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BUREAU OF ENGINEERING, SURVEYS AND ZONINGA. Zane Hoffman, Chief Engineer and Surveyor

The Bureau of Engineering, Surveys and Zoning is a major branch of the Department of Public Works. Its present organization is the result of the consolidation of three separate Bureaus into one Bureau, i.e., the Bureau of Surveys, the Bureau of Zoning, and the Bureau of Engineering. The normal functions performed by this Bureau are numerous and diverse because of the administrative demands that have controlled its organization over a period of ninety-three years.

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 ten Survey Districts into which the City is subdivided, and the Registry (land title registration), road methods and City plan sections.

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 a Chief of Division, 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 ordinance of Council August 10, 1933, and amendments thereto, including the supplemental ordinance of October 26, 1936, and Act of Assembly approved May 6, 1929. The work performed includes all of the duties essential to the regulating and restricting of the height, location, size, bulk and use of buildings or land within the city and county of Philadelphia under a complete zoning code.

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

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.

These three divisions of the Bureau of Engineering, Surveys and Zoning are not completely detached from each other, and do not function independently. They are harmoniously coordinated into an united and effective working whole, capable of performing annually an unusual volume of work varying greatly in character and extent.

The Surveys, Zoning and Engineering divisions are served by an Accounting section 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 sections, 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 1948 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 Blueprint 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.

#### PERSONNEL

The part which the Bureau of Engineering, Surveys and Zoning has been called upon to play in the public works construction program necessitated a large increase in personnel. The schedule of projects which was assigned to this Bureau for design and construction required not merely a large increase in personnel but a virtual reorganization of the Design and Construction forces. Experienced and competent employees of the Design and Construction forces were selected for advancement in responsibility in order to supervise the many smaller units which were required to be set up in the expanded organization.

The procurement and retention of competent and adequate personnel in the Engineering division continued to be an important problem. Basic cause of the problem was the record breaking volume of construction work performed in the United States during 1948. This caused engineering firms and contractors all over the country to seek out men, and pay attractive salaries. The Philadelphia area had its share of the work, and experienced engineering manpower was at a premium.

The second cause which affected procurement and retention of engineering personnel by this Bureau had two sides. One of these was the unfavorable differential in salaries compared with outside employment, and the second was an unwillingness to work for the City in view of the attacks which were being made on those in City employ.

Older engineering employees who had made a career of City service stayed on the job despite the unjust criticisms. Newer employees, faced with the opportunity of obtaining greatly increased salaries outside, and pilloried because they were City employees, left the service. This was particularly true of young engineers who had been recruited at the end of the war in an effort to set up an organization to meet the needs of the post war program.

The Design Section grew from 37 men at the close of the war in September, 1945, to 92 men at the beginning of 1948. By the end of 1948, this number had fallen to 76, despite the need for additional men. The need still exists for men in the 25 to 40 year bracket, who have engineering education and some experience, and on whom the future design staff of the Bureau can be built.

The same general condition exists in the Construction section. Experienced inspectors are difficult to obtain, and there is real need for competent Resident Engineers for many of the large projects.

Within the past two years, a considerable amount of work in the Bureau has been placed in the hands of private engineering firms. In the Engineering section, this was accomplished mainly by contracting for complete projects, such as the Penrose avenue Bridge, the Frankford Creek Improvement and work at the Municipal Stadium. It has become evident that additional design and drafting help must be obtained to keep up with schedules and that private engineering staffs will have to be retained to help out on smaller units of the work.

In the Surveys Division the personnel problem approached stabilization of a much higher degree than in the Engineering Division. In the Surveys division about one-half of the 170 employees have been appointed since the close of the war, in 1946-47-48. The turnover among these employees was necessarily high in the first two years. In 1948 saw the emergence. The number of young men of exceptional ability proved to be efficient and valuable. The unfit employees have been weeded out and the ones retained are responding to training.

During the year 1948 there were fewer new appointments, fewer promotions, and fewer resignations, all of which definitely points toward stabilization. In this division, as in the Engineering Division, the necessity continues for supplementing the work of the regular forces by entering into contracts with private engineering firms to handle the peak loads of the preparation of improvement plans and furnishing lines and grades for municipal improvements.

From the administrative standpoint, the personnel and equipment of the private engineering firms are regarded merely as a temporary extension of the Bureau's own personnel facilities. All work performed by the private engineers is rigidly supervised by the District Surveyor and Regulator, whose approval must be given for all details of the work, and whose signature must appear on each improvement plan.

The realization that 49 per centum of all improvement work is being performed in four Survey Districts, and that two of these four Districts are carrying the heaviest part of the program, emphasizes the wisdom of retaining private engineers to supplement the Survey District services. It would be both unwise and impracticable to permanently expand the Survey District forces to meet this unusual peak load.

The rate of personnel turnover is still very high but considerably improved over the year 1947. In 1948 the total number of personnel changes, i.e., new appointments, promotions, resignations, retired on pension, and deceased, totalled 240. This compares with 326 such changes in the year 1947. The details of personnel turnover are shown statistically as follows:

	Budget		Loan		Total	
	1947	1948	1947	1948	1947	1948
New appointments	70	41	113	76	183	117
Promotions	33	17	46	39	79	56
Resignations	29	19	26	42	55	61
Retired on Pension	4	0	0	0	4	0
Deceased	2	2	3	4	5	6
	<u>138</u>	<u>79</u>	<u>188</u>	<u>161</u>	<u>326</u>	<u>240</u>

#### 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, the Board of Surveyors consists of the Surveyors and Regulators of the ten survey districts into which the City is divided, with the Chief Engineer and Surveyor as President, and the Assistant Chief Engineer and Surveyor as Vice President. Each District Surveyor and Regulator is in responsible charge of one of the ten Survey Districts, and supervises the activities and personnel of his District, in addition to his duties as a member of the Board. The general duties of the Board of Surveyors are to hold public hearings of parties interested in the confirmation of plans and revision of plans of the street system, to act upon communications with reference to City plan changes, deeds of dedication, releases of damages, street openings, and

similar matters, to prepare and approve reports for street railway and railroad plans and projects, to prepare and approve reports upon ordinances of Council relating to City plan changes, and plans and revisions of plans of the general street system, to prepare reports upon and approve deeds of dedication, and ordinances for opening, widening, narrowing, and vacating streets, releases of damages for street openings, to serve on committees of the Board of Surveyors, and to discuss and formulate policies and methods for conducting the general business of the Survey District offices.

The Board of Surveyors held twenty-eight (28) meetings, at which they reported on ninety-four (94) ordinances, as compared to one hundred and eleven (111) ordinances in the year 1947. The Board held hearings on eighty-nine (89) City plan changes, as compared to eighty-three (83) in the year 1947. Ten street railway plans were approved, as compared to eleven (11) in the year 1947, and one hundred and eighty-one (181) deeds of dedication and releases were accepted, as compared to one hundred and sixty (160) in the year 1947.

Eighty (80) City plans were confirmed, as compared to eighty-three (83) in the year 1947. Of the eighty City plans confirmed by the Board of Surveyors:

- 31 were in connection with private residential development.
- 12 were in connection with development of industrial sites.
- 6 were in connection with development of commercial sites.
- 3 were in connection with development of school sites.
- 3 were in connection with development of recreation centers.
- 1 was in connection with City-State Highway Program.
- 1 was in connection with sewer program.
- 1 was in connection with bridge program.
- 22 were for miscellaneous purposes.

#### SURVEY DISTRICTS

Cash Receipts - The yearly cash returns from the Survey Districts indicate a continuance of the trends for a progressive increase in all items of work performed for the operative builders, land developers, architects, the real estate profession and allied interests generally, and for which fees are charged and returned to the City Treasury. For the eight-year period (1940-1948) the District cash receipts increased from \$87,808. in 1940 to \$112,342. in 1941, falling progressively to \$56,069. in 1944, and increasing progressively during the four-year period 1945 to 1949, to \$145,566. in 1948. The District cash receipts for the year 1947 were \$122,637. These figures reflect the same general trend in all items of private work performed by the District offices, and for which fees are charged.

<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>
\$87,808.	\$112,342.	\$ 72,999.	\$ 60,758.
<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>
\$56,069.	\$ 65,055.	\$120,477.	\$122,637.
	<u>1948</u>		
	\$145,566.		

5-1948

These figures are reasonable indices for measuring the activities of the building industry and the real estate market generally, and show the fluctuations in the economy of these industries while the nation emerged from the depression; declining during the war years of World War II, and spurting ahead during the post war years in an attempt to satisfy the backlog of deferred demand for housing. It is worthy of interest to note that, while the District cash receipts for the years 1946 and 1947 remained at about the same level, those for 1948 increased by only \$22,929., leading to the assumption that a kind of plateau has been reached with little likelihood of any further spectacular increases in building activity in Philadelphia during the foreseeable future unless adjustments are made in the types of housing to conform to the demand for houses in the medium priced bracket.

Contracts with Private Engineers - It was decided early in the year 1947 to complete the preparation of all improvement plans by the personal service contractors, in order that the District forces could give construction lines and grades and perform their routine functions without delay. An addition to this policy was made in four Survey Districts where lines and grades, measurements, bills and certificates, and other engineering services were furnished by personal service contractors for sewer construction and for grading streets. Indications at present are that the preparation of all improvement plans can be retained in the Survey Districts during the year 1949, except for the four overburdened districts noted.

The personal service contractors assisting the Bureau in the work of the Survey Districts during the year 1948 are the following:

- |                         |                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------|
| Barton and Martin -     | Preparation of paving, improvement and Board of Viewers plans.                    |
| William A. Goff, Inc. - | Preparation of grading plans and furnishing lines and grades for grading streets. |
| Damon and Foster -      | Furnishing lines and grades and engineering services for construction of sewers.  |
| H. A. Kuljian and Co. - | Preparation of repaving plans.                                                    |
| Franklin and Lindsey -  | Furnishing lines and grades for construction of sewers.                           |

Additional contracts were entered into near the close of the year 1948 with the following engineer contractors:

- |                        |                                                                                   |
|------------------------|-----------------------------------------------------------------------------------|
| Franklin and Lindsey - | Preparation of grading plans and furnishing lines and grades for grading streets. |
| Damon and Foster -     | Preparation of grading plans and furnishing lines and grades for grading streets. |
| George A. Gieseke -    | Preparation of grading plans and furnishing lines and grades for grading streets. |
| William E. Tyson -     | Furnishing lines and grades for grading streets.                                  |
| Barton and Martin -    | Preparation of grading plans.                                                     |

During the year 1949, it is probable that several of these contracts will be terminated unless an unexpected increase in the early spring of orders for improvement plans should develop.

#### PUBLIC WORKS IMPROVEMENT PROGRAM

The progress on the work for which the Survey Districts are responsible in connection with the Public Works Improvement Program is indicated by the following:

Board of Viewers Plans - Eighty-six plans were completed for street openings and other purposes, involving 361 properties, with an acreage of 440 acres. During the year 1947 ninety-eight plans were prepared, involving 1054 properties, with an acreage of 1752 acres. The plans completed during the year 1948 were mostly made by the personal service contractors with the District offices completing about the same percentage as in the previous year.

Sewers - Two hundred and five base sewer plans were made by the District Surveyors during the year 1948, compared to two hundred and sixty-eight during 1947. The base sewer plans prepared during 1948 covered 28.1 miles of sewers and drains compared to 40.7 miles for the year 1947. Two hundred and nine plans of constructed sewers were made during 1948 covering 33.1 miles of sewers and drains compared to one hundred and thirty-six plans in 1947 with a coverage of 19 miles. Lines and grades were furnished for 36.3 miles of sewers and drains in 1948 compared to 32.4 miles during 1947.

Water Pipe - One hundred and twenty-seven plans were prepared for the Bureau of Water covering 23.4 miles of pipe. The figures for 1947 were sixty-seven plans covering 9.7 miles. During 1948, fourteen miles of lines and grades were furnished compared to five and one-half miles in 1947.

Grading - One hundred and ninety-nine plans were prepared for grading covering 27.1 miles of streets. During 1947, one hundred and seventy-three grading plans were prepared covering 27.4 miles of streets. All grading plans during 1948 were made by personal service contractors. Sixty-three and six-tenths miles of grading and finishing stakes were furnished in 1948 compared to 55.6 miles in 1947.

Paving - One hundred and fifty-nine paving plans were prepared in 1948 covering 28.1 miles of streets compared to 129 plans in 1947 covering 21.5 miles of streets. All paving plans during 1948 were prepared by the personal service contractors. Seventy-five miles of paving stakes were furnished by the District Surveyors in 1948, compared to 27.4 miles in 1947.

Repaving - Fifty-one repaving plans were prepared in 1948 by the engineer contractor covering 13 miles of streets as against 106 plans covering 34.4 miles of streets in 1947.

Amount of Completed Contracts - During the year \$9,153,689. of completed contracts were certified by the District Surveyors, compared to \$6,393,435. in the year 1947.



Conclusions and Recommendations - Included in the returns for the year 1947 were many improvement plans ordered in 1946, and even in 1945. The year 1947 witnessed the completion of virtually all back orders by the end of that year. During the year 1948 the orders for improvement plans were virtually all completed by the end of the year with the exception of about a dozen plans held up for various reasons. Unless the returns are very carefully analyzed, it might seem that the Survey Districts were doing less work in 1948 than in the preceding year. The correct conclusion will be that the Districts did about the same amount of work during both years for these reasons:

- 1 - Most of the improvement plans finished by the Survey Districts in 1947 were started during the last half of the year 1946. Some were even commenced in 1945 and not completed until early in 1947.
- 2 - The District forces handled approximately \$23,000. worth of additional private work for which fees are charged.
- 3 - The amount of lines and grades furnished for paving, repaving, grading and improvement, and water pipe by the Districts, is greatly increased over 1947 figures.
- 4 - The District Surveyors certified to \$2,760,254. more of completed contracts in 1948 than in the year 1947, with the resulting great increase in measuring, certifying, and billing finished contract work.

It is recommended that most of the improvement plans be returned for completion to the District Surveyors during the year 1949 except in the four busiest Districts. The Assistant Chief Engineer and Surveyor is now taking steps to arrange with the Bureau of Highways and Street Cleaning for a return to the procedures employed by both Bureaus prior to the calling in of engineer contractors to assist in preparing improvement plans. The repaving contract with the H. A. Kuljian Company can probably be terminated unless there should develop a rush of orders in the early spring of 1949. Caution is recommended, however, for the reason that phenomenal success is now attained in keeping the District offices clear of a backlog of incompletd improvement plans.

Another argument that can be advanced for the retention of the engineer contractors during the year 1949 is that, even should the District Surveyors do slightly less improvement work, it, by no means, follows that their forces are not kept busy on catching up with their records, doing some neglected revision work, and many other things greatly adding to the efficiency of a District office that have to be sidetracked in the hectic rush for getting out work quickly that characterized the past two years.

Service Activities of the Survey Districts for other City Departments and Bureaus - The wide scope and variety of the services performed by the Survey Districts for other City Departments and Bureaus is not generally appreciated. The Survey Districts make surveys and prepare plans and estimates, furnish lines and grades, and measure, certify and bill quantities of completed construction work for the three principal Public Works construction agencies of the City, i.e., the Bureaus of Highways and Street Cleaning, Engineering, Surveys and Zoning, and Water Bureau. The work includes making basic surveys, improvement plans, furnishing lines and grades, measuring, certifying and preparing current

and final estimates for the grading, paving, improving, surfacing and resurfacing of streets and country roads, including curbing and footway paving, the construction of main and branch sewers, bridges, culverts, tunnels, grade crossing elimination, water pipe, and all other special construction activities of the three Bureaus listed. The total amount of completed contracts certified by the District Surveyors for the year 1948 was \$9,153,689. This covers an enormous amount of accounting, auditing, clerical and recording functions performed by the Survey Districts which would otherwise have to be done by the agencies serviced by the Districts' organization. More than 5000 assessment bills were prepared by the Survey Districts against private property legally chargeable with the costs of sewer, water pipe, paving, alley and driveway paving, and repaving. The Survey Districts perform the duties of preparing plans, furnishing lines and grades, measuring, billing and certifying quantities of work for all alleys and driveways condemned by the Division of Housing and Sanitation, Department of Public Health. Orders for this work are issued by the Bureau of Highways and Street Cleaning, which advertises the contracts for doing the work and furnishes inspection service.

Among the duties calling for considerable amounts of precise surveying and mathematical skill and knowledge are locating the triangulation stations, and tying into the City plan by precise surveying methods and mathematical calculations the pierhead and bulkhead lines established by the United States Engineer Department and approved by the Secretary of War. The revision of the pierhead and bulkhead lines of the Delaware and Schuylkill Rivers in 1940 placed the burden upon the District Surveyors and Regulators of revising the City plan and Title plans of property abutting upon both water fronts. The Survey Districts also measure and locate the temporary bulkheads constructed by the Department of Wharves, Docks and Ferries in connection with hydraulic filling and dredging operations, and apportion the cost of the work among property owners benefited by the improvement.

The Survey Districts prepare all plans for the Department of Law for the acquisition of properties by the City through condemnation proceedings before the Board of Viewers. This involves the acquisition of properties for playground and recreation sites, reservoir sites, parks, parkways, and boulevards, and a wide variety of other municipal purposes. All plans for the condemnation of properties for street openings are prepared by the Survey Districts, and for proceedings before the Board of Viewers for widening, narrowing, vacating and changing the grades of streets. All accident plans are prepared by the Survey Districts in which the City is involved in litigation. Deed descriptions, releases of damages, affidavits for opening streets and lien descriptions for municipal improvements are also prepared by the Survey Districts' forces for the Department of Law.

The Survey Districts make architects surveys and prepare plans of such surveys for the Department of City Architecture. They also furnish lines and grades for playground and recreation centers which are being constructed by the Department of Public Welfare through the Department of City Architecture, and give lines and grades for construction purposes and measure and certify quantities of completed work.

For the Department of Public Welfare, the Survey Districts furnished City plans and basic engineering information for the design and construction of the

playground and recreation centers now being designed by private engineers, employed by this Department, and for furnishing lines and grades, bench marks, and other necessary data for their construction.

The Survey Districts prepare plans and estimates, furnish lines and grades, and prepare certificates of quantities of completed work for parks constructed under the supervision of the Bureau of City Property.

Preliminary plans, estimates and surveys are made for all public housing agencies interested in housing. When construction of a housing project starts, the Survey Districts are called upon to prepare the revised City plans, incorporating the changes in the street system desired by the housing agency, and later furnish all lines and grades, measurements, bills and certificates for the grading of streets, construction of sewers and water pipe, paving of streets, including curbing and footways, and for other miscellaneous construction purposes.

Preliminary surveys and plans are made in the Survey Districts for the construction of the Pennsylvania State Highway program for improving arterial streets, and lines and grades, measurements, bills and certificates are furnished for the necessary construction work.

The Survey Districts have a considerable amount of City planning functions which cover the establishment of lines and grades, calculations and actual preparation of all sectional City plans of newly developing areas of the City, revision of plans of the general street system, the precise surveying and monumenting of the lines of the street system, topographical surveys to serve as a base for City planning designs, and running lines of precise levels and triangulation for the completion of various planning projects.

Miscellaneous surveys and plans cover a multitude of special requests made by public or quasi-public agencies for checking bench marks, furnishing basic survey lines for engineering purposes, determination of true meridian, astronomical coordinates, latitude, longitude and time, tidal datum plans, tying the monuments of the City street system into the triangulation net of the United States Coast and Geodetic survey, and checking their precise bench marks, establishing center lines of railroads, and checking their plans and surveys, and many other special surveys for an immense variety of purposes.

All of the activities enumerated are purely servicing functions performed without charge.

No public or private construction work can be even commenced until the basic surveys and survey plans are made and drawn, and therefore, the service values of the work performed by the Districts are directly related to the Public Works now being actually constructed by the various Bureaus and Departments of the City, which are dependent upon the prompt performance of the basic surveys and plans needed to get their program under way. The payrolls of the Survey Districts are known, and the cash receipts for work for which fees are charged, and the amounts paid to the personal service contractors. The total amount of completed contracts certified by the District Surveyors amounts to \$9,153,689., as stated elsewhere. Weighing the proportion of payroll time, on the average, employed on other than public works improvement

projects, and using as a base the total amount of completed contracts certified to during the year, it is possible to arrive at the figure of 2.27 per cent. of total construction cost as the overhead charge for the District Surveyors and the personal service contractors. It is admitted that, under present accounting methods, this is merely an approximation, although believed to be reasonably accurate. This does not represent the total engineering cost, which should also include engineering supervision and inspection.

Work Performed by the Survey Districts for which Fees are Charged -  
The Survey Districts prepare lot subdivision plans for private builders, land developers and mortgage, title and investment institutions, furnish all lines and grades required for residential, commercial and industrial building, prepare all types of property and title plans for conveyancing purposes for private individuals, public utilities, the legal and real estate professions, and for title, mortgage and investment institutions.

For the small builder, they furnish single property and street lines, or stake out individual lots for a single building. They also furnish curb regulations for single properties, or for mass residential building.

They furnish plans, lines and grades and basic surveying and engineering data to all public utilities, street railways and railroads, and for gas, electrical, and heating conduits, and for overhead transmission lines.

For the development of river front properties they make plans to accompany applications for permits and licenses for the erection of structures abutting on the pierhead and bulkhead lines, and stake out property lines and pierhead and bulkhead lines for the erection of such structures.

They prepare architects plans for architects designing new structures or altering or remodeling existing buildings.

They make farm surveys of property located in the undeveloped sections of the City, and stake out and monument the boundaries of farms and large tracts of land.

They perform a multiplicity of private surveys of many diverse types upon request from private interests and charge fees, returnable to the City Treasury, dependent in amount upon the time and effort required to comply with such requests.

## REGISTRY DIVISION

Activities in the Book Room - In the matter of straight transfers of title to real estate, there was a decrease in volume of 5 per cent. as compared to the previous year. This decrease is remarkably low when it is considered that 1947 was an unusually active year in the real estate field. The 64,756 straight transfers made in 1948 are still well above the average normal year.

The number of title transfers parcelling smaller tracts, usually indicative of new construction, increased ten per cent. in 1948 over the 1947 figures. This type of transfer necessitated the drawing, usually on a new scale, of 24 registry plates. The number of official certifications of registered owner issued to the public compared favorably with the previous year. Three hundred twenty-eight were issued in 1948, as against 330 in 1947. There was a decrease in the number of certifications of registered owners issued to the Department of Law. Ninety-four certifications were issued in 1948, as compared to 212 certifications in 1947. 103,595 registry books were examined by the public and City officials.

Activities in the Plans and Legal Records Room - In this section, 277 miscellaneous plans were drawn for the various City departments. Of this number, 31 were plans showing registered owners of property for the service of notice of the condemnation of land for highway purposes. Twelve were sketches made in connection with sites appropriated for playground and recreational purposes. Forty-five were plans made for the use of the Department of Law in the preparation of agreements or bonds. The balance were made in connection with base plans for sewers, water pipes and repaving.

Advertising data was prepared to legally advertise public hearing on 89 City plan changes.

Eighty confirmed City plans were indexed and filed, and the City plan changes noted on the books, maps, and cards. Legal openings affecting 220 streets were filed in this division and the books, maps and cards likewise noted.

Nine hundred and three City plans were loaned out to the various Bureaus and divisions.

During the year the assistants in this section made 74 appearances in court, testifying to City plan information, legal opening records, and title records.

Ninety deeds of dedication were drafted. Twelve legal descriptions for incorporation in ordinances of Council selecting and appropriating sites for recreation purposes were transcribed in this section.

The head of the Registry division is also the Secretary of the Board of Surveyors. This fact, and the filing and permanent record in the Registry division of all plans acted upon by the Board of Surveyors, places real emphasis upon the volume and importance of the contributions made by the Registry division to the activities of the Bureau of Engineering, Surveys and Zoning.

## CITY PLANS DIVISION

The year 1948 continued the expansion of the activities of the City Plans division of the Bureau which started in 1947, when the Public Works program began to acquire momentum. The division was originally created as a staff agency to do research work in City planning and to assist and advise the line divisions of the Bureau on certain specialized problems of planning and traffic channelization and with routine line functions of its own, such as preparation and maintenance of land use maps, street maps, and small scale general plans of the street system. The division was also called upon to assist the District Surveyors in the preparation of sectional City plans of the newly developing areas of the City. The staff functions have greatly expanded and now include advice and assistance to the Assistant Chief Engineer and Surveyor and the District Surveyors and Regulators for the preparation of ordinances for City plan changes, street opening ordinances, committee reports and plans, land subdivision plans, studies and reports for projects of the City Planning Commission, and other public agencies, engineering and statistical studies for planning all elements of City plan design, including arterial highways, parks, parkways, and boulevards, drainage areas, drainage streets, and traffic interchanges and traffic channelization, plans and estimates for the condemnation of property, and work on special and independent assignments in allied fields of endeavor.

The program for improving the State highway system has also necessitated the expansion of staff facilities to include advice and assistance on planning various features for the construction of the State program, such as street cross-sections, divisor widths, street channelizations, and traffic interchanges, and assistance and advice in negotiating and drawing up agreements with the State Highway Department authorities. Increasing amounts of staff work are becoming necessary with the start of the Redevelopment Authority's program, and the commencement of rental housing projects by limited dividend corporations.

Since activities are expanded to include preparation of contract drawings for certain phases of the State highway program, and for certain major street improvements which are part of the City's Public Works program, in addition to their planning functions, it is certain that the future will call heavily upon the resources of this division, as projects now being formulated reach the planning and construction stage. A closer integration of the work of the division and of the City Planning Commission will have to be secured and procedures worked out for collaboration in land subdivision and land subdivision control, revision of existing City plans and planning for newly developing areas, major arterial highways, master plans for all elements of planning, and many other special projects of the Planning Commission, the Redevelopment Authority, and other public agencies interested in planning.

Many large projects, formerly considered only a planner's dream, are approaching the stage of actuality, and the Bureau must be prepared to do its part in assisting, guiding, and helping those agencies depending upon it and, rightly so, for assistance in realizing their programs. It is realized that to do this, the nucleus of trained technicians in this division must fully realize their potentialities as a strong staff agency of the Bureau. Steps are being taken to meet this situation.

City-State Highway Program - During the year the contract drawings and plans were completed for the improvement of Vine street from Twelfth street to Logan Circle. Sixty standard size tracings were returned to the Pennsylvania State Highway Department, including the plans for surface improvement, water and sewer requirements, reconstruction of portions of the Broad Street Concourse steps and subway entrances, and Department of City Transit sewers, lighting plans and transformer housing, plans for Electrical Bureau ducts and police and fire alarm systems, traffic signs and signalization and special forms, specifications, and standards.

Plans were commenced for the improvement of Forty-second street shoulders, and for repaving Walnut street from 32nd street to 34th street.

Plans were brought up-to-date for the lower section of the Harbison-Aramingo avenue routes, and plans prepared to be used as a base by the engineer contractors preparing the contract drawings for this improvement.

City's Public Works Improvement Program - The construction plans for the improvement of Castor avenue from Cottman avenue to Bustleton avenue were completed by this division, and also the actual drafting of the lighting plans. The construction plans for the improvement of Crescentville road from Adams avenue to Cheltenham avenue, and Champlost avenue from Adams avenue to Front street were also completed by the division. The base plans for the improvement of the following streets were completed by the division:

- Second street - Erie avenue to Rising Sun avenue.
- Lehigh avenue - Kensington avenue to Richmond street.
- 33d street - Walnut street to South street.

All bills rendered by the personal service contractors were checked by this division for receipt of the plans. The division prepared many special studies for the personal service contractors, and assisted in the preparation of contracts. All streets to be improved by the personal service contractors were checked for legal opening by this division, and other inaccuracies in improvement ordinances were investigated.

Board of Surveyors - Studies, assistance, and advice in the preparation of ordinances, ordinance and committee reports, and committee plans at forty locations involving City plan changes were rendered for the District Surveyors, operative builders, and land developers. The following City plans were prepared by the division for confirmation by the Board of Surveyors:

- City Plan No. 204 - Bounded by Stenton avenue, Washington lane, Belfield avenue, Vernon road and Phil-Ellena street.
- City Plan No. 263 - Bounded by Bustleton avenue, Murray street, New York Short Line, Philadelphia and Reading Railway, and Bowler street.
- City Plan No. 323 - Bounded by Frankford avenue, Eden street, Torresdale avenue, and Convent avenue.
- City Plan No. 346 - Bounded by Oxford avenue, Rockwell avenue, Hartel avenue, and Hasbrook avenue.

- City Plan No. 307 - Bounded by 20th street, Benjamin Franklin Parkway, 21st street, and Hamilton street.
- City Plan No. 42 - 43 - Revising lines and grades of 33d street from Walnut street to South street.
- City Plan Nos. 268- 274 - Bounded by Cheltenham avenue, Crescentville road, Godfrey avenue, Front street, 66th avenue North, and Second street.

City Planning Commission - The following major projects of the City Planning Commission were reviewed during the year:

- Walnut lane - Rittenhouse street Traffic By-Pass.
- Harbison avenue and Roosevelt boulevard - Shopping and Commercial Center.
- North and East Malls.
- Redevelopment Authority areas.
- 24th street and Pennsylvania boulevard Traffic Arterials.
- Philadelphia Turnpike Extension West River Drive.
- Replanning open areas in extreme Northeast Philadelphia.
- Saarinen Project for replanning Houston Estate.
- Redevelopment of Triangle Area.
- Klaber Report for Land Subdivision.
- Report for Striking Planned Streets from the City Plan in undeveloped areas.
- Lincoln Drive - Revision of lines and future Commercial Center at Germantown avenue and Bethlehem Pike.

Land Subdivision Studies - During the year thirty-five land subdivision studies were prepared for land development projects, realtors, and private engineering consultants, and assistance and advice given for the preparation of ordinances to place the development streets upon the City plan. Among the most noteworthy of the land subdivision studies are the following:

- "Verree Gardens" - 20 acres, east of Verree road North of Welsh road.
- Doederlin Tract - bounded by Devereaux avenue, Revere street, Comly street, and the Roosevelt boulevard.



- Boulevard Airport Tract - Bircher - Restudy of City plan No. 358, bounded by Bustleton avenue, Haldeman avenue, Red Lion road, the Roosevelt boulevard, and Lott avenue.
- McClatchy Tract - Sherwood road, 69th street, Morris Park.
- Waddington Tract - Algon avenue, Rhawn street, Tabor avenue, Solly avenue, Pennypack Park and Bergen street.
- Heston Tract - Rennard street, Bustleton avenue, Tomlinson road to property line west of Ferndale street.
- Trainer and Tyson properties - Edison avenue, Worthington road, Byberry road and Trevoise avenue.
- "Verree Manor" - south of Welsh road west of Verree road.
- Stehle Property - Bustleton avenue, Hoffnagle street, Algon avenue and Benton avenue.
- Abernethy Property - south of Red Lion road west of Verree road.

Department of Public Welfare Program for Playground and Recreation Centers -

The division furnished advice and assistance to the Assistant Chief Engineer and Surveyor in drafting the ordinance for the mass striking of streets through playground and recreation centers in process of development. Many site plans were reviewed by the division for the engineer contractors employed by the Department of Public Welfare, and information, assistance and advice rendered to these specialists upon various features of the City plan in relation to their work.

Bureau of Aeronautics - The Bureau of Aeronautics were furnished many plans and much information relative to the Northeast Philadelphia and International Airports, and special studies and plans were prepared for the Director and Assistant Director of Public Works.

Personnel - Men were loaned to the Survey Districts, Department of City Transit, Bureau of Lighting and Gas, Traffic Engineering, the drainage division of the Bureau of Engineering, Surveys and Zoning, and assigned to work temporarily at the Ardmore office of the Pennsylvania Department of Highways. The personnel of the division also carried out their yearly assignment of a seating check, and other detailed duties, for the annual Army-Navy football game. Personnel was also loaned to the Civil Service Commission for monitor service at examinations.

The statistical report on line activities follows:

Plans - Map Information, etc. - The division furnished plans, maps, various charts, equipment, technical books and articles and miscellaneous information services many times during the year to the following:

To private corporations and individuals	-	256
City Departments, Bureaus, divisions, Commissions and Authorities	-	215
State Departments and Agencies	-	63
Federal Agencies	-	47
Public Utilities	-	80
Miscellaneous	-	38

City Sectional Maps and Other Records - The division issued sectional maps and other records as follows:

<u>Issued</u>	<u>No Charge</u>	<u>Fee</u>
Land Use Maps 200' scale	1,755	120 - \$76.50
Street Maps 500' "	439	14 - 4.85
" " 1000' "	806	131 - 25.90
" " 1600' "	55	- -
" " 1600' " (3 sections)	58	3 - 5.00
Street Data Maps 500'	719	83 - 39.50
Zoning Maps 500'	196	80 - 39.75
Other Records - various	1,220	28 - 34.25
Photo Prints - 8 inch x 10 inch	363	- -
" " -14 inch x 17 inch	101	- -
Hunter Electro Copies	122	- -
<b>Totals</b>	<u>5,834</u>	<u>469</u> <u>225.75</u>

This map activity required 197 orders to the Public Works photographer and 228 orders to the Ozalid machine in the Bureau.

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

From Zoning permits	-	1068
From Use Registration Permits	-	1925
From Demolition permits	-	162
From Registry Records	-	46
From House Numbering Records	-	184
From Miscellaneous Corrections	-	47
From Confirmation of City Plans	-	357
From Dedications and other openings	-	240
From Grading and Paving Records	-	348
<b>Total</b>		<u>4377</u>

This division also prepared and revised chart and map records, including Survey District boundaries, Councilmanic maps, Public Works organization charts and other miscellaneous maps.

ZONING DIVISION

The activities of the Zoning division, as indicated by the table below, show a slight decrease over the year 1947, but are higher than those of preceding years:

	<u>1938</u>	<u>1939</u>	War years not com- parable	<u>1946</u>	<u>1947</u>	<u>1948</u>
Applications	8734	8788		8864	8986	8980
Zoning permits issued	4569	5959		6358	7712	6794
Use Registration permits issued	<u>2000</u>	<u>2389</u>		<u>3788</u>	<u>3988</u>	<u>3901</u>
Totals	<u>6569</u>	<u>8348</u>		<u>10146</u>	<u>11700</u>	<u>10695</u>

The years that are most nearly comparable with 1948 in the three most important items are 1938, 1939, 1946, and 1947.

The number of Zoning permits issued show a decline which is reflected in the amount of cash receipts. There are indications of a kind of plateau which is being reached similar to that shown by the private construction activities of the Survey Districts, leading to the assumption that a more cautious attitude is being taken by the operative builders and land developers, perhaps in the nature of a felling of the market to determine the type of housing and price bracket which will be in most demand by the consumers of housing.

More inspections of zoning violations were made than in 1947, and more time was given to a satisfactory investigation of complaints. There was no increase in violations or complaints over the preceding year, but, due to improvements in personnel and organization by the Chief Engineer, more time could be taken, and a more satisfactory disposition of these matters worked out.

The personnel problem in the Zoning division shows improvement, though not to the extent which it is hoped will ultimately take place. It is believed that a more comprehensive reorganization can be worked out than at present, which will combine reclassification, upgrading of salaries, and additional personnel. The reclassification of positions, and the standardization of salaries which were adopted by the City Council and the Administration did not adequately compensate the trained technicians responsible for the administration of zoning in Philadelphia, and compelled able administrative assistants to seek employment elsewhere where the incentives were greater.

Despite these handicaps, the Zoning division was able to keep abreast of processing applications with some sacrifice of essential maintenance functions in keeping the index system up-to-date, keeping records of changes of classifications made on the zoning work, and other routine functions. More time should be taken to adequately investigate applications and personnel should be increased to the point of stabilization where this can be done. Too much routine work devolves upon the Chief and Assistant Chief of the division. While this is probably true of all other divisions of the Bureau, nevertheless, the general feeling persists that the employees of the Zoning division are to a certain extent "forgotten men" with the resultant loss of morale which only the reorganization, so badly needed, can restore.

A statistical report for the work done by the division appears in the appendix.

18-1948

## ENGINEERING DIVISION

This general report of the operations of the Engineering division summarizes the work of the four large subdivisions - design, construction, operation, and testing - and the various units thereof. The detailed reports of the various subdivisions will follow with general report.

This is the first report which is descriptive of the reorganization of the Engineering division which became necessary to meet the unprecedented volume of post war planning and construction. In 1932, the work of this division of the Bureau was drastically curtailed because of the depression. The post war demands required a tremendous expansion of the organization which had existing during the latter 1930's and during the war years. With the expansion came the need for reorganization to meet the present-day demands.

During the last large period of construction work, the Engineering division was divided into several functional divisions in which design and construction were carried on. These subdivisions included the Sewer division, Sewage Disposal division, Bridge division, Grade Crossing division and miscellaneous units. In addition, small operating units performed various functions such as the Testing Laboratory, Northeast Treatment Works, the Sewer Permit division and the Drainage division. All of these units reported to the Principal Assistant Engineer.

When the drastic cut back was made in 1932, all of the design work from the various divisions was consolidated into one Design division, and all of the construction work was consolidated into one Construction division, with the work of the smaller divisions being carried on under various heads.

It became evident, early in 1946, that an expansion of this organization would be required. A Projects division was organized in February of that year. This division was assigned the duties of supervision of construction over all work except main and branch sewers, which remained in the Construction division, the supervision of all design work which had been assigned to outside consulting engineers, the complete responsibility for initiating and for supervising design and construction work of City-State highway projects and general responsibility for initiating all other types of projects.

This organization functioned during 1946 but it became evident that it would have to be expanded to meet growing demands. Accordingly, early in 1947, a new plan of organization for the Engineering branch, was adopted. The new plan involved the placing of the Assistant Chief Engineer in responsible charge of all of the engineering work of the Bureau. The title of Assistant Chief Engineer was a new one, corresponding to the former Principal Assistant Engineer. This division was further sub-divided into four main units, - Design, Construction, Operating and Testing - with each of these headed by a Principal Assistant Engineer reporting to the Assistant Chief Engineer.

In the Design division the personnel has been divided into several squads, each of which concentrates on a particular phase of the work. This organization is flexible and the work is assigned and the personnel interchanged as conditions require. The principal groups in the division are those for sewers, intercepting sewers, flood relief sewers, sewage disposal plants, bridges, airports, electrical, mechanical, specifications and drainage. This represents an expansion of the small organization which was carried on during the 1930's and grew from 37 men in September 1945 to 92 men at the beginning of 1948.

A decided change was made in the organization of the Construction division. During the 1930's, it was possible to supervise construction work with one Construction Engineer, one office employee, and inspectors of ordinary capacity on the various jobs. In most cases, the projects were not of large scope and did not present too many unusual problems. In 1946, the Projects division took over the supervision of construction of the heavy projects, including the sewage treatment plants, airports, various bridges and large flood control work. Upon the appointment of a Principal Assistant Engineer of Construction in January 1948, there were two construction engineers who reported to him. One supervised main and branch sewer work, and the other had charge of the larger projects.

The increasing volume and complexity of the work, and the large number of contracts, developed a need for further supervision. In June 1948, the Division was further reorganized by the appointment of three new Construction Engineers who, together with the existing two Construction Engineers, made a total of five men who reported to the Principal Assistant Engineer of Construction. Under these men a more complete group of Resident Engineers and inspectors had been organized to meet the increasing demands of the work. Some idea of the advancement of the growth of this work can be seen from the following comparisons:

	<u>Dec.31,1946</u>	<u>Dec.31, 1948</u>
1 - The total number of contracts in progress	50	134
2 - Value of contracts in progress	\$2,575,000.	\$30,678,145.
3 - Number of Supervising Engineers	2	5
4 - Number of Resident Engineers and inspectors	24	88
5 - Number of Survey Party personnel	18	20

The Construction division also contains an administrative unit which prepares payment vouchers, arranges for inspection and testing of materials and performs necessary office work.

The Operating division at the present time consists of several units which report directly to the Assistant Chief Engineer, pending appointment of a Principal Assistant Engineer of Operations. These include the Sewer Permit division, the Northeast Sewage Treatment Plant, and Frankford Grit Chamber, and the Industrial Waste division. The first three have been in existence for sometime. The latter unit was organized in August 1948 to handle the ever increasing number of problems relating to the receipt of industrial waste into the City sewer system. This work, which had been carried on in a routine manner in the past, has been greatly accentuated by the program which calls for the completion of the various units of the City's Treatment Works in the period 1950 to 1953, and because of the accelerated campaign which the Pennsylvania Department of Health has been carrying on to eliminate pollution from the rivers.

The Testing Laboratory continued to function in the same general manner as in previous years, under the direction of the Principal Assistant Testing Engineer. The work of the laboratory has been greatly increased by the large construction program, and by testing performed for other departments. Much progress has been made in 1948 in placing modern equipment in the laboratory, but serious consideration must be given to the construction of a new laboratory building to replace the present quarters in City Hall.

In addition to the larger units, a Projects Control division was organized in June 1947, reporting directly to the Assistant Chief Engineer. This unit is responsible for all work in connection with ordinances, agreements and similar matters, prepares regular and special reports concerning construction work, prepares data in connection with financial planning, consults with various individuals who are interested in the construction of sewers and other work and, in general, is responsible for seeing that various projects and contracts are initiated and carried through to conclusion. This is a staff unit and has no responsibility for design or supervision of construction.

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The year 1948 saw continued progress on the development of the sewage disposal program. This sixty million dollar project is scheduled for completion by the end of 1953. At the end of 1948, seventeen million dollars worth of contracts were either completed or in progress.

Work continued at the Northeast Sewage Treatment Plant with contract work slightly ahead of schedule. The plant is scheduled to begin operation in the Spring of 1950, and design and construction work has progressed to the point where this goal seems possible of attainment.

During 1948, the general method of treatment to be used at the new Southeast and Southwest Treatment plants was reviewed. These plants were designed for ultimate treatment which includes primary sedimentation, aeration, final sedimentation and sludge digestion. The original proposed first stage development was to include primary sedimentation and sludge digestion. Greeley and Hanson, Consulting Engineers, Chicago, Illinois, were engaged to make a report on the method of sludge digestion. During the course of this report, the recent trends in pre-aeration of sewage were explored and a decision made late in the year to include this method in both plants. As now contemplated, treatment will include pre-aeration, sedimentation and sludge digestion.

Final decision was made on the matter of sludge digestion for the two plants. All of the sludge digestors will be located at the Southwest Plant with the raw sludge from the Southeast Plant pumped to the Southwest Plant by means of a force main. Digested sludge will be lagooned at the Southwest Works.

Construction work on the first section of the Lower Delaware Collector, which feeds the Southeast Works, was started early in 1948. Work continued on the extension of the Southwest Main Gravity Sewer feeding the Southwest Works and construction work began during the year on the University Pumping Station and the Siphon under the Schuylkill River.

Actual work on the Southeast Treatment Plant was started in November 1948 when the contractor began excavation for the pumping station at the site.

Work during the year featured the largest sewer program since 1930. Details of this are shown on the report of the Construction division. It is worth noting that sewers were completed at a total cost of \$5,025,743.56.

Work continued on flood relief projects throughout the City. Contract work progressed on the first section of the main relief sewer extending to 23d and Aspen streets, and the contractor started work in November on the second section extending to 23d street and North College avenue. Work began in April on the 29th street relief sewer, extending from Pennsylvania avenue to Columbia avenue. All of these jobs will provide relief from flooding conditions in the sections through which these sewers are constructed.

Preparation of plans continued for other flood relief projects, the largest of these being the improvement of Frankford Creek from Castor avenue to Frankford avenue. Plans were completed in the early Fall for this work which is intended to relieve flooding conditions along the entire creek. The work follows the plans recommended by the Knappen, Tippetts, Abbett Engineering Company of New York, in their report dated October 1947, and the contract plans are being prepared by this firm. Delay has occurred in placing the work under contract pending completion of negotiations with property owners for the necessary rights-of-way.

During the year the Sedgley avenue Bridge over the North Penn Railroad was completed, and work progressed on the Church lane Bridge over Cobbs Creek, the 70th street Bridge over the P.B. and W. Railroad and the Castor avenue Bridge over Frankford Creek. Plans were in progress of preparation for other bridges, the most noteworthy of which being the Walnut lane Bridge over Lincoln Drive. This bridge has been designed as a prestressed concrete girder bridge with a main span of 160 feet, which, when built, will be the first of its type in the United States.

During the year, work was in progress at the Philadelphia International Airport and the North Philadelphia Airport. At the Philadelphia International Airport a \$1,600,000. contract for grading a new site for the terminal building was completed. Work was in progress during the year on the four large rigid frame hangars, each with a span of 150 feet. These hangars were practically completed at the end of 1948. During the year, construction continued at each of the airports on the construction of galvanized steel buildings for the housing of small aircraft. At each airport, provision is being made for approximately sixty planes.

The Bureau continued to supervise the City's portion of the work on City-State highway contracts. Construction work continued on the substructure and foundation work on the Penrose avenue Bridge over the Schuylkill River and its approaches. The City's principal share in this contract is the construction of a large stormwater sewer in Penrose avenue on the east side of the river.

Actual construction work started during the year on the first section of the Vine street improvement covering Vine street from Franklin square to Ninth street, Ridge avenue from Vine street to Race street, and Race street from Eighth street eastward to Franklin square. The City's share in this work included construction of sewer facilities, traffic signals and a new street lighting system. This street lighting system features the new 21,000 lumen mercury vapor lamps which give a degree of brightness unrivaled in any street in the City.

The contractor also continued work on the underpass at Ridge avenue and Hunting Park avenue.

During the year a new press box was constructed at the Philadelphia Municipal Stadium to properly care for the large amount of press, photographic, radio and television facilities which cover the Army-Navy game. Work started and is now in progress involving additional foundation work in some sections of the Stadium which have been settling since it was built in 1926. This work also includes strengthening girders, and waterproofing a portion of the deck of the Stadium.

Design - The activities of the Design division during the year included the preparation of plans, estimates, specifications and proposals for sewers, sewage disposal projects, other drainage projects, highway bridges and viaducts, airport development, street improvements; retaining walls; the preparation of reports on drainage and flooding; preliminary estimates of cost; test borings; preparation of proposals for contracts for other City Bureaus; mimeographing and blueprinting; maintenance of drainage maps; investigations and approval of applications by utility companies and others for permits for underground structures, such as conduits, pipes, tunnels, vaults, and for new railroad sidings in city streets, for interference with existing or proposed drainage structures and for strength of proposed structures; checking and approval of proposed structures such as marquises, canopies, etc., projecting within the street lines; checking and approval of railroad bridge plans, inspection of highway bridges over the Reading Railroad.

During the year 1948, the Design division had 375 major assignments, most of which are listed elsewhere herein.

Sewers (Private) - There were no applications for the construction of sewers by operative builders or others at private cost, as public funds were available to meet requirements.

Sewers (Public) - Funds appropriated by City Council for the construction of sewers to relieve sections where the lack of drainage resulted in insanitary conditions and to provide for new building operations permitted the continuation during 1948 of the extensive sewer program which was begun in 1946. However, the expansion of the home building operations made it necessary to build more sewers for these requirements, and every effort was made to provide for all such building operations as they progressed toward completion. The construction of sewers to relieve insanitary conditions was continued during the year as actively as funds permitted and these sewers, in many instances, involved expensive outlet sewer construction, much of which was of the separate system type of construction.

Contracts for this work were again classified into two groups -

- "A" - representing sewers for new housing; and
- "B" - for the relief of insanitary drainage conditions.

Plans, estimates and specifications were prepared by the division for 152 sewers of the "A" type and 65 sewers of the "B" type during the year to be built at public cost.

With the exception of a few sewers to be built of brick construction, the greater portion of the sewer plans completed called for optional bids on reinforced concrete pipe or vitrified pipe for sizes up to 36 inches diameter.



Vitrified pipe was used for sanitary pipe sewers of separate systems. For larger sizes, reinforced concrete pipe was provided, ranging in size up to 84 inches diameter. In practically all contracts, reinforced concrete pipe was the option chosen. Construction costs during the year leveled off from the extreme high of 1947, and in some cases, showed a small decline.

Sandy Run Sewer System - Plans were prepared for the extension of the main sewer northward from Rhawn street, via Pine road and Stanwood street to Burholme avenue, and in Hennig street to Solly avenue, which is the extreme upper end of this system. This sewer was continued from Rhawn street with complete separate system sanitary and stormwater construction but no connections of stormwater drainage will be permitted until the main outlet stormwater conduit is provided below Oxford avenue and Borbeck street. Plans were also prepared for a number of branch sewers in this area to be constructed in a similar manner. This work was placed under contract during the year.

A plan was presented through the City Planning Commission to provide a public park along the banks of the Sandy Run to extend from Napfle avenue and the New York Short Line Railroad to Summerdale avenue and Faunce street. This plan, if adopted, will eliminate the necessity for the construction of a very considerable and the most expensive portion of the main outlet stormwater conduit, and thus permit the early completion of this much needed stormwater drainage.

Contract plans were completed during the year for the main branch in Glendale avenue to Cottman avenue, in Summerdale avenue to St. Vincent street, and in St. Vincent street to Montour street; and the large branch in Cottman avenue from Summerdale avenue to Montour street. This work was placed under contract during the year and the construction of this main branch was followed by a number of branch sewers in the area south of Glendale avenue, providing complete drainage for the development of extensive new housing projects.

Reconstruction - The replacement of old sewers in bad condition, in some cases involving cave-in of street surface with resulting dangerous conditions, was continued during the year. Plans, estimates, and specifications were prepared by this division during the year for eight such sewers.

One of the major jobs of this nature, for which plans were completed and construction begun during the year, was the reconstruction of the main sewer in Fairmount avenue from Delaware avenue to Second street. This reconstruction provides a 5'0"x7'6" rectangular reinforced concrete sewer between Delaware avenue and Front street and a 6'0"x5'0" rectangular reinforced concrete sewer from Front street to a point 195 feet west of Front street, a distance of 680 feet. These replaced the shallow existing twin 4'0" diam. and 5'0" diam. sewers.

At a point 18 feet east of Beach street, a section 18 feet in length was designed as a 72-inch diam. reinforced concrete pipe with 3-foot flares at ends to be replaced by the future sewage intercepting chamber for the connections of the sewage to the Lower Delaware Low Level Intercepting Sewer. The existing 6'6" diam. sewer from the above described 6'0" x 5'0" rectangular sections to Second street, a distance of 490 feet, was determined to be in sufficiently good condition to permit relining by placing a 3-inch thick lining

of reinforced cement mortar. The steep grade of this portion permits the slight reduction in diameter, and a compensating larger section west of this will be used in the future.

In Juniper street, between Filbert street and Arch street, a distance of 360 feet, the existing 3'0" diameter brick sewer was leaking at several points, with resulting flooding of the basement of several adjoining buildings. The replacement of this sewer would result in serious delays to trucking, particularly affecting the Evening Bulletin newspaper, and it was repaired by relining with a minimum 2-inch thickness of reinforced cement mortar. This work required specially trained men and special equipment and this hazardous work was successfully consummated during the year with no interference to traffic.

A serious break occurred in the main 7'0" diameter brick sewer in Christian street at Ninth street, with a surface cave-in at this important traffic point. The opening in the street was immediately sheathed and shored and debris removed from damaged portion of sewer. Repair of the sewer break was accomplished by the novel method of inserting a special 14-foot length of 84-inch diameter steel pipe which provided a flume for the sewage flow. The pipe was then entirely encased in concrete. This work was done in the early summer of 1948 from plans and specifications prepared by this division.

The reconstruction of the sewer in Westmoreland street, from a point southeast of Richmond street to a point southeast of Delaware avenue, a distance of 1330 feet, replacing the existing 8'0" diameter brick sewer, which was in very bad condition, by a 7'6" x 9'0" rectangular reinforced concrete section, was placed under contract and construction begun during the year.

The existing sewer will not be replaced at this time for the short section at Balfour street, where a future sewage intercepting chamber will be constructed.

Street Improvements - Plans were completed during the year for sewers and other drainage structures, retaining walls and steps, etc., in connection with highway improvements at various locations,

The improvement of Welsh road, south of Crispin street to Leon street, involved the preparation of plans for rubble masonry retaining walls and concrete steps for the properties along the east side to preserve these properties which were, in some places, five feet to six feet above the new grade of the street. Plans and estimates for these features were prepared by this division during 1948 for Highway Bureau contracts.

The improvement of Second street, from Bristol street to Erie avenue, involved the design and preparation of plans for a retaining wall and fence along the frontage of the Municipal Hospital for Contagious Diseases and the New Cathedral Cemetery grounds between Butler street and Hunting Park avenue. Plans and estimates for this work were prepared by this division during 1948.

Another difficult problem of this nature was the adjustment of the All Saints' Protestant Episcopal Church building and grounds to the new grade and widening of Crescentville road north of Laveer street. A low retaining wall and a redesign of the main entrance steps and railing to the church required a careful architectural treatment. A deep sewer lateral was also provided from

the new sewer to be extended to take the sanitary drainage and replace the septic tank now in use. Plans and estimates for this work were prepared in 1948.

Stormwater Flood Relief - The reconstruction of the portion of the existing 15'0" diameter Mill Creek Main Sewer, 560 feet in length north of Haverford avenue to 47th street, where a failure of the existing sewer occurred several years ago, has been placed under construction during the year. The reconstructed section is designed as a 17'0" x 18'0" reinforced concrete sewer to conform to plans for the flood relief program for this Main Sewer from Market street northward and westward to 55th street and Master street. The demolition of small houses in this area, which were made unsafe by the sewer failure, was deferred until 1948, due to difficulty in removal of tenants, and this has delayed this sewer reconstruction.

Plans were completed for the extension of the Main Relief Sewer from the end of the preceding contract in 23d street, north of Aspen street via 23d street to Poplar street, and on the line of 23d street in private property and the grounds of Girard College to North College avenue, and thence to 22nd street, with a branch in North College avenue from the existing 4'6" diameter sewer at 24th street, and this work was placed under contract and construction begun during the year. This is a continuation of the 13'0" x 13'0" concrete sewer in rock tunnel of the present contract, an overall length of 2,754 feet. The branch in North College avenue is to be 5'0" x 4'0" rectangular reinforced concrete section 495 feet in length. The diversion chamber at 24th street is designed to divert the stormwater only from the existing 4'6" diameter sewer, and the invert of this sewer is carried through the chamber to channel the sewage flow to the existing outlet sewer. The diversion of this stormwater flow will relieve the overcharging of this sewer system below this point, and will furnish improved drainage for the Girard College grounds.

State Highway Improvements - Plans for the reconstruction of existing sewers and the construction of new sewers were completed by this division in 1948 for Vine street between Twelfth street and Eighteenth street, which completes the drainage requirements for this improvement.

Plans for street lighting from Sixth street to Eighteenth street, and for substation on 8th street Subway Station platforms were also completed.

Drainage Studies - Studies and reports were made on various drainage problems including those in connection with proposed City plan revisions, proposed private developments, public school projects, industrial plant construction, stormwater drainage for street improvements in outlying areas, etc.; investigations of existing sewer capacities for possible extensions to drainage areas; investigations to determine causes and possible relief of flooding. A partial list of locations covered by these studies is included in the "Details of Work Performed", attached hereto.

Preliminary Sewer Estimates - Numerous estimates of cost were made during the year for the construction of new sewers and drains and for the reconstruction of sewers; a partial list of locations covered by these is included in the "Details of Work Performed".

Philadelphia Airports - The North Philadelphia Airport, formerly known as the Philadelphia Northeast Airport, has been used during the year for intermittent unscheduled airline operation, Air Forces' reserve training, and private flying.

Grading has been completed during 1948 for the apron extension, adjoining hangar areas and the new access road. Construction of the thirty-three "T" hangars with two service shops for private and executive type plane use has proceeded during the year. Plans were completed for the construction of the two large structural steel hangars, each 150 feet wide by 120 feet deep, with adjoining two-story lean-tos to be located along the apron extension.

Studies and design for the stormwater drainage and sanitary sewers for the apron and hangar areas were completed, and estimates of cost prepared during the year by this division.

The installation of an air-conditioning equipment for the control tower was accomplished in the late summer, from specifications prepared by this division.

At the Philadelphia International Airport, formerly known as the Philadelphia Southwest Airport, grading operations for the site of the new terminal area and for the area between the domestic terminal and the end of runways 27-30 were completed during 1948.

A revised design and layout for the thirty "T" hangars and two service shops was made by this division early in 1948, and contract plans prepared for their construction, which was begun during the late summer.

Work was prosecuted during the year on the 4-unit structural steel hangar with 2-story lean-tos. Each unit of these hangars is 150 feet wide by 120 feet deep with provision for offices and shops in the lean-tos. Plans were completed by this division during the year for supplementary contracts - a temporary and a permanent outdoor substation; electrical conduits to the hangars; mechanical foam fire extinguishing system; and water mains for fire protection; hangar floors and drainage; improvements and landscaping of the Island avenue frontage, and this work, with the exception of the fire-extinguishing system and the landscaping of the Island avenue frontage, was placed under contract during the year.

The construction is of steel rigid frames with terra-cotta walls and insulated steel roof decking. The hangars are arranged in multiple for economy of materials and heat. The architectural arrangement of the building forms a continuous multi-span structure of four symmetrical rigid frame gable bents. The design was premised on the supposition that each span should be self-supporting and independent of the continuity value of the adjacent space. This, in effect, provided a structure of four single span bents connected together. Each hangar has three doors of the canopy type, the center door has a span of sixty feet and each side door a span of forty feet. With this arrangement, it is unnecessary to open the entire front of the building with a consequent loss of heated air to permit the entrance of small planes. However, when all three doors are open, a plane of the "Constellation" type can be accommodated.

Corrugated wire glass has been used in the pediments over the doors and in all three walls. Doors themselves will be provided with glazing above a line 4'6" above the floor. This will provide excellent natural lighting, especially for the two end hangars.

Plans for the apron paving to serve this hangar with provision for a refueling conduit were completed during the year by this division.

Plans for the construction of the 3'6" diameter Penrose avenue low level intercepting sewer from 80th street to Island avenue, and a pipe sanitary sewer from Penrose avenue southeastward to Island avenue to serve the 4-unit hangar, and the International and Domestic Terminal areas, were completed by this division and this work was placed under contract in 1948.

A comprehensive report on the stormwater drainage for Small Aircraft area and areas adjacent to Island avenue was prepared by this division in May, to accompany grant application to the Pennsylvania Aeronautics Commission for airport funds.

Plans were completed for the grading, paving and drainage of the Small Aircraft area, the area between runways 12 and 17, and the area between runways 17 and the 4-unit hangar by this division during the year. These plans included taxiway improvements, field drainage sumps, hangar apron paving and drainage, runway drainage and paving adjustments, and Small Aircraft area grading, paving and drainage. This work, with the exception of the Small Aircraft area, was placed under contract late in the year.

Preliminary studies were made during the year by this division for the extension of the Domestic Terminal Apron in a southeastwardly direction to provide for expansion of the cargo handling facilities and for a taxiway connecting this apron extension with the ends of runways 27-30.

Plans were prepared for the construction of a temporary post office building 40 feet by 80 feet, adjacent to the crash-house in the Domestic Terminal area, during the year by this division.

Plans for the high-intensity runway lighting system were prepared during the year by this division and contract awarded and construction prosecuted.

Studies for the grading of the triangular area, bounded by the three central runways, and the relocation of the tetrahedron were made by the division during the year.

Sewage Disposal - Plans were completed during the year for the extension of the Pennypack Creek Low Level Intercepting Sewer, from its present terminus at the Roosevelt boulevard northwestward along the Pennypack Creek to a point above the New York Short Line Railroad of the Philadelphia and Reading Company. The portion of this sewer northwestward to a point north of Bustleton avenue was placed under contract during the latter part of the year, and bids were asked for the portion from that point northwestward to the limit above described. Plans were being prepared for the continuation above this point during the year. Survey plans furnished by personal service contractor were used in the preparation of these contract plans, and supplemental surveys were

necessary by the Bureau's project engineer at several locations as the detail design was developed. This extension is being constructed as a reinforced concrete pipe sewer, the size ranging from 60-inch diameter at the outlet end to 36-inch diameter at the extreme upper end at the County Line. The sewer is designed with sufficient capacity to receive the sewage flow from the portion of the Pennypack Creek watershed lying outside the City. The length of the sewer was considerably shortened by using an alignment cutting across the long loop made by the creek north of the New York Short Line Railroad, a tunnel section being provided for this portion.

The construction of the Wooden Bridge Run branch of the Pennypack Creek Low Level Intercepting Sewer was nearing completion during the year under the first contract extending to a point 1,340 feet north of Willits road, and plans for the extension of this sewer northeastward to Ashton road were in course of preparation.

The construction of the Upper Delaware Low Level Intercepting Sewer was completed during the year northward in State road to Grant avenue. The alignment for the further extension of this sewer was studied but extensive surveys are required for the prosecution of these studies, and pressure of other field work did not permit continuation of these surveys. The 15-inch diameter pipe sewer in Grant avenue connecting the low level pumping station on Milnor street, south of Grant avenue, and the pumping station, were constructed during the year. However, the pumps were not delivered and this pumping station could not be placed in service.

Plans were in course of completion during the year for the extension of the Lower Delaware Low Level Intercepting Sewer, from the end of the portion now under contract in Swanson street at Moore street northward via Swanson street, Delaware avenue, Swanson street, Kenilworth street, and Front street to South street. This sewer will be 10'0" diameter concrete sewer from Moore street to Christian street, and a 9'6" diameter, north of Christian street to be constructed in tunnel, a total length of approximately 6,000 feet.

The extension of the Southwest Main Gravity Intercepting Sewer, from Essington avenue northward to Lyens avenue, as a continuation of the triple section rectangular concrete conduits 6'9" x 4'3", 6'9" x 5'3", and 6'9" x 7'0", designed to function as an inverted siphon, was placed under contract and work begun during 1948.

Construction work on the West Central Schuylkill Low Level Intercepting Sewer, which was interrupted by the termination of an earlier contract, was resumed under a new contract for the portion from Arch street northward to a point 1,100 feet north, in the fall of 1948. Plans were prepared for the outlet portion of this sewer from the Central Schuylkill Pumping Station to South street, a revision of alignment being necessary for final location of the Pumping Station.

Plans have been completed during the year for the construction of the East Central Schuylkill Low Level Intercepting Sewer, from its connection to the Schuylkill River Siphon (which delivers the sewage to the Central Schuylkill Pumping Station) on the west side of the Schuylkill River north of 34th street northward, paralleling the river, and in private property to Christian street and

Schuylkill avenue and via Schuylkill avenue, South street, 27th street, and Lombard street to 26th street. This will be an 8'6" diameter concrete sewer in tunnel. Crossing the property of the Philadelphia Electric Company, south of Christian street, it was necessary to design a restricted section under the 10'0" diameter fresh-water intake conduit, which is to consist of two 48-inch diameter cast iron pipes, which will be immediately under this large conduit.

A new type of control mechanism was developed for the automatic operation of the future sewage intercepting chambers, involving tide gates, and an operating unit was set up for testing at the Northeast Treatment Works. Delays in obtaining all the necessary equipment have prevented the completion of these tests in 1948. This control makes use of a closed oil pressure system instead of the former method of using City water pressure to operate cylinders to close and open gates. The control mechanism will be located in a chamber immediately under the footway, instead of as formerly, in the gate chamber, which is continually subject to extreme moisture and unsatisfactory conditions. A re-design of the Cambria street chamber on the Somerset Low Level Intercepting Sewer was being prepared during the year, with the intention of constructing and operating a complete chamber as a pioneer installation prior to the general use of this scheme.

Plans were completed for sewage meter chambers along Stenton avenue at Erdenheim street and at Mermaid lane, for the connection of sewage from Springfield Township and the construction of these begun during the year. A temporary connection to the City sewer for an outlet of the recently constructed township sewers has been in operation at Mermaid lane since their construction, but the connection at Erdenheim street, which is the major township outlet, could not be provided until the completion of the City intercepting sewer to that point, and the meter chamber construction was timed to follow this completion.

Sewage meters were installed by the City in 1939 on Stenton avenue at Winston road, Willow Grove avenue and Woodbrook lane, and on Cheltenham avenue at Bouvier street. The operation of these meters has not proved successful due to the destructive action of the moisture on the recording charts, and three of these were overhauled during 1948 and equipped with electricity to provide heat in the recorders by means of electric lamps. At the above mentioned location of Winston road, it was decided to install a new meter, as the conditions in this manhole resulted in such serious corrosion of the existing meter that it was found impracticable to use it. This work on the other three was in progress by Bureau forces during the year.

The construction of the Northeast Sewage Treatment Works progressed at a very satisfactory rate during the year. Additional contracts were awarded in July of 1948 for the construction work and installation of mechanical, electrical, heating and plumbing equipment for the blower building; sludge storage tanks; primary sludge pump house; scum ejector building; supernatant aeration tank; and yard piping. These contracts involve a total expenditure of about \$1,300,000. The contract for the sludge heaters for the plant was awarded in September, amounting to \$86,000.

A spherical type pressure gas holder and a pilot plant for the Northeast Treatment Works has been in the process of design during the year and will be advertised for construction early in 1949.

Plans and specifications were completed for the substructure of the Central Schuylkill Pumping Station and River Siphon, and this work was placed under construction during 1948. Plans were being prepared during the year and are about 90 per cent. complete for the superstructure of the Central Schuylkill Pumping Station.

Plans and specifications for the Southeast Sewage Pumping Station, at the site of the proposed Southeast Treatment Works, were prepared and this work was placed under contract and construction begun during the year.

Contracts were let for the purchase of the pumping equipment for the Central Schuylkill and the Southeast Pumping Stations in 1948, consisting of twelve 30-inch pumps, each having 50 m.g.d. capacity with 400 H.P. motors.

General layout studies for the Southeast Sewage Treatment Works were made and a final layout determined; general design study drawings were made, and the type and arrangement of equipment and other facilities were determined so that contract plans could proceed for the pumping station.

A study of sludge disposal was made by Greeley and Hanson, of Chicago, during the year to settle the question of whether to dispose of sludge at the Southeast Plant site or to pump it to the Southwest Plant site. A report on this study was practically completed by the end of the year. The receipt of this report will permit the immediate preparation of plans for the treatment plant structures and equipment.

General layout studies for the Southwest Sewage Treatment Works were continued during the year in connection with sludge disposal studies. These studies involved the arrangement of the grit removal and settling tanks, the location of sludge digestion tanks, and the developing of lagoons and areas for the disposal of grit and sludge. Study drawings of grit chambers and screen house were made, and the type and general arrangement of equipment determined. Detailed plans were being prepared during the year for the primary settling tanks and sludge digestion tanks.

Walnut Lane Bridge -over Lincoln Drive and Paper Mill Run - During the year 1948 the Design division prepared plans for the construction of the first prestressed concrete bridge to be built in America. Located in Fairmount Park, it will carry Walnut lane across Paper Mill Run and the improvement of the approaches will extend from east of Morris street to Wissahickon avenue. The new prestressed bridge, of deck girder type, will have a center span of 160 feet, two end spans of 74 feet, and will be about 64 feet wide. Designed for an H-20-44 live load, plus 17 per cent. impact, it will carry a 44-foot roadway with asphalt plank wearing surface. Design working stresses were 2,000 psi for the concrete and 126,000 psi for the steel, requiring concrete of 5400 psi 28-day strength and steel with an ultimate strength of 210,000 psi. That the bridge is a major structure, as well as a unique one, is emphasized by the fact that each of the fourteen main span girders will weigh 150 tons.

Before the City decided to embark on this pioneer undertaking, this bridge project had already developed a considerable history. It first came



into prominence in 1931, when the Art Jury approved plans for a 150-foot span solid-spandrel, stone-faced arch, which was bid but never built because of the depression. Last year (1947) the project was revived when the Art Jury again approved plans, this time for a 150-foot span open-spandrel, stone-faced arch. This, too, was bid, but again not built, since the cost was considered excessive. One of the reasons for the high cost was the expensive foundation required to carry the thrust from the arch down to rock, which was about 35 feet below ground level. This cost could be reduced by a type of bridge having vertical reactions, as in a girder or rigid frame, but although many sketches were made of these types, in both concrete and steel, none proved acceptable to the Art Jury architect. Mr. Roy Larson, architect for the Art Jury, was very sympathetic to the idea of Philadelphia being the first in this country to use prestressed concrete in a bridge, and he actively assisted in the preparation of a design that would not only harmonize with the beauty of the valley, but, at the same time, would be more economical than any so far accepted.

All of the girders in the bridge will be 6 feet 7 inches deep and T-shaped with a bottom flange. They will be 52 inches wide across the top flange and 30 inches across the bottom flange. In the center span the sides of the tops of the girders will be in contact with each other, and fourteen girders will be required to provide the necessary deck width. In the side spans alternate girders will be omitted, and a cast-in-place deck poured across the top. The prestressed reinforcing will consist of single wires 0.195 to 0.280 inches in diameter, and in sufficient numbers to give the required sections. The wires will be grouped in rectangular steel boxes about two by six inches in size, running the entire length of the girders, four in each main span girder and three in each side span girder. All boxes will be located in the bottom flange at the center of span, but only two of the boxes will remain in this location for the full length of the girder. Two of the boxes in the main span girders and one box in the side span girders will rise from the bottom flange as they approach the ends of the girders. After the concrete has attained its 28-day strength the wires will be stressed to a pre-determined value, which will place a compression of about 2,000 psi in the lower flange and about 1,000 psi in the upper flange.

The wires will then be locked in this position by means of wedges, and grout forced under pressure into the boxes so that all wires will be sealed in. Completion of the prestressing will be followed by erection of the girders. After they are all in place, on the piers, they will be pulled together by transverse wires, which will be stressed similarly to those used for the longitudinal stressing. The transverse prestress forces will be transmitted through diaphragms, placed at right angles to the longitudinal axis of the girders and about 16 feet apart.

In addition to these transverse diaphragms the transverse prestress in the center span will be transmitted through the top flanges of the girders, which abut each other. Deck concrete will be poured in place and will not be prestressed. The amount of transverse prestressing will be determined by the transverse bending moment or the transverse shear, whichever is the greater. The end blocks holding the transverse prestressing wires will be set in pockets in the outside face of the exterior girders. These pockets will be filled in with grout after the transverse prestressing has been completed, so that they will be as inconspicuous as possible.

Tabor avenue Bridge - under Philadelphia and Frankford Branch, Reading Company - The Tabor avenue bridge has been incorporated in a general improvement program extending from Harrison street to Godfrey avenue, and includes full width roadway paving with asphalt eight-inch concrete base, curbing, sewer and appurtenant inlets and laterals, the improvement of driveways to existing industrial plants along Tabor avenue, together with such additional driveways as are needed for the proposed development of lessees of the Reading Railroad, and of the Supplee-Wills-Jones Company's milk processing plant. In order to effect an under-clearance of sixteen feet at the railroad bridge, the City plan required revision of the grades of Tabor avenue and, with this revision and the proposed improvement, retaining walls abutting industrial sites were necessary. The length of the improvement is approximately 1,400 feet along Tabor avenue and approximately 800 feet along the railroad. The bridge structure will consist of granite and gneiss faced abutments and wingwalls and the superstructure has been designed as a single track half-through plate girder bridge of 87-foot span. The floor system consists of wide flanged steel beams with a reinforced concrete deck slab and concrete haunches. Plans for this improvement were practically completed during 1948.

Wingohocking street Bridge - under P. N. and N. Y. Railroad - This bridge replaces a temporary structure of steel beams and timber bents which has been in service for some years, and consists of a deck plate girder bridge carrying a single track of the railroad on a ballasted road bed supported on an interlocking steel channel floor. The span will be sixty-six feet center to center of end bearings. Plans for this have been practically completed in 1948.

Pine road Bridge - over P.N. and N.Y. Railroad - This bridge will be a 3-span continuous structure of wide flange beams at railing and curb line with a floor system of wide flanged steel beams supporting a reinforced concrete deck slab and concrete haunches. The length of the spans will be approximately forty feet each. Plans were being prepared for this bridge in 1948.

Martin's Mill road Bridge - over P.N. and N.Y. Railroad, and New York Short Line - Reading Company - This bridge is an inter-county bridge and will require cost participation on the part of Cheltenham Township and the City. The grades on the Township side approximate 10 per cent., and on the City side only 3 per cent., as envisioned in the design - which consists of two-main girders near curb line, wide flanged floor beams in the roadway, and curved cantilever beams supporting the footway. The roadway deck will be supported on reinforced concrete slabs and the footways will be carried by a sheet channel and "I" beam system supporting the sidewalk slab. Minimum clearance will approximate 17'3", and the main girders will have a length of ninety feet. Preliminary studies were made in 1948.

Marquises, Private Bridges, etc. - Plans for structures such as marquises, vaults, private bridges, etc., which are to be located within the building lines of City streets, are submitted to the Highway Supervisors for approval and sent to this division for checking for strength in the interests of safety for the public on the City streets.

CONSTRUCTION DIVISION

The Construction division was reorganized in 1948 with a Principal Assistant Engineer placed in charge of this division. The work of the division is subdivided into two units, one unit supervising construction on contracts for main and branch sewers and the other unit supervising the construction of all other projects of this Bureau.

Main and Branch Sewers - The increase in the volume of the work of this subdivision, which is responsible for the supervision of the construction and reconstruction of all main and branch sewers, necessitated its reorganization and the assignment of additional personnel. The following table shows the growth of this unit in 1948, as compared to 1947:

	<u>Dec. 31, 1947</u>	<u>Dec. 31, 1948</u>
Number of Engineers in Charge	1	3
Number of Inspectors	34	44
Totals	<u>35</u>	<u>47</u>

During the year 1948, contracts were entered into for seventy (70) sewers for new housing, fifty-two (52) sewers for other purposes, and two (2) flood relief sewers, which, together with contracts carried over from 1947 and sewers constructed in connection with Sewage Disposal, City and State highway improvements, made a total increase of 31.88 miles to the sewer system of the City. Ten (10) contracts were awarded for the reconstruction of 0.36 miles of sewers that had either collapsed or were in very bad condition. In two of these contracts, instead of rebuilding these sewers, lining with reinforced concrete mortar was specified, at a considerable saving to the City. The actual work was as follows:

Sewer Contracts Awarded

<u>Sewers</u>	<u>No. of Contracts Awarded</u>	<u>Amount of Contracts Awarded</u>
For New Housing	70	\$2,307,000.
For other Purposes	52	2,689,300.
Flood Relief	2	1,800,000.
Reconstruction	<u>10</u>	<u>421,450.</u>
Totals	134	\$7,217,750.

Sewer Contracts Completed

<u>Sewers</u>	<u>No. of Contracts Completed</u>	<u>Total Cost of Completed Sewers</u>	<u>Assessment Bills</u>	<u>Miles of Sewers Completed</u>
For New Housing	59	\$1,887,497.41	\$442,676.24	15.51
For other Purposes	54	2,091,913.34	373,871.27	13.43
Flood Relief	0	772,957.35	--	0.11
Reconstruction	<u>10</u>	<u>273,375.46</u>	<u>--</u>	<u>0.36</u>
Totals	123	\$5,025,743.56	\$816,547.51	29.41

34-1948

The above work represents an increase of 5.40 more miles of sewer constructed than in 1947, and is the largest yearly addition to the sewer system since 1930.

A new method of reconstructing existing sewers, by means of relining with reinforced concrete placed under pressure, was first used on the Juniper street sewer from Arch street to Filbert street. The existing 3'0" diameter brick sewer, which had been in poor condition with several breaks having occurred in recent years, was relined for a distance of approximately 360 feet at a cost of \$24,466.52. Juniper street at this location is a heavily traveled thoroughfare, in addition to being constantly used during the greater part of the day for loading and delivery of a daily newspaper. By the use of the lining method, and the contractor working at night, it was possible to reconstruct this sewer without the street being excavated as required in the normal type of sewer reconstruction and the necessity of closing the street for a long period of time with the resulting inconvenience and interference of traffic.

The construction of the following main relief sewers was in progress during 1948.

Main Relief Sewer through Fairmount Park, from East Park drive to Fairmount avenue, and in Fairmount avenue between Fairmount Park and 23d street and in 23d street; This is a section of the very necessary sewer to relieve flooding in an extensive area in North Philadelphia. The structure is a 13-foot by 13-foot reinforced concrete sewer in tunnel, with a stone slab invert in cement mortar. Work was started on August 17, 1947, and the total amount of the contract, which is \$900,000., is now 75 per cent. complete.

Main Relief Sewer in 23d street and Girard College from north of Aspen street to North College avenue, and in North College avenue between 22nd street and 24th street; This contract was entered into late in 1948, and is a continuation of the one above. It consists of a 13-foot diameter concrete sewer in tunnel with vacuum processed concrete invert and will require steel tunnel lining for half the distance. The total amount of the contract is \$1,300,000., and the work was started on November 16, 1948.

Relief Sewer in 29th street from Pennsylvania avenue to Columbia avenue; This contract was entered into this year to relieve extensive flooding in the vicinity of 29th street and Columbia avenue. It consists of a 6-foot diameter concrete sewer in tunnel with vacuum processed concrete invert and will require steel tunnel lining for part of the distance. Work was started on April 28, 1948, and the total amount of this contract, which is \$600,000., is 5 per cent. complete.

A tabulation of the completed sewer contracts in 1948 is shown as an appendix to this report.

## TESTING LABORATORY

Work during 1948 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 services; inspections, sampling and sample collection, and general rearrangement of laboratory for installation of new equipment; which now has reached the point where lack of space is a major problem.

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 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 subcommittees, and thus directly aids the Society in formulating standards and test methods of materials. The City adopts and uses many of the standards published by this Society.

Modernization of the Laboratory's apparatus and equipment has progressed throughout the year, and it is pleasing to report that, in most cases, it is now possible to compete with laboratories that are equipped to measure quality of materials by the latest approved standard methods. In connection with this, it is regretted that all our modern apparatus cannot be effectively used due to floor shock and vibration.

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.

## PROJECT CONTROL UNIT

The Project Control Unit at the beginning of the year consisted of a staff of five employees. Early in the year a Junior Draftsman was added. Later in the year, on August 16, 1948, two employees were detached in order to inaugurate the establishment of the Industrial Waste division.

The principal duties of the Project Control Unit are to prepare regular and special reports, prepare schedules for advertising construction contracts, prepare and report on ordinances that refer to construction work, prepare agreements with the Railroads, the Commonwealth and other agencies, which relate to construction work; contact builders and assist them in programming their operations with City agencies, and special assignments of a similar nature.

The following ordinances were drafted by the Unit and later enacted by City Council;

Amendments to the Omnibus Sewer Ordinance of  
June 20, 1946

Sewers for New Housing - 17 locations  
Sewers to eliminate bad sanitary conditions - 46 locations

Sewer Ordinance approved April 5, 1948 and  
Amendments Thereto

Sewers for New Housing - 159 locations

Sewer Ordinance approved September 28, 1948

Construction of new Sewers in place of Old - 4 locations

In connection with sewers for new housing, affidavits were filed by builders for sewers at 129 locations.

Sealed bids were received, opened and scheduled upon 83 occasions for the following construction work:

Sewers for new Housing	- 72 contracts	- 132 locations
Sewers to eliminate bad sanitary conditions	- 38 contracts	- 61 locations
Sewer reconstruction	- 8 contracts	
Storm relief sewers	- 2 contracts	
Sewage Disposal	- 25 contracts	
Airport Construction	- 11 contracts	
Bridges	- 1 contract	
Municipal Stadium	- 5 contracts	
Miscellaneous	- 11 contracts.	

Twelve agreements were prepared, the following nine of which were executed:

Between the City and Reading Company -

Bridge on line of Frankford Branch over Tabor avenue.

70th street crossing of Reading tracks for construction of Southwest Main Gravity Sewer.

Between City and Pennsylvania R.R., Baltimore and Ohio R.R., Philadelphia Belt Line R.R., and United States of America, for sewer line from Naval Base.

Between City and P.B. and W.R.R. for footbridge on line of 66th street over tracks of P.B. and W. R.R.

Agreements with the Commonwealth of Pennsylvania -

Repaving shoulders of 42nd street, from Chester avenue to Chestnut street.

Improvement of Aramingo avenue, from Ontario street to Orthodox street.

Improvement of Harbison avenue, from Torresdale avenue to the Roosevelt boulevard.

Supplemental Agreements with Commonwealth of Pennsylvania -

Vine street from 7th street to 9th street.

Race street from 8th street to 7th street.

Ridge avenue from Race street to Vine street.

Ridge avenue-Hunting Park avenue underpass.

The following three agreements were prepared but were not fully executed by the end of the year:

Agreements with the Reading Company -

For the construction of bridge on line of pine road over P.N. and N.Y. Branch of the Reading Company.

For the construction of bridge on line of Newtown Branch of the Reading Company over Wingohocking street.

Agreement with the Commonwealth of Pennsylvania -

Repaving Walnut street from 32nd street to 34th street (preliminary draft).

Among the more important of the Unit's special assignments were the following:

Preparation of a map in color showing the City's drainage areas.

Preparation of a map showing the location and estimated costs of future flood relief projects.

Preparation of a City-State highway map noting the locations of the present and future improvements.

Preparation of the necessary application forms for Airport financial assistance from the Commonwealth of Pennsylvania and the Federal Government.

Preparation of data for the City Planning Commission's Six-Year program 1949-1954.

Preparation of the Bureau's portion of the Director of Public Works 1948 improvement program.

The Unit continued to act as liaison between the Photographer's office and the Director's office for photographs in connection with construction contracts, photographs of maps and charts and statistical data, and the preparation of lantern slides.

OPERATION OF NORTHEAST SEWAGE TREATMENT WORKS

The Northeast Sewage Treatment Works, located at Richmond street and Wheatsheaf lane, serving that portion of the City along the Delaware River from Allegheny avenue to the County Line and westward to Germantown avenue, has been in operation since 1923. These Works consist of coarse screens, grit chambers, and Imhoff tanks, and were designed for a daily average sewage flow of sixty million gallons.

For the year 1948 the daily average sewage flow treated was 56.1 million gallons; 37 M.G.D. by a gravity flow via the Frankford Creek High Level Interceptor and grit and screen chamber, and 19.1 M.G.D. from the Upper Delaware and Frankford Creek Low Level Interceptor, grit and screen chamber and pumping station.

	Total	Daily Average
Sewage Flow Million Gallons	20,537	<u>56.1</u>

Laboratory analysis of samples collected during 1948 operation are reported as follows:

	Works Influent	Works Effluent	% removed
Settleable solids (c c per liter)	7.6	0.8	90
Suspended solids - total	180 p.p.m.	55 p.p.m.	69
" " - fixed	53 p.p.m.	15 p.p.m.	71
" " - volatile	127 p.p.m.	40 p.p.m.	68
5-day B.O.D.	250 p.p.m.	183 p.p.m.	27

Material not discharged to river but disposed of on land.

	Total	Per Million Gallons of Sewage
Sludge produced	79,420 cu.yds.	3.87 cu.yds.
Grit	2,160 cu.yds.	0.10 cu.yds.
Screenings	1,444 cu.yds.	0.07 cu.yds.
Tank skimmings	1,130 cu.yds.	0.05 cu.yds.

The sludge, after digestion and having a moisture content of 93 per cent., was pumped to available low land at the plant site. Of the total grit and screenings above noted, 1379 cubic yards of grit and 1149 cubic yards of screenings intercepted at the Frankford Creek Chamber were hauled to the site of the Northeast Sewage Works and deposited on the low land.

1130 cubic yards of skimmings, collected from the Imhoff tanks and consisting largely of grease and floating material were deposited in earth pits and buried to prevent fly and odor nuisance.



## INDUSTRIAL WASTE DIVISION

The inauguration of the extensive construction program for the early completion of the sewage treatment system of the City, together with the inauguration by the State authorities of their program for clearing the streams from sewage pollution required an enlargement of the Bureau's facilities for investigating the liquid discharge of the larger industries having wastes likely to injure or form deposits in the sewage structures. This investigation of liquid wastes from industries has been a function of this Bureau ever since December 9, 1925.

In the permit issued to the City on that date by the Pennsylvania Sanitary Water Board, the attention of the City was directed to this matter by the following language in the permit:

"The City is advised to cause a survey to be made of all industrial wastes now being admitted to the public sewers in order to determine which are harmful so that corrective measures may be taken to prevent the admission of harmful industrial wastes to the public sewers, etc."

The service of notice by the Pennsylvania Sanitary Water Board of notices to the industries in the City of Philadelphia, whose liquid and industrial wastes were discharged directly or indirectly into the Delaware River, was responsible for greatly augmenting the work of the Bureau in the investigation of the character of the wastes of these various industries; consultation and recommendation on remedial measures; and the determination of the quantity and character of the liquid wastes of each individual industry which could eventually be received into the City's sewerage system.

To meet this demand, an Industrial Waste division was organized on August 16, 1948. An Assistant Engineer of the Bureau, who has had long experience in such matters, was assigned as Chief of the division. The Industrial Wastes division is responsible for excluding from approximately 2000 miles of sewers those materials including solids, liquids or gases which might be harmful to the structures or their functioning or the processes of sewage treatment and to operate this system without offense to senses and the wellbeing of the citizens. The guiding principles which govern the functions of the Industrial Wastes division are the following:

The City sewerage system including sewage collection, treatment and disposal facilities is constructed, operated and maintained under permits issued by the Sanitary Water Board. The standard conditions relating to sewerage adopted by the Sanitary Water Board under date of November 1, 1942, and incorporated in all sewerage permits issued by the Board for the extension of the City sewerage system, provides, inter-alia - "No industrial wastes shall be discharged into the sewerage system which will prejudicially affect the sewerage structures or their functioning or the process of sewage treatment".

City Council, by ordinance, has declared it illegal to discharge into the sewer any substance which shall tend to form a deposit or obstruction therein or which may injure the sewer structures.

Manufacturing plants and business establishments of various kinds throughout the City approximate a total of 15,000. Many of these discharge liquid wastes which require some form of preliminary treatment before such wastes may be acceptable for receipt into the sewers.

A complete survey of all such sources of liquid wastes should be made so as to determine under what condition such wastes may discharge into the sewer system.

With the present force available most of the activities are centered in the Northeast area of the City, where many industries have been ordered by the Pennsylvania Sanitary Water Board to cease discharge into the Delaware River and Frankford Creek.

Some of the industries have engaged consultants to make a study of their waste treatment and these have conferred with representatives of this division to determine the degree of treatment which may be required and under what conditions their wastes may be received into the City sewers.

In a number of instances, these problems have been met by the installation of certain facilities, including screens, grease and oil interceptors, neutralizing and settling tanks.

In a few instances, where toxic wastes, injurious to our biological treatment processes, were encountered, it was necessary to exclude such material from the sewer system.

In some instances industry appears to have difficulty in reducing the suspended solid and 5-day biological oxygen demand content to that of normal Philadelphia sewage and for which our treatment plants have been designed. While these wastes may not be harmful to our treatment processes, their acceptance will increase plant operating costs and it may be that arrangements can be made to receive such wastes at a cost to industry somewhat in excess of the normal sewage rental charge.

By arrangement with the Plumbing division of the Bureau of Housing and Sanitation all applications for installing or extending plumbing facilities in buildings used for manufacturing or commercial purposes are referred to this division. A study is made of the proposed liquid wastes to determine under what conditions, if any, such wastes may be made satisfactory for their receipt into the sewers.

The design and construction of such facilities are subject to our inspection and periodic inspection is made to insure proper operation and maintenance.

Complaints as to odors from sewers, including gas, gasoline, naphtha, etc., and deposits in sewers from fibrous materials or other material considered as objectionable, are investigated, and efforts made to determine the point of admission for the purpose of preventing such discharge. Through cooperation with other City Bureaus it is possible to stop these violations when their source has been found.

This division is also responsible for the proper operation of the sewage treatment plants within the Philadelphia area for which the Pennsylvania Sanitary

Water Board has issued permits to the City. These include the Philadelphia Northeast Sewage Treatment Works and the industrial plants of the Budd Manufacturing Company, the Yale and Towne Manufacturing Company, and the Gulf Refining Company.

Reports of the operations of the sewage treatment plants aforementioned are received and studied to ascertain if operating results meet the requirements of the Pennsylvania Sanitary Water Board.

This division is also responsible for preparation of applications to the Pennsylvania Sanitary Water Board for extensions to the sewerage system and the drafting of agreements for the receipt, treatment and disposal of sewage from areas beyond the City limits in the sewerage system of the City.

#### CITY-STATE HIGHWAY IMPROVEMENT PROJECTS

Penrose avenue (Route 67023) - An important step toward the completion of the Industrial Highway through Philadelphia is the project for construction of a bridge and approaches on line of Penrose avenue over the Schuylkill River. The total length of the project is 12,000 feet, extending from west of Twenty-sixth street to Island avenue.

City Council authorized by ordinance of March 27, 1946, an agreement with the Commonwealth for joint participation in the project. The agreement was executed on April 8, 1946, and a supplemental agreement for the first construction contract was entered into on September 5, 1947.

As a result of these agreements a contract was entered into on December 26, 1947, with Foley Brothers of New York for foundations and substructure. The City is to contribute \$977,000. of the cost and the State is to pay \$5,279,306.

Work started on March 2, 1948, with the scheduled contract time being 290 working days.

Vare avenue-34th Street (Route 67012) -The Vare avenue-34th street project was completed in November 1948. It extends along Vare avenue from Passyunk avenue to 34th street, and in 34th street from Vare avenue to Grays Ferry avenue. The southern terminus of this project is at Passyunk avenue near 26th street. By means of 26th street, Vare avenue affords a direct connection with the Industrial Highway at Penrose avenue. This project is an important link with the northwest section of Philadelphia and the surrounding counties.

Under authority of an ordinance of Council approved September 2, 1941, the City entered into an agreement with the Commonwealth on October 14, 1941, for the improvement of this highway. The work was originally scheduled to be started in 1942, but was delayed because of the war.

Under terms of a supplemental agreement between the City and the Commonwealth, entered into on January 28, 1947, the City contributed \$325,000. of the cost and the Commonwealth paid \$604,000. Frank Mark was the contractor and work was started in September 1947, with the scheduled contract time being 140 working days.

Vine Street (Route 67045) - Widening and improving Vine street as an approach to the Delaware River Bridge got under way in 1948. Under authority of an ordinance of Council approved February 2, 1942, the City and the Commonwealth entered into an agreement on February 9, 1942, for joint participation in the improvement. Under terms of a supplemental agreement dated July 17, 1948, the City and the Commonwealth signed a contract on August 16, 1948 for the improvement of the first section of the entire project. This contract covered Vine street between 7th street and 9th street; Race street between 7th street and 8th street; and Ridge avenue between Race street and Vine street.

The cost to the City for this section is \$191,500., and the cost to the Commonwealth is \$247,869. The Union Paving Company is the contractor and the scheduled contract time is 120 working days to complete the work. A substantial part of the work was finished in 1948, but final paving was delayed until spring of 1949.

Concurrent with the work on this section, another part of this project is being built. This is construction of a bridge across Vine street to carry the tracks of the Reading Company northward from the terminal. Golder Construction Company is the contractor. The Commonwealth will bear the entire cost of this bridge, estimated to cost about \$1,200,000. Work started on the bridge in September 1948.

Plans were in preparation during the year for the remainder of the work westward to 18th street.

Ridge avenue-Hunting Park avenue (Routes 67030-67051) - For many years the intersection of Ridge avenue and Hunting Park avenue has been a point of very heavy traffic congestion. To relieve this condition City Council approved, on September 27, 1941, an ordinance authorizing execution of an agreement between the City and the Commonwealth for joint participation in the project. This agreement was executed on October 6, 1941, and a supplemental agreement fixing terms of responsibility was entered into on June 18, 1948. The City is to contribute \$105,000. of the cost and the Commonwealth is to pay \$760,000.

The project, when completed, will carry Hunting Park avenue under Ridge avenue to Nicetown lane and thence to East River Drive.

McNichol Paving and Construction Company has the contract which was signed on July 23, 1948. They have 170 working days to complete the contract on which work began August 24, 1948. The total length of work is 3,935 feet.

Pennsylvania boulevard (Route 67005-P) - The City and the Pennsylvania Railroad have agreed to jointly improve and develop certain central city areas. Under authority of an ordinance of Council approved July 2, 1925, the City and the Pennsylvania Railroad entered into an agreement on July 13, 1925, establishing plans and procedures for the above improvement. This agreement was amended on December 28, 1927, December 18, 1939, and, more recently, on November 27, 1946, under authority of ordinances of City Council dated respectively December 19, 1927, December 11, 1939, and November 16, 1946.

Another ordinance approved March 22, 1946, and amended August 14, 1946, authorizes the City and the Commonwealth to enter into an agreement establishing Pennsylvania boulevard as a part of the State Highway system and provides for its improvement. This agreement, which was executed on August 20, 1946, places responsibility for plan preparation and development studies upon the City.

On August 30, 1946, the City Planning Commission entered into a contract with the firm of Clarke, Rapuano and Holleran of New York for the preparation of preliminary design studies for Pennsylvania boulevard. These studies were completed in 1948 at a cost of \$70,000. Negotiations are under way for the preparation of contract drawings. It is estimated that the improvement will cost upward of ten million dollars.

Aramingo avenue (Route 67047) - Aramingo avenue, from Ontario street to Orthodox street, is a section of a proposed arterial highway which, when completed in its entirety, will extend from Roosevelt boulevard to Delaware avenue.

Council, by ordinance approved February 17, 1948, authorized the execution of an agreement between the City and the Commonwealth for the improvement of this highway. The agreement was signed March 17, 1948. The length of work is 8,050 feet.

The City is negotiating with Knappen Tippetts Abbet Engineering Company for the preparation by them of design drawings for this highway, and it is expected that a contract will be executed early in 1949 for preparation of these plans.

Harbison avenue (Route 67047) - Harbison avenue, between Roosevelt boulevard and Torresdale avenue, is a section of an arterial highway which, when completed in its entirety, will extend from Roosevelt boulevard to Delaware avenue.

Council, by ordinance approved February 17, 1948, authorized the execution of an agreement between the City and the Commonwealth for the improvement of this highway. The agreement was signed March 17, 1948. The length of work is 9,500 feet.

Negotiations are in progress with engineering firms to perform the design work for this project.

Walnut street (Route 67006) - Relocation of street car tracks in the University area of West Philadelphia includes removal of tracks from the center of Walnut street between 32nd street and 34th street, and relocating these tracks near the curb. After track relocation the entire street is to be repaved. The estimated cost of the work to the City will be about \$30,000. for a length of approximately 670 feet.

Negotiations are under way between the City and the Commonwealth for joint participation in this project.

Forty-second street (Route 67002) - Under authority of an ordinance of Council dated May 18, 1948, the City and the Commonwealth entered into an agreement on June 18, 1948, for repaving Forty-second street from Chestnut street to Chester avenue, approximately 2,100 feet. Repaving of this street is limited to the area between the curbs and the street car tracks.

Plans for this project are being prepared by Bureau forces.

\* \* \* \* \*

During 1947 preliminary drafts of agreements for improvement of each of the following highways were forwarded to the Pennsylvania Department of Highways for comment, but to date no action has been taken on these projects:

- Oxford avenue from Verree road to Hasbrook avenue.
- Levick street, Tacony-Palmyra Bridge Approach.
- Spring Garden street from Broad street to Park Drive.
- Henry avenue from Walnut lane to Ridge avenue, and Ridge avenue from Henry avenue to Northwestern avenue.
- Roosevelt boulevard from Oxford Circle to Broad street, including five bridges.
- Adams avenue from Montour street to Crescentville avenue, and Godfrey avenue from Broad street to Crescentville avenue.
- Moyamensing avenue from Twentieth street to Broad street.

Sewer Permits - The Sewer Permit Section issued 1,245 permits in 1948, an increase of 186 over 1947. These permits resulted in 5,153 connections to sewers, which is a decrease of 1,695 from 1947. This decrease can be attributed to the falling off of new building construction. 875 less dwellings alone being erected during the year.

The total receipts for the year were \$80,820.28, which is an increase of \$6,400.32 over 1947. Of this total amount, \$53,765.00 was collected from lateral fees, an increase of \$3,631.00 and \$27,055.28 from service charge bills, an increase of \$2,769.32.

PROJECT UNIT

This unit was established February 1, 1946, and is responsible for the construction of all projects, except main and branch sewers, for all surveying work on these projects, and the supervision of the contract work of the projects prepared by consulting engineers engaged by the Bureau. Other duties include responsibility for the City's share of work on the City-State Highway program, and the keeping of all records relating to sewer rentals, and the costs of construction and operation of Sewage Disposal facilities.

The following tabulation shows the growth of this unit from eighteen employees on June 30, 1946;

	<u>Dec. 31, 1947</u>	<u>Dec. 31, 1948</u>
Executive, Office, and Accounting	12	14
Engineering, Inspection, Surveying	<u>47</u>	<u>68</u>
Totals	<u>59</u>	<u>82</u>

During the year there were 82 active construction contracts in progress, 46 of which were carried from 1947, and 36 executed during the year. The total amounted to \$25,052,556. Of these contracts, 18 were completed, totalling \$1,457,279. The total amount paid for construction on completed contracts and work in progress during 1948 amounted to \$7,973,715.

The actual work was as follows;

	No. of Contracts <u>Awarded</u>	Amount of Contracts <u>Awarded</u>	No. of Contracts <u>Completed</u>	Amount of Contracts <u>Completed</u>
Northeast Sewage Disposal Div.	1	\$ 315,000.00	3	\$ 834,461.00
Northeast Sewage Treatment Wks.	6	1,439,500.00	0	0.00
Southeast Sewage Disposal Div.	2	811,000.00	0	0.00
Southwest Sewage Disposal Div.	5	2,450,000.00	2	160,209.00
Sewage Disposal-General	4	427,000.00	0	0.00
North Philadelphia Airport	2	25,819.00	5	77,218.00
Philadelphia International Airport	7	1,551,234.00	5	266,587.00
Bridges	0	0.00	1	64,590.00
Philadelphia Municipal Stadium	5	294,750.00	2	54,214.00
City-State Highways	4	407,500.00	0	0.00
Totals	<u>36</u>	<u>\$7,721,803.00</u>	<u>18</u>	<u>\$1,457,279.00</u>

A summary of the active contracts in 1948 that were supervised by the Project unit of the Construction division appears in the statistical section of this report.

ACCOUNTING AND REPORTING DIVISION

All the normal functions of the Bureau, in conjunction with its gigantic construction program, were reflected in the division's activities during 1948.

The routine matters of audit and disbursement of all Budget appropriations for payrolls and supplies, operations attending the expenditures from Loan Funds, preparation of proposals, advertising, reading and scheduling of bids, the furnishing of contract information to the Department of Law, the requisitioning and disbursement of supplies required by the several divisions and Survey District offices, the servicing and maintenance of the Bureau's automotive equipment, the compilation and maintenance of personnel records, coupled with the progressive program of the Bureau, have all tended toward a busy year for the division.

The continuation of the Bureau's plan for public improvements resulted during the year in fifty public readings of bids, involving 174 projects; 200 contracts were certified and entered on the Bureau's records; and 80 contracts, unfinished in 1947, were carried to completion; 1968 separate warrants were drawn, calling for a payment of \$15,303,156. from both Budget and Loan Funds.

The acquisition of twenty-one automobiles was required by the expansion of the construction program. They were purchased from and used on Loan Fund projects.

Maintenance and repairs of the Bureau's automotive equipment, now numbering sixty cars and trucks, has become a major function of the division's operations, due to the numerical size of the present fleet. During the year this branch of the division's service was subject to close scrutiny by subcommittee members of the Committee of Fifteen. Figures of maintenance and repair costs were furnished to the Committee, with explanations of the methods employed; and it was found that the cost of maintenance and repair per unit was favorably low in comparison with general fleet maintenance by commercial firms. It was gratifying to note that no criticism of this phase of the division's operations had been made in the report finally submitted when the Committee ceased its activities at the close of the year.

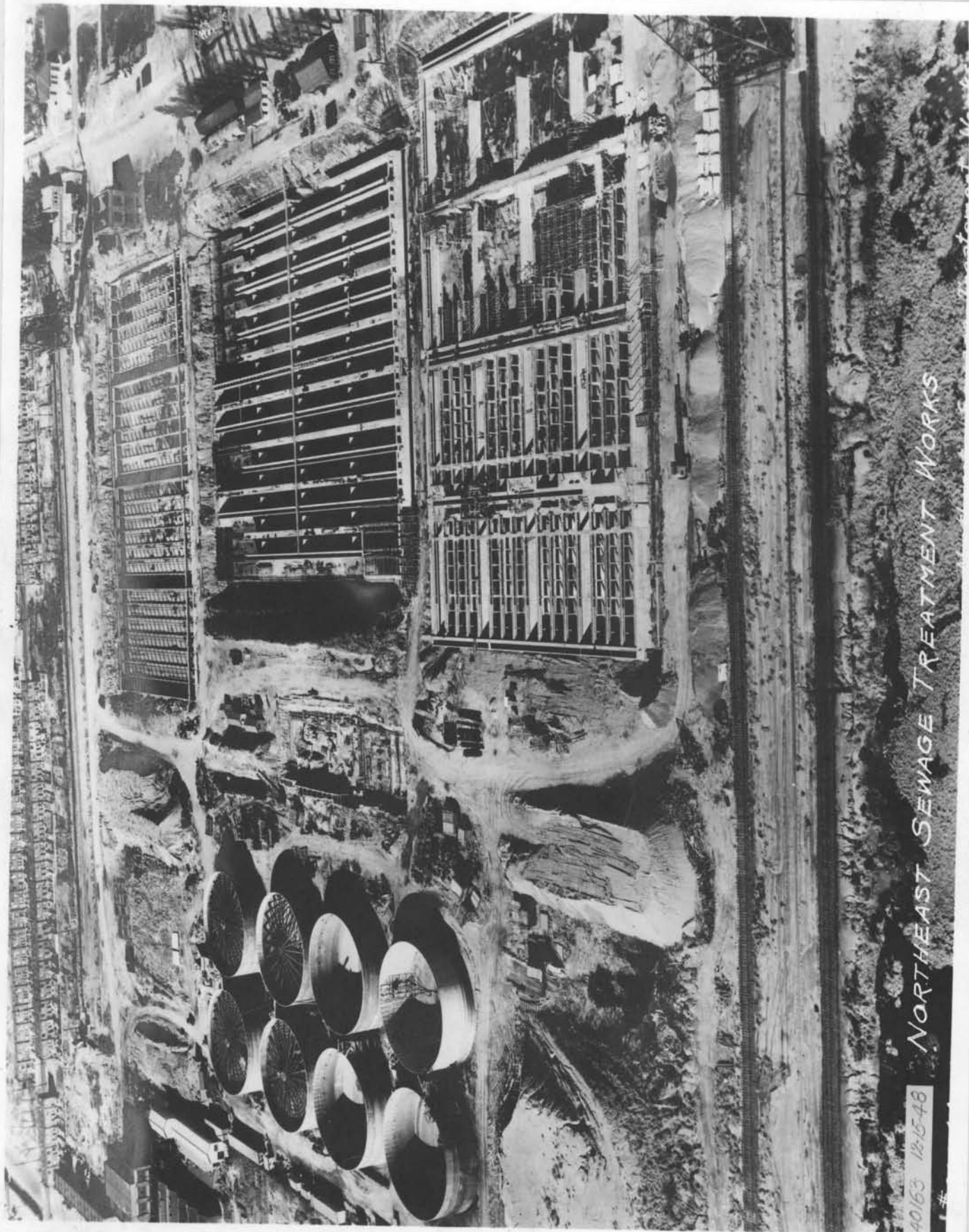
A request was made by the Bureau in the 1949 Budget for sufficient funds as a first step toward a 3-year replacement plan for automotive units purchased in 1941. This request received a favorable recommendation from the Committee of Fifteen and the funds have been granted by Council. Replacement of these units will lessen slightly the division's troubles in keeping the older units in active operation - so essential to the successful conclusion of the construction projects.



Receipts for the year were as follows:

	<u>Vouchers</u>	<u>Amounts</u>
Survey Districts	5,022	\$145,566.52
Registry	228	555.25
Sewer Registrar	831	80,820.28
Zoning	4,711	28,516.00
Lower Merion Township )		100.00
Upper Darby Township : Sewer Rentals		1,000.00
Cheltenham Township :		12,331.53
Springfield Township )		1,095.00
Witness Fees		204.00
Ground Rents		120.00
Rental of Wharf		1,200.00
	<b>Total</b>	<b><u>\$271,508.58</u></b>

Appropriations and listing of Expenditures with principal projects may be examined on last pages of statistical reports.



NORTHEAST SEWAGE TREATMENT WORKS

40163 12-15-48

49-1948



40205-7 1-7-49 N.E. SEWAGE TREATMENT WORKS BLOWER BLD'G LOOKING W.

50-1948



40205-3 1-7-49 N.E. SEWAGE TREATMENT WORKS PRIMARY TANK LOOKING N.E.

51-1948



40197 1-3-49 CONT # S.D. 1105.W. INTERCEPTING SEWER ON 70TH ST FROM  
ESSINGTON TO LYONS AVE. S. FROM STA. 90+53

52-1948



39853-1 4-26-48 CONT #S-1122 SEWER IN FAIRMOUNT AVE. AT 2300 ST.  
N. FACE OF TUNNEL LOOKING N. ON 2300 ST.

53-1948



40190 1-3-49 PENROSE AVE. E. GEN. VIEW W. FROM PENROSE AVE. AT GATE OF GULF REFINING CO.

54-1948



40204-1 1-7-49 UNDERPASS HUNTING PARK & RIDGE AVE. STATE HWY.  
W. ON HUNTING PARK FROM 300' E. OF RIDGE AVE.

55-1948





40141-1 11-26-48 34<sup>TH</sup> ST. VARE AVE. STATE HWY - N. ON VARE FROM MOORE ST.

56-1948



401987 1-4-49 CHURCH LANE BRIDGE OVER COBBS CREEK LOOKING S.E.

57-1948



39959-2 7-19-48 SEDGLEY AVE. BRIDGE OVER N. PENN R.R. (READING CO.)  
COMPLETED BRIDGE E. FROM W. ABUTMENT.

58-1940



40202.B 1-6-49 NEW HANGARS - PHILA. INTERNATIONAL AIRPORT

59-1948



40175 12-28-48 Cont. # A-113NE Northeast Airport "T" Hangars  
General View N.W.

60-1948



40189-2 1-3-49 Cont. # M-102 MUNICIPAL STADIUM - GUNNITING  
COMPLETED COLUMN 129, 28, 27, 20 & 19

61-1948



40139-3 11-26-48 CONT #M-103 PRESS BOX - MUNICIPAL STADIUM

62-1948

BUREAU OF ENGINEERING, SURVEYS AND ZONING  
Executive Offices, Room 1103 City Hall Annex  
Philadelphia

Chief Engineer and Surveyor  
A. ZANE HOFFMAN

Assistant Chief Engineer  
SAMUEL S. BAXTER

Assistant Chief Engineer and Surveyor  
FREDERICK T. THORPE, Jr.

Design Division

Principal Assistant Engineer - E. R. Schofield

Construction Division

Principal Assistant Engineer - Max Barofsky  
Division Engineers - J. G. Bailey, M. T. Connell, F. Zielinski,  
C.E. Black, G. C. Munoz

Plans and Registry Division

Chief - James J. Cratin

Assistant Chief - Lester Freedman

Senior Assistant Engineer, City Plans - Albert W. Moser

Zoning Division

Chief - Charles MacDonnell

Assistant Chief - Joseph H. Rosenberg

Accounting Division

Chief Clerk - Robert H. Bell

Cost Accountant - George W. Allen

Testing Laboratory

Principal Assistant Testing Engineer - A. F. Burbidge

Projects Control Division

Office Engineer - James A. Brady

Sewer Permit Division

Chief Engineering Clerk - Guy K. Haldeman

Senior Engineering Clerk - T. J. Sweeney

Northeast Sewage Treatment Works

Assistant Superintendent - Edward P. Morris

Senior Engineering Chemist - Joseph H. Thorpe

Industrial Waste Division

Chief - Harry M. Beaumont

Industrial Waste Engineer - J. S. Reich

BOARD OF SURVEYORS

President - A. Zane Hoffman

Chief Engineer and Surveyor

Vice President - Frederick T. Thorpe, Jr.

Assistant Chief Engineer and Surveyor

SURVEYORS AND REGULATORS

Howard LeQuin

Raymond C. Good

Ben H. Joseph

Amos B. Engle

Joseph F. Delany

John H. Robinson

George T. Shegog

Ernest R. Brooks

John T. Campbell

Joseph A. Singer

Secretary - James J. Cratin

63-1948



STATISTICAL      SUMMARIZATION

OF

ACTIVITIES

64-1948



<u>LAW PLANS</u>	
Plans prepared for Board of View	86
Properties included - number	361
- acres	439.5
Plans prepared for various legal purposes	8
<u>PASSENGER RAILWAYS</u>	
Plans prepared	3
Linear feet of street covered	4,950
Linear feet of lines and grades furnished	21,202
<u>UTILITY COMPANIES</u>	
Linear feet of lines and grades furnished	46,601
Reports on applications for footway locations	502
<u>BRIDGES</u>	
Preliminary plans and surveys made	4
<u>DRAINAGE</u>	
Preliminary surveys and plans made for sewers and drains	205
Linear ft.st.covered	148,581
Linear ft.of lines and grades furnished	191,316
Cubic yds.of trench excavation measured	340,850
" " " masonry measured	1,454
Number of inlets staked out	1,079
Linear ft.of lateral pipe and inlet connections measured	212,108
Plans of constructed sewers and appurtenances prepared	209
Lin.ft.of street covered	175,029
Assessment bills prepared	2,208
<u>WATER PIPE</u>	
Plans prepared for Bureau of Water and water companies	127
Lin.ft.street covered	107,241
Linear feet of lines and grades furnished	73,018
Fire hydrants for which lines and grades were furnished	74
Reports on grade of streets for water pipe to be laid	16
Assessment bills prepared	996
<u>CURRENT ESTIMATES</u>	
Any contract	444
<u>REPORTS</u>	
On street openings, including plans or estimates	42
On street improvements " " " "	108
Made to Chief Engineer	454
Miscellaneous (not otherwise classified)	98
<u>LIENS</u>	
Descriptions prepared for any department of bureau	73
<u>MISCELLANEOUS</u>	
Linear feet -lines and grades- Repaving - Guttermarks	13,240
Blue print copies of property plans previously made	468
Linear feet - Lines and grades-Resurfacing - Bur.of Highways	800
Corner cut-back plans	5
Plan and estimate for Improving play areas in the N.E.Village Vet.Housing Project	1
Letters certifying to Old Surveys,etc.	1
Curb staked out for Bur.of City Property	1,600
Stakes for the Bureau of Highways	2,000
Profiles for S.E.Sewage Disposal Property	2,600
Levels for Drainage Purposes - Penrose Ave.	2,300

66-1948

GRADING

Plans and preliminary estimates (including country roads)-	199
Lin.ft.of street covered	143,392
Cubic yds.measured,cut and fill	578,927
Lin.ft.of street covered	120,671
Linear ft.of lines and grades furnished	335,751

PAVING

Plans prepared for paving (including country roads)	159
Lin. ft.of street covered	146,459
Square yards measured and certified	496,887
Lin.ft.of street covered	144,744
Linear feet of lines and grades furnished	395,657
Assessment bills prepared	959

REPAVING

Plans prepared for repaving (including country roads)	51
Linear feet of street covered	68,038
Square yards measured and certified	245,190
Linear feet of street covered	68,852
Linear feet of lines and grades furnished	202,327

AMOUNT OF COMPLETED CONTRACTS

Main and branch sewers	\$4,211,091.57
Private sewers and drains	2,500.00
Grading	293,968.97
Paving and improvement	2,821,800.58
Paving and resurfacing	1,824,327.95
Total Costs	9,153,689.07

RECEIPTS

District Cash Receipts	145,566.52
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67-1948

DETAILS OF WORK PERFORMED IN REGISTRY DIVISION

ACTIVITIES IN THE BOOK ROOM

<u>Group I</u>	<u>Year- 1948</u>
1. Deed abstracts filed for registering .....	50,659
2. Descriptions contained on abstracts.....	56,259
3. Transfers plotted .....	64,756
4. Original lots plotted .....	7,384
5. Deed abstracts filed from 1865 to 1948 inclusive.....	3,536,266
6. Titles examined for plan book entries.....	4,147
7. Plan books examined by the public and officials.....	103,595
8. Certificates of registered owners issued to the public.....	328
9. Certificates of registered owners issued to Law Department.....	94
10. Registry plates redrawn.....	24
11. Miscellaneous receipts.....	\$555.25

ACTIVITIES IN THE PLANS AND LEGAL RECORDS ROOM

<u>Group II</u>	
12. Miscellaneous plans drawn for City departments.....	277
13. Plans loaned out.....	903
14. Subpoenas issued against Registry Division.....	76
15. Appearances in court.....	74
16. Amount of Witness fees collected.....	\$168
17. Certificates of street openings issued to City departments.....	1,038
18. Affidavits of street openings filed.....	19
19. Streets opened by affidavits.....	16
20. Jury plans ordered.....	14
21. Jury plans filed.....	91
22. Streets authorized to be opened by ordinance.....	46
23. Certifications filed of openings and condemnations.....	50
24. Street opening agreements filed.....	0
25. Agreements filed in connection with City plan changes.....	64
26. Deeds of Dedication filed.....	150
27. Deeds of Dedication approved and recorded.....	153
28. Grant of Drainage area.....	0
29. Releases of abutting owners filed.....	4
30. Releases of abutting owners approved and recorded.....	4
31. Releases of Mortgages approved and recorded .....	24
32. Cost of recording deeds and releases, etc. ....	\$138.25

ACTIVITIES OF THE BOARD OF SURVEYORS

<u>Group III</u>	
33. Number of meetings, including Road Day hearings.....	28
34. City plans ordered.....	136
35. Confirmed City plans filed.....	80
36. City plans advertised for public hearing.....	89
37. Approved subdivision plans filed.....	19
38. Ordinances returned to Council, favorable recommendation.....	81
39. Subt. " " " " " " .....	7
40. Ordinances " " " special " .....	0
41. Ordinances " " " negative " .....	6
42. Approved street railway plans filed.....	10

68-1948

DETAILS OF WORK PERFORMED BY ZONING DIVISION

<u>Number of:</u>	D I F F E R E N C E			% D E C R E A S E	% I N C R E A S E
		1947	1948		
Requests for information	- 69	18,545	18,476	0.37	
Applications filed	- 6	8,986	8,980	0.37	
Zoning Permits issued	- 918	7,712	6,794	11.90	
Use Registration Permits issued	- 87	3,988	3,901	2.18	
References to the Board of Adjustment	/ 38	236	274		16.10
Applications stamped "Permit not Required"	- 22	2,910	2,888	0.75	
Number of Zoning Permits refused	/ 1152	1,336	2,488		86.23
Use Registration Permits refused	/ 955	2,585	3,540		36.94
Refusals appealed to the Board of Adjustment	/ 235	3,233	3,468		7.30
Number of inspections	/ 32	326	358		9.82
Complaints investigated	/ 9	385	394		2.33
Vouchers issued	/ 226	4,485	4,711		5.04
Amount of Cash Receipts	- 2924	\$31,118	28,194	9.39	
True copies of applications certified to B of A	/ 346	2,287	2,633		15.12
Number of sign applications (Highway) acted upon	/ 3	135	138		2.22
Descriptions for District Classification Changes	- 9	72	63	12.50	
Letters to Fire Marshal for approval or dis-approval of use	- 9	380	371	2.37	
Changes of Zoning Maps made by Ordinance of Council	- 10	61	51	16.40	
Changes of Zoning Maps proposed by Resolution of Council	- 39	129	90	30.23	
Housing and Sanitation Refusals	/ 55	372	427		14.78

69-1948

DETAILS OF WORK DONE IN THE TESTING LABORATORY

Total Number of Specimens - 1948

Apparatus, Standardizing	16
Boiler Water and Compounds	48
Brick	86
Cement, Hydraulic	888
Concrete	6310
Fire Retardants	18
Fuels	1976
Joint Materials and Compounds	12
Metals	222
Miscellaneous Materials	35
Oils, Lubricating	18
Paint and Paint Materials	270
Road and Road Materials	291
Rock and Silicious Material	16
Roofing Compounds	57
Rubber Compounds	11
Soaps	3
Tile	59
Water, Industrial Waste and Sewer	96
	<hr/>
TOTAL	10,432

Distribution of Total Specimens - 1948

	<u>Quantity</u>	<u>%</u>	<u>Quantity</u>	<u>%</u>
Department of City Transit			877	8.4
Department of Public Safety:				
Bureau of Building Inspection	20	0.2		
" Electrical	52	0.5		
			72	0.7
Department of Public Welfare			8	0.0
Department of Public Works:				
Bureau of Engineering, Surveys & Zoning	5241	50.2		
" Highways	1664	16.0		
" Mechanical Equipment	104	1.0		
" Water	929	8.9		
			7,938	76.1
Department of Supplies and Purchases			1,094	10.5
Department of Wharves, Docks and Ferries			226	2.2
Water Works Improvement			217	2.1
			<hr/>	
			10,432	100.0

70-1948

SPECIMENS FOR CHEMICAL TEST -1948

		<u>Totals</u>
<u>Apparatus, Standardizing</u>		16
<u>Boiler Water and Compounds</u>		48
<u>Coal:</u>		
Anthracite	1950	
Bituminous	<u>18</u>	1968
<u>Fire Retardants</u>		18
<u>Gasoline</u>		2
<u>Joint Materials and Compounds</u>		8
<u>Metals:</u>		
Ferrous	51	
Non-ferrous	<u>115</u>	166
<u>Miscellaneous Materials</u>		24
<u>Oils:</u>		
Fuel	6	
Lubricating	<u>18</u>	24
<u>Paint and Paint Materials</u>		
Drier	11	
Linseed Oil	23	
Paints, Mixed	181	
Pigments in Oil	22	
Pigments, Dry	22	
Turpentine	8	
Varnish	<u>3</u>	270
<u>Road and Road Materials</u>		
Asphalt Compounds	28	
"    Cement	86	
"    Wearing Surface	176	
Tar	<u>1</u>	291
<u>Roofing Compounds</u>		54
<u>Rubber Compounds</u>		11
<u>Soaps</u>		3
<u>Water, Industrial Waste and Sewage</u>		<u>96</u>
	TOTAL	2999

71-1948



DISTRIBUTION OF CHEMICAL SPECIMENS

Department of City Transit		34
Department of Public Safety:		
Bureau of Building Inspection	5	
Electrical Bureau	52	57
Department of Public Works:		
Bureau of Engineering, Surveys & Zoning	249	
"    Highways	494	
"    Mechanical Equipment	104	
"    Water	909	1756
Department of Supplies and Purchases		1094
Department of Wharves, Docks & Ferries		7
Water Works Improvement		<u>43</u>
	Total	2999

72-1948

DISTRIBUTION OF PHYSICAL SPECIMENS

Department of City Transit		781
Department of Public Safety:		
Bureau of Building Inspection		15
Department of Public Works:		
Bureau of Engineering, Surveys & Zoning	4506	
"    Highways	848	
"    Water	2	
		5356
Department of Wharves, Docks & Ferries		219
Water Works Improvement		174
	Total	<u>6545</u>

SPECIMENS FOR PHYSICAL TESTS

Brick:		
Building	49	
Sewer	37	
		86
Concrete:		
Aggregate	14	
Block	40	
Cores	754	
Cylinders	5502	
		6310
Joint Materials and Compounds		4
Metals:		
Ferrous	55	
Non-Ferrous	1	
		56
Miscellaneous Materials		11
Rock and Silicious Materials		16
Roofing Compounds		3
Tile		59
	Total	<u>6545</u>

HYDRAULIC CEMENT SPECIMENS

Domestic Hydraulic Cements	<u>888</u>
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DISTRIBUTION OF CEMENT SPECIMENS

Department of City Transit		62
Department of Public Works:		
Bureau of Engineering, Surveys & Zoning	486	
"    Highways	322	
"    Water	18	
		826
	Total	<u>888</u>

73-1948

## Drainage Studies

Leonard St., Levick St. to Hellerman St.; Elbridge St., Roosevelt Blvd. to Revere St.

Lott Ave. N. of Bustleton Ave. to Dedaker St.; Jamison St., Lott Ave. to Murray St.; Banes St. and Fulmer St. to Bustleton Ave. N.E. of Lott Ave.

Saul St., Benner St. to Devereaux Ave.; Benner St., Bustleton Ave. to Revere St.; Leonard St., Comly St. to Devereaux Ave.; Farnsworth St., Comly St. to Lardner St.

Red Lion Road and N.W. of Verree Road and extending to a line S. and W. of the proposed Medway Road

Unruh St., Algard St. to Tackawanna St.

Roosevelt Blvd., Tyson Ave., Bustleton Ave., St. Vincent St.

Subdivision "Woodlands" N.E. of Sanford St., N.W. of Jeanes St., Red Lion Rd. and Verree Rd.

Proposed narrowing of Passmore St., Hasbrook Ave. to Comly St.

Subdivision, N.E. Southampton Rd. and N.W. Carter Rd.

Leonard St. to Brous Ave., Levick St. to Robbins St.

Elbridge St., Everett Ave. to Horrocks St.

Bradford St., Magee Ave. to Harbison Ave.

Barnard Ave., Princeton Ave. to St. Vincent St.

Stamford St., Colfax St. to Albion St.

Tackawanna St., Magee Ave. to Unruh Ave.

Montague St., Magee Ave. to Unruh Ave.

53d St., Lindbergh Blvd. to Harley St.

Oakmont St., Castor Ave. to Large St.

Tremont St., Ashton Road to Maxwell St.

Maxwell St., Ashton Road to Tremont St.

Emlen St., Moreland St. to Mermaid Lane

Various Playground Sites - City-wide

Algon Ave., Bustleton Ave., Fox Chase Road

Griffith St., Rockwell Ave. to Ferndale Ave.; Halstead St., Griffith St. to Borbeck St.

Passyunk Ave. to 63d St. - proposed 60' wide street

Tulip St., Ashburner St. to Blakiston St.

Perry St., Tabor Road to Bingham St.

1728 South Front St. (north of Moore St.) - Flooding study

51st St., Viola St. to Parkside Ave.

Haverford Ave., 67th St. to Malvern Ave., 71st St., Lansdowne Ave. to County Line.

School Site - Broad St., Bigler St., 13th St., Oregon Ave.

Dexter St., Salaignac St. - S.E. to dead end

School Site, Walnut St., 58th St., Locust St., 59th St.

Subdivision - "Verree Manor" - N.W. of Verree Rd. and S.W. of Welsh Road

Cheltenham Ave., Crescentville Rd., Godfrey Ave., Front St., 65th Ave. N. and 2nd St.

Ellicott Road and Meadow Lane

Bristol St., Fox Ave. to McMichael St.

Perry St., Tabor Road to Bingham St.

Upsal St., Belfield Ave. to Crittenden St., etc.

Proposed Rhawnhurst Park, Sandy Run Valley from Napfle Ave. and New York Short Line P. & R. to Summerdale Ave. and Faunce St.

Juniper St., Curtin St. to Packer Ave., etc.

Pennypack St., Tulip St., Tolbott Ave., Torresdale Ave.

Roosevelt Blvd., St. Vincent St. to Cottman Ave.

Lotus Village Apartment Development - Drainage

74-1948

State Highway Improvements:

Vine Street - Contract plans for reconstruction of existing sewers and construction of new sewers, 12th St. to 18th St. - 13 plans.

Contract plans for street lighting, 6th St. to 18th St., -- 6 plans; sub-station at 8th St. and Race St. subway station platform -- 1 plan.

North Philadelphia Airport:

Drainage studies and estimates - 6 plans - hangar and apron areas.  
Air-conditioned equipment for control tower -- specifications.  
T Hangars and service shops - approval of shop drawings.  
Two-unit structural steel hangar -- 8 architectural, 14 structural;  
3 plumbing plans; 1 electrical plan.

Philadelphia International Airport:

30 T Hangars and 2 service shops - 5 structural plans, 1 electrical plan; approval of shop drawings; grading and paving plan (1 plan).

4 -unit structural steel hangar - 2 temporary and permanent sub-station plans and 10 electrical conduit plans; 2 mechanical foam fire-extinguishing system plans.

Floor and floor drainage and improvement of Island Ave. frontage -- 2 plans.  
1 Plan for landscaping of Island Ave. frontage; 1 apron paving and drainage plan.

Sewer plans -- 3 plans Island Ave. and Airport property sanitary sewer.  
Comprehensive report on stormwater drainage for the Small Aircraft area and areas adjacent to Island Ave. - with plans, charts and tabulated data.

Grading, drainage and paving plans -- for area between Runways 12 and 17 -- 12 plans; grading and drainage for Small Aircraft area -- 2 tracings.

Grading, drainage and paving plans -- 4 plans completed, 1 study, for future construction for area between Runway 17 and 4 -- unit hangar.

Preliminary Plans -- domestic terminal area apron extension, and taxiway connecting to ends of Runways 27 - 30. (1 plan)

Temporary post office -- 2 structural plans, 1 electrical plan and 1 plumbing and heating plan.

High-intensity runway lighting -- 2 plans.

Studies and plans for grading of triangular area bounded by 3 central runways and relocation of tetrahedron. (1 plan)

Sewage Disposal

Studies for connection of industrial plant sewage to sewer system -- various locations along Delaware River, Frankford and Pennypack Creeks.

Sewage meter chambers -- Erdenheim St. and Mermaid Lane for Springfield Township sewage.

Sewage meter - Stenton Ave. and Cheltenham Ave. -- overhauled and improved.

Intercepting slot - Cobbs Creek from 67th St. and Callowhill St.

Sewage intercepting chambers; revision of control mechanism.

Cambria St. intercepting chamber - redesign.

Westmoreland St. intercepting chamber - redesign.

75-1948

## Sewage Disposal - continued

Upper Delaware Low Level - studies for extension.  
Pennypack Creek Low Level - contract plans, and design for further extension.  
Branch sanitary connection from Wooden Bridge Run sewer to Northeast Airport.  
Wooden Bridge Run branch - contract plans and studies.  
Lower Delaware Low Level - preparation of plans for extension north of Moore St.  
South west main Gravity intercepting sewer - Essington Ave. to Lyons Ave.  
West Central Schuylkill Low Level - plans, Pumping Station to South St.  
East Central Schuylkill Low Level - Central Schuylkill River Siphon to Lombard St.  
Northeast Sewage Treatment Works -- completion of plans for blower building, etc.; plans for spherical gas holder; approval of various shop drawings; electric power and lighting plans.  
Southeast Sewage Treatment Works - Study and layout plans.  
Southwest Sewage Treatment Works - study and layout plans; contract plans for primary tanks; electric power and lighting plans and sub-station.  
Central Schuylkill Pumping Station -- contract plans.  
Southeast Sewage Pumping Station -- contract plans.  
Sewage gauging and sampling at Delaware River and Schuylkill River outlets in Southeast and Southwest sewage districts.  
Population studies and estimates.  
Sewage Disposal District Maps - for applications to Sanitary Water Board.  
Southwest Treatment Works - Influent and Effluent Conduits - design.  
Checking proposed location of oil tanks -- along East Central Schuylkill Low Level.  
Southwest Treatment Works - hydraulic studies.

## Miscellaneous

School House Lane and Harvey Ave. - Phila. Textile Institute connections.  
Culvert Design for Stream - Eden St. and Lonfield Ave.  
Culvert Design for Stream - Glenloch St. at Convent Ave. and at Barry St., Barry St. Drainage, etc.  
Connection for Canada Dry Ginger Ale, Inc., Whitaker Ave., Foulkrod St., Harrison St.  
Relocation - Texas Eastern Transmission Corp. 16" pipe line, 40th Ward.  
Culvert - Haldeman Ave. at Tomlinson Road.  
20" dia. casing for pipe lines - Atlantic Refining Co. - Hartranft St. E. of Schuylkill Ave.  
Additional facilities - Penna. Sugar Co., Shackamaxon St. & Delaware Ave.  
Conduit - Leeds & Northrup, Stenton Ave. S. of Logan St.  
Yale & Towne Mfg. Co. - revised location 42" Storm drain - Roosevelt Blvd.  
Retaining Walls - Welsh Road, Rowland Ave., Crispin St.  
Culvert - Mechanicsville Road  
8" C.I. Water Main -- Westmoreland St. W. of "C" St.  
Woolworth Bldg. - Sheathing and shoring - 1330-36 Chestnut St.  
Atlantic Refining Co. - Steel sewer and water - Hartranft St. E. Schuylkill Ave.  
Woolworth Bldg. - Sheathing - Sansom St. Bldg. wall  
Retaining walls and steps - Crescentville Road N. of Godfrey Ave.  
Inlet Drainage -- Verree Road, Bloomfield Ave.  
Veterans' Administration - Bus shelter - Abbottsford Rd. W. of Wissahickon Ave.  
Temple University - Steam Main - Electrical cond., Watts St. No. of Berks St.  
Reading Co. R.R. siding - Germantown Ave. & Van Horn St.  
Inlet Drain - Sherwood Ave., West End Drive, Morris Park

76-1948

Miscellaneous - continued

Inlet Drain - Tyson Ave., Eastwood St., Horrocks St.  
Retaining Wall - Stamford St., Holme Ave., Lenola St.  
Fence Revision - Godfrey Ave., Tabor Ave. to Whitaker Ave.  
All Saints P.E.Church - Steps - Crescentville Rd., Laveer St., Cheltenham Ave.  
Investigation Retaining Walls - Frankford Creek Flood Control Project.  
Sewer Spur Plan - St.Vincent St., Bradford St., Hanford St.  
Philadelphia Hospital Contagious Diseases - Steamlines- Front St. and  
Luzerne St.  
Retaining wall - Marwood Rd., Tabor Ave. to Geneva Ave.  
Jewish Hospital - Nurses' Home, Steam Mains - 12th St., Tabor Ave., Clarkson St.  
Inlet Drainage - Clarks Park  
Grading Pavement - west side Island Ave., Buist Ave. to Dicks Ave.  
Retaining Wall - 25th St. N. of Willard St.  
Drainage structures, intersection paving - Leonard St. & Devereaux Ave; Dover  
Street and Moore Street.  
Drainage for Improvement - 33d St., Walnut St. to South St.

Checking Applications for Public Utilities

Philadelphia Gas Works Company	1401
Bell Telephone Company	511
Philadelphia Electric Company	146
Miscellaneous (Traffic Engineering - Water Bureau)	183
Total	2241

Mimeographing

All proposals for the Bureau of Engineering, Records and Forms for the  
Zoning Division  
Proposals for the Bureau of Lighting and Gas - for the Bureau of Aeronautics, etc.

Filing

Main and Branch Sewer Plans - Bridge Division Plans - Sewage Disposal Plans  
Miscellaneous Plans, etc., etc.

Black Line Printing

Ozalid Dry Ammonia Process for the Bureau of Engineering, Design Division,  
Projects Division, Registry Division, Planning Division, Lighting and Gas  
Bureau, Aeronautics Bureau, etc. Total number of square feet of paper used  
amounted to 125,000 for all purposes.

Bridges

Walnut Lane over Lincoln Drive - redesign as a steel, 3-span continuous  
plate girder bridge and again as a 3 simple span prestressed reinforced  
concrete bridge.  
Tabor Ave. under the Phila. & Frankford Branch of the Reading Co. - design  
and preparation of plans.  
Wingohocking St. under the P.N. & N.Y. Reading Co. - design and plans.  
Pine Road, over the P.N. & N.Y. Reading Co. - design and plans.

77-1948

Bridges - continued

Martins Mill Road, over the P.N.& N.Y. and the New York Short Line,  
Reading Co. - design and plans.

Frankford Ave. over Pennypack Creek - design.

Upsal St. under Chestnut Hill Branch, Reading Co. - design.

Sixty-sixth St. foot bridge over the P.B.& W.R.R. Penna. Railroad -  
design and plans, first as a 3-span wide flanged steel beam  
bridge and then as a single span steel truss bridge.

Ridge Ave., over Wissahickon Creek - design study for additional canti-  
lever footway on west side of structure.

Twenty-first St. over Pennsylvania Ave. - design study based on revised  
alignment of Twenty-first St.

Marquises, Canopies, etc.

Marquise - 5949 Spruce St. - Spruce Theatre

S.E. Cor. Broad and Walnut Sts. - Ritz-Carlton Hotel

Broad St. S. of Wood St. - Broadwood Hotel

Locust St. E. of Broad St. - John Bartram Hotel

Broad St. S. of Locust St. - John Bartram Hotel

12th St., front - Reading Terminal Bldg.

Market St. front - Reading Terminal Bldg.

2 canopies - Clarissa & Rowan Sts. - Ukrainian Club.

Footway Reconstruction: over 8th St. Subway Station - 8th and Market Sts.,  
Front of Strawbridge & Clothier store.

Footway Reconstruction: E. side of 9th St., N. of Market St. over vaults  
of Blauner's, Inc.

DETAILS OF WORK PERFORMED BY THE DESIGN DIVISION

Preliminary Estimates

Moore St., Front St. to 1000' E. of Delaware Ave. - reconstruction for capacity.  
Vicinity at 42nd and 43d Sts. E. of Woodland Ave. - flooding study.  
28th St., Columbia Ave. - to Montgomery Ave. - flooding study.  
Lanier Ave. N. of Penrose Ave. -- flooding study.  
Robbins St. and Bustleton Ave. -- flooding study.  
Grant Ave., State Rd. to Tulip St. via Tulip St. to Stevenson St.  
Longfield St., Grant Ave. to Barry St.  
Glenloch St., Barry St. to Pearson St.  
Convent Ave., Delaware River to Tulip St.  
Linden Ave., Delaware River to Keystone St.  
Oxford Ave., Rhawn St. to Fillmore St.  
Ashburner St., main outlet sewer, State Road to Tulip St.  
Upsal St., Belfield Ave. to Crittenden St.  
Lister St., Carmwath St. to Borbeck St.  
Fairmount Ave., Front St. to 5th St. -- reconstruction  
Benner St., Oakland St. to Bustleton Ave.  
Comly St., Oakland St. to Bustleton Ave.  
Roosevelt Blvd. (N.W. side), Princeton Ave. to Cottman Ave.  
Academy Road, Fordham Road to summit N. of Campus Lane  
Academy Road, Holme Ave. to summit south  
Campus Road, Academy Road to summit north  
Andover Road, Fordham Road to summit N. of Convent Ave.  
Treaty Road, Fordham Road to summit N. of Convent Ave.  
Holme Ave., Academy Road to Willets Road  
Dean Plaza, Holme Ave. to Fordham Road  
Willets Road, Exeter Road to summit S. of Holme Ave.

Public Sewers

Gilham St., Brous Ave. to Revere St.  
Edgemore St., Haverford Ave. to Media St.  
St. Vincent St., Eastwood St. to Large St.  
Mt. Airy Ave., Forrest Ave. to Michener St.  
Fayette St., Mt. Airy Ave. to Wadsworth Ave.  
Temple Road, Mt. Airy Ave. to Wadsworth Ave.  
Williams Ave., Mt. Airy Ave. to Wadsworth Ave.  
Brous Ave., Hellerman St. to Gilham St.  
Afton St., Castor Ave. to Frontenac St.  
Roosevelt Blvd., Knorr St. to Longshore Ave.  
Brighton St., Bustleton Ave. to Calvert St.  
Calvert St., Tyson Ave. to Princeton Ave.  
Eastwood St., Magee Ave. to Unruh Ave.  
Cheltenham Ave., Langdon St. to Summerdale Ave.  
Glenview St., Bustleton Ave. to Roosevelt Blvd.  
Disston St., Bustleton Ave. to Roosevelt Blvd.  
Passmore St., Cranford Ave. to Summerdale Ave.  
Loretto Ave., Napfle Ave. to Afton St.  
Loretto Ave., Glendale Ave. to Afton St.

79-1948



Public Sewers - continued

Dorcas St., Magee Ave. to Levick St.  
Pickering St., Gowen Ave. to Ivy Hill Road  
12th St., 70th Ave. N. to Cheltenham Ave.  
Afton St., Bustleton Ave. to Horrocks St.  
Faunce St., Horrocks St. to Bradford St.  
Horrocks St., Summit S. of Shelmire St. to Glendale Ave.  
Trotter St., Levick St., to Robbins St.  
Eastwood St., Disston St. to Tyson Ave.  
Disston St., Bustleton Ave. to Eastwood St.  
Tyson Ave., Bustleton Ave. to Eastwood St.  
Knorr St., Frontenac St. to Summerdale Ave.  
Knorr St., Bingham St. to Oxford Ave.  
Ferndale St., Hartel Ave. to Chandler St. - Sanitary only  
Chandler St., Halstead St., to summit E. of Ferndale St. - Sanitary only  
Morris St., 10th St. to 13th St. - Reconstruction  
Souder St., St. Vincent St. to Horrocks St.  
Oakland St., St. Vincent St. to Cottman Ave.  
Allengrove St., Roosevelt Blvd. to Loretto Ave.  
Glendale Ave., Summerdale Ave. to Cottman Ave.  
Summerdale Ave., Cottman Ave. to St. Vincent St.  
St. Vincent St., Summerdale Ave. to Montour St.  
Mt. Airy Ave., Wayne Ave. to Wissahickon Ave.  
Wissahickon Ave., Mt. Airy Ave. to N. Mt. Pleasant St.  
Seville St., Henry Ave. to Ridge Ave.  
Rodney St., Wister St. to Walnut Lane  
67th St., Callowhill St. to Girard Ave.  
Edgemoor Road, Callowhill St. to Girard Ave.  
Callowhill St., 66th St. to 67th St.  
Thouron St., Sharpnack St. to Vernon Road  
Roosevelt Blvd. N.W. side, Everett Ave. to Eastwood St.  
Eastwood St., Roosevelt Blvd. to Hellerman St.  
Glenloch St., Longshore St. to Knorr St.  
Winchester Ave., Welsh Road to summit N.W. of Stamford St.  
Roxborough St., Houghton St. to Ridge Ave.  
Wister St., Rodney St. to Woolston St.  
Bustleton Ave., Longshore Ave. to Disston St.  
Rhawn St., Bradford St. to Roosevelt Blvd.  
Sherwood Road, 77th St. to Ashurst St.  
Newton Ave., Higbee St. to Benner St.  
Benner St., Reach St. to Newtown Ave.  
Horrocks St., St. Vincent St. to Cottman Ave.  
Kindred St., Princeton Ave. to Cottman Ave.  
Large St., Princeton Ave. to Cottman Ave.  
Kerper St., Bingham St. to Oxford Ave.  
Glenview St., Bingham St. to Oxford Ave.  
Devereaux Ave., Tabor Ave. to Lawndale Ave.  
Palmetto St., Robbins St. to McKinley St.  
McKinley St., Palmetto St. to Rising Sun Ave.  
8th St., Duncannon St. to Wellens St.  
Telner St., Huron Ave. to 350 ft. N.E. of Cherokee St.  
Welsh Road, Moro St. to Crispin St.  
Leon St., Rhawn St. to Welsh Road  
Stamwood St., Craig St. to Leon St.  
Lardner St., Brous Ave. to Battersby St.  
Charles St., Wells St. to Unruh St.  
Unruh St., Frankford Ave. to Charles St.  
Leonard St., Cottman Ave. to St. Vincent St.

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Public Sewers - continued

Fayette St., Wadsworth Ave. to Gowen Ave.  
Temple St., Wadsworth Ave. to Gowen Ave.  
N.Mt.Pleasant Ave., Wissahickon Ave. to Green St.  
Ripley St., Castor Ave. to Horrocks St.  
Lexington Ave., Roosevelt Blvd. to Carmwath St.  
Cobbs Creek Park, Present Intercepting Sewer to Callowhill St., including  
Sewers in 67th St.  
Vernon Road, Mansfield Ave. to Stenton Ave.  
Robbins St., Langdon St. to Algon Ave.  
Thouron Ave., Mt. Airy Ave. to Gowen Ave.  
Mt. Airy Ave., Forrest Ave. to Thouron Ave.  
Brocklehurst St., Brous Ave. to Carmwath St.  
Belden St., Cottman Ave. to Shelmire Ave.  
Shelmire Ave., Loretto Ave. to Glendale Ave.  
Calvert St., Cottman Ave. to St. Vincent St.  
St. Vincent St., Calvert St. to Roosevelt Blvd.  
Brous Ave., Roosevelt Blvd. to Carmwath St.  
Hasbrook Ave., Benner St. to Devereaux Ave.  
Welsh Road, Winchester Ave. to Winthrop St.  
Winthrop St., Welsh Road to Stamford St.  
Fanshaw St., Leonard St. to Bustleton Ave.  
Roosevelt Blvd. (N.W.sd.) Magee Ave. to N.E. of Harbison Ave.  
Leonard St., Magee Ave. to Harbison Ave.  
Loney St., Castor Ave. to Bustleton Ave.  
Bustleton Ave., Faunce St. to Afton St.  
3d St., Cheltenham Ave. to 65th Ave., N.  
Bott St., Broad St. to Kerbaugh St.  
Luray St., 4th St. to 5th St.  
Hermit St., Henry Ave. to Ridge Ave.  
Passmore St., Brous Ave. to Battersby St.  
Brous Ave., Elbridge St. to Hellerman St.  
Terry St., Rhawn St. to Welsh Road  
Bleigh Ave., Shisler St. to Glendale Ave.  
Revere St., Hellerman St. to Levick St.  
Slocum St., Mansfield Ave. to Stenton Ave.  
Levick St., Revere St. to Roosevelt Blvd.  
Elbridge St., Revere St. to Roosevelt Blvd.  
Shisler St., Cottman Ave. to Glendale Ave.  
Stamford St., Winchester Ave. to Albion Ave.  
Bustleton Ave. (W.sd.) Roosevelt Blvd. to Hellerman St.  
Elmhurst St., Levick St. to Robbins St.  
Loretto Ave., Bleigh Ave. to Glendale Ave.  
Acker St., 4th St. to 5th St.  
65th Ave., N., 3d St. to 5th St.  
4th St., 65th Ave. N. to Acker St.  
Miller St., Commissioner St. to Clearfield St.  
Ridge Ave., Lemonte St. to Parker Ave.  
Unruh St., Charles St. to Algard St.  
Sharpnack St., Stenton Ave. to Mansfield Ave.  
Souder St., Hellerman St. to Magee Ave.  
Kindred St., Hellerman St. to Magee Ave.  
Elbridge St., Everett Ave. to Horrocks St.  
Queen Lane, Stokley St. to 558 ft. S.W. of Wissahickon Ave.  
Stevens St., Hasbrook Ave. to Shelbourne St.  
Lardner St., Hasbrook Ave. to Shelbourne St.  
Horrocks St., Magee Ave. to Hellerman St.  
Frontenac St., Cottman Ave. to Bleigh Ave.

81-1948

Public Sewers - continued

Vista St., Shisler St. to Glendale Ave.  
Teesdale St., Brous Ave. to Duffield St.  
Roosevelt Blvd. (N.W. sd.) Robbins St. to Bustleton Ave.  
Borbeck Ave., Oxford Ave. to summit E. of Burholme Ave.  
Chandler St., Hasbrook Ave. to Barnes  
Hartel Ave., Hasbrook Ave. to summit S.E. of Barnes St.  
Lawnton Ave., Medary Ave. to Cheltenham Ave.  
Park Ave., Champlost Ave. to Spencer St.  
68th Ave., N., 13th St. to Old York Road  
Milnor St., Cottman Ave. to Summit N.E.  
Germantown Ave., Norman Lane to Rex Ave.  
Chestnut Hill Ave., 180 ft. S.W. of Germantown Ave. to 250 ft. N.E. of  
Germantown Ave.  
Mole St., Tasker St. to Morris St.  
Loney St., Castor Ave. to Frontenac St.  
Cheltenham Ave., Verbena St. to 7th St.  
Morris St., Front St. to Water St.  
Morris St., 7th St. to 8th St.  
Upsal St., Belfield Ave. to 71 ft. S.W. of Matthews St.  
Friendship St., Bustleton Ave. to Roosevelt Blvd.  
Princeton Ave., Bustleton Ave. to Calvert St.  
Duffield St., Nesper St. to Guilford St.  
Guilford St., Brous Ave. to Hawthorne St.  
Pine Road, Oxford Ave. to Reading R.R.  
Dalton St., Pine Road to Burholme Ave.  
Fuller St., Pine Road to Burholme Ave.  
Stamwood St., Pine Road to Burholme Ave.  
Hennig St., Stamwood St. to Solly Ave.  
Duffield St., Roosevelt Blvd. to Carmwath St.  
Gowen Ave., Thouron Ave. to Michener St.  
Guilford St., summit N.W. of Revere St. to Brous Ave.  
Revere St., Cottman Ave. to Sandyford Ave.  
Unruh Ave., Eastwood St. to Akron St.  
Akron St., Magee Ave. to Knorr St.  
Erdrick St., Magee Ave. to Unruh Ave.  
Montague St., Magee Ave. to Unruh Ave.  
Sandyford Ave., Brous Ave. to Roosevelt Blvd.  
Nesper St., Brous Ave. to Hawthorne St.  
Windish St., Duffield St. to Hawthorne St.  
Romain St., Frankford Creek Intercepting Sewer to Deal St.  
Gowen Ave., Michener St. to Pickering Ave.  
Kerper St., Whitaker Ave. to Pennway St.  
50th St., Wyndale Road to Wynnefield Ave.  
Woodcrest Road, 50th St. to Parkwyn Road  
Parkwyn Road, Wynnefield Ave. to Wyndale Road,  
Robbins St., Leonard St. to Farnsworth Ave.  
Calvert St., Robbins St. to Levick St.  
Leonard St., Robbins St. to Levick St.  
Tackawanna St., Magee Ave. to Unruh Ave.  
Walker St., Magee Ave. to Unruh Ave.  
Akron St., Levick St. to Hellerman St.  
Levick St., Eastwood St. to Akron St.  
Knorr St., Eastwood St. to Bustleton Ave.  
Horrocks St., Robbins St. to Levick St.  
Gilham St., Brous Ave. to Battersby St.  
Saul St., Princeton Ave. to Englewood St.

82-1948

Public Sewers - continued

5th St., Girard Ave. to Master St. (reconstruction)  
Ripley St., Castor Ave. to Frontenac St.  
Eastwood St., Princeton Ave. to Englewood St.  
Marion St., S. Mt. Pleasant Road to dead end  
S. Mt. Pleasant Road, Greene St. to Ellet St.  
Greene St., N. Mt. Pleasant Road to Ellet St.  
Woodbine Ave., 76th St. to 77th St.  
Woodbine Ave., 75th St. to 76th St.  
Crafton St., Robbins St. to Levick St.  
Farnsworth St., Robbins St. to Levick St.  
Longshore Ave., Whitaker Ave. to Pennway St.  
Crafton St., Devereaux Ave. to Robbins St.  
Farnsworth St., Devereaux Ave. to Robbins St.  
University Ave., Woodland Ave. to Curie Ave.  
Lowber Ave., Vernon Road to Slocum St.  
Vernon Road, Mansfield Ave. to Lowber Ave.  
Deal St., Kensington Ave. to 580 ft. N.W. of Romain St.  
(Sherman St., N. Mt. Pleasant Road to Mt. Airy Ave. )  
(Mt. Airy Ave., Sherman St. to Greene St. )  
Oakdale St., Emerald St. to Jasper St. (reconstruction)  
Fairmount Ave., Delaware Ave. to 40 ft. W. of Hope St. (reconstruction)  
Fairmount Ave., 40 ft. W. of Hope St. to 2nd St. (Repairs to existing Sewer)  
Clark Park Drainage (Stormwater Drain N. of Kingsessing Ave. connecting to  
sewer in W. footway of 43d St. )  
Adams Ave., Wingohocking St. to N. of Unity St. and in Wingohocking St.,  
Adams Ave. to Frankford Creek (to be built under Frankford Creek  
Improvement Project)  
Knorr St., Bustleton Ave. to Roosevelt Blvd.  
Stenton Ave., Sharpnack St. to Hortter St.  
Revere St., Robbins St. to Levick St.  
Glenview St., Whitaker Ave. to Pennway St.  
Revere St., Devereaux Ave. to Robbins St.  
Hortter St., Crittenden St. to Stenton Ave.  
Sharpnack St., Crittenden St. to Stenton Ave.  
Luzerne St., "D" St. to 330 ft. W. of "D" St.  
Bustleton Ave., Cheltenham Ave. to Comly St.  
Vankirk St., Saul St. to Penn St.  
Penn St., Comly St. to Vankirk St.

WORK COMPLETED AND UNDER CONSTRUCTION -- 1948

COMPLETED

Northeast Sewage Disposal Division

Contracts carried from 1947

Contract No. SD 102 NE

State Road - Ashburner to Pennypack St.

Date of Contract - February 26, 1946

Notice to Proceed - March 26, 1946

2176 linear ft. - 6' 0" x 5' 0" Reinforced Concrete Sewer

Contractor - James N. Driscoll

Amount of Contract - \$172,359

Completed November 15, 1948

Contract No. SD 103 NE

State Road - Pennypack to Eden St.

Date of Contract - March 13, 1946

Notice to Proceed - March 25, 1946

6345 linear feet - 6' 0" x 5' 0" Reinforced Concrete Sewer

Contractor - D. & C. Spinoso Company

Amount of Contract - \$552,910

Completed July 13, 1948

Contract No. SD 113 NE

State Road - Eden St. to Grant Ave.

Date of Contract - July 31, 1947

Notice to Proceed - August 26, 1947

1387 linear feet - 6' x 5' Reinforced Concrete, 52 linear ft. - 15" VP

Contractor - Yetman Contractors, Inc.

Amount of Contract - \$109,192

Completed October 13, 1948

Northeast Sewage Treatment Works

Contracts carried from 1947

Contract No. SD 121 NE

Roofing and Appurtenant Work - Northeast Treatment Works Buildings

Date of Contract - November 24, 1947

Notice to Proceed - December 22, 1947

Contractor - Martin and Breen Company

Amount of Contract - \$13,782

Completed July 31, 1948

Contract No. SD 125 NE

Reconstruction of Roof - Frankford Grit Chamber

Date of Contract - November 24, 1947

Notice to Proceed - January 24, 1948

Contractor - J. Joseph Edelman

Amount of Contract - \$29,399

Completed December 29, 1948

84-1948

Sewage Disposal Southwest

Contracts carried from 1947

Contract No. SD 102 SW

Cobbs Creek Interceptor Sewer and Mill Road Branch

Date of Contract - November 12, 1946

Notice to Proceed - November 25, 1946

1672 linear feet - 12" VP Sewer

50 linear feet - 18" VP Sewer

Contractor - Charles J. Corr

Amount of Contract - \$44,700

Completed April 2, 1948

Contract No. SD 105 SW

Schuylkill Ave. Interceptor Sewer in Schuylkill Ave. West from Arch  
Street - Northward

Date of Contract - June 9, 1947

Notice to Proceed - July 24, 1947

179 linear feet - 36" diameter C.I.P. Sewer

Contractor - Ernest Ventresca

Amount of Contract - \$115,509

Completed June 9, 1948

AIRPORTS

North Philadelphia Airport

Contracts carried from 1947

Contract A 108 NE

NE Airport Workshop Building - General Construction Work

Date of Contract - December 9, 1947

Notice to Proceed - January 26, 1948

Contractor M & L Construction Company

Amount of Contract - \$36,684

Supervised by Department of City Architecture

Completed October 12, 1948

Contract A 110 NE

NE Airport Workshop Building - Plumbing Work

Date of Contract - December 16, 1947

Notice to Proceed - January 26, 1948

Contractor - Louis Roth & Company

Amount of Contract - \$10,965

Supervised by Department of City Architecture

Completed September 13, 1948

Contract A 111 NE

NE Airport Workshop Building - Electrical Work

Date of Contract - December 19, 1947

Notice to Proceed - January 26, 1948

Contractor - Keystone Engineering Corporation

Amount of Contract - \$3,750.

Supervised by Department of City Architecture

Completed October 13, 1948

85-1948

North Philadelphia Airport

Contract carried from 1947

Contract A 112 NE

NE Grading for Hangar Sites

Date of Contract - November 21, 1947

Notice to Proceed - December 11, 1947

Contractor - Felix Clauss

Amount of Contract - \$23,669

Completed June 25, 1948

North Philadelphia Airport

Contract awarded during 1948

Contract A 119 NE

NE Air Conditioning Unit for Control Tower

Date of Contract - August 18, 1948

Notice to Proceed - September 10, 1948

Contractor - Willard Sales and Service Company

Amount of Contract - \$2,150

Completed October 10, 1948

Philadelphia International Airport

Contracts carried from 1947

Contract A 117 SW

Automotive Maintenance and Storage Quadrangle - General Construction Work

Date of Contract - August 25, 1947

Notice to Proceed - September 30, 1947

Contractor - George H. Evans & Company

Amount of Contract \$88,595.

Supervised by Department of City Architecture

Completed December 15, 1948

Contract A 120 SW

Automotive Maintenance and Storage Quadrangle - Electrical Work

Date of Contract - August 26, 1947

Notice to Proceed - September 30, 1947

Contractor - W.V. Pangborne Co.

Amount of Contract - \$8,450

Supervised by Department of City Architecture

Completed December 10, 1948

Contract A 121 SW

Additional Grading - SW Airport

Date of Contract - September 24, 1947

Notice to Proceed - October 21, 1947

Contractor - Gar-Low Co.

Amount of Contract - \$158,308

Completed November 19, 1948

Philadelphia International Airport

Contracts awarded during 1948

Contract A 129 SW

Hangars Site A - Electrical, Telephone and PA Improvements

Date of Contract - January 5, 1948

Notice to Proceed - February 28, 1948

Contractor - W.V. Pangborne & Co.

Amount of Contract - \$9,899

Completed December 7, 1948

86-1948

BRIDGES

Bridges

Contracts carried from 1947

Contract B 102

Bridge - Sedgley Ave. from North Penn R.R. (Reading Co.)

Date of Contract - June 2, 1947

Notice to Proceed - August 18, 1947

Contractor - James McGraw

Amount of Contract - \$64,590

Completed July 10, 1948

STADIUM

Municipal Stadium

Contracts awarded during 1948

Contract M 103

Press Box of Stadium - Alterations and Enlargements

Date of Contract - May 11, 1948

Notice to Proceed - June 4, 1948

Contractor - Murphy-McDonnell Co.

Amount of Contract - \$48,546

Completed December 10, 1948

Contract M 105

Press Box of Stadium - Plumbing Work

Date of Contract - May 12, 1948

Notice to Proceed - June 8, 1948

Contractor - W.M. Anderson Co.

Amount of Contract - \$5,668

Completed December 10, 1948

WORK UNDER CONSTRUCTION

Northeast Sewage Disposal

Contracts carried from 1947

Contract SD 114 NE

Milnor St. Pumping Station - Construction and Equipment Work

Date of Contract - September 30, 1947

Notice to Proceed - November 5, 1947

Contractor - Yetman Contractors, Inc.

Amount of Contract - \$53,000.

Percentage of Completion - 83% - Pumps being manufactured - December 31, 1948

Contract SD 116 NE

Milnor Street Pumping Station - Electrical Work

Date of Contract - September 22, 1947

Notice to Proceed - November 5, 1947

Contractor - W.V. Pangborne & Company

Amount of Contract - \$8,500

Percentage of Completion - 40% December 31, 1948

Contract SD 115 NE

Milnor Street Sanitary Sewer - Milnor Street Pumping Station to Grant Ave.

Date of Contract - July 31, 1947

Notice to Proceed - September 23, 1947

1207 linear feet - 15" V.P. Sewer

14 linear feet - 12" V.P. Sewer

20 linear feet - 16" C.I.P. Sewer

87 linear feet - 6" C.I.P. Sewer

Contractor - Yetman Contractors, Inc.

Amt. of contract - \$30,000

87-1948



WORK UNDER CONSTRUCTION  
(continued)

Contract SD 120 NE

Wooden Bridge Run Interceptor Sewer - through Pennypack Park  
Date of Contract - December 1, 1947  
Notice to Proceed - February 18, 1948  
5830 linear feet - 30" V.P.Sewer  
105 linear feet - 10" V.P.Sewer  
144 linear feet - 30" C.I.P.Sewer  
65 linear feet - 10" C.I.P.Sewer  
Contractor - James D. Morrissey, Inc.  
Amount of Contract - \$245,000  
Percentage of Completion - 86% December 31, 1948

Contract Awarded during 1948

Contract SD 129 NE

Pennypack Creek Interceptor Sewer - Roosevelt Blvd. to N. of Bustleton Avenue  
Date of Contract - October 5, 1948  
Notice to Proceed - October 25, 1948  
4035 linear feet - R.C. 60" diameter  
564 linear feet - R.C. 54" diameter  
200 linear feet - R.C. 18" diameter  
295 linear feet - R.C. 15" diameter  
Contractor - James D. Morrissey, Inc.  
Amount of Contract - \$345,000.  
Percentage of completion -- 0 --- December 31, 1948

Northeast Sewage Treatment Works

Contracts carried from 1947

Contract SD 104 NE

Settling and Aeration Tanks - Structural Work  
Date of Contract - April 9, 1947  
Notice to Proceed - April 30, 1947  
Contractor - Virginia Engineering Company  
Amount of Contract - \$3,750,000  
Percentage of Completion - 91% December 31, 1948

Contract SD 105 NE

Settling and Aeration Tanks - Mechanical Work  
Date of Contract - June 9, 1947  
Notice to Proceed - June 25, 1947  
Contractor - Virginia Engineering Company  
Amount of Contract - \$1,050,000  
Percentage of Completion - 72% December 31, 1948

Contract SD 106 NE

Settling and Aeration Tanks - Electrical Work  
Date of Contract - June 9, 1947  
Notice to Proceed - June 25, 1947  
Contractor - Virginia Engineering Company  
Amount of Contract - \$6,000  
Percentage of Completion - 96%, December 31, 1948

Contract SD 107 NE

East Pump House - Plumbing and Piping - Sludge Digestion System  
Date of Contract - June 25, 1947  
Notice to Proceed - July 25, 1947  
Contractor - Bulman Brothers  
Amount of Contract - \$2,000  
Percentage of Completion - 0 - December 31, 1948

88-1948

WORK UNDER CONSTRUCTION

(continued)

Contract SD 108 NE

Sludge Digestion Tanks - Structural Work  
Date of Contract - June 20, 1947  
Notice to Proceed - July 25, 1947  
Contractor - Virginia Engineering Company  
Amount of Contract - \$1,200,000  
Percentage of Completion - 76% - December 31, 1948

Contract SD 109 NE

Sludge Digestion Tanks - Mechanical Work  
Date of Contract - June 20, 1947  
Notice to Proceed - July 25, 1947  
Contractor - Virginia Engineering Company  
Amount of Contract - \$670,000  
Percentage of Completion - 63%, December 31, 1948

Contract SD 110 NE

Sludge Digestion Tanks - Electrical Work  
Date of Contract - July 3, 1947  
Notice to Proceed - July 25, 1947  
Contractor - W.V. Pangborne Company  
Amount of Contract - \$28,000  
Percentage of Completion - 0 - December 31, 1948

Contract SD 113 NE

Elevated Water Tank - Construction  
Date of Contract - November 25, 1947  
Notice to Proceed - December 22, 1947  
Contractor - Chicago Bridge & Iron Company  
Amount of Contract - \$38,000  
Percentage of Completion - Work in field not started - steel being  
fabricated in the shop

Contract SD 119 NE

Outdoor Sub-Station - at Transformer Building  
Date of Contract - October 7, 1947  
Notice to Proceed - December 22, 1947  
Contractor - W.V. Pangborne Company  
Amount of Contract - \$105,000  
Percentage of Completion - No work in field - Equipment being manufactured -  
December 31, 1948

Contract SD 111-112 NE

Centrifugal and Positive Displacement Blowers and Motors  
Date of Contract - September 2, 1947  
Notice to Proceed - October 3, 1947  
Contractor - Roots-Connersville Blower Corporation  
Amount of Contract - \$149,116  
Percentage of Completion - No work in field - Equipment being manufactured -  
December 31, 1948

89-1948

WORK UNDER CONSTRUCTION  
(continued)

Northeast Sewage Treatment Works  
Contracts Awarded during 1948

Contract SD 122 NE

Blower Building - Construction  
Date of Contract - July 28, 1948  
Notice to Proceed - August 20, 1948  
Contractor - Hughes-Foulkrod Company  
Amount of Contract - \$700,000  
Percentage of Completion - 14% - December 31, 1948

Contract SD 123 NE

Blower Building - Mechanical Equipment and Piping Work  
Date of Contract - August 12, 1948  
Notice to Proceed - September 10, 1948  
Contractor - Virginia Engineering Company  
Amount of Contract - \$490,000  
Percentage of Completion - Scheduled with general construction -  
December 31, 1948

Contract SD 124 NE

Blower Building - Electrical Work  
Date of Contract - August 4, 1948  
Notice to Proceed - August 30, 1948  
Contractor - Ross Electrical Construction Company  
Amount of Contract - \$135,000  
Percentage of Completion - Scheduled with general construction -  
December 31, 1948

Contract SD 126 NE

Blower Building - Steam Heating System  
Date of Contract - August 9, 1948  
Notice to Proceed - August 30, 1948  
Contractor - Philadelphia Mechanical Contractors, Inc.  
Amount of Contract - \$16,500.  
Percentage of Completion - Scheduled with general construction -  
December 31, 1948

Contract SD 127 NE

Blower Building - Plumbing Work  
Date of Contract - July 28, 1948  
Notice to Proceed - August 20, 1948  
Contractor - Bulman Brothers  
Amount of Contract - \$135,000  
Percentage of Completion - Scheduled with general construction -  
December 31, 1948.

Contract SD 128 NE

Blower Building - Sludge Heater Units in Building  
Date of Contract - November 1, 1948  
Notice to Proceed - November 29, 1948  
Contractor - Selas Corporation of America  
Amount of Contract - \$92,000  
Percentage of completion - Scheduled with general construction -  
December 31, 1948

90-1948

WORK UNDER CONSTRUCTION  
(continued)

Southeast Sewage Disposal Division  
Contract carried from 1947

Contract SD 101 SE

Lower Delaware Low Level Interceptor Sewer

Date of Contract - December 12, 1947

Notice to Proceed - February 4, 1948

Contractor - James N. Driscoll Company

2408 linear feet - 11' 0" diameter concrete sewer in tunnel

4081 linear feet - 10' 6" diameter concrete sewer in tunnel

Amount of contract - \$2,650,000

Percentage of Completion - 34% December 31, 1948

Southeast Sewage Disposal Division  
Contracts awarded during 1948

Contract SD 102 SE

Southeast Sewage Pumping Station - Construction Work

Date of Contract - October 11, 1948

Notice to Proceed - October 29, 1948

Contractor - Virginia Engineering Company

Amount of Contract - \$800,000

Percentage of Completion - 15% December 31, 1948

Contract SD 104 SE

Southeast Sewage Pumping Station - Plumbing Work

Date of Contract - October 13, 1948

Notice to Proceed - October 29, 1948

Contractor - W.M. Anderson Company

Amount of Contract - \$11,000

Percentage of Completion - Scheduled with general construction -  
December 31, 1948

Southwest Sewage Disposal Division  
Contracts carried from 1947

Contract SD 107 SW

Wissahickon Low Level Collector Sewer - Norwood Ave. to Meadowbrook Ave.

Date of Contract - June 9, 1947

Notice to Proceed - July 24, 1947

2223 linear feet - 20" diameter VP Sewer

186 linear feet - 20" diameter C.I.P. Sewer

Contractor - R.J. Stith Company

Amount of Contract - \$62,000

Percentage of Completion - 99% December 31, 1948

Southwest Sewage Disposal Division  
Contracts awarded during 1948

Contract SD 108 SW

Pumping Station and River Siphon - East Central Schuylkill River

Date of Contract - August 4, 1948

Notice to Proceed - August 20, 1948

Contractor - Leo Butler Company

Percentage of Completion - 28% December 31, 1948

Amount of Contract - \$1,160,000.

91-1948

WORK UNDER CONSTRUCTION  
(continued)

Southwest Sewage Disposal Division  
Contracts awarded during 1948

Contract SD 110 SW

70th Street S.W. Main Gravity Interceptor Sewer - Essington Ave. to Lyons Ave.  
Date of Contract - September 8, 1948  
Notice to Proceed - October 7, 1948  
4269 linear feet - 6' 9" Triple section R.C. Sewer  
65 linear feet - 36" R.C. Pipe  
Contractor - Acchione Contracting Company  
Amount of Contract - \$725,000  
Percentage of Completion - 4% December 31, 1948

Contract SD 117 SW

Penrose Avenue Interceptor Sewer - 80th Street to Island Avenue  
Date of Contract - July 30, 1948  
Notice to Proceed - August 20, 1948  
2147 linear feet - R.C. Culvert Pipe in Concrete  
Contractor - Joseph Lombardi & Sons  
Amount of Contract - \$245,000  
Percentage of Completion - 21%, December 31, 1948

Contract SD 118 SW

Island Avenue Sanitary Sewer - Essington Ave. to Domestic Terminal Bldg.  
Date of Contract - July 29, 1948  
Notice to Proceed - August 20, 1948  
4284 linear feet - V.P. Sewer  
Contractor - Robert Lombardi, Inc.  
Amount of Contract - \$120,000  
Percentage of Completion - 25%, December 31, 1948

Contract SD 120 SW

West Schuylkill Avenue Interceptor Sewer - from Arch St. N. about 1100'  
Date of Contract - November 15, 1948  
Notice to Proceed - December 1, 1948  
932 linear feet - 36" C.I. Pipe Sewer  
Contractor - Conduit & Foundation Corporation  
Amount of Contract - \$200,000  
Percentage of Completion - 0 - December 31, 1948

General Sewage Disposal

Contracts awarded during 1948

Contract SD 104 G

Pumps for Central and Southeast Pumping Stations - Electric Motor  
Pumping Equipment  
Date of Contract - May 4, 1948  
Notice to Proceed - June 8, 1948  
Contractor - Worthington Pump & Machinery Corporation  
Amount of Contract - \$270,000  
Percentage of Completion - No work in field - Equipment being manu-  
factured - December 31, 1948

92-1948

WORK UNDER CONSTRUCTION  
(continued)

General Sewage Disposal

Contracts awarded during 1948

Contract SD 105 G

Pumping Station Gate Valves

Date of Contract - March 29, 1948

Notice to Proceed - April 16, 1948

Contractor - The A.P. Smith Mfg. Co.

Amount of Contract - \$21,000

Percentage of Completion - 20%, December 31, 1948

Contract SD 128 G

Sewage Meter Chambers - Stenton Ave. at Erdenheim Avenue and Mermaid Lane

Date of Contract - August 31, 1948

Notice to Proceed - September 24, 1948

Contractor - Eastern Engineering Co.

Amount of Contract - \$21,000

Percentage of Completion - 20% - December 31, 1948

AIRPORTS

North Philadelphia Airport

Contracts carried from 1947

Contract A 109 NE

NE Airport Workshop Building - Heating Work

Date of Contract - December 10, 1947

Notice to Proceed - January 2, 1948

Contractor - A. McClintock's Sons

Amount of Contract - \$18,000

Supervised by the Department of City Architecture

Percentage of Completion - 98% - December 31, 1948

North Philadelphia Airport

Contracts awarded during 1948

Contract A 113 NE

NE "T" Hangars and Shops

Date of Contract - January 12, 1948

Notice to Proceed - May 10, 1948

Contractor - Charles F. Rohleder

Amount of Contract - \$215,000

Percentage of Completion - 66% - December 31, 1948

Philadelphia International Airport

Contracts carried from 1947

Contract A 115 SW

Clearing, Grading and Draining in Terminal area

Date of Contract - June 6, 1947

Notice to Proceed - June 23, 1947

Contractor - Francis A. Camuso & Sons

Amount of Contract - \$1,600,000

Percentage of Completion - 99% - December 31, 1948

93-1948

WORK UNDER CONSTRUCTION  
(continued)

Philadelphia International Airport

Contracts carried from 1947

Contract A 116 SW

Hangars Site A - General Construction Work  
Date of Contract - October 21, 1947  
Notice to Proceed - June 2, 1948  
Contractor - Hughes-Foulkrod Company  
Amount of Contract - \$1,225,000  
Percentage of Completion - 95%, December 31, 1948

Contract A 118 SW

Automotive Maintenance and Storage Quadrangle - Heating Work  
Date of Contract - August 26, 1947  
Notice to Proceed - October 1, 1947  
Contractor - A. McClintock's Sons  
Amount of Contract - \$12,100  
Supervised by Department of City Architecture  
Percentage of Completion - 91% - December 31, 1948

Contract A 119 SW

Automotive Maintenance and Storage Quadrangle - Plumbing Work  
Date of Contract - August 29, 1947  
Notice to Proceed - September 30, 1947  
Contractor - Bulman Brothers  
Amount of Contract - \$17,500  
Supervised by Department of City Architecture  
Percentage of Completion - 90% - December 31, 1948

Contract A 122 SW

Hangars Site A - Plumbing Work  
Date of Contract - December 2, 1947  
Notice to Proceed - December 22, 1947  
Contractor - Daniel J. Keating Co.  
Amount of Contract - \$105,000  
Percentage of Completion - 80% - December 31, 1948

Contract A 123 SW

Hangars Site A - Heating Work  
Date of Contract - December 2, 1947  
Notice to Proceed - December 22, 1947  
Contractor - Daniel J. Keating Co.  
Amount of Contract - \$110,000  
Percentage of Completion - 75% - December 31, 1948

Contract A 124 SW

Alterations and Improvements to Administration Bldg. - General Construction Work  
Date of Contract - December 5, 1947  
Notice to Proceed - December 26, 1947  
Contractor - J. Joseph Edelman  
Supervised by Department of City Architecture  
Amount of Contract - \$88,000  
Percentage of Completion - 99% - December 31, 1948

94-1948

WORK UNDER CONSTRUCTION  
(continued)

Philadelphia International Airport

Contracts carried from 1947

Contract A 125 SW

Alterations and Improvement to Administration Building-Heating Work

Date of Contract - December 11, 1947

Notice to Proceed - January 2, 1948

Contractor - Edward F. Roberts Co.

Amount of Contract - \$27,000

Supervised by Department of City Architecture

Percentage of Completion - 99% - December 31, 1948

Contract A 126 SW

Alterations and Improvement to Administration Building-Plumbing Work

Date of Contract - December 8, 1947

Notice to Proceed - December 26, 1947

Contractor - Bulman Brothers

Amount of Contract - \$5,000

Supervised by Department of City Architecture

Percentage of Completion - 85% - December 31, 1948

Contract A 127 SW

Alterations and Improvement to Administration Bldg.-Electrical Work

Date of Contract - December 29, 1947

Notice to Proceed - January 26, 1948

Contractor - W.V. Pangborne & Co.

Amount of Contract - \$21,000

Supervised by Department of City Architecture

Percentage of Completion - 85% December 31, 1948

Contract A 128 SW

Hangars Site A - Electrical Work

Date of Contract - November 28, 1947

Notice to Proceed - December 22, 1947

Contractor - Keystone Engineering Corp.

Amount of Contract - \$68,000

Percentage of Completion - 78% - December 31, 1948

Philadelphia International Airport

Contracts awarded during 1948

Contract A 130 SW

Construction "T" Hangars and Shops

Date of Contract - April 22, 1948

Notice to Proceed - May 24, 1948

Contractor - Charles F. Rohleder

Amount of Contract - \$285,000

Percentage of Completion - 26% - December 31, 1948

Contract A 131 SW

High Intensity Runway and Threshold Lighting - SW Airport Runway 9L-27R

Date of Contract - September 9, 1948

Notice to Proceed - September 24, 1948

Contractor - Ross Electric Construction Co.

Amount of Contract - \$125,000

Percentage of Completion - 60% - December 31, 1948

95-1948



WORK UNDER CONSTRUCTION  
(continued)

Philadelphia International Airport  
Contracts awarded during 1948

Contract A 132 SW

Taxiways and Field Improvements between Runways 12L and 17L S.W. Airport  
Date of Contract - September 8, 1948  
Notice to Proceed - September 24, 1948  
Contractor - Union Paving Co.  
Amount of Contract - \$540,000  
Percentage of Completion - 21% - December 31, 1948

Contract A 133 SW

Paving, Hangars, Aprons and Approaches to Runway 17 SW Airport  
Date of Contract - December 20, 1948  
Notice to Proceed  
Contractor - Hughes-Foulkrod Co.  
Amount of Contract - \$500,000  
Percentage of Completion - 0 - December 31, 1948

Contract A 134 SW

Outdoor Sub-station - Island Road 13.2 KV SW Airport  
Date of Contract - October 28, 1948  
Notice to Proceed - November 22, 1948  
Contractor - Henkels & McCoy  
Amount of Contract - \$90,000  
Percentage of Completion - 10% - December 31, 1948

BRIDGES

Bridges

Contracts carried from 1947

Contract B 103

Bridge - Church Lane over Cobbs Creek  
Date of Contract - July 3, 1947  
Notice to Proceed - August 23, 1947  
Contractor - Kaufman Construction Co.  
Amount of Contract - City Share - \$180,000, Delaware County \$130,000  
Percentage of Completion - 80% - December 31, 1948

Contract B 104

Bridge - 70th Street over P.B. & W. RR  
Date of Contract - November 10, 1947  
Notice to Proceed - January 31, 1948  
Contractor - Kaufman Construction Co.  
Amount of Contract - \$235,000  
Percentage of Completion - 55% - December 31, 1948

Contract B 105

Bridge - Castor Ave. over Frankford Creek  
Date of Contract - November 20, 1947  
Notice to Proceed - January 22, 1948  
Contractor - Kaufman Construction Co.  
Amount of Contract - \$625,000  
Percentage of Completion - 57% - December 31, 1948

96-1948

STADIUM

Municipal Stadium

Contracts awarded during 1948

Contract M 102

Repairs, including Membrane Waterproofing

Date of Contract - May 25, 1948

Notice to Proceed - July 13, 1948

Contractor - Lewis & McDowell, Inc.

Amount of Contract - \$53,723

Percentage of Completion - 38% - December 31, 1948

Contract M 104

Press Box of Stadium - Electrical Work

Date of Contract - May 11, 1948

Notice to Proceed - June 3, 1948

Contractor - Reese Electric Co.

Amount of Contract - \$10,813

Percentage of Completion - 95% - December 31, 1948

Contract M 106

Foundation Reinforcement

Date of Contract - May 18, 1948

Notice to Proceed - June 8, 1948

Contractor - Conduit & Foundation Corporation

Amount of Contract - \$176,000

Percentage of Completion - 45% - December 31, 1948

97-1948

CITY - STATE HIGHWAY CONTRACTS

Vare Avenue and 34th Street-from Passyunk Ave. to Grays Ferry Avenue

Date of Contract - July 28,1947

Contractor - Frank Mark Co.

Amount of Contract - \$325,000

Percentage of Completion - 99% - December 31, 1948

Penrose Ave.from approximately 0.3 mile SE of the intersection of Essington  
and Tinicum Avenue to the west side of Schuylkill River

Date of Contract - December 26,1947

Contractor - Foley Bros.

Amount of Contract - \$977,000

Percentage of Completion - 30% - December 31,1948

Race Street from 8th Street to 7th Street - Vine St.from 9th St.to 100' E.  
of 7th St. - Ridge Ave.from Race St. to Vine St.

Date of Contract - August 16,1948

Contractor - Union Paving Co.

Amount of Contract - \$191,500

Percentage of Completion - 60% - December 31,1948

Hunting Park Avenue from 300' E.of East River Drive to 33d Street and  
Ridge Avenue from 35th Street and Indiana Avenue to Lehigh Avenue

Date of Contract - July 23,1948

Amount of Contract - \$105,000

Contractor - McNichol Paving and Construction Co.

Percentage of Completion - 23% - December 31,1948

Street Lighting System on Ridge Avenue and Hunting Park Avenue

Date of Contract - November 4,1948

Contractor - The Welsbach Corporation

Amount of Contract - \$31,000

Percentage of Completion - 0 - December 31,1948

98-1948

Surveys made by Project Unit

The following work was performed by the four (4) Survey Corps of the Project Unit in 1948 in addition to its regular duties on contract work:

Bench levels from University Bridge to International Airport,  
(partially completed on 1947 report)

Bench levels in southeast Philadelphia in conjunction with the construction of Swanson Street tunnel and S.E. pumping station.

Topographical survey west side of Schuylkill River north and south of University Bridge (partially completed on 1947 report).

Preliminary survey for sewer in S. Schuylkill Ave. W. from Market St. to West Central Schuylkill Pumping Station.

Survey to locate new Quadrangle Building at International Airport.

Preliminary survey at International Airport, east of Runway 17-35 and south of Runway 4-22, including Administration Building area.

Preliminary survey of a portion of the site of Southwest Sewage Disposal Plant.

Tied in International Airport base line with District stone at 88th St. and Mornen Avenue.

Miscellaneous information for Design Division at International Airport.

Staked test borings for sewer in W. Schuylkill Ave. W. from Market Street to West Central Schuylkill Pumping Station.

Additional information for construction of sewer along Pennypack Creek above Roosevelt Boulevard, including newlines at beginning of job.

Additional information for Design Division at Pine Road & Philadelphia, Newtown & New York R.R.

Additional information for Knappen Engineering Company along Frankford Creek.

Staking line of east Central Schuylkill Interceptor across the properties of Baltimore & Ohio Railroad and the Philadelphia Electric Company.

Cross sections along east side of Island Avenue opposite Administration Building at International Airport.

Survey of large water area east of Weccacoe Ave. and north of Oregon Avenue.

99-1948

WORK PERFORMED BY SURVEY DISTRICTS

IN CONNECTION WITH PUBLIC WORKS PROGRAM

First District

Plans Prepared for Bureau of Water

Annapolis	Convent	to	Holyoke
"	"	"	Fordham
Arendell	Marsden	"	Torresdale
"	Gillespie	"	Ditman
Arnold	Verree	"	Rising Sun
Academy	Campus	"	N.of Holyoke
"	Convent	"	N.of Fordham
"	Campus	"	S.of Convent
Andover	Fordham	"	Brookdale
Borbeck	Large	"	Horrocks
Brookdale	Annapolis	"	Holyoke
Convent	Willits	"	Academy
Chandler	Large	"	Horrocks
Cresco	Rhawn	"	Fuller
Cresco	Stanwood	"	Welsh
Cloverly	Annapolis	"	Wooden Bridge
Campus	Academy	"	Brookdale
Dean Plaza	Holme	"	Fordham
Exeter	Convent	"	Willits
Fordham	Convent	"	Puritan
"	Puritan	"	Exeter
"	Exeter	"	Academy
Glenloch	Arendell	"	Linden
Gillespie	Arendell	"	Linden
Horatio	Fordham	"	Exeter
Holme	Willits	"	Academy
Holyoke	Annapolis	"	Academy
Hartel	Frankford	"	Craig
"	Ferndale	"	Verree
Marsden	Arendell	"	Linden
Pilgrim	Puritan	"	Fordham
Puritan	Fordham	"	Exeter
Rowland	Ryan	"	Rhawn
Treaty	Annapolis	"	Convent
"	Convent	"	Fordham
Verree	Bloomfield	"	Marchman
Verree	Marchman	"	Winchester
Verree	Welsh	"	Pecan
Wesleyan	Fordham	"	Exeter
Willits	Holme	"	398' W.Convent
Walker	Princeton	"	Wellington
Wissinoming	Unruh	"	Disston
Wooden Bridge	Annapolis	"	Convent
Walker	Linden	"	Arendell

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Survey District No.1 - continued

Streets Where Lines and Grades Were Furnished for Water Pipe

Arnold	Verree	to	Rising Sun
Arendell	Glenloch	"	Torresdale
Afton	Castor	"	Frontenac
Arendell	State	"	Melrose
"	Cambridge	"	Delaware
"	Frankford	"	Gillespie
Ashton	Willits	"	Maxwell
Algon	Hoffnagle		S.
Blakiston	Hegerman (intersection)		
Cambridge	Linden	to	Arendell
Decatur	Charles	"	Walker
"	Cottage	"	Jackson
Delaware	Linden	"	Arendell
Erdrick	Frost	"	Decatur
"	Welsh	"	Stanwood
Eden	Frankford	"	Jackson
Glenloch	Linden	"	Arendell
Germania	Linden	"	Arendell
Hoffnagle	Frontenac	"	Algon
Hartel	Verree	"	Ferndale
James	Grant	"	Fitler
Linden	State	"	Delaware
Marsden	Linden	"	Arendell
Melrose	"	"	Arendell
Milnor	Linden	"	Arendell
Roosevelt Blvd.	Grant	"	S.
Watson	Oxford	"	Hartel
Welsh	Frankford	"	Erdrick
Winthrop	Welsh	"	Weston
Welsh	Krewstown	"	Verree
Wissinoming	Fitler	"	Grant
Walker	Linden	"	Arendell

Plans Prepared for Paving

Afton	Frontenac	to	Castor
Arnold	Verree	"	Rising Sun
Bleigh	Oxford	"	Rockwell
"	Loretto	"	Glendale
Colfax	Stamford	"	Welsh
Eden	Frankford	"	Torresdale
Elgin	Loretto	"	Bleigh
Frontenac	Afton	"	Faunce
Glendale	Loretto	"	Summerdale
Leon	Rhawn	"	Welsh
State	Ashburner	"	Grant
Torresdale	Sheffield	"	Rhawn
Verree	Bloomfield	"	Winchester
Wissinoming	Princeton	"	Cottman
Willits	380' N.Convent	"	Exeter
Welsh	Moro	"	Rowland

101-1948

Survey District No.-1 - continued

Streets Where Lines and Grades Were Furnished for Paving

Ashton Road	Holme Circle	to	Grant
Castor Road	Cottman	"	Bustleton
Erdrick	Wellington	"	Cottman
Exeter	Willits	"	Fordham
Fordham	Wesleyan	"	Exeter
Lansing	Ditman	"	Torresdale
Meridian	Rowland	"	Crispin
Princeton	Torresdale	"	State Road
Pine Road	Rhawn	"	Starwood
Rhawn	Pine	"	Halstead
Robbins	Erdrick	"	Torresdale
Tackawanna	Hellerman	"	80' S.W.
Tulip	Robbins	"	summit N.E.
James	Friendship	"	Princeton

Plans Prepared for Grading

Arnold	Verree	to	Rising Sun
Alicia	Millwood	"	Dummore
Afton	Langdon	"	Algon
Belden	Cottman	"	Shelmire
Bleigh	Loretto	"	Glendale
Bloomfield	W.of Millwood	"	Verree
Bridle	Millwood	"	Marchman
Bleigh	Oxford	"	Rockwell
Brous	Carmwath	"	Ryan
Burholme	Napfle	"	325' S.W.
Barry	Frankford	"	Torresdale
Colfax	Stamford	"	Welsh
Convent	Frankford	"	Torresdale
Duffield	Cottman	"	Nesper
Dummore	Alicia	"	Ferndale
Ditman	Convent	"	Eden
Elgin	Loretto	"	Bleigh
Eden	Torresdale	"	Frankford
Erdrick	Magee	"	Unruh
Frontenac	Cottman	"	Bleigh
Ferndale	Millwood	"	Dummore
Faunce	Frontenac	"	Summerdale
Faunce	Loretto	"	Shelmire
Fuller	Moro	"	Crispin
Faunce	Summerdale	"	Algon
Frontenac	Faunce	"	Afton

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Survey District No.1 - continued

Plans Prepared for Grading  
(continued)

Greeby	Erdrick	to	Walker
Gilham	"	"	"
Guilford	Roosevelt	"	Hawthorne
Glendale	Loretto	"	Summerdale
Guilford	Frontenac	"	Glendale
Hawthorne	Nesper	"	Guilford
Jackson	Convent	"	Eden
Leon	Rhawn	"	Welsh
Langdon	Faunce	"	Afton
Moro	Crispin	"	Rowland
Marchman	Alicia	"	Verree
Millwood	"	"	Bloomfield
Montague	Magee	"	Unruh
Nesper	Hawthorne	"	Brous
Oakmont	Dungan	"	Whitaker
"	Glendale	"	Summerdale
Pecan	Stratford	"	Verree
Revere	Cottman	"	Sandyford
Rising Sun	Strahle	"	Tustin
Sandyford	Brous	"	Roosevelt Blvd.
Shisler	Cottman	"	Glendale
Stanwood	Frankford	"	Craig
Stelwood	Alicia	"	Ferndale
Stratford	Welsh	"	Pecan
Shelmire	Frontenac	"	Summerdale
Summerdale	Glendale	"	Faunce
Stamford	Colfax	"	Albion
Shelmire	Loretto	"	Glendale
Tackawanna	Magee	"	Unruh
Teesdale	Frontenac	"	Glendale
Terry	Rhawn	"	Welsh
Vista	Shisler	"	Glendale
Welsh	Moro	"	Rowland
Windish	Duffield	"	Hawthorne
Willits	380' W.Convent	"	Exeter
Walker	Magee	"	Unruh
Welsh	Moro	"	Rowland

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Survey District No.1 - continued

Streets Where Lines and Grades Were Furnished for Grading

Afton	Castor	to	Frontenac
Alma	Bleigh	"	Glendale
Arnold	Rising Sun	"	Verree
Ashton Rd.	Holme Circle	"	Grant
Bleigh	Roosevelt Blvd.	"	Bustleton
Bradford	Tudor	"	Napfle
Bleigh	Loretto	"	S.E.of Glendale
Calvert	Faunce	"	Cottman
Elgin	Loretto	"	Bleigh
Eden	Torresdale	"	Frankford
Faunce	Roosevelt Blvd.	"	Calvert
Frontenac	Cottman	"	Bleigh
Gilham	Erdrick	"	Walker
Greeby	"	"	"
Guilford	Roosevelt Blvd.	"	Hawthorne
Hawthorne	Guilford	"	Nesper
Leonard	Tudor	"	Shelmire
Leon	Rhawn	"	Welsh
Napfle	Bradford	"	Roosevelt Blvd.
Nesper	Brous	"	Hawthorne
Oakmont	Whitaker	"	Dungan
Oakmont	Calvert	"	Bustleton
Revere	Cottman	"	Sandyford
Rising Sun	Strahle	"	Tustin
Shelmire	Roosevelt Blvd.	"	Bustleton
Sandyford	" "	"	Brous
Tudor	Calvert	"	Bustleton
Teesdale	Duffield	"	Brous
Vista	Calvert	"	Bustleton
Welsh	Crispin	"	Moro

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Survey District No.1 - continued

Preliminary Plans Made for Sewers

Bustleton	Faunce	to	Afton
Belden	Cottman	"	Shelmire
Brocklehurst	Brous	"	Carnwath
Bleigh	Shisler	"	Glendale
Borbeck	Horrocks	"	Large
Brous	Roosevelt Blvd.	"	Carnwath
Charles	Magee	"	Unruh
Crabtree	Sheffield	"	Shelmire
Cottman 'SW	Roosevelt Blvd.	"	Calvert
Duffield	" "	"	Carnwath
Duffield	Nesper	"	Guilford
Erdrick	Magee	"	Unruh
Faunce	Large	"	Horrocks
Frontenac	Cottman	"	Bleigh
Guilford	Roosevelt Blvd.	"	Hawthorne
Holme	" "	"	Pennypack Creek
Hoffnagle	Algon	"	Frontenac
Loretto	Bleigh	"	Glendale
Lansing	Rising Sun	"	Bingham
Milnor	Cottman	"	summit N.E.
Montague	Magee	"	Unruh
Napfle	Verree	"	Watson
Nesper	Brous	"	Hawthorne
Roosevelt Blvd.(Wsd)	Solly	"	Starwood
Rhawn	Elberon	"	Pine
Robbins	Gillespie	"	Walker
Revere	Cottman	"	Sandyford
Solly	Castor	"	Roosevelt
Starwood	Eastwood	"	"
Summerdale	Napfle	"	summit N.of Starwood
Stamford	Winchester	"	Albion
Shelmire	Loretto	"	Glendale
Shisler	Cottman	"	"
Shelmire	Rowland	"	Sackett
Sandyford	Brous	"	Roosevelt Blvd.
Teesdale	Brous	"	Duffield
Terry	Rhawn	"	Welsh
Tackawanna	Magee	"	Unruh
Torresdale	Sheffield	"	Decatur
Unruh	Frankford	"	Charles
Unruh	Charles	"	Algard
Vista	Shisler	"	Glendale
Welsh	Winchester	"	Winthrop
Winthrop	Welsh	"	Stamford
Watson	Oxford	"	Napfle
Walker	Magee	"	Unruh
Windish	Hawthorne	"	Duffield
Watson	Napfle	"	Hartel
Lexington	Roosevelt Blvd.	"	Carnwath

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Survey District No. 1 - continued

Sewer Contracts Completed For which Stakes Were Placed

Afton	Castor	to	Frontenac
Bleigh	Leonard	"	Roosevelt Blvd.
Bradford	Napfle	"	Shelmire
Belden	Shelmire	"	Cottman
Cottman	Hasbrook	"	Central
Central	Cottman	"	Shelmire
Cottman	Montour	"	Claridge
Calvert	Cottman	"	Bleigh
Castor	Stanwood	"	Strahle
Claridge	Cottman	"	summit N.E.
Cottman	Claridge	"	Tabor
Cottage	Knorr	"	Unruh
Crispin	Welsh	"	Fuller
Chandler	Halstead	"	summit S.E. of Ferndale
Charles	Wells	"	Magee
"	"	"	Unruh
Fairview	Welsh	"	Rhawn
Ferndale	Hartel	"	Chandler
Griffith	Castor	"	Frontenac
Hartel	Rockwell	"	Hasbrook
Hasbrook	Hartel	"	Oxford
Loretto	Loney	"	Griffith
"	Glendale	"	Napfle
Lansing	Castor	"	Frontenac
Loretto	Napfle	"	Hartel
Loney	Horrocks	"	Castor
Montour	Cottman	"	Bleigh
Napfle	Roosevelt Blvd.	"	Bradford
"	Castor	"	Frontenac
Oxford	Hasbrook	"	Rhawn
Ryers	Cottman	"	Tudor
Rhawn	Verree	"	Ferndale
"	Roosevelt Blvd.	"	Bradford
Ripley	Castor	"	Horrocks
Shelmire	Glendale	"	Loretto
Tudor	Leonard	"	Calvert
Teesdale	Brous	"	Duffield
Unruh	Frankford	"	Charles
Verree	Griffith	"	Rhawn
Welsh	Rowland	"	Crispin
Wells	Frankford	"	Charles
Winchester	Welsh	"	summit N. of Stamford

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Second District

DRAINAGE

Base Sewer Plans

Morris Street from 10th to 12th Street  
9th Street at Christian Street  
Rosewood Street from Tasker Street to Morris Street

Return Plans

Mole Street from Tasker Street to Morris Street  
Morris Street from 10th Street to 12th Street  
Morris Street from 12th Street to 13th Street  
9th Street at Christian Street

Lines and Grades

15th Street and Packer Avenue  
Mole Street from Tasker Street to Morris Street  
Morris Street from 10th Street to 12th Street  
Morris Street from 12th Street to 13th Street  
Morris Street from Water Street to Front Street  
Penrose Avenue from Lanier Street to Schuylkill River  
34th Street from Grays Ferry Avenue to Moore Street  
Vare Avenue from Moore Street to Passyunk Avenue

WATER PIPE

Plans

Penrose Avenue from Hartranft Street to Curtin Street

Lines and Grades

Moore Street from 34th Street to 35th Street  
Penrose Avenue from Hartranft Street to Curtin Street

REPAVING

Plans

Darien Street from Catharine Street to Christian Street  
Morris Street from 10th Street to 13th Street

Lines and Grades

Jackson Street from 16th Street to 18th Street  
Pollock Street from 15th Street to Moyamensing Avenue

PAVING AND IMPROVEMENT

Plans

Carlisle Street and Packer Avenue  
Ernst Street from 28th Street to Dover Street  
15th Street and Packer Avenue  
Moore Street from 28th Street to 29th Street  
Porter Street from 28th Street, East to dead end

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SURVEY DISTRICT No.2 - continued

Paving and Improvement  
(continued)

Lines and Grades

Beck Street from Hancock Street to 2nd Street  
Bonsall Street from a point 10' South of Wolf Street  
to 90' South of Wolf Street  
Broad Street from Jackson Street to South Street  
Bucknell Street from Wolf Street to a point 10'  
south of Wolf Street  
Ernst Street from 28th Street to Dover Street  
Passyunk Avenue, East of Schuylkill Avenue  
34th Street from Grays Ferry Avenue to Moore Street  
25th Street from Mifflin Street to Passyunk Avenue  
Vare Avenue from Moore Street to Passyunk Avenue

Grading

Plans

Moore Street from 28th Street to 29th Street

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Base Sewer Plans Prepared During 1948

Fairmount Avenue from Delaware Ave. to 2nd Street  
5th Street from Girard Ave. to Master St.  
25th Street from Fairmount Ave. to Perot St. (Inlets only)

Lines and Grades Given for Sewers During 1948

Fairmount Ave. from Fairmount Park to 23d St. (Tunnel)  
Norris Street from 17th St. to 18th St.  
29th Street from Pennsylvania Ave. to Columbia Ave. (Tunnel)  
23d Street from Fairmount Ave. to Girard College (Tunnel)  
Vine Street from Darien St. to 9th St.

Repaving Plans Completed During 1948

Beach Street from Brown St. to Delaware Ave.  
Brown Street from Front St. to Beach St. Both on 1 plan  
Cherry Street from 5th St. to 11th St.  
Fairmount Avenue from 5th St. to 12th St.  
Fairmount Avenue from 13th St. to Broad St.  
Filbert Street from 6th St. to 7th St.  
Front Street from Willow St. to Allen St.  
Jefferson Street from 29th St. to 31st St.  
McGraths Court - West from 15th St.  
Newmarket Street from Green St. to Fairmount Ave.  
Oxford Street from 29th St. to 31st St.  
Ranstead Street from 15th St. to Hicks St.  
Ranstead Street from 17th St. to 18th St.  
23d Street from Market St. to Chestnut St.  
Watts Street from Pine St. to Lombard St.  
Woodstock Street from Locust St. to Chancellor St.

Lines and Grades Given for Repaving During 1948

Diamond Street from 6th St. to Broad St.  
Eleventh Street from Market St. to Walnut St.  
Euclid Street from Broad St. to 15th St.  
15th Street from Callowhill St. to Spring Garden St.  
Hamilton Street from 15th St. to 16th St.  
Hutchinson Street from Race St. to Cherry St.  
Lawrence Street from York Ave. to Callowhill St.  
McGraths Court from 15th St. west  
Montgomery Avenue from 22nd St. to 29th St.  
Norris Street from 12th St. to Broad St.  
Pollard Street from Front St. to Germantown Avenue  
Race Street from 7th St. to 8th St. (State Highway)  
Ranstead Street from 7th St. to 8th St.  
Ridge Avenue from Race St. to Vine St. (State Highway)  
Sansam Street from 18th St. to 19th St.  
7th Street from South St. to Washington Square  
7th Street from Walnut St. to Race St.  
12th Street from Thompson St. to Master St.  
12th Street from Diamond St. to Susquehanna Ave.  
20th Street from Ridge Ave. to Montgomery Ave.  
22nd Street from Chestnut St. to Market St.  
Vine Street from 7th St. to 9th St. (State Highway)  
Wallace Street from Percy St. to 15th St.  
Watts Street from Pine St. to Lombard St.  
York Avenue from Wood St. to Spring Garden St.

FOURTH DISTRICT

Plans Prepared for the Bureau of Water

Bloomdale Road	Redd Rambler Drive	to Woodfern Road
Evans Street	Fulmer St.	" Lott Ave.
Fulmer Street	Evans St.	" Roosevelt Blvd.
Hilspach Street	Fulmer St.	" Lott Ave.
Lott Avenue	Evans St.	" Roosevelt Blvd.
Oakfield Lane	Redd Rambler Drive	" Woodfern Road
Redd Rambler Drive	Oakfield Lane	" Verree Road
Verree Road	Redd Rambler Drive	" Red Lion Road
Verree Road	Welsh Road	" 950' N. of Welsh Rd.
Verree Road	540' W. to 360' E. of	Redd Rambler Drive
Woodfern Road	Oakfield Lane	to Bloomdale Road

Lines and Grades Furnished for Bureau of Water

Banes Street	Rennard St.	to Hendrix St.
Barcalow Street	Philmont Ave.	" Overhill Ave.
Bloomdale Road	Redd Rambler Drive	" Woodfern Road
Evans Street	Fulmer St.	" Lott Ave.
Fulmer Street	Evans St.	" Roosevelt Blvd.
Hilspach Street	Fulmer St.	" Lott Ave.
Lott Avenue	Bustleton Ave.	" Evans St.
Lott Avenue	Evans St.	" Roosevelt Blvd.
Oakfield Lane	Redd Rambler Drive	" Woodfern Road
Redd Rambler Drive	Oakfield Lane	" Verree Road
Rennard Street	Bustleton Ave.	" Banes St.
Verree Road	Redd Rambler Drive	" Red Lion Road
Verree Road	540' west to 360' e. of	Redd Rambler Drive
Woodfern Road	Oakfield Lane	to Bloomdale Road

Plans and Estimates for Grading

Bloomdale Road	Redd Rambler Drive	to Woodfern Road
Midday Road	Dune Road	" 220' east
Oakfield Lane	Redd Rambler Drive	" Woodfern Road
Redd Rambler Drive	Oakfield Lane	" Verree Road
Woodfern Road	Oakfield Lane	" Bloomdale Road

Lines and Grades Furnished for Grading

Barcalow Street	Philmont Ave.	" Overhill Ave.
Birwood Street	Murray St.	" Lott Ave.
Bloomdale Road	Redd Rambler Drive	" Woodfern Road
Chapelcroft St.	Murray St.	" Lott Ave.
Cowden St.	Murray St.	" Lott Ave.
Erwin St.	Philmont Ave.	" Smithfield Ave.
Evans Street	Murray Street	" Lott Avenue
Faraday Street	Philmont Ave.	" Maple Ave.
Forest Hills Ave.	Overhill Ave.	Erwin St.
Hilspach St.	Murray St.	to Lott Ave.
Hoff Street	Murray St.	" Lott Ave.
Larkspur Street	Bustleton Ave.	" Gifford Ave.
Maple Ave.	Barcalow St.	" Erwin St.
Midday Road	Dune Road	" 220' east
Napier St.	Philmont Ave.	" Forrest Hills Ave.
Oakfield Lane	Redd Rambler Drive	" Woodfern Road
Philmont Ave.	Bustleton Ave. to point	S.W. of Erwin St.
Redd Rambler Drive	Oakfield Lane	to Verree Road
Simms Street	Overhill Ave.	" Erwin St.
Woodfern Road	Oakfield Lane	" Bloomdale Road

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SURVEY DISTRICT NO.4 - continued

Plans and Estimates for Paving

Cowden Street	Murray Street	to	Fulmer Street
Haldeman Avenue	Sanford Street	"	Roosevelt Blvd.
Overhill Avenue	Forrest Hills Ave.	"	Bustleton Ave.

Lines and Grades Furnished for Paving

Air Lane	Roosevelt Blvd.	to	Liaison Road
Atoll Road	Shore Lane	"	Chevron Road
Beachhead Road	Wake Road	"	Lagoon Road
Block Road	Sea Lane	"	Dead end southwest
Chevron Road	Wake Road	"	Dune Road
Cliff Road	Dune Road	"	Atoll Road
Cliff Road	Sunrise Road	"	Midday Road
Dune Road	Echelon Road	"	Chevron Road
Dune Road	Shore Lane	"	Cliff Road
Echelon Road	Atoll Road	"	Dune Road
Erwin Street	Smithfield Avenue	"	Maple Avenue
Forrest Hills Ave.	Overhill Ave.	"	Erwin Street
Lagoon Road	Wake Road	"	Beachhead Road
Liaison Road	Shore Lane	"	Air Lane
Midday Road	Shore Lane	"	Dune Road
Radar Road	Air Lane	"	Shore Lane
Sea Lane	Roosevelt Blvd.	"	Dune Road
Shore Lane	Sea Lane	"	Liaison Road
Sunrise Road	Shore Lane	"	Cliff Road
Wake Road	Atoll Road	"	Red Lion Road



FIFTH DISTRICT

Base Plans for Sewers

Acker Street  
 Fayette Street  
 Fayette Street  
 Forrest Avenue  
 4th Street  
 4th Street  
 Gowen Avenue  
 Lakeside Avenue  
 Lawnton Avenue  
 Lowber Avenue  
 Mt. Airy Avenue  
 9th Street  
 Oak Lane  
 Park Avenue  
 7th Street  
 Sharpnack Street  
 6th Street  
 65th Avenue  
 68th Avenue N.  
 69th Avenue  
 Stenton Avenue  
 Stenton Avenue  
 Temple Road  
 10th Street  
 Thouron Avenue  
 Thouron Avenue  
 Vernon Road

4th Street  
 Gowen Avenue  
 Wadsworth Avenue  
 Gowen Ave.  
 Acker Street  
 65th Street  
 Thouron Ave.  
 York Road  
 Medary Avenue  
 Vernon Road  
 Forrest Avenue  
 69th Avenue  
 Verbena Street  
 Champlost Avenue  
 N. of 66th Avenue  
 Stenton Avenue  
 66th Avenue  
 3d Street  
 13th Street  
 Verbena Street  
 N. of Washington Lane  
 Upsal Street  
 Wadsworth Avenue  
 66th Avenue  
 Mt. Airy Avenue  
 Sharpnack Street  
 Mansfield Avenue

5th Street  
 Ivy Hill Road  
 Gowen Avenue  
 Ivy Hill Road  
 66th Ave.  
 Acker St.  
 Michener Ave.  
 Broad St.  
 Cheltenham Ave.  
 Slocum St.  
 Thouron Ave.  
 Oak Lane  
 Summit W. of 10th St.  
 Spencer St.  
 Oak Lane  
 Mansfield Ave.  
 67th Ave. N.  
 5th St.  
 Old York Road  
 10th Street  
 S. of Washington Lane  
 Hortter Street  
 Gowen Avenue  
 Summit S. of 69th Ave.  
 Gowen Ave.  
 Vernon Road  
 Lowber St.

Stakes for Waterpipe

Forrest Ave. (S.W. Sdwk.)  
 Gilbert Street  
 Ivy Hill Road  
 Lowber Avenue  
 Mansfield Ave. (E. Sdwk.)

Vernon Road  
 Phil-Ellena Street  
 Stenton Avenue  
 76' S. of Mohican S. of S.H.L.  
 Gowen Avenue

Phil-Ellena St.  
 Sharpnack St.  
 Cheltenham Ave.  
 Washington Lane  
 Wadsworth Ave.

(Mt. Airy Avenue  
 (Easton Road

Mansfield Avenue  
 Lynnewood Road

Lynnewood Road )  
 650' N. of Woolston Ave.)

Phil-Ellena Street  
 Phil-Ellena Street  
 Phil-Ellena Street  
 Pickering Street  
 Sharpnack Street  
 Thouron Ave. (S.W. sd.)  
 Thouron Avenue  
 Thouron Avenue

E. Woolston Avenue  
 80'9" W. of Gilbert St.  
 124'9" W. of Forrest Ave.  
 Wadsworth Avenue  
 Woolston Avenue (E.)  
 Cliveden Street  
 Phil-Ellena Street  
 Vernon Road

W. Woolston Ave.  
 125'3" E. of Thouron Ave.  
 Williams Avenue  
 Rounfort Road  
 Woolston Ave. (W.)  
 Upsal St.  
 Sharpnack St.  
 Phil-Ellena St.

(Upsal Street  
 (Woolston Avenue  
 (Lowber Avenue  
 Williams Ave. (E. sdwkl.)  
 Woolston Avenue  
 Woolston Avenue

Lowber Avenue  
 Upsal Street  
 Upsal Street  
 Vernon Road  
 Sharpnack Street  
 Upsal Street

N. of Woolston Ave.)  
 Sharpnack St. )  
 Southeastwardly 83'  
 Phil-Ellena St.  
 Phil-Ellena St.  
 Phil-Ellena St.

Survey District No.5- continued

Plans for Waterpipe

Bott Street	Broad Street	to	Kerbaugh Street
Cornelius Street (Center of)	Vernon Road	"	158'10" N.W.of N.W.H.L.
Fairhill Street	Godfrey Avenue	"	Vernon Road
Fairhill Street	66th Ave.N.	"	Cheltenham Ave.
Fifth Street (East Footway)	Godfrey Avenue	"	67th Ave.N.
Forrest Ave.(S.W.Sdwlk.)	Vernon Road	"	Medary Ave.
Gilbert Street	Phil-Ellena Street	"	Phil-Ellena St.
Ivy Hill Road	Stenton Avenue	"	Sharpnack St.
Lawnton Avenue	65th Avenue	"	Cheltenham Ave.
Lowber Avenue	76' S.of Mohican S.of S.H.L.	"	66th Ave.
Mansfield Ave.(E.Sdwlk.)	Gowen Avenue	"	Washington Lane
Marvine Street	Grange Avenue	"	Wadsworth Ave.
			Nedro Ave.
(Mt.Airy Ave.)	Mansfield Ave.	"	Lynnewood Road )
(Easton Road	Lynnewood Road	"	650' N.of Woolston Ave.)
Ogontz Avenue	65th Avenue	"	66th Avenue
Old York Road	71st Street	"	Cheltenham Ave.
Phil-Ellena Street	E.of Woolston Ave.	"	W.Woolston Ave.
Phil-Ellena Street	80'9" W.of Gilbert St.	"	125'3" E.of Thouron Ave.
Phil-Ellena Street	124'9" W.of Forrest Ave.	"	Williams Ave.
Pickering Street	Wadsworth Avenue	"	Roumfort Road
2nd Street	Laveer Street	"	Cheltenham Ave.
Sharpnack Street	Woolston Ave.(E.)	"	Woolston Ave.(W.)
Stenton Avenue	Roumfort Road	"	Ivy Hill Road
Sydenham Street	68th Ave.N.	"	Haines Street
Thouron Ave.(S.W.sd.)	Cliveden Street	"	Upsal St.
Thouron Avenue	Phil-Ellena St.	"	Sharpnack St.
Thouron Avenue	Vernon Road	"	Phil-Ellena St.
Tulpehocken Street	Lowber Avenue	"	Woolston Avenue
12th Street	68th Ave.N.	"	69th Ave.N.
(Upsal Street	Lowber Avenue	"	N.of Woolston Ave.)
(Woolston Avenue	Upsal Street	"	Sharpnack St.)
(Lowber Avenue	Upsal Street	"	Southeastwardly 83')
Upsal Street	Lowber Avenue	"	Woolston Avenue
Wadsworth Ave.(Center of)	Stenton Avenue	"	Mansfield Avenue
Wadsworth Avenue	Thouron Ave.	"	147' W.of Forrest Ave.
Williams Avenue (E.sdwlk.)	Vernon Road	"	Phil-Ellena St.
Williams Avenue	Vernon Road	"	Phil-Ellena St.
Woolston Avenue	Sharpnack Street	"	Phil-Ellena St.
Woolston Avenue	Upsal Street	"	Phil-Ellena St.

Survey District No. 5 - continued

Stakes for Sewers and Final Sewer Plans

Bott Street	Broad Street	to	Kerbaugh Street
(Camac Street	65th Street	"	66th Street )
(11th Street	Chelten Ave.	"	Medary Ave. )
(Champlost Avenue	13th St.	"	Park Ave. )
(Park Avenue	Nedro Ave.	"	Champlost Ave. )
(Warnock Street	Spencer St.	"	Godfrey Ave. )
8th Street	Duncannon Avenue	"	Wellens Ave.
Fayette Street	Gowen Ave.	"	Wadsworth Ave.
Haines Street	Wister Street	"	Rodney St.
Lawnton Avenue	Lakeside Ave.	"	Summit S. of 69th Ave.
(Lawnton Avenue	Medary Avenue	"	Chelten Ave. )
(Park Avenue	Champlost Avenue	"	Spencer St. )
Luray Street	4th Street	"	5th Street
Mansfield Avenue	Washington Lane	"	Stenton Ave.
(McPherson Street	Pickering St.	"	Cheltenham Ave. )
(Elaine Street	"	"	" )
(Gowen Avenue	"	"	" )
(Cedarbrook Road	Gowen Avenue	"	Wadsworth Ave. )
(Mt. Airy Avenue	Forrest Ave.	"	Michener Ave. )
(Williams Avenue	Mt. Airy Ave.	"	Wadsworth Ave. )
(Mt. Airy Avenue	Forrest Ave.	"	Thouron Ave. )
(Thouron Avenue	Mt. Airy Ave.	"	Gowen Ave. )
(Pickering Street	Wadsworth Avenue	"	Ivy Hill Road )
(Williams Avenue	Wadsworth Avenue	"	Gowen Ave. )
(2nd Street	Old 2nd Street	"	Nedro Avenue )
(Old 2nd Street	Mascher Street	"	2nd Street )
71st Avenue	Broad Street	"	200' West
(66th Avenue	6th Street	"	8th St. and )
((	8th Street	"	R.R. )
(7th Street	66th Ave.	"	420' N. )
69th Avenue N.	10th Street	"	11th Street
Tabor Road	"D" Street	"	Marwood Road
(Temple Road	Mt. Airy Avenue	"	Wadsworth Ave. )
( " "	Gowen Ave.	"	" )
(Fayette Street	Mt. Airy Avenue	"	" )
3d Street	Allegheny Avenue	"	Westmoreland St.

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Survey District No.5 - continued

Stakes for Sewers and Final Sewer Plans  
(continued)

(Third Street	Cheltenham Avenue	to	Sixty-fifth Ave.N.	)
(Acker Street	Fourth Street	"	Fifth Street	)
(Fourth Street	Sixty-fifth Avenue	"	Acker St.	)
(Sixty-fifth Ave.N.	Third Street	"	Fifth St.	)
Thouron Avenue	Sharpnack Street	"	Vernon Road	
Twelfth Street	70th Ave.N.	"	Cheltenham Ave.	
20th Street	Wyncote Avenue	"	67th Avenue	
Wadsworth Ave.	Forrest Avenue	"	Cheltenham Ave.	
Woolston Avenue	Eastburn Street	"	Haines Street	

Plans for Paving

Bayard Street	Gowen Avenue	"	Ivy Hill Road	
Bott Street	Kerbaugh Street	"	Broad Street	
Fayette Street	Gowen Avenue	"	Ivy Hill Road	
Forrest Avenue	Phil-Ellena St.	"	Vernon Road	
Forrest Avenue	Sharpnack St.	"	Phil-Ellena St.	
Forrest Avenue	Intersection of Gowen Avenue	"	Vernon Road	
Forrest Avenue	Phil-Ellena Street	"	Ivy Hill Road	
Forrest Avenue	Gowen Avenue	"	Vernon Road	
Gilbert Street	Phil-Ellena Street	"		
Gowen Avenue	Intersection of Pickering St.	"	Upsal Street	
Lowber Avenue	Yerkes Street	"	Wynsam Street	
Lowber Avenue	Washington Lane	"	"I" Street	
Luzerne Street	"G" Street	"	102' North	
Mansfield Avenue	Upsal Street	"	Dorset Street	
Mansfield Avenue	Vernon Road	"	Pt.97'6" N.W.of	
Mt.Airy Avenue	Pt.127'6" S.W.Forrest Ave.	"	Williams Ave.	
Mt.Airy Avenue)	(Pt.127'6" S.W.Forrest Ave.	"	Thouron Ave.	)
" )	(Pt.97'6" N.W.Williams Ave.	"	Temple Road	)
Pickering Street	Intersection of Elaine Street	"		
Pickering Street	Intersection of McPherson Street	"		
Pickering Street	Intersection of Ivy Hill Road	"		
Pickering Street	Intersection of Murdoch Road	"		
Pickering Street	Intersection of Roumfort Road	"		
Pickering Street	Intersection of Woodbrook Lane	"		
Phil-Ellena Street	Intersection of Forrest Avenue)	"		
Phil-Ellena Street	Intersection of Thouron Avenue (	"		
Provident Street	Gowen Ave.	"	Ivy Hill Road	
Rodney Street	Yerkes Street	"	Upsal Street	
Sharpnack Street	Thouron Avenue	"	100' West	
Tabor Road )	)"D" Street	"	Marwood Road	)
" (	("D" Street	"	Westford Road	(
Temple Road	Gowen Avenue	"	Ivy Hill Road	
13th Street	Nedro Avenue	"	Champlost Avenue	
20th Street	67th Avenue	"	Wyncote Avenue	
Thouron Avenue	Cliveden Street	"	Upsal Street	
Thouron Avenue	Gowen Avenue	"	Ivy Hill Road	
Upsal Street	Lowber Avenue	"	Rodney Street	
Williams Avenue	Intersection of Gowen Avenue	"		
Woolston Avenue	Mohican Street	"	Wynsam Street	
Wyoming Street	"D" Street	"	"K" Street	

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Survey District No.5 - continued

Stakes for Paving

(Allens Lane (Mansfield Avenue	Mansfield Avenue Mt.Airy Avenue	to "	Stenton Avenue Wadsworth Avenue	)
Fayette Street Fayette Street (Center Strip) Forrest Avenue	Mt.Airy Avenue Wadsworth Avenue Phil-Ellena Street	" " "	Mt.Pleasant Ave. S.C.L.of Gowen Ave. Vernon Road	
Forrest Avenue Forrest Avenue Gilbert Street Gratz Street Hunting Park Ave. Hunting Park Ave.(N.sd.) Hunting Park Ave.(S.sd.) Hutchinson St. Murdoch Road Phil-Ellena St.(N.W.shldr.) Roumfort Road Rugby Street	S.C.L.Mt.Pleasant Ave. N.C.L.Wadsworth Ave. N.C.L.Sharpnack St. 65th Street "L" Street E.H.L. "L" St. W.H.L. "M" St. Nedro Avenue W.C.L.Cheltenham Ave. 90' W.of W.H.L.Fayette St. W.C.L.Cheltenham Ave. Phil-Ellena St.	" " " " " " " " " " "	N.C.L.Sedgwick St. S.C.L.Gowen Ave. S.C.L.Phil-Ellena St. 66th Street "M" Street W.H.L.Glendale St. E.H.L.Glendale St. Champlost Ave. E.C.L.Pickering St. E.H.L.Williams Ave. E.C.L.Pickering St. Vernon Road	
(Sharpnack Street (Upsal Street-Shldrs.)	Thouron Ave. Lowber Avenue	" "	Pt.75'S.W.Thouron Ave.) Rodney Street	)
Tabor Road 13th Street Thouron Avenue Thouron Ave. Tulpehocken St. Vernon Road (S.E.Shldr.) Williams Avenue Williams Avenue Williams Avenue Woodbrook Lane	Westford Road Nedro Avenue N.H.L.Sharpnack St. Cliveden St. E.C.L.Lowber Ave. 100' W.of W.H.L.Fayette St. Mt.Pleasant Ave. S.C.L.Wadsworth Ave. Phil-Ellena St. W.C.L.Cheltenham Ave.	" " " " " " " " " "	Marwood Road Champlost Ave. S.C.L.Phil-Ellena St. Upsal St. W.C.L.Woolston St. E.H.L.Williams Ave. N.C.L.Sedgwick St. N.H.L.Mt.Airy Ave. Vernon Road E.C.L.Pickering St.	

Plans for Repaving and Improvement

"B" Street	Westmoreland Street	to	Ontario St.
Broad Street	68th Ave.N.	"	71st Ave.N.
Erie Avenue	Front St.	"	Kensington Ave.
Second Street	Erie Ave.	"	Bristol St.
Walnut Lane	Intersection of Ogontz Ave.and Seventy-second Avenue		

Stakes for Repaving and Improvement

Broad Street	Erie Avenue	to	Hunting Park Ave.
(Broad Street ( " " )	York Road 68th Ave.	" "	68th Ave. 71st Ave.
5th Street	Olney Avenue	"	ChewStreet
Nedro Avenue	Broad Street	"	21st Street
Ogontz Avenue	-Intersection of Walnut Lane and 72nd Ave.		
Olney Avenue	Rising Sun Avenue	"	"B" Street

Survey District No.5 - continued

Stakes for Grading

Wellens Avenue	Front Street	to	Howard Street
(Elaine Street	Cheltenham Ave.	"	Pickering St.
(McPherson Street	"	"	"
(Gowen Avenue	"	"	"
Woolston Avenue	Haines Street	"	Eastburn St.

Plans for Grading

Bayard Street	Gowen Avenue	to	Ivy Hill Road
Elaine Street	Cheltenham Ave.	"	Pickering St.
Fayette Street	Gowen Avenue	"	Ivy Hill Road
Fayette Street	Mt.Airy Avenue	"	Wadsworth Ave.
Fayette Street	Wadsworth Avenue	"	Gowen Ave.
Forrest Avenue	Gowen Ave.	"	Ivy Hill Road
Forrest Avenue	Phil-Ellena St.	"	Vernon Road
Forrest Avenue	Wadsworth Ave.	"	Gowen Ave.
Gowen Avenue	Thouron Ave.	"	Michener Ave.
Gowen Avenue	Cheltenham Ave.	"	Pickering St.
Lynnewood Road	Gowen Ave.	"	Mt.Airy Ave.
McPherson Street	Cheltenham Ave.	"	Pickering St.
Mt.Airy Avenue	Williams Ave.	"	Thouron Ave.
Pickering Street	Ivy Hill Road	"	Wadsworth Ave.
Provident Street	Gowen Avenue	"	Ivy Hill Road
Roumfort Road	Williams Avenue	"	Michener Ave.
Sedgwick Street	Forrest Ave.	"	Thouron Ave.
Temple Road	Wadsworth Ave.	"	Gowen Ave.
Temple Road	Mt.Airy Ave.	"	Wadsworth Ave.
Temple Road	Gowen Ave.	"	Ivy Hill Road
Thouron Avenue	Mt.Airy Ave.	"	Gowen Ave.
Thouron Avenue	Gowen Ave.	"	Ivy Hill Road
20th Street	Champlost Ave.	"	Church Lane
Wellens Avenue	Front Street	"	Howard Street
Williams Avenue	Mt.Airy Avenue	"	Wadsworth Ave.
Williams Avenue	Wadsworth Avenue	"	Gowen Ave.
Williams Avenue	Gowen Avenue	"	Ivy Hill Road

SIXTH DISTRICT

Water Pipe

Final Plans

Netherfield Road East from Netherfield Road West to Netherfield Road  
Butler Street from Memphis Street to Thompson Street  
Butler Street from 19th Street to 20th Street  
Roberts Avenue from McMichael Street to 410' 5" West of McMichael Street

Lines and Grades Furnished

Netherfield Road East from Netherfield Road West to Netherfield Road  
Butler Street from Memphis Street to Thompson Street  
Butler Street from 19th Street to 20th Street  
Roberts Avenue from McMichael Street to 410' 5" West of McMichael Street

Grading

Plans

Woodstock Street from Cambria Street to Somerset Street  
Lambert Street from Cambria Street to 133' South of Cambria Street  
Gaul Street from Westmoreland Street to Ontario Street

Lines and Grades Furnished

Butler Street from 19th Street to 20th Street  
20th Street from Butler Street to Hunting Park Avenue

Paving

Plans Made

Elkhart Street from Richmond Street to Allen Street  
Garnet Street from Indiana Avenue to 250' South of Indiana Avenue  
Indiana Avenue from Melvale Street to Allen Street  
Rush Street from Trenton Avenue to 50' East of Trenton Avenue  
Clearfield Street from 29th Street to 30th Street  
30th Street from Clearfield Street to Allegheny Avenue  
Netherfield Road East from Netherfield Road West to Netherfield Road  
Thompson Street from Castor Avenue to Alresford Street  
Miller Street from Commissioner Street to Clearfield Street  
Auburn Street from Cedar Street to Aramingo Avenue

Lines and Grades Furnished

Martha Street from Clearfield Street to Clementine Street  
Butler Street from 19th Street to 20th Street  
20th Street from Butler Street to Hunting Park Avenue  
Miller Street from Commissioner Street to Clearfield Street

Safety Islands

Lines and Grades Furnished

Delaware Avenue and Shackamaxon Street - 2 Islands  
Broad Street from Susquehanna Avenue to Erie Avenue - 31 islands

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Repaving

Plans Made

Harold Street from Thompson Street to Almond Street  
Lehigh Avenue from Kensington Avenue to Richmond Street  
Norris Street from Front Street to Germantown Avenue  
Palmer Street from Beach Street to Allen Street  
Susquehanna Avenue from Beach Street to Delaware Avenue  
Donath Street from Hunting Park Avenue to Ruffner Street  
Palethorp Street from Columbia Avenue to Oxford Street

Lines and Grades Furnished

Jasper Street from Cumberland Street to Huntingdon Street  
18th Street from Lehigh Avenue to Glenwood Avenue  
Diamond Street from 6th Street to Front Street  
Tioga Street from 16th Street to 17th Street  
Tioga Street from 19th Street to 22nd Street  
Dauphin Street from 27th Street to 29th Street  
Glenwood Avenue from 22nd Street to Dauphin Street  
15th Street from York Street to Cumberland Street  
31st Street from York Street to Susquehanna Avenue  
Dauphin Street from Mascher Street to Waterloo Street  
Lehigh Avenue from Kensington Avenue to Richmond Street  
Susquehanna Avenue from Beach Street to Delaware Avenue  
Donath Street from Hunting Park Avenue to Ruffner Street  
12th Street from Diamond Street to 58 feet South of Nevada Street

Sewers

Base Plans Made

Clearfield Street from Allen Street to Richmond Street  
Melvale Street from Elkhart Street to Clearfield Street  
Queen Lane from Stokley Street to Wissahickon Avenue  
Elkhart Street from Richmond Street to Melvale Street  
Oakdale Street from Emerald Street to Jasper Street  
Auburn Street from Cedar Street to Aramingo Avenue

Return Plans Made

Lippincott Street from Front Street to "A" Street  
Pacific Street from Tulip Street to Sepviva Street  
Miller Street from Clearfield Street to Commissioner Street  
Butler Street from 19th Street to 20th Street

Lines and Grades Furnished

Pacific Street from Tulip Street to Sepviva Street  
Miller Street from Clearfield Street to Commissioner Street  
Butler Street from 19th Street to 20th Street  
Queen Lane from 558' S.W. of Wissahickon Avenue to Stokley Street  
Oakdale Street from Emerald Street to Jasper Street



Seventh District

Callowhill Street  
 Edgemore Road  
 50th Street  
 Girard Avenue  
 Parkwyn Road  
 66th St.  
 66th St.  
 67th St.  
 68th St.  
 Stiles St.  
 Wyndale Avenue

Grading

67th Street	to	68th St.
Callowhill St.	"	Girard Ave.
Wynnefield Ave.	"	Wyndale Ave.
67th Street	"	68th St.
Wynnefield Ave.	"	Wyndale Ave.
Vine Street	"	Callowhill St.
Girard Ave.	"	Haverford Ave.
Callowhill St.	"	Girard Ave.
Girard Ave.	"	Callowhill St.
66th St.	"	Atwood Road
50th St.	"	Parkwyn Road

Grading - Lines and Grades Furnished

Brentwood Road	Haverford Avenue	"	West End Drive
Brentwood Road	72nd Street	"	Woodbine
Callowhill Street	66th	"	67th
Edgemore Road	Callowhill	"	Girard
Greenhill Road	Haverford Avenue	"	Sherwood Rd.
Sherwood Road	71st	"	72nd
Sherwood Road	Haverford Ave.	"	West End Drive
66th	Vine	"	Callowhill
67th	Callowhill	"	Girard Ave.
71st	Sherwood	"	Brentwood Road
72nd	Brentwood Road	"	Woodbine Ave.
72nd	Sherwood Rd.	"	Brentwood Rd.
75th	Brookhaven Rd.	"	Woodbine Ave.
75th	Sherwood Road	"	Brookhaven Road
76th	City	"	Overbrook
76th	Malvern Ave.	"	300' N.W.
76th	Brookhaven Road	"	Brentwood Road
77th	Coleman	"	Sherwood Road
77th	Overbrook Ave.	"	City
Woodbine	77th	"	Haverford Ave.
Woodbine Ave.	72nd	"	Brentwood Ave.

Safety Islands

Christian	Baltimore Ave.	"	54th
52nd &	Lancaster Ave.		

Safety Islands - Lines and Grades Furnished

Christian	Baltimore	to	54th
Girard Avenue	W.of 34th	"	
52nd &	Lancaster Ave.		

Survey District No.7 - continued

Base Sewer Plans

43d	North of Kingsessing Ave.	to	
46th	Sansom	"	Walnut
50th	Wynnefield	"	Wyndale
Girard Ave.	66th	"	67th
Ludlow	45th	"	46th
Outlet in Cobbs Creek Park	Callowhill	"	Intercepting Sewer
Parkwyn Road	Wynnefield	"	Wyndale
Powelton Ave.	31st	"	400' E.
66th	Girard	"	Haverford Ave.
University Ave.	Curie Avenue	"	Woodland Ave.
Woodbine Ave.	75th	"	76th
Woodcrest Ave.	50th	"	Parkwyn Rd.
Wyndale Ave.	50th	"	Parkwyn Rd.

Sewers - Lines and Grades Furnished

Ashurst Rd.	Sherwood Road	"	Overbrook Ave.
Brentwood Road	Haverford Avenue	"	West End Drive
Brentwood Rd.	75th	"	Summit S.W.
Brentwood Rd.	Summit S.W. of 75th Street	"	77th
Brentwood Rd.	72nd	"	Woodbine Ave.
City Ave.	76th	"	Outlets in Cobbs Creek Pk.
Dauphin	52nd	"	Dakota
Edgemore Rd.	Haverford Avenue	"	Media
Farrington Rd.	Sherwood Road	"	Overbrook Ave.
Greenhill Rd.	Haverford Avenue	"	Sherwood Rd.
Meribrook Rd.	Sherwood Road	"	Overbrook Ave.
Overbrook Ave.	76th Street	"	Ashurst
Pennington Rd.	Sherwood Rd.	"	Overbrook Ave.
72nd	Sherwood Rd.	"	Brentwood Rd.
72nd	Brentwood Road	"	Woodbine Ave.
75th	Brockhaven Rd.	"	Sherwood Rd.
76th	Sherwood Rd.	"	Brentwood Rd.
77th	City Avenue	"	Sherwood Rd.
77th	Woodbine Avenue	"	Sherwood Rd.
Sherwood Rd.	Haverford Avenue	"	West End Drive
Sherwood Rd.	77th	"	76th
Sherwood Rd.	77th	"	Ashurst
Woodbine Ave.	72nd	"	Brentwood Rd. and Drain- age Right of way to Morris Park Line

Plans of Constructed Sewers

Ashurst Rd.	Sherwood Road	to	Overbrook Ave.
Brentwood Rd.	Haverford Ave.	"	West End Drive
Brentwood Rd.	72nd	"	Woodbine Ave.
Brockton Rd.	75th	"	(Farrington Rd. & Drainage Right of Way to former Lebanon Avenue

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Survey District No.7 - continued

Plans of Constructed Sewers  
(continued)

Brookhaven Road	Haverford Avenue	to	West End Drive
Brookhaven Road	Haverford Avenue	"	75th
City Avenue	76th	"	Outlets in Cobbs Creek Pk.
Cobbs Creek Park	77th	"	" " " " "
Dauphin	52nd	"	Dakota
Drexel Road	Haverford Ave.	"	West End Drive
Drexel Road	Haverford Ave.	"	75th
Edgemore Road	Haverford Ave.	"	Media
Farrington Road	Sherwood Road	"	Overbrook
Farrington Road	Brockton Road	"	Malvern Ave.
Greenhill Road	Haverford Ave.	"	76th
Greenhill Road	Haverford Ave.	"	Sherwood Road
Haverford Ave. (W.S.)	Sherwood Road	"	Brookhaven Road
Haverford Ave. (W.S.)	Sherwood Road	"	Overbrook Ave.
Kimberly Drive	Brockton Road	"	Malvern Ave.
Malvern Ave.	Haverford Ave.	"	West End Drive
Malvern Avenue	Farrington Road	"	75th
Meribrook Road	Sherwood Road	"	Overbrook Ave.
Overbrook Ave.	Haverford Ave.	"	76th
Overbrook Avenue	76th	"	Ashurst
Pennington Road	Brockton Road	"	Malvern Ave.
Pennington Road	Sherwood Road	"	Overbrook Ave.
72nd	Sherwood Road	"	Brentwood Road
72nd	Brentwood Road	"	Woodbine Ave.
75th	Brockton Road	"	Rhoads
76th	Brockton Road	"	Malvern Ave.
77th	City Ave.	"	Sherwood Road
77th	Woodbine Ave.	"	Coleman St.
Sherwood Road	Haverford Ave.	"	West End Drive
Sherwood Road	77th	"	Aghurst Road
Sherwood Road	71st	"	Outlets in Morris Park
West End Drive	Drexel Road	"	Sherwood Road
West End Drive	Woodcrest Ave.	"	Drexel Road
Westbury Drive	Brockton Road	"	Malvern Ave.
Woodbine Ave.	Haverford Ave.	"	75th
Woodbine Ave.	Haverford Ave.	"	West End Drive
Woodbine Ave.	72nd	"	Brentwood Road and drainage right of way to Morris Park Line

Paving

Brentwood Road	75th	to	76th
Callowhill	66th	"	67th
Girard Ave.	66th	"	67th
Grays Ave.	Lindberg Blvd.	"	49th
Rhoads	Haverford Ave.	"	75th
Sherwood Road	71st	"	72nd
Sherwood Road	77th	"	Park Line
66th	Girard Ave.	"	Haverford Ave.
67th	Callowhill	"	Girard Ave.
71st	Sherwood Road	"	Brentwood Road
72nd	Sherwood Road	"	Brentwood Road
75th	Woodbine	"	Brookhaven Road
Woodbine Ave.	75th	"	Haverford Ave.

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Survey District No.7 - continued

Paving - Lines and Grades Furnished

Ashurst	Sherwood Road	to	Overbrook Ave.
Brentwood Road	72nd	"	Woodbine Ave.
Brentwood Road	75th	"	76th
Brentwood Road	Haverford Ave.	"	West End Drive
Brookhaven Road	Haverford Ave.	"	75th
Drexel Road	Haverford Ave.	"	75th
Farrington Road	Sherwood Road	"	Overbrook Ave.
49th	Grays Ave.	"	Botanic
Graham	Vine	"	Callowhill
Grays Avenue	Lindberg Blvd.	"	49th
Greenhill Road	Haverford Ave.	"	Sherwood Road
Malvern Ave.	75th	"	Westbury Drive
Malvern Ave.	Haverford Ave.	"	75th
Meribrook	Sherwood Road	"	Overbrook Ave.
Overbrook Ave.	Ashurst	"	76th
Pennington	Sherwood Road	"	Overbrook Ave.
Sherwood Road	76th	"	77th
Sherwood Road	71st	"	72nd
Sherwood Road	77th	"	Park Line
Sherwood Road	Haverford Ave.	"	Morris Park Line
60th	Baltimore Ave.	"	Angora Terrace
71st	Sherwood Road	"	Brentwood Road
72nd	Sherwood	"	Brentwood
72nd	Woodbine Ave.	"	Brentwood Road
75th	Sherwood Road	"	Brentwood Road
75th	Malvern Ave.	"	Lansdowne Ave.
76th	Sherwood Road	"	Brentwood Road
76th	Overbrook Ave.	"	120' N.W.
76th	Sherwood Road	"	Overbrook Ave.
77th	Sherwood Road	"	Overbrook Ave.
77th	City Ave.	"	110' N.W.of Overbrook Ave.
		"	110' N.W.
77th	Overbrook Ave.	"	Brookhaven Road
West End Drive	Sherwood Road	"	Brentwood
Woodbine Ave.	72nd	"	Haverford Ave.
Woodbine Ave.	75th	"	Graham
Woodcrest	Upland Way	"	
	<u>Water Pipe</u>	"	
Angora Terrace	59th	"	60th
Brentwood Road	72nd	"	Woodbine
Callowhill	66th	"	67th
Conshohocken Ave.	Lenape Road	"	47th
Dauphin	52nd	"	Dakota
Edgemore Road	Girard Ave.	"	Callowhill
Girard Ave.	66th	"	67th
Nevada	Dauphin	"	51st
Sherwood Road	72nd	"	71st
60th	Baltimore Ave.	"	Angora Terrace
67th	Girard Ave.	"	Callowhill
71st	Sherwood Road	"	Brentwood Road
72nd	Sherwood Road	"	Brentwood Road
72nd	Brentwood Road	"	Woodbine
76th	Overbrook Ave.	"	City
77th	Overbrook Ave.	"	City

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Survey District No.7 - continued

Water Pipe - Lines and Grades Furnished

Angora Terrace	59th	to	60th
Brentwood Road	72nd	"	Woodbine
Callowhill	66th	"	67th
Conshohocken Ave.	Lenape Road	"	47th
Dauphin	52nd	"	Dakota
Edgemore Road	Girard Ave.	"	Callowhill
Girard Ave.	66th	"	67th
Nevada	Dauphin	"	51st
Sherwood Road	72nd	"	71st
60th	Baltimore Ave.	"	Angora Terrace
67th	Girard Ave.	"	Callowhill
71st	Sherwood Road	"	Brentwood Road
72nd	Sherwood Road	"	Brentwood Road
76th	Overbrook Avenue	"	City
77th	Overbrook Ave.	"	City

Repaving

Daggett	Callowhill	"	Girard Ave.
Edgemore	Lansdowne Ave.	"	Media
Farragut	Walnut	"	Spruce
47th	Locust	"	Spruce
47th	Pine	"	Cedar
49th	Baltimore Ave.	"	Chester Ave.
53d	Haverford Ave.	"	Arch
53d	Spruce	"	Walnut
59th	Market	"	Vine
Ludlow	52nd	"	53d
Parkside	Belmont	"	52nd
Regent	47th	"	212' E.
62nd	Race	"	Haverford

Repaving - Lines and Grades Furnished

Farragut	Walnut	to	Spruce
40th	Market	"	Spruce
47th	Locust	"	Spruce
47th	Pine	"	Cedar
49th	Baltimore	"	Chester
53d	Haverford	"	Arch
53d	Spruce	"	Walnut
59th	Market	"	Vine
Ludlow	52nd	"	53d
Powelton Ave.	31st	"	33d
62nd	Race	"	Haverford

Improvement and Widening

34th	Curie	"	Spruce
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EIGHTH DISTRICT

Paving Plans

Allengrove Street  
Battersby Street  
Battersby Street  
Belgrade Street  
Benner Street  
Benner Street  
Brous Avenue  
Bustleton Avenue  
Cardiff Street  
Cottage Street  
Devereaux Avenue  
Devereaux Avenue  
Devereaux Avenue  
Disston Street  
Eastwood Street  
Eastwood Street  
Eastwood Street  
Elbridge Street  
Elbridge Street  
Everett Avenue  
Fanshawe Street  
Farnsworth Avenue  
Farnsworth Avenue  
Frontenac Street  
Gilham Street  
Gillespie Street  
Glenview Street  
Glenview Street  
Godfrey Avenue  
Hale Street  
Hellerman Street  
Hellerman Street  
Higbee Street  
Horrocks Street  
Horrocks Street  
Horrocks Street  
Josephine Street  
Leonard Street  
Levick Street  
Levick Street  
Levick Street  
Longshore Avenue  
Longshore Avenue  
Loretto Avenue  
Loretto Avenue  
Magee Avenue  
Magee Avenue  
Miriam Road  
Newtown Avenue  
Oakland Street  
Pearce Street  
Princeton Avenue  
Princeton Avenue  
Revere Street  
Revere Street  
Robbins Street  
Crafton Street

Roosevelt Blvd.  
Passmore St.  
Unruh Ave.  
Lefevre St.  
Lawndale St.  
Reach St.  
Unruh Ave.  
Devereaux Ave.  
Devereaux Ave.  
Devereaux Ave.  
Bustleton Ave.  
Lawndale St.  
Walker St.  
Eastwood St.  
Hellerman St.  
Knorr St.  
Longshore Ave.  
Everett Ave.  
Roosevelt Blvd.  
Magee Ave.  
Bustleton Ave.  
Devereaux Ave.  
Levick St.  
Levick St.  
Brous Ave.  
Devereaux Ave.  
Eastwood St.  
Loretto Ave.  
Roosevelt Blvd.  
Ditman Street  
Everett Ave.  
Oakland St.  
Tacony St.  
Hellerman St.  
St. Vincent St.  
Tyson Ave.  
Plum St.  
Magee Ave.  
Bustleton Ave.  
Frontenac St.  
Large St.  
Horrocks St.  
Montour St.  
Allengrove St.  
Greeby St.  
Bustleton Ave.  
Roosevelt Blvd.  
Roosevelt Blvd.  
Higbee St.  
St. Vincent St.  
Duncan St.  
Battersby St.  
Souder St.  
Devereaux Ave.  
Unruh Ave.  
Bustleton Ave.  
Devereaux Avenue

to: Loretto Avenue  
Hellerman St.  
Hellerman St.  
Buckius St.  
Tabor Ave.  
Newtown Ave.  
Hellerman St.  
Robbins St.  
Robbins St.  
Robbins St.  
Leonard St.  
Tabor Ave.  
Ditman St.  
Bustleton Ave.  
Robbins St.  
Longshore Ave.  
Tyson Ave.  
Horrocks St.  
Revere St.  
Devereaux Ave.  
Leonard St.  
Robbins St.  
Hellerman St.  
Magee Ave.  
Revere St.  
Robbins St.  
Bustleton Ave.  
Frontenac St.  
Loretto Ave.  
Jackson St.  
Horrocks St.  
Bustleton Ave.  
370' S.W. of Tacony St.  
Robbins St.  
Cottman Ave.  
Princeton Ave.  
103' S.W. of Plum St.  
Harbison Ave.  
Eastwood St.  
Summerdale Ave.  
Horrocks St.  
Eastwood St.  
Whitaker Ave.  
Godfrey Ave.  
Magee Ave.  
Oakland St.  
Battersby St.  
Godfrey Ave.  
Benner St.  
Cottman Ave.  
Church St.  
Hawthorne St.  
Horrocks St.  
Robbins St.  
Hellerman St.  
Leonard St.  
Robbins Street

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Survey District No.8 - Continued

Sackett Street	Tyson Ave.	to:	100' N.of Longshore
St.Vincent St.	Bustleton Ave.	"	Roosevelt Blvd.
St.Vincent Street	Kindred St.	"	Eastwood Street
Souder Street	Horrocks St.	"	St.Vincent Street
Souder Street	Tyson Avenue	"	Princeton Ave.
Summerdale Avenue	Magee Ave.	"	Glenview Street
Tyson Avenue	Eastwood St.	"	Horrocks St.
Tyson Avenue	Hawthorne St.	"	Sackett St.
Tyson Avenue	Kindred St.	"	Horrocks St.
Whitaker Avenue	Glenview St.	"	Longshore Avenue

Traffic Islands - Intersection of Roosevelt Blvd., Whitaker Avenue and Adams Ave.

Repaving Plans

Darrah Street	Meadow Street	to:	Foulkrod Street
Oakland Street	Wakeling St.	"	Harrison St.
Tacony Street	Orthodox St.	"	Wakeling St.
Torresdale Avenue	Kensington Ave.	"	Frankford Ave.
Torresdale Avenue	Frankford Ave.	"	Orthodox St.

Grading Plans

Akron Street	Magee Avenue	to:	Knorr St.
Akron Street	Princeton Ave.	"	St.Vincent St.
Allengrove St.	Roosevelt Blvd.	"	Loretto Ave.
Benner Street	Oakland St.	"	Bustleton Ave.
Benner Street	Reach St.	"	Newtown Ave.
Brighton Street	Bustleton Ave.	"	Calvert St.
Brous Avenue	Hellerman St.	"	Elbridge St.
Calvert Street	Princeton Ave.	"	St.Vincent St.
Calvert Street	Robbins Street	"	Levick St.
Calvert Street	Tyson Ave.	"	Princeton Ave.
Cardiff Street	Devereaux Ave.	"	Robbins St.
Cardiff Street	Robbins St.	"	Levick St.
Comly Street	Oakland Street	"	Saul Street
Crafton Street	Devereaux Ave.	"	Robbins Street
Crafton Street	Robbins St.	"	Levick St.
Creston Street	Oakland St.	"	Saul St.
Devereaux Avenue	Leonard St.	"	Farnsworth Ave.
Disston Street	Eastwood St.	"	Bustleton Ave.
Dorcas Street	Hellerman St.	"	Levick St.
Dorcas Street	Magee Ave.	"	Levick St.
Eastwood Street	Longshore Ave.	"	Tyson Ave.
Eastwood Street	Magee Ave.	"	Unruh Ave.
Eastwood Street	Princeton Ave.	"	Englewood St.
Eastwood Street	Robbins St.	"	Hellerman St.
Elbridge Street	Everett Ave.	"	Horrocks St.
Elbridge Street	Roosevelt Blvd.	"	Revere St.
Englewood Street	Bustleton Avenue	"	Eastwood Street
Enola Street	Hellerman St.	"	Magee Ave.
Fanshawe Street	Bustleton Ave.	"	Leonard St.
Farnsworth Avenue	Devereaux Ave.	"	Robbins St.
Farnsworth Avenue	Levick St.	"	Hellerman St.
Farnsworth Avenue	Robbins St.	"	Levick St.
Friendship Street	Bustleton Ave.	"	Calvert St.

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Survey District No.8 - continued

Grading Plans  
(continued)

Gilham Street	Battersby Street	to	Brous Avenue
Glenview Street	Castor Avenue	"	Loretto Ave.
Glenview Street	Loretto Ave.	"	Frontenac St.
Hale Street	Ditman St.	"	Jackson St.
Harbison Avenue	Roosevelt Blvd.	"	Hellerman St.
Harbison Avenue	Unruh Ave.	"	Roosevelt Blvd.
Hawthorne Street	Brill Street	"	D.E.80' N.E.
Hellerman Street	Brous Ave.	"	Battersby St.
Hellerman Street	Oakland St.	"	Bustleton Ave.
Hellerman Street	Revere St.	"	Brous Ave.
Hellerman Street	Roosevelt Boulevard	"	Revere St.
Horrocks Street	Hellerman Street	"	Robbins St.
Horrocks Street	St.Vincent St.	"	Cottman Ave.
Kindred Street	Princeton Ave.	"	Cottman Ave.
Knorr Street	Oakland St.	"	Bustleton Ave.
Lardner Street	Bustleton Avenue	"	Leonard St.
Lardner Street	Leonard St.	"	pt.S.E.of Leonard
Lardner Street	Roosevelt Blvd.	"	Benner St.
Large Street	Magee Ave.	"	Hellerman St.
Large Street	Princeton Ave.	"	Cottman Ave.
Leonard Street	Disston St.	"	St.Vincent St.
Leonard Street	Magee Ave.	"	Harbison Ave.
Leonard Street	Robbins St.	"	Levick St.
Leonard Street	Stevens St.	"	Lardner St.
Levick Street	Eastwood St.	"	Bustleton Ave.
Longshore Avenue	Bingham St.	"	Oxford Ave.
Loretto Avenue	Godfrey Ave.	"	Allengrove St.
Magee Avenue	Bustleton Avenue	"	Oakland St.
McKinley Street	Leonard Street	"	Farnsworth Ave.
Miriam Road	Godfrey Avenue	"	Roosevelt Blvd.
Newtown Avenue	Benner Street	"	Higbee Street
Oakland Street	St.Vincent St.	"	Cottman Ave.
Passmore Street	Summerdale Ave.	"	Cranford Ave.
Pearce Street	Duncan St.	"	Church St.
Princeton Avenue	Bustleton Ave.	"	Horrocks St.
Princeton Avenue	Bustleton Ave.	"	Roosevelt Blvd.
Revere Street	Devereaux Ave.	"	Robbins St.
Revere Street	Levick St.	"	Hellerman St.
Revere Street	Robbins St.	"	Levick St.
Revere Street	Unruh Ave.	"	Hellerman St.
St.Vincent St.	Large Street	"	Bustleton Ave.
Saul Street	Princeton Ave.	"	St.Vincent St.
Saul Street	St.Vincent St.	"	Englewood St.
Souder Street	St.Vincent St.	"	Horrocks St.
Stevens Street	Leonard St.	"	pt.S.E.of Leonard St.
Trenton Avenue	Margaret St.	"	Orthodox St.
Unruh Avenue	Eastwood St.	"	Bustleton Avenue

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Survey District No.8 - continued

Water Pipe - Return Plans

Allengrove Street	Roosevelt Blvd.	to	Loretto Ave.
Belgrade Street	Lefevre Street	"	Buckius St.
Devereaux Avenue	Lawndale St.	"	Tabor Ave.
Devereaux Avenue	Mulberry St.	"	Frankford Ave.
Disston Street	Bustleton Ave.	"	Leonard St.
Disston Street	E.of Loretto Ave.	"	Castor Ave.
Dyre Street	Leiper St.	"	Penn St.
Eastwood Street	Knorr St.	"	Longshore Ave.
Frontenac Street	Hellerman St.	"	Gilham St.
Glenview Street	Bustleton Ave.	"	Leonard St.
Glenview Street	Leonard St.	"	Roosevelt Blvd.
Hasbrook Avenue	Vankirk St.	"	Comly St.
Hellerman Street	Large St.	"	Horrocks St.
Horrocks Street	112' S.of Hellerman St.	"	108' N.of Hellerman St.
Horrocks Street	107'3" S.of Levick St.	"	107'3" N.of Levick St.
Josephine Street	Orthodox St.	"	Plum St.
Kindred Street	Hellerman St.	"	108' N.of Hellerman
Large Street	Hellerman St.	"	108' N.of Hellerman
Leonard Street	103' S.of S.C.L.Disston St.	"	Tyson Ave.
Leonard Street	122' S.of Glenview St.	"	113' N.of Glenview
Levick Street	Large Street	"	Horrocks St.
Levick Street	Summerdale Ave.	"	Frontenac St.
Longshore Avenue	Montour St.	"	Whitaker Ave.
Loretto Avenue	Allengrove St.	"	Godfrey Ave.
Magee Avenue	Bustleton Ave.	"	Roosevelt Blvd.
Miriam Road	Roosevelt Blvd.	"	Godfrey Avenue
Montour Street	Longshore Avenue	"	112'6" N.of Longshore
Pratt Street	Cottage Street	"	Valley St.
Roosevelt Blvd.	Glenview St.	"	Longshore Ave.
Sackett Street	Knorr St.	"	Tyson Ave.
Souder Street	Hellerman St.	"	108' N.of Hellerman
Summerdale Avenue	Hellerman St.	"	112' S.of Hellerman
Summerdale Avenue	Levick St.	"	pt.98' 10" North
Summerdale Avenue	Magee Avenue	"	124' 9" S.of Magee Ave.
Summerdale Avenue	Magee Avenue	"	120'3" N.of Magee Ave.
Tyson Avenue	Castor Avenue	"	Bustleton Ave.
Unruh Avenue	E.H.L.of Leonard St.	"	127' W.of W.H.L.
			Leonard
Whitaker Avenue	133' S.of Longshore Ave.	"	112' N.of Longshore
Wyoming Avenue	200' E.of E.H.L. Summerdale	"	495'10" E.of E.H.L.of Summerdale Ave.

Sewers - Base Plans

Akron Street	Levick St.	to	Hellerman St.
Akron Street	Magee Avenue	"	Knorr St.
Akron Street	Princeton Ave.	"	St.Vincent St.
Ashland Street	Frankford Creek	"	Adams Avenue
Bath Street	Orthodox St.	"	Hedley St.
Bustleton Avenue	Cheltenham Ave.	"	Comly St.

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Survey District No.8 - continued

Sewers - Base Plans

Bustleton Avenue	Benner Street	to	Devereaux Ave.
Belgrade Street	Lefevre Street	"	Buckius St.
Benner Street	Oakland St.	"	Bustleton Ave.
Benner Street	Reach St.	"	Newtown Ave.
Bustleton Avenue	Longshore Avenue	"	Disston St.
Bustleton Avenue	St.Vincent St.	"	Cottman Ave.
Calvert Street	Cottman Ave.	"	St.Vincent St.
Calvert Street	Robbins St.	"	Levick St.
Cardiff Street	Devereaux Ave.	"	Robbins St.
Cardiff Street	Robbins Street	"	Levick St.
Comly Street	135' E.of Milnor St.	"	270' East
Crafton Street	Devereaux Avenue	"	Robbins St.
Crafton Street	Robbins St.	"	Levick St.
Deal Street	Kensington Ave.	"	580' N.W.of Roman
Devereaux Avenue	Leonard Street	"	Farnsworth Ave.
Devereaux (NE sd.)	Farnsworth Avenue	"	Mershon St.
Eastwood Street	Princeton Ave.	"	Englewood St.
Elbridge Street	Revere Street	"	Roosevelt Blvd.
Elbridge Street	Everett Ave.	"	Horrocks St.
Fanshawe Street	Leonard St.	"	Bustleton Ave.
Farnsworth Ave.	Robbins St.	"	Levick St.
Farnsworth Ave.	Devereaux Ave.	"	Robbins St.
Friendship St.	Bustleton Ave.	"	Roosevelt Blvd.
Gilham Street	Enola Street	"	Eastward to D.E.
Gilham Street	Brous Avenue	"	Battersby St.
Glenview Street	Whitaker Ave.	"	Pennway St.
GlenviewStreet	Bingham Street	"	Oxford Ave.
Hale Street	Ditman Street	"	Jackson Street
Hasbrook Avenue	Benner St.	"	Devereaux Ave.
Hedley Street	Bath Street	"	Richmond St.
Horrocks Street	Levick St.	"	Robbins Street
Horrocks Street	Magee Avenue	"	Hellerman St.
Kerper Street	Whitaker Avenue	"	Pennway St.
Kindred Street	Hellerman St.	"	Magee Ave.
Knorr Street	Bustleton Ave.	"	Roosevelt Blvd.
Knorr Street	Eastwood St.	"	Bustleton Ave.
Lardner Street	Brous Ave.	"	Battersby St.
Lardner Street	Hasbrook Avenue	"	Shelborne St.
Lardner Street	Roosevelt Blvd.	"	Benner St.
Lardner Street	Bustleton Ave.	"	Leonard St.
Leonard Street	Robbins St.	"	Levick St.
Leonard Street	Cottman Ave.	"	St.Vincent St.
Leonard Street	Magee Ave.	"	Herbison Ave.
Levick Street	Revere St.	"	Mershon St.
Levick Street	Eastwood St.	"	Akron Street
Levick Street	Revere St.	"	Roosevelt Blvd.
Longshore Avenue	Whitaker Ave.	"	Pennway St.
McKinley Street	Leonard St.	"	Farnsworth Ave.
McKinley St.	Palmetto St.	"	Rising Sun Ave.
Newtown Avenue	Higbee St.	"	Benner St.
Palmetto Street	Robbins St.	"	McKinley St.
Passmore Street	Brous Ave.	"	Battersby St.
Penn Street	Comly St.	"	Vankirk St.
Princeton Avenue	Horrocks St.	"	Large St.

Survey District No.8 - continued

Sewers - Base Plans  
(Continued)

Princeton Avenue	Bustleton Avenue	to	Calvert Street
Revere Street	Hellerman Street	"	Levick St.
Revere Street	Robbins St.	"	Levick St.
Revere Street	Devereaux Ave.	"	Robbins St.
Richmond Street	Luzerne Street	"	Adams Avenue
Richmond Street	Adams Avenue	"	Juniata St.
Robbins Street	Everett Ave.	"	Eastwood St.
Robbins Street	Langdon St.	"	Algon Ave.
Robbins Street	Leonard St.	"	Farnsworth Ave.
Robbins Street	Eastwood St.	"	Roosevelt Blvd.
Robbins Street	Farnsworth Ave.	"	Mershon St.
Romain Street	Frankford Creek Intercepting Sewer	"	Deal Street
Roosevelt Boulevard (N.W.sd.)	St.Vincent Street	"	Cottman Avenue
Roosevelt Blvd.(N.W.side)	Magee Avenue	"	pt.170' N.E.of Harbison
St.Vincent St.	Calvert St.	"	Roosevelt Blvd.
Saul Street	Princeton Ave.	"	Englewood St.
Souder Street	Hellerman St.	"	Magee Ave.
Stevens Street	Hasbrook Ave.	"	Shelborne St.
Tabor Avenue	Harrison St.	"	Godfrey Ave.
Unruh Avenue	Eastwood St.	"	Bustleton Ave.
Vankirk Street	Saul Street	"	E.of Bustleton Ave.
Wilmot Street	Ditman Street	"	Tackawanna St.

Paving - Stakes

Algon Avenue	Levick Street	to	Devereaux Avenue
Barnard Avenue	Cottman Ave.	"	St.Vincent St.
Battersby Street	Cottman Ave.	"	St.Vincent St.
Battersby St.(W.shld.)	N.C.L. Lardner Street	"	105 ft.north
Battersby St.(W.shld.)	S.C.L. Lardner Street	"	75 feet south
Battersby Street	St.Vincent St.	"	Cottman Ave.
Battersby Street	Unruh Avenue	"	Hellerman St.
Benner Street	Brous Ave.	"	Revere St.
Bridge Street	Rutland St.	"	Oxford Ave.
Brous Avenue	Unruh Ave.	"	Fanshawe St.
Bustleton Ave.(E.shld.)	N.C.L. Magee Ave.	"	108 feet north
Bustleton Ave.(E.shld.)	S.C.L. Magee Avenue	"	75 ft.south
Comly Street	Lawndale St.	"	Tabor Ave.
Disston Street	Rowland Ave.	"	Hawthorne St.
Eastwood Street	Magee Avenue	"	Longshore Ave.
Elbridge Street	Frontenac St.	"	Summerdale Ave.
Fanshawe Street	Battersby St.	"	Revere St.
Frontenac Street	Levick St.	"	Magee Avenue
Gillespie Street	Devereaux Ave.	"	Robbins St.
Glenview St.(shld.)	Oxford Avenue	"	Bingham St.
Godfrey Avenue	Roosevelt Blvd.	"	Loretto Avenue
Godfrey Avenue	Tabor Avenue	"	Whitaker Ave.
Harrison Street	Montour St.	"	Whitaker Ave.
Hasbrook Avenue	Vankirk St.	"	Comly St.
Hawthorne Street	Benner St.	"	Devereaux Ave.
Hellerman Street	Large Street	"	Horrocks St.

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Survey District No.8 - continued

Paving - Stakes  
(continued)

Hellerman Street	Loretto Avenue	to	Summerdale Avenue
Hellerman Street	Algon Avenue	"	90 feet west
Horrocks Street	St.Vincent St.	"	Cottman Ave.
Kerper Street	Summerdale Ave.	"	Algon Avenue
Knorr Street	Frontenac St.	"	Summerdale Ave.
Knorr Street	Summerdale Avenue	"	Algon Avenue
Langdon Street	N.of Cheltenham Ave.	"	S.of Cheltenham Ave.
Langdon St.(E.shld.)	Rosalie Street	"	76 feet south
Langdon Street (E.shld.)	Rosalie St.	"	74 ft.6 in.north
Langdon St.(E.shld.)	Vankirk St.	"	76 ft.south
Langdon St. (E.shld.)	Vankirk St.	"	77 ft.6 in.north
Lardner Street	Brous Ave.	"	Battersby St.
Leonard Street	Devereaux Ave.	"	Robbins St.
Leonard St.	115' S.of Longshore Ave.	"	106' N.of Longshore Ave.
Levick Street	115' S.of Large St.	"	Horrocks St.
Levick Street	Frontenac St.	"	100' W.of Algon Ave.
Longshore Avenue	85' W.of Eastwood St.	"	Leonard St.
Longshore Avenue	Montour St.	"	Whitaker Ave.
Magee Avenue	Battersby St.	"	Bustleton Ave.
Magee Avenue	Horrocks St.	"	Oakland St.
McKinley Street	Leonard St.	"	Bustleton Ave.
Newtown Avenue	Comly St.	"	Higbee St.
Oakland Street	Magee Ave.	"	Unruh Ave.
Oakland Street	Longshore Ave.	"	Tyson Ave.
Passmore Street	Castor Ave.	"	Algon Ave.
Princeton Avenue	Battersby St.	"	Hawthorne St.
Revere Street	Devereaux Ave.	"	Benner St.
Robbins Street	Bustleton Ave.	"	Leonard St.
Rupert Street	St.Vincent St.	"	Cottman Ave.
Rutland Street	Bridge St.	"	Oxford Ave.
Sackett Street	Tyson Ave.	"	Knorr St.
St.Vincent St.	Battersby St.	"	Brous Avenue
St.Vincent St.	Brous Avenue	"	Hawthorne St.
Summerdale Ave.(E.shld.)	56' N.of Elbridge	"	61' N.of Hellerman
Summerdale Ave.(W.shld.)	Levick St.	"	100' S.of Magee Ave.
Summerdale Avenue	Robbins Street	"	79' S.of Greeby St.
Summerdale Avenue	78' N.of Greeby	"	Magee Avenue
Summerdale Avenue	Unruh Avenue	"	Knorr Street
Tabor Avenue (W.shld.)	Comly Street	"	Benner Street
Tyson Avenue	Rowland Avenue	"	Battersby St.
Tyson Avenue	Large Street	"	Eastwood St.
Unruh Avenue	Eastwood Street	"	Oakland Street
Wellington Street	Battersby Street	"	Hawthorne St.
Whitaker Avenue	Godfrey Avenue	"	Adams Avenue
Wyoming Avenue	"K" Street	"	Castor Avenue

Repaving - Stakes

Penn Street	Orthodox Street	to	Oxford Avenue
Rising Sun Ave.(track area)	Devereaux Avenue	"	Adams Avenue
Ruan Street	Tackawanna Street	"	Frankford Avenue
Sanger Street	Penn Street	"	Saul Street
Sellers Street	Frankford Avenue	"	Oakland Street
Wyoming Avenue	"K" Street	"	Castor Avenue

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Survey District No.8 - continued

Grading - Stakes

Akron Street	Magee Avenue	to	Knorr Street
Akron Street	Princeton Avenue	"	St.Vincent St.
Bradford Street	Cottman Avenue	"	St.Vincent St.
Brighton Street	Bustleton Avenue	"	Calvert St.
Brous Avenue	Unruh Avenue	"	Hellerman St.
Calvert Street	Robbins Street	"	Levick St.
Calvert Street	Tyson Avenue	"	Princeton Ave.
Cardiff Street	Devereaux Avenue	"	Robbins St.
Cardiff Street	Robbins Street	"	Levick Street
Crafton Street	Devereaux Avenue	"	Robbins Street
Crafton Street	Robbins Street	"	Levick Street
Devereaux Avenue	Roosevelt Boulevard	"	Leonard St.
Disston Street	Eastwood Street	"	Bustleton Avenue
Eastwood Street	Longshore Avenue	"	Tyson Avenue
Eastwood Street	Princeton Avenue	"	Englewood Street
Eastwood Street	Robbins Street	"	Hellerman Street
Englewood Street	Bustleton Avenue	"	Eastwood Street
Everett Avenue	Magee Ave.	"	McKinley St.
Farnsworth Avenue	Devereaux Ave.	"	Robbins St.
Farnsworth Avenue	Robbins St.	"	Levick St.
Gilham Street	Brous Avenue	"	Revere St.
Glenview Street	Frontenac St.	"	Summerdale Ave.
Glenview Street	Roosevelt Blvd.	"	Bustleton Ave.
Hawthorne Street	Brill Street	"	80 ft.N.E.
Hellerman Street	Horrocks Street	"	Eastwood Street
Horrocks Street	Magee Avenue	"	Robbins Street
Horrocks Street	St.Vincent St.	"	Cottman Ave.
Kindred Street	Magee Avenue	"	Hellerman Street
Kindred Street	Princeton Ave.	"	Cottman Ave.
Knorr St.	Eastwood St.	"	Bustleton Ave.
Knorr St.	Summerdale Ave.	"	Frontenac St.
Large Street	Magee Avenue	"	Hellerman St.
Large Street	Princeton Avenue	"	Cottman Street
Leonard Street	Knorr St.	"	250 ft.south
Magee Avenue	Bustleton Ave.	"	Oakland St.
Mulberry Street	Benner St.	"	Devereaux Ave.
Oakland Street	St.Vincent St.	"	Cottman Ave.
Passmore Street	Brous Avenue	"	Battersby St.
Revere Street	Robbins St.	"	Levick St.
Revere Street	Unruh Ave.	"	Hellerman St.
St.Vincent Street	Large Street	"	Bustleton Ave.
Souder Street	Magee Avenue	"	Hellerman St.
Souder Street	St.Vincent St.	"	Horrocks St.
Unruh Avenue	Eastwood St.	"	Bustleton Ave.

Survey District No.8 - continued

Sewers - Staked

Algon Avenue	Devereaux Avenue	to	Levick Street
Benner Street	Reach Street	"	Newtown Ave.
Brighton Street	Bustleton Ave.	"	Calvert St.
Brous Avenue	Elbridge St.	"	Hellerman St.
Bustleton Avenue	Princeton Ave.	"	Disston St.
Bustleton Avenue	Longshore Ave.	"	Disston St.
Calvert Street	Cottman Ave.	"	St.Vincent St.
Calvert Street	Tyson Ave.	"	Princeton Ave.
Cheltenham Avenue	Summerdale Ave.	"	Langdon St.
Cheltenham Avenue	County Line	"	Reach St.
Devereaux Avenue	Tabor Ave.	"	Lawndale St.
Devereaux Avenue	Leonard St.	"	Roosevelt Blvd.
Disston Street	Bustleton Avenue	"	Eastwood St.
Disston Street	Bustleton Ave.	"	Roosevelt Blvd.
Dorcas Street	Magee Ave.	"	Levick St.
Eastwood Street	Magee Ave.	"	Unruh Ave.
Eastwood Street	Disston St.	"	Tyson Ave.
Eastwood Street	Roosevelt Boulevard	"	Hellerman St.
Elbridge Street	Everett Ave.	"	Horrocks St.
Elmhurst Street	Levick St.	"	Robbins St.
Fanshawe Street	Battersby St.	"	Revere St.
Fanshawe Street	Hasbrook Ave.	"	Summit S.E.
Fanshawe Street	Leonard St.	"	Bustleton Ave.
Glenview Street	Bingham St.	"	Oxford Ave.
Glenview Street	Bustleton Ave.	"	Roosevelt Blvd.
Hasbrook Avenue	Benner St.	"	Devereaux Ave.
Horrocks Street	St.Vincent Street	"	Cottman Ave.
Kerper Street	Hasbrook Ave.	"	Oakley St.
Kerper Street	Oxford Ave.	"	Bingham St.
Knorr Street	Bingham St.	"	Oxford Ave.
Lardner Street	Brous Ave.	"	Battersby St.
Leonard Street	Cottman Ave.	"	St.Vincent St.
Leonard Street	Magee Avenue	"	Harbison Ave.
Levick Street	Langdon St.	"	Summerdale Ave.
Loretto Avenue	Allengrove Street	"	Godfrey Ave.
Magee Avenue	Battersby St.	"	Roosevelt Blvd.
Miriam Road	Roosevelt Boulevard	"	Godfrey Ave.
Newtown Avenue	Sanger St.	"	Godfrey Ave.
Newtown Avenue	Higbee St.	"	Benner St.
Oakland Street	St.Vincent St.	"	Cottman Ave.
Passmore Street	Cranford Ave.	"	Summerdale Ave.
Passmore Street	Brous Ave.	"	Battersby St.
Princeton Avenue	Bustleton Ave.	"	Calvert St.
Rising Sun Avenue	Howell St.	"	Comly St.
Roosevelt Blvd.	Knorr Street	"	Longshore Ave.
Roosevelt Blvd.	Everett Avenue	"	Eastwood St.
Roosevelt Blvd.	Magee Avenue	"	170' N.E.
St.Vincent St.	Summerdale Avenue	"	Montour St.
St.Vincent St.	Calvert St.	"	Roosevelt Blvd.
St.Vincent St.	Bustleton Ave.	"	Large St.
Sanger Street	Newtown Avenue	"	Reach St.
Souder Street	Hellerman St.	"	Magee Ave.
Summerdale Avenue	Cottman Ave.	"	St.Vincent St.
Tyson Avenue	Bustleton Ave.	"	Roosevelt Blvd.
Tyson Avenue	Bustleton Ave.	"	Eastwood St.
Unruh Avenue	Hasbrook Ave.	"	Oakley St.
Weymouth St.	Sanger St.	"	Cheltenham Ave.

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Survey District No. 8 - continued

Water Pipe - Stakes

Belgrade Street	Lefevre Street	to	Buckius Street
Bustleton Avenue	Hellerman Street	"	Tyson Avenue
Elbridge Street	Roosevelt Blvd.	"	Farnsworth Ave.
Fanshawe St.	Bustleton Ave.	"	Leonard St.
Farnsworth Ave.	Levick St.	"	Magee Ave.
Hellerman Street	Bustleton Ave.	"	85' W.of Eastwood St.
Leonard Street	Magee Ave.	"	Unruh Ave.
Levick Street	84' E.of Eastwood St.	"	85' W.of Eastwood St.
Levick Street	Large St.	"	Horrocks St.
Levick Street	Roosevelt Blvd.	"	Farnsworth Ave.
Magee Avenue	Bustleton Ave.	"	Roosevelt Blvd.
Magee Avenue	Kindred St.	"	Bustleton Ave.
Magee Avenue	Roosevelt Blvd.	"	Battersby St.
Pratt Street	Valley St.	"	Cottage St.
Roosevelt Blvd.	Bustleton Ave.	"	Elbridge St.
Robbins Street	85' W.of Eastwood St.	"	30' E.of Eastwood St.
Wyoming Avenue	200' E.of Summerdale	"	514' E.of Summerdale

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NINTH DISTRICT

Preliminary Assessment Plans - Water Pipe

Mermaid Lane	Stenton Avenue	to	Crittenden Street
Pechin Street	Hermit Street	"	Ridge Avenue
Umbria Street	Paoli Avenue	"	Parker Avenue

Water Pipe Plan and Assessment Bills

Crittenden Street	Duval Street	to	Washington Lane
Crittenden Street	Duval Street	"	Johnson St.
Harner Street	Ivins Road	"	200' N.of Sunset Ave.
Henry Avenue	Markle St.	"	Hermit St.
Hermit Street	Houghton St.	"	Henry Ave.
Highland Avenue	Germantown Ave.	"	Ardleigh St.
Houghton Street	Hermit St.	"	57' 9" N.of Seville St.
Nixon Street	358' N.of Shawmont Ave.	"	789' N.of Shawmont Ave.
Pechin Street	Hermit Street	"	Ridge Ave.
Pleasant Street	Boyer St.	"	Sprague St.
Seville Street	Houghton St.	"	Henry Ave.
Sprague Street	Sharpnack St.	"	Montana St.
Sunset Avenue	Harner Street	"	Ridge Ave.

Water Pipe Stakes Furnished

Cardeza Street	Stenton Avenue	"	Crittenden St.
Cliveden Street	Stenton Avenue	"	Crittenden St.
Crittenden Street	Duval Street	"	Washington Lane
Crittenden Street	Yerkes Street	"	Barringer St.
Fowler Street	Livezey Street	"	LeRoy Street
LeRoy Street	Pawling Street	"	Silverwood St.
Livezey Street	Pawling Street	"	Silverwood St.
Pleasant Street	Boyer Street	"	Sprague St.
Washington Lane (N)	Stenton Ave.	"	Washington Lane

Paving Plans

Ardleigh Street	Vernon Road	"	Upsal Street
Crittenden Street	Washington Lane	"	Johnson St.
Harner Street	Sunset Avenue	"	Ivins Road
Henry Avenue	Walnut Lane	"	Henry Avenue Bridge
Sunset Avenue	Harner St.	"	Pembroke Road

Paving Stakes Furnished

Crittenden Street	Washington Lane	"	Johnson Street
Houghton Street	Gerhard Street	"	Roxborough Ave.
Osborn Street	Manayunk Ave.	"	Righter St.(private)
Pleasant Street	Sprague St.	"	Boyer St.
Sprague Street	Sharpnack St.	"	Montana St.(Private)

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Survey District No.9 - continued

Repaving Plans

Baynton Street Chelten Avenue to Armat Street

Repaving Stakes Furnished

Cotton Street	Cresson Street	to	Silverwood Street
Grape Street	Cresson Street	"	Silverwood Street
Hermitage Street	Silverwood Street	"	Smick Street
Morris Street	Chelten Avenue	"	Rittenhouse St.
Pensdale Street	Cresson Street	"	Tower St.
Smick Street	Fountain Street	"	Hermitage St.

Improvement Plans

Daniel Street Naomi Street to Walnut Lane (Steps)

Improvement Stakes

Daniel Street	Naomi Street	to	Walnut Lane (Steps)
Musgrave Street	Price Street	"	Reading Co. bridge

Sewer Base Plans

Anderson Street	Cliveden Street	to	Phil-Ellena St.
Cardeza Street	Crittenden Street	"	Anderson St.
Cherokee Street	Telner Street	"	St. Martins Lane
Chestnut Hill Ave.	SW of Germantown Avenue	"	NE of Germantown Ave.
Cliveden Street	Crittenden Street	"	Anderson St.
Germantown Avenue	Norman Lane	"	Bethlehem Pike
Glen Echo Road	McCallum Street	"	S. Mt. Pleasant Road
Greene Street	N. Mt. Pleasant Avenue	"	Allen's Lane
Hortter Street	Crittenden St.	"	Stenton Avenue
Marion Street	S. Mt. Pleasant Road south	"	dead end
Mt. Airy Avenue	Sherman Street	"	Greene St.
Mt. Airy Avenue	Greene Street	"	McCallum St.
Ripka Street	Pechin Street	"	Fleming St.
Sharpnack Street	Crittenden Street	"	Stenton Ave.
Sherman Street	N. Mt. Pleasant Avenue	"	Mt. Airy Ave.
S. Mt. Pleasant Road	McCallum Street	"	Greene St.
Telner Street	Cherokee Street	"	summit 350' NE
Upsal Street	Crittenden Street	"	Belfield Ave.
Washington Lane (S)	Stenton Avenue	"	Washington Lane (N)
Yerkes Street	Crittenden Street	"	Anderson Street
Yerkes Street	Stenton Avenue	"	Crittenden Street

Plans of Completed Sewers

Cardeza Street	Crittenden Street	to	Stenton Avenue
Cliveden Street	Crittenden Street	"	Stenton Avenue
Gorgas Lane	Ridge Avenue	"	Lawnton Street
Germantown Avenue	Sunset Avenue	"	Norman Lane
Hermit Street	Henry Avenue	"	Ridge Avenue
Leverington Ave.	Lawnton Street	"	Henry Ave. and thru Fairmount Park
Pleasant Street	Sprague St.	"	Boyer Street
Roxborough Avenue	Houghton Street	"	Ridge Avenue
Seville Street	Henry Avenue	"	Ridge Avenue
Telner Street	Huron Street	"	350' NE of Cherokee St.

Survey District No.9 - continued

Sewer Stakes Furnished

Cardeza Street	Crittenden Street	to	Stenton Avenue
Cliveden Street	Crittenden Street	"	Stenton Ave.
Gorgas Lane	Ridge Avenue	"	Lawnton Street
Germantown Avenue	Sunset Avenue	"	Norman Lane
Hermit Street	Henry Avenue	"	Ridge Ave.
Leverington Avenue	Lawnton Street	"	Henry Ave.and thru
		"	Fairmount Park
Pleasant Street	Sprague Street	"	Boyer Street
Roxborough Avenue	Houghton Street	"	Ridge Ave.
Seville Street	Henry Avenue	"	Ridge Avenue
Telner Street	Huron Street	"	350' NE of Cherokee St.

Grading Plans

Anderson Street	Cliveden Street	"	Phil-Ellena St.
Ardleigh Street	Upsal Street	"	Phil-Ellena St.
Barnes Street	Hermit Lane	"	Henry Avenue
Crittenden Street	Upsal Street	"	Phil-Ellena St.
Hortter Street	Crittenden Street	"	Stenton Ave.
Sharpnack Street	Crittenden Street	"	Stenton Ave.
Upsal Street	Crittenden Street	"	Belfield Avenue
Yerkes Street	Crittenden Street	"	Anderson St.
Yerkes Street	Crittenden Street	"	Stenton Ave.

Grading Stakes

Barnes Street	Hermit Lane	"	Henry Avenue
Cardeza Street	Stenton Avenue	"	Crittenden St.
Cliveden Street	Stenton Avenue	"	Crittenden Street
Crittenden Street	Barringer Street	"	Yerkes Street
Hermit Street	Henry Avenue	"	Houghton Street
Marion Street	S.Mt.Pleasant Road south	"	dead end
Upsal Street	Stenton Avenue	"	Crittenden Street

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SEWERS

TENTH DISTRICT

Lines and Grades Furnished for Sewers

Chelwynde Avenue	75th St.	to	79th St. (Drain)
Seventy-eighth St.	Chelwynde Ave.	"	Dicks Ave. (Drain)

Lines and Grades Furnished for Paving

Forty-ninth St.	Grays Ave.	to	Botanic Ave. (Work done for 7th District)
Sixty-eighth St.	Dorel St.	"	Grovers Ave.
Sixth-seventh St.	Dorel St.	"	Grovers Ave.
Sixty-third St.	Lindbergh Blvd.	"	Eastwick Ave.

Lines and Grades Furnished for Repaving

Theodore St.	69th St.	to	70th St.
Wheeler St.	57th St.	"	58th St.

Plans Made for Street Improvement

Bartram Avenue	85th St.	"	87th St.
Chelwynde Ave.	79th St.	"	84th St.
Eighty-sixth St.	Tinicum Ave.	"	Eastwick Ave.
Elmwood Avenue	Lindbergh Blvd.	"	56th St.
Island Ave. (S.W. Footway)	Buist Ave.	"	Dicks Ave. (Curb plan only)
Lindbergh Blvd.	Grays Ave.	"	56th St.
Seventy-fifth St.	Buist Ave.	"	Dicks Ave.
Seventy-sixth St.	Buist Ave.	"	Dicks Ave.
Seventy-seventh St.	Buist Ave.	"	Chelwynde Ave.

Lines and Grades Furnished

Chelwynde Ave.	Island Ave.	to	77th St.
Chelwynde Ave.	77th St.	"	79th St.
Seventy-eighth St.	Buist Ave.	"	Dicks Ave.

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SEWERS COMPLETED DURING 1948 FOR NEW HOUSING

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Afton Street from Castor Avenue to Frontenac St. Loretto Avenue from Afton St. to Napfle Avenue Loretto Avenue from Glendale Ave. to Afton St.	1821.7	\$ 11,861.18	\$ 37,028.34	\$ 48,889.52
Algon Avenue from Levick St. to Devereaux Avenue Levick Street from Langdon St. to Summerdale Ave.	1394.0	9,299.33	17,799.67	27,099.00
Allengrove Street from Roosevelt Blvd. to Loretto Ave.	176.5	1,106.33	1,215.62	2,321.95
Bleigh Ave. from Leonard St. to Roosevelt Blvd. Tudor Street from Leonard St. to Calvert St. Calvert Street from Cottman Ave. to Bleigh Avenue	2337.0	14,916.12	45,516.70	60,432.82
Bradford Street from Shel mire Ave. to Napfle Ave. Napfle Ave. from Bradford St. to Roosevelt Blvd.	2041.3	10,544.07	87,623.12	98,167.19
Bustleton Avenue from Longshore Ave. to Disston St.	198.0	1,405.52	1,374.68	2,780.20
Calvert Street from Tyson St. to Princeton Avenue Brighton Street from Bustleton Ave. to Calvert St.	1657.0	9,503.88	16,315.27	25,819.15
Calvert Street from Cottman Ave. to St. Vincent St. St. Vincent St. from Calvert St. to Roosevelt Blvd.	1076.0	7,107.49	12,871.51	19,979.00
Cardeza Street from Crittenden St. to Stenton Ave. Cliveden Street from Crittenden St. to Stenton Ave.	1534.5	7,117.18	28,314.18	35,431.36
Cheltenham Ave. from Summerdale Avenue to Langdon St.	561.0	3,220.58	12,796.07	16,016.65
City Avenue from 76th Street to Outlets in Cobbs Creek Park	2894.0	5,024.35	86,380.77	91,405.12
Cottage Street from Knorr Street to Unruh Ave.	551.0	2,136.0	8,992.84	11,128.84
Dauphin Street from 52nd St. to Dakota St.	289.5	1,767.65	4,543.65	6,311.30
Devereaux Ave. from Tabor Ave. to Lawndale Street	551.0	1,883.26	3,930.64	5,813.90

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<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Disston Street from Bustleton Avenue to Eastwood St. Tyson Ave. from Bustleton Ave. to Eastwood Street Eastwood Street from Disston St. to Tyson Avenue	1249.0	7,597.18	12,112.97	19,710.15
Dorcas Street from Magee Avenue to Levick Street	1104.0	6,397.36	10,100.64	16,498.00
Eastwood Street from Magee Avenue to Unruh Street	486.0	3,080.00	6,408.00	9,488.00
Edgemore Road from Haverford Avenue to Media Street	400.0	2,311.87	6,931.18	9,243.05
Elbridge Street from Everett Avenue to Horrocks St.	418.0	2,305.50	6,325.55	8,631.05
Elmhurst Street from Levick Street to Robbins Street Troffer Street from Levick Street to Robbins Street Robbins Street from Langdon Street to Algon Street	1470.0	9,244.36	14,048.09	23,292.45
Fayette Street from Gowen Ave. to Wadsworth Avenue	500.0	3,047.66	3,259.09	6,306.75
Gillespie Street from Devereaux Ave. to Robbins Street	600.0	3,633.34	8,586.22	12,219.56
Glenview Street from Bingham Street to Oxford Avenue	483.0	3,242.75	6,628.67	9,871.42
Hasbrook Ave. from Benner St. to Devereaux Avenue	778.7	3,267.61	21,823.74	25,091.35
Hermit Street from Henry Avenue to Ridge Avenue	1409.5	9,130.37	38,020.89	47,151.26
Knorr Street from Frontenac Street to Summerdale Ave.	546.0	3,568.00	3,727.61	7,295.61
Knorr Street from Bingham St. to Oxford Avenue	785.0	4,163.33	10,762.90	14,926.23
Lardner Street from Brou Avenue to Battersby Street	500.0	3,800.00	1,984.40	5,784.40
Loretto Avenue from Allengrove St. to Godfrey Avenue Miriam Road from Roosevelt Blvd. to Godfrey Avenue	1028.6	3,746.42	10,298.05	14,044.47
Magee Avenue from Battersby Street to Roosevelt Blvd. Fanshawe Street from Battersby St. to Revere St.	2699.0	15,323.30	39,598.65	54,921.95
McPherson Street from Pickering St. to Cheltenham Ave. Elsine St. from Cheltenham Avenue to Pickering Ave. Gowen Ave. from Pickering Ave. to Cheltenham Ave. Cedarbrook Street from Gowen Ave. to Wadsworth Ave.	2006.8	12,485.54	33,328.51	45,814.05
Mt. Airy Avenue from Forrest Ave. to Thouron Avenue Thouron Ave. from Mt. Airy Avenue to Gowen Avenue	1433.0	7,871.16	24,575.47	32,446.63

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<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>To Cost</u>
Mt. Airy Avenue from Forrest Avenue to Michener Ave. Williams Avenue from Mt. Airy Ave. to Wadsworth Ave.	1533.9	8,520.28	26,542.31	35,062.59
Mulberry Street from Benner St. to Devereaux Avenue	857.4	2,932.80	11,419.65	14,352.45
Newtown Avenue from Higbee Street to Benner Street Benner Street from Reach Street to Newtown Avenue	802.0	4,986.46	16,531.59	21,518.05
Passmore Street from Cranford Ave. to Summerdale Ave.	772.0	4,463.34	7,861.35	12,324.69
Passmore Street from Cranford Avenue to Castor Avenue Hellerman Street from Cranford Avenue to Castor Avenue	878.0	5,296.68	12,540.57	17,837.25
Passmore Street from Brous Ave. to Battersby Street Brous Avenue from Elbridge Street to Hellerman Street	1900.1	10,200.85	20,593.64	30,794.49
Pickering Street from Wadsworth St. to Ivy Hill Road Williams Avenue from Wadsworth Avenue to Gowen Avenue	2388.0	13,466.62	39,455.38	52,922.00
Pleasant Street from Sprague Street to Boyer Street	738.9	4,442.84	16,593.01	21,035.85
Roosevelt Blvd. (N.W. side) from Everett Ave. to Eastwood St. Eastwood Street from Roosevelt Blvd. to Hellerman St.	1865.0	8,216.05	32,936.70	41,152.75
Roosevelt Blvd. from Knorr St. to Longshore Avenue Glenview Street from Bustleton Ave. to Roosevelt Blvd. Disston Street from Bustleton Ave. to Roosevelt Blvd.	3185.0	18,385.41	35,679.87	54,065.28
Roosevelt Blvd. (N.W. Side) from Magee Ave. to a point about 170' NE of Harbison Avenue Leonard St. from Magee Ave. to Harbison Avenue Fanshawe Street from Leonard St. to Bustleton Ave.	1623.0	8,377.87	15,639.62	24,017.49
Roosevelt Blvd. (NW side) from Hellerman St. to Magee Ave. Magee Ave. from Roosevelt Blvd. to Bustleton Ave.	1538.53	7,849.15	26,865.91	34,715.06
Sharpnack St. from Stenton Ave. to Mansfield Ave.	452.0	2,764.80	7,817.50	10,582.30
Shelmire Ave. from Loretto Ave. to Glendale Avenue Belden St. from Cottman Ave. to Shelmire Ave.	1805.2	10,625.78	27,280.58	37,906.36

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1948

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Sherwood Road from 71st St. to outlets in Morris Park 71st St. and 72nd St. from Sherwood Rd. to Brentwood Rd. Woodbine Ave. from 72nd St. to Brentwood Road Drainage Right of Way from Woodbine Ave. to Morris Park Line	4904.0	18,428.53	84,629.54	103,058.07
Morris Park to Outlets therein Brentwood Road from 72nd Street to Woodbine Avenue 72nd Street from Brentwood Road to Woodbine Avenue	1058.5	5,989.36	23,260.24	29,249.60
Sherwood Road from Haverford Ave. to West End Drive Greenhill Road from Haverford Avenue to Sherwood Road Brentwood Road from Haverford Ave. to West End Drive	538.0	3,077.28	5,875.72	8,953.00
Sherwood Road from 77th Street to Ashurst Road	2299.0	14,656.04	36,248.21	50,904.25
Souder St. from St. Vincent St. to Horrocks Street Horrocks Street from St. Vincent St. to Cottman Ave. Oakland St. from St. Vincent St. to Cottman Avenue	2291.2	10,798.52	99,439.08	110,237.60
St. Vincent St. from Bustleton Ave. to Large Street 75th St. from Brookhaven Road to Sherwood Road Brentwood Road from 75th St. to Summit S.W.	623.0	3,697.27	7,887.69	11,584.96
77th St. from City Ave. to Sherwood Road Overbrook Ave. from 76th St. to Ashurst Road Ashurst Road from Sherwood Road to Overbrook Ave. Meribrook Road from Sherwood Road to Overbrook Ave. Farrington Road from Sherwood Road to Overbrook Ave. Pennington Road from Sherwood Road to Overbrook Ave.	4167.0	25,648.90	59,885.65	85,534.55
77th Street from Woodbine Ave. to Sherwood Road Brentwood Road from summit SW of 75th St. to 77th St. Sherwood Road from 77th St. to 76th St. 76th St. from Sherwood Road to Brentwood Road	3093.0	19,041.89	62,510.11	81,552.00
Teesdale St. from Brous Ave. to Duffield Street Temple Road from Mt. Airy Ave. to Wadsworth Avenue Temple Road from Gowen Ave. to Wadsworth Avenue Fayette Street from Mt. Airy Ave. to Wadsworth Ave.	518.0	3,035.88	9,335.12	12,371.00
	1362.0	8,347.10	9,136.15	17,483.25

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1948

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Thouron Avenue from Sharpnack St. to Vernon Road	1262.67	7,506.12	19,779.11	27,285.23
Wadsworth St. from Forrest Ave. to Cheltenham Ave.	2450.3	13,713.11	65,601.15	79,314.26
Winchester Ave. from Welsh Road to summit N.W. of Stamford Street	2019.0	7,098.62	40,252.03	47,350.65
<b>TOTAL</b>	81,903.80	\$442,676.24	\$1,444,821.17	\$1,887,497.41

SEWERS COMPLETED DURING 1948 FOR PURPOSES OTHER THAN NEW HOUSING

Adams Ave. from Thompson St. to Almond Street	1588.0	\$ 7,720.00	\$ 42,721.42	\$ 50,441.42
Juniata St. from Thompson St. to Almond Street	354.50	2,266.58	7,101.24	9,367.82
Thompson St. from Roxborough St. to Juniata Street	1963.0	6,831.34	77,052.25	83,883.59
Bott Street from Broad Street to Kerbaugh St.	701.0	3,859.32	9,325.43	13,184.75
Castor Ave. from Stanwood St. to Strahle Street	2310.1	15,441.55	52,721.94	68,163.49
Charles Street from Wells Street to Unruh Avenue	3257.3	12,348.36	112,814.11	125,162.47
Unruh Ave. from Frankford Ave. to Charles Street	362.0	1,881.50	6,811.52	8,693.02
Claridge Street from Princeton Ave. to summit South of Bleigh Avenue	2290.0	14,595.43	41,070.19	55,665.62
Cottman Avenue from Claridge Street to Tabor Avenue				
Cottman Avenue from Hasbrook Ave. to Central Avenue				
Ryers Street from Cottman Avenue to Tudor Street				
Central Avenue from Cottman Avenue to Shelmore Avenue				
8th Street from Wellens Street to Duncannon Avenue				
11th Street from Cheltenham Avenue to Medary Avenue				
Champlost Ave. from 13th St. to Park Avenue				
Park Ave. from Nedro Ave. to Champlost Avenue				
Camac Street from 65th Avenue North to 66th Ave. North				
Warnock Street from Spencer Ave. to Godfrey Avenue				

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1948



<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Ferndale Street from Napfle Ave. to Hartel Avenue	5046.1	19,894.22	66,407.09	86,301.31
Hartel Avenue from Ferndale St. to Rockwell Avenue				
Rockwell Avenue from Hartel Ave. to Ridgeway Street				
Ridgeway Street from Rockwell Avenue to Rhawn Street				
Ferndale Street from Hartel Avenue to Chandler Street	1090.5	6,899.09	18,476.58	25,375.67
Chandler Street from Halstead St. to summit E. of Ferndale Street				
Glenview Street from Castor Avenue to Frontenac St.	1200.0	7,724.92	16,939.48	24,664.40
Gorgas Lane from Ridge Avenue to Lawnton Avenue	1003.4	7,300.73	24,550.42	31,851.15
Griffith Street from Castor Ave. to Frontenac Street	1440.5	9,228.22	35,818.28	45,046.50
Loretto Avenue from Loney St. to Griffith Street				
Haines St. from Wister St. to Rodney Street	414.6	2,046.23	6,887.53	8,933.76
Hartel Avenue from Rockwell Ave. to Hasbrook Ave.	1197.3	5,958.76	55,386.54	61,345.30
Hasbrook Ave. from Hartel Ave. to Oxford Avenue				
Hasbrook Ave. from Robbins Street to summit NE				
Newtown Ave. from Levick St. to Robbins Street	620.4	7,214.46	32,765.85	39,980.31
Levick Street from Newtown Ave. to Philadelphia - Montgomery County Line				
Kerper Street from Hasbrook Ave. to Oakley Street	1465.0	11,229.07	34,729.28	45,958.35
Unruh Ave. from Hasbrook Ave. to Oakley Street				
Panshaws Street from Hasbrook Ave. to summit SE				
Kerper Street from Oxford Ave. to Bingham Street	1203.0	7,812.21	15,391.29	23,203.50
Kerper Street from Rising Sun Ave. to Bingham St.	580.6	4,265.75	10,515.65	14,781.40
Lansing St. from Castor Ave. to Frontenac Street				
Loretto Ave. from Napfle Ave. to Hartel Ave.	2972.9	00.00	66,486.73	66,486.73
Napfle Avenue from Castor Ave. to Frontenac Street				
Lawnton Avenue from Medary Avenue to Chelton Avenue	912.0	6,159.58	12,027.07	18,186.65
Park Avenue from Champlost Avenue to Spencer Avenue				

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1948

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Lawnton Avenue from Lakeside Ave. to summit S. of 69th Ave. N.	928.4	5,234.95	38,715.84	43,950.70
Leverington Ave. from Lawnton St. to Henry Avenue and Outlet through Fairmount Park	1616.6	6,749.67	50,163.92	56,913.59
Levick Street from summit West of Oakley St. to Newtown Ave. Shelburne Street from Passmore St. to Robbins Street Hellermer Street from Hasbrook Ave. to summit Southeast of Hasbrook Avenue	3676.9	27,155.91	105,805.89	132,961.80
Newtown Avenue from Passmore Street to Magee Avenue Gilham Street from Newtown Avenue to summit Southeast of Hasbrook Avenue	1195.4	8,268.66	26,865.14	35,133.80
Magee Avenue from Newtown Avenue to summit Southeast of Hasbrook Avenue	459.5	3,140.28	4,780.99	7,921.27
Loney Street from Castor Avenue to Horrocks Street	00.0	00.00	4,499.97	4,499.97
Lurey Street from 4th Street to 5th Street	174.0	400.00	4,141.47	4,541.47
Inlets in Mansfield Avenue between Washington Lane and Stenton Avenue	421.1	2,764.00	5,577.62	8,341.62
Miller Street from E. Clearfield St. to E. Commissioner St.	2478.8	17,018.51	47,149.68	64,168.19
Mole Street from Tasker Street to Morris Street	1201.00	6,933.71	30,851.49	37,785.20
Montour St. from Princeton Ave. to Bleigh Avenue Cottman Avenue from Montour Street to Claridge Street	1928.8	12,198.61	33,310.74	45,509.35
Nedro Ave. from Warnock St. to Marvine Street 11th Street from Nedro Ave. to Champlost Ave. Marvine Street from Nedro Avenue Northward	1379.6	7,079.24	87,929.45	95,008.69
Newtown Avenue from Sanger St. to Godfrey Avenue Sanger Street from Newtown Ave. to Reach Street Weymouth St. from Sanger Street to Cheltenham Ave. Cheltenham Ave. from Montgomery County Line to Reach St.	649.0	2,645.06	6,184.94	8,830.00
Oxford Avenue from Hasbrook Avenue to Rhawn St.				
Pacific Street from Tulip St. to Sepviva Street				

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1948

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Rhawn Street from Bradford St. to Roosevelt Blvd.	450.00	3,405.41	11,741.55	15,146.96
Ripley Street from Castor Ave. to Horrocks Street	1238.3	8,402.84	31,369.85	39,772.69
Rising Sun Avenue from Howell Street to Comly Street	257.0	1,650.92	6,566.97	8,217.89
Roxborough Avenue from Houghton St. to Ridge Ave.	541.8	3,634.81	18,372.37	22,007.18
Seville Street from Ridge Ave. to Henry Ave.	1345.0	8,044.50	39,571.33	47,615.83
2nd Street from Old Second Street to Medro Ave.				
Old 2nd Street from Mascher St. to 2nd St.	814.5	4,088.60	18,292.53	22,381.13
66th Ave. N. from 6th St. to 8th Street				
66th Ave. N. from 8th St. to North Penn. R.R.	1577.6	9,408.61	26,291.96	35,700.57
7th St. from 66th Ave. N. to a point 420' N. of 66th Ave. N.				
69th Ave. N. from 10th St. to 11th St.	701.6	4,867.92	19,196.14	24,064.06
71st Ave. North from Broed St. to 200' West	199.5	1,336.00	6,659.00	7,995.00
Tabor Road from Marwood Road to "D" Street	590.0	4,249.58	12,892.09	17,141.67
Telner St. from Huron Street to summit 350' NE of Cherokee Street	789.44	5,671.48	18,735.40	24,406.88
3d St. from Allegheny Ave. to Westmoreland St.	500.0	3,202.10	7,847.85	11,049.95
3d St. from Cheltenham Ave. to 65th Avenue N.				
Acker Street from 4th St. to 5th Street				
4th St. from 65th Ave. N. to Acker Street	2744.0	10,035.03	69,660.27	79,695.30
65th Avenue N. from 3d St. to 5th Street				
12th Street from 70th Ave. N. to Cheltenham Avenue	582.0	3,637.21	18,862.34	22,499.55
20th Street from Wyncote Ave. to 67th Ave. North	320.0	1,643.98	6,722.90	8,366.88
Verree Road from Griffith St. to Rhawn Street				
Rhawn Street from Verree Road to Ferndale Street	1415.0	9,419.92	32,445.27	41,865.19
Wells Street from Frankford Avenue to Charles St.				
Charles Street from Wells St. to Magee Avenue	726.8	4,440.66	10,043.24	14,483.90

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1948

Location

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Welsh Road from Crispin St. to Rowland Avenue				
Crispin St. from Fuller St. to Welsh Road	2940.0	15,948.82	99,090.67	115,039.49
Fairview Street from Rhawn St. to Welsh Road				
Whitaker Ave. from Adams Ave. to Godfrey Avenue	3782.8	8,659.30	63,286.27	71,945.57
Harrison St. from Montour St. to Whitaker Ave.				
Godfrey Avenue from 600' SE of Tabor Ave. to Whitaker Ave.				
Woolston St. from Eastburn Ave. to Haines Street	305.0	1,857.66	8,417.04	10,274.70
<b>TOTAL</b>	<b>\$69,901.64</b>	<b>\$373,871.27</b>	<b>\$1,718,042.07</b>	<b>\$2,091,913.34</b>

SEWER RECONSTRUCTION COMPLETED DURING 1948

Location

<u>Location</u>	<u>Linear Feet</u>	<u>Total Cost</u>
Christian Street at 9th	30.	\$ 9,306.54
Christian Street at 9th (Sheathing and Shoring)	--	4,950.00
Clearfield, 6th to 8th (2nd contract)	50.	39,906.52
52 - S. of Thompson	31.	11,530.50
Lippincott - Front to "A"	87.14	56,191.75
Morris - 10th to 12th	911.	47,371.24
Morris - 12th to 13th (Force Account)	400.	40,664.95
Morris - 17th to 18th	423.7	25,300.44
Mill Creek Demolition of Buildings	--	13,687.00
Juniper Street Lining	--	24,466.52
<b>TOTAL</b>	<b>1932.84</b>	<b>\$273,375.46</b>

.36 miles

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1948

ACCOUNTING AND REPORTING DIVISION

BUDGET ITEMS

<u>ITEM</u>	<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
A-5 Personal Services	\$ 612,000.00	-	607,303.27
10 Transportation and Expenses not otherwise provided for	1,300.00	-	1,299.39
11 Recording deeds, agreements and permits, advertising City Plans	1,200.00	-	1,160.25
12 Rent of Survey District Offices	11,500.00	-	9,490.00
13 Cleaning Offices	1,200.00	-	907.00
14 Storage of Automobiles and Trucks	2,400.00	-	2,399.35
15 Purchase of Automobiles and Trucks	11,000.00	-	10,978.37
16 Construction of Sewers for Flood Control	20,824.85	-	-
17 Flood Control of Frankford Creek	1,788.16	-	-
18 Post-war Public Works Improvements	330.57	-	214.70
D-1 To pay Deficiency Bills	3,372.80	-	3,372.80
Items 170 to 177 inc. Department of Supplies and Purchases	12,850.00	-	11,559.52
	<u>\$679,766.38</u>	-	<u>\$648,684.65</u>
SR-1 Maintenance, Equipment, Repairs and Replacements of Sewage Disposal Plants, Grit Chamber and Laboratory Supplies and Purchases	8,000.00	-	8,000.00
SR-1 Sewer Rent Reserve, Depreciation, etc.	233,533.98	-	-
SR-2 Repair, Operation and maintenance of buildings, structures and grounds of Sewage Treatment Works	89,237.84	-	60,285.34
SR-3 Construction and re-construction of Sewers	1,200,000.00	756,451.78	422,816.70
SR-A-1 Personal Services	214,892.11	-	149,485.15
	<u>1,745,663.93</u>	<u>756,451.78</u>	<u>640,587.19</u>
	<u>\$2,425,430.31</u>	<u>756,451.78</u>	<u>1,289,271.84</u>

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1948

ACCOUNTING AND REPORTING DIVISION

LOAN ITEMS

<u>ITEM</u>		<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
210 AL	Henry Ave. over Wissahickon Creek	Entire amt. \$3,901.20 transferred 11/5/'48		
380 $\frac{1}{2}$ L	Elimination of grade crossings at 21st-22nd, Allegheny Ave., Westmoreland and Mt. Airy Avenues	121,915.21	-	-
440 $\frac{1}{2}$ L	Highways, Bridges, Viaducts and Bulkheads	2,331.98		787.88
441 L	Municipal Improvements on East Bank of Schuylkill River and Fairmount Park	185,816.73	-	-
462 L	Sewage Disposal	8,864.76	2,784.80	6,069.46
463 CL	Manayunk, Germantown and Chestnut Hill Grade Crossings	145,743.47	-	30,677.26
464 $\frac{1}{2}$ L	Construction of Sewers in Sanitary and Stormwater Drainage System	5,918.79	-	5,916.58
510AL	Improvement-Phila. International Airport	468,045.28	126,168.12	334,355.10
510BL	" North Philadelphia "	1,588,639.18	473,044.78	940,297.65
520AL	Erection, Improvement and Extension of Sewage Disposal System	3,686,763.60	1,012,509.78-2,331,545.39	
520BL	Improvement, construction and extension of sewers and drainage facilities	13,486.68	10,329.67	1,135.50
540AL	Erection, Improvement and extension of Sewage Disposal System	19,709,223.30	8,368,663.75-2,775,548.02	
540BL	Improvement, construction and extension of sewers and drainage facilities	9,150,257.26	1,702,812.44-4,174,002.32	
540 CL	Construction of relief sewers	1,885,238.30	625,335.36	764,220.87
554 AL	Improvement of Frankford Creek	941,873.23	220,348.68	285,033.17
555 L	Agreement with Pennsylvania Railroad (Chinese Wall)	4,300,000.00	-	-
560AL	Improvement of Phila. International Airport	8,967,996.86	1,869,377.02-1,942,341.14	
560 BL	Improvement-North Phila. Airport	1,000,000.00	-	266,358.53

(OVER)

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1948

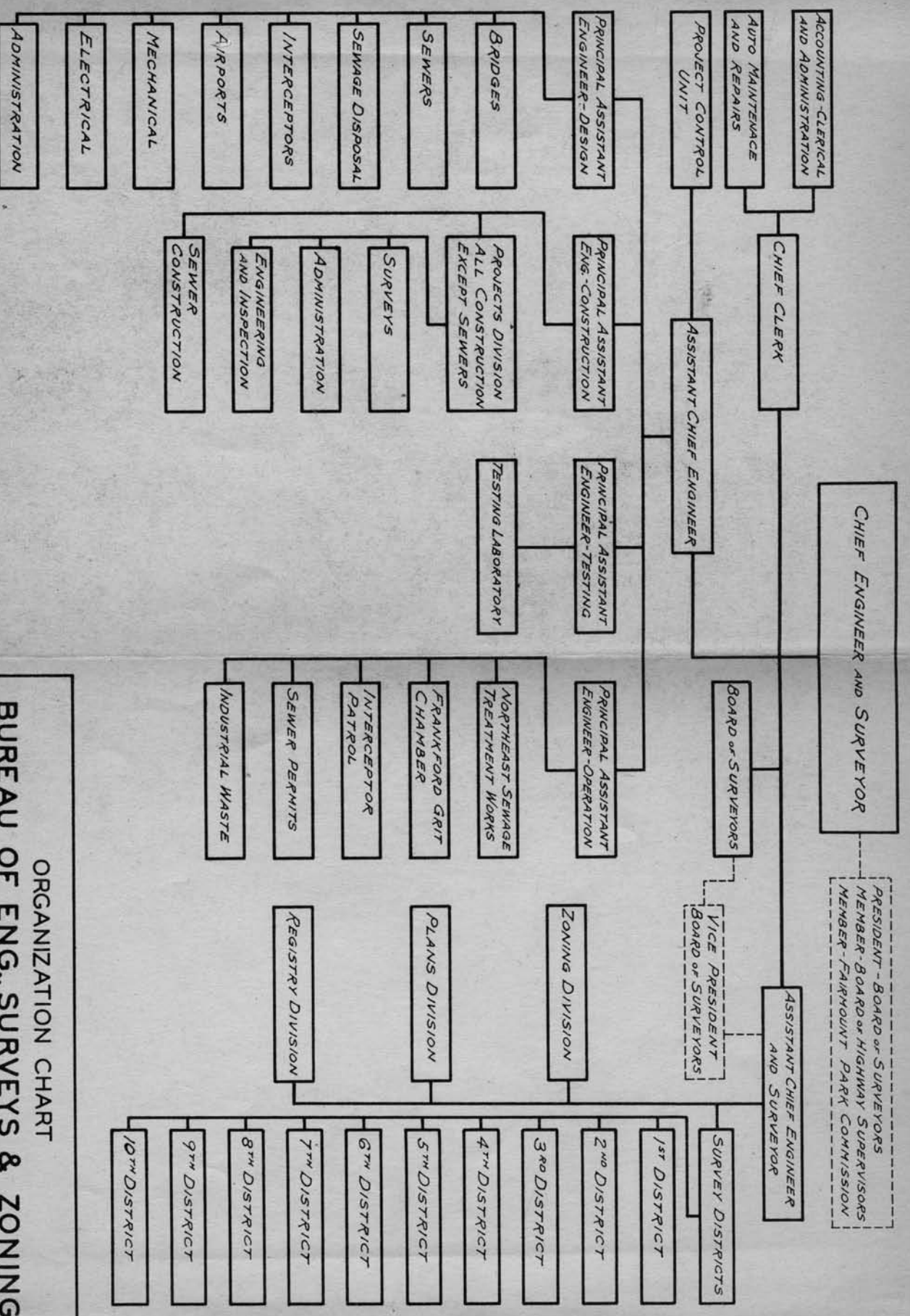
ACCOUNTING AND REPORTING DIVISION

LOAN ITEMS

(continued)

<u>ITEM</u>		<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
571 L	In connection with Pennsylvania Boulevard	399,915.51	-	4,500.00
571AL	Completion of Northeast Village Housing Project	Entire amt.199,967 transferred 4/24/'48		
591CL	Surveys and plans for Parks, Playgrounds and Recreation Centers	15,000.00	-	14,780.00
595 L	Construction and repair of buildings, ground and equipment of Philadelphia Municipal Stadium	323,411.15	169,495.21	143,479.45
642 L	Improvement, Extension and Construction of facilities for Drainage and Flood Control	4,000,000.00	1,187,682.24	12,395.36
		<u>\$56,920,441.29</u>	<u>15,768,551.85</u>	<u>14,033,443.68</u>

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1948



**ORGANIZATION CHART**  
**BUREAU OF ENG., SURVEYS & ZONING**  
 DEPARTMENT OF PUBLIC WORKS  
 DEC. 31ST 1948