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ANNUAL REPORT

of the

BUREAU OF ENGINEERING, SURVEYS AND ZONING

of the

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

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BUREAU OF ENGINEERING, SURVEYS AND ZONING

Thomas Buckley, Chief Engineer & Surveyor

The normal functions performed by this sub-division of the Department of Public Works are numerous and diverse because of the administrative demands that have controlled its organization over a period of eighty-five (85) years. This Public Works unit, as it stands today, is the result of the consolidation of three separate bureaus into one master bureau, i.e., the Bureau of Surveys, the Bureau of Zoning, and the Bureau of Engineering.

The Surveys Division is under the responsible charge of the Assistant Chief Engineer and Surveyor and includes the following elements of the Bureau organization: The Board of Surveyors, the nine Survey Districts into which the City is sub-divided, and the City Plan, Land Title and Road Records units.

The primary activities of the Surveys Division are land surveying in all its branches; studies, surveys, plans, lines, grades, estimates and assessments for various classes of municipal improvements; surveys, plans and other data for many municipal departments and bureaus, including legal use; the preparation, establishment, and administration of the official City Plan; city planning, research studies and reports; maintaining for public access and reference official records of City Plan changes, street openings, and property ownerships.

By reason of the number of well trained, experienced, and efficient personnel in the Surveys Division, its assistants are subject to assignments for special services within the Bureau and for inter-departmental duties.

The Zoning Division is under the responsible charge of an Assistant Engineer-Zoning, and comprises an efficient single unit, carefully organized to perform the highly specialized duties involved. The primary activity of the Zoning Division is the administration of zoning, as authorized by ordinances of Council August 10, 1933, and amendments thereto, including the supplemental ordinance of October 26, 1936, and Act of Assembly approved May 6, 1929. The work performed includes all of the duties essential to the regulating and restricting of the height, location, size, bulk and use of buildings or land within the city and county of Philadelphia under a complete zoning code.

The Engineering Division is under the responsible charge of the Principal Assistant Engineer, and includes the following elements of the Bureau organization: the design, construction, inspection, operation, testing, and sewer registrar and permits units.

The primary activities of the Engineering Division are the design and construction of bridges, retaining walls, buildings, flood controls, storm and sanitary sewers, and other drainage and sewage structures; participation with railroads in grade crossing eliminations and terminal improvements; plans for major highway improvements; inspection of materials and workmanship; preparation of standards and specifications; physical and chemical testing of materials, a City-wide service; preparing complete plans of drainage system and issuance of permits for sewer connections; investigations of drainage and flooding complaints; control of trade wastes; checking and approval of structural designs for other departments and public utilities, and general engineering investigations and reports on various projects and conditions affecting the interests of the City.

In addition to these three major functions, there is also an auxiliary unit attached to the Bureau, designated as The Co-Ordinating Division for projects of the Works Progress Administration, under the responsible charge of an Assistant Engineer and Co-Ordinator. The primary purpose of this division is to act as a consulting and co-ordinating staff for the Mayor in setting up, equipping, financing, supervision, and completing all Works Administration projects sponsored by the City. The work performed includes recommendations and advice in formulating worth-while projects, submitting estimates and ordinances to Council for Works Projects programs, preparing material and equipment, requisitions, and special specifications, inspecting supplies, materials, and workmanship, preparing minor designs, and supervising the laying out and conduct of the work.

These four divisions of the Bureau of Engineering, Surveys and Zoning are not completely detached from each other and do not function independently. They are harmoniously co-ordinated into an united and effective working whole, capable of performing annually an unusual volume of work varying greatly in character and extent. Although the combined man-power is relatively small, and the salaries received are considerably below the standards now in force in private business employments, these factors have not affected the productiveness of the Bureau.

The Surveys, Zoning, Engineering, and Co-ordinating divisions are served by an Accounting Unit under the responsible charge of a Chief Clerk. The principal activities of this function include the bookkeeping, accounting, and auditing necessary in connection with the budget and loan appropriations to the Bureau, and for the estimates, requisitions, supplies, leases, contracts, payrolls, pensions, reports and other financial business under the jurisdiction of the Bureau, and the maintenance of the transportation facilities required by the different units, and complete service records of active and inactive personnel.

Considering the Bureau functions as a whole, there are other certain general activities performed that are worthy of record. These include the drafting of ordinances, agreements, deeds of dedication; reports to administrative heads and legislative committees concerning the City Plan, municipal improvements, municipal and State legislation and other subjects; participating in court and Board of View proceedings and in the meetings of the Fairmount Park Commission, the Board of Highway Supervisors, the Zoning Board of Adjustment, the Board of Surveyors, road day hearings on City Plan changes, the Utilities Technical Committee, and other special meetings; furnishing daily to a large number of the general public and to special business interests information concerning property surveys, City Plan and planning data, legal status of streets, property ownerships, zoning regulations, availability of sewer and stormwater drainage facilities, locations of drainage connections, bids and contract data, and other miscellaneous data; acting as a consultant in the laying out of new developments in drainage and highway projections and construction, in traffic controls and other municipal engineering problems.

A detailed account of the work done during the year 1940 by the various functional divisions of the Bureau of Engineering, Surveys and Zoning appears in the following description, which is supplemented at the end of the report by a statistical summarization of the activities of each unit. Included in this tabulation is the report of the Photographic and Blue Print division of the Department of Public Works. While this unit is assigned to the Director's office in the budget, it is most intimately associated with and supervised by the Bureau of Engineering, Surveys and Zoning.

SURVEYS DIVISION

Board of Surveyors. - The Board of Surveyors, which the City Charter requires "shall be attached to, and be a part of, the Department of Public Works," is an integral part of the Bureau of Engineering, Surveys and Zoning. As constituted by the Act of Consolidation of 1854 and subsequent Acts, including the present City Charter, it consists of the Surveyors and Regulators of the various Survey Districts, with the Chief Engineer and Surveyor as President, and the Assistant Chief Engineer as Vice-President.

The Board of Surveyors, under authority of City Council, and with the powers granted and duties imposed on it by various Acts of Assembly, is the body through which control of the official City Plan is exercised.

The most noteworthy City Plan confirmed by the Board of Surveyors was the plan of the "Poplar Street Housing Site." This plan was authorized by the Ordinance approved May 15, 1940, and was confirmed by the Board of Surveyors on October 21, 1940. The authorizing ordinance provided for the execution of an Agreement by the City and the Philadelphia Housing Authority, upon the execution of which, the Board of Surveyors was authorized to make the city plan revisions necessary to prepare the site for a Housing Development comprising about 30 acres for the accommodation of 1524 family units.

The City Plan was revised within the area bounded by Poplar Street, Ninth Street, Brown Street, Tenth Street, Fairmount Avenue and Twelfth Street. The revisions included the striking from the City Plan of portions of Harmer Street, Ogden Street, Myrtle Street, Reno Street, Olive Street, Marvine Street, Warnock Street, Hutchinson Street, Parrish Street and Brown Street, and the widening of the cartways of 12th Street, 11th Street and 10th Street through the site. Included on the revised plan were the sewer rights of way provided for in the agreement, together with certain other rights of way for utility structures, etc. The confirmation of this City Plan is noteworthy also in that it is the last of three large housing sites which the Philadelphia Housing Authority undertook to construct in the City of Philadelphia, with the cooperation of the City Government.

Survey Districts. - The Surveyors and Regulators, in addition to serving as members of the Board of Surveyors, are responsible for a large volume of detailed duties in their respective districts.

These duties are to regulate and determine party lines; to make surveys for conveyance purposes; the preparation of preliminary surveys and plans for construction work and for grading, paving and repaving of streets and alleys; the giving of lines and grades during the progress of the work; measuring and certifying the quantities of work completed under contracts, and the preparation of assessment bills against property abutting on improvement work. The necessary plans for the legal matters involved in openings, and changes of grade of streets, and damage claims, are made upon the request of the Department of Law, for use in determining damage awards.

This year marked the culmination of plans for revising the Survey District boundaries in the interest of economy and efficient operation. An ordinance approved December 18, 1940, reduced the number of districts to nine, by merging the First District with the Eighth District, and merging the Seventh District with the Eleventh District. For some years past, the eleven districts have been administered by nine surveyors, operating from twelve offices, one district having a branch office.

Arrangements have been made for dispensing with two district offices and one

branch office, each of which was rented from private owners, with a resultant saving of nearly \$3000 per year in rentals. In addition to the economies thus effected, it is confidently expected that each District Surveyor will be able to administer the district work more effectively and efficiently.

During the past year the work of the Survey Districts has continued to increase, although the cash receipts were \$87,808.64, a decrease of \$8,568.20 from the previous year. Many factors have contributed to the increase of work. One of the most important is the activity of the City-wide W.P.A. project for the grading, paving and improvement of highways. An aggregate of nearly seven (7) miles of highway improvement work of various classes was completed. Other such work is also under construction. All of this work has entailed the work of preparing plans, estimates, and furnishing lines and grades. None of this work is reflected in the cash receipts.

Sewer construction was considerably increased; the City's participation in an augmented State Highway program, and cooperation with the Defense Program of the United States Government, have all contributed greatly to the demands for prompt and accurate service on the part of the Survey Districts.

PLANS AND REGISTRY DIVISION

The compilation of items of work performed in this Division during 1940 shows an increased activity over the preceding year and is particularly true in the various operations of work relating to the transfer of title of real estate. Generally, the amount of increase was about 9%, and reflects the trend in greater sub-division of land and the establishing of more property owners.

The maintenance of the records which show owners of property was greatly aided by the replacement with new pages of worn and defaced pages by a W.P.A. project sponsored by this Bureau which has been in operation since April.

The work performed relating to changes on the City Plan and legal opening of streets was comparable in amount to the year preceding. Sixty-two plans showing owner of property and legal status of streets were prepared. These plans were mainly occasioned by the increased activity in the rehabilitation or expansion of many industries engaged in the production of defense materials. Worthy of mention are the property sites of Cramp Shipbuilding Company, the U. S. War Department Quartermaster's Depot, Atwater-Kent Mfg. Co., Lemig Chemical Company, and others.

In the matter of planning revisions to eliminate "bottle-necks" and facilitate traffic movements on the main arteries of travel, this division assisted by preparing plans and charts showing legal status of existing highways and proposed routes.

A set of street data maps showing the legal and physical status of streets covering the entire city was put into use during the early part of 1940, and has proven very beneficial to this and other divisions. These maps were made in collaboration with W.P.A. and under the strict supervision of assistants in this division.

The Land Use Map and Street Data Map Project (W.P.A. No. 18313) started the year with 108 Land Use plates, 30" x 50" in size, 200' scale and 59 Street Data plates, 24" x 40" in size, 500' scale, practically finished. This project had been in operation since August, 1938, and employed nearly 200 persons during the

first year of operation. At the beginning of this year, the personnel had been reduced to 48 persons. They were employed on making an analysis of the two sets of records. The analysis of the street data map was completed in February. This analysis completed the mileage of City streets under various classifications of street widths which were further classified as to plotted streets, legally opened streets, streets improved and unimproved, private streets, etc. A chart was prepared tabulating the results.

The Land Use analysis was continued to completion during July. This analysis calculated the area of approximately 18,000 city blocks, as zoned, and their subdivided parcels as used, in terms of the regulations fixed by the Zoning Ordinance. The principal breakdown was, residential use, commercial, industrial, least restricted, parks, vacant land, open land (unsubdivided land), and cemeteries. The block areas were totaled by census tracts, tracts were totaled to ward areas and wards to final total city figures. The areas excluded streets, both existing and those confirmed on the city plan, but not developed.

Three charts graphically illustrating the results were prepared which tabulated the information under the three following headings:

1. Land Use Areas by Wards and City Total.
2. Zoned District Areas by Wards and City Total.
3. Zoned Areas and Land Use by Zoned District Designations.

Much help was given to other bureaus and interested private interests. The Philadelphia Housing Association was furnished information from the Land Use Maps for site studies. The Water Bureau secured a set of Land Use Maps and analysis data for estimating future water consumption. The W.P.A. Safety Route Project for School Children were furnished with a set of Land Use Maps and Street Data Maps, for use as a control base for the project.

ZONING DIVISION

All of the major activities of the Zoning Division showed considerable increase. The cash receipts were \$25,946, an increase of \$5,272 over the previous year, and the highest since the Zoning Division was established in 1933.

The personnel has been rather hard pressed, due to the fact that in the face of the continued activity, personnel requirements of the Bureau required the transfer of an experienced man to another division of the Bureau, and an assistant assigned to examination of plans resigned.

During the year, the physical arrangement of the offices was improved by the addition of another room and acquisition of additional filing equipment.

The need for replotting the Zoning maps in a manner to show the many changes in District classifications made since the enactment of the Zoning Ordinance and in a form which lends itself to reproduction was provided for. This matter, a long standing need, was made the subject of a W.P.A. project, which with the supervision and control of the Division, has made considerable progress. The supervision of this project has added considerably to the demands on the personnel, but each employee is imbued with the idea that the end justifies the means. The result has been an enthusiastic cooperation to perfect this much needed record.

During the closing months of Project #18313, a project proposal was drafted to plot the existing Zoning Maps on tracing cloth, for reproduction purposes, and revise the maps for zoning and city plan revisions.

The Zoning Map Project No. 26206 was approved and started in August. Over 65 persons were tested in order to secure an average of 35 working on the project. The progress at the end of the year was as follows:

- All 37 base street maps were finished and checked.
- All 37 base street maps negative copies made.
- All 37 revision work sheets prepared.
- 12 Zoning Maps drafted and checked.

The project purchased, from its City funds, a Hunter Electro Copyist machine with which a duplicate set of street map tracings will be obtainable. This apparatus was placed in the Public Works Official Photographer's quarters and is available for many kinds of duplication of records up to 30" x 42" in size.

A photostatic copy of the original 37 Zoning Maps were purchased upon which the numerous city plan revisions, since approval of the Zoning Maps and Ordinance in 1933, were plotted and nearly 400 Zoning changes were placed. This record served as a work sheet for the draftsmen preparing the new Zoning Maps.

When the Zoning Maps are completed, the trend of Zoning changes during the seven years the Ordinance has been operating will be analyzed and compiled.

ENGINEERING DIVISION

Design. - General activities of the Design function include the preparation of plans, specifications, proposal forms, and estimates for all highway bridges and viaducts, highway bridge repairs, grade crossing eliminations, sewers, sewage disposal structures and such other engineering projects as may be assigned to the Bureau of Engineering, Surveys and Zoning.

Comprising its routine duties are the preparation of reports on drainage and flooding, maintenance of drainage maps, checking of marquees, canopies, tunnels, vaults, etc., for structural strength, checking routes for heavy hauling, approval of applications by utility companies for street opening permits and the approval of new railroad track locations within street lines.

Sewers (private). - In recent years sewers required for development by operative builders generally have been built at private cost from plans and specifications prepared by the Design division. The greater part of these building developments for 1940 were located in the northern and northeastern portions of the City. They required the preparation of plans, estimates and specifications for 36 sewers of this class.

Sewers (public). - An ordinance of Council of October 21, 1937, and subsequent supplementary ordinances, authorized the construction and reconstruction of approximately 500 sewers at various specific locations throughout the City, at an estimated cost of over \$5,000,000. Work on this program, which began in 1938, was accelerated during 1940 in order to relieve sections where lack of available drainage required the use of cess-pools resulting in very unsanitary conditions. Plans, estimates and specifications have been prepared during this year for ninety (90) public sewers under these ordinances.

Sewers (special). - The sewers required for the drainage of the sites developed with low-cost housing by the Philadelphia Housing Authority, which were located in City streets or in rights-of-way for drainage provided in lieu of streets, were built by the Authority from plans and specifications prepared by this division. The construction of sewers for the Glenwood and Tasker sites was completed in 1940 from plans prepared in 1939. During 1940, a plan and specification were prepared for a sewer required for the Poplar site.

Drainage Studies. - Numerous revisions to the City plan were confirmed by the Board of Surveyors during the year 1940 to provide for the normal growth of the City, including the striking of certain streets to provide for the expansion of industries and placing on the City plan additional streets for residential improvement. Studies of the effect of such changes on the existing or proposed drainage system are made by this division and findings reported to the Board of Surveyors prior to their final consideration of reports to the Committee of Public Works of City Council on City Plan Ordinances.

Preliminary Sewer Estimates. - The Design division made numerous preliminary estimates for the construction and reconstruction of sewers during the past year. This estimating is based upon records of all costs involved in the construction of sewers as experienced under City contracts. These cost records are kept up to date at all times.

Sewage Treatment Developments. - Springfield Township has recently completed the construction of a sewer system which is connected to the City at points along Stenton Avenue. Impact type flow-meters were designed by this division and developed by a Valve and Meter Manufacturing Company for the measurement and recording of this sewage. They were installed in special manholes located at Winston Road, Willow Grove Avenue and Cresheim Valley Drive. A similar meter was installed at Cheltenham Avenue and Bowvier Street for the measurement of sewage from Cheltenham Township. The measurement is required under the terms of agreements between the City and the townships to determine the payment to the City for the transportation and disposal of the incoming sewage from the several townships.

The plans for the proposed Central Schuylkill pumping station which were practically complete provided for the roof to carry the proposed west River High-Level Drive. The elimination of this drive from the City plan below South Street altered the conditions so that it was necessary to re-design the pumping station.

The proposed improvement of Essington Avenue from Passyunk Avenue southward as an airport traffic artery will require the construction of a portion of the Southwest Main Gravity Intercepting Sewer in this highway from 70th Street to Mingo Avenue, and plans are being completed for this work.

The Design division furnished extensive data and numerous plans to the City's engineering consultants, for use in their investigation and report on the sewage disposal problem of the City of Philadelphia.

A complete check, requested by the Receiver of Taxes, was made of all sewers and drains throughout the City and the number of properties served by them, for use in assessment of the proposed sewer rental.

Philadelphia Municipal Airport. - The year 1940 witnessed the final drive for the completion of the Airport. The plans for all the work on this major improvement, except the architectural plans for the buildings and wiring plans for electrical installation, were prepared by the Design Division.

The runways, which have attracted wide attention, are paved with bituminous concrete which has proved to be an ideal landing surface and makes an excellent runway providing the subsoil is stable. Specially designed reinforced concrete pavement was provided in the loading area, principally to withstand the accidental spillage of gasoline and oils. The total amount of paving of both kinds in the runways, taxi-lanes, and loading area equals 405,000 square yards.

The Airport was designed with provision for future runways paralleling the existing runways which will double the capacity of the field. Plans and estimates were prepared for the enlargement of the field in this manner.

Drainage Maps. - Record drainage maps are maintained by this division. These maps show the City plan streets and confirmed curb elevations, the existing sewers and drains and the proposed sewers for undeveloped sections of the City. These maps are kept constantly up to date for revisions of the City plan and as additional sewers and drains are constructed. Those covering portions of the City being actively developed are in continuous use, and replacement of worn maps is constantly necessary.

Kingsessing-49th Street Bridges. - Construction was begun on the Kingsessing-49th Street Bridges over the tracks of the Pennsylvania Railroad from plans previously prepared by this Division.

Kingsessing Avenue has been considered for many years as a by-pass for the heavy traffic on Chester Avenue, but could not be used because of the absence of a bridge over the Octoraro Branch of the Pennsylvania Railroad at 49th Street. When the Bureau of Highways reported the steel of the existing 49th Street bridge to be in bad condition, the opportunity was seized to improve the entire locality by constructing the two bridges under one contract.

There is an existing trolley route over 49th Street bridge which must be maintained in service as it leads directly to both a transfer point and the car barn at 49th Street and Woodland Avenue. Several detours were tried by the Philadelphia Transportation Company, but they were found to be expensive, and a plan was finally developed by the Design division requiring the transportation company to build a temporary steel bridge wide enough for one track in the west footway location which later could be included in the permanent bridge. This permitted the abandonment of the tracks in the roadway until the new structure in the roadway location was complete with tracks, when the trolley service would be restored by the Philadelphia Transportation Company and the temporary tracks removed by them. The net result of this plan was the saving of several thousand dollars in construction work and materials by the City and a considerable saving to the transportation company in detour track construction expense.

Margaret-Lefevre Street Bridge. - This year marked the completion of plans, the placing under contract, and the beginning of construction of the Margaret-Lefevre Street bridge over Frankford Creek. For a great many years all traffic between Bridesburg and Frankford has been over the Orthodox Street and Bridge Street bridges. Both of these have been inadequate to serve the volume of traffic over them and there has been considerable local agitation for the construction of another bridge on the line of Margaret-Lefevre Street over Frankford Creek.

Upon authorization by Council, plans were begun for a single-span of 125 feet in length which would bridge the proposed creek channel of 120 feet. The design provides for a single line of trolley track which will make possible the rerouting of south-bound route 75 trolleys over Margaret Street instead of the present congestion caused by double tracks on Orthodox Street.

The reinforced concrete deck of this bridge was designed as a partially hollow slab, 5 $\frac{1}{2}$ " diameter, fiber tubes being inserted about the neutral axis in such a way that the slab could be made much deeper without any increase in weight. The added strength permitted the span of the slab to be increased from 10 to 14 feet saving 40% of the total number of steel floor beams.

Aluminum railings were used in the design as it requires no maintenance, and every effort now is being made in the design of modern highway bridges in Philadelphia to keep the maintenance requirements to a minimum. Improved methods of fabrication and assembly made it possible for aluminum to compete favorably with galvanized steel in the cost of finished railings in place.

Sedgley Avenue Bridge. - Plans are in preparation for a new deck on the bridge on Sedgley Avenue over the tracks of the North Penn Branch of the Reading Company. The present bridge on the line of Sedgley Avenue over the North Penn Railroad was built in 1894 and has deteriorated to such an extent that its load capacity has been reduced to 8 tons. In order to restore it to anywhere near the strength required by present-day truck traffic, such extensive repairs would be required that it was considered wiser to build a new deck. Accordingly, plans were begun for a stringer type bridge with reinforced concrete parapet walls 6 feet 6 inches high. The normal height of a bridge railing is about 4 feet but where bridges cross electrified railroads, additional safety against accidental contact with high-tension wires is required, for which the railroad company pays, in every case. While the North Penn has not been electrified as yet, the Reading Company, nevertheless, requested the high parapets on this bridge.

Marquises, Canopies, Tunnels, Vaults, etc. - Plans for these structures, which extend beyond the house lines of streets, must be approved by the Board of Highway Supervisors, and are submitted by the Board to the Design Division for a check of structural strength and rigidity. During the year thirty (30) such structural plans were checked by the Design Division.

Utility Applications. - Utility Companies desiring to open streets must make application to the Board of Highway Supervisors for a permit, submitting a plan showing the location, size and depth of their structure thereon. These plans are forwarded by the Board to the Design Division where they are checked for interference with existing or proposed drainage structures. The number of such submissions in 1940 exceeded those of 1939 by 232, an increase of 20%.

Construction - General. - During the year 1940, contracts were entered into for forty-six (46) branch sewers and eighteen (18) sewers at private cost, which together with sewers already under contract made a total increase of 9.30 miles to the drainage system of the City.

At the end of 1940, there was a total of 1,807.18 miles of sewers completed within the limits of the City of Philadelphia. Some of the outstanding construction activities of the year were as follows:

Main Sewer Construction. - On the line of Tyson Avenue from Oakley Street to Hasbrook Street and in Hasbrook Street from the line of Tyson Avenue to a connection with the sewer system of Cheltenham Township: a 10" vitrified pipe sanitary

sewer with a 4'0" diameter special stormwater conduit in tunnel and other smaller sizes in open cut. This sewer was started in 1939, and completed this year. The total cost was \$51,455.67.

Willow Street from east of New Market Street to Second Street and from Fifth Street to Randolph Street: Due to the collapse of this sewer in 1938 and 1939, it was necessary to rebuild the portions noted above. This is a 10'6" x 9'6" reinforced concrete sewer and was started in 1939, and completed this year at a cost of \$64,543.03.

Mill Creek Sewer in 43rd Street from Woodland Avenue northwestwardly: This sewer was urgently in need of repairs since its failure in 1938. In 1939, a contract for \$20,000 was entered into and as work proceeded it was found not to be enough so another contract for \$9,151.03 was entered into. This is a 20'0" x 20'0" brick sewer in full cradle and the work was completed this year, all the contract funds being used.

Bridge Construction. - Bridge on line of Margaret and Lefevre Streets over Frankford Creek: The bridge is composed of structural steel encased in concrete with reinforced concrete roadway paving base and surfaced with sheet asphalt and asphalt plank. The bridge structure is supported on abutments of concrete and stone masonry. The approach on the north side is to be constructed at confirmed grade from the bridge to Bermuda Street, but is not to be paved under this contract. The approach to the bridge on the south side is to be paved and the proper adjustments made to the existing paving in Lefevre Street. The work on this contract at the end of the year was approximately 26% completed. The contract is limited to \$92,000.

Bridges on the line of 49th Street and on the line of Kingsessing Avenue over the Octoraro Branch of the Pennsylvania Railroad: The construction of these two bridges is contained in the same contract. The bridge on 49th Street is to replace an old bridge that was condemned. It will be structural steel encased in concrete with reinforced concrete roadway paving base surfaced with sheet asphalt paving. This bridge will carry two street railway tracks. The bridge consists of three spans supported at the ends on the existing bridge abutments revised to meet the requirements, and upon two intermediate piers which carry the span over the double track railway. The piers are concrete with stone masonry facing. The approaches on the north and south sides are to be adjusted to the grade of the new bridge and the existing paving and paved with asphalt on concrete base.

Bridge on Kingsessing Avenue: This bridge is structural steel encased in concrete with reinforced concrete roadway paving base surfaced with asphalt. The bridge is supported on the easterly side on an existing stone masonry abutment revised to meet the requirements and upon a new abutment of concrete with stone facing, on the westerly side. The approaches to the bridge are to be adjusted to the existing paving in Kingsessing Avenue and in 49th Street. The work on this contract at the end of the year was approximately 25% completed. The contract is limited to \$140,000.

Bridge to carry Ashburner Street over the New York Division of the Pennsylvania Railroad between State Road and Torresdale Avenue: The bridge over the railroad is structural steel encased in concrete with concrete abutments spanning the four-track railroad with suitable wing walls to retain the fill for the approaches. Stormwater sewers were constructed to take care of drainage in the immediate vicinity of the bridge. This bridge was nearly completed in 1939, and was entirely completed in 1940.

Sewer Permits. - The Sewer Permit Division experienced an increase in all its activities, due in part to the building of over six miles of sewers by the City in districts where unsanitary conditions prevailed due to cesspools.

The total receipts for the year were \$40,092.88, of which \$28,144.88 was collected from service charge bills and \$11,948 from lateral fees, both of these amounts being nearly double those of the previous year.

The number of special connections, greater in size than the standard 6" house connections, increased 62% over last year. These connections are necessary for manufacturing plants and large buildings, and the increase reflects the current gain in the industries of the City.

The receipts of this office are derived from lateral fees and the payment of service charge bills. Service charge bills are collectable wherever abutting property owners have not previously contributed to the cost of the sewer. Such cases arise when the ordinance which authorized the sewer makes no provision for the assessment of the abutting property or defers the charge until the time a connection to the sewer is desired. Most of these sewers are large or main sewers built originally through undeveloped ground to reach a built-up community. This ground is now becoming ripe for development, and the service charge bills must be paid before permits for sewer connections are issued.

Testing Laboratory. - Work during 1940 consisted of chemical and physical testing of materials for construction and maintenance in accordance with their respective specification requirements as submitted by the various City departments and bureaus; investigations of materials proposed for use on City contracts and on various failures; formulation and revision of specifications; consulting service; inspections, sampling and sample collection.

Efficiency standard of the highest possible level is maintained on all work; this is greatly aided by the Laboratory's connection with national organizations who standardize in this type of work. The Laboratory has direct contact with the American Society for Testing Materials, holding membership on four of its major and seven of its sub-committees, and thus directly aids the Society in formulating its standards and test methods for materials. The City adopts and uses many of the standards published by this Society.

Periodic cooperative tests were performed with various laboratories of recognized standing to establish the efficiency ratio between the same; the importance of this is that many of these finely equipped laboratories are allied with business concerns who sell their products to the City. Many investigations and varied services were performed for the various branches of the City.

The Director of the Department of Supplies and Purchases has stated that services performed by the Laboratory for his Department enabled him to effect savings of approximately \$15,000 for 1940. Continuance of conditioning the feed water for the Philadelphia General Hospital power plant shows a saving of better than 50% of the cost of this work performed under contract.

New brands of portland cements have been investigated and data obtained to classify them for use by the City. Check tests were performed on the concrete produced for the City by the local central mix concrete plants.

One new central batching, truck mixing concrete plant was investigated for its ability to produce concrete of the quality required by the City.

Statistical tables show the total, variety, distribution and percentage of distribution of the tested specimens.

COORDINATING DIVISION, WORK PROJECTS ADMINISTRATION

The Budget Ordinance for the year 1940 provided for the cooperation of the Municipal Government and the Work Projects Administration by the appropriation of the sum of \$1,000,000 for this purpose. In order that this sum appropriated might be utilized to the best advantage and its expenditure efficiently administered, on behalf of the City, it was deemed advisable to organize a control unit under the direction of a Coordinating Engineer.

This unit was organized as a division of the Bureau of Engineering, Surveys and Zoning, and the Assistant Engineer of the Plans and Registry Division of that Bureau was designated as Coordinating Engineer. Under his direction a staff was assembled consisting of four Assistant Engineers and Inspectors, an Accountant and a Stenographer.

This Division is responsible for the administration of the funds furnished by Council, with a view to giving work to the maximum number of unemployed, keeping in view the maximum benefits to be derived by the City and its taxpayers in the rebuilding of portions of our Water Plant and Supply System; and necessary improvements to public buildings, such as Hospitals, Police and Fire Stations, Playgrounds, Recreation Centers; improvements to streets and roads and other public services.

It also writes, checks, and expedites material requisitions through the Department of Supplies; furnishes engineering and inspection services to City Departments whose budgets do not provide for engineering; makes minor designs; checks major plans and lays out work.

It assists in the preparation of proposed projects with the Work Projects Administration, and the various City Department heads in making up W.P.A. application forms; checks and prices material to arrive at the amount of money necessary to complete the project, and prepares and submits Ordinances to City Council, for the allocation of the City funds.

During the year ordinances were prepared and submitted to City Council for the allocation of a total of \$970,666 of City funds.

The principal projects to which these funds were allocated, grouped under the name of the sponsoring department or bureau, were as follows:

In the Bureau of Highways and Street Cleaning, five projects covering improvements to roads and streets throughout the City of Philadelphia; removal of rails of abandoned trolley tracks in Roxborough; dredging, grading; and riprapping Hingo Creek; painting traffic sign standards and sign posts; and "White-Collar" project of surveys and drawings of Bureau of Street Cleaning - Amount allocated \$532,000.

In the Bureau of Water, seven projects covering improvements to buildings and facilities at Queen Lane Pumping Station; improvements to Upper Roxborough Reservoir; Pitometer Survey of West Philadelphia; renovation of valves and fire plugs City wide; improvements to Buildings, grounds and facilities at Torresdale Filters, improvement of slow sand filters at Queen Lane; improvements to Belmont Filters. Two "white-collar" projects covering the compilation of data on Philadelphia Water System, and locating valves and underground structures - Amount allocated \$126,765.

In the Bureau of Engineering, Surveys and Zoning, six projects covering improvements to Schuylkill Avenue Viaduct; dredging Schuylkill River; improvements to Schuylkill Avenue West; and "white-collar" projects to copy worn and damaged Registry Books to new fibre loose leaf ledger books; prepare new and revised Zoning Maps of the City of Philadelphia; and Land Use Map - Amount allocated \$70,600.

In the Bureau of City Property, eight projects covering improvement of Wissinoming Park and Lake; the renovation of Town Hall, Germantown; demolition of non-useful City buildings; renovation of City Hall and City Hall Annex; improvements to Atwater Kent Museum; rehabilitation of Independence Hall; rehabilitation of Old Municipal Court Building, and renovation of Police District Stations and Fire Houses. One "white-collar" project to classify, arrange, catalog, and index objects of art and historic relics at Atwater Kent Museum - Amount allocated \$67,600.

In the Department of Public Health, five projects covering improvements to buildings and grounds at the Philadelphia Hospital for Contagious Diseases; improvements to Philadelphia General Hospital; improvements to Municipal Laboratory buildings and grounds; improvements to Minor Contagion Building; and renovation of old Police Station at 20th and Berks, turning it into Negro Health Center, - Amount allocated \$89,000.

In the Bureau of Mechanical Equipment, one project to rehabilitate the roofs on three buildings - Amount allocated \$8,000.

In the Department of Public Safety, five projects covering the preparation of statistical analysis of Driver Characteristics; transcribing and typing service records in the Bureau of Police; preparing record drawings and field reports of "worst corner" intersections, and extending and improving files of the Medical Division; and installation and renovation of traffic signals, including the installation of new timers for the North Broad Street traffic system - Amount allocated \$25,000.

In the Department of City Transit, two projects for the rehabilitation of Market Street Subway. One covered from 30th Street to 32nd Street, and the second from 24th Street to 32nd Street - Amount allocated \$8,450.

In the Department of Public Welfare, five projects covering renovations to 39 swimming pools, rehabilitation of 55 recreation centers, and two projects for improvements to grounds and buildings at the House of Correction and Home for the Indigent - Amount allocated \$25,000.

In the Department of Wharves, Docks and Ferries, one project to improve piers and bulkheads along Delaware and Schuylkill Rivers - Amount allocated \$75,000.

At the Commercial Museum and Convention Hall, three projects covering repairs to roof, improvements of grounds and building a repair shop - Amount allocated \$7,500.

For the Commissioners of Fairmount Park, three projects covering improvement of traffic conditions at City Avenue, improvement of Hunting Park, and increasing Recreational facilities - Amount allocated \$51,100.

ACCOUNTING AND REPORTING DIVISION

The normal functions of this Division are the disbursement of and accounting for the various appropriations made to the Bureau for payrolls and supplies, and the unexpended funds still available in Loan accounts from which most of the construction of sewers, bridges, and the paving of new highways is paid. This Division is also a leading factor in the preliminary preparation of contracts; advertising, preparation of proposal forms, public reading of bids, information for Department of Law upon which contracts are written, etc.

The past year has been a busy one for a force that economy has depleted in personnel 50%, 75 awards of bids and contracts having been handled; 144 contractors' estimates drawn; a total of \$1,564, 099.41 from Budget and Loan items paid, which, including payrolls and supplies payments, resulted in 817 separate transactions.

In addition to these functions, the accounts of nine (9) W.P.A. projects undertaken by the Bureau, as follows, were maintained:

Construction of Philadelphia Municipal Airport	\$89,250.00
Dredging of Schuylkill River	70,000.00
Improvements and extension to Municipal Stadium and appurtenances	23,000.00
Improvement of Schuylkill Avenue West	68,000.00
Grading of Schuylkill Avenue	20,760.00
Repairs to Schuylkill Avenue Viaduct	3,650.00
Transcribe Records, Bureau of Surveys	1,800.00
Revise Zoning plans and maps	1,800.00
Land Use Study in Administration of Zoning Laws	1,127.00
	\$278,367.00

*Including 1939 balances.

The receipts for the year were as follows:

	<u>Vouchers</u>	<u>Amount</u>
Survey Districts	4,381	\$87,839.81
Registry	151	144.40
Sewer Registrar	308	40,092.38
Zoning	3,852	25,946.00
Lower Merion Township (sewer rental)		100.00
Witness Fees		194.00
	8,672	\$154,347.09
Totals -		

To keep in operation the "ancient" automotive equipment of the Bureau has been a problem this Division has accepted and executed with a degree of success during the past year that can scarcely be maintained in the future, due to the extreme age of the cars and trucks involved. New equipment for this Bureau should be a matter of grave concern to the proper authorities.

The Division remains the source and clearing point for Personnel and Contract Records, and functions helpfully in many matters passed down from the Executive Division, to promote smooth operation of the Bureau.

GENERAL SUMMARIZATION AND CONCLUSIONS

The general summarization of the activities of the Bureau of Engineering, Surveys and Zoning, which follows, gives special mention to the highlights below:

The volume of work
Special projects
Organization
Personnel
General Conclusions

Volume of Work.

An analysis of the reports presented from the various divisional activities of the Bureau indicates that 1940 was a reasonably busy period. Following the terrific low which occurred in the year 1932 of the depression, Bureau activities began an up-swing which reached a high point in certain functions in 1937. Space does not permit a detailed comparison of the work done in 1940 with the activities of the preceding years. However, the total yearly cash receipts of the Bureau provide an approximate index of the annual trend. The total cash receipts were

\$146,080.82 in 1937
106,446.90 in 1938
148,517.87 in 1939
154,347.09 in 1940

The Bureau performs a large volume of work for which no charges are payable or credited; therefore, a comparison of these activities do not appear in the above figures. There was some falling off during the past year in the work performed by the Survey Districts, for which charges are legally made, but this condition was offset by the increase in the services required for City contracts, W.P.A. projects, and other departmental needs. Taken as a whole, a greater volume of work was performed by the Bureau in 1940 than in any year since 1931, and the increases in the total number of different jobs performed were particularly noteworthy. Since the Bureau is undermanned as a result of drastic budget curtailments made in 1932 and succeeding years until 1937, inclusive, the successful completion of the large quantities of work done with minimum delay and complaint was due to careful manipulation of the personnel resources combined with their loyal and efficient cooperation.

In considering the volume of work done, mention must be made of the handicaps to efficiency and hazards to personnel due to the lack of adequate and safe transportation facilities. There are thirty (30) automobiles and trucks assigned to the Bureau, the majority of which have been in service ten years or more. At least ten of these cars are in such condition that they require constant mechanical service in order to keep them in operation. These models are so obsolete that repair parts are not available except by sending to the factory, which entails

weeks of delay. Moreover, some of the equipment is in such poor shape that it is very difficult to have them passed at the semi-annual inspections. By reason of their condition, the operation of this equipment on the public highways constitutes a menace to the public and a hazard to the assistants forced to use them. The rehabilitation of the Bureau's automotive equipment is urgently needed, not only for the reasons that have been mentioned, but because the efficiency of this active bureau, which includes numerous and wide-spread field work, depends upon the mobility of its forces.

Special Projects.

The Philadelphia Municipal Airport, which was completed to the point of usability and opened for official business January 16, 1940, was undoubtedly the outstanding project. Its advent was a noteworthy addition to the commercial life of Philadelphia as it brought to the City the ultra-modern means of commercial transportation, thereby rounding out the facilities and services available in this great industrial and shipping center. The Philadelphia Airport is one of the largest in the United States, and by reason of the complete absence of dangerous hazards to flying and the possibilities of its all-weather use, give it equal ranking with the finest landing fields in the country. The Bureau of Engineering, Surveys and Zoning played a major part in the planning and design of this project and were ably assisted by the full cooperation of the Bureau of Highways and Street Cleaning, the Electrical Bureau, the Department of Architecture, and the Works Projects Administration in the intensive program of work required to rush the completion of this very large project. The total cost of this Airport to date is approximately \$12,600,000.

Sanitary Relief was a particular feature of the large amount of sewer work during the year. It was undertaken as the result of a special drainage program instituted by the Mayor for eliminating bad sanitary conditions in various suburban communities. The locations involved were dependent upon worn-out cesspools for the disposal of sewage wastes, which had been inspected and condemned by the Bureau of Health. Sections reporting exceptionally bad drainage conditions of this character were Oak Lane, Fern Rock, Lawndale, Rhamhurst, and particularly Burholme. Agitation for sewers to relieve the unsanitary conditions in Burholme became very active in the spring of 1940, with the result that \$300,000 was allocated by the Mayor for the immediate construction of sewers in this district. The urgency for these and other sewers required the establishment of the intensive city-wide program of sewer construction, which reached a peak in the fall of this year and is still under way. The sewer work is being placed under contract as rapidly as plans and specifications are prepared, but the program is now slowing up because of losses in personnel that cannot be replaced. It should be noted that all sewer funds available at present are being spent for sanitary relief purposes and that no sewers for new developments are being constructed at any cost to the City.

Sewers for New Developments are still being constructed at private expense. A large number of sewers of this class were constructed this year and the present indications are that this policy must be continued. The construction of sewers for new residential developments, at the sole cost of the builders, has necessarily added to the cost of the individual homes. The Home Builders Association, therefore, during the past year, petitioned the City for a review of its sewer policies and standard requirements, to determine whether or not any economies in construction costs could be effected. As the result of this movement a new procedure has been adopted, whereby sewers and their lateral connections may be built at minimum depths under certain favorable conditions. This practice must

be confined largely to dead end streets or locations at the high points in the drainage system. Nevertheless, builders are taking advantage of the new regulations and claim material saving. It is hoped that these economies in sewer construction and similar savings in street construction will enable the local builders to compete more favorably with builders in the adjoining counties, who benefit by reason of the low cost of the municipal services commonly required under township jurisdiction.

The same policy with respect to new sewer construction was followed in the development of the three major housing projects by the Philadelphia Housing Authority, excepting, in these instances, the Authority was required to rebuild, without cost to the City, several large off-site sewers that were inadequate in size to meet the additional capacities required by the large number of housing units built. An example is the reconstruction of sewers in 27th Street and Columbia Avenue between Ridge Avenue and 29th Street by the Housing Authority at a cost of \$80,368.72.

Grade Crossing Eliminations were completed at the following locations:

- The Ashburner Street overpass of the Philadelphia and Trenton Railroad.
- The Mt. Airy overpass and the Sprague Street underpass at the Chestnut Hill Branch of the Philadelphia and Reading Railroad.
- The Allegheny Avenue, 21st Street and 22nd Street underpasses at the Philadelphia, Germantown and Norristown Branch of the Reading Company.

These major improvements are all situated on routes of the State highway system within Philadelphia, taken over by the State May 7, 1937. They were characterized, in this instance, by the fact that three-party agreements were necessitated in order to permit full participation by the State, the City, and the railroad companies. The Allegheny Avenue project was the largest in size and the most important because of the extremely dangerous traffic hazards that formerly marked this location.

West Schuylkill River Embankment Improvement was begun this year. The scope of the present project includes the construction of a low level drive along the west bank of the Schuylkill River from Spring Garden Street southward to a point where it will be connected by a concrete and steel ramp to the high level approaches of the new Pennsylvania Railroad Station at Market Street, 30th Street and Arch Street. It will also be connected with high and low level approaches of the Spring Garden Street bridge. The work under this improvement is being done as a W.P.A. project, sponsored by the City of Philadelphia, and was made possible through the cooperation of the Pennsylvania Railroad and their generous contributions of plans and materials for the ramp structure. While considered but temporary in nature, this project represents a substantial improvement that will greatly improve the circulatory and approach problems which now handicap traffic through this section, as well as increasing the accessibility of the Pennsylvania Railroad Station facilities.

Standards and Specifications for Bureau projects are subject to constant review in the interest of increased economies and better structures. During the past year the Bureau experienced some very unsatisfactory results by reason of excess infiltrations through the standard joints used in vitrified pipe sewers which had been laid at locations where large amounts of underground water were encountered. After exhaustive research and field and laboratory experiments, several new types of joints were designed and, as a result, valuable improvements have been made in the methods of making field joints. These investigations are

still in progress and a complete report on the facts obtained and recommendations resulting will be published. The Bureau feels that in this work it has made a valuable contribution to the cause of vitrified pipe sewer construction.

Organization.

The partial reorganization of the Bureau, including the restorations in the salaries of all Survey District assistants below the grade of Surveyor and Regulator, made possible under the 1940 budget, were highly beneficial to morale and efficiency in the units affected. The completion of the reorganization, so as to cover the remaining divisions recommended for adoption in 1941, was not approved. However, three changes proposed in the complete plan were adopted for next year. These are the reorganization of the Zoning Division; the division of the responsibilities in the Plans and Registry Division under two heads, a Planning Engineer and a Registry Engineer; and the consolidation of certain Survey District offices with the necessary changes in boundaries so that the eleven districts could be recast into nine districts, the smallest number ever maintained since the origin of this function in 1855. The re-arrangement of the Survey District formation was necessary in order to effect economies in office rentals and so as to better utilize the present district personnel.

Personnel.

The 1940 budget provided for a total personnel of 211, but of this number 13 positions were held vacant in the interests of economy so that 198 was the number actually employed and paid out of budget appropriations. In addition, 21 assistants employed in design and engineering inspection were carried on various loan item accounts and an average of about ten sewer inspectors were carried on sewer loan appropriations, or a total of 229 employees for the year. The total of 229 employees includes all who are paid out of City funds. In addition, about half of the Bureau's working list of sewer inspectors are assigned to private sewer construction and their salaries paid by the contractor.

A number of Bureau functions have daily contacts with the public on a large variety of important questions relating to surveys, zoning, drainage, property titles, etc., some of which may involve highly controversial issues. Assistants are trained for courteous public service, and the fact that out of three hundred thousand of such contacts made in 1940 there was but one official complaint is a commendable achievement by Bureau personnel.

Forty-seven employees in the Bureau are within the draft age limits recently established and seven assistants hold ranks as officers in various military branches. The Bureau will, therefore, face serious personnel problems during the ensuing year. This situation is aggravated by the fact that a number of experienced and especially trained assistants, who have been working at reduced salaries since 1932, are now being attracted by the high salaries offered for technical employment under the national defense program now in full swing. The City cannot possibly compete with these wage scales and a number of other personnel losses must be faced for this reason. Since the work of the Bureau is so highly specialized and experienced technical workers are already at a premium, it will be impossible to maintain past levels of productivity and the work schedules for 1941 must be framed accordingly.

General Conclusions.

Every indication points to the conclusion that the versatile technical unit developed by the Bureau and brought to a high state of efficiency following the disorganization of the depression years, will again be badly disrupted in 1941 by reason of the draft and of the high salaries paid by wartime industries. While steps must be taken to rebuild the man-power, the losses suffered in specialized experience, ability, judgment, and collective efficiency cannot be replaced. Competent technical men are already at a premium and this situation will become more severe before the present national defense program is completed. The Bureau is, therefore, facing a repetition of the same conditions experienced when the United States was engaged in the great war in 1917-1918. Such being the case, the tempo in Bureau activities of 1940 cannot be continued and there must be, by necessity, a considerable reduction in both efficiency and speed.

The seriousness of this situation, from the view point of the City's progress and development, cannot be under-estimated. The Bureau at the beginning of 1941 is confronted with a program of pending major improvements which in urgency and magnitude is the greatest ever undertaken. These projects include the expansion of the Airport facilities; adequate approach highways to the Airport and to League Island Navy Yard; a fifty million dollar local State highway development; a forty million dollar expenditure for sewage interceptors and treatment plants; expansion of housing developments; and the construction of a large number of main and branch sewers, in addition to current work. However, if the international crisis, which now menaces the United States, grows worse, there will, undoubtedly, be a retardation of the construction of civil municipal works, and pressure on the Bureau and other City functions may not greatly exceed the available resources. In the meantime, the Bureau is reforming its lines for the purpose of meeting future demands with an attack as effective as possible.

ILLUSTRATIONS

OF

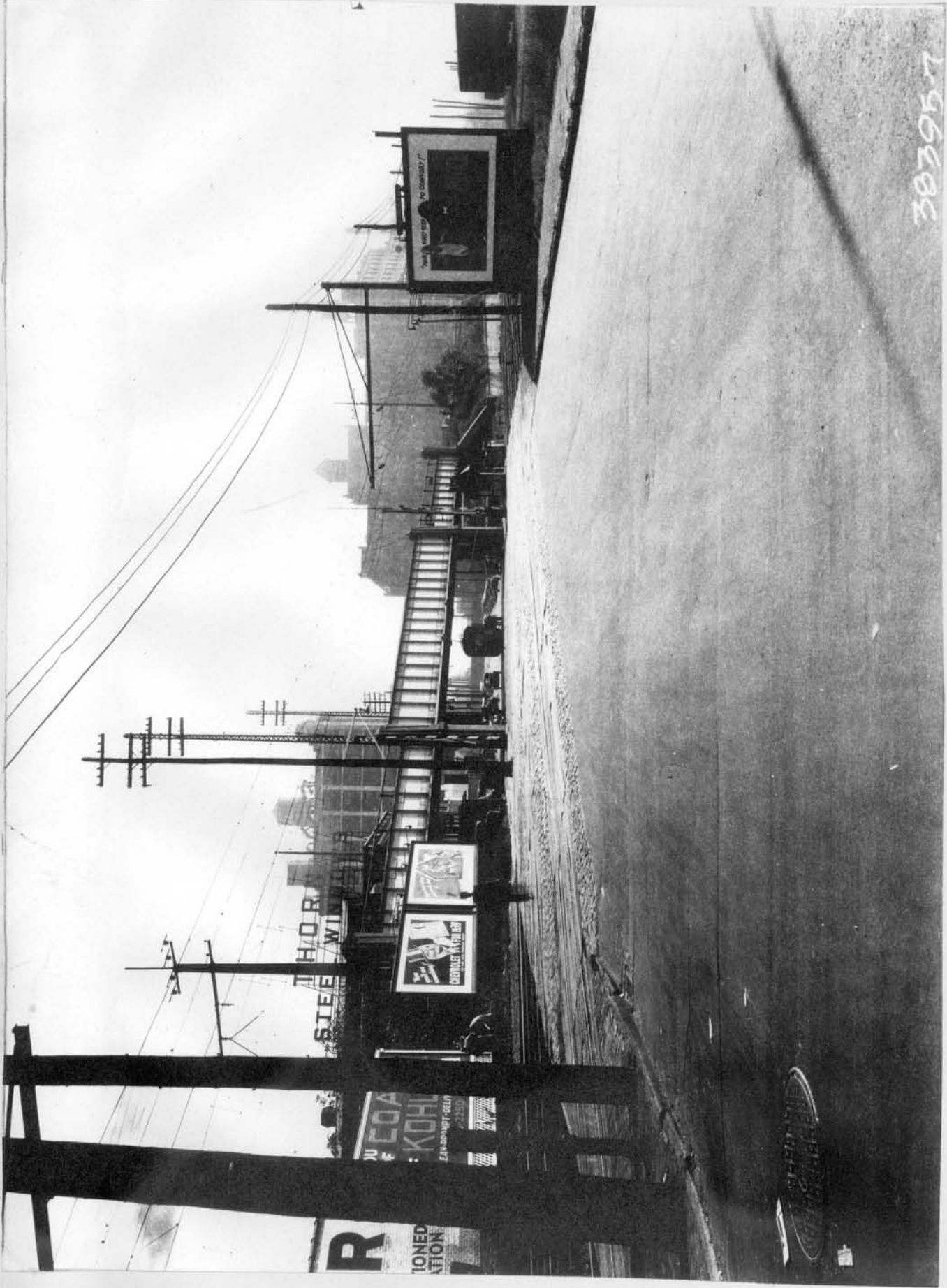
CONSTRUCTION WORK

GRADE CROSSING ELIMINATION

AIRPORT

BRIDGES

21-1940



38395.7

22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
ALLEGHENY AVE. - LOOKING EAST BEFORE COMPLETION

22-1940



2.26.40

22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
ALLEGHENY AVE. - LOOKING EAST AFTER COMPLETION

37403.

23-1940



38395-13

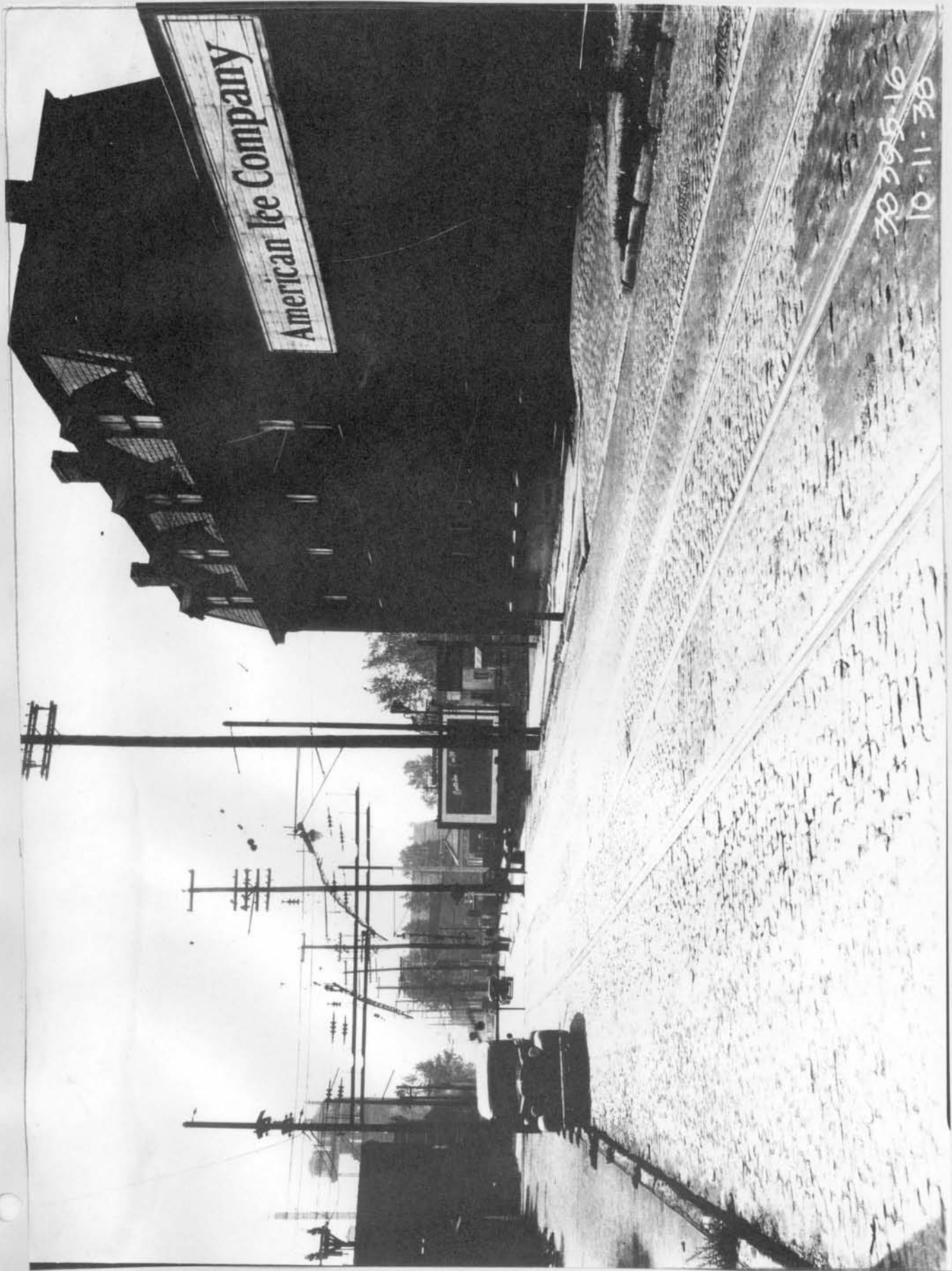
22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
21ST ST. - LOOKING NORTH BEFORE COMPLETION

24-1946



22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
21ST. ST. - LOOKING NORTH AFTER COMPLETION

25-1940



22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
22ND ST. - LOOKING SOUTH BEFORE COMPLETION

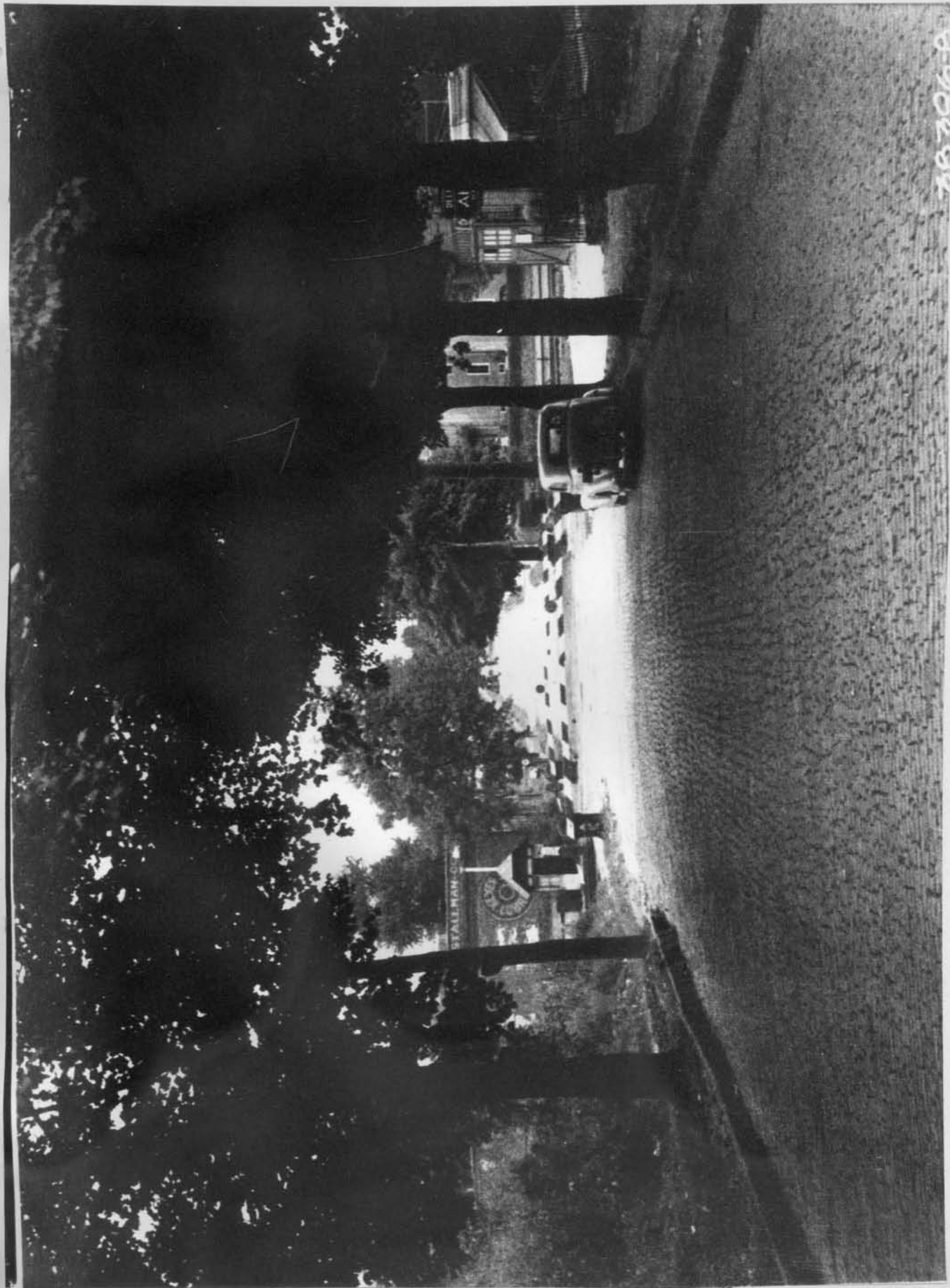
26-1946



22ND ST. AND ALLEGHENY AVE. GRADE CROSSING ELIMINATION
22ND ST. - LOOKING NORTH AFTER COMPLETION

37403-13.

27-1940



MT. AIRY AVE. GRADE CROSSING ELIMINATION
LOOKING NORTH BEFORE COMPLETION

28-1946-A

28-1946



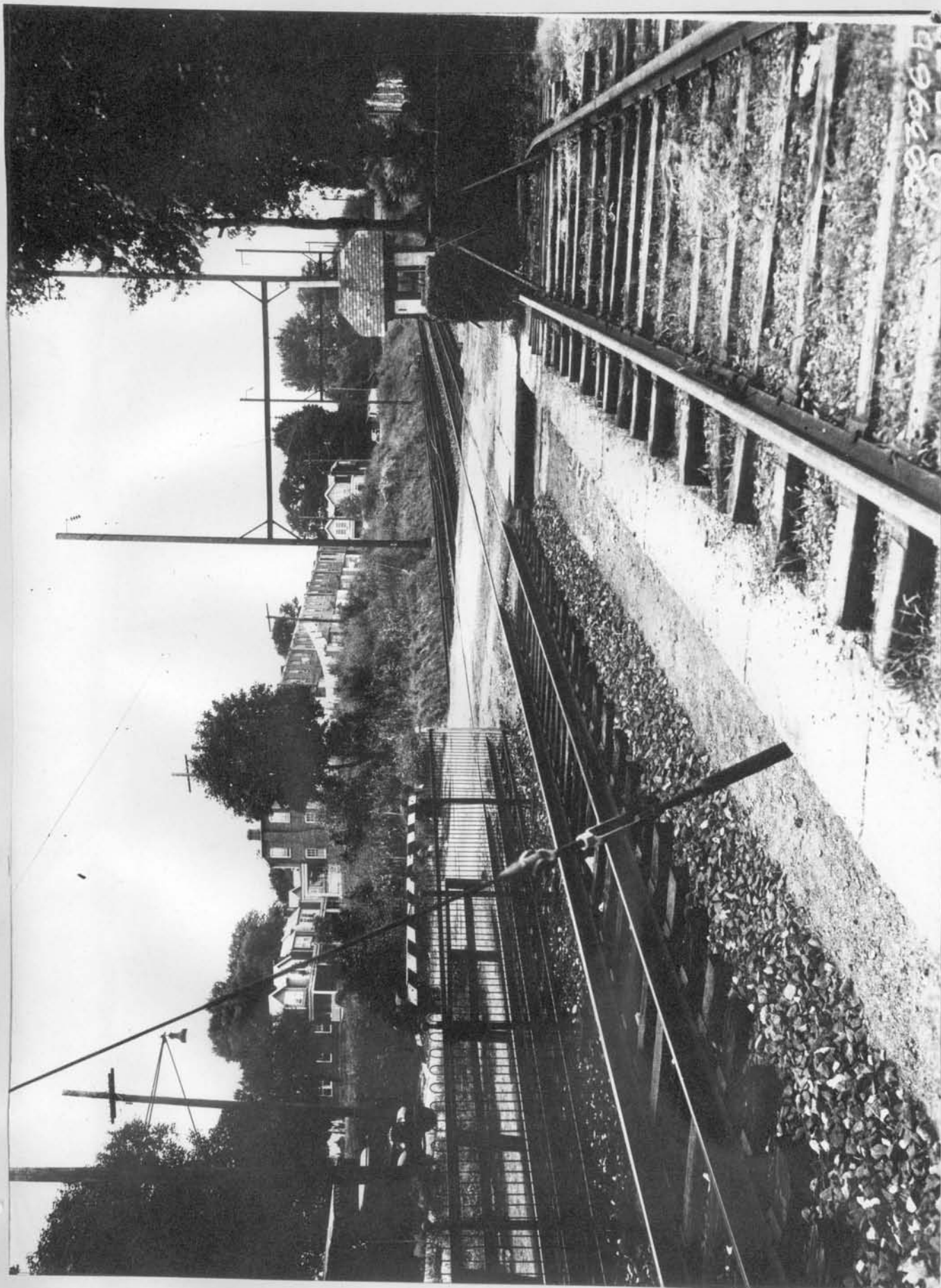
MT. AIRY AVE. GRADE CROSSING ELIMINATION
LOOKING NORTH AFTER COMPLETION

29-1940



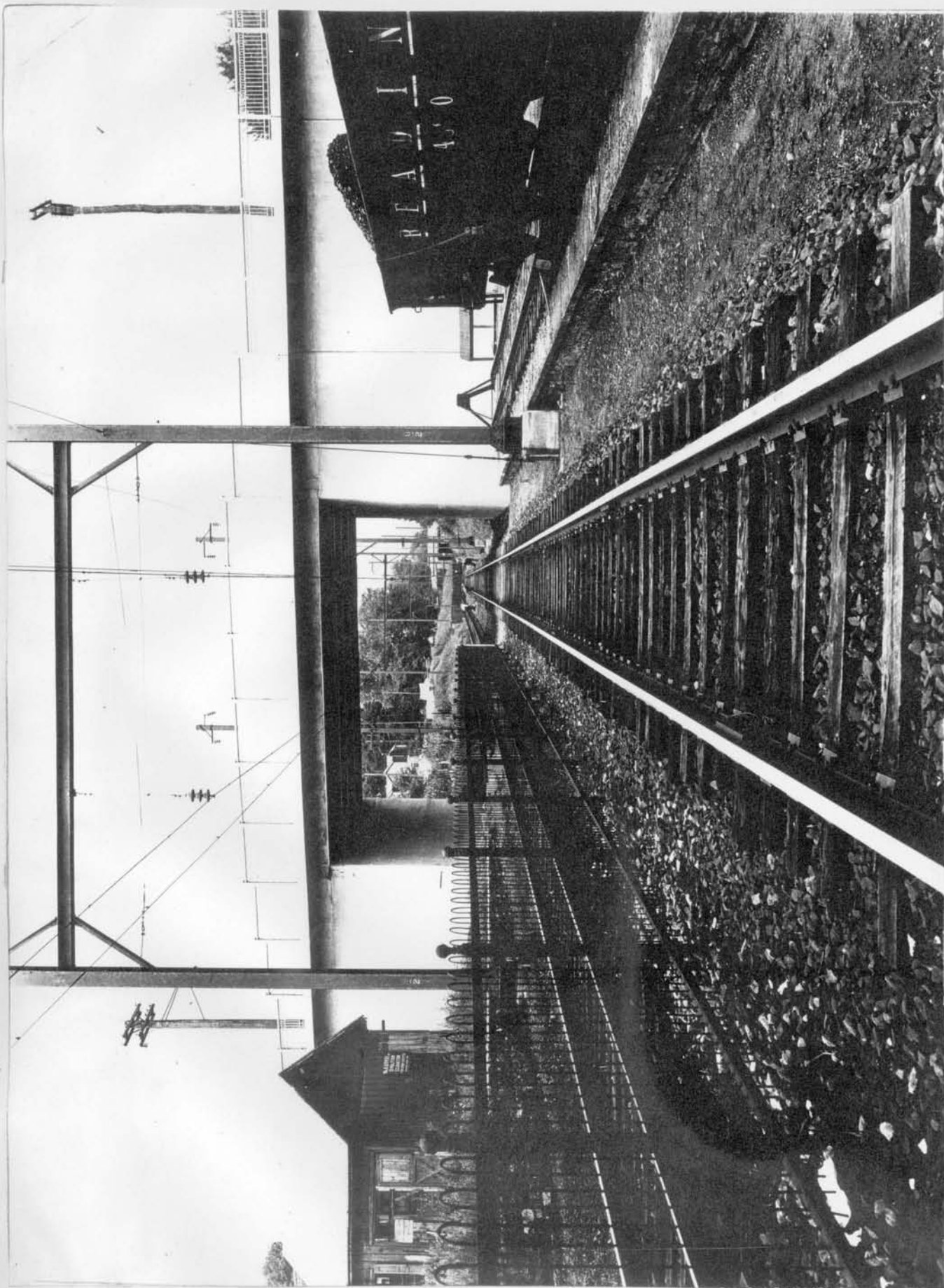
MT. AIRY AVE. GRADE CROSSING ELIMINATION
LOOKING SOUTH AFTER COMPLETION

30-1940



MT. AIRY GRADE CROSSING ELIMINATION
LOOKING WEST BEFORE COMPLETION

31-1940



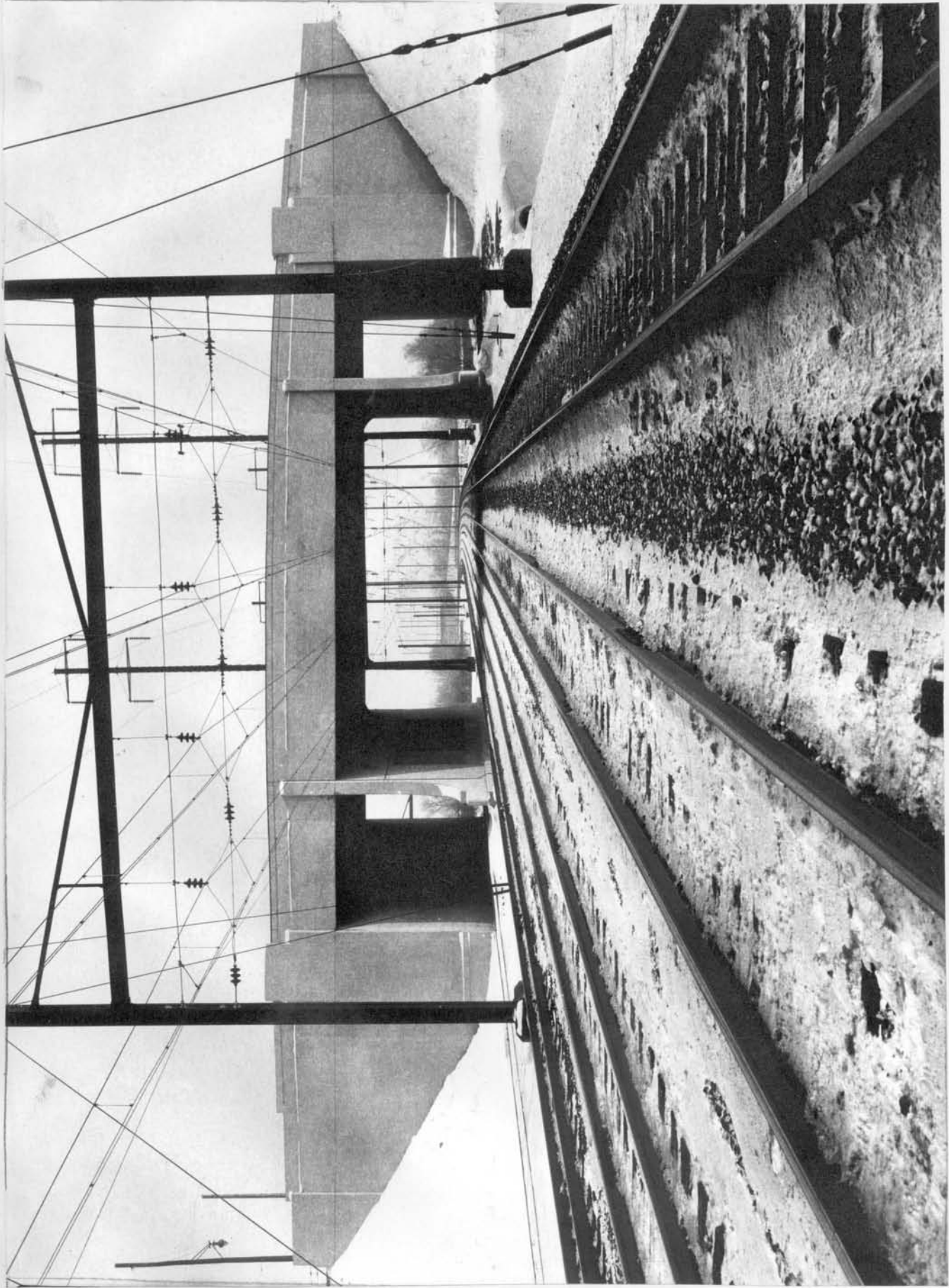
MT. AIRY AVE. GRADE CROSSING ELIMINATION
LOOKING WEST AFTER COMPLETION

32-1940



ASHBURNER ST. GRADE CROSSING ELIMINATION
LOOKING WEST BEFORE COMPLETION

33-1940



ASHBURNER ST. GRADE CROSSING ELIMINATION
LOOKING NORTH AFTER COMPLETION

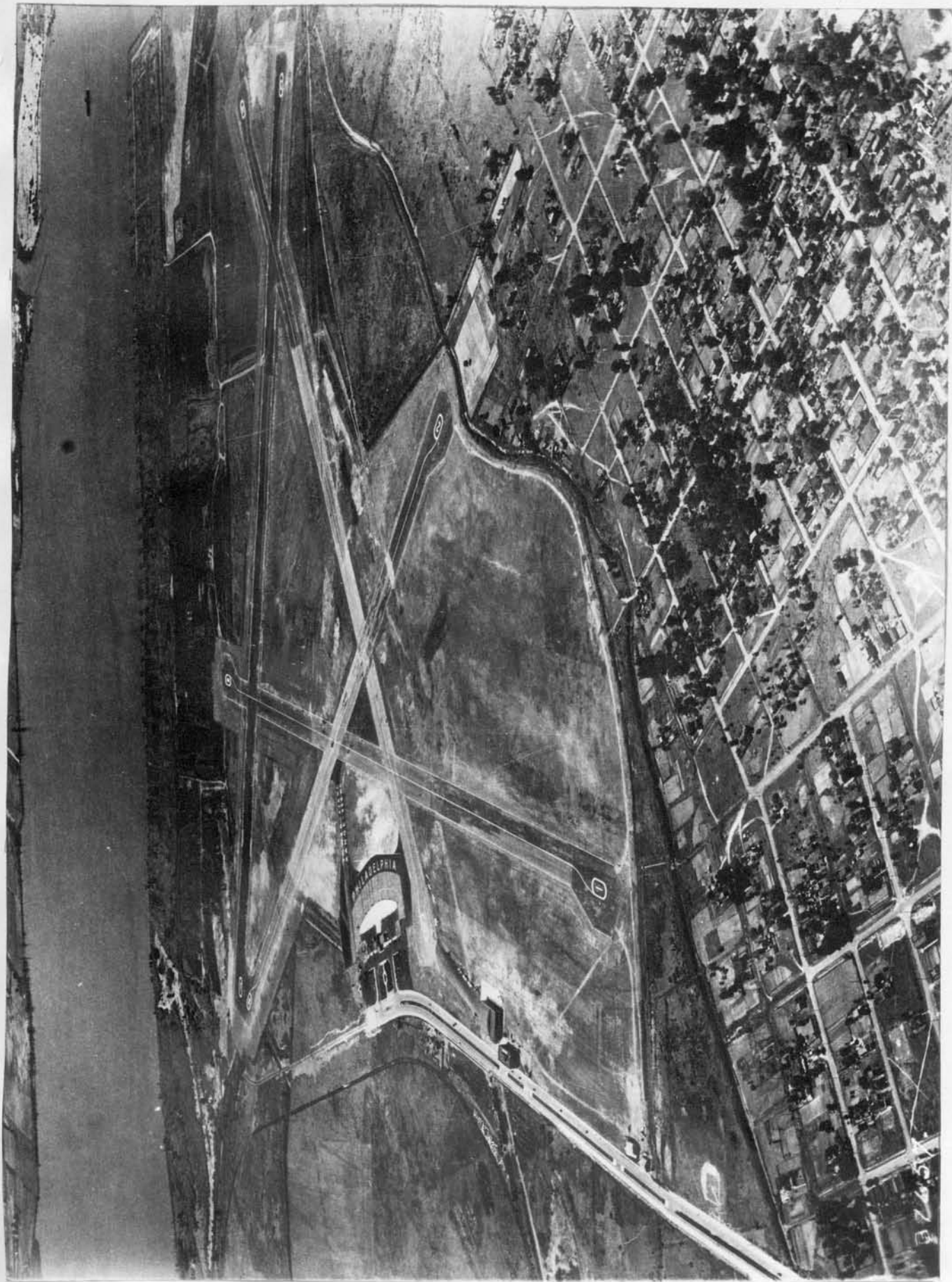
34-1940



PHILADELPHIA MUNICIPAL AIRPORT - CLEARING SITE APRIL 19, 1938

368

35-1940



PHILADELPHIA MUNICIPAL AIRPORT - AERIAL VIEW OF AIRPORT AS COMPLETED JULY 1, 1940

36-1940



1-7-41

37712-A

PHILADELPHIA MUNICIPAL AIRPORT - PLAZA

37-1940



49TH ST. BRIDGE OVER OCTORARO BRANCH P.R.R.
PROGRESS PHOTO. LOOKING NORTH

37.672.D.

12.11.40.

38-1940

STATISTICAL SUMMARIZATION

of

ACTIVITIES

39-1940

DETAILS OF WORK PERFORMED IN THE SURVEY DISTRICTS

<u>Lots Staked</u> - for building purposes, scattered, four or less	1,269
" " " " operations, over four	211
grades furnished for new buildings, linear feet	11,527
<u>Conveyance</u> - properties surveyed for conveyance, scattered	751
" " " " operations	3,013
plans made for conveyance purposes	651
descriptions of property prepared	71
<u>Farm Surveys</u> - number made	9
acres surveyed or staked	297
<u>Miscellaneous Surveys</u> - made or staked	63
<u>Curb Regulation</u> - orders	2,259
linear feet	201,400
curb corners staked out	538
lin. ft. of curb measured and certified	10,450
<u>Footways</u> - square yards of paving or repaving measured and certified	8,375
curb and footway assessment bills prepared	348
<u>Alleys and Driveways</u> - plans for paving or repaving	30
linear feet covered	14,158
number for which lines and grades were furnished	142
linear feet furnished	50,502
square yards of paving or repaving measured and certified	17,680
assessment bills prepared	1,409
<u>Subdivision Plans</u> - number made	111
lots shown thereon	986
<u>Architect Plans</u> - number made	31
<u>Wharf Plans</u> - plans and surveys made	5
number for which lines were furnished	3
linear feet	620
<u>Miscellaneous Plans</u> - number made	322
<u>City Plans</u> - small City plans prepared	29
sectional City plans prepared or revised (number)	6
(acres)	483
compiled City plans prepared, for studies, openings and other Bureaus - (number)	9
(acres)	1,471
acres surveyed for new or revised sectional plans	620
topography taken for city or private plans, acres	28
acres covered by stoning or restoning city plans	205
monuments set or reset (city or private)	229
linear feet of levels run to establish grades or benches	44,232
reports on city plan changes	39
reports on deeds of dedication, releases and affidavits	67
descriptions prepared for Deeds of Dedication	111
<u>Law Plans</u> - plans prepared for Board of View	3
properties included (number)	41
(area in acres)	28.3
plans prepared for various legal purposes	14
<u>Passenger Railways</u> - plans prepared (number)	18
(linear feet of street covered)	23,300
linear feet of lines and grades furnished	45,120
<u>Utility Companies</u> - linear feet of lines and grades furnished	11,063
reports on applications for footway locations	459
<u>Bridges</u> - preliminary plans and surveys made	2
(number for which lines and grades were furnished)	2
(linear feet furnished)	380
<u>Drainage</u> - (preliminary surveys and plans made for sewers and drains)	155
(linear feet of street covered)	119,184

Drainage (Continued)

- linear feet of lines and grades furnished	71,839.
cubic yards of trench excavation measured	74,723
cubic yards of masonry measured	308
number of inlets staked out	474
linear feet of lateral pipe and inlet connections measured	68,092
(plans of constructed sewers and appurtenances prepared	78
(linear feet of street covered	50,993
assessment bills prepared	1,027
<u>Water Pipe</u> - (plans prepared for Bureau of Water and water companies	144
(linear feet of street covered	131,203
linear feet of lines and grades furnished	12,731
fire hydrants for which lines and grades were furnished	19
reports on grade of streets for water pipe to be laid	36
assessment bills prepared	22
<u>Current Estimates</u> - any contract	79
<u>Reports</u> - on street openings, including plans or estimates	27
on street improvements, including plans or estimates	80
made to Chief Engineer	614
miscellaneous (not otherwise classified)	588
<u>Liens</u> - descriptions prepared for any Department or Bureau	165
<u>Permits</u> - Bureau of Building Inspection, number investigated	3,087
<u>Miscellaneous</u> - number of blueprints of old property plans furnished	154
linear feet cross sections - profiles - revision purposes -	
gutter stakes - levels, etc.	162,177
number of properties investigated for sewer connections	6,838
number of sewer and water stop manholes investigated -	
Federal Housing project	15
number of square yards of paving in report on State Highways,	
etc.	371,098
number of cubic yards of additional grading Airport and	
gasoline storage site	120,316
<u>Grading</u> - plans and preliminary estimates - including country roads	
(number	47
(linear feet of street covered	50,107
cubic yards measured, cut and fill	278,232
linear feet of street covered, cut and fill	24,827
linear feet of lines and grades furnished	64,615
<u>Paving</u> - plans prepared for paving - including country roads-	
(number	40
(linear feet of street covered	62,003
(square yards measured and certified	154,326
(linear feet of street covered	36,479
linear feet of lines and grades furnished	115,223
assessment bills prepared	81
<u>Repaving</u> - plans prepared for repaving - including country roads	
(number	32
(linear feet of street covered	46,186
(square yards measured and certified	103,772
(linear feet of street covered	41,914
linear feet of lines and grades furnished	116,244
<u>Amount of completed contracts</u> - main and branch sewers	\$692,645.15
private sewers and drains	202,136.45
grading	2,000.00
paving and improvement	557,043.12
repaving and resurfacing	77,389.78
	<u>\$1,531,214.50</u>
<u>Receipts</u> - District cash receipts	\$87,808.64

DETAILS OF WORK PERFORMED BY THE ZONING DIVISION

	<u>1939</u>	<u>1940</u>	%	%
			DECREASE	INCREASE
Number of requests for information	18,564	18,824		1.4
Number of applications filed	8,788	9,238		5.1
Number of Zoning Permits issued	5,959	6,647		11.5
Number of Use Registration Permits issued	2,589	2,988		25.0
Number of References to the Board of Adjustment	224	215	4.0	
Number of applications stamped "Permit not required"	3,949	3,942	.2	
Number of Zoning Permits refused	631	978		17.7
Number of Use Registration Permits refused	975	1,299		33.2
Number of refusals appealed to the Board of Adjustments	1,382	1,640		18.7
Number of Inspections	955	1,088		11.8
Number of Complaints investigated	236	237		.4
Number of Vouchers issued	3,600	3,852		7.0
Amount of Cash Receipts	\$22,674	\$25,946.		14.4
Number of true copies of applications certified for B. of A.	1,430	1,664		16.3
Number of sign applications (highway) acted upon	413	607		47.0
Number of descriptions for District Classification changes made for the Board of Adjustment	112	94	16.0	
Number of letters to Fire Marshal for his approval or disapproval of use	295	318		8.5
Number of changes of Zoning Maps made by Ordinance of Council	57	51	10.5	
Number of changes of Zoning Maps proposed by Resolution of Council	120	151		26.0

DETAILS OF WORK PERFORMED IN THE REGISTRY DIVISION

Descriptions Filed	51,407
Transfers Plotted	51,644
Original Lots Plotted	4,159
Descriptions Filed from 1865 to 1940 (inclusive)	3,076,272
Titles Examined for plan book entries	4,775
Elan Books examined by the public and officials	207,785
Certificates of Registered Owners issued to Public	210
Certificates of Registered Owners issued to Law Department	169
Registry Plates Redrawn	15
Miscellaneous Receipts	\$144.40
Miscellaneous Plans drawn for City Departments	62
Plans Loaned Out	1,095
Subpoenas issued against Registry Division	94
Appearances in Court	80
Amount of Witness Fees Collected	\$172.00
Certificates of Street Openings issued to City Departments	73
Affidavits of Street Openings Filed	12
Streets Opened by Affidavits	7
Jury Plans Ordered	1
Jury Plans Filed	1
Streets Opened by Ordinance	2
Street Opening Agreements Filed	3
Deeds of Dedication Filed	67
Deeds of Dedication Approved and Recorded	64
Releases of Abutting Owners Filed	14
Releases of Abutting Owners Approved and Recorded	12
Cost of Recording Deeds and Releases	\$42.00

DETAILS OF WORK PERFORMED BY THE OFFICIAL PHOTOGRAPHER

	<u>Photography</u>					<u>Blue Printing</u> Blueprinting, etc.			
	8x10 negs.	8x10 prints	14x17 negs.	lantern slides	electro copies square feet negs. tracings	Blue prints	Van Dykes	square feet Linens	
Engineering, Surveys and Zoning	852	2,639	23		197.5	69.5	72,312	3,931	38
Highway	492	984					22,783	670	225
Water	4	155					68,570	445	
City Property	15	44					1,259	78	
Traffic Engineer	8	45					17,119	392	
Electrical							3,073	60	900
Law	380	392							
Health	42	85		42			1,322	69	
Art Jury	15	25							
Civil Service	4	26							
Commercial Museum							215	24	
Municipal Court	4	10							
Fire Headquarters							1,125		
Mechanical Equipment	4	12							
Totals -	1,820	4,397	23	42	197.5	69.5	187,778	5,669	1,163

DETAILS OF WORK DONE IN THE TESTING LABORATORY

Air conditioning materials	11
Boiler feed water	1,753
Brick	95
Cement, hydraulic	932
Concrete, aggregate	6
Concrete, beams	30
Concrete, building block	172
Concrete, cores	260
Concrete, cylinders	3,006
Fabrics	4
Fuels	1,271
Metals, Ferrous	74
Metals, non-ferrous	125
Miscellaneous materials	44
Oil, lubricating and lubricants	11
Paint and paint materials	230
Road materials	537
Rock, wear test	1
Roofing materials	14
Rope	20
Rubber compounds	17
Soap and soap materials	12
Tile	10
Water, sewer	6
Total -	<u>8,641</u>

Distribution of Total Specimens

	<u>No. Specimens</u>	<u>%</u>	<u>No. Specimens</u>	<u>%</u>
Civil Service Commission			4	0.0
Department of City Transit			2	0.0
Department of Public Health			1,206	14.0
Department of Public Safety			210	2.4
Bureau of Building Inspection	185	2.1		
Bureau Electrical	8	0.1		
Bureau of Fire	12	0.1		
Bureau of Gas and Lighting	5	0.1		
Department of Public Welfare			365	4.2
Department of Public Works			6,162	71.4
Bureau of City Property	13	0.2		
Bureau of Engr. Surveys and Zoning	3,165	36.6		
Bureau of Highways	1,842	21.4		
Bureau of Water	1,142	13.2		
Department of Supplies and Purchases			681	7.9
Department of Wharves, Docks and Ferries			11	0.1
Total			<u>8,641</u>	<u>100.0</u>

Specimens for Chemical Test

Air Conditioning Materials		11
Boiler Feed Water		1,753
Coal		1,211
	(Anthracite	1,148
	(Bituminous	63
Fabrics		4
Grease		7
Metals		162
	(Ferrous	37
	(Non-ferrous	125
Miscellaneous Materials		27
Oils		64
	(Fuel	49
	(Gasoline and	
	headlight	11
	(Lubricating	4
Paint and Paint materials		230
	(Drier	6
	(Mineral spirits	5
	(Oil, Linseed and	
	China Wood	28
	(Paint, Mixed	95
	(Paint and Varnish	
	Remover	4
	(Paste	28
	(Pigments	8
	(Shellac	10
	(Turpentine	19
	(Varnish	27
Road Materials		537
	(Asphalt - miscellaneous	- 31
	(Asphalt - cement	215
	(Asphalt wearing surface	290
	(Tar	1
Rope		8
Roofing Compounds		14
Rubber Compounds		12
Soap and Soap Materials		12
Water, Sewer		6
	Total	<u>4,058</u>

Distribution of Chemical Specimens

Department of City Transit		2
Department of Public Health		1,206
Department of Public Safety		24
Bureau of Building Inspection	2	
Bureau Electrical	8	
Bureau of Fire	12	
Bureau of Gas and Lighting	2	
Department of Public Welfare		365
Department of Public Works		1,783
Bureau of City Property	13	
Bureau of Engr. Surveys & Zoning	56	
Bureau of Highways	578	
Bureau of Water	1,136	
Department of Supplies and Purchases		667
Department of Wharves, Docks and Ferries		<u>11</u>
	Total	4,058

Specimens for Physical Test

Brick		95
(Paving	20	
(Sewer	75	
Concrete		3,474
(Aggregate, coarse	3	
(Aggregate, fine	3	
(Beams	30	
(Building block	172	
(Cores	260	
(Cylinders	3,006	
Metals		37
(Ferrous	37	
(Non-ferrous	0	
Miscellaneous Materials		17
Rock (Wear Test)		1
Rope		12
Rubber Compounds		6
Tile		10
(Building	10	
	Total	<u>3,651</u>

Distribution of Physical Specimens

Civil Service Commission		4
Department of Public Safety		186
Bureau of Building Inspection	183	
Bureau Electrical	0	
Bureau of Gas and Lighting	3	
Department of Public Works		3,447
Bureau Engr. Sur. & Zoning	2,511	
Bureau of Highways	934	
Bureau of Water	2	
Department of Supplies and Purchases		<u>14</u>
		3,651

Hydraulic Cement Specimens

Domestic Hydraulic Cement		932
	Total	<u>932</u>

Distribution Cement Specimens

Department of Public Works		932
Bureau of Engr. Surveys and Zoning	598	
Bureau of Highways	330	
Bureau of Water	4	
	Total	<u>932</u>

DETAILS OF WORK PERFORMED BY THE DESIGN DIVISION

Preliminary Sewer Estimates

Howell Street, Hasbrook Street to Rising Sun Avenue and Rising Sun Avenue to
Vankirk Street
Tacony Street, Sanger Street to Levick Street
Washington Lane, Greene Street to Burbridge Street
42nd Street, Sansom Street to Pine Street
39th Street, Walnut Street to Locust Street
Allen's Lane, Germantown Avenue to summit S. W.
Washington Lane, Ardleigh Street to Stanton Avenue
Upsal Street, Rodney Street to Woolston Street
Main Sewer 4th Street and 65th Avenue N. to outlet Godfrey Avenue and Tacony Creek
Reconstruction - 11th Street, Walnut Street to Locust Street
Reconstruction - Chestnut Street, 41st Street to 43rd Street
Bells Mill Road and Germantown Avenue to summit west of Bethlehem Avenue
Shawmont Avenue, Silverwood Street to Schuylkill River
Harper Street, 12th to 13th Streets - Reconstruction
10th Street, Poplar Street to Girard Avenue - Reconstruction
Bainbridge Street, 19th Street to 20th Street - Reconstruction
Oakdale Street, Jasper Street to Emerald Street - Reconstruction
Darren Street, Girard Avenue to Thompson Street - Reconstruction
Christian Street, 2nd Street to 9th Street - Reconstruction
Columbia Avenue, Park Avenue to 13th Street - Reconstruction
Vare Avenue, Passyunk Avenue to Oregon Avenue
Penrose Avenue, Pennypacker Avenue to Moyamensing Avenue
Passyunk Avenue, 63rd Street to Essington Ave., Essington Avenue, Passyunk
Avenue to Delaware County Line
Vine Street, 30 feet west of 3rd Street to Water Street

Private Sewers

Elbridge Street, Castor Avenue to Cranford Avenue
Allen's Lane, Mansfield Avenue to Stanton Avenue
Barringer Street, Stanton Avenue to Crittenden Street
Lardner Street, Battersby Street to Broun Street
Elbridge Street, Castor Avenue to Large Street
Hellerman Street, Castor Avenue to Large Street
Large Street, Levick Street to Hellerman Street
Kindred Street, Knorr Street to Longshore Street
Unruh Avenue, Loretto Avenue to Frontenac Street
Kerper Street, Loretto Avenue to Frontenac Street
Knorr Street, Loretto Avenue to Frontenac Street
Right-of-way northwest of Loretto Avenue, Unruh Avenue to Knorr Street
"D" Street, Ashdale Street to Roosevelt Boulevard
Longshore Street, Castor Avenue to Loretto Avenue
Bristol Street, "M" Street to Glendale Street and Glendale Street, Bristol
Street to Cayuga Street
McKinley Street, Castor Avenue to Large Street
Algard Street, Wellington Street to Cottman Street
Cornelius Street, Beverly Road to Wynsam Street

Private Sewers (Continued)

McKinley Street, Castor Avenue to Large Street
Algard Street, Wellington Street to Cottman Street
Cornelius Street, Beverly Road to Wynsam Street
Wynsam Street, Cornelius Street to Rodney Street
Pastorius Street, Cornelius Street to Rodney Street
Beverly Road, Hollis Street to Rodney Street
Hollis Street, Walnut Lane to Beverly Road
Englewood Street, Sackett Street to Hawthorne Street
Howland Street, Mayfair Street to Adams Avenue
Fanshawe Street, Summerdale Avenue to Algon Street
Provident Street, Phil-ellena Street to Greenwood Avenue
Fanshawe Street, Summerdale Avenue to Frontenac Street
Unruh Street, Summerdale Avenue to Frontenac Street
Knorr Street, Summerdale Avenue to Frontenac Street
Frontenac Street, Magee Street to Fanshawe Street
Sharpnack Street, Mansfield Avenue to Stenton Avenue
Hortter Street, Mansfield Avenue to Stenton Avenue
Wellington Street, Sackett Street to Hawthorne Street
Cardesa Street, Rodney Street to Lower Avenue
Yerkes Street, Rodney Street to Lower Street

Public Sewers

Franklin Street, Columbia Avenue to Montgomery Street
6th Street, Chelton Avenue to summit north of 65th Avenue North
Rowland Street, Rhawn Street to Welsh Road
Allens Lane, Germantown Avenue to summit southwest
Washington Lane, Greene Street to Burbridge Street
Washington Lane, Lincolin Turnpike to Fayette Street
39th Street, Walnut Street to Locust Street
42nd Street, Sanson Street to Pine Street
Park Avenue, Chelton Avenue to 65th Avenue North
Gates Street, Ridge Avenue to Henry Avenue
Boone Street, Monastery Avenue to Grape Street
Hatchinson Street, Nedro Avenue to Champlost Avenue
Nedro Avenue, Hatchinson Street to 11th Street
10th Street, Nedro Avenue northward to summit
Champlost Street, Marvin Street to Camac Street
11th Street, Nedro Avenue to Champlost Avenue
Nedro Avenue, 11th Street to 12th Street
Marvin Street, Nedro Avenue northward
Warnock Street, Nedro Avenue northward
Medary Avenue, 12th Street to Broad Street
Kater Street, 15th Street to Rosewood Street
Salter Street, 3rd Street westward
Fairhill Street, 65th Avenue North to 66th Avenue North
2nd Street, Butler Street to Erie Avenue
10th Street, Godfrey Avenue to Champlost Street
Sepviva Street, Butler Street to Castor Avenue
Chelwynde Avenue, 62nd to 63rd Street
Friendship Street, State Road to James Street
Keystone Street, Princeton Street to Cottman Street
Montague Street, Rhawn Street to Welsh Road

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Public Sewers (Continued)

Nixon Street, Shawmont Avenue northward
Rural Lane, Allens Lane to Gowen Avenue
Upsal Street, E. of Greene Street to Cherokee Street
Wakefield Street, Rittenhouse Street to about 148' N. W.
Brighton Street, Loretto Street to Frontenac Street
Eadom Street, Kennedy Street to Fraley Street
Trenton Avenue, Orthodox Street to Margaret Street
Tulip Street, Comly Street to Devereaux Street
Atwood Road, Haverford Avenue to Girard Avenue
Filbert Street, 42nd Street westward
60th Street, Baltimore Avenue to Angora Avenue
Lawndale Street, summit south of Bleigh Street to Shel mire Street
Lawndale Street, summit south of Cottman Street to summit North
Bingham Street, Cottman Avenue to Shel mire Street
Claridge Street, Bleigh Street to summit South
Cottman Street, Bingham Street to Tabor Road
Tabor Road, Cottman Avenue to summit North of Bleigh Street
Bleigh Street, Bingham Street to Montour Street
Rising Sun Avenue, Bleigh Street to Shel mire Street
St. Vincent Street, Rising Sun Avenue to Oxford Avenue
St. Vincent Street, Claridge Street to Tabor Avenue
Rising Sun Avenue, Princeton Street to St. Vincent Street
Claridge Street, Princeton Street to Cottman Avenue
Palmetto Street, Cottman Avenue to Shel mire Street
Bingham Street, Cottman Avenue to summit South
Bleigh Street, Oxford Avenue to Palmetto Street
Shel mire Street, Rising Sun Avenue to Palmetto Street
Shel mire Street, Lawndale Street to Palmetto Street
Cottman Avenue, Montour Street to Claridge Street
Montour Street, Princeton Avenue to Cottman Avenue
Oakley Street, Longshore Street to Princeton Avenue
Friendship Street, Shelborne Street to Rising Sun Avenue
Oakley Street, Cottman Avenue to Friendship Street
Keystone Street, Princeton Avenue to Cottman Avenue
Montague Street, Rhawn Street to Welsh Road
Walter Street, Oakley Street to Rising Sun Avenue
Shelborne Street, Princeton Avenue to St. Vincent Avenue
St. Vincent Street, Shelborne Street to Rising Sun Avenue
Montour Street, Cottman Avenue to Bleigh Street
Claridge Street, Cottman Avenue to summit S. of Bleigh Street
Oregon Avenue, 18th Street to 20th Street
Philip Street, Snyder Avenue to Jackson Street
Rhawn Street, Horrocks Street to Castor Avenue
High Street, Belfield Avenue to Chew Street
Roumfort Road, Ardleigh Street to Crittenden Street
68th Avenue N., 12th Street to 13th Street
69th Avenue N., 11th Street to 13th Street
Fairhill Street, 64th Avenue N. to 65th Avenue N.
50th Street, Overbrook Avenue to City Avenue
Longshore Street, Martin's Mill Road to Oakley Street
Camao Street, Chelton Avenue to 65th Avenue N.
Cottman Avenue, Hasbrook Street to Central Avenue
Central Avenue, Cottman Avenue to Shel mire Street
Ryers Street, Cottman Avenue to Shel mire Street

Public Sewers (Continued)

Shelborne Street, Longshore Street to Princeton Avenue
Shelbire Street, Verree Avenue to Rising Sun Avenue
Tyson Street, Oakley Street to Rising Sun Avenue
Princeton Street, Shelborne Street to Rising Sun Avenue
Horrocks Street, Knorr Street to Longshore Street
Rising Sun Avenue, Vankirk Street to Howell Street and Howell Street,
Rising Sun Avenue to Hasbrook Street

Temporary Drains

68th Avenue N., 13th Street to 80 feet west
Dupont Street, Lawnton Street to 55 feet northeast

Philadelphia Housing Authority Sewers

Right-of-way, 12th and Olive Streets to line of Brown Street about
35 feet west of 11th Street

Drainage Studies

Tacony Street, Levick Street to Sanger Street
Red Lion Road, N. Y. Short Line R. R., Grant Avenue, Welsh Road, Verree Road
Red Lion Road, Bustleton Ave., Byberry Road, N. Y. Short Line R. R.
Relocation - McKinley Street, Castor Avenue to Large Street
Lynford and Large Street, Cottman Avenue to Princeton Street
Ridge Avenue, Manatawna Avenue, Wissahickon Avenue, Port Royal Avenue
Oxford Avenue, Rhawn Street to County Line
Knorr Street, Pioneer Avenue to Loretto Avenue
Lefevre Street, southwest of Frankford Creek
Montour Street, Magee Street to Unruh Street
Red Lion Road, Verree Road, Welsh Road (and northwest of Verree Road)
Ridgeway Street, Rhawn Street to Stanwood Street
West Schuylkill River Drive, Arch Street to Spring Garden Street (W.P.A. Project)
Proposed Streets - Castor Avenue to Loretto Avenue between Levick Street and Robbins St.
Schuylkill Avenue, Lanier Street to Pennypacker Avenue
Diston Street, Hawthorne Street to Rowland Avenue
Proposed Road, Verree Road northward north of Welsh Road
Gates Street, Ridge Avenue to Henry Avenue
Duval Street, Musgrave Street to Chew Street
11th Street, 66th Avenue N. to summit North
Montour Street, Magee Avenue to Unruh Street
Temporary Drain - Chestnut Hill Hospital
Asbury Terrace, Lawnton Street to depression east (For W.P.A. Project)
Philadelphia Housing Authority - "Old Swedes Site".
Tulip Street, Blakiston Street to Pennypack Street; Strahle Street, Tulip Street to
Hegerman Street

Drainage Studies (Continued)

Merrick Street, Shurs Lane to Pennsdale Street
Bridle Road, Rhawn Street to Stanwood Street
21st Street, Olney Avenue to Cottage Lane
Penrose Avenue, 80th Street to Essington Avenue
West Schuylkill River Drive, Arch Street to Spring Garden Street
Island Avenue, Bulst Avenue to Tinicum Road
Washington Lane, Stenton Avenue, Phil-Elena Street, Ardleigh Street
Richmond Street and Garden Street, Brill Street to Kennedy Street; Kennedy Street,
Richmond Street to Garden Street
St. Vincent Street, Summerdale Avenue, Longshore Avenue, Oxford Avenue
Shawmont Avenue, Manti Street, Wigard Avenue, Hillside Avenue, Umbria Street
Vare Avenue, Passyunk Avenue to Oregon Avenue
Gilham Street, Summerdale Avenue to Algon Avenue
Cedarbrook Avenue, Bayard Street, Provident Street, Wadsworth Street to Mt. Airy Avenue
Thouron Street, Upsal Street to Cliveden Street
Roosevelt Boulevard, Winchester Avenue, Old Newtown Road, Welsh Road
Bingham Street, Roosevelt Boulevard to Tabor Road
24th Street, Oregon Avenue, 20th Street, Packer Avenue
Proposed Philadelphia Housing Authority site, Packer Avenue and Penrose Ferry Road
Leon Street, Fidler Street to Eden Street
Penrose Avenue, 80th Street to Island Avenue
Vicaris Street, Hermit Street, Henry Avenue, Kelpius Street
Winchester Avenue, north and south of Holmshurst Avenue
Delaware Avenue, Bridge Street to Reynolds Street
Franklin Street, Lindley Street to Duncannon Avenue, etc.
Franklin Street, Duncannon Avenue to Wellen Avenue
Lawrence Street, Race Street to Delaware River Bridge Approach
Montgomery Avenue, Beach Street to Delaware Avenue
Roosevelt Boulevard, Tremont Street, Old Newtown Road, Welsh Road
Cottman Avenue, Central Avenue, Napfle Street, Philadelphia & Newtown R. R.
Slocum Street, Montpelier Street, Dorset Street, Woolston Avenue to Williams Avenue, etc.
Fuller Street, Eastwood Street to Bradford Street
13th Street, Curtin Street, Camac Street, Packer Avenue
Packer Avenue, Broad Street to 20th Street
Mascher Street, Hunting Park Avenue to Cayuga Street, Bristol Street, 2nd Street
to Front Street, etc.
Woodcrest Avenue, 65th Street to 66th Street (Blind School)
U. S. Quartermaster Depot - 20th Street, Packer Avenue to Oregon Avenue
Krewstown Road and Welsh Road Tract
Akron Street, Magee Avenue to Knorr Street
Gates Street, Henry Avenue, Gorgas Lane and Ridge Avenue
Kindred Street and Souder Street, Robbing Street to McKinley Street
Stirling Street, Castor Avenue to Loretto Avenue

Sewage Disposal Project

Intercepting Manhole and Appurtenant Work, City Avenue east of 73rd Street,
contract plan
Report on status of existing 8'0" diameter intercepting sewer across Market
Street, east bank of Schuylkill River
Sewage Meter Plans - Cheltenham Township, Tyson Avenue and Hasbrook Ave. - approved

Sewage Disposal Project (Continued)

Sewage Meter Plans - contractor's plans for Stenton Avenue and Cheltenham Avenue sites approved
Hydraulic Data for design of improved type of float unit, eliminating the remote control required for dam type interceptors
Studies for redesign of intercepting chambers for revised sluice gate operating unit
Data and Plans furnished sewage disposal consultants - Gascoigne & Associates
Sewers and Drains plotted on Land Use Maps for Sewer Rental assessment
Lists of developed streets without drainage and temporary drains in connection with Sewer Rental for investigation by District Surveyors
Grading Plan - Fuel Storage Site Southwest Treatment Works
Intercepting Chambers, Somerset Low Level - Plans being redrawn for revision of sluice gate operating unit
Intercepting Chambers, West Central Schuylkill Low Level - 2 Plans revised, 1 redrawn for improvements in float control
East Central Schuylkill Low Level Intercepting Sewer - Alternate plan for Sheet #10 begun
Southwest Main Gravity Intercepting Sewer - checking and revision of plans continued
Plan #3 - 70th Street to Mingo Avenue being checked and revised for use in connection with Essington Avenue improvement
Intercepting Chamber - 43rd and Locust Streets - redrawn for revised sluice gate operation
Intercepting Chambers - East Central Schuylkill Low Level - plans being prepared for 3 locations
Plans being revised for improvements in float control and sluice gate operation
East Lower Schuylkill Low Level Intercepting Sewer - 3 base plans prepared
Central Schuylkill Pumping Station; plans being revised for improved design
Southeast Pumping Station; studies for revised design

Mechanical Improvements

Reversing Valve
Float Unit
Sluice gate operating unit
Sewage Meter
Automatic Shut-off gate
Motorized Sewage Pump
Snap Valve
Sluice gate track flusher

Philadelphia Municipal Airport

Plan of Fence
Plan for Grading and Drainage Work
Plan for Paving Passenger Area (General Plan of Area)
Plan and sketch - Driveway to Radio Transmitter Building
Plan showing Proposed 6" C.I. Pipe crossing Island Road north of National Guard Property
Plan - additional Underground Services
Plan for Installation of Tie Down Rings and Grounding Pins - Passenger Area

Philadelphia Municipal Airport (Continued)

Detail Plans for Tie Down Ring and Anchor and Grounding Pin
Detail Plan for Concrete Foundations for Fence
Plan for Road from Penrose Ferry Road to Radio Transmitter Building
Sketch - Method of Insertion of Tie Down Rings and Grounding Pins in Pavement
Five Plans to accompany Airport Facilities Leases
Plan - Change in Chain Link Fence
Plan and Estimate - Additional Paving Passenger Area
Map of Philadelphia Municipal Airport and Vicinity - Air Obstruction, etc.
Plan for Siren Support
Sketch - Field Tie Down Rings and Anchors
Plan - Field Tie Down Rings and Anchors
Plan - Revision Type "B" Fence
Plan - Additional Tie Down Rings and Anchors and Additional 3-ft. Fence
Plan and Details - Runway Numbers and Striping
Plan - Details of Numbers for Runway Marking
Plan - Extension of 6" C. I. Soil Pipes and Roadway to Storage Building
Plan - Parking Areas Fence, Parking Lanes, etc.
Sketch - Steel Hook-Bolt for Post and Chain Fence
Plan - Details Guard for Runway Contact Lights
Plan - Island Avenue Street Lighting and Parking Marking
Plan - Additional Sewage Facilities
Air Obstruction Map - Additional Data Elev. High Ground for C. A. A.
Layout Plan - Fuel Storage Site
Layout Plan - Administration Area
Drainage Plans - Duplicate Runways
Sketch Plan - Relation Atlantic Refining Co. Unloading Sta. to Runways
Composite Map - 1" - 500 ft. showing highway routes
Mosaic Air Map - For Data to War Department
Comprehensive Plan - Airport and Vicinity - For Data to War Department
Estimate - Cost of Paving, Drainage, etc. Duplicate Runways (For Data to War Dept.)
Air Obstruction Map - showing Trapezoidal Areas at ends of Runways
Comprehensive Plan - with Atlantic Refining Co. Tanks, etc.

Bridges:

49th Street over the Octoraro Branch of Pennsylvania Railroad (Checking Shop and Kingsessing Avenue over Octoraro Br. of Pennsylvania Railroad (Masonry Drawings)
Margaret-Lefevre Streets over Frankford Creek (Design, Drafting, Checking Shop Drawings)
Sedgley Avenue over the North Penna. Railroad - (Design and Drafting)
Levick Street under Philadelphia and Trenton R. R. (Design Studies)
Tabor Road over Tacony Creek - (Design Study)
Henry Avenue over Green Lane - (Design Study)
Henry Avenue over Gorgas Lane - (Design Study)
Bridge connecting Upper Drive, Schuylkill Avenue West to Spring Garden Street
Bridge (Design and detail drafting)

Viaducts:

Arch Street Viaduct - Preparation of additional plans
Ramp from Arch Street Viaduct, Schuylkill Avenue West - Design of foundations and superstructure and checking shop drawings

Bridge Repairs:

- Girard Avenue Bridge over Schuylkill River - Study of Method of replacing rusted expansion ends
- Grays Ferry Bridge over Schuylkill River - Detail drawings of deteriorated bridge railing replacement
- Spring Garden Street Bridge over Schuylkill River - Detail drawings of deck replacement, Spans 10 to 14 inclusive - E. & W. Approach
Design of new span 15 - East Approach
Design studies of Retaining Walls to eliminate Span 15
- Callowhill St. Bridge over Schuylkill River - Design of alterations to connect Lower Drive north and south of bridge
- Northwestern Ave. Bridge over Wissahickon Creek - Studies of bridge deck renewal
- Penrose Ferry Bridge over Schuylkill River - Studies of bridge deck renewal, draw span
- 34th Street Bridge over Main Line of Penna. Railroad - Check of contractors' details of deck repairs

Marquises, Canopies, Tunnels, Vaults, etc.

- Kresge Store #39 - 931-937 Market Street - Vault under Sidewalk
- Astor Theatre, S.W. Cor. Franklin St. & Girard Ave. - marquise
- Keith's Theatre, S. S. Chestnut St. bet. 11th and 12th Sts. "
- Earl Theatre, N.E. Cor. 28th and Reed Streets "
- Northeastern Theatre, 6031 Torresdale Avenue "
- Boro Theatre, 6184-88 Ridge Avenue "
- Towne Theatre, 4163 Germantown Avenue "
- Castor Theatre, Castor Ave. bet. Unruh and Magee Streets "
- Esquire Theatre, 5508 Germantown Avenue "
- Fern Rock Theatre, S.E. Cor. 5th and Fern Streets "
- Regis Theatre, S.W. Cor. Sydenham and Cumberland Streets "
- Italia Theatre, 729 Christian Street "
- Cambria Theatre, N.E. Cor. 25th and Cambria Streets "
- Wishart Theatre, S.S. Allegheny Ave. E. of Front Street "
- Alhambra Theatre, 12th St. and Passyunk Ave. N. of Morris St. " 2
- Benner Theatre, Castor Ave. S. of Benner Street "
- Strand Theatre, N. E. Cor. Germantown Ave. & Venango St. "
- Jeffries Theatre, N.E. Cor. Connarroe St. & Manayunk Ave. "
- Oxford Theatre, E. S. Rising Sun Ave., N. of St. Vincent St. "
- 333 Market Street Theatre, No. 333 Market Street "
- Produce Market Building, Front, Dock & Mattis St. - 2 canopies
- Conveyor Tunnel, Moore St. between 6th and 7th Streets
- Conveyor for Drueding Bros., Orkney St. above Master St.
- Cable suspension of Steam Lines - Dill & Collins, Inc. -
over Schiller St. between Allen and Bath Streets

For Water Bureau:

- Water Pipe Plan, Ridge Avenue Bridge over Norristown Br. Reading Co.
- Roof Plan, Queen Lane Pumping Station - checking

Vault Roof Slabs in Footways - 6

Hauling Permits - 175

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Utility Applications, Filing, etc.

Checking Applications for the Public Utilities:

Philadelphia Gas Works Co.	726
Bell Telephone Co.	151
Philadelphia Electric Co.	71
Philadelphia Electric Co. Steam	6
Keystone Telephone Co.	5
P. T. C. (Conduits)	4
P. T. C. (Tracks)	25
Reading Railroad Co.	1
Pennsylvania Railroad Co.	3
Bureau of Engineering, Surveys and Zoning	129
Bureau of Water	125
Miscellaneous	75
Total	1,321

Mimeographing Sheets and Records for Zoning Division

Survey Districts

Works Progress Adm. (W. P. A.)

Bureau (Specifications - Proposals, etc.)

City Architect - (Airport Proposals, etc.)

Highway Bureau - (Forms, Notices, etc.)

Filing Main and Branch Sewer Plans - Bridge Division Plans - Grade Crossing Plans and Miscellaneous Plans

Miscellaneous

Frankford Creek Study for Piping Dry Weather Flow

Approval Railroad Siding crossing Packer Avenue Sewer at Delaware Avenue

Approval Tunnel across Moore Street between 6th St. and 7th St.

Calculation and sketch Plans, Infiltration Cottman Ave. and Hasbrook St. pipe sewer

Table for Conversion of Cu. Ft. Sec. to Gallons

P. R. R. tentative tracks over Moore St. Sewer, Swanson to Delaware Avenue

Bell Telephone Co. M. N. over Sewer - Terrace and Pennsdale Sts.

P. E. Conduit clearance - Hamilton St. east of 19th Street

Bell Telephone Co. proposed conduit Mt. Airy Ave., Crittenden to Thouron Sts.

Bigler St. at 11th St. and Warnock St. - vent pipe locations for District

Convention Hall Parking Area - Retaining Wall and Drainage (W.P.A. Project)

Reading Co. proposed siding 2nd St. south of Girard Ave.

Revision of Lines of Frankford Creek Channel, Roxborough St. to Bridge St.

Tentative approval

Pennsylvania Railroad track relocation Pirth St., Almond St., Moyer St.

Philadelphia Electric Co. Steam Line, 16th St. at Shamokin St.

Philadelphia Electric Co. Conduit - Island Ave. Administration Building to County Line

Data for Conferences on Economic Depth for Sewers

Material Estimate for W.P.A. Construction of Sewers - Shelborne, Princeton, Longshore,

Oakley and Tyson Streets

Specifications and Proposal for Queen Lane Pumping Station - Boiler House Roof -

Criticism and Revision

Design new type vitrified pipe joint

Record Drainage Maps made to replace wornout maps

Record Drainage Maps revised for City Plan changes and sewer construction

Representation on Utilities Technical Committee and Co-ordination Sub-Committee