coils around the outer circumference. Through these coils hot water heated by gas is circulated so as to maintain a temperature of about 85 degrees in the tanks. This uniform temperature facilitates fermentation of the sewage solids and results in more complete and rapid gasification and digestion. The gas is collected in domes at the top of the tanks. Three of the tanks, that are not heated, are provided with floating gas holders which store over 200,000 cubic feet of gas. The gas is used to operate the gas engines and to heat the buildings and digestion tanks. The sludge is retained in the digestion tanks for 30 to 90 days before withdrawal to the drying beds.

After digestion is completed the sludge, which then resembles a black liquid of tarry consistency (about 90% water and 10% solids), is discharged on the sludge drying beds. There are 65 beds each 42 feet by 125 feet in area and each with two lines of narrow gage track to facilitate removal of dried sludge. The sludge is run on the beds about 10 to 12 inches deep. It dries in two to three weeks and shrinks to a thickness of two to three inches. It then resembles a fibrous, well-rotted leaf mold. It is odorless and easily spaded into dump cars.

Up to the present time Gary has not been accustomed to separating its household garbage. With the operation of the garbage grinding plant a close separation of garbage is required. All ordinary household garbage, exclusive of tin cans and bottles, must be deposited unwrapped in a separate receptacle. This part will go to the garbage grinding plant.

The remainder will go to the city incinerator for disposal.

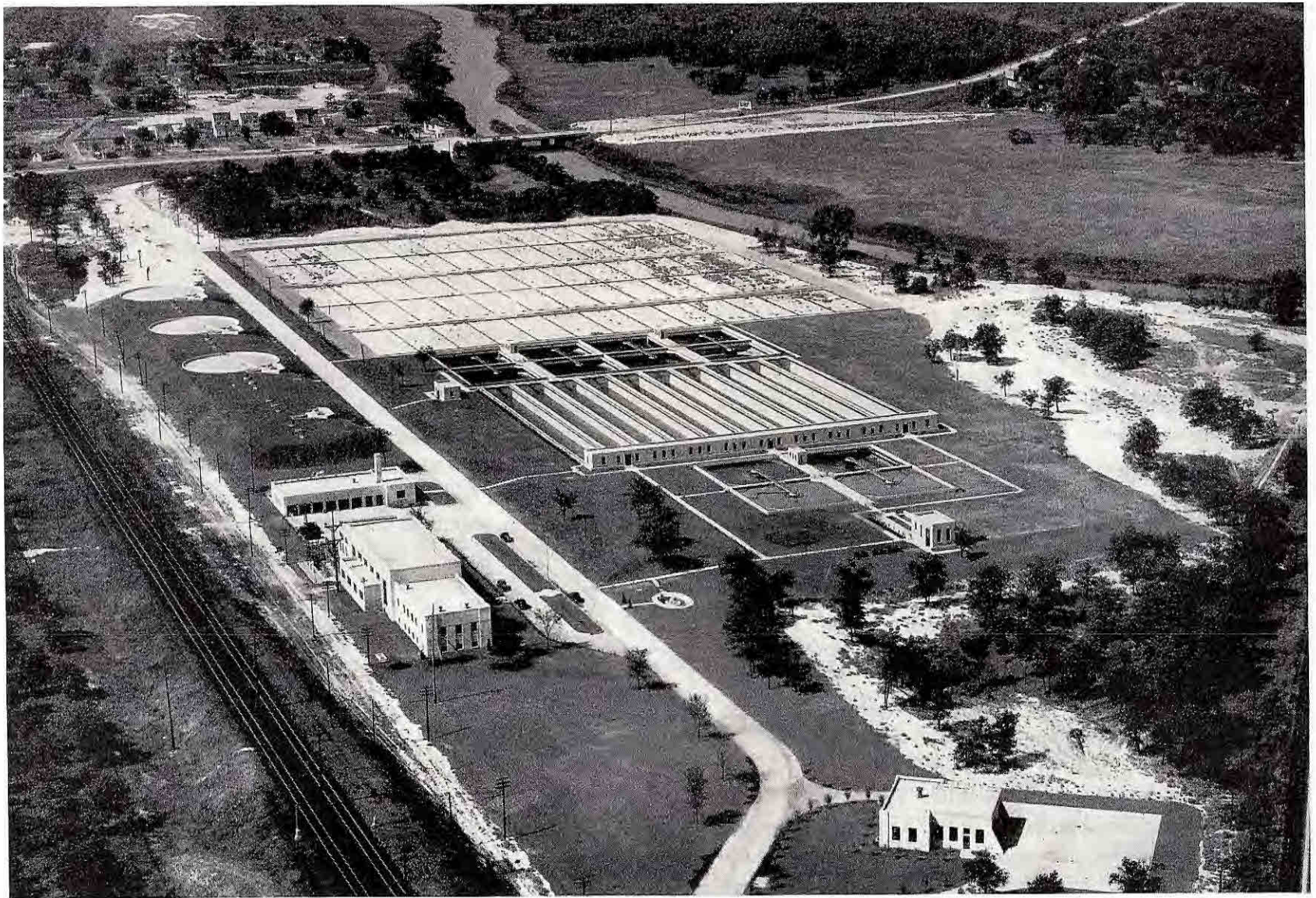
The garbage grinding plant is a part of the sewage treatment plant. It consists of two grinding units each capable of handling 10 tons of garbage per hour. After the garbage has been inspected for removal of table silverware, other metal, and large bones, it is pulverized to a thick, soupy consistency and discharged into the main sewer. From that point it goes through the plant with the sewage.

Gary is justly famed for its steel and cement industries. In the design of the structures this fact was recognized by the type of architecture selected. All buildings are of monolithic reinforced concrete. All pipe is of steel. The main entrance doors are of stainless steel.

The following statistics will illustrate partially the volume of work and materials involved in the construction of the treatment plant. There were: Over 60,000 large truckloads of excavation, 250 large railroad carloads (150,000 bags) of cement, 10,000 large truckloads of sand and gravel for concrete, 4,000,000 pounds of steel reinforcing bars, 21,000 lineal feet of industrial track.

The entire area around the plant when landscaped will be covered with lawn and 1,200 shrubs and trees including barberry, lilacs, syringa, flowering crabs, and a few large elm trees. Concrete sidewalks and roads are provided. These additions to nature's background of scrub oaks will make the treatment plant site another Gary beauty spot.

Alvord, Burdick & Howson were the engineers for the Sanitary District Board on all of the treatment plant work, with Victor A. Matteson as architect and W. W. Mathews as resident engineer in charge of construction.



Aerial View of Gary's Main Sewage Treatment Plant Looking to the Northwest.

Health of Gary Citizens Protected by New Sewers and Sewage Treatment Plant

(Continued from Page 5)

issue amounted to \$2,652,000. Materials and equipment were as readily available as funds, so work progressed rapidly and with a great deal of satisfaction.

Our new sanitary system is the result of cooperation by city, state, and federal agencies. During former Mayor Clayton's administration the order from the State Board of Health to abate the sewage nuisance was received. Plans for complying with this order were started by introducing an ordinance before the city council for the establishment of a sanitary district and board under the Sanitary District Act of 1917. This ordinance was passed and the Board of Sanitary Commissioners was appointed.

The board consists of three members: one is nominated by the State Board of Health; a second is the city engineer, and the third is nominated by the first two. The mayor appoints these nominees. The Board of Sanitary Commissioners is responsible for the planning, financing and execution of work on Gary's new sanitary system, and for its future operation. The board employed engineers to make surveys and submit plans for meeting conditions. From these surveys and plans the general character and extent of work was determined. The board then submitted a resolution to the council providing for the sale of bonds for financing the project together with a petition signed by the taxpayers. After a public hearing there was no opposition to the bond issue, so bids for their sale were advertised. The bids were opened in public and the contract for the sale of bonds

was let to the company making the best offer. In carrying out the construction of the sewers and treatment plant the board let all contracts to lowest bidders after the contracts had been duly advertised. During construction the engineers and board checked to see that material and workmanship met requirements of the contracts. Now that the work is complete, the Board of Sanitary Commissioners will have the responsibility of operating the system of sewers and treatment plants, and their maintenance.

Members of the Board of Sanitary Commissioners have displayed the greatest integrity and ability as business men in carrying out their duties as the head of the Sanitary District. The first contracts let for the construction of our new sewers and treatment plants showed a savings over estimated costs that permitted the construction of storm sewers not included in original plans. The new sewers meet present conditions and others are already in the planning stage so that they can be built as quickly as the need arises and money is available. The treatment plants are among the best in the state and provisions were made in their design for economical operation.

Gary citizens are proud of their accomplishment. In this matter of sewage disposal, as in other matters affecting the citizens' health and welfare, Gary takes a leading place. In the future we may expect to hear as much about our sanitary system as we have heard in the past about our schools and parks.



HANDLING OF FINANCIAL MATTERS

By **BOYD E. PHELPS**, *Secretary*
Gary Board of Sanitary Commissioners

FROM the inception of the Gary Sanitary District and the appointment of members to the Board of Sanitary Commissioners,

citizens have been informed, through the newspapers, of the development of Gary's \$4,818,133 sewage treatment works and sewers necessary for its successful operation and the growth of the city. Papers have carried news items, advertisements for bids and comments of citizens and public officials. At no one time, however, was there a complete detailed account of how the money was raised and spent.

The Board of Sanitary Commissioners feels that our citizens are interested in the financial story of the latest public project for their health and welfare and that they should have the facts. This article will show how funds were raised and contracts were awarded, and also tell of the means taken to assure completion of work and furnishing of materials in accordance with the contracts.

The Board of Sanitary Commissioners' program proposed the building of a plant and sewers on a bigger scale than contemplated in 1929. The plan they proposed not only met the order from the State Board of Health, but it also provided for new sewers to relieve overloaded ones and for the

future needs of the city. At a public meeting at which taxpayers and representatives of the Taxpayer's Association were represented, the larger program calling for the expenditure of \$4,818,133 was approved.

The plan for financing the project included making application to the Public Works Administration for a grant equal to 45 per cent of the total cost and the sale of Sanitary District bonds equal to 55 per cent. An application for a grant of \$2,166,133 was filed with the Public Works Administration on August 12, 1938, and notice of the allotment of the grant was received on December twelfth. Petitions for the bond issue had been circulated among the citizens and shortly after the P.W.A. grant was received bids for the bond issue were opened. H. B. LaRocca and Seipp Princell & Company of Chicago submitted the lowest bid and the sale of bonds was awarded to them. The bonds are dated December 1, 1938, carry interest of $3\frac{1}{4}\%$ and mature in 30 years.

As the P.W.A. allotment of \$2,166,133 implies, it is a fund granted the city of Gary to finance the building of the new sewers and sewage treatment works and it does not have to be repaid to the Federal Government. However, the bond issue is repaid by assessing a tax of 14.97 cents per hundred dollars' valuation of real estate. This tax will raise \$200,158.89 per year until the bonds are redeemed.

In the drawing up of plans for the Gary Sewage treatment works and the necessary extension and improvement of the sewers, the services of consulting engineers were employed. A contract was entered into with Charles W. Cole of South Bend for the design and supervision of construction of the sewers and pumping station, and for improvements at the Miller treatment plant, and another contract with Alvord, Burdick & Howson of Chicago for the design and supervision of construction of the main treatment plant. These engineers made necessary surveys, reports, bid-plans, estimates, and recommendations for the construction of the project. After approval of their designs by the Board of Sanitary Commissioners, the engineers prepared detailed working plans and specifications, laid out the work, inspected construction, and prepared estimates for partial and final payments to contractors. For his services Charles W. Cole was paid 6 percent of the cost of the sewers and pumping station, and improvements at the Miller treatment plant. Under this contract Charles W. Cole furnished the services of several engineers and inspectors. Alvord, Burdick & Howson was paid 5% of the cost of the main treatment plant, and the Sanitary Board furnished all engineers and inspectors except the resident engineer.

A total of 16 general contracts were awarded for the construction of sewers and for buildings and equipment. In awarding these contracts, the Board of Sanitary Commissioners drew up and published notices for bids. The bids were opened and read before the public in the Council Chamber and in the order in which they were received. Bids then were tabulated and the contracts awarded to the lowest bidders.

In order to assure the Board that work would be performed in accordance with the contracts, bids were accompanied by performance bonds. Failure to perform work in accordance with the contracts would be cause for the forfeiture of the sum of money represented by the bonds to the Sanitary Board. In addition to security offered by the performance bond an amount equal to 20 per cent of the cost of work finished each month was withheld until the contract was completed, work accepted by the Board, and certification received from the contractors that all claims had been paid.

The payment of contractors for work done was handled by the Board of Sanitary Commissioners. Claims setting



Two members of Board of Sanitary Commissioners inspect man hole with resident engineer. Left to right: W. P. Cottingham, City Engineer and Board Member; Boyd E. Phelps, Secretary of the Board and Frank Heydorn, Resident Engineer for Charles W. Cole and Son.

forth the amounts due the various contractors were prepared and sent to the Comptroller for payment. The Comptroller prepared vouchers which he signed and sent to the Treasurer for his signature. The City Comptroller and County Treasurer receive all funds for the Gary Sanitary District and pay them out the same as they do for other departments of the city government.

The following itemized statement shows the cost of the sewers, land, equipment, and structures that are included in Gary's new sewers and sewage treatment project.

Miller interceptor sewer and pumping station	\$211,644.20
Intercepting sewer from Georgia street to disposal plant.....	756,335.50
South side interceptor sewers.....	246,726.20
Pierce street interceptors.....	688,162.40
Sixteenth avenue interceptors.....	270,960.95
Rhode Island street interceptor.....	187,274.25
Gary sewage treatment plant building and tanks	967,600.00
Gary sewage treatment plant pump-blower building and garage.....	424,883.00
Gary disposal plant equipment.....	325,559.95
Land (52 acres) for main treatment plant	40,000.00
Garbage grinding building and equipment	56,557.75
Rebuilding of Miller sewage disposal plant	68,970.00

A discussion of the financing and building of Gary's new sewers and sewage treatment works would not be complete without commenting on economies in building and future economies in operations. The new sewers will carry their flow by gravity and therefore pumping stations, with their annual operating and maintenance expenses, are not necessary. The Miller pumping station is an exception because raising the sewage at this point so that it would flow to the treatment plant, could not be avoided. The old pumping station at 46th avenue was eliminated by the construction of the new sewer. The use of tunnels under street intersections and railroads eliminated traffic delays and reduced costs. Arrangement for the disposal of wet garbage along with other domestic sewage will save an estimated \$13,000 to \$19,000 per year. This savings will be in the cost of power at the Gary plant where gas generated in the treatment process will be used to drive gas-engine-powered pumps and blowers, and to heat the buildings and digestion tanks. These are a few of the economies effected.

The new Gary sewers and treatment plant were built when federal funds were available to help offset the cost, and when construction costs were low. After the retirement of the bond issue the estimated cost of maintenance should not exceed six and one-half cents per hundred dollars of property valuation. The Board of Sanitary Commissioners feels that Gary's new sewers and sewage treatment plant are a particularly good investment for the health and welfare of its citizens.

GIVING CREDIT WHERE CREDIT IS DUE

No provisions were made in the Sanitary Districts budget for the publication of this booklet. The interest taken in it and the support given by the following companies made its printing possible.

In listing the names of these companies the Board of Sanitary Commissioners express appreciation for their generous cooperation.

ALVORD, BURDICK & HOWSON
Suite 1401, Civic Opera Building, Chicago, Illinois

BONTRAGER CONSTRUCTION Co.
Elkhart, Indiana

BROWN & BROWN
456 S. Main St., Lima, Ohio

F. H. BURLEW Co.
221-25 W. Huron St., Chicago, Illinois

CHICAGO PUMP Co.
2336 Wolfram St., Chicago, Illinois

CHARLES W. COLE AND SON
220 W. LaSalle St., South Bend, Indiana

THE DORR Co., INC.
221 N. LaSalle St., Chicago, Illinois

GREAT LAKES SUPPLY CORPORATION
9342 Ewing Ave., Chicago, Illinois

HOCKER ELECTRIC Co.
642 Washington St., Gary, Indiana

INDEPENDENT CONCRETE PIPE Co.
Indianapolis, Indiana

JOHNSON BROTHERS HEATING Co.
1419 Belleplaine Ave., Chicago, Illinois

MORETRENCH CORPORATION
90 West St., New York City, N. Y.

NEENAH FOUNDRY
201 N. Wells St., Neenah, Wisconsin

PERMANENT CONSTRUCTION Co.
208 So. LaSalle St., Chicago, Illinois

GEORGE PONTARELLI
4155 Dickinson Ave., Chicago, Illinois

POWERS-THOMPSON CONSTRUCTION COMPANY
Joliet, Illinois

PUBLIC CONSTRUCTION Co.
606 Lloyd Building, Hammond, Indiana

STRANDBERG & SPENCER, INC.
232 South Erie St., Chicago, Illinois

Establishment of department; composition of board of commissioners; oaths, surety bonds, and compensation of commissioners

Sec. 3. (a) A department of public sanitation is established as an executive department of the municipality. However, in the case of a district described in subsection (b)(2), the department is established as an executive department of each municipality in the district.

(b) The department is under the control of a board of sanitary commissioners, which is composed as follows:

- (1) If the department is established under section 1(a) of this chapter, the board consists of not less than three (3) but not more than five (5) commissioners. All of the commissioners shall be appointed by the municipal executive, unless one (1) commissioner is the municipal engineer. Not more than two (2) of the commissioners may be of the same political party, unless the board consists of five (5) commissioners, in which case not more than three (3) may be of the same political party.
- (2) Notwithstanding subdivision (1), if the department is established under section 1(a) of this chapter and the district contains at least one (1) city having a population of less than one hundred thousand (100,000) and at least one (1) town, the board consists of one (1) commissioner from each municipality in the district. The executive of each of those municipalities shall appoint one (1) commissioner. If after all appointments are made the board has fewer than five (5) commissioners, the executive of the municipality with the largest population shall appoint the number of additional commissioners needed to bring the total to five (5). Not more than three (3) of the commissioners may be of the same political party.
- (3) If the department is established under section 1(b) of this chapter, the board consists of not less than three (3) commissioners but not more than five (5) commissioners. One (1) commissioner is the city civil engineer. All other commissioners shall be appointed by the city executive. Not more than two (2) of the commissioners may be of the same political party, unless the board consists of five (5) commissioners, in which case not more than three (3) of the commissioners may be of the same political party. However, if the department is located in a county having a population of:

- (A) more than one hundred thousand (100,000) and less than one hundred ten thousand (110,000);
- (B) more than one hundred twelve thousand (112,000) and less than one hundred twenty thousand (120,000);
- (C) more than one hundred eighty-five thousand (185,000) and less than two hundred thousand (200,000); or
- (D) more than one hundred thirty thousand (130,000) and less than one hundred thirty-nine thousand (139,000);

and the city does not have a city civil engineer, one (1) of the commissioners must be a licensed engineer, appointed by the executive, with at least five (5) years experience in civil or sanitary engineering. In addition, in such a city the commissioners may not hold another public office. Not more than two (2) of the commissioners may be of the same political party, unless the board consists of five (5) commissioners, in which case not more than three (3) of the commissioners may be of the same political party.

(c) Before beginning the commissioner's duties, each commissioner shall take and subscribe the usual oath of office. The oath shall be endorsed upon the certificate of appointment and filed with the municipal clerk.

(d) Each commissioner shall also execute a bond in the penal sum of five thousand dollars (\$5,000) payable to the state and conditioned upon the faithful performance of the commissioner's duties and the faithful accounting for all money and property that comes under the commissioner's control. The bond must be approved by the municipal executive.

(e) The appointed commissioners are entitled to a salary of not less than three thousand six hundred dollars (\$3,600) a year during actual construction and not less than six hundred dollars (\$600) a year in other years.

(f) Notwithstanding IC 36-1-8-10, whenever this section requires that the membership of the board of sanitary commissioners not exceed a stated number of members from the same political party, at the time of appointment the appointee must:

- (1) have voted in the two (2) most recent primary elections held by the party with which the appointee claims affiliation; or
- (2) if the appointee did not vote in the two (2) most recent primary elections or only voted in one (1) of those elections, be certified as a member of the party with which the appointee claims affiliation by that party's county chair for the county in which the appointee resides.

[Pre-Local Government Recodification Citations: subsection (a) formerly 19-2-14-1 part; subsections (b)(1), (b)(2) formerly 19-2-27-1 part; subsection (b)(3) formerly 19-2-14-1 part; 19-2-28-5 part; 19-2-28.5-3 part; subsections (c), (d) formerly 19-2-14-1 part; subsection (e) formerly 19-2-14-2 part.]

As added by Acts 1981, P.L.309, SEC.98. Amended by Acts 1982, P.L.1, SEC.64; P.L.319-1989, SEC.1; P.L.320-1989, SEC.1; P.L.12-1992, SEC.180; P.L.170-2002, SEC.169; P.L.175-2006, SEC.21; P.L.17-2007, SEC.1; P.L.119-2012, SEC.231; P.L.127-2017, SEC.316; P.L.104-2022, SEC.213.

Sec. 2-1576. - Established.

A sanitary board is hereby established, pursuant IC 36-9-23-4(a), and all powers and duties of the board of public works and safety, as authorized by IC 36-9-23-3, are hereby transferred to said sanitary board.

(Ord. No. 6980, 3-17-1998)