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A N N U A L R E P O R T

of the

BUREAU OF ENGINEERING, SURVEYS AND ZONING

of the

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

1942

THOMAS BUCKLEY
CHIEF ENGINEER AND SURVEYOR

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BUREAU OF ENGINEERING, SURVEYS AND ZONING

Thomas Buckley, Chief Engineer and 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-seven (87) 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. (88)

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 of 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 1942 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.

EMERGENCY DEMANDS

National Defense. - Whereas, the normal work of the Bureau in nearly all classifications fell considerably below the levels established in 1941, increased activities resulting from the war emergency balanced such losses. Practically all of the local important wartime facilities and agencies contributed to the total amount of work done. Included in these activities were many studies, plans, surveys, etc., required by reason of the expansion of such important military and naval agencies as the Quartermaster Depot, the United States Signal Corps, and the Philadelphia Navy Yard; the construction of the new Northeast Philadelphia Airport, the Naval Aviation Supply Depot, and the Budd Company's Airplane Assembly Plant; the erection of a number of emergency housing projects and improvements necessary for many industries engaged in the production of war materials and equipment. The work required of the Bureau, by reason of these emergency activities, also included the drafting of agreements and legislation, the preparation of drainage and other reports, the making of extensive City plan revisions, and the holding of conferences and discussions with officials of private industry, of the Army and Navy, of the Federal Government, and of the Commonwealth in problems and other matters relating to the performance and completion of the work. While all such national defense work was done under pressure, it was frequently difficult to expedite the operations required because of the particular nature of the interests involved.

Civilian and Public Works Defense. - The activities of the Bureau in connection with the administration of the Council of Defense, and with the operations of the Citizens' Defense Corps, continued in full force during the past year. Considerable demands were made upon the Bureau for technical advice and supervision essential to the completion and organization of the Division Control and Main Control Centers and the training of their personnel in defense operations. Practically every employee of the Bureau is engaged in some phase of Civilian Defense work by reason of the need of technical experience and ability which will arise in case of air raid damage. A number of the personnel of the Bureau hold important staff positions in the Citizens' Defense Corps because the directive operations of Civilian Defense, during emergencies, will be intimately connected with the structural and physical welfare of the City.

City-State Highway Program. - Definite progress was made during the past year in the construction of three important State highway improvements, for which agreements between the City and the Commonwealth were executed in 1941. These are -

Island Avenue, Section 1, Tinicum Avenue to Eastwick Avenue
Section 2, Eastwick Avenue to Buist Avenue

34th-Vare-Oregon Avenue, Section 1, Oregon Avenue from 18th Street to Vare Avenue, and Vare Avenue from Oregon Avenue to Passyunk Avenue.
Section 2, Vare Avenue from Passyunk Avenue to 34th Street and 34th Street from Vare Avenue to Grays Ferry Avenue.

Essington Avenue, Section 1, Island Avenue to Powers Lane
Section 2, Powers Lane to Passyunk Avenue, and
Passyunk Avenue from Essington Avenue to 63rd Street.

The improvement of the first sections of Island Avenue and 34th-Vare-Oregon Avenue are under contract and will be completed in the spring of 1943. The plans and specifications for the second sections of these two projects are completed and the work will be advertised in the spring, unless the war situation interferes. The first section of Essington Avenue is also under contract and nearing completion. The second section is under contract for grading, and the work of paving will begin in the spring. If conditions controlling the construction of access roads continue favorable, these three truly splendid arterial highways will be completed by the fall of 1943.

An agreement pursuant with the Acts of May 7, 1937, and July 10, 1941, is now being drafted which will permit the extension of the Essington Avenue improvement southwestward from Island Avenue to the Philadelphia-Delaware County Line, where it is to connect with the low grade industrial highway to be constructed from Chester, through Tinicum Township, to the Philadelphia boundary. The Federal Bureau of Public Roads, the Commonwealth of Pennsylvania, and the City of Philadelphia will each have a share in the cost of the work of constructing the Essington Avenue link in the low grade industrial highway route. There is real military necessity for this highway. The plans are rapidly nearing completion and every effort will be made to place the work under contract early in 1943. The undertaking of the Essington Avenue extension will constitute the first step in the construction of the low grade industrial by-pass that has been planned to follow an approved State highway route, extending from the Delaware to the Bucks County lines. It comprises portions of Essington Avenue, Penrose Avenue, Moyamensing Avenue, Oregon Avenue, Delaware Avenue, Aramingo Avenue, Harbison Avenue, and the Roosevelt Boulevard.

A second agreement with the Commonwealth is also being drafted by which the portion of Penrose Avenue from 26th Street to 19th Street, may be improved as soon as possible. The said project comprises an intermediate section of the low grade industrial by-pass route, previously mentioned. Its completion as an individual project is necessary in order to provide a modern arterial highway connection between the existing improved street system now serving the Philadelphia Navy Yard and the Quartermaster Depot with the 26th Street highway development now under construction as an access road to the Navy Yard.

An ordinance of Council, approved May 18, 1942, and agreement executed May 19, 1942, opened the way for the improvement of an access road to the Navy Yard from Penrose Avenue southward, over property acquired jointly by the City of Philadelphia and the Pennsylvania Railroad Company under the South Philadelphia Agreement. This access road project was unusual because it was neither a City street nor a State highway, and is typical of emergency highway measures, made necessary by wartime situations. The financing of the access road improvement was made possible by an allocation of \$865,000.00 to the State Department of Highways from the Bureau of Public Roads. The large sum appropriated was intended to include the improvement of 26th Street from Penrose Avenue to Passyunk Avenue. Contract work on the access road will be completed this spring, and includes the construction of an overpassing railroad bridge carrying the high level Pennsylvania Railroad tracks, which serve the Girard Point terminal yards. The completion of the new trackage made it possible to immediately remove the crossing at grade of Penrose Avenue near Lanier Avenue, in accordance with the requirement of the South Philadelphia Agreement. The elimination of these tracks was important because they constituted a potential barrier to the improvement of Penrose Avenue from 26th Street westward, which ultimately must be undertaken.

An ordinance approved December 15, 1942, and agreement executed January 6, 1943, were expedited at the close of 1942 in order to permit the advertisement of the work necessary to complete the second step in providing new approaches to the Navy Yard, plans for which had been completed in advance. This section of the project called for the opening, grading, and improvement of 26th Street, from Penrose Avenue to Passyunk Avenue, which highway is a direct extension of the access road, previously described. Bids have been received, and the award of contract is now pending. The purpose of the new approach to League Island via 26th Street, and its extension over an access road through private property, was to provide relief to Broad Street which had become greatly overtaxed by the rapid rise in traffic volumes, due to the great expansion of the Philadelphia Navy Yard under wartime demands. The completed 26th Street approach to the Navy Yard will meet Passyunk Avenue at its intersection with the Vare Avenue approach to the Quartermaster Depot, thereby making it absolutely necessary to complete the second section of the 34th-Vare-Oregon Avenue project. The dead-ending of the two new arterial highways at a common point on Passyunk Avenue will create an extremely troublesome traffic situation until the 34th Street-Vare Avenue outlets are provided. The construction of the access road and its 26th Street extension is a three-way undertaking, in which the Bureau of Public Roads, the State Department of Highways, and the Department of Public Works cooperated jointly in providing the City of Philadelphia with another important element of its main highway network, now in process of development in South Philadelphia.

Final action was taken in 1942 on the widely discussed Vine Street improvement which was the No. 1 project recommended by the late Mayor Lambertson's advisory committee on local State highway developments. The authorizing ordinance was approved on February 5, 1942, and the agreement executed February 9, 1942, by which authority the adoption of the Department of Public Works' plan for a surface highway was officially accepted by both the City administration and the Commonwealth. The serving of the condemnation notices was completed on August 28, 1942 and the hearings on claims are now being held. Consideration was given to the advisability of proceeding with the work of demolition on Vine Street, but it was finally decided by the Commonwealth to postpone this operation until the termination of the war emergency.

The grade separation at Hunting Park Avenue and Ridge Avenue, authorized by ordinance approved September 11, 1941, and the agreement executed pursuant thereto, October 21, 1941, was another improvement postponed by reason of the war situation. By the terms of the agreement controlling this project, the City was required to provide and clear the right-of-way. Opening notices were served on January 23, 1942, and condemnation proceedings are now pending. Plans were prepared for clearing the right-of-way and the work duly advertised. However, no award of contract was made because of the desire of the State Department of Highways to postpone their share of the project until after the duration.

The widening of the three Boulevard bridges, authorized by ordinance of Council approved September 27, 1941, and agreement executed October 21, 1941, were other improvements postponed until after the duration because of the large amount of critical materials involved.

The grade separation at 5th Street and the Roosevelt Boulevard, authorized by ordinance of Council approved September 27, 1941, and agreement executed October 23, 1941, encountered the same violent neighborhood opposition as befell the Oxford Circle project. The local sentiment against the plans

proposed was so strong that an ordinance of Council was approved May 5, 1942, which authorized the cancellation of the agreement and the termination of the improvement as proposed.

Of the twelve major projects recommended by the late Mayor Lamberton's advisory committee, all but five have been covered in part or in whole by approved or pending legislation and agreements. The remaining five that have not received such consideration to date are -

Roosevelt Boulevard from Oxford Circle to Broad Street.

Tacony-Palmyra Bridge approaches and Levick Street from Roosevelt Boulevard.

Stenton Avenue from Bethlehem Pike to Rising Sun Avenue.

Aramingo Avenue from Delaware Avenue to Bustleton Avenue.

Henry Avenue from Walnut Lane to Ridge Avenue at Cathedral Road, including two bridge crossings at Gorgas Lane and Green Lane.

The Bureau is now advocating that the City enter into negotiations with the Commonwealth for the adoption of these highway projects into a second program of City-State highway improvements to be undertaken as a part of post-war construction.

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 past year was an extremely busy one for the Board because of activities caused by the expansion of Government establishments and war industries, the renewed activities of the war housing program, and the demands of the City-State highway program, combined with the program of access roads to military reservations.

Of particular significance was the public hearing held on March 9, 1942, on the changes to be made in the widening of Vine Street from Franklin Street to 18th Street. One hundred and ninety-one separate parcels of land were taken in entirety or in part and notices served on 149 different registered owners affected by the proposed widening.

Worthy of note because of their size and importance were two City Plans confirmed in the northeast section of Philadelphia. One plan revised the lines and grades of an area in size about 550 acres in the section bounded by the Philadelphia-Montgomery County Line, Tomlinson Road, Ausubon Avenue, Burgess Street, Bustleton Avenue, Bustleton Turnpike, Verree Road and Red Lion Road. The establishment of the City Plan was made necessary by the development and construction now in progress of a huge airplane assembly plant and landing fields. A complement plan confirmed on the same day was the plan to establish and also to revise the lines and grades of Red Lion Road from Verree Road to the Roosevelt Boulevard, which will serve as an access highway to the new plant from the Boulevard.

The second plan revised the lines and grades of the area bounded by Cheltenham Avenue, Tabor Avenue, Levick Street, Martins Mill Road, Oxford Avenue and the Oxford Road Branch of the Connecting Railway, in size about 118 acres. This area is to be occupied by several buildings, now under construction, and will be a supply depot for the U. S. Navy Department.

Survey Districts. - The cash receipts of the Survey Districts were \$72,998.61 as compared to \$112,342.06 in 1941. The decrease in receipts is not an accurate index to the activities, as during the past year many thousands of dollars of work was done for the United States Government without the charge which would have been made to private parties.

Personnel problems also added to the District Surveyors' problems. By the close of the year, 23 district assistants were in service in the armed forces. This represented 17% of the district personnel. In addition, vacancies, principally in the grades of transitman, rodman and chainman, amounted to an additional 10%. Thus, the effective personnel represented only 73% of the authorized personnel.

PLANS AND REGISTRY DIVISION

The yearly statistical report submitted herewith can best be analyzed if various functions of the division are separated into groups.

Group 1 - Activities in the Book Room

The number of straight transfers of title to real estate was large, and nearly reached the total for 1941:

1941 -- 60,902 transfers. 1942 -- 59,778 transfers.

But the number of transfers of title parcelling smaller tracts to enable new dwelling construction fell off 25%.

1941 -- 6,008 originals. 1942 -- 4,537 originals.

Increased activity in subsidized housing (permanent and temporary) for war workers, together with a ceiling placed on existing lease terms and a rigid restriction on part payments of purchasers, is reflected in the above figures when it is observed that the number of originals was running in advance of 1941 figures for the first half of the year and then suddenly diminished after the order fixing rent ceilings and the order controlling down payments.

During the year there were 22 acquisitions of land, improved and unimproved, made by the Federal government within the limits of the City. Set forth in the following table are the general location of the tracts condemned and the intended use thereof.

<u>Location</u>	<u>Intended Use</u>
19th St., Pattison Ave., 20th Street, Hartranft St.	- Emergency Housing
Broad St., Pattison Ave., 18th St., Hartranft St.	- " "
20th St., Packer Ave., 18th St., Geary St.	- " "
Bed of Government Ave., Broad St. eastward	- Expansion of Phila. Navy Yard
Area lying between Government Ave. and S. line of Belt Line RR extending from Broad Street to Delaware River	- " " " " " "
Oregon Ave., Vane Ave. and Penna. R.R.	- " " U.S. Army Quartermaster Depot
20th St. and Johnston St.	- " " " " " "
Broad St. and Washington Ave.	- " " U.S.M.C. " " "
15th St. and Washington Ave.	- " " " " " "
Broad St. and Alter St.	- " " " " " "
W. side Wissahickon Ave. S. of Queen Lane	- " " U.S. Signal Corps Depot
Both sides of Fort Mifflin Road N. of Fort Mifflin	- " " Fort Mifflin site
Tabor Ave., Godfrey Ave., Oxford Road Br. Martins Mill Road and Levisok St.	- Construction of U.S. Naval Depot
18th St., Hamilton St., 19th St., Penna. Ave.	- Industrial plant
N. side Cambria St., 19th to 20th St.	- " "
South & east portions Cramps Shipyard site	- " "
18th St., Courtland St., 19th St., Windrim Ave.	- " "
SW side Adams Ave., S. of Wingohocking St.	- " "
S. side Princeton Ave., Wissinoming St. to Delaware River	- " "
E. side Wissinoming St. S. of Princeton Ave.	- " "
W. side State Road S. of Rhawn St.	- " "
W. side "B" St., Courtland St. to Wyoming Ave.	- " "

Group 2 - Activities in the Plans and Legal Records Room

In this room, 41 plans showing registered owners and legal status of streets were prepared for the various City departments.

Arrangements were made to legally advertise public hearings on 24 city plan changes. Twenty-four confirmed city plans were indexed and filed and legal openings affecting 54 streets were received and entered. These city plan changes and openings were noted on the office map and public maps. Also 8 changes in street names were noted on the maps.

Loaned out to the various City Bureaus and divisions were 1310 city plans. These plans were consulted mainly by the Bureau of Water for their use in the rehabilitation of the water supply system; the Design Division, Bureau of Engineering, Surveys and Zoning, for their use in bridge design and planning extension of the sewer system and WPA projects No. 29345-5161, sponsored by this Bureau to draft cards and maps showing legal status of streets and roads. Under this division's supervision, 98% of the card records work has been completed and approximately 20% of the maps completed.

During the year the assistants in this room made 65 appearances in Court as custodians of the public records.

Two important condemnations were made by the City of Philadelphia during 1942 that are worthy of mention. One was the condemnation of a tract containing 523 acres bounded by Red Lion Road, Academy Road, Blue Grass Road and Grant Avenue. This tract was acquired for the development of an airport. The

other was for a tract of 14 acres located at Fox and Crawford Streets acquired for the extension of the facilities of the Queen Lane Pumping Station as a preliminary treatment plant. Jury plans were ordered and filed in this office and records amended accordingly.

Of the six streets opened by ordinance, probably the most important one was the widening of Vine Street from Franklin Street to 18th Street. This street is part of State Highway system through the City and the widening will effect a boulevard connection between the Benjamin Franklin Parkway and the Delaware River Bridge.

Group 3. - Activities of the Board of Surveyors.

The Assistant Engineer of the Registry Division is also the Secretary of the Board of Surveyors. This fact, coupled with the fact that all plans acted on by the Board are filed and become a permanent record in the Registry Division, makes a considerable contribution to the division activities.

The Board held 25 meetings during the year. Public hearings were held on 24 City Plans. Action taken included confirmation of 24 City Plans, reports on 25 ordinances, and approval of 13 street railway plans. Of the plans confirmed, 9 accomplished expansion of industrial sites; 5 enabled private dwelling development; 2 were in connection with the City-State Highway program; 2 facilitated the development and construction of an airplane assembly plant and air fields; 1 was in connection with the construction of a main sewer, and 5 were for miscellaneous purposes.

CITY PLANS DIVISION

City-State Highway Program - The program was carried forward from the previous year by the study and planning of twelve (12) State Highway routes, including thirty (30) property plans for the securing of Deeds of Dedication and preparing for the State four (4) preliminary condemnations plans for the approval of the necessary officials. Examples:

Vare, Oregon and 34th Street
Essington Avenue and Passyunk Avenue
Island Avenue
Vine Street
Moyamensing Avenue

In addition, other City highways were planned to link in with these State highways, and many intersectional studies for the channelization of traffic were prepared. Examples:

26th Street
Oxford Avenue and Martins Mill Road

City Planning Studies. - Twenty-two (22) City Planning Studies were completed during the year, preliminary to the confirmation of a revised City plan. This included a few trigonometric calculations. Examples:

Naval Aviation Supply Depot
Budd Mfg. Company Cargo Aircraft site, and the
areas to the north and south of the site.

In addition two (2) old City plans were compiled, and six (6) land sub-division studies were made.

Plans - Maps - Information. - The division furnished plans, maps, and various information services to forty-eight (48) private business and individuals; also to twenty-two (22) outside governmental bodies and agencies; also to twenty-two (22) inter-City departments, bureaus and divisions; also had twenty-eight (28) contacts with the various branches of the United States Army and Naval services.

City Sectional Maps and Other Records. - The Division issued sectional street maps and other records during the year in large numbers.

Some of the blueprint paper required was furnished by the parties receiving the prints, but practically all the reproducing labor was done by the Public Works Photographer with his equipment.

<u>Issued</u>	<u>No Charge</u>	<u>Fee</u>
Land Use Maps (108 plates) 200' scale	1116	34 - \$17.00
Street Maps " " 200' "	19	
" " 39 " 500' "	190	96 - 20.50
" " 21 " 1000' "	895	99 - 13.65
" " 21 " 1500' "	296	21 - 1.95
" " 3 sections 1500' "	107	4 - 2.65
" Data Maps 39 plates 500' "	518	
Other Records	860	2 - 3.50
Totals	3801	256 - \$59.15

Combined with the number of prints issued to the Civilian Defense Corps, a grand total of 5404 prints of all types were issued this year.

In addition, many copies were furnished from plans, letters, deeds, etc., by the Hunter Electro Copyist process.

The small percentage of records which were paid for would grow larger, if an ordinance establishing fees were introduced and advertised. Persons viewing these records in the office seem to be impressed with the fact that such records exist (particularly the Land Use Maps) and express a desire to know the procedure necessary to acquire them.

During the year these Map records required changes and revisions as follows:

	Land Use	Street Map	Street Data	1000' Street Map
From Zoning Permits	227			
" Use "	940			
" Demolition Permits	199			
" Registry Records	42			
" Real Estate Notices	53			
" Confirmation of City Plans	24	24	24	24
" Deeds of Dedication and other openings			40	
" Grading and Paving Records			169	
" Change of Street Names	8	8	8	8
Totals -	1493	32	241	32

Grand Total - 1798 Revisions

Civilian Defense. - The Division's activities for the Council of Defense were greatly increased during 1942. The map work and other plan equipment needed to establish the six Air Raid Control Centers and Headquarters were prepared by the Division. Information and maps were given to a steady stream of air raid wardens. Numerous organizational and functional charts were prepared. The Division personnel also serve at Division No. 4 Control Center as plotting officers, panel clerks and records clerks. To supply this Defense activity with what records were requested, required an issue of 1347 prints of various types and sizes.

Census - 1940. - The statistical comparison of the population trends from 1930 to 1940 were charted, including the accompanying housing data. Several new charts were added to existing records.

Reports and Memorandums. - Seventeen reports and memorandums were prepared for the Chief Engineer and Surveyor, relating to such activities as the City-State highway program and other problems.

Legislative Bills. - All the legislation of the 1942 session of the Assembly of Pennsylvania was followed, as such bills affected the Public Works functions of the City.

Lectures and Exhibits. - Material was prepared to aid the Chief Engineer and Surveyor in his lectures activities and reports and exhibits to City Council.

Cooperation with W.P.A. Coordinator. - The Division cooperated with W.P.A., furnishing information and plans for several projects.

A talk was given to project supervisors at the conference for Statistical Projects.

Other Activities. - Studies and plans were prepared for starting the condemnation of the Northeast Philadelphia Airport and its subsequent extension.

Studies were prepared for the revision of the City Plan in the site area of the Budd Manufacturing Company's new aircraft assembly plant.

The 1942 statistical chart for the changes in the street system of the City was prepared, graphically portraying the information contained on the Street Data Maps.

Maps were prepared for the establishment of the Rationing Boards and their subsequent consolidation.

Records were revised for the Division of the 34th Ward into the 52nd Ward and their areas calculated.

A district map of the new Survey District boundaries was prepared.

An organization chart of the Bureau was prepared and an assembly of the organization charts of all the Department of Public Works' bureaus was made at the request of the United States Army.

ZONING DIVISION

A perusal of the statistical report shows that the amount of work done by the Division decreased in every particular, from that done the previous year. The least percentum of decrease, thirteen and eight-tenths (13.8) in the "number of refusals appealed to the Board of Adjustment" while the greatest percentum decrease, eighty and eight-tenths (80.8) occurred in the item "number of Sign applications (highway) acted on".

These two items, however, are not important indices of the activity of the Division and the others which are indicative such as "Applications Filed"; "Permits Issued"; "Inspections Made"; "Complaints Investigated"; "Vouchers Issued"; and "Amount of Cash Receipts" show that somewhat more than half as much work was done as in the year 1941.

Although a decrease in the activity for the year, taken as a whole, was to be expected because 1941 was phenomenal due to the effect of the "Parking Lot and Garage" ordinance of March 7, 1941, the effect of the war after the bombing of Pearl Harbor on December 7, 1941, was very pronounced in accentuating the decline. On what business there was in 1942, the war effort had an influence all its own. The operation of Federal priorities, edicts banning certain kinds of construction, and the encouragement of conversions to multiple dwellings for the housing of war workers put continuity and trends out of the picture. No one could forecast what might come next.

As an example, the construction of Gasoline and Oil Service stations was stopped altogether and suddenly on January 15, 1942, and the construction of street signs, neon signs and other signs practically stopped, but gradually. The effect of the ban on Gasoline and Oil Service Stations is made evident by the fact that in the first three months of the year there were thirty (30) references to the Board of Adjustment and during the last nine months only forty-two (42).

When gasoline rationing and shortage of rubber began to take more and more automobiles from the highways, there was a marked attempt on the part of owners of garages to rent them for machine shops to large firms doing war work. Many of these were in commercial districts and the attempt resulted in Refusals of Permits, hearings before the Board of Adjustment, and grants of variances. This kind of thing explains the comparatively slight decrease in appeals to the Board of Adjustment.

During the latter part of the year, the Home Owners' Loan Corporation began to take steps looking to its taking leases on suitable properties, converting them to multiple dwellings and conducting them for a period of years to house war workers, finally returning them to the owners. The result (without going into an explanation) was that four hundred forty-six (446) requests for information were directed to the Zoning Division by the Philadelphia Homes Registration Office during December. This figure is about one-third of the total requests made during that month.

An indication of the difference in the underlying motive for the filing of applications in 1941 and 1942 is supplied by the fact that in 1941 only twenty-seven (27) percentum of all permits issued were Use Registration Permits, while for 1942 the figure is thirty-one (31) percentum. This simply reflects the frowning of the Federal Government on almost all civilian construction. Early in the year construction might be done to the value of five hundred (500) dollars, but now the latest word is that no work may be undertaken to exceed two hundred (200) dollars without some kind of priority.

Trailer Camps. - A spirit of unrest that began several years back culminated in a great protest that welled up from the articulate citizenry, particularly in the great Northeast, early in the year and continued for the greater part thereof, against the establishment of trailer camps. This took the form of a demand for more law and finally resulted in the passage of a health ordinance and an amendment to the Zoning ordinance of 1933. The writing of this Zoning Amendment involved gathering data from other cities and Government agencies which already had experience in zoning trailer camps, as well as much composition and proofreading in all of which the Zoning Division took part.

Once the ordinances were approved, on March 25, 1942, there arose a clamor for enforcement. This took the form of prosecution before a magistrate because of lack of a health permit which could not be obtained because of the way the health ordinance was tied in with the Zoning ordinance. After a hearing before the magistrate, at which the voice of Mr. Joseph Sharfsin, a former City Solicitor, was raised in behalf of the trailer camp operators, the sponsors of the Health ordinance decided to have it repealed and a different one, without a tie-in to the Zoning ordinance, substituted. Accordingly, this was done on September 16, 1942. Then the City Solicitor's office decided to bring action, under the original Zoning ordinance of August 10, 1935, on the equity side. Bills in equity were filed and now the matter rests.

Personnel. - Two resignations and an enlistment in the Navy reduced the staff to skeleton proportions. Even under this handicap, Civilian Defense made further inroads. The Assistant Chief of the Division spent about 70% of his time overseeing the layout and equipment of Control Centers. Another assistant was involved to the extent of about 40%, and the stenographer to the extent of about 20% of her time.

ENGINEERING DIVISION

Design.- The normal activities of the Design Division during the year included the preparation of plans, proposal forms and estimates for sewers, sewage disposal structures, and other drainage projects, highway bridges and viaducts, highway bridge repairs, etc.; the preparation of reports on drainage and flooding, preliminary sewer estimates, maintenance of drainage maps, etc.; investigation and approval of applications by utility companies or others for permits for underground structures within the street lines, such as conduits, pipes, tunnels, vaults, new railroad track locations, etc., both for possible interference with proposed or existing City drainage structures and for strength of proposed structures; checking and approval of proposed structures; checking and approval of proposed marqueises, canopies, etc., projecting within the street lines; checking routes for heavy hauling for strength and clearance of bridge structures; checking plans, specifications, etc., of engineering work prepared by other City bureaus.

During the year the Design Division had 250 major assignments which included normal activities as above described, and special activities such as engineering studies and design in connection with State Highway projects and Federal projects within the City limits connected with the war effort.

Sewers (private).- The construction of sewers by operative builders at private cost was limited during the greater part of the year to that required for housing considered essential to the war effort. However, the growing demand for housing with the increase in war production activities, required the preparation by the Design Division of plans and specifications for 28 sewers of this type.

Sewers (public). - The construction and planning of public sewers to relieve sections where lack of drainage resulted in insanitary conditions, and for the reconstruction of old sewers in dangerous condition, as prosecuted during the year, was authorized under ordinances of Council of 1937, and subsequent years including a number of ordinances in 1942. Plans, estimates and specifications have been prepared under these ordinances during the year for 36 new sewers, 2 reconstruction sewers, 1 for laterals and 1 for inlets and connections.

Sandy Run Main Sewer Extension. - Contract plans for the construction of the Sandy Run Main Sewer from Glendale and Castor Avenues to Faunce Street and Summerdale Avenue were completed at the beginning of the year and the work was advertised for bids in February. Plans for the extension of this sewer from Faunce Street and Summerdale Avenue to Faunce Street and Tabor Avenue also have been completed. This section involves a length of main sewer of 3275 linear feet; the sizes of this extension are 11 feet high by 11 feet wide, 10 feet high by 10 feet wide, and 8 feet high by 8 feet wide. The 11 feet high section has a 24-inch diameter vitrified pipe sanitary sewer on each side; the 8 feet and 10 feet sections have a 24-inch diameter pipe on one side only, and a smaller pipe sewer is provided on the opposite side of the street. The portion of this main sewer from Whitaker Avenue northward to Tabor Avenue will be at a depth varying from 23 feet to 31 feet from curb to sewer invert. This is due to the necessity of crossing under the tracks of the Philadelphia and Newtown Railroad at Maple Avenue and Bingham Street above Tabor Avenue. The section of this sewer is designed of plain concrete without steel reinforcement, to eliminate the use of any critical materials whose use is restricted by the requirements of the War Production Board.

The construction of all sewers since May 1942 was subject to restrictions of the Federal government on the use of materials and labor. The starting of any construction was subject to the issuance of contract preference ratings by the War Production Board. The preparation of these applications required complete material lists and cost estimates for each project, which entailed a large volume of work by the Division. 39 such applications were filed during the year, and priorities were granted on 37 of these. In general, the issuance of a contract preference rating was governed by the relation of the proposed work to the war effort. Projects having no direct relation to the war effort were discouraged.

An interesting development of wartime engineering is the necessity of adapting the design of various structures to the use of materials not essential to the war effort. In the construction of sewer and drainage structures, this applies particularly to the elimination of structural and reinforcing steel, cast and wrought iron. Special or emergency designs were developed for City drainage structures, such as City inlets and manholes. In the case of the City inlet, the structural and reinforcing steel were eliminated from the top slab by increasing the thickness of the concrete and the use of a central flagstone beam support; a concrete lid was designed of special strength precast concrete to replace the cast iron frame and cover; a precast special strength concrete trap was devised to replace the cast iron trap, after the use of a vitrified tee with 90 degree bend was tried and found to be cumbersome and uneconomical. In the manhole design a precast special strength concrete frame and cover were provided replacing the cast iron frame and cover; the wrought iron steps and ladder bars were replaced by a precast special strength concrete block which projects into the interior of the manhole, and has grips for handholds and treads formed in the concrete. In the design of the Sandy Run Main Sewer, the usual reinforced concrete rectangular section was replaced by a plain concrete section of a semi-elliptical shape, and for the larger spurs by a plain concrete section with a semi-circular arch top.

State Highway Improvements. - Plans have been prepared for a number of street improvements of this kind during the year. These were all located in south and southwest Philadelphia, and involved highways related to the war effort. In all these projects the City furnished plans for the stormwater drainage and sewers, also plans for electrical conduits for lighting and traffic control, etc. This work required close cooperation with the engineers of the State Department of Highways, and involved a large amount of detail design work by the Division, as well as collaboration with the Electrical and Traffic Bureaus of the Department of Public Safety.

Federal Projects. - Among the activities incidental to the war effort, investigations and reports were made in connection with the drainage of numerous Federal installations within the City. These included a large Naval Aviation Storehouses installation, an Army Aviation Field, and sites for Emergency Federal Housing. Of the latter, 26 sites were investigated and reports made on the availability and capacity of City sewers, etc. This involved 13 distinctly separate sites, others being either contiguous areas or overlapping areas. In two cases off-site outlet sewers in City streets were necessary and were designed for size and depth required for future use by the City.

Data was compiled throughout the year for construction projects to be included in a Federal Post-War Program of Public Works. The estimated cost of projects submitted during the year was as follows:

Sewage Disposal	\$39,644,000.
Storm Sewer System and Flood Control	<u>17,366,000.</u>
Total	\$57,010,000.

Frankford Creek. - During the year Council, by ordinance, authorized the restoration of the bed of Frankford Creek between Ashland Street and Leiper Street. Plans were prepared for this work, but it was not placed under contract during the year because the releases from abutting property owners required by the ordinance could not be completely obtained. It is expected that the work can proceed during the coming year.

Drainage Studies. - Investigations and reports were made on various drainage problems including the effect upon the drainage system and surface drainage of proposed revisions of the City Plan, as the striking off or placing on of certain streets; the drainage of proposed private developments, public housing sites, Federal installations, etc.; investigation of capacity of outlet sewers for possible additions to the planned drainage areas; flooding investigations to determine cause and possible remedy. Altogether 82 such studies were made in 1942.

Preliminary Sewer Estimates. - Numerous estimates were made during the year for the construction and reconstruction of sewers, stormwater drains, etc.

Sewage Treatment and Disposal Project. - In October 1941, an application was made to the State Sanitary Water Board for a permit to revise the process of sewage treatment. To aid in the consideration of this application, the Sanitary Water Board requested additional information. In compliance with this request, a report was submitted in November of this year (1942), with preliminary hydraulic profiles and data showing the flow conditions through the proposed extension of the Northeast Sewage Treatment Works and the proposed Southeast and Southwest Sewage Treatment Works. The development of detailed plans for the proposed extension to the Northeast Sewage Treatment Works has not been prosecuted during the year, because the permit of the State Sanitary Water Board has not yet been received.

Plans were completed for additional sewage facilities and a small pumping station at the Philadelphia Municipal Stadium, but wartime restrictions prevented the carrying out of this work.

Among the many war activities of the year was the establishment of an airplane assembly plant in the 35th Ward of the City of Philadelphia. This plant was constructed beyond the limits of the City drainage system, and required the construction of a sewage treatment works and industrial plant waste neutralizer prior to the discharge into a small tributary of the Pennypack Creek. The treatment plant was designed by agents of the Federal government, subject to the checking and approval of the City of Philadelphia, and all the requirements of the City were met. An application for a permit was made by the City to the State Sanitary Water Board on November 12, 1942.

Bridges. - A provision of the City Charter states that no construction or erection of any building, bridge, or its approaches, arch, gate, fence, or other structure or fixture which is to be paid for, either wholly or in part, from the City Treasury or for which the City or any other public authority is to furnish the site, shall be begun unless the design and proposed location thereof shall have been submitted to the Art Jury and approved by it.

In accordance with this requirement, preliminary sketches are prepared by the Design Division and submitted to the Art Jury for approval. Photographs of such sketches are shown herewith of bridges to be built at Henry Avenue over Green Lane, Henry Avenue over Gorgas Lane, 70th Street over the P.B. & W. Railroad, and the proposed Underpass at 20th and Vine Streets.

Much thought and effort is put into the preparation of these preliminary plans to make them true to scale so that they will truly represent the final plans which also have to be approved by the Art Jury before work can be started.

This procedure has developed the closest cooperation between this Bureau and the Art Jury and many valuable suggestions have been made by the members of the Jury resulting in structures being ornamental as well as utilitarian.

Seventieth Street Bridge. - During the year a restudy was made of the Seventieth Street Bridge over the P.B. & W. Railroad, based on the statement made by the Railroad Company that they would be satisfied with a single span of 90 feet between abutments as compared with the former design consisting of a center span 61 feet long plus two side spans each 21 feet long.

By using girders along the curb lines projecting through the deck as the main carrying members, it is possible to eliminate the two piers which are never desirable from the standpoint of railroad operation, and are also expensive and difficult to build.

The new design contemplates for the first time the use of precast concrete units for the parapets which must be as light as possible in this type of design where they are built at the end of the cantilevered sidewalk and every pound saved in dead load has its corresponding saving in carrying steel. Recent developments in war production of aluminum have decreased the cost of this metal considerably, and it is possible that after the war it would be economical to make these parapets of that metal. Aluminum and its alloys are ideal under the conditions, being light in weight and non-corrodible, and therefore requiring no painting. They are easy to work, lend themselves readily to architectural treatment, and their only drawback in the past has been the cost of manufacture.

The construction of the Seventieth Street Bridge would improve traffic facilities in the neighborhood of the General Electric plant, and in conjunction with the construction of a new bridge across Cobbs Creek on the line of 70th Street would open up a through traffic route from the 69th Street section to Southwest and South Philadelphia.

Marquises, Canopies, Vaults, etc. - To safeguard the public using the City streets, the plans of such structures as marquises, canopies, signs, vaults, etc., must be submitted to the Board of Highway Supervisors for approval. Since the Board has no structural designers in its employ, the plans of these structures are sent to the Design Division for approval for strength before being considered by the Board. The plans are prepared by anyone from novices to Registered Professional Engineers, and often it is impossible to make the

applicant understand what he must do to satisfy the requirements of good design because he does not know the nomenclature of engineering. All these plans should be prepared by Registered Professional Engineers or Architects so that this bureau could be sure that the stresses in the structures had been calculated by someone with the necessary engineering knowledge.

Bridge Repairs. - In January 1940, at the suggestion of the Pennsylvania Economy League, the Bridge and Sewer Drafting Room of the Bureau of Highways was transferred to this Division. It has been kept intact and supplemented as required by the addition of other draftsmen and designers from this division. This squad prepares all plans and estimates for the use of the maintenance gang of the Bureau of Highways, such as new bridge decks, guniting plans, curb extensions, steel repairs, timber replacements, wharf and fender repair plans and in emergency has prepared contract drawings for new bridges.

When a bridge is reported by an inspector of the Highway Bureau as being in need of strengthening, a survey of the structure is ordered. This is performed by one of the steel gangs of the Highway Bureau working under the direction of an engineer from this squad assigned to the task. The structure is examined piece by piece and all corrosion points noted. A plan of defects is made from the notes taken during this survey, and from this plan a study is made of the methods by which the structure can be reinforced and strengthened. All details and a bill of material are shown on the repair plan and the required materials ordered through the Department of Supplies therefrom. The Highway Bureau repair gang then takes the material and the plan and makes the necessary repairs.

Construction - General. - During the year 1942, contracts were entered into for seventeen public sewers and twelve sewers at private cost, which together with sewers already under contract made an increase of 6.01 miles to the drainage system of the City. This amount is only 40% of the mileage constructed in 1941.

The City, cooperating with the policy of the United States Government, curtailed sewer construction, limiting it to essential war work needs, defense housing and preservation of public health. During the first half of the year it became necessary for the City to obtain priority assistance from the War Production Board for certain construction materials designated as critical and needed for the proper prosecution of the war. The priority assistance obtained by the City omitted all metals so that it became necessary to design an emergency City inlet eliminating the cast iron and substitute a concrete slab for the manhole covers and frames.

At the end of 1942, there was a total of 1,828.26 miles of sewers completed within the limits of the City of Philadelphia.

Main Sewer Construction. - Main Sewer in Glendale Avenue from Castor Avenue to Elgin Avenue, and in Elgin Avenue from Glendale Avenue to Faunce Street. This is a 12-foot semi-elliptical concrete stormwater conduit with vitrified plate invert lining and two 24" diameter vitrified pipe sewers in concrete. The work was started in April 1942, and is approximately 75% completed. The contract is limited to \$185,000.00.

Southwest Main Gravity Collecting Sewer in Essington Avenue from Mingo Avenue to Seventieth Street. This is a triple section reinforced concrete sewer with vitrified plate lining and built on concrete piles except where

it crosses a 7'6" x 6'0" reinforced concrete culvert which is also part of this contract. The inside dimensions of the three sections are 6'9" x 5'3", 6'9" x 4'3" and 6'9" x 7'0". The work was finished this year at a cost of \$182,982.56.

Bridge Construction. - 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 which 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 contract was completed this year at a cost of \$122,510.81.

Municipal Airport. - Driveways and Appurtenant Work at fuel storage site on the east side of Island Avenue, approximately 3,400 feet south of Tinicum Island Road. The work under this contract was started in November 1941, and completed this year at a cost of \$14,853.69.

Sewer Permits. - The Sewer Permit Division, reflecting the sharp decrease in the number of new sewers constructed, experienced a falling off in all its activities. The total number of sewer connection inspections was 80% of that for 1941. The inspections of repaired laterals and connections dropped 44% and special connections 72% which shows that the available housing of the City being remodeled, and the number of manufacturing plants and large buildings being constructed, were diminishing rapidly.

The total receipts for the year were \$23,250.95, of which \$15,106.95 were collected from service charge bills and \$8,144.00 from lateral fees. There was a decrease this year in the total receipts of \$8,995.03, due to a large falling off of lateral fees as fewer new sewers were constructed.

While the sharp decrease in all activities in this division shows a falling off of new building, it can be safely assumed that almost all the buildings constructed were necessary to the progress of the war effort, which at this time is certainly commendable.

Testing Laboratory. - Work during 1942 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; investigation of materials proposed for use on City contracts and 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 nine 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.

War conditions have forced many changes in quality of materials used in construction and maintenance, and this condition will remain for the duration; to this end the A. S. T. M. and like societies have formulated and published specifications (called alternates), embodying such changes. The Laboratory is in possession of many of these alternate specifications and will consult with any branch of the City's service wishing to make use of the same.

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.

All brands of portland cement common to the Philadelphia market have been checked during the year for the purpose of classification to the City's list of approved brands. Check tests were performed at the local central mix concrete plants to establish the grade of concrete produced by them for the City.

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

Coordinating Division, Work Projects Administration. - City Council, by ordinances, set aside in Item 12, Department of Supplies and Purchases, a total of \$210,692.64, of which \$84,415.00 was appropriated, \$122,100.00 allocated and \$4,177.64 transferred. This money to be used for purchasing supplies, materials and equipment and for payment of salaries and wages on projects operating under the Work Projects Administration.

The administration of this fund is taken care of by the Coordinating Engineer's Office, a division of the Bureau of Engineering, Surveys and Zoning. The duties of this office consist of the preparation and submission of ordinances to City Council for project funds; the keeping of a ledger control of the allocated funds; the preparation and approval of requisitions, including expediting delivery of material; the preparation of proposed projects, plans, specifications and estimates; field supervision, inspection and engineering services as required.

Due to the United States Government's War activities program, Work Projects Administration work was not as great in scope as in 1941. This program reduced considerably Work Projects Administration available skilled and common labor and the procurement of materials became progressively more difficult with some materials not being available at all. This made substitutions necessary and in some instances called for the redesign and re-planning of the work.

The projects operated in 1942, to which City funds were allocated, are as follows:

Department of the Mayor: This project, "Improvements to the Commercial Museum Buildings and Grounds", will terminate March 10, 1943, with useful units of the project completed only.

Department of Public Safety: a project covering the "Rehabilitation of the Wiring and Electrical Systems in the Police and Fire Stations throughout the City".

In the Bureau of Traffic Engineering, a project, "The Erection of New Traffic Signals and the Synchronization of Present Traffic Signals throughout the City".

Department of Public Works. In the Bureau of Engineering, Surveys and Zoning, a total of five projects, "The Dredging of the Schuylkill River from Fairmount Dam to Strawberry Mansion"; "Improvements to Schuylkill Avenue West"; "Improvements to the Municipal Stadium"; two "white collar" projects, "the Copying of Damaged and Worn Registry Records", and "Road and Street Indices".

In the Bureau of City Property, a total of four projects, three of which cover the "Rehabilitation of Police and Fire Stations"; "Independence Hall and Square"; "The Old Municipal Court Building at 21st Street above Race Street". The remaining project covers "Renovation of City Hall and City Hall Annex".

In the Bureau of Highways and Street Cleaning, a total of five (5) projects covering the "Improvement of Highways throughout the City"; "Lighting and Channelization of Delaware Avenue from Vine Street to South Street"; the "Erection of Street Designation Signs"; "The Removal of Abandoned Lamp Standards throughout the City", and "The Removal of Abandoned Street Car Rails". The latter two projects are operating for the purpose of furnishing scrap metal to be allocated to War industries by the War Production Board.

In the Bureau of Water, a total of six (6) projects covering "Restoration of Filters and Improvements to Buildings and Grounds" at Belmont, Queen Lane and Torresdale Filters; a "Water Waste Survey in North Philadelphia and a portion of South Philadelphia"; the "Renovation and Replacement of Fire Hydrants throughout the City"; and a "white collar" project "The Location of Valves and Underground Structures".

Department of Public Health. In the Bureau of Health, five (5) projects covering "Improvements to the Philadelphia General Hospital"; "The Municipal Hospital for Contagious Diseases"; "The Municipal Laboratory Buildings and Grounds"; "The Minor Contagion Building"; and "The Renovation of the Stable at 20th and Berks Streets", converting this building into a lecture room and office administration for Health Center activities.

In the Bureau of Vital Statistics, one "white collar" project, the "Installation of a New Index System".

Department of Public Welfare. In the Bureau of Charities and Correction, two (2) projects, "The Improvement to Buildings and Grounds at the Home for the Indigent and House of Correction"; and the "Rehabilitation of Buildings at Camp Happy". The latter project includes the construction of a Boys' Toilet and Shower Building and a Girls' Toilet and Shower Building and a Building for Children's Crafts.

In the Bureau of Recreation, one project covering the Rehabilitation of Recreation Centers throughout the City.

In the Bureau of Personal Assistance, two (2) projects "The Rehabilitation of the Shelter for Homeless Children at 1733 Vine Street", and a project covering "The Sewing of Garments for Institutions and Welfare Organizations".

In the Department of Wharves, Docks and Ferries, a project "Improvements to the Piers and Bulkheads along the Delaware River". The project closes April 15, 1943, with useful units completed only.

For the Inspectors of County Prisons, one project "Improvements to Buildings and Grounds at the Holmesburg County Prison and Farm". This work consists of new roofs for all buildings, plastering and pointing walls, painting, new plumbing, the installation of a Guard House at the Prison entrance, and renovating Power House, Kitchen and Bakery.

For the Commissioners of Fairmount Park, a total of six (6) projects "The Paving and Raising of East River Drive"; "Improvements to Robin Hood Dell"; "Increasing Recreational Facilities in Fairmount Park"; "The Erection of Cricket and Archery Houses in West Fairmount Park"; "The Construction of Lighting Facilities and Miscellaneous Work at City Line Bridge Approaches"; and "Gallery Construction and Interior Finish at the Philadelphia Museum of Art."

The City sponsored three projects conducted by the Pennsylvania Art Program, namely "Painting Portraits of Five City of Philadelphia Mayors"; "Preparing an Art Exhibit" to be shown in Mexico City; and "Making Posters, etc." for Civilian Defense, Water Bureau and Department of Health.

There are sufficient unexpended balances and available money for transfer, together with materials on hand, to operate the now active projects until the suspension of the program.

The majority of the Work Projects Administration City-sponsored projects covered "Rehabilitation Work". Four (4) projects were completed, namely "Renovation of Stable, 20th and Berks Streets"; "Municipal Laboratory"; "Old Municipal Court Building" and "1733 Vine Street". However, all operating projects will have useful units completed at the close of the Work Projects Administration program.

Accounting and Reporting Division. The Accounting and Reporting Division, in common with the other sections of the Bureau, must show in its annual report the limitations and curtailment of a country at war.

Contract-letting of public improvements was greatly restricted but due to the fact that many contracts were carried on the books from the previous year, the curtailment is not as apparent for 1942 as will appear for 1943.

During the year, six lettings were held, providing for 16 public sewers. An additional 27 contracts for unfinished work were carried on the books from 1941. Of the total number of contracts active for the year, 24 were completed, requiring 55 current and final estimates involving \$362,092.58 cash and 477 assessment bills with a value of \$111,210.94. Payrolls and miscellaneous items and 205 W.P.A. emergency purchases required payments of \$527,268.50. All told, a total of 463 transactions were passed through the Appropriation Ledger, requiring a total disbursement of \$889,561.08.

In addition, 121 service bills were rendered, collected and returned to the City Treasurer.

Three W.P.A. projects, sponsored by the Bureau, were continued:

Improvement of Schuylkill Avenue West	\$40,993.50
Improvement and Extension to Municipal Stadium	15,058.57
Dredging Schuylkill River	<u>54,370.54</u>

Two white collar projects were completed in 1942. \$98,422.41

They involved the handling of 156 separate transactions apart from the budget and loan matters that concern the Division.

As services of the Bureau declined in some endeavors due to the national emergency, it likewise increased in others brought forward by the emergency. "Personnel" continued on the move - an additional 19 men entering the armed services during the year, with the never-failing "substitute" promotions following. These promotions, coupled with the Bureau's continual efforts to secure men to perform its essential work, resulted in 72 personnel changes and appointments.

These changes were reflected in the volume of work performed by the stenographic force of the Division, and in conjunction with "reclassification" and Civilian Defense, tended to an active year for this portion of the Division.

Civilian Defense constituted another important source of activity by the Division, due to contributions by the Bureau to this highly essential project. The rapid development of the Public Works division of this organization resulted in considerable additional work for the stenographic force of the Bureau, in the preparation of stencils for instruction booklets and forms necessary for efficient operation of the unit. At the times this work was in progress, no reason was apparent for a count of the time, materials or amount involved. Due to the confidential nature of this matter, many stencils have been destroyed when form was changed; however, approximately 100 stencils remain for future use and a casual examination of them indicates many hours of work due to their complicated design.

In addition, many hours of stenographic service were required as the work of the organization was perfected and its need for Public Works participation became more and more apparent.

Rationing of gasoline and conservation of rubber became problems of importance that required both time and study for the filling and filing of forms required by the national government, and to safeguard the automotive equipment of the Bureau for continued use until the end of the war.

The receipts for the year were as follows:

	<u>Vouchers</u>	<u>Amounts</u>
Survey Districts	3,167	\$72,998.61
Registry Division	134	164.15
Sewer Registrar	319	23,250.95
Zoning	2,681	17,870.00
Lower Merion Township) Sewer		100.00
Upper Darby Township) Rentals		1,000.00
Witness Fees		<u>258.00</u>
	6,301	\$115,641.71

GENERAL CONCLUSIONS

The losses in personnel by reason of the war situation, which had been foreseen in 1940 and 1941, finally caught up with the Bureau in 1942. During the past year, 19 assistants joined the armed forces of their country in various capacities. At the close of the year, there were a total of 27 in military service, of which number 23 belong to the Survey District function. The said 27 Bureau and 23 Survey District employees represent ten percent and seventeen percent of their respective personnel groups.

Owing to the high wages paid in private industry and draft considerations, it proved impossible to restore the manpower of the Bureau. The situation with respect to Chairman eligibilities, as described in the 1941 Annual Report, grew from bad to worse in 1942. The efficient functioning of the Bureau, therefore, became a very serious problem. The pressure that characterized all activities required in connection with war demands placed an overload of work on the Bureau, despite the fact that normal operations fell considerably below the 1941 level. That this situation was met with little criticism, and, most often, with commendation from both Army and Navy officials for the promptness of the services rendered, was due to careful employment of the depleted manpower and the effective cooperation given by Division heads, the District Surveyors, and the personnel under their supervision.

The all-out mobilization of the Nation's manpower for wartime services of all classifications, discussed since 1941, did not seriously affect the Bureau in 1942, insofar as personnel is concerned. Its influence, however, was felt by the construction industry where great difficulty is now being experienced by contractors in holding both men and equipment. This situation

becomes particularly acute when there occurs a lengthened interval between successive contracts. A direct result of this condition has been the slowing down of the Bureau's program of sewer construction to a point where future work is becoming problematical.

The ban on critical materials required for municipal construction purposes completely halted the 70th Street and Sedgley Avenue bridge projects. The first mentioned improvement is to be a new bridge over the P. & W.R.R. on the line of 70th Street between Grays Avenue and Paschall Avenue. The second improvement is the reconstruction of an existing bridge over the North Penn Branch of the P. & R. R.R. on the line of Sedgley Avenue. The present structure has been condemned and is now closed to traffic. Both of the proposed bridges are urgently needed by the neighborhoods served, but definitely postponed for the duration. However, the Bureau has completed all plans for their construction and is prepared to proceed when the "all clear" is received for the undertaking of such work.

By eliminating practically all of the critical materials formerly used in sewer construction, the Bureau has been able to obtain approval from the War Production Board for a limited amount of sewer construction. Such work has been largely limited to sewers required for emergency housing construction to provide drainage facilities for war production industries, and, somewhat grudgingly, for sewer construction necessary to relieve insanitary cesspool conditions. All of the present sewer work is under periodic scrutiny by agents of the War Production Board and it may only be a question of time before current sewer work is stopped and future contracts banned, regardless of the fact that the critical materials actually required have been reduced to lumber and nails. The Designing Division has been called upon to exercise considerable ingenuity in order to meet these extraordinary conditions. They have designed large concrete sewers without the use of reinforcing steel; also, steel-free concrete manhole covers and frames, inlet covers and frames, inlet traps, and other appurtenances. Included in these changes are the substitution of concrete hand and footholds for manholes in lieu of the standard wrought iron ladder bars.

Similar applications have been made in developing the preliminary designs for the two bridges that must be ultimately built on the line of Henry Avenue over the Gorgas Lane and Green Lane ravines. The structures now proposed would be stone face concrete arch bridges in which practically no reinforcing steel is required. If all construction work is ended it will be because of mandatory war conditions and not for the reason that the Bureau could not meet particular situations resulting from the emergency.

As previously mentioned, the year 1942 was marked by the entrance of a number of employees into military service. Wherever it was possible, the vacancies thus created were temporarily filled under the War Service Act relating to municipal employees. While such action introduced complications into the personnel organization, it was deemed advisable in order to give the group of assistants affected an opportunity to receive greater income during the emergency or until the return of the assistants they succeeded. The close of 1942 was marked by the elimination of the bonus given to those receiving salaries less than \$2500 per annum, and the substitution in lieu thereof, of more substantial increases in the 1943 budget. Under the new budget an increase of \$400 was given to all those receiving salaries ranging between \$700 and \$5499 per annum, and increases varying from \$300 to \$200 to those

receiving salaries ranging from \$3500 to \$4999 per annum. These increases, for the most part, were gratifying to the recipients but it is regretted and recorded that in making these adjustments in salary, no consideration was given to those members of the Bureau whose salaries were never restored after experiencing excessively heavy cuts in 1932. Coincident with the new salary schedule, Council adopted for the 1943 budget a reclassification of position titles proposed by the Pennsylvania Economy League. The reclassification was predicated, in part, on the Jacobs' report approved by the Civil Service Commission in 1930. A number of radical changes were made by the Pennsylvania Economy League in titles pertaining to the Bureau of Engineering, Surveys and Zoning personnel. Many of these changes are not satisfactory, and steps are now being taken whereby the new titles can be reviewed by the Bureau with the Civil Service Commission and representatives of the Economy League. The Civil Service Commission is in accord with the objections of the Bureau to many of the new titles and the Economy League has agreed to participate in a reconsideration of them. It is believed, as a result of this conference, that it will be possible to restore, or change, the titles in question because such action seems absolutely necessary in the interests of effective organization.

The year 1942, insofar as the Bureau was concerned, proved to be a notable one in many respects. The world-wide conflict now being waged as an "all-out" war, was bound to have a tremendous and universal influence upon all civil life and functions. The Bureau of Engineering, Surveys and Zoning, obviously could not escape the effects of this cataclysm. That the Bureau was able to accomplish the volume of work completed during 1942 under the unusual circumstances controlling was, in no small way, due to the efficiency and versatility of the functions that comprise its organization.

I L L U S T R A T I O N S

of

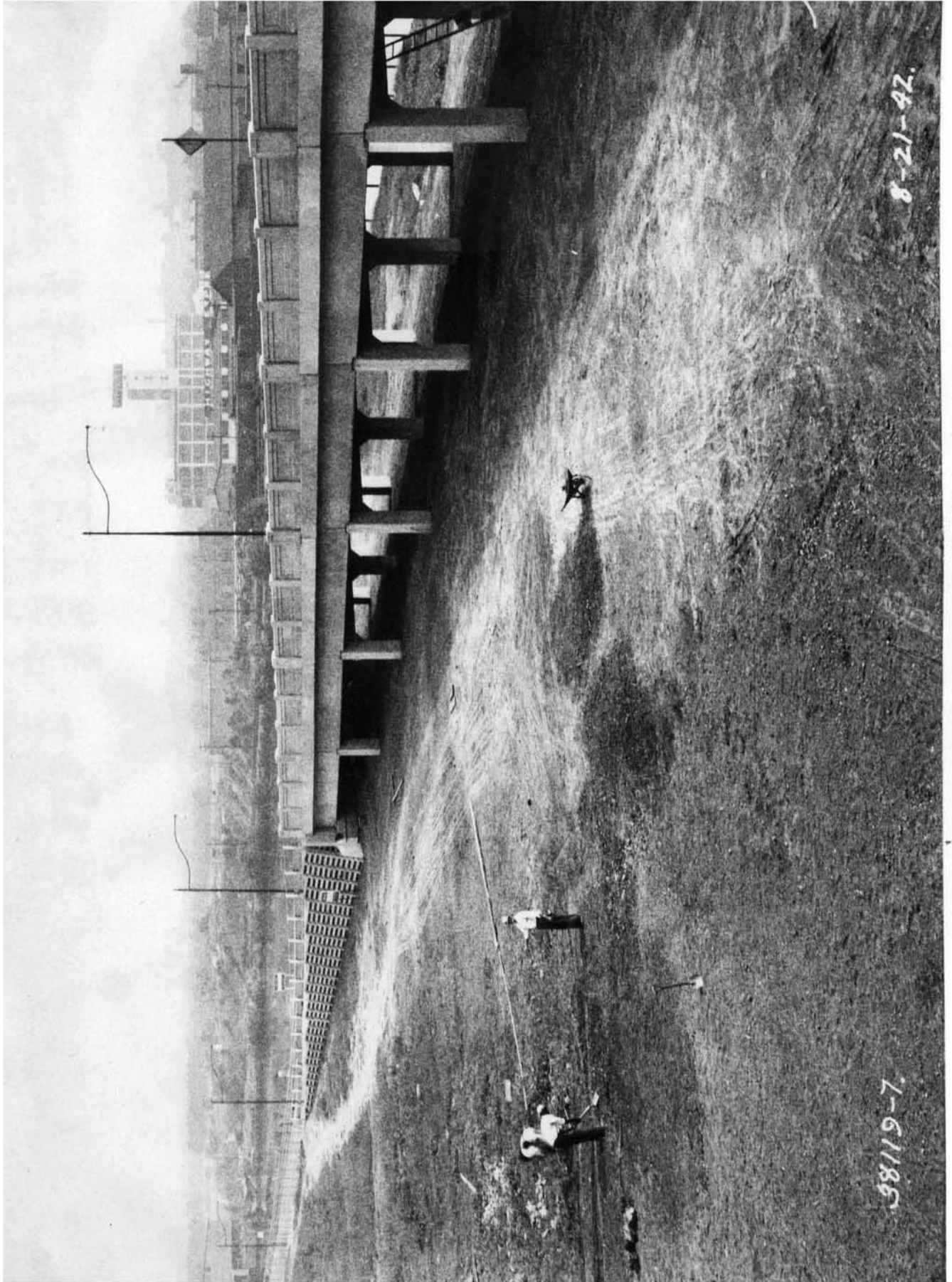
C O N S T R U C T I O N W O R K

* * * * *

BRIDGES

SEWERS

HIGHWAYS

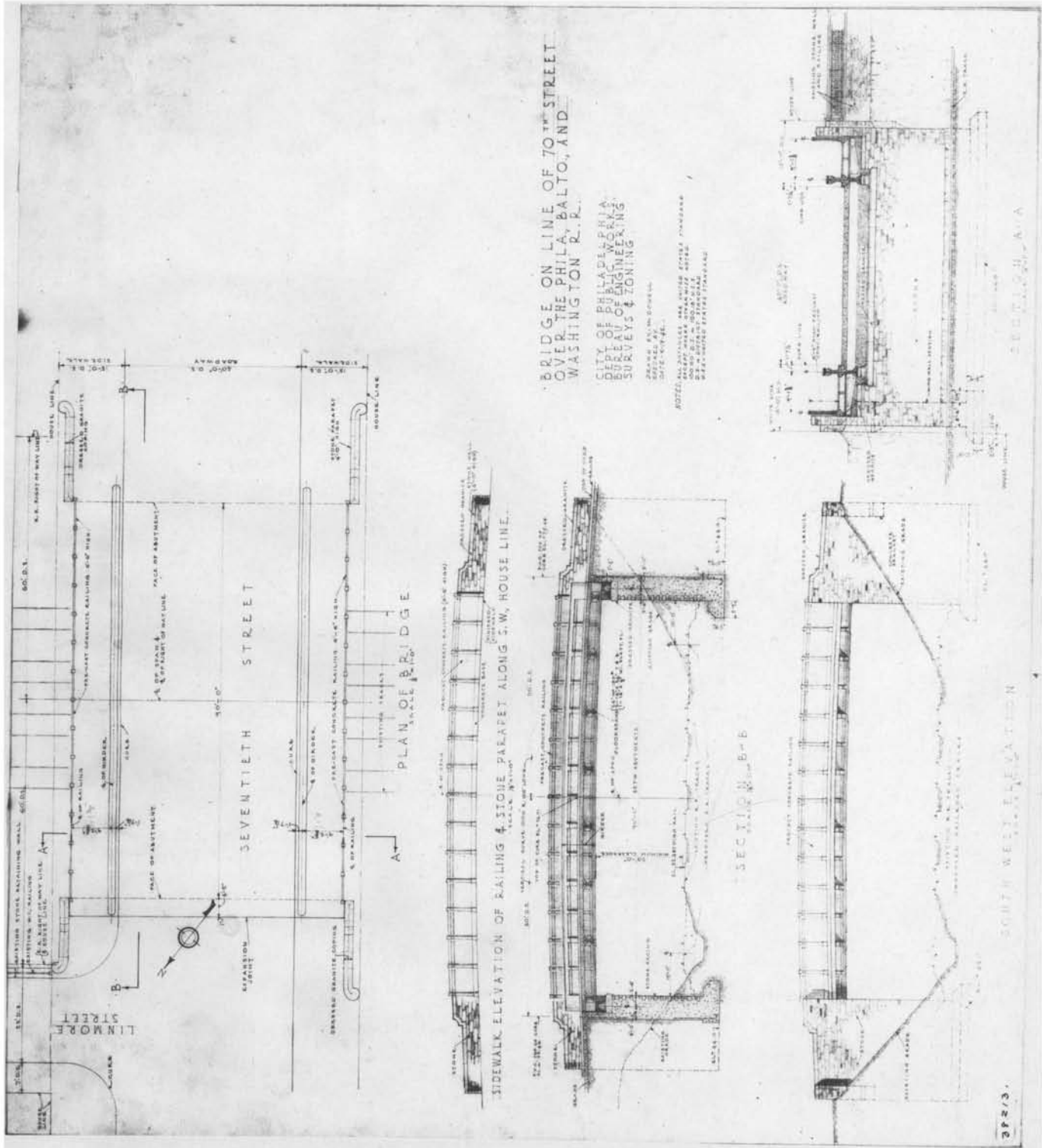


8-21-42.

WEST RIVER DRIVE IMPROVEMENT (W.P.A.)
RAMP APPROACH TO ARCH ST. VIADUCT LOOKING NORTHWEST

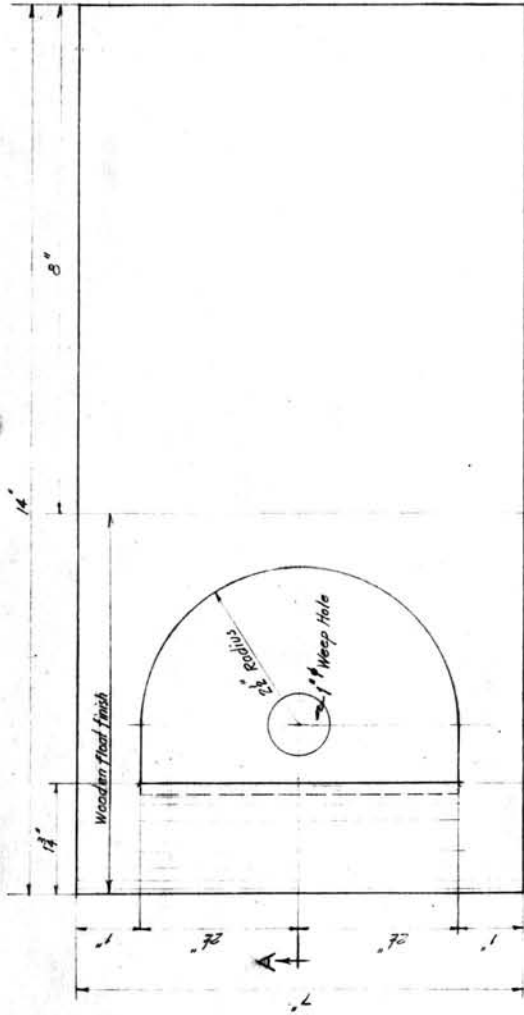
58119-7.

29-1942

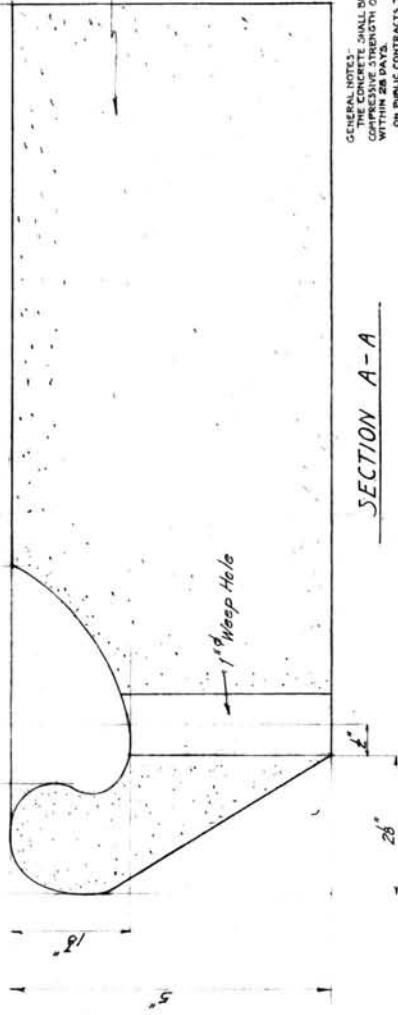


PROPOSED BRIDGE
70TH STREET OVER P.B. & W. R.R.

30-1942



PLAN AT TOP



SECTION A-A

GENERAL NOTES:
 THE CONCRETE SHALL BE PORTLAND CEMENT CONCRETE, HAVING A COMPRESSIVE STRENGTH OF AT LEAST 4000 POUNDS PER SQUARE INCH WITHIN 28 DAYS.
 ON PUBLIC CONTRACTS THE STEPS WILL BE FURNISHED BY THE CITY WITHOUT COST TO THE CONTRACTOR, BUT HE SHALL DO HIS OWN HAULING AND PLACING OF THE CONCRETE. ON PRIVATE CONTRACTS THE CONTRACTOR SHALL FURNISH THE CONCRETE AT RICHMOND STREET AND WHEATSEAF LANE.
 ON CONSTRUCTION AT PRIVATE COST THE CONTRACTOR SHALL BE OBLIGED TO FURNISH THE CONCRETE AT RICHMOND STREET AND WHEATSEAF LANE.
 THE CONTRACTOR SHALL PAY THE MANUFACTURER FOR THESE STEPS THE PRICE BID THEREFOR TO THE CITY.

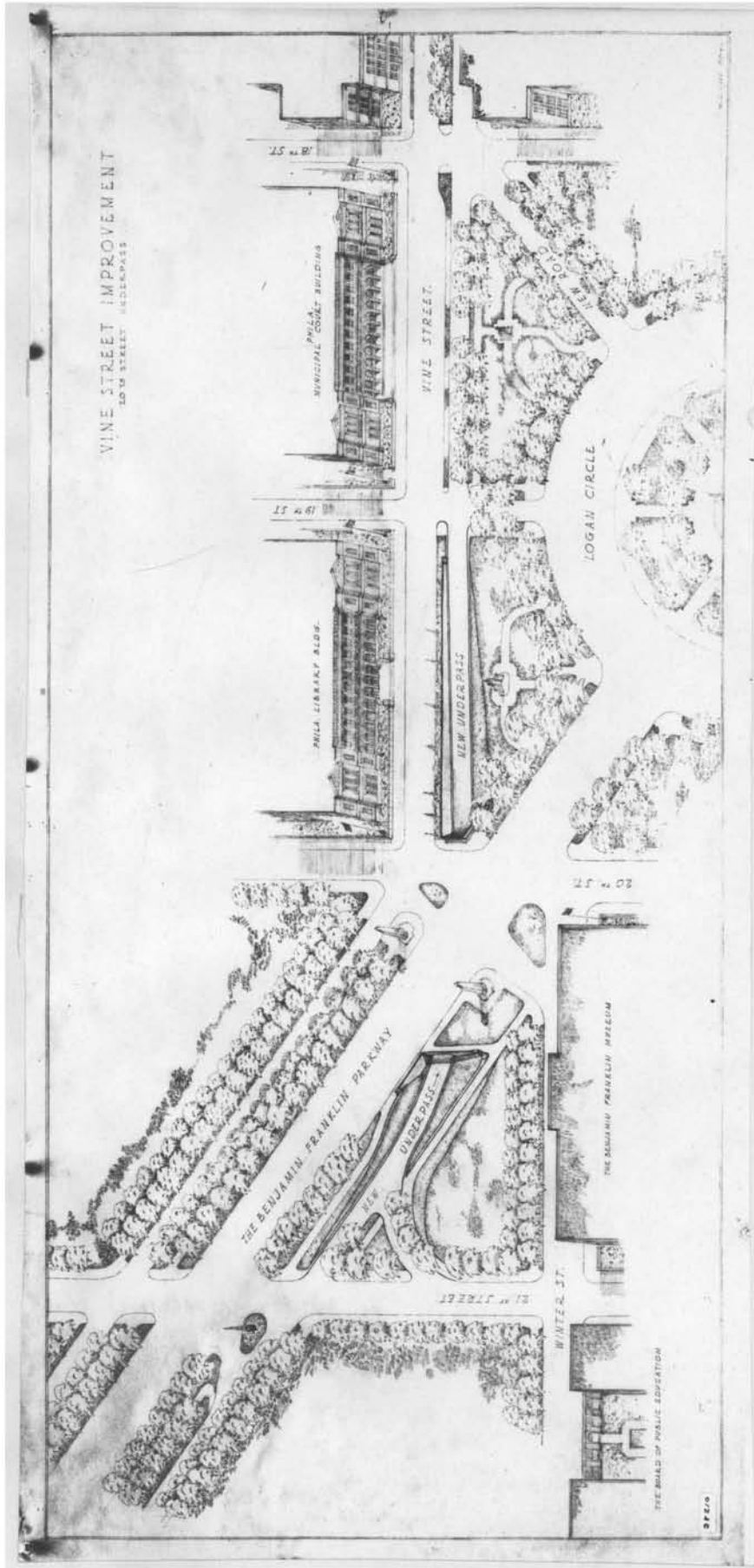
Portland Cement concrete
(Vibrated)

F.S. DETAIL OF MANHOLE STEP

CONCRETE MANHOLE STEP

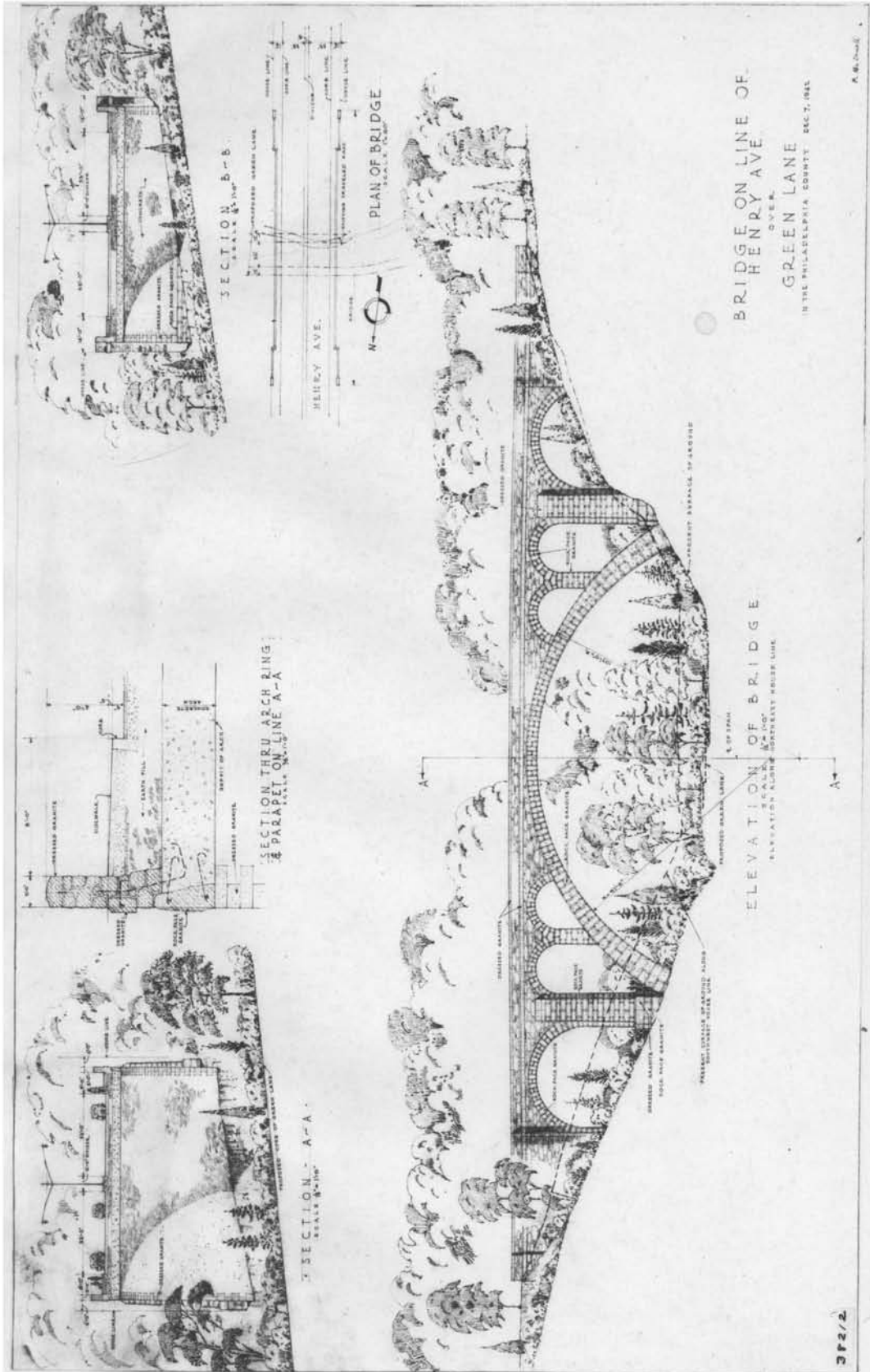
[Signature]
 CHIEF ENGINEER AND SURVEYOR

DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
 BUREAU OF ENGINEERING SURVEYS JAN. 21, 1933
 PHILADELPHIA



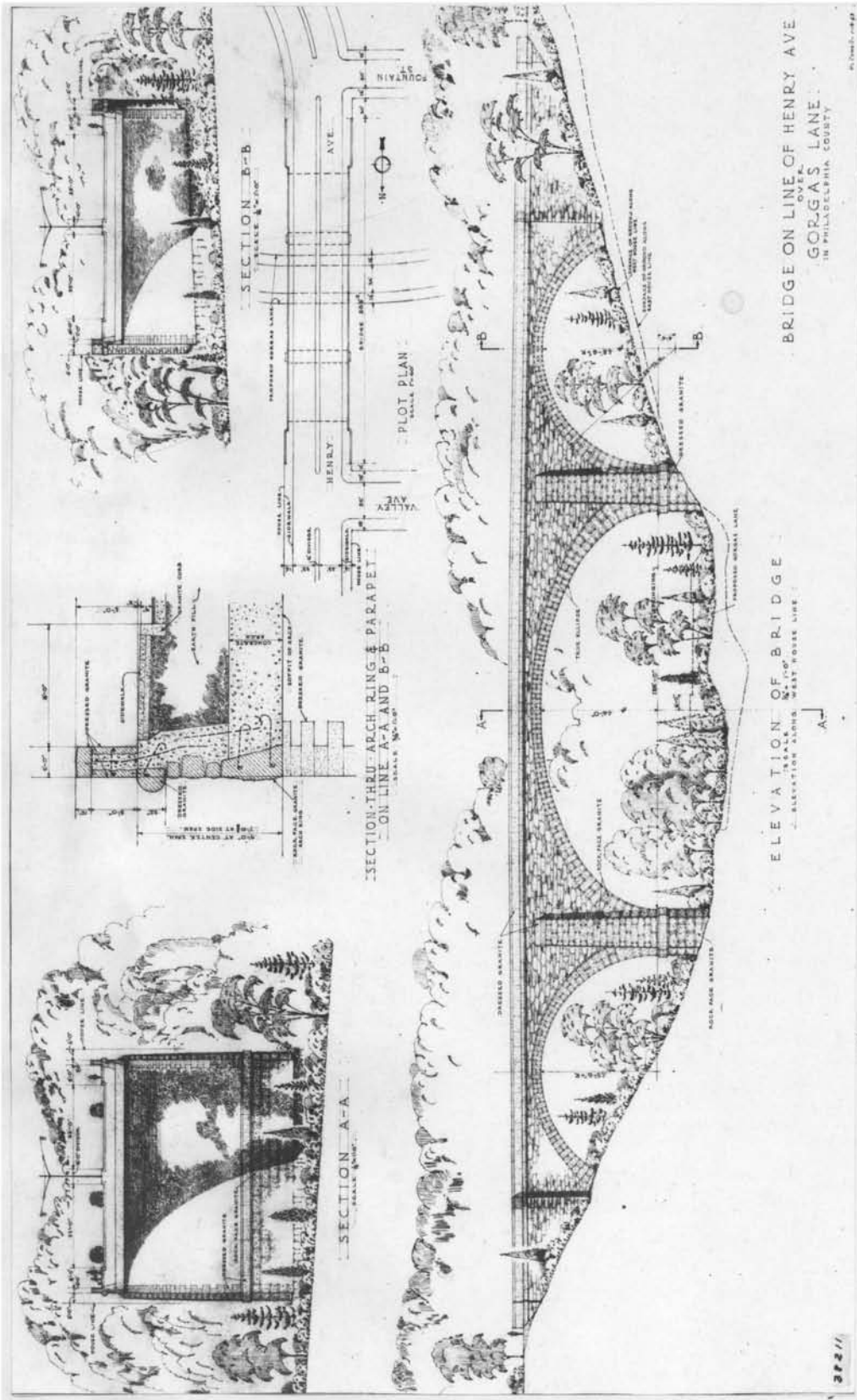
VINE STREET IMPROVEMENT
20TH STREET UNDERPASS

PROPOSED VINE ST. - CITY-STATE HIGHWAY IMPROVEMENT
20TH STREET UNDERPASS



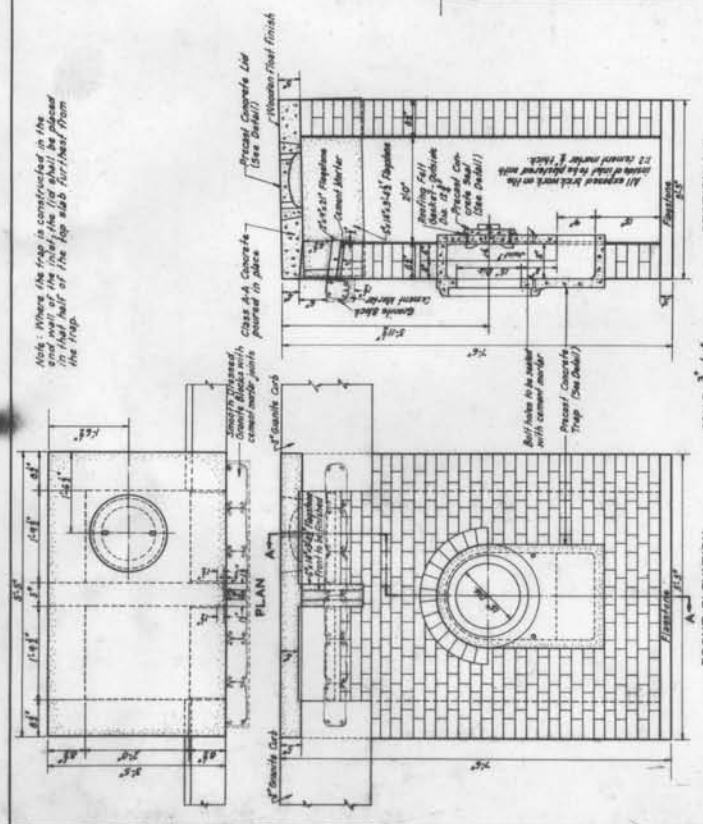
PROPOSED BRIDGE ON LINE OF HENRY AVE. OVER GREEN LANE

34-1942

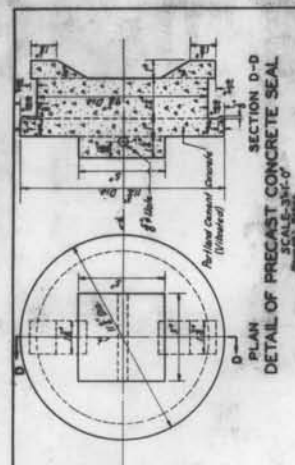
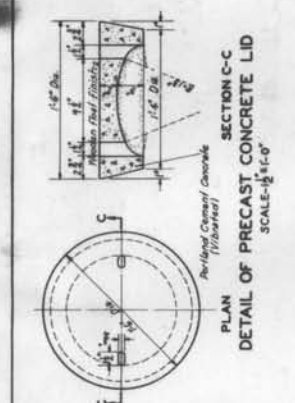


PROPOSED BRIDGE ON LINE OF HENRY AVE. OVER GORGAS LANE

35-1942



Note: Where the trap is constructed in the end wall of the inlet, the lid shall be placed in that half of the top slab furthest from the trap.



All precast concrete shall have a compressive strength of at least 4,000 psi. The concrete shall be placed in the structure from the mold for the concrete lid seal and the concrete seal shall be placed in the structure from the mold for the concrete lid seal.

The lid shall be installed in place using Class 'A' concrete blocks. The lid shall be installed in place using Class 'A' concrete blocks and the reinforcement shall be placed in place in accordance with the details shown on this drawing.

The lid shall be installed in place using Class 'A' concrete blocks and the reinforcement shall be placed in place in accordance with the details shown on this drawing.

The lid shall be installed in place using Class 'A' concrete blocks and the reinforcement shall be placed in place in accordance with the details shown on this drawing.

EMERGENCY CITY INLET

SCALES - AS SHOWN

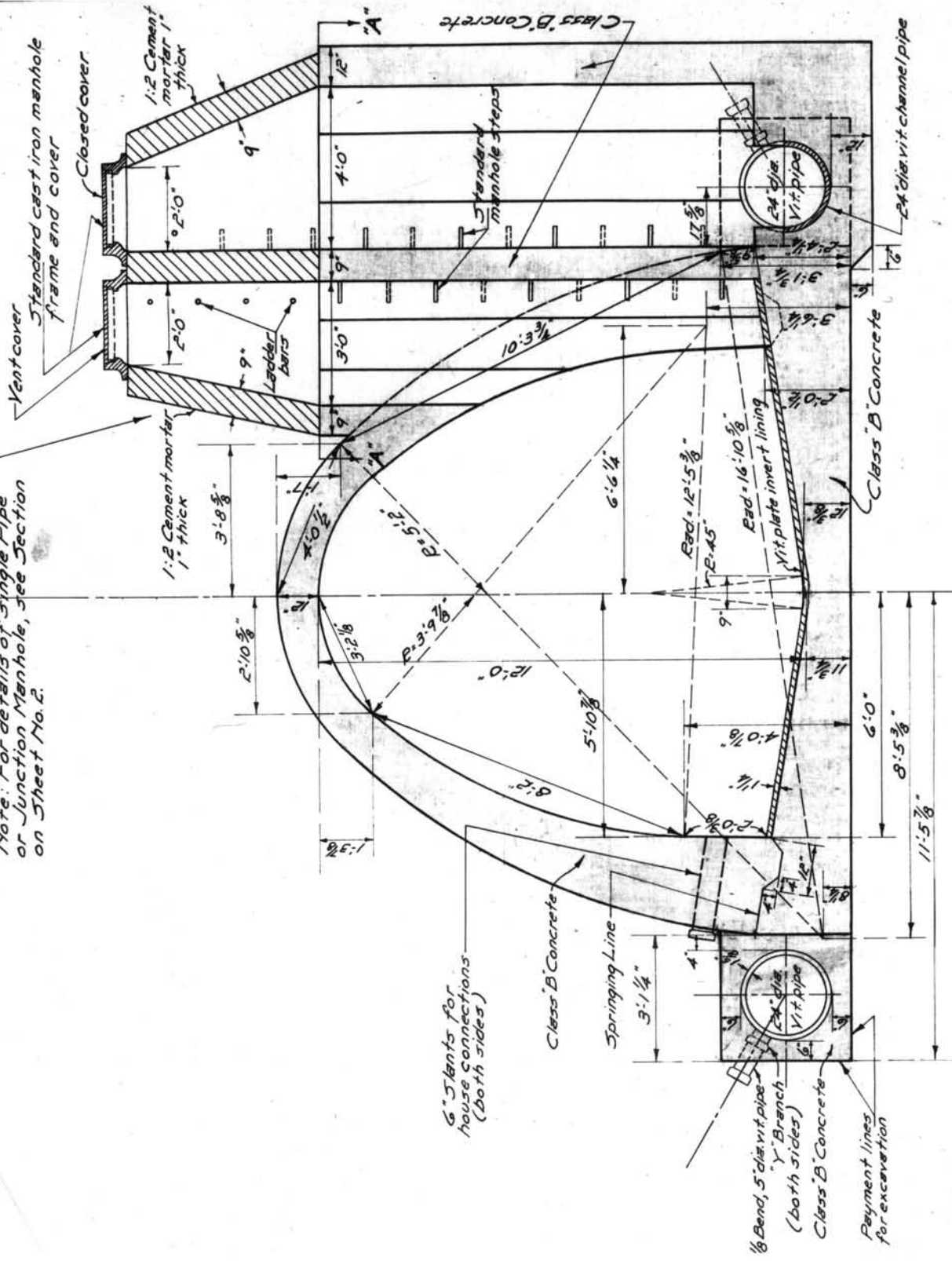
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, PLANNING & DESIGN
PHILADELPHIA
JAN. 19, 1962

EMERGENCY CITY INLET

36-1942

DOUBLE MANHOLE

Note: For details of single Pipe or Junction Manhole, see Section on Sheet No. 2.

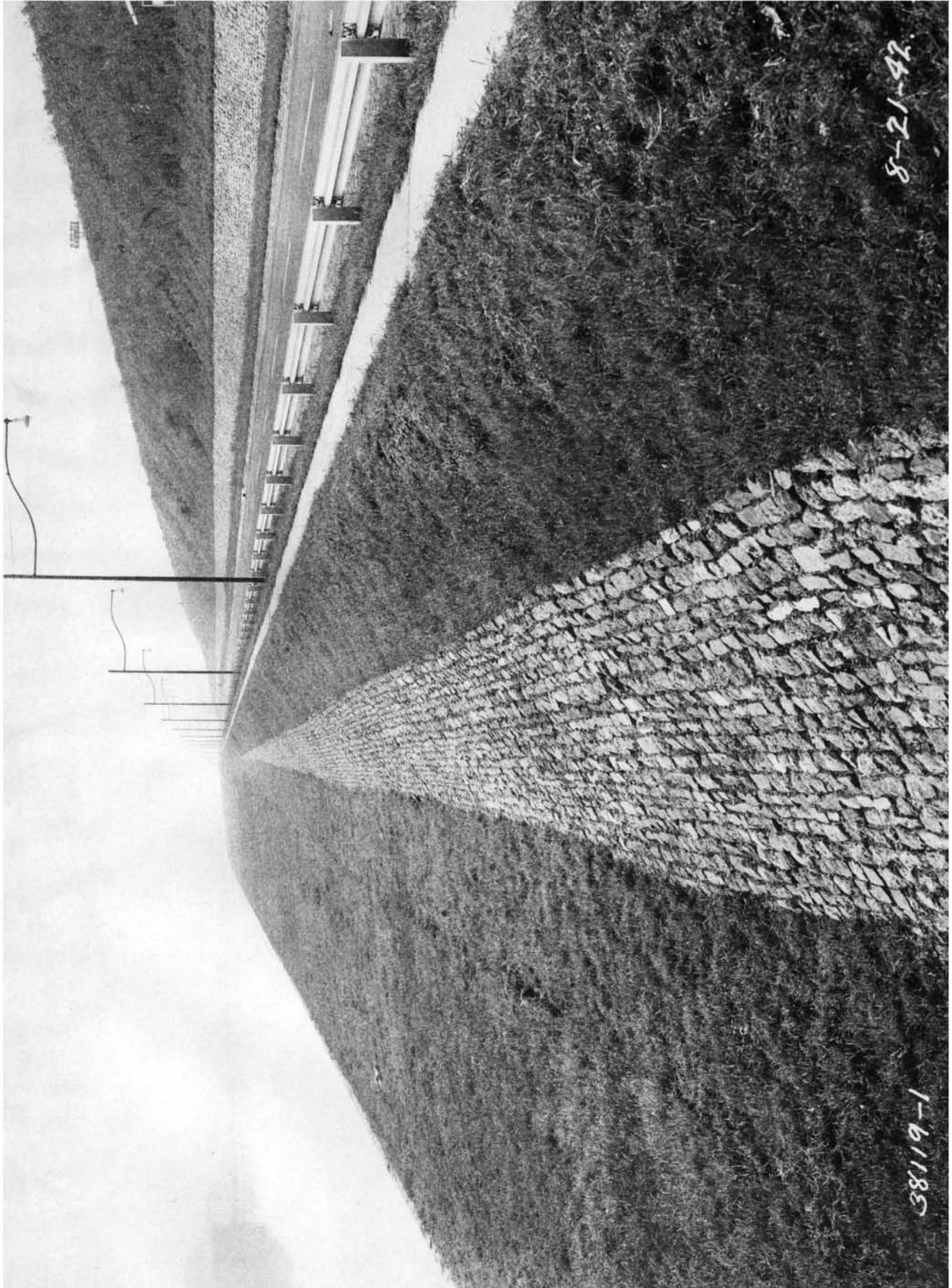


SECTION

SANDY RUN MAIN SEWER
 CROSS SECTION OF UNREINFORCED CONCRETE

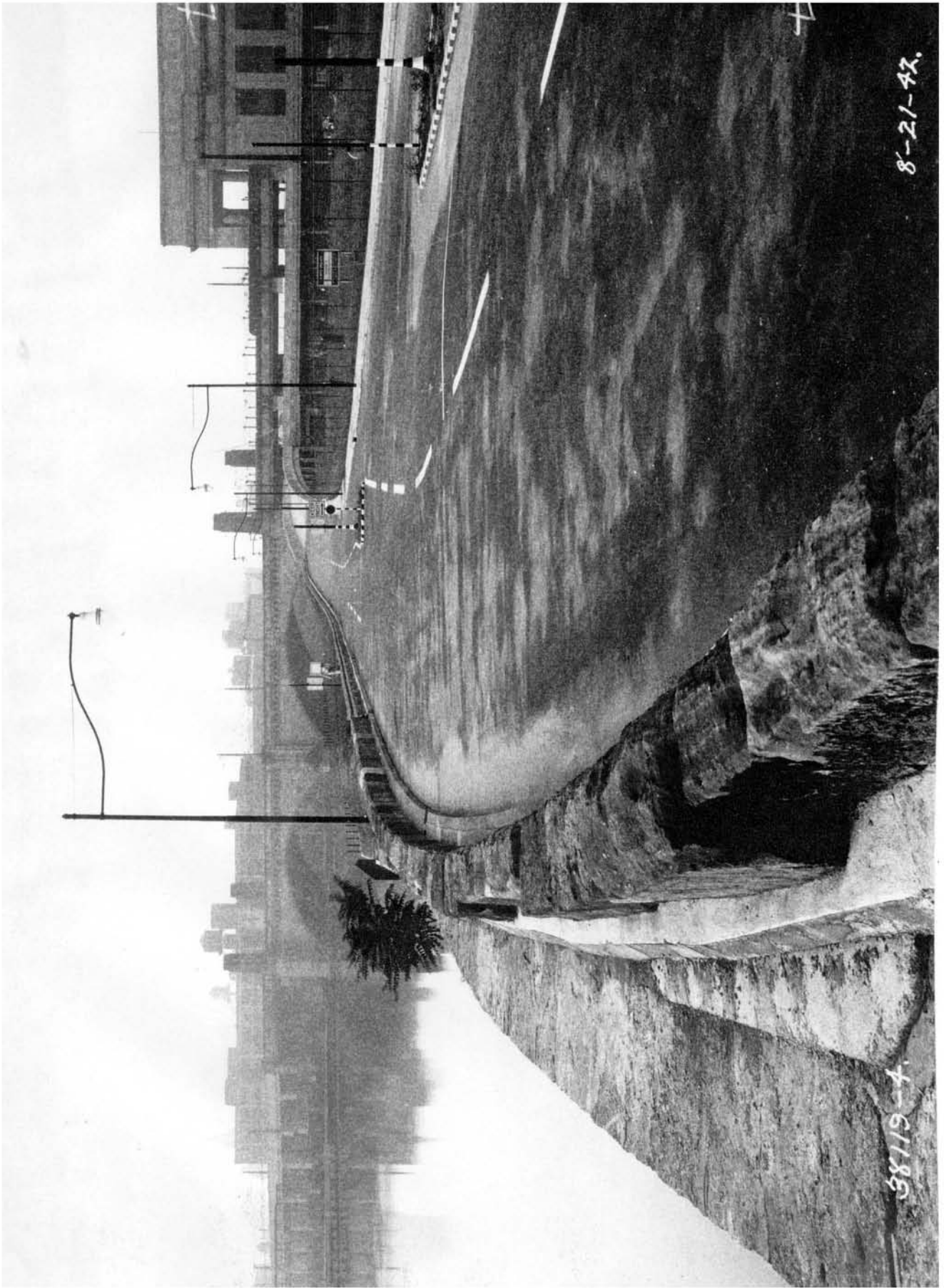
38217

37-1942



WEST RIVER DRIVE IMPROVEMENT (W.P.A.)
LOOKING SOUTH FROM SPRING GARDEN ST.

38-1942



8-21-42

WEST RIVER DRIVE IMPROVEMENT (W.P.A.)
LOOKING SOUTH FROM POWELTON AVE.

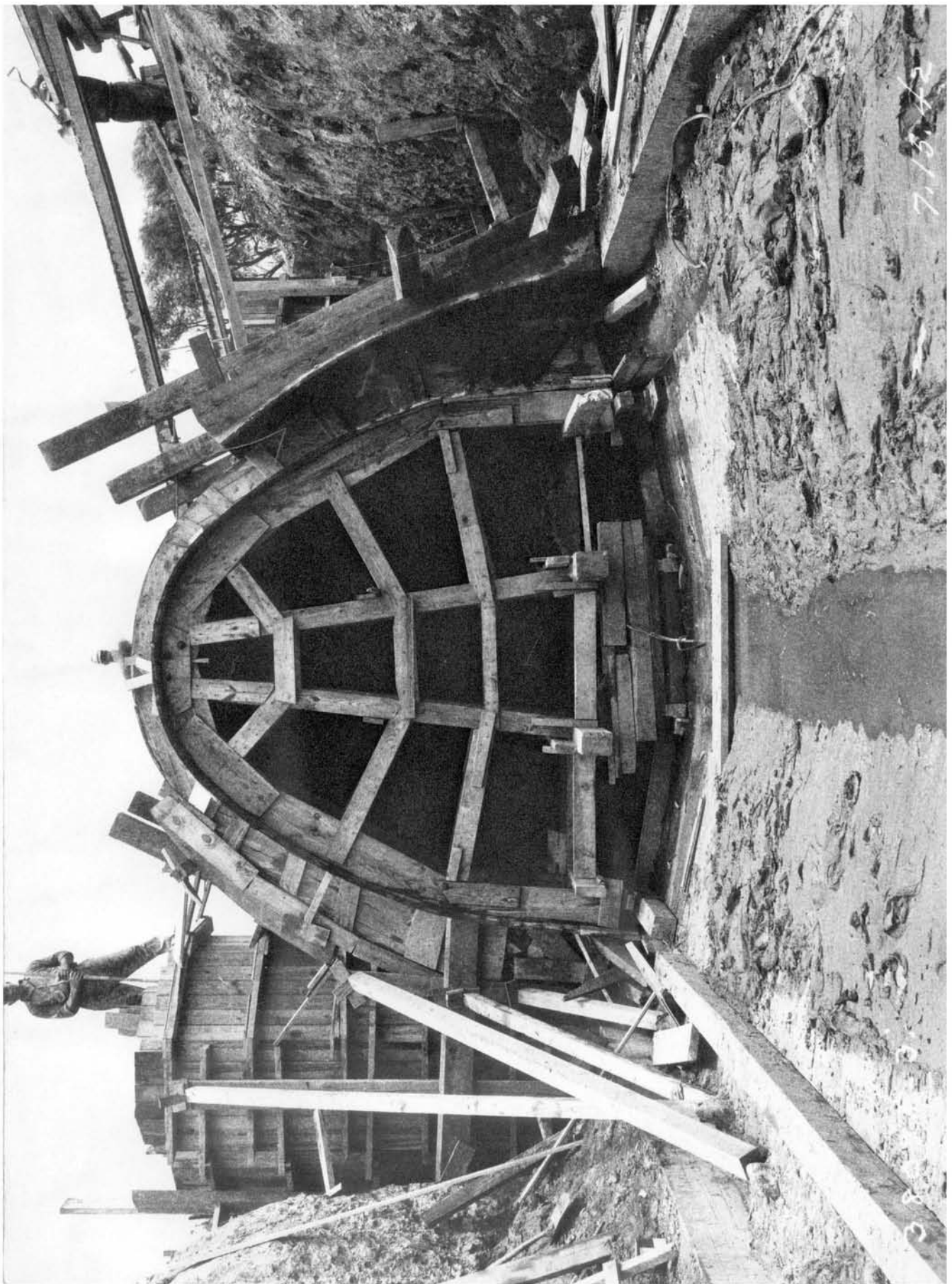
38719-4

39-1942



SANDY RUN MAIN SEWER
GLENDALE AVE. - CASTOR AVE. TO ELGIN AVE.

2461-01



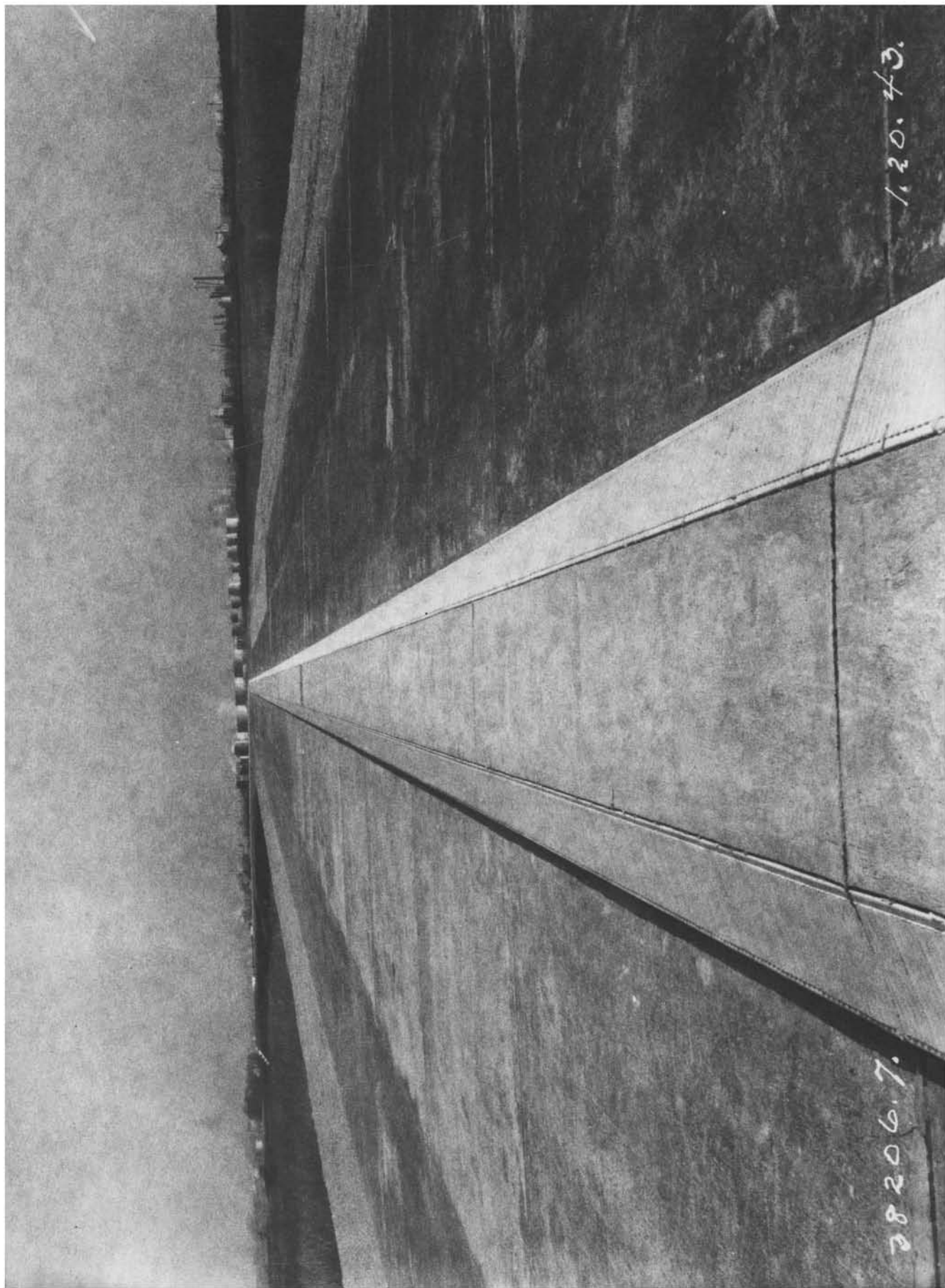
SANDY RUN MAIN SEWER
ARCH FORMS

41-1942



ISLAND AVE. - CITY-STATE HIGHWAY IMPROVEMENT
LOOKING NORTHWEST FROM BARTRAM AVE.

42-1942

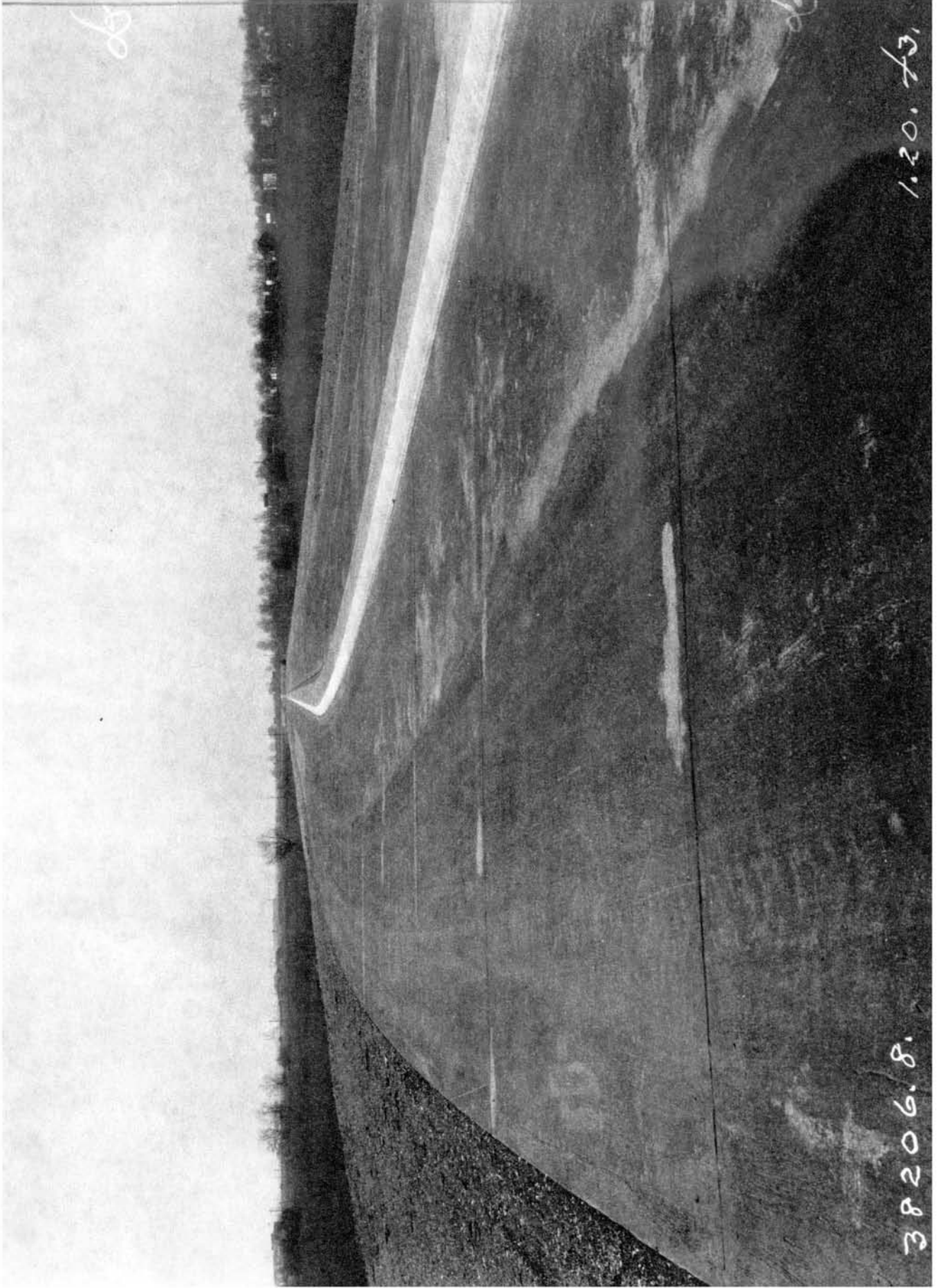


28206.7.

1.20.43.

ESSINGTON AVE. - CITY-STATE HIGHWAY IMPROVEMENT
LOOKING NORTHEAST FROM 78TH ST.

43-1942



ESSINGTON AVE. - CITY-STATE HIGHWAY IMPROVEMENT
LOOKING SOUTHWEST FROM 76TH ST.

38206.8

1.20.73

44-1942

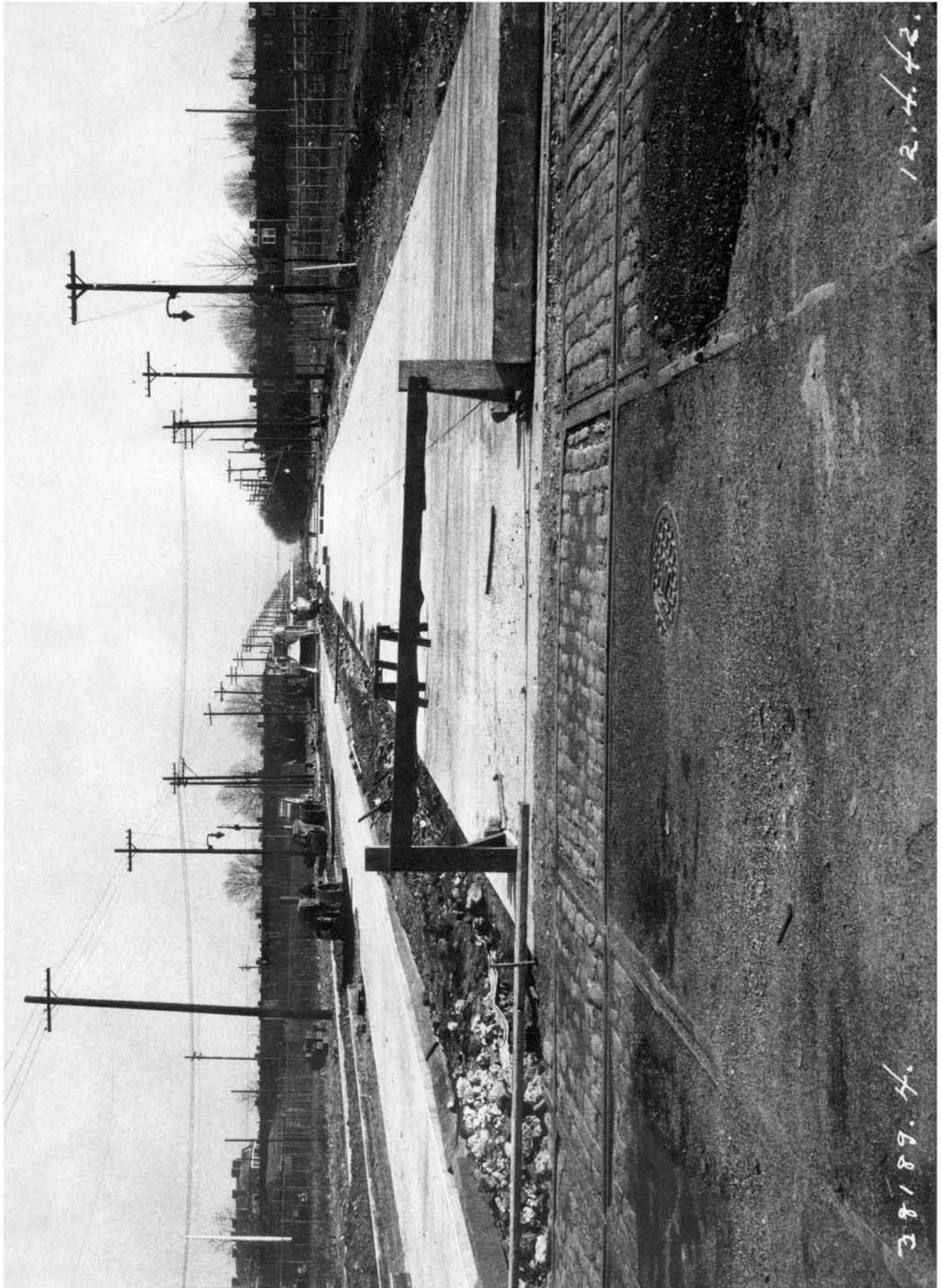


13.44.42

38189-1

OREGON AVE. - CITY-STATE HIGHWAY IMPROVEMENT
LOOKING WEST FROM 18TH ST.

45-1942

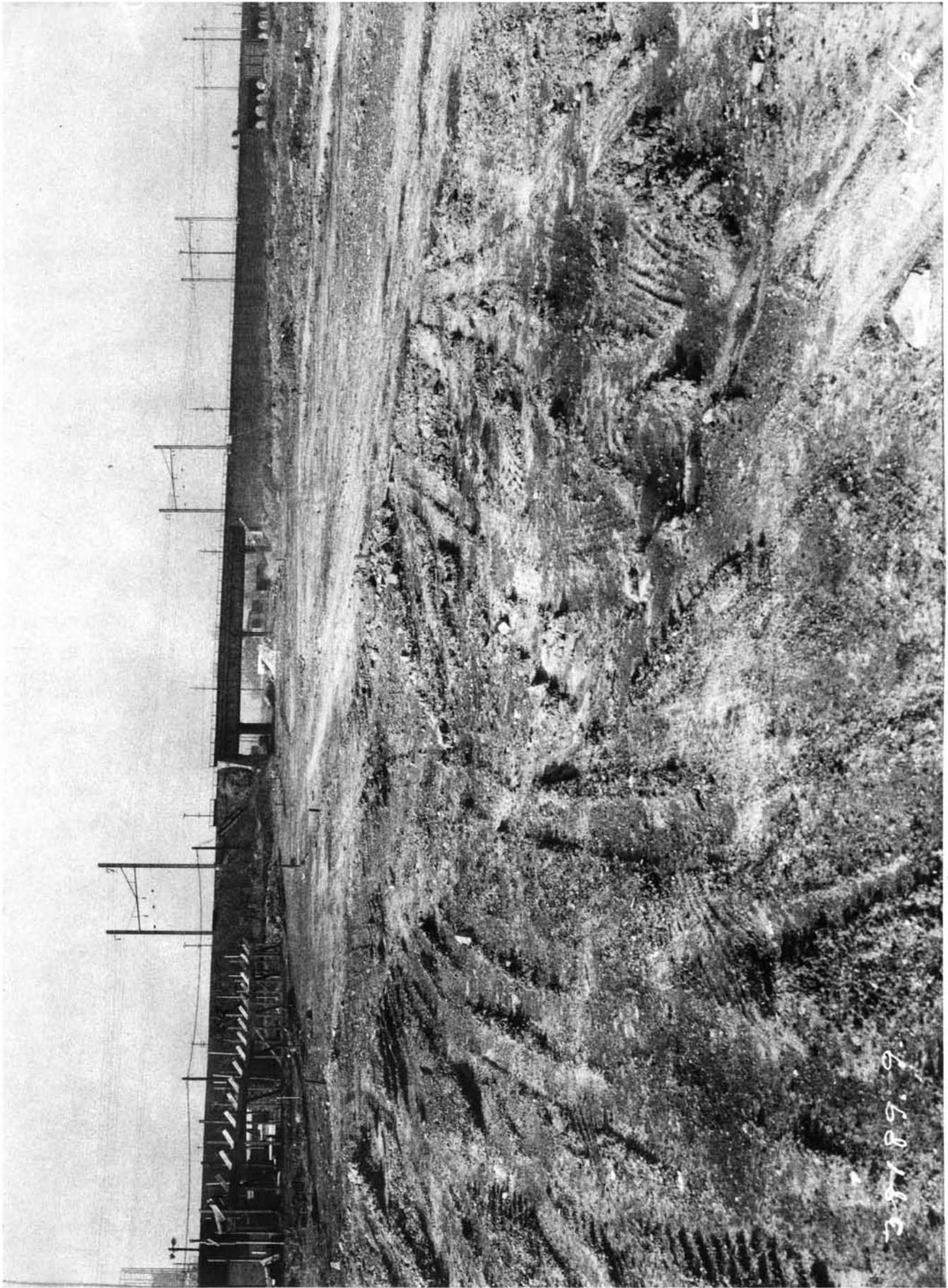


12.4.42.

38189.4.

OREGON AVE. --- CITY-STATE HIGHWAY IMPROVEMENT
LOOKING EAST FROM 20TH ST.

46-1942



VARE AVE. - CITY-STATE HIGHWAY IMPROVEMENT
LOOKING NORTHWEST FROM 24TH ST.

3-27-89.9.

47-1942

STATISTICAL SUMMARIZATION

of

ACTIVITIES

48-1942

<u>Drainage</u> - preliminary surveys and plans made for sewers and drains	68
linear feet of street covered	50,151
" " " lines and grades furnished	42,567
cubic yards of trench excavation measured	61,001
cubic yards of masonry measured	250
number of inlets staked out	243
linear feet of lateral pipe and inlet connections measured	40,121
plans of constructed sewers and appurtenances prepared	42
linear feet of street covered	34,644
assessment bills prepared	468
<u>Water Pipe</u> - plans prepared for Bureau of Water and Water companies	102
linear feet of street covered	128,913
linear feet of lines and grades furnished	12,272
fire hydrants for which lines and grades were furnished	13
reports on grade of streets for water pipe to be laid	11
assessment bills prepared	219
<u>Current Estimates</u> - any contract	52
<u>Reports</u> - on street openings, including plans or estimates	15
on street improvements, including plans or estimates	73
made to Chief Engineer	563
miscellaneous (not otherwise classified)	434
<u>Liens</u> - descriptions prepared for any Department or Bureau	133
<u>Zoning</u> - properties posted for Board of Adjustment	425
<u>Permits</u> - Bureau of Building Inspection, number investigated	1,755
<u>Miscellaneous</u> - lin.ft. lines, etc. revision, center lines, cross sections, etc.	44,084
number of blueprint copies of former plans	136
number of letters certifying to surveys	4
Tree Survey for Law Dept. N.E. Airport - number of trees located	1,725
<u>Grading</u> - plans and preliminary estimates (including country roads)	
(number)	14
(linear feet of street covered)	7,998
cubic yards measured, cut and fill	10,586
linear feet of street covered	18,826
linear feet of lines and grades furnished	22,470
<u>Paving</u> - plans prepared for paving (including country roads)	
(number)	52
(linear feet of street covered)	46,064
square yards measured and certified	60,822
linear feet of street covered	29,372
linear feet of lines and grades furnished	119,601
assessment bills prepared	53
<u>Repaving</u> - plans prepared for repaving (including country roads)	
(number)	12
(linear feet of street covered)	9,500
square yards measured and certified	30,170
linear feet of street covered	10,991
linear feet of lines and grades furnished	56,667
<u>Amount of completed Contracts</u> - main and branch sewers	\$475,524.57
private sewers and drains	127,874.00
paving and improvement	343,290.17
repaving and resurfacing	25,962.71
	<hr/>
	Total Costs
	\$972,651.45
<u>Receipts</u> - District Cash Receipts	72,998.61

THE ACTIVITIES OF THE BOARD OF SURVEYORS DURING THE YEAR 1942 ARE SUMMARIZED AS FOLLOWS:

Number of meetings, including Road Day hearings	25
City Plans ordered	22
Confirmed City Plans filed	24
City Plans advertised for public hearing	24
Ordinances returned to Council, favorable recommendation	12
Subt. " " " " " " "	9
" " " " special " "	0
" " " " negative " "	4
General plans for construction Bridge approved	0
" " " " Sewer " "	0
Approved street railway plans filed	13

DETAILS OF WORK PERFORMED BY SEWER PERMIT DIVISION:

Permits	609
Connections made to Single System	4,385
Connections made to Double System	1,160
Inspections to repair laterals and old connections	143
Special Inspections to Sewer	<u>52</u>
Total Inspections	5,740
Plans filed	51
Inspectors' Diaries filed	51

General routine of the office - Information daily to Architects, Builders, Plumbers, Titlemen and assignments to two (2) Inspectors.

Over 14,912 reports on sewers to Titlemen
 Over 5,000 measurements to plumbers and
 Incoming phone calls over 5,000

Total receipts for 1942 \$23,250.95

51-1942

DETAILS OF WORK PERFORMED BY ZONING DIVISION

	<u>1941</u>	<u>1942</u>	%
Number of requests for information	22,640	14,444	36.2
Number of applications filed	10,781	6,343	41.2
Number of Zoning Permits issued	8,675	4,572	47.3
Number of Use Permits issued	3,221	2,073	35.7
Number of References to the Board of Adjustment	293	72	75.5
Number of applications stamped "Permit not Required"	4,864	2,911	40.2
Number of Zoning Permits refused	896	415	53.7
Number of Use Registration Permits refused	1,357	1,121	17.4
Number of refusals appealed to the Board of Adjustment	1,551	1,336	13.8
Number of Inspections	1,138	940	17.4
Number of Complaints investigated	276	186	32.6
Number of Vouchers issued	4,256	2,681	37.0
Amount of Cash Receipts	\$32,483.	\$17,870.	45.0
Number of true copies of applications certified for B. of A.	1,743	1,234	29.2
Number of sign applications (highway) acted upon	285	55	80.8
Number of descriptions for District Classification changes made for the Board of Adjustment	63	23	63.5
Number of letters to Fire Marshal for his approval or disapproval of use	365	115	68.5
Number of changes of Zoning Maps made by Ordinance of Council	51	18	64.8
Number of changes of Zoning Maps proposed by Resolution of Council	111	41	63.1

Decrease

Increase

DETAILS OF WORK PERFORMED BY THE REGISTRY DIVISION

Descriptions filed	57,014
Transfers plotted	59,778
Original lots plotted	4,537
Descriptions filed from 1865 to 1942 (inclusive)	3,194,554
Titles examined for plan book entries	5,594
Plan books examined by the public and officials	145,300
Certificates of registered owners issued to public	156
Certificates of registered owners issued to Law Department	662
Registry plates redrawn	10
Miscellaneous receipts	\$164.15
Miscellaneous plans drawn for City departments	41
Plans loaned out	1,310
Subpoenas issued against Registry Division	69
Appearances in Court	65
Amount of Witness Fees collected	\$201.
Certificates of street openings issued to City departments	11
Affidavits of street openings filed	5
Streets opened by affidavits	5
Jury plans ordered	5
Jury plans filed	4
Streets authorized to be opened by ordinance	6
Certifications filed of openings and condemnations	7
Street opening agreements filed	5
Deeds of Dedication filed	38
Deeds of Dedication approved and recorded	33
Releases of abutting owners filed	0
Releases of abutting owners approved and recorded	2
Cost of recording deeds and releases	\$21.50

DETAILS OF WORK PERFORMED BY THE OFFICIAL PHOTOGRAPHER

	<u>Photography</u>				<u>Blueprinting</u>			
	8 x 10 negs.	8 x 10 prints	14 x 17 negs	lantern slides	electro copies square feet paper tracings	128	Blueprinting, etc. square feet Blue Prints	Van Dykes
Engr. Surveys, and Zoning	616	1,654	23		1,766	128	56,529	1,829
Highway	120	160					14,362	509
Water	140	1,235			90		82,101	802
City Property	7	55					1,032	39
Traffic Engineer	1	16					17,701	729
Electrical		4					1,351	55
Law	155	520						
Health	44	10		36			1,420	60
Art Jury	2	4						
Civilian Defense			24		120		13,375	7,478
Commercial Mus.							300	15
Revision of Taxes							33,600	
Totals	1,085	3,658	47	36	1,976	128	191,791	11,516

54-1942

DETAILS OF WORK DONE IN THE TESTING LABORATORY

Total Number of Specimens--1942

Boiler Feed Water	1,040
Bricks	70
Cement, Hydraulic	536
Concrete, Aggregate	12
beams	92
building block	165
cores	158
cylinders	2,836
Fuels	2,642
Metals, Ferrous	91
non-ferrous	66
Miscellaneous Materials	37
Oil, Lubricating	16
Paint and Paint Materials	84
Road Materials	62
Roofing Materials	2
Rubber Compounds	4
Sands, Filter	6
Soap and Soap Materials	8
Tile	30
Water, Industrial Waste	35
	<hr/>
Total	7,992

Distribution of Total Specimens

	<u>No. Specimens</u>	<u>%</u>	<u>No. Specimens</u>	<u>%</u>
Department of Public Health			1,028	12.9
Department of Public Safety			174	2.2
Bureau of Building Inspection	171	2.2		
Bureau of Fire	2	0.0		
Bureau of Police	1	0.0		
Department of Public Welfare			12	0.1
Department of Public Works			5,148	64.4
Bureau of City Property	4	0.1		
Bureau of Engineering, Surveys and Zoning	2,464	30.8		
Bureau of Highways	1,113	13.9		
Bureau of Water	1,567	19.6		
Department of Supplies & Purchases			1,221	15.3
Water Works Improvement			409	5.1
			<hr/>	
Total			7,992	100.0%

55-1942

Specimens for Chemical Test

Boiler feed waters		1,040
Coal		2,559
{ anthracite	2,340	
{ bituminous	196	
{ ash	24	
Metals		76
{ ferrous	15	
{ non-ferrous	61	
Miscellaneous Materials		36
Oils		99
{ fuel	70	
{ headlight and gasoline	13	
{ lubricating	16	
Paint and Paint Materials		84
{ driers	2	
{ linseed oil	6	
{ mixed paints	54	
{ pastes	13	
{ turpentine	3	
{ varnish	1	
Road and Road Materials		62
{ asphalt compounds	14	
{ " cement	10	
{ " wearing surface	29	
{ tar	9	
Roofing Materials		2
Rubber Compounds (fire hose)		6
Soap and Soap Materials		8
Water, Industrial Waste		35
	Total -	4,009

56-1942

Distribution of Chemical Specimens

Department of Public Health		1,028
Department of Public Safety		7
Bureau of Building Inspection	5	
Bureau of Fire	2	
Department of Public Welfare		12
Department of Public Works		1,715
Bureau of City Property	3	
Bureau of Engineering, Surveys and Zoning	47	
Bureau of Highways	154	
Bureau of Water	1,511	
Department of Supplies & Purchases		1,219
Water Works Improvement		28
	Total -	4,009

Specimens for Physical Test

Brick		70
(paving	10	
(sewer	60	
Concrete		3,263
(aggregate	12	
(beams	92	
(building block	165	
(cores	158	
(cylinders	2,836	
Metals		81
(ferrous	76	
(non-ferrous	5	
Miscellaneous Material		1
Rubber Compounds (fire hose)		2
Tile (sewer)		30
	Total -	3,447

Distribution of Physical Specimens

Department of Public Safety		167
Bureau of Building Inspection	166	
Bureau of Police	1	
Department of Public Works		2,897
Bureau of City Property	1	
Bureau of Engineering, Surveys and Zoning	2,219	
Bureau of Highways	623	
Bureau of Water	54	
Department of Supplies and Purchases		2
Water Works Improvement		381
	Total -	3,447

57-
1942

Hydraulic Cement Specimens

Domestic Hydraulic Cements	536	
Total		536

Distribution of Cement Specimens

Department of Public Works	536	
Bureau of Engineering, Surveys and Zoning	198	
Bureau of Highways	336	
Bureau of Water	2	
Total		536

58-1942

DETAILS OF WORK PERFORMED BY THE DESIGN DIVISION

Preliminary Sewer Estimates:

Washington Lane, Sprague Street to Stenton Avenue
Wakeling Street, present terminus to Frankford Creek
Holme Avenue and Pennypack Park, Winchester Avenue to Pennypack Intercepting Sewer
Thouron Street, Washington Lane to Upsal Street
Blakenore Street, Vernon Road to Gorgas Lane
Levick Street, Castor Avenue to Cranford Avenue
Knorr Street, Frontenas Street to Loretto Avenue
St. Vincent Street, Sackett Street to Battersby Street
Hawthorne Street, St. Vincent Street to Wellington Street
Wellington Street, Hawthorne Street to Battersby Street
Barnett and Stirling Streets, Castor Avenue to Loretto Avenue
Main Sewers for Federal Works Reserve:

Winghooking Relief, Allegheny Avenue Relief, Main Relief,
Rock Run Relief, Rock Run Reconstruction, Mill Creek Reconstruction
Thomas Run Relief, Pattison Avenue east of Broad Street,
Penrose Avenue east of Schuylkill River, Ashburner Street,
Packer Avenue south branch east of Broad Street, Oak Lane,
Sandy Run Branches.

Pattison Avenue, Swanson Street to 11th Street (proposed revision)
Front Street, Huntington Street to Cumberland Street
Devereaux Avenue, Oakley Street to Montgomery County Line
Nelson-Podley tract, Ridge Avenue, Gorgas Lane, Henry Avenue, Gates Street
Algon Avenue, Magee Street to Fanshawe Street
Rham Street, Bradford Street to Roosevelt Boulevard
Castor Avenue, Glendale Avenue to Rham Street
66th Avenue North, Fairhill Street to 5th Street
Hartranft Street, Broad Street to 20th Street (stormwater only)
Penrose Avenue and Moyamensing Avenue, Pattison Avenue to 19th Street (stormwater only)
Large Street, Glendale Avenue to Bleigh Avenue; Vista, Shelshire Avenue, Bleigh Avenue, Castor Avenue to Large Street
Sandy Run Main - Faunce Street, Elgin Avenue to Tabor Avenue, etc.

Private Sewers:

Wynsam Street, Rodney Street to Woolston Avenue
Walnut Lane, Rodney Street to Woolston Avenue
Pastorius Street, Rodney Street to Woolston Avenue
Gillespie Street, Cottman Avenue to Wellington Street
Stirling Street, Castor Avenue to Loretto Avenue
Barnett Street, Castor Avenue to Loretto Avenue
Brighton Street, Hawthorne Street to Battersby Street
Friendship Street, Hawthorne Street to Sackett Street
Rowland Avenue, Tyson Avenue to Disston Street
Tyson Avenue, Rowland Avenue to Hawthorne Street
Disston Street, Rowland Avenue to Hawthorne Street
Erdrick Street, Princeton Avenue to Wellington Street
Carnation Street, Washington Lane to Duval Street
Gardenia Street, Washington Lane to Duval Street
Lardner Street, Bross Avenue to Revere Street
Stevens Street, Bross Avenue to Revere Street
Fayette Street, Phil-ellena Street to Vernon Road
Fayette Street, Phil-ellena Street to Sharpnack Street
Gilbert Street, Upsal Street to Vernon Road

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Private Sewers: (continued)

Lardner Street, Battersby Street to Brous Avenue
Souder Street, Longshore Street to summit north
Belmar Street, 55th Street to 56th Street
Windsor Street, 55th Street to 56th Street
Algon Street, Magee Avenue to Fanshawe Street
Fanshawe Street, Algon Avenue to Pennway Street
Pleasant Place (east of Sprague Street), Vernon Road to Gorgas Lane
Weaver Street, Williams Avenue to Forrest Avenue
Glendale Street, Bristol Street to Cayuga Street

Public Sewers:

Cottman Avenue, Claridge Street to Tabor Road
Wissinoming Street, Disston Street to Princeton Street
Martins Mill Road, Longshore Street to Knorr Street
Lawndale Street, St. Vincent Street to summit southwest
Glendale Avenue, Castor Avenue to west of Loretto Avenue
Glendale Avenue, east of Elgin Avenue to Elgin Avenue; Elgin Avenue,
Glendale Avenue to Faunce Street
Levick Street, Montour Street to Lawndale Avenue
Martins Mill Road, summit NW of Levick Street to Montour Street
Hellerman Street, Sumnerdale Avenue to Cranford Avenue
Roosevelt Boulevard (west side) Hellerman Street to Leonard Street
Sumnerdale Avenue, Robbins Street to Gilham Street
Holms Avenue and Pennypack Park, Winchester Avenue to Pennypack Creek
Tyson Avenue, Loretto Avenue to 300 ft. west of Frontenac Street
Oakley Street, Lardner Street to Devereaux Avenue
Shelborne Street, Lardner Street to Devereaux Avenue
Stevens Road, Oakley Street to Shelborne Street
Brous Avenue, Benner Street to Devereaux Avenue
Princeton Avenue, Loretto Avenue to 300 ft. W. of Frontenac Street
Rising Sun Avenue, "C" Street to Ashdale Street
Gilham Street, Rising Sun Avenue to R. W. 425 ft. SE of Bingham Street;
R.W. 425 ft. SE of Bingham Street, Gilham Street to Magee Avenue
Hermitage Street, Lawton Street to Henry Avenue; through Fairmount
Park to Wissahickon Creek
Blakemore Street, Vernon Road to Gorgas Lane
Bingham Street, Longshore Street to Tyson Avenue
Lawndale Street, St. Vincent Street to summit southwest
Shelborne Street, Tyson Avenue to Princeton Avenue
Williams Street, Upsal Street to Cliveden Street
Upsal Street, Thouron Avenue to Fayette Street
Knorr Street, Loretto Avenue to Frontenac Street
Levick Street, Castor Avenue to Cranford Avenue
68th Street, Malvern Avenue to Lebanon Avenue
Front Street, Chew Avenue to Wentz Street
Wakeling Street, present terminus to Frankford Creek
Martins Mill Road, Whitaker Avenue to Montour Street
Montour Street, Levick Street to Martins Mill Road
Rhawn Street, Bradford Street to Roosevelt Boulevard
66th Avenue North, 5th Street to Fairhill Street
Faunce Street, Sumnerdale Avenue to W. of Dorcas Street
Faunce Street, W. of Dorcas Street to W. of Whitaker Avenue
Faunce Street, W. of Whitaker Avenue to Tabor Avenue

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Public Sewers - Reconstruction:

Allen Street, Palmer Street to Delaware Avenue
Dauphin Street, 27th Street to 29th Street

Laterals:

Everett Street, Roosevelt Boulevard to McKinley Street

Inlets, Connections, etc.:

Claridge Street, S.W. of Martins Mill Road; Montour Street, S.W. of
Martins Mill Road; 43rd Street, N. W. of and at 42nd Street

State Highway Improvement - Drainage:

Oregon Avenue, 18th Street to Vane Avenue; Vane Avenue, Oregon Avenue to
34th Street; 34th Street, Vane Avenue to Grays Ferry Avenue

Island Avenue, Tinicum Avenue to Eastwick Avenue

Island Avenue, Eastwick Avenue to Buist Avenue

Roosevelt Boulevard

Essington Avenue, Island Avenue to Passyunk Avenue; Passyunk Avenue, Essington
Avenue to 63rd Street

Essington Avenue, Island Avenue to County Line

26th Street, Penrose Avenue to Passyunk Avenue

Penrose Avenue, 900 ft. west of 26th Street to 1,000 ft. east of 26th Street

Penrose Ferry Road, 26th Street to Pattison Avenue (outlet drain for Navy
Access Road)

Vine Street, 9th Street to 6th Street; Ridge Avenue, Vine Street to Race Street;
Race Street, Ridge Avenue to 6th Street

Vine Street, 9th Street to 18th Street

Traffic Circle, Island Avenue and Essington Avenue

Electrical Conduits and outlets:

Ridge Avenue, Lehigh Avenue to Indiana Avenue

Oregon Avenue, 18th Street to Vane Avenue; Vane Avenue, Oregon Avenue to
34th Street; 34th Street, Vane Avenue to Grays Ferry Avenue

Island Avenue, Tinicum Avenue to Eastwick Avenue

Island Avenue, Eastwick Avenue to Buist Avenue

Essington Avenue, Island Avenue to Passyunk Avenue; Passyunk Avenue, Essington
Avenue to 63rd Street

26th Street, Penrose Avenue to Passyunk Avenue

Penrose Avenue, 900 ft. west of 26th Street to 1,000 ft. east of 26th Street

Vine Street, 9th Street to 6th Street; Ridge Avenue, Vine Street to Race
Street, Race Street, Ridge Avenue to 6th Street

Vine Street, 9th Street to 18th Street

Drainage Studies:

Prospect Street, Washington Lane (north) to Johnson Street

25th Street, Westmoreland Street to Fox Street

Grant Avenue, Blue Grass Road, Red Lion Road, Academy Road

Frankford Creek, Bridge Street to southwest of Wakeling Street

State Road, Levick Street to Robbins Street - Bypass for grade separation

Drainage Studies (continued):

Proposed Gardenia and Carnation Streets, Washington Lane to Duval Street
Evans Street, Welsh Road to Gregg Street, etc., stormwater drains
Red Lion Road, Decatur Road, Coaly Street, Academy Road
Blue Grass Road, 2,100 ft. southwest of Red Lion Road - stormwater culvert
Proposed Windsor Street and Belmar Street, 55th Street to 56th Street
Ampho Street, Park Lane to Johnson Street
Ridge Avenue, Parker Avenue to Cinnaminson Street
Proposed Palethorp Street, Wyoming Avenue to Loudon Street; and Loudon
Street, Palethorp Street eastward to Palethorp Street
11th Street, Pattison Avenue, 7th Street and Joint Railroad
Pattison Avenue, 20th Street, Hartranft Street, east line 19th Street
Magee Street, Tabor Avenue to Rising Sun Avenue, with Gilham Street drainage
via Right-of-Way northwest of Tabor Avenue
Noble Street, 18th Street to 19th Street
Sprague Street, Gorgas Street, Blakemore Street, Vernon Road
11th Street, Pattison Avenue, 7th Street, Joint R. R. outlet to Back Channel,
Navy Yard
Pattison Avenue, Swanson Street to 11th Street
Morris Circle, Rittenhouse Street to Harvey Street
Hansberry Street, Greene Street to Germantown Avenue
Proposed Navajo Street, Rex Avenue to Phila., Germantown and Chestnut Hill
Branch of Connecting Railway
Henry Avenue, Gates Street, Ridge Avenue, Gorgas Lane - Wissahickon Hills -
Nelson & Pedley Tract
Abbotsford Road and Stokley Street, Bendix parking lot
Tabor Road, Martins Mill Road, Oxford Avenue, Connecting Railway, Philadelphia
and Frankford R. R., Montour Street, Cheltenham Avenue
Federal Housing Extension - Mifflin Street and Vare Avenue
" " " Ridge Avenue and Glenwood Avenue
Hermitage Street improvement of drainage conditions
Federal Housing Site 3, Washington Avenue, 4th Street, Federal Street, 5th Street
" " " 11, Coaly Street, Langdon Street, Cheltenham Avenue, Conn. Ry.
Red Lion Road, Montgomery County Line to Bustleton Pike - Improvement
Bala Golf Club - Flooding
Federal Housing Site 1, Snyder Avenue, 25th Street, Passyunk Avenue, Vare Avenue,
Twenty-eighth Street, Point Breeze Avenue
" " " 2, Reed Street, 34th Street, Moore Street, Schuylkill River
E. Side R. R.
" " " 4, 77th Street, Wheeler Street, Claymont Street, Elmwood
Avenue, etc.
" " " 5, School House Lane, Calumet Street, etc.
" " " 6, Clarissa Street, Hunting Park Avenue, Pulaski Street,
Richmond Branch P & R Ry.
" " " 7, Manheim Street, Wissahickon Avenue, Hansberry Street, etc.
" " " 8, Spring Garden Street, Broad Street, Pennsylvania Avenue,
16th Street
" " " 9, Cayuga Street, "G" Street, Hunting Park Avenue, Phil-
adelphia & Bustleton Branch, Connecting Railway
" " " 10, Cayuga Street, "I" Street, Hunting Park Avenue, "G" Street
" " " 12, Cheltenham Avenue, Langdon Street, Bridge Street,
Philadelphia & Bustleton R. R.
" " " 13, Robbins Avenue, Phila. & Trenton R.R., Devereaux Avenue,
Torresdale Avenue
23rd Street, Allegheny Avenue to Westmoreland Street
Proposed Martha Street, York Street to Magert Street

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Drainage Studies (continued)

Proposed Cathedral Road, Wissahickon Avenue to St. Martins Lane
Orville Avenue, Cottman Avenue to Shelsire Street, etc.
Federal Housing Site "A", Cottman Avenue, line W. Algon Avenue, Bleigh Avenue, line W. Loretto Avenue
Tulip and Janney Streets, Butler Street to Wheatshaf Lane
Aviation Stores: Tabor Avenue and Comly Street
Federal Housing Site "B" - Comly Street, Langdon Street, Cheltenham Avenue, Phila. - Bustleton R. R.
" " " "C" and "D" - Cheltenham Avenue, Langdon Street, Bridge St., Phila. & Bustleton R. R.
" " " "E" - Cayuga Street, "G" Street, Hunting Park Avenue, Phila. & Bustleton R. R.
" " " "F" - Cayuga Street, "I" Street, Hunting Park Avenue, "G" Street
" " " "G" - Elmwood Avenue to Cobbs Creek, 74th St. to 77th St
" " " "H" - Tacony Street, Church Street, Aramingo Avenue, Adams Avenue, Juniata Street
" " " "I" - South of Reed Street, 34th Street, Moore Street, Schuylkill River East Side R. R.
" " " "J" - Snyder Avenue, 25th Street, P.R.R., Vane Avenue, Point Breeze Avenue
Lyons Avenue, Island Avenue to 79th Street
Wissinoming Street, Disston Street to Princeton Avenue - Armor Plate Plant
Bowman and Ainslie Streets, Fox Street to Stokley Street
Agate Street, Ontario Street to Tioga Street
Flooding Investigation - 16th Street and Fairmount Avenue
" " " - 50th Street to 54th Street, Girard Avenue to Westminster Avenue
" " " - Commercial Museum
" " " - 20th Street and Walnut Street
" " " - 28th Street and Columbia Avenue
" " " - 4th Street to 5th Street, Cheltenham Avenue
" " " - 1944 South Gallaway Street, north of McKean Street
Federal Housing Site - Juniata Site: Hunting Park Avenue, Cayuga Street, "I" Street, Oxford Branch P.R. R.
" " " - Oxford Site: Comly Street, Sanger Street, Langdon Street, Oxford Branch P. R. R.
McKean Street, Vane Avenue to Schuylkill River: 34th Street and 35th Street, McKean Avenue to Mifflin Street
Flooding Investigation - 54th and City Avenue
Upsal Street, Thouron Street to Williams Street; Williams Street, Upsal Street to Cliveden Street
Drainage - Barrett Company property - Frankford Creek, Margaret to Bridge St
Balfour Street, Ontario Street to Wensley Street
Thouron Street, Upsal Street to Cliveden Street
Federal Housing, Tacony Site - Approval of connection to City sewer
" " Tasker Site - Outlet sewer in 36th Street, Moore to Mifflin
Northeast Airport - Stream diversion for extension of Runway, etc.
Federal Housing, Oxford Site, Offsite outlet sewer, Howell Street, Oxford Avenue to Langdon Street

Sewage Disposal Project:

Sewers and Drains plotted on Land Use Maps - for sewer rental assessment
Study for Northeast Sewage Works Extension
Report on Preliminary Hydraulic Profiles through Sewage Treatment Works,
with Layout Plans of the proposed Southwest and Southeast Works and the

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Sewage Disposal Project (continued)

proposed Extension of the Northeast Works, for submission to the State Sanitary Water Board

Municipal Stadium - Plan for sewers and sewage pumping station for toilets installed at field level

Study of flow conditions with dry weather discharge against river tides through Tasker, Snyder and Bigler Street outlet sewers to Delaware River.

Philadelphia Municipal Airport:

Revised lease plan for Apparatus Building
Small scale plan (1" = 600 ft.) for Airport Manager

Checking Applications for the Public Utilities:

Philadelphia Gas Works Company	545
Bell Telephone Company	34
Philadelphia Electric Company	60
Philadelphia Steam Company (P.E.)	2
Keystone Telephone Company	0
Bureau of Engineering	67
Bureau of Water	97
Miscellaneous	85
Total	890

Mimeographing:

Sheets and Records for Zoning Division
for Survey Districts
for Works Progress Administration
for Bureau (Specifications-Proposals-etc.)
for Civilian Defense Centers

Filing:

Main and Branch Sewer Plans - Bridge Division Plans - Grade Crossing Plans - Miscellaneous Plans, etc.

Miscellaneous

Preparation of Sectional Maps and Drainage Sheets for Air Control Organization
Flood Control of Frankford Creek - Channel Restoration between Ashland Street and Leiper Street
Drainage - Proposed Marine Corps Building, Delaware Ave. & McKean Street
Location for proposed water main - Hawthorne Street, Tyson Avenue to Cottman Avenue
P. E. manhole, Oxford Street and Frankford Avenue
Data on Sanger Street sewer through Frankford Arsenal - for protection against sabotage
P. R. R. Siding, 21st Street, Sedgley Avenue to Lehigh Avenue
P. R. R. Siding, across Delaware Avenue and Moore Street east of Swanson St.

Miscellaneous (continued):

P. E. conduit, across Oxford Street at 4th Street
Retaining wall, S. E. side Indian Queen Lane
Check of Specifications, Queen Lane Water Purification Plant
Revision of City-wide Retaining Wall Standard
Railroad siding over sewer, Dyott Street at Delaware Avenue
Underground Ducts, Fox and Lippincott Streets
Pipe Crossing, Mifflin Street and Swanson Street
Vault, Lawrence Street north of Callowhill Street
Pipe crossing, Titan Street
Reservoir for Fire Protection, Independence Square
Oil Pipe, 49th Street and Botanic Avenue
Conduit Crossing, 19th Street and Hamilton Street
Steam Pipe, north Budd Street
Critical Material Estimates for O.P.A. priority ratings - for proposed
sewers in various locations
Standard for Emergency City Inlet
Pipe crossing, Haverford Avenue and Budd Street
Pipe crossing, Orianna Street
Fuel line extension, 3940 Chestnut Street
Steam Line installation, Publicker Alcohol
Steampipe crossing, Tioga at Hutchinson Street
Duct line across Red Lion Road
Location for proposed water main, Duval Street, Magnolia to Carnation Sts.
Clearances for P. E. duct, Delaware Avenue and Columbia Avenue
Ducts, Snyder Avenue and McKean Street
Driveway slab over existing vault, 908 Sanson Street
Pipe trenches across McKean Street and Snyder Avenue, E. of Delaware
Avenue, U. S. M. C. Depot
Channel paving - Ashdale Street sewer outlet, Bingham Street to Tacony Creek
Reconstruction Steam Conduit Manhole, Electric Conduit Manhole and vault,
20th Street south of Oregon Avenue
Driveway over abandoned vault, 507 Commerce Street
12" duct across Perth Street south of Locust Street
Record Drainage Maps made to replace wornout maps
Record Drainage Maps revised for City Plan changes and sewer construction
Data for Utilities Technical Committee Meetings
Design for Bomb Protection for Liberty Bell

Bridges:

Hunting Park Avenue Underpass at Ridge Avenue - General Plan, check of
State Plans, Design of Retaining walls
Approaches to Spring Garden Street Bridge - studies
Henry Avenue over Gorgas Lane - Design and architectural studies
Henry Avenue over Green Lane - Design and architectural studies
Penrose Avenue Bridge - study of vertical lift bridge
span arrangement and clearance sketches for War Dept. Application
Aramingo Avenue over Frankford Creek - design studies
Aramingo Avenue under Phila. and Trenton R. R. - design studies
70th Street over P. B. & W.R.R. - redesign of bridge
preparation of contract drawings
Underpass, 20th Street at Parkway - architectural studies and design
Vine Street demolition plan, Franklin Street to 9th Street
Vine Street widening - study of new bridge carrying Reading Company tracks
over Vine Street

Bridges: - (continued)

Decontamination Station - design studies and estimates
Alterations to Garage, Police Station for Ambulance Storage, O.C.D.
Study of Reading Company track lowering at Green Lane
Stadium Tower - investigation of stresses due to gun mount
Roosevelt Boulevard - over 5th Street - bridge design studies
Schuylkill Avenue W. at Spring Garden Street - bridge design studies
Sedgley Avenue at Venango Street - footbridge design studies
Pumping station near League Island Park - design of steelwork
7015 Cresheim Road - Design of retaining wall, study of stone facing,
paving plan for Highway Bureau

Marquises, Canopies, Vaults, etc.:

Riviera Theatre Marquise - 4441 Main Street
Pennypack " " - 8051 Frankford Avenue
New Penn " " - N. W. cor. 24th and Brown Streets
National " " - 1430 Point Breeze Avenue
Band Box " " - 30 E. Armat Street
York " " - 2627 W. York Street
Lorraine " " - Fairmount Avenue east of 11th Street

Canopy - 1015 - 21 Market Street
" Ridge Avenue and Wallace Streets

Vault - 722 Chestnut Street
" Rodman Street, rear of 2115 South Street

Bridge - Pearl Street west of 11th Street
Iseminger street north of Mifflin Street

Sentry Box - N. E. cor. 19th and Allegheny Avenue

Bridges Checked for Strength:

Broad Street near Luzerne Street over Reading RR
City Avenue over Schuylkill River
Belmont Avenue and Girard Avenue over FHR for supporting new trolley poles
Erie Avenue and Fourth Street over Reading R.R.
Lindbergh Boulevard over B & O RR for new cables for Bell Telephone Company
Seventh and Pollock Streets
Tenth and Pollock Streets
Broad and Pollock Streets

Bridge Demolition:

Sedgley Avenue over Reading RR., estimate of scrap value
Walnut Lane over Lincoln Drive, estimate of scrap value
Falls of Schuylkill Bridge over Schuylkill River, estimate of scrap value of
upper floor beams

Routing Lists and Maps:

Plot of Bridges and State Highways on City Map for Bureau of Highways
Standard Routing Lists and Map for Bureau of Highways and U. S. Navy

Miscellaneous Work:

Twentieth Street south of Oregon Avenue - design, drawings and estimate for two manholes in street
Ludlow and Thirteenth Streets - drawing and report on steam line
Twentieth Street south of Oregon Avenue - truck scale relocated
Ninth and Market Streets - sidewalk slab investigated
722 Chestnut Street - sidewalk slab investigated
Schuylkill Avenue West - drawings and estimate for removing column under Spring Garden Street
Island Road opposite National Guard Hangar - design and drawings for loading platform
Indian Queen Lane and Vaux Street - drawing for pipe railing for Women's Hospital
Schuylkill Avenue West - Concrete rails on approach to Spring Garden Street
Details of proposed concrete manhole cover and manhole steps

Hauling Permits:

Heavy truck routing - 384 checked

Bridge Repairs:

Diamond Street over P. R. R. at Twenty-sixth Street - plans, specifications and estimate for granite
Second Street over Luzerne Street - plans, specifications and estimate for granite
Forty-second Street over P. R. R. - plans, specifications and estimate granite
Walnut Street over Schuylkill River - plans and estimate for high curbs
Chestnut Street over Schuylkill River - plans and estimate for high curbs
South Street over Schuylkill River - plans and estimate for high curbs
Hunting Park Avenue over Reading near Germantown Avenue - drawings and estimate for steel repairs
Pennsylvania Avenue between 18th Street and 19th Street - drawings and estimate for steel repairs
Coulter Street over P. R. R. - drawings and estimate for steel repairs
Thirty-third Street over P. R. R. - drawings and estimate for steel repairs
Broad Street over Reading R. R. near Luzerne Street - drawings and estimate for steel repairs
Seventh and Pollock Streets - drawings and estimate for timber repairs
Tenth and Pollock Streets - drawings and estimate for timber repairs
Wyoming Avenue over Tacony Creek - estimate and specifications for painting
City Avenue over Schuylkill River - drawings and estimate for renewal of deck of west span
Passyunk Avenue over Schuylkill River - drawings and estimate for renewal of deck of river span
Northwestern Avenue over Wissahickon Creek - drawings and estimate for redecking bridge
Penrose Ferry over Schuylkill River - drawings for redecking bridge
Walnut Street over Schuylkill River - drawings and estimate for renewal of north footway
Passyunk Avenue over Schuylkill River - drawings and estimate for renewal of pile cluster
Second and Luzerne Streets - drawing for drainage improvement
Spring Garden Street over Schuylkill River - drawings for steel repairs and additional column under east span

Bidge Repairs: (Continued)

South Street over Schuylkill River - drawings for strengthening west span
Kensington Avenue over Frankford Creek - drawing and estimate for filling
in one span
Tenth Street and Pollock Street - drawings for redecking five spans and filling
in five spans

Bilding and Wharf Repairs:

Delaware Avenue and Green Street Wharf - drawings, estimate and
specifications for fender repairs
Twenty-sixth Street and Powelton Avenue - drawings, estimate and
specifications for fender repairs
Delaware Avenue and Green Street - drawings and estimate for new post
and renewal of upper deck
Thirty-eighth and Market Streets - drawing and estimate for redecking
yard scale
Thirty-third and Ludlow Streets - drawing for bomb proof window protection
Harrowgate Incinerator - drawing for can storage

Inspetion:

Highway bridges over Reading R. R. - inspected all in conjunction with
Reading engineers
Cramp Shipyard - inspected building for Board of Revision of Taxes
Spring Garden Street over Schuylkill River - inspected for deterioration
City Avenue over Schuylkill River - inspected for deterioration