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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: **BES-276:PSF:C**

February 10, 1932.

From : Chief Engineer and Surveyor
To : Frank H. Caven, Director
Department of Public Works
Subject : Incandescent Current for 1932

In reply to your letter of February 9th, requesting a revision of electrical current requirements for the year, it has been possible to effect a reduction of \$7,650.00 in the original amount.

The revised amount totalling \$23,750.00, is the lowest possible figure on which the bureau can function satisfactorily.

The revised estimate showing distribution, is attached hereto.

J. H. NEMSON,
Chief Engineer and Surveyor.

Encl.

CC: Mr. Allen ✓
Mr. Buckley
File

1-1932

BUREAU OF ENGINEERING AND SURVEYS

ESTIMATED ELECTRICITY SERVICE REQUIRED FOR THE YEAR 1932

DISTRICT SURVEY OFFICES, as follows:

3017 "F" Street
1428 Glenwood Avenue
7236 Elmwood Avenue
4421 Lancaster Avenue
108 S. 40th Street
1627 Church Lane
1539 Overington Street
6000 Rising Sun Avenue
4713 Mascher Street
8031 Frankford Avenue
2010 Rhawn Street
1825 Grant Avenue

LIGHT	\$	450.00
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FRANKFORD GRIT CHAMBER,

Lycoming and "O" Street	LIGHT AND POWER.....	\$	800.00
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SOUTHWEST SEWAGE PUMPING STATION,

Near Fenrose Ferry Road & Island Road	LIGHT AND POWER.....	\$	5,000.00
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NORTHEAST SEWAGE TREATMENT WORKS,

Wheatsheaf Lane and Rich- mond Street	LIGHT AND POWER.....	\$	<u>17,500.00</u>
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TOTAL	\$	23,750.00
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PSP:C
2-10-32

Work Done By Private Request:-

#1

No. of Lots Surveyed for building' purposes -	1212
No. " properties " " Conveyance or Mortgage purposes -	856
No. " plans made " Conveyance, Architectural and Legal " -	348
Lin. ft. grades given for New Buildings, Curbing' and Driveways -	67538
Lin. ft. lines and grades given for Passenger Rwy Tracks and Public Utilities -	20659
Lin. ft. " " " " " Sewers and Drains -	6597
Lin. ft. of Sewer Laterals and Inlet Connections measured -	5173
Lin. ft. Lines and grades given for grading, paving, repaving' etc.	96392
No. of Cu. Yds. Grading Measured	49698
No. " Sq. " Paving, Repaving' etc. measured and billed	66350
No. assessment Bills made for Municipal Improvements	1088

Work Done By Departmental Request:-

Cur. Engr. and Surveys:-

No. of City Plans prepared	38
No. " Acres surveyed for New Plans, Plan Revision etc.	6364
No. " Reports prepared for Various purposes	1073
No. " Stone Monuments Set.	495
Lin. ft. of Sewers for which plans were prepared	14183
Lin. ft. Business Frontage examined in Commercial Survey	1,738,604
No. of Gas and Naptha lamps examined in Lighting Survey	45000
No. " Sq. Yds. Resurfacing estimated	72000

Bureau of Highways

#2

No. of Plans prepared for Grading, Paving, Repaving etc.	108
Lin. Ft. of Streets for which plans were made -	43118
Lin. Ft. " Stakes given for grading-surfacing etc	44571
No. of Reports prepared on Monument Locations	112

Bureau of Water -

No. of Plans prepared for Water Pipe	39
Lin. ft. of Streets for which plans were made	17615
Lin. Ft. • Lines and Grades given for Water Pipe	6229

Bureau of City Property

No. of Surveys made	2
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Bureau of Street Cleaning

No. of Surveys made	2
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Council Committee on Public Works -

No. of Reports prepared	92
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Department of Law -

No. of Plans Prepared for Board of View and other legal purposes	42
No. Lien Descriptions prepared	125

#3
Departments of Health, Welfare, Architecture ^{and} Utilities, Docks & Ferries -
No of miscellaneous surveys made — 8

~~Total amount of Engineering ^{and} Surveys Contracts — \$ 284,332~~

~~Total " " Highway Bureau " — \$ 152,143~~

~~Cash Receipts — \$ 34,595.21~~

The sharp decline in the volume of all classes of work performed by the survey districts, that occurred during 1931 and the beginning of 1932 was met by the reorganization of the districts under the authority of an Ordinance of Council approved May 12th, 1932. The said reorganization reduced the number of districts from sixteen (16) to eleven (11) by a rearrangement of district boundary lines whereby the districts eliminated were either consolidated as a whole with an adjacent district or subdivided and annexed to two ^{adjacent} districts.

The reorganization of the survey districts was accompanied by a reduction in the surveying personnel from two hundred and thirty-three (233) to one hundred and forty-one (141) and the demotion of a large number of the remaining assistants to lower grades in salary.

Supplementary action was taken in the reorganization of the survey districts in the Budget for 1933. By this second step a reclassification ~~of~~ ⁱⁿ titles was effected that included all assistants excepting the grades of rodman and transitman.

Note: Reorganization of Registry also Lamp Survey



MEMBERS

ZONING COMMISSION

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

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JOHN P. B. SINKLER
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DANIEL C. DUNGHUE
RALPH B. BENCKER
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ARTHUR G. DICKSON
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CHAIRMAN

JOHN H. NEESON
VICE-CHAIRMAN

G. COE FARRIER
ASST. CITY SOLICITOR
COUNSEL

GEO. R. MACKENZIE
ENGINEER SECRETARY

~~1337 COMMERCIAL TRUST BUILDING~~

819 City Hall Annex.

December 31, 1932.

1932 ANNUAL REPORT OF PHILADELPHIA ZONING COMMISSION.

The Philadelphia Zoning Commission respectfully submits for your consideration, the following report of its work during the year 1932.

To submit a Report of the work of the Zoning Commission for the year 1932, it will be necessary to review the progress made since the appointment of the Zoning Commission to date, as preparation of the Ordinance was all done under the former administration.

The Zoning Commission was appointed in June 1929. Its studies were completed on October 15, 1931, and its final report on Zoning Philadelphia was, after nearly two and one-half years study, presented in the form of an Ordinance to His Honor, Harry A. Mackey, then Mayor of Philadelphia.

During the year 1931, the Commission held seventeen Public Hearings besides attending a number of unofficial meetings with Real Estate men and Civic Organizations. While the meetings were in progress the Engineering force worked on the Zoning Maps, completing each section of the City before holding the Public Hearings in that section. The Maps were then completed and submitted to Council with the Ordinance in 1931.



ZONING COMMISSION
 DEPARTMENT OF PUBLIC WORKS
 CITY OF PHILADELPHIA

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 ASST. CITY SOLICITOR
 COUNSEL

GEO. R. MACKENZIE
 ENGINEER SECRETARY

~~XXXX COMMERCIAL DISTRICT BUILDINGS~~
 819 City Hall Annex.

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 JOHN G. WILLIAMS
 DR. GEORGE WOODWARD

December 31, 1932.

- 2 -

It may be mentioned that the Commission made a Map of the City on a scale of 500 feet to one inch, for a base Map on which to show the Zoning Designations. This is the first time that a Map of the entire City has ever been made on so large a scale and it has already proved to be a valuable asset to the City and copies have been furnished to the General Plans Division, the Registry, Traffic Bureau and Sewer Division.

No official action having been taken in 1931, upon the change of Administration to the present official body, the Ordinance was resubmitted to Council in January 1932, and is still in the hands of the Planning and Zoning Committee awaiting public hearings before final action.

During the year 1932, the Engineering force has concentrated on making a record of existing conditions in places where non-conforming uses were indicated on the Maps. Each property was inspected on the ground and a record of what was found by inspection was made and filed in book form for future reference. This record of non-conforming uses is now about 50% completed and the field work is being continued.

The Engineering members of the force have also been busy during the year in measuring and computing the areas of the Industrial, Commercial, Residential and Least Restricted Districts by Wards and Councilmanic Districts. This work, when completed, will show how each Councilmanic District is divided

9-1932



ZONING COMMISSION
DEPARTMENT OF PUBLIC WORKS
CITY OF PHILADELPHIA

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JOHN H. NEESON
CLEMENT B. WEBSTER
JOHN G. WILLIAMS
DR. GEORGE WOODWARD

~~1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050~~

819 City Hall Annex.

December 31, 1932.

- 3 -

on the Zoning Maps, and it is the intention of the Commission, to submit the results of these calculations to each Councilman, so that they will all have a better understanding of what is proposed in their Districts, and be better able to show the benefits of Zoning to their constituents and the City as a whole.

The Engineering force has also prepared tentative application, appeal, and other necessary forms for the administration of the Zoning Bureau, and has also prepared rules and forms for the operation of the Board of Adjustment.

In preparing and working out the several forms required, it was found that it would be advisable to make a few changes in the Ordinance. These changes were submitted to City Council on October 13, 1932, and the Commission recommends that the ordinance be reprinted, with these changes incorporated before final passage of the Ordinance.

Respectfully submitted,

J. WILLISON SMITH,
CHAIRMAN.

10-1932

BES-54 E

January 24, 1933.

FROM: Principal Assistant Engineer

TO: Mr. Buckley, Mr. Haldeman,
Mr. Schofield, Mr. Fisher,
Mr. Bailey, Mr. Burbidge,
Mr. Phillips, Mr. Biggard
Mr. Beaumont,

SUBJECT: DATA FOR ANNUAL REPORT FOR THE YEAR 1932.

Request has been received from the office of the Director of Public Works for the Annual Report covering the activities of the Bureau during the year 1932.

You will please have the data from your Division in the hands of the Principal Assistant Engineer as soon as possible.

John E. Allen,
Principal Assistant Engineer.

file

11-1932

BES-54 E

January 24, 1933.

FROM: Assistant Chief Engineer
TO: All Surveyors & Regulators;
Mr. Baxter, *also, Mr. Mackenzie.*
Mr. Krohn.
SUBJECT: DATA FOR ANNUAL REPORT FOR THE YEAR 1932.

The office of the Director of Public Works requests an Annual Report covering the activities of the Bureau of Engineering and Surveys for the year 1932.

Please forward the data or other contributions to this Report from your District's activities as soon as possible.

Thomas Buckley,
Assistant Chief Engineer.

12-1932



CITY OF PHILADELPHIA
 DEPARTMENT OF PUBLIC WORKS
 CITY HALL

54	FILED
1-16-33	
BUREAU OF ENGINEERING & SURVEYS	
C.A. KEE	
1/23	

January 14, 1933.

From; The Director's Office
 To: Chief Neeson, E&S
 " Hayes, Water
 " Soby, Street Cleaning
 " Neeld, City Property
 " Corning, Highway
 " Lysle, Lighting and Gas.
 Subject; Report. Proceedings during 1932.

Paragraph C, Section 4, of Article 3, of the Act of June 25, 1919, (City Charter relates to reports to be made to the Mayor before the first Monday in February.

This paragraph may be found on Page 36 of the Manual.

Within the next ten days, I would like to have a brief outline of the important proceedings of your Bureau for 1932 from which I shall make up my report of the Department's activities for that period.

Frank H. Caven
 FRANK H. CAVEN,
 Director.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: B.E.S.-54

January 26, 1933.

FROM: Tenth Survey District

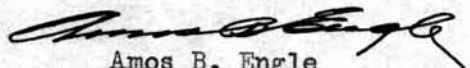
TO: Thomas Buckley
Assistant Chief Engineer

SUBJECT: DESCRIPTIVE DATA FOR ANNUAL REPORT.

Oxford Avenue from Comly Street to Hellerman Street was thrown open to traffic early in 1932 after the completion of the grading, construction of sewers and paving. This stretch of Oxford Avenue, 3275 feet in length, completed the improvement of Oxford Avenue from The Roosevelt Boulevard (Oxford Circle) to St. Vincent Street, one block from Cottman Avenue. The final block from St. Vincent Street to Cottman Avenue has the shoulders and footways graded leaving the old bituminous roadway in the center, which has been resurfaced. The final improvement in this block awaits the construction of sewers which cannot be done until outlets are provided in Cottman Avenue to Hasbrook Street and in Hasbrook Street southwardly from Cottman Avenue to outlets in Montgomery County which are available.

The completion of this improvement is important as Oxford Avenue is a main traffic thoroughfare leading from Frankford through Lawndale, Burholm and Fox Chase to points in Montgomery County. It intersects two main distribution points for traffic; Oxford Circle on The Roosevelt Boulevard, and what is known as "Five Points", the intersection of Oxford Avenue, Cottman Avenue and Rising Sun Avenue.

During the past year revision surveys were started and are still in progress, especially in the area bounded by Cottman Avenue, Frankford Avenue, Robbins Street and The Roosevelt Boulevard, comprising an area of about 400 acres. Due to the great many physical changes in this area a large number of the monuments defining the street lines were either totally destroyed or disturbed.


Amos B. Engle
Surveyor & Regulator
10th. District

14-1932

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 13, 1933.

REPLY AND REFER TO:

From : Ninth Survey District
To : Mr. Thomas Buckley,
Assistant Chief Engineer.

Subject : Annual Survey District Report for 1932.

Herewith is forwarded statistical annual report for 1932, and at your request we mention certain activities of this office.

A great deal of work has been done in connection with the physical elimination of grade crossings on the Philadelphia, Germantown and Norristown Railroad through the 22nd. Ward and also through the 21st. Ward. Field and Office work for studies for improving conditions of adjacent streets to the Railroad were made, and also numerous consultations were required by the Law Department. Detail Plans of existing and proposed conditions were made. City Plan # 17 was authorized to be revised in connection with this work, and considerable time will be required to complete the Plan.

Improvement work on City Streets consisted principally of the grading and laying Country Road on the approaches to The Wissahickon Memorial Bridge over the Wissahickon Valley; the widening of the roadway on Ridge Pike for a length of about 3 miles, requiring great care and judgment as to the proper grades and efficient drainage; and also the repaving of very lengthy stretches of Country Roads by the Highway Bureau, notably Washington Lane from Chew Street to Stenton Avenue, Meade Street from Shawnee Street to Navajo Street, Greene Street from Coulter Street to Chelton Avenue and others, for which we made careful studies and gave stakes for satisfactory and economical grades and alignment.

Depositions were taken by the Law Department in connection with the petition requesting Board of View Plan covering a large area adjacent to the Awbury Arboretum. This created very much work in the preparation of plans and reports to the City Solicitor.

Private surveys of large areas in Chestnut Hill brought forcibly to our attention the great necessity of needed topography and location work for future developments in this locality, particularly as application has been made for a Bridge over the Schuylkill River near the County Line.

On account of excessive routine work in former years, the office records in this District have been greatly neglected and in the field many monuments have been destroyed or dislocated which should be resurveyed and replaced. Also many streets that have been graded in past years should be re-monumented and thereby save considerable time in future surveys.

Also during the year this office was consulted and investigations were made and information given for the local divisions of various Departments of the City.

Yours truly,

John T. Campbell,
Surveyor and Regulator,
Ninth Survey District.

15-1932

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: 54 -E

January 24th 1933.

From: 7th Survey District
To : Mr. Thomas Buckley
Assistant Chief Engineer

Subject: Annual Survey District Report (7th District)

The total voucher receipts for the year 1932 amounting to \$ 1213.13 indicate a progressive decrease in the volume of contract and current work in the district since the year 1929 and indirectly reflect the depressed state of trade and business in general. A considerable portion of the district consists of territory partially developed by individual purchases of lots from land association companies. In normal times there was considerable activity in this section due to small building operations and the erection of single houses. This has been largely curtailed as the residents were mainly employed in the large manufactories of Philadelphia and Delaware county and were the first to be affected by unemployment. The marked decline in operative building generally and conditions retarding the real estate business have also operated to reduce district cash receipts for the current year.

By the terms of an ordinance approved May 12th 1932 authorizing the reduction in the number of Survey Districts from sixteen to eleven the 12th Survey District was subdivided and merged with the 7th and 11th Survey Districts . The records of the 12th Survey District were segregated and transferred to the 7th District on June 1st 1932. The transference of plans, data, etc. necessitated a complete revision of the filing systems of the 7th District which had to be expanded to take care of 4251 additional plans of all descriptions. Two letter files only were received from the 12th District making necessary a complete revision of the district index and filing system . This has been accomplished without additional equipment and brings the office records into a more efficient condition . The monuments marking the street system of that part of the 12th District taken over have mostly disappeared. It was necessary to prepare 872 reference cards showing building references to street lines which were copied from field books and other records. A total of 407 blue prints of plans of constructed sewers were received and filed. The basic information covered by 460 finished paving and repaving contracts were copied from the books of the 12th District upon reference cards

A total of 155 stone monuments have been set during the current year. City Plans Nos. 364 and 378, confirmed September 19th 1927 and May 19th 1930 respectively, have been completely monumented with elevations on each monument. The lower portions of City Plans 104 E and 104 W. have likewise been monumented. This work covers an area of approximately 765 Acres. The line of Island Avenue from Elmwood Avenue to the Delaware River, which previously had no points or references marking the line for a distance of approximately 17000 feet has been completely monumented and the points recorded on the confirmed city plan. In addition surveys and calculations have been made connecting several land association developments with the confirmed street system of the City and plans of record prepared for future use. The land association plans cover 495 lots. A precise level circuit aggregating 27 linear miles has been run and satisfactorily closed furnishing a base for future precise leveling.

16-1932

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

PAGE TWO

Isolated sections of other confirmed city plans have been brought into better working condition by replacing monuments which have been lost or destroyed. There have been many changes by reason of street revision and the addition of new streets to confirmed sectional city plans Nos. 246 - 247 - 104 E. and 104 W. Compilations of these plans have been prepared and carefully checked with the purpose of collating recent data and recording each monument and reference marking the established street system. This work greatly reduces opportunities for error in giving street lines and grades and constitutes a valuable and permanent record. During the process of District reorganization the plan files have been brought up to date and the filing system revised. Steady progress has been maintained in completing the four district plan books during the year 1932.

Frederick T. Thorpe, Jr.
Frederick T. Thorpe, Jr.
Sur. & Reg. 7th Dist.

17-1932

BUREAU OF ENGINEERING AND SURVEYS

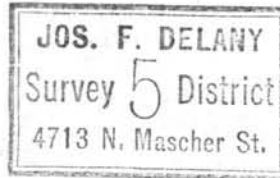
DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:



January 26, 1933.

FROM: Surveyor and Regulator
Fifth District

TO: Mr. Thomas Buckley
Ass't Chief Engineer and Surveyor.

SUBJECT: ANNUAL REPORT

During the year 1932, the limits of the 5th Survey District were extended to include all the territory covered by the former 15th District.

Due to the present conditions of readjustment the number of surveys for conveyance purposes and building construction have greatly decreased and activities were confined mostly to revision work and replacement of records.

Field revision, referencing of stones and planting stones was completed on City Plans #220, #221, and #274 covering approximately 800 acres and 80 new monuments were placed.

Bench marks were established and recorded over the section of the District West of Broad Street (547 in number).

Compiled City Plans to date have been completed in the entire district, (27 in number).

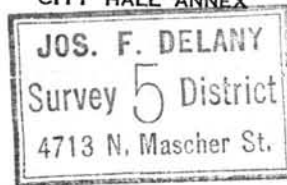
A plan was prepared showing the first recorded location of Frankford Creek from the Delaware River to the junction of the Wingohocking Creek and Tacony Creek and superimposing thereon the

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

location of the Creek as it existed in August 1931.

The examination of and tracing all titles along Frankford Creek from East of Frankford Avenue to "I" Street and Ramona Ave., back to the original grants by William Penn were made to determine water rights of the properties along the line of the Creek.

Field Surveys were made as follows:-

- (1) A Survey to determine the density and distribution of the colored population in an area of 13 sq.miles.
- (2) A Survey to determine the commercial frontage of 174,589 lin. ft. in an area of 13 sq. miles.
- (3) A Survey of 5575 gas and gasoline lamps in streets and alleys to determine the elimination of 1975 of these lights.

Jos. F. Delany

Jos. F. Delany

Sur. and Reg. 5th Dist.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 12, 1933.

REPLY AND REFER TO:

FROM: Surveyor & Regulator, Third District,
TO: Mr. Thomas Buckley, Assistant Chief Engineer & Surveyor,
SUBJECT: ANNUAL REPORT OF SPECIAL WORK IN 1932.

Dear Sir:-

The outstanding work, in this district for the year 1932, was the survey of the site bounded by Chestnut Street, Sansom Street, Second Street and American Street for the proposed Custom House.

This site covered an area of 95,105 sq. ft. and contained thirty-seven separate properties.

Plans were made for the conveyance of these properties, for the use of the Board of View and for the use of the Architect.

The title plans showed the metes and bounds and distances, also the square foot areas of each separate property. The Board of View plan showed the character and height of the buildings and the cubical contents of same.

A City Plan was also prepared for the revision of the area bounded by Chestnut Street, Second Street, Third Street, Walnut Street and Dock Street. This plan has not as yet been confirmed.

The survey and calculation tying in the Government points on the Schuylkill River with the street line system of the City has been continued during the year when ever possible.

Wm. H. C. O'Connell
Surveyor & Regulator,
Third District.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: TB:E

January 30, 1933.


FROM: Assistant Chief Engineer
TO: John E. Allen, Principal Assistant Engineer
SUBJECT: DATA FOR ANNUAL REPORT FOR THE YEAR 1932.

In accordance with your request of January 24, 1932,
I am submitting herewith the following:

Annual Statistical Report covering the work
done by the 11 Survey Districts,
An outline of the work performed by the City
Plans Division,
Reports from the Registry Division and
Bureau of Zoning.

In addition, the 3rd, 5th, 7th, 9th and 10th Survey
Districts submit descriptions of their principal activities.

Encls.


Thomas Buckley,
Assistant Chief Engineer.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

January 23, 1933

From: Samuel S. Baxter, Registrar
To: John H. Neeson, Chief Engineer and Surveyor
Subject: ANNUAL REPORT 1932

The amount of work in registering transfers of real estate in 1932 kept pace with the work done in 1930 and 1931, despite the low ebb of the real estate market. This was due to the large number of sheriff's sales and refinancing operations. The average number of descriptions filed for the years 1930, 1931 and 1932 was 66,000 per year. The average per year for the preceding eight year period from 1922 to 1929 was 77,000, the decrease for the last three year period being approximately 15 percent.

The amount of road record and city plan work decreased sharply during the past year, due to the retrenchment policy of the City and the condition of the business market. An indication of this is the sixteen deeds of dedication filed in 1932 compared with 321 deeds filed in 1928, and the fact that during 1932, there was not one street opened by ordinance of Council.

The employees of this division numbered 23 on December 31st, 1931. By July 1, 1932 this number had been reduced to 12. June 1, 1932 marked the retirement of Mr. W. W. Hill as Registrar after 16 years of service in that capacity.

The number of employees actually engaged in registering deeds on December 31, 1931 was 15, as compared with 9 on July 1, 1932. This was a reduction of 40 percent in the number of employees, with the total amount of work the same as in 1930 and 1931 and only 15 percent under the annual average of the preceding eight years. The staff engaged in the replacement of old registry pages, in rebinding and copying was reduced from 4 to 1. The number of men handling road records and city plans, and giving information to the public was reduced from 4 to 2.

22-1932

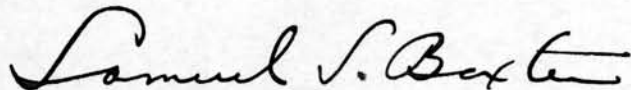
January 23, 1933

During the late fall and winter several men were temporarily assigned from the survey districts to assist in the modern classification of the city plans and road records. The value of the work done by these men has already proven its worth, in the accuracy and ease with which reference can be had to the city plans. This work well warrants the permanent assignment of men during 1933 for its completion. The cooperation and assistance of the district surveyors has been of great aid in this work.

During the summer and progressing into the later part of the year a change was made in the arrangement and use of the rooms which house road records and city plans, and the drafting force. A room which had been a store room was fitted as a private office for the registrar; the furniture in the public office was rearranged both to the advantage of the public and the better operation of the Division. The drafting room was cleared of all excess records and furniture, and made available for a maximum number of workers. Room 1116 was assigned to this Division for storage purposes, and valuable records, though infrequently used, are stored there for reference. This storage room released space in the active parts of the Division for current work and files.

In the registry book room, as an aid to better operation, forty new shelves were installed under the counter unit. This permitted the removal of an old open filing section from the room, adding much to visibility and ease of operation.

A statistical report is appended.



SAMUEL S. BAXTER
Registrar.

CITY PLANS DIVISION, BUREAU OF ENGINEERING & SURVEYS.

During the year 1932 the City Plans Division ~~has~~ prepared the following plans, charts, and studies which required considerable research and investigation :

Map - Relative Growth of Rural & Urban Population- U.S. 1890 to 1930.
" - Distribution of Urban Population in cities of U.S.- 100,000 & over.
Numerous Tabulations- Population growth of Typical Cities- U.S.
Various populations - 1900 to 1930.

Map - Population Growth of Phila, by Wards 1900 to 1930.
" - Distribution of Negro Population by Wards 1920 - 1930.
" - Townships, Boroughs & Districts- Phila.- Consolidation - 1854.

Charts - Total Assessed Valuation~~of~~ of property- Phila. by wards
Central Wards & Sub-central Wards 1920 to 1932.

4 Maps- County Line Road Maps showing physical & legal conditions:

Section 1 - City Ave. from Schuylkill River to Cobbs Creek.
" 2 -Northwestern Ave. from Ridge Ave. to Glenarret Lane.
" " " Wissahickon Tpke to Stenton Ave.
Stenton Ave. from Northwestern Ave. to Cresheim Ave.
Section 3 - Cresheim Ave. from Stenton Ave. to Cheltenham Ave.
Cheltenham Ave, from Cresheim Ave. to Newtown Ave.
Section 4 - Hasbrook Ave. from Washington Ave. to Cottman ~~St~~ Ave.
Cottman Ave. from Hasbrook Ave. to Burholme Ave.
Fillmore St. from Shelmire St. to Oxford Ave.
Pine Road
Erwin St. from Forrest Hills Ave. to County Line Road.
County Line Rd. from Erwin St. to Lukens St.

Maps & Charts -

Rehabilitation Area- Girard Ave. to Washington Ave. Broad St.
to Delaware River.

Location of Historical Shrines

Quantitative Surveys

Character of Population

Studies- Neighborhood Units - Present & Proposed.

Adaptation to irregular topography.

These plans show an existing section of Philadelphia and its possible development along the lines of a neighborhood unit. An example of the accepted method for replacing the gridiron system of streets by taking advantage of topography and natural scenery while preserving creek beds as storm sewers; surrounded by strips of parks and with adjacent playgrounds. A development which makes the highest type of community complete in itself containing industry, commerce, parks, ~~and~~ recreation facilities and housing; approximately ~~xxxxxxx~~ housing the same number of families with less cost for streets, sewers and water that now is necessary for the row house type of development on the rectangular street plan.

Plan & Study- Started- Widening Passyunk Ave. from Broad St. to 18th St.

Chart - Commercial Survey of Phila. 1932 showing amount of retail, wholesale, quasi, and vacant commercial frontage of property in linear feet by wards and per capita.

Map- New Survey Districts of Phila.

Maps - Residential Phila.

Commercial #
Industrial "

Apportionment of Built Up Area in Phila.

Park System, revised.

Recreational Areas- Public and Commercial.

Local Municipal Uses- Phila.

Educational & Cultural " .

Physical street system " .

Transportation " " .

Census Tracts - Phila.- 1930 Census.

State Senatorial & Phila. Councilmanic Districts.

" Representative Districts.

U.S. Congressional " .

Map- Subdivision of 42nd Ward into 49th & 50th Wards.

Traffic Studies - Relocation of islands in Filbert St, Broad St. to 15th St.
" " " 62nd St., Lindbergh Ave. to Dicks Ave
- Intersections 46th & Baltimore Ave.
53rd St. & Baltimore Ave.

Various Plans prepared for District Attorney's Office and City Solicitor's office; namely, lines and grades Market St. to Arch St., Front to 7th Sts.
Drainage Areas of Neshaminy, Pennypack, Crum, Pickering and Perkiomen Creeks.

Numerous small property plans prepared for different purposes,

The set of Sectional maps of Phila.- 20 in number - Scale 1"= 1000' are revised each year to conform with various revisions and confirmations of City Plans authorized by the Board of Surveyors. Numerous copies of sets and separate sections are distributed to many city departments and social & civic organizations.

Many plans, charts, colored studies and photographs were prepared, assembled and transported for the following lectures delivered by Mr. Buckley during the year and for public exhibitions:

Jan. 25th - Phila. Real Estate Board

Subject: " Survey Bureau in its Relation to Real Estate and the Real Estate Broker"

March 17th - Phila. Real Estate Board

Subject: "The Subdivision & Use of Land in Phila. from a Survey of the Social & Economic Factors that control.

(Cont.)

- April 15th - Town Hall , Germantown
Subject: "City Planning & the Neighborhood "
- May - Civic Club.
Bur. Eng. & Surveys, City Hall Annex
Subject: " Rehabilitation "
- June 8th - North Phila. Realty Board
Evergreen Farms- Roosevelt Bd & Welsh Rd.
Subject: " The subdivision & use of land in Phila.
from a Survey of the Social and Economic
Factors that control. "
- July 18th - Phila. Chapter, Amer. Institute of Architects
Architects Building, 17th & Sansom Sts.
Subject: " Rehabilitation "
- Sept. 26th to Oct. 1st - Exhibition
Electric & Radio Show, Convention Hall, Phila.
Subjects: Phila. Growth & Development
" Neighborhood Planning
" City Planning & Zoning
- Oct. 26th to 29th - Exhibition
Atlantic Deeper Waterways Ass'n Convention-
Bellevue Stratford Hotel, Broad & Walnut Sts.
Subject: Delaware & Schuylkill River Development
Historical Maps of Phila.
Pictures- Municipal Piers & Views etc.
from Dept. Wharves, Docks & Ferries.

Chief Clerk 1932

Jan 1 st , 1932 - Funds available for construction ?	17,885,224.32
During 1932 - Expended under contracts, bills, salaries, etc. ?	2,576,005.06
" " - Transferred to other purposes ?	8,743,850.58
Dec. 31, 1932 - Held under contracts	1,054,880.15
Jan 1, 1933 - Funds available.	5,510,488.53
	6,565,368.68

Jan 1, 1932 - Number employees	591.
during 1932 - Employees dropped or furloughed	241.
Dec 31, 1932 - Number employees	350.

Expenditures for Chestnut Hill Elevated ?	558,243.39
South Phila. ?	52,113.40
Manayunk ?	38,844.43
Penna. Terminal ?	534,033.24
B. & O. ?	None
Newtown Branch ?	None
	1,833,234.46
	1 2 1 1 1 1

BRIDGE CONTRACT WORK IN 1932

HENRY AVENUE BRIDGE OVER WISSAHICKON CREEK - This bridge was begun in 1930 and at the end of that year was approximately 44% completed. At the end of 1931, the structure was 91% completed with paving of the bridge floor and the sidewalks remaining to be done. The physical work was completed on March 1, 1932, the total cost of the project being approximately \$1,770,000.

PAVING HENRY AVENUE FROM HUNTING PARK AND ALLEGHENY AVENUE TO THE BRIDGE OVER THE READING RAILROAD TRACKS - This work was the first of the final steps to open Henry Avenue with paving improvements from Nicetown to Roxborough. The work on this contract is asphalt on concrete base subject to assessment and was started on July 21, 1932 and completed on August 16, 1932, at a cost of \$13,133.27.

IMPROVEMENT OF NORTH APPROACH TO HENRY AVENUE BRIDGE OVER THE TRACKS OF THE PHILADELPHIA & READING RAILWAY AND APPURTENANT WORK - This work was the second of the final steps to open Henry Avenue with improved pavement from Nicetown to Roxborough. The work on this contract consisted of grading, temporary paving of 20 feet wide roadway with bituminous macadam penetration method, concrete gutters, guard rail fences and drainage. The work was started on July 21, 1932, and completed on October 20, 1932 at a cost of \$17,698.67.

IMPROVEMENT OF HENRY AVENUE BETWEEN WALNUT LANE AND SCHOOL HOUSE LANE. APPROACHES TO HENRY AVENUE BRIDGE OVER WISSAHICKON CREEK - This work was the final step in opening Henry Avenue from Nicetown to Roxborough. The work on the contract consisted of grading, temporary paving with cold mix bituminous macadam, concrete gutters, guard rail fences and drainage. The roadway was opened to traffic on November 12, 1932 with dedication of Wissahickon Memorial Bridge by Mayor Moore.

BRIDGE ON LINE OF UNIVERSITY AVENUE UNDER THE PENNSYLVANIA RAILROAD AND THE P. B. & W. RAILROAD - The work under this contract, when completed, will connect South Philadelphia and West Philadelphia via 34th Street in South Philadelphia, the University Bridge over the Schuylkill River, University Avenue, Vintage Avenue and 34th Street in West Philadelphia and consists of the grading, paving and drainage work of Vintage Avenue and University Avenue and the completion of abutments for the Undergrade Bridge supporting the tracks of the Pennsylvania Railroad over University Avenue.

The work was started on April 29, 1932 and was 84% completed at the end of the year.

PAVING 34TH STREET APPROACH TO UNIVERSITY BRIDGE FROM GRAYS FERRY AVENUE NORTHWARD, AND THE UNIVERSITY BRIDGE OVER THE SCHUYLKILL RIVER AND THE DRAINAGE INLETS AND CONNECTIONS NECESSARY THERETO. - The work under this contract is one of the final steps in connecting South Philadelphia and West Philadelphia via University Bridge over the Schuylkill River and consists of paving of 34th Street Approach to University Bridge from Grays Ferry Avenue northward with asphalt on concrete base, which is subject to assessment, drainage, fences, painting the structural steel of University Bridge and the paving of the bascule leaves of University Bridge with asphalt plank.

The work was started on October 7, 1932 and was 78% completed at the end of the year.

EAST LOGAN STREET BRIDGE UNDER THE GERMANTOWN AND CHESTNUT HILL BRANCH OF THE READING COMPANY - The work was started in 1931 and the bridge is a steel plate girder type encased in concrete which was 40% completed at the end of that year. The work is being done under contract by the Reading Railroad under an agreement with the City whereby the City shares to the extent of 29.31%. All the work under the agreement was completed at the end of the year with the exception of a small amount of electrical work.

29-1932

The work on the contract was 99% completed on the last of the year with a portion of the guard rail fences remaining to be erected.

WALNUT LANE BRIDGE OVER LINCOLN DRIVE - The existing iron trestle on the site of the proposed new bridge is inadequate for the present day loads and has become in such bad condition that it has been necessary to close the bridge for traffic. A contract was entered into on January 26, 1932, for the construction of a new bridge which will be a stone-faced arch of 150 ft. span, the contract, however, has not been certified by the Controller which has delayed proceeding with the work.

1932 EXPENDITURES - OPERATION AND MAINTENANCE - SEWAGE DISPOSAL

	Northwest Sewage Works	Frankford Grill Chamber	Ningo Pumping Station	Southwest Pumping Station	Examination Old Sewers
Bureau Funds	Item A-38 \$47,717.27	Item A-38 \$5,935.00	Item A-39 \$6,059.97	Item A-40 \$6,421.23	Item #84 \$5,033.50
Salaries and Wages					
Maintenance	Item 80 \$5,500.00	Item 80 \$169.33	Item 81 \$1,499.19	Item 82 \$278.90	
Electrical Bureau Funds					
Power and Light	11,970.29	905.42	-	5,336.00	
Lighting Bureau					
U. S. I. Gas	59.95	-	-	-	
Purchasing Agent					
Ice	322.82	23.00	28.04	23.00	
Towel Supply	12.48	-	-	12.08	
Wiping Rags and Waste	25.19	-	-	321.03	
Fuel Oil	4,986.57	-	5,751.91		
Coal	-	98.90	-	-	
Gasoline	-	-	154.80	-	
Lubricants	16.80	-	61.79	17.39	
Headlight Oil	10.75	-	5.30	-	
Cleaning Supplies	33.54	8.60	-	-	
Rubber Boots and Coats	68.31	-	-	-	
Tools	39.26	-	-	-	
Lumber	14.40	-	-	-	
TOTAL \$107,520.91	\$70,776.63	\$7,040.25	\$13,560.90	\$10,309.63	\$5,033.50

NORTHEAST SEWAGE TREATMENT WORKS AND FRANKFORD GRIT CHAMBER

PROPORTION OF COSTS - 1932.

	Wages	Power & Light	Maintenance & Repair Parts	Supplies	Total
Imhoff Tanks	\$15,215.	-	\$500.	\$45.82	\$15,760.82
Heating Plant Building	3,035.	\$300.85	600.	5,019.57	10,955.42
Laboratory & Administration Bldg.	1,785.	120.	700.	245.45	2,850.45
Low Level Pumping Station	5,117.	10,269.	1,200.	41.	16,627.00
Low Level Grit Chamber	8,090.	239.	1,900.	49.	10,177.00
Locker Building	600.	1.	25.	5.	631.
Transformer "	255.	1.16	50.	4.	\$10.16
Truck Garage	2,872.60	14.51	121.97	27.54	3,036.62
Sedimentation Units	334.	4.77	25.	-	363.77
Outfall Pier	3,975.17	\$10.	150.	29.94	4,665.11
Grounds	1,777.50	\$10.	350.	0.80	2,638.30
Frankford Grit Chamber	6,285.	805.42	180.95	118.90	7,390.25
Interceptors	2,311.	-	100.	-	2,411.
Total	\$53,652.27	\$12,775.71	\$5,302.90	\$5,586.00	\$77,316.88

31A-1932

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ELIMINATION OF GRADE CROSSINGS AND RAILROAD IMPROVEMENTS

The elimination of grade crossings along the Philadelphia, Germantown and Norristown Railroad and the Chestnut Hill Railroad between Wister street and Bethlehem pike was completed during the year, except the permanent tracks, signals and the grade crossing at Mt. Airy avenue and work to adjust the streets to the new conditions in that section between Wister street and Haines street.

It was 100 years on the 23rd of November of this year the Philadelphia, Germantown and Norristown Railroad was placed in service as far as Germantown. At that time the railroad terminated at Germantown avenue and Price street, and continued to be until the Chestnut Hill Railroad was completed between Armat street and Bethlehem pike, when the depot was transferred to the south side of Cheltenham avenue on the site where the new station was built under the work of eliminating grade crossings now nearing completion.

The Reading Company is electrifying the road and will begin operating it some time early in 1933.

The main thoroughfares running east and west and which crossed the railroad at grade are: Willow Grove avenue, Mermaid lane, Mt. Airy avenue and Cheltenham avenue. Willow Grove avenue and Cheltenham avenue carry the heaviest traffic, and especially Cheltenham avenue, which cares for both vehicular and trolley traffic, as it intersects Germantown avenue at the most congested point in Germantown.

SOUTH PHILADELPHIA TRACK ELEVATION

No construction work was carried on during the year, except the necessary maintenance, owing to the lack of funds by the Railroad Companies. Not until railroad construction is further advanced can the City proceed with the completion of its street improvements, except the curbing and paving of 25th street between Mifflin street and Passyunk avenue.

MANAYUNK ELEVATED

All construction has been completed, except the final street improvement of Main street between Green lane and Leverington avenue and on Leverington avenue between Main street and the Pennsylvania Railroad.

PENNSYLVANIA TERMINAL IMPROVEMENT

No construction work was done on the east side of the Schuylkill river, while on the west side the construction of a viaduct to carry 30th street, 100 feet wide, between Market and Arch streets and a portion of the viaduct to carry Schuylkill Avenue West between Market street and Arch street was started and is now in process of completion.

Plans and specifications were prepared and bids were received on December 30th for the construction of the 30 foot strip along the south side of Market street between 30th street and Schuylkill Avenue West.

Upon the completion of the 30 foot strip it will relieve the traffic congestion, which is due to the Market street passenger elevated which does not give the proper clearance to permit vehicular traffic, the result being it confines traffic to 17 feet line for westward traffic only, while the east bound traffic is required to detour south on 30th street to Chestnut street, east on Chestnut to 23rd street and northward to Market street.

MINGO CREEK PUMPING STATION - OPERATION - 1932

STARTED 3-13-1896 CAPITAL INVESTMENT \$35,000 PUMPING HEAD-12 FEET.

PERIOD	RAIN FALL TOTAL INCHES	ESTIMATED PUMPAGE MILLION GALLONS	HOURS IN SERVICE		FUEL OIL USED-GALS		COST OF OPERATION & MAINTENANCE.		TOTAL	PER MILLION GAL'S PUMPED			
			ONE PUMP	ONE BOILER	TOTAL	PER MILLION GAL'S PUMPED	WAGES	POWER HEAT LIGHT			LUBRICANTS - WASTES & PACKING	SUNDRIES REPAIRS & EQUIPMENT	
1922	29.31	2425	1616	2000	77	124,079	49	\$7017.	\$6,014.	\$252.	\$1806.	15,089.	6.22
1923	39.19	3186	2115	2277	321	162,583	51	5853.	9,429	216.	692.	16,190.	5.08
1924	43.10	4146	2762	2944	319	231,307	56	6220.	11,208.	261.	1836.	19,525.	4.69
1925	32.40	3354	2234	2500	257	198,138	59	7417.	11,471	237.	2794.	21,919.	6.54
1926	44.91	4563	3042	3368	212	227,489	63	7776.	16,313	332.	4145.	28,566.	6.26
1927	43.15	4131	2754	3057	505	245,723	59	7828.	12,760	252.	2845.	23,685.	5.73
1928	38.66	5329	3554	4480	603	312,581	52	7848.	12,097	222.	1997.	22,164.	4.16
1929	41.56	4458	2972	4331	442	274,702	60	7864.	10,506.	240.	1849.	20,459.68	4.59
1930	34.00	2139	1426	2111	168	166,478	78	7784.	6,378.96	180.69	3526.46	17,869.96	8.35
1931	39.28	1368	912	2210	227	116,248	85	7067.	4,194.	210.	910.	12,380.	9.00
AVE.	38.55	3510	2339	2929	313	205,933	61	7268.	10,005.79	240.26	224.04	19,787.76	6.06
JAN.	4.69	308	205	300	30	18,500		\$535.89	\$650	\$21.-	\$50.-	12,56.89	
FEB.	1.58	232	155	200	32	13,000		503.99	430	14.-	73.13	10,23.12	
MAR.	7.43	361	241	470	34	19,000		515.99	700	26.-	100.-	13,41.99	
APR.	2.37	302	201	360	31	18,000		514.00	640	21.-	100.-	12,75.-	
MAY	3.81	270	180	300	7	15,000		516.00	480	16.-	100.-	11,12.-	
JUNE	3.39	185	123	220	10	12,000		506.00	390	12.-	100.-	10,08.-	
JULY	2.25	162	108	220	1	11,500		514.00	380	12.-	100.-	10,06.-	
AUG.	3.07	152	101	220	-	11,000		516.00	320	11.-	167.-	10,14.-	
SEP.	1.05	126	84	186	-	9,000		498.00	270	10.-	150.-	9,28.-	
OCT.	4.30	152	101	199	-	10,000		420.00	320	11.-	150.-	9,01.-	
NOV.	7.45	489	326	550	38	26,000		504.00	900	30.-	200.-	1,634.-	
DEC.	3.13	229	153	330	35	13,974		516.00	428.80	16.-	100.-	10,60.80	
TOTAL	44.52	2968	1978	3555	218	176,974	60	\$6,059.87	\$9,488.80	\$200.00	\$1,392.10	13,560.80	4.57

From Permit Clerk Thos J Jaque
To G. S. Fisher Chief Clerk
Subject Activities for 1932

The following is the Annual report for the year 1932
from the Permit Division Room 203

Connections made to sewers single system	675
Connections made to Intercepting System	298
Connections made to Sewers special inspection	98
old connections & repairs made to sewer	Total $\frac{250}{1209}$
Inspections to Sumps in the 17th & 18th Districts	

Receipts Sewer assessment bills	1,867.84
Receipts Sewer permits	$\frac{2560.76}{}$
Total	4,428.60

Total number of plans filed	19
Total number Inspectors Diaries	19

The routine of the office which consist of giving information
to Real Estate Companies giving the locations & outlets of the
sewer to plumbers also assignments to the Inspectors
recording all permits issued filing all Plans and Inspectors Diaries

Respectfully
Thos J Jaque

BUREAU OF ENGINEERING AND SURVEYS

ANNUAL REPORT FOR 1932

DRAINAGE

For the year 1932, there was available for the construction of main sewers \$625,077.22 and for branch sewers \$295,523.81. These funds due to cancellation by the electorate and removal by Ordinance of Council dated May 24, 1932, were reduced \$492,381.90 for main sewers and \$300,000.00 for branch sewers. This was made possible by annulment of existing contracts. No new contracts were entered into for main or branch sewers although the completion of two ^{new} private sewer contracts, existing main and branch sewer contracts and drainage structures built under the sewage treatment project and bridges made a total increase of 2.84 miles to the drainage system of the City. At the end of 1932 there was a total of 1781.65 miles of sewers completed within the limits of the City of Philadelphia. \$305,496.48 was available for new sewers in place of old sewers from which one new contract was entered into and 0.23 miles of sewers replaced.

Main Sewer Contracts entered into prior to 1932 and completed during that year were as follows:

OAK LANE MAIN SEWER IN LAKESIDE AVENUE between 12th Street and Old York Road: A 9'6" x 7'6" reinforced concrete stormwater conduit with 10" and 12" vitrified pipe sewage sewers, the length constructed being 127 feet

LARDNER STREET and through private property from the Delaware River to present sewer northwest of Tacony Street: This is a 8'0" x 10'6" twin reinforced concrete stormwater conduit on piles with 10" and 12" vitrified pipe sewage sewers, 199 feet being constructed

Contracts were entered into for the following sewers and the work is still proceeding.

43RD STREET from a point north of Walnut Street to a point south of Walnut Street: ~~During a heavy rain storm~~ ^{On August 29, 1932} a section of the Mill Creek Main Sewer between these limits collapsed. A contract to replace this portion was entered into and 20 feet of 17'6" x 18'5" brick sewer completed

WINGOHOCKING MAIN SEWER ON LINE OF WINGOHOCKING STREET from Philip Street ^{westward}: The emergency work in this location proceeded, 293 feet of 15'0" x 17'0" reinforced concrete sewer being completed.

MAIN SEWERS

Loans	Appropriations	Authorisation	Amount Available	Loan Item
September 22, 1924	December 12, 1924	February 17, 1925 October 20, 1931 }	6,264.48	320
April 10, 1926	June 12, 1926	July 21, 1926 May 17, 1927 December 30, 1927 March 1, 1930 October 20, 1931 }	268,633.56	383
May 23, 1927	June 13, 1927	July 6, 1927	12,381.90	420
March 21, 1928	May 17, 1928	June 12, 1928 July 5, 1928 February 15, 1929 February 18, 1929 March 1, 1930 May 13, 1931 October 20, 1931 }	172,484.71	443
July 8, 1929	October 26, 1929	January 16, 1930 July 14, 1930 February 14, 1931 May 13, 1931 October 20, 1931	165,312.57	466
Available January 1, 1932			625,077.22	
Loan funds cancelled by electorate				
Contracts annulled				
			259,381.90	
Expended for inspection, bills, etc				
Reduction by recredits				
Cash cost				
Assessment bills				
Total cost of main sewers			60,846.25	
			365,695.32	
Reserved for emergency construction				
Balance			304,849.07	
			270,714.12	
			34,034.95	

Branch Sewers

Loan	Appropriation	Authorization	Amount Available	Loan Item
July 8, 1929	October 26, 1929	Various	295,523.81	467
Available January 1, 1932			295,523.81	
Loan funds cancelled by electorate	300,000.00			
Contracts annulled	<u>46,100.00</u>			
	253,900.00		253,900.00	
Expended for inspection, bills, etc.	3932.16		41,623.81	
Reduction by recredits	<u>2345.94</u>			
Cash cost	1586.22		1586.22	
Assessment bills	<u>6155.49</u>			
Total cost of branch sewers	7741.71			
Balance			<u>40,037.59</u>	

Sewage Disposal

Loans	Appropriations	Authorized	Amount Available	Loan Item
March 21, 1928	May 17, 1928	July 5, 1928	35,175.40	442
July 8, 1929	October 26, 1929	December 30, 1929	1,786,088.62	462
Available January 1, 1932			1,821,264.02	

Expenditures, bills, etc.	57,986.59
Reduction by recredits	<u>29,957.69</u>
Cash cost	28,028.90
Annulled contracts	<u>22,000.00</u>
	6,028.90

Balance 1,815,235.12

New Sewers in place Old Sewers

Loans	Appropriations	Authorized	Amount Available	Loan Item
June 22, 1925	October 2, 1925	February 15, 1926	9,168.18	362
July 8, 1929	October 26, 1929	Various	296,328.30	469

Available January 1, 1932

Annulled contract

Placed under contract

Expenditures, bills, etc.

Reduction by recredits

Cash cost

Balance

Reserved for work advertised

60,000.00

3,085.50

63,085.50

2321.30

60,764.20

15,000.00

320,496.48

305,496.48

15,000.00

259,732.28

10,000.00

249,732.28

Total length of sewers built during 1932

Branch sewers	1451.60	feet	=	0.27	Miles
Main sewers	619.43	"	=	0.12	"
Sewers constructed at private cost	1076.60	"	=	0.20	"
Sewage disposal division	9566.68	"	=	1.81	"
Bridge division	2327.90	"	=	0.44	"
Grade crossing division				0.0	
Highway Bureau				0.0	
				<hr/>	
				2.84	"
New sewers in place of present old sewers				0.23	"

Sewer contracts entered into during 1932

Main sewers	0	Contracts
Branch sewers	0	"
Sewers at private cost (Estimated cost \$9200.-)	2	"
New sewers in place of present old sewers	1	"
	<hr/>	
	3	"

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Drainage Division

The annual rainfall for 1932 as reported by the Weather Bureau amounts to 44.52 inches. This is about 4 inches greater than the normal annual precipitation for the Philadelphia area, and marks 1932 as the wettest year since 1926.

Abnormally high precipitation is recorded for the months of March and November, amounting respectively to 7.43 and 7.45 inches.

Rainstorms of high intensity occurred July 22 and August 18, and resulted in flooding certain areas.

Gaugings of the storm of July 22 at 9th and Market Streets indicated a rate of 3.36 inches per hour for 5 minutes and 2.88 inches per hour for 10 minutes.

For the storm of August 18, gaugings at the Frankford Creek Grit Chamber indicated a rate of 3.4 inches per hour for 7 minutes and 2.2 inches per hour for 1 hour and 39 minutes.

Mingo Creek Pumping Station

This station is located on the west bank of the Schuylkill River north of Penrose Ferry Road, and was constructed in 1896 to provide surface drainage for the lowlands of the 40th Ward. The surface elevations throughout the lowlands are generally below the high tide level in the surrounding rivers, and this area is therefore protected from flooding by a system of dikes along the water front. The natural creeks traversing this area have been converted into a system of drainage ditches and discharge into the main channel of Mingo Creek, which terminates at the site of the Pumping Station.

Two 150 horsepower oil-fired boilers provide steam for driving 2 horizontal centrifugal pumps of a combined capacity to lift 60 million gallons per day and discharge the water into the Schuylkill River against a head of 13 feet.

The pumpage for the year 1932 is estimated as 2968 million gallons, which is more than twice that of 1931.

The increased volume of drainage reaching the station may be attributed to the runoff from the hydraulic fill operations over the lowlands of this area by United States Government contractors and City dredges. Other contributing factors may include greater amount of annual precipitation and flooding in the vicinity of Back Channel south of Fort Mifflin, due to a broken dike along Chews Cut, which occurred November 10 during an excessively high tide in the Delaware River. High water for this day as recorded at Chestnut Street Pier indicated elevation +0.3 at 12.40 P.M. and +0.2 at 11 P.M.

The boiler smoke stacks were painted at a cost of \$37.50.

The pumping hours for one unit totalled 1978 during the year, and the fuel oil consumption amounted to 176,974 gallons at a cost of \$5751.91. The total expenditure for operation, maintenance, repairs and equipment amounted to \$13,560.90.

Sewage Disposal Division

General

A permit issued by the Pennsylvania State Department of Health under date of December 22, 1932, extends the time for completion of the Sewage Disposal Project until December 31, 1933, and provides, inter alia, that the City shall forthwith proceed with the construction work necessary to complete the interception of sewage discharged to Frankford Creek and to the Delaware River up-stream from Somerset Street.

Due to the unfavorable condition of City finances, contracts were not awarded in 1932 for any construction work incident to carrying out the Sewage Disposal Project.

The following contracts carried forward from 1931 were completed in 1932:

SOUTHWEST SEWAGE WORKS MAIN EFFLUENT CONDUITS in proposed Island Road from the Delaware River to Chester Branch P. B. & W. R.R. completed April 7, at a cost of \$360,042.31.

LARDNER STREET MAIN SEWER and Interceptor Connections to Upper Delaware Collector at Milnor Street completed April 5 at a cost of \$145,577.09.

A contract carried forward from 1931 for the construction of the Somerset Low Level Collecting Sewer from the Northeast Sewage Treatment Works to Somerset Street is reported as 96% complete.

The following contracts carried forward from 1931 and on which no work had been done, were annulled:

Intercepting Chamber in Casimir Street with connections to Lower Frankford Creek Low Level Intercepting Sewer;

Intercepting chamber in Lefevre Street with connections to Lower Frankford Creek Low Level Intercepting Sewer;

Intercepting chamber in Torresdale Avenue west of Frankford Creek with connection to Upper Frankford Creek Low Level Intercepting Sewer.

Southwest Sewage Pumping Station

This Station is located on a 1000 acre tract near Penrose Ferry Road and Island Avenue, the proposed site of the Southwest Sewage Treatment Works.

The motor-driven pumping equipment now installed consists of 4 vertical volute pumps designed for a total daily pumpage of 50 million gallons against a 40-ft. head. Future installations will increase the pumping capacity of this Station to 160 million gallons daily.

This Station was placed in operation August 23, 1927.

The Collecting Sewer has been constructed from the Pumping Station to a point in 75th Street 30 ft. southeast of Wheeler Street, with a branch from 80th Street near Erwig Avenue to 82nd Street and Bartram Avenue.

The small quantity of sewage now collected requires about 3 hours daily pump operation, and will continue to be discharged into Eagle Creek pending the design and construction of the Sewage Treatment Works to be located adjacent to this Station.

The total cost of maintenance, operation and equipment of this Station for

1932 amounted to \$10,909.63, of which \$6,421.23 was for salary and wages; \$3,836.00 for power and light; and \$652.40 for maintenance and supplies.

Reduction in number of employees, salary decreases and curtailment in pumping hours have reduced the annual cost \$6,365.42 below that of the preceding year.

Frankford Creek High Level Grit Chamber

This Station is located on a tract bounded by N Street, Hunting Park Avenue, O Street and Lycoming Street, and provides coarse screening and preliminary sedimentation for sewage collected by the Wingohocking and Tacony Creek Intercepting Sewers, so as to remove coarse materials and sand from the sewage before it enters the pressure conduit constructed in Wheatsheaf Lane, and leading to the Northeast Sewage Treatment Works.

The Frankford Creek High Level Collector leading to the Grit Chamber is designed for a flow as high as 200% of the average dry weather flow, to afford additional protection to that portion of the Frankford Creek flowing through Juniata Park.

The permit issued by the Pennsylvania State Department of Health provides, and the Grit Chamber and Treatment Works have been designed for the treatment of sewage flows as high as 141% of the average dry weather flow. Accordingly, a stormwater overflow weir has been constructed at a point in the sewer where it connects with the Grit Chamber, and the excess of stormwater is conveyed directly to Frankford Creek below the park property.

During the period January 1 to December 31, 1932, from a total sewage flow of 11,237 million gallons, 15,070 cubic feet of wet screenings were intercepted, which equalled 1.3 cubic feet per million gallons of sewage.

30,895 cubic feet of wet grit, equal to 2.7 cubic feet per million gallons of sewage, were intercepted, washed and hauled to the Northeast Sewage Treatment

Works for disposal on low ground.

Analysis of the grit removed indicated a volatile matter content of 4.8%.

1713 cubic feet of grease were intercepted and disposed of with the screenings.

The total expenditure for maintenance, operation, repairs and equipment during 1932 amounted to \$7040.25, or 63 cents per million gallons of sewage treated. This total cost is \$4030.58 less than that of the preceding year, and is due to the reduction in number of employees and salary decreases.

Northeast Low Level Sewage Pumping Station and Grit Chamber.

These Stations, together with the Northeast Sewage Treatment Works, are located on the 160 acre tract along Wheatsheaf Lane between Richmond Street and the Delaware River.

The Low Level Grit Chamber is designed to provide coarse screening and preliminary sedimentation for sewage collected by the Upper Delaware Collecting Sewer, the Pennypack Creek Intercepting Sewer, the Upper and Lower Frankford Creek Low Level Intercepting Sewers, and the Somerset Low Level Collecting Sewer now under construction, so as to remove coarse material and sand from the sewage before it enters the pumping station, at which point the sewage is pumped to the Imhoff Tanks for further sedimentation before discharge into the Delaware River.

In the Low Level Pumping Station, 2 - 36" and 4 - 24" motor driven centrifugal sewage pumps of the vertical volute type have been installed. Two of these 24" pumps are direct connected to variable speed induction motors. The 2 - 36" and 2 of the 24" pumps are direct connected to constant speed synchronous motors.

Electricity service is supplied by the Philadelphia Electric Company at 2300 volts pressure.

These stations were placed in operation July 16, 1930. For the period January 1 to December 31, 1932, the total sewage flow amounted to 4108 million gallons; 12,860 cu.ft. of screenings intercepted during this same period equals 3.1 cu.ft.

per million gallons of sewage.

24,400 cu.ft. of wet grit were intercepted and conveyed by pneumatic conveyors to the low land at the site of the work.

The total expenditures for operation, maintenance, repairs and equipment, chargeable against the Low Level Grit Chamber and Pumping Station, amounted to \$30,052. This amount is \$5,688 less than the annual expenditure of the previous year and results from reduction in number of employees and decreased wage rates.

Northeast Sewage Treatment Works.

The first section of the Northeast Sewage Treatment Works was placed in operation October 29, 1923, and comprises 32 reverse flow Imhoff Tanks and 80 sludge drying beds, and is designed for a sewage flow of 60 million gallons per day at a detention period of 3 hours.

The total volume of sewage treated during the year amounted to 15,345 million gallons, 11,237 million gallons of which reached the works by gravity from the Frankford Creek High Level Collecting Sewer, and 4108 million gallons pumped from the Upper Delaware Low Level Collecting Sewer and Upper Frankford Creek Low Level Intercepting Sewer.

The character of the sewage varies from a rather heavy concentrated day flow containing trade waste colored with dyes, to a more dilute night flow. The volume of dry weather flow fluctuates between a minimum rate of flow of 28 MGD occurring about 5 A.M., and a maximum rate of about 55 MGD occurring about 5 P.M.

Analysis of the sewage from the low level sewers is reported as having an average suspended solid content of 120 PPM, while that from the high level sewer is reported as 243 PPM.

Determination of settling solids by Imhoff settling glasses indicates a consistent removal of 100% throughout the year.

Samples for suspended solids collected at 3-hour intervals and made into a

weekly composite sample for Gooch crucible determination indicate the following average total suspended solid content:

Works influent	179 PPM
Works effluent	23 PPM

or a reduction of 85% total suspended solids.

While oxidation processes are not employed at these Works, there is an improvement noted in the effluent, as indicated in the biochemical oxygen demand tests which are reported as follows:

Works influent	217 PPM
Works effluent	122 PPM

The total sewage flow for the period January 1 to December 31 amounted to 15,345 million gallons and produced 15,592 cubic yards of wet digested sludge, or 1.0 cubic yard per million gallons of sewage treated.

The total quantity of sludge withdrawn from the Imhoff tanks during the year amounted to 16,000 cu.yds. This sludge was dark in color, well digested, and flowed freely. Offensive odors were not noted at any time in the vicinity of the lagoon into which the sludge was discharged.

Laboratory analysis of the sludge withdrawn is reported as follows:

Specific gravity	1.016
Moisture	92.4%
Dry residue, volatile	54.8%
" " fats	16.6%
Alkalinity (methol orange)	1201 PPM

Gas ebullition has been very active in nearly all gas vents of the tanks during the year, and foaming was in evidence in varying degrees of intensity from April 1st to October 15th.

Interceptor Patrol.

For intercepting all dry weather flow of sewage and the proper amount of rainwater contaminated with sewage, intercepting devices have been provided at the point of connection between existing main sewers and the collecting or intercepting sewers.

For those connections beyond the range of tidal influence of the rivers or creeks, interception has been accomplished by means of a slotted opening built into the invert of the main sewer and provided with an adjustable sliding plate cover. In the larger sewers, adjustment of the flow to the intercepting sewer is accomplished by hand operated sluice gates located in the connection between the main sewer and the intercepting sewer, and behind a dam constructed across the main sewer between this connection and the receiving body of water.

For those connections within the tidal influence of the rivers or creeks, intercepting chambers of concrete construction and with two hydraulically operated sluice gates have been provided; one gate of the vertical type for the interception of the sewage flow and first flush of street wash, and the other of the horizontal type located in and transversely to the main sewer, and between the vertical intercepting gate and the water course. This horizontal gate serves the dual function of passing stormwater to the river or creek when in an open position, and of excluding tidewater from the dry weather interceptor when in a closed position.

The two sluice gates are actuated through a common hydraulic cylinder, direct connected to the horizontal sluice gate and to the vertical sluice gate by means of flexible cable over sheaves.

The rise and fall in elevation of the sewage level in the main sewer transmits motion, through a float located in the sewer, to a 4-way valve which in turn, by City water pressure, actuates the hydraulic cylinder.

Intercepting gates and slots are examined immediately after each storm, and during dry weather periods at least once a week.

Little difficulty is encountered in maintaining the intercepting slots in service except from falling leaves in the autumn season, and occasionally from grit and sticks reaching the sewers during times of heavy rains from undeveloped areas with unpaved streets.

The operation of the hydraulically controlled intercepting sluice gates is

likewise satisfactory, but greater expenditure of time for maintenance is required. The discharge from the sewers into tidal streams during times of storm carries considerable sand and grit which tends to shoal in front of the sewer outlet. The sand backs up into the sewer in some instances to the vicinity of the gates, and until removed interferes with the satisfactory operation of the gates.

Northeast Laboratory.

The total number of samples on which chemical, bacteriological and physical determinations were made totalled 2806. Of this total 1967 samples were in connection with the operation of the Northeast Sewage Treatment Works; 36 samples from the Experimental Station; 325 trade waste samples; 89 samples from the Frankford Grit Chamber; ~~and~~ 153 samples from the Byberry Sewage Treatment Works; 168 samples from Schuylkill River Patrol and 68 samples from the Delaware River.

FRANKFORD CREEK GRIT CHAMBER - OPERATION 1932

STARTED 10-29-1923 CAPITAL INVESTMENT LAND 7.386 ACRES \$15,260
BUILDINGS MACHINERY \$240,950
TOTAL \$256,210 CAPACITY 150 M.G.D.

PERIOD	RAIN FALL TOTAL INCHES	DAYS IN SERVICE	SEWAGE FLOW		GRIT		SCREENINGS		GREASE		COSTS		TOTAL	PER MILLION GALLONS SEWAGE				
			VELOCITY FEET PER SECOND	CUBIC FEET TOTAL	PER MILL. GAL. SEWAGE	% VOLA TILE WASHED	CU. FT. WET	TOTAL CUBIC FEET	PER MILL. GAL. SEWAGE	TOTAL CUBIC FEET	PER MILL. GAL. SEWAGE	WAGES			POWER & LIGHT	HEATING	OIL WASTE & PACKING EQUIPMENT	REPAIRS MAINTENANCE & EQUIPMENT
1924	43.11	346	9169	0.85	23100	2.5	5.0	16950	3.0	1890	1890	\$9269.	\$530.	\$1004	\$31	\$1524	\$12,358	\$1.35
1925	32.40	365	9277	0.85	18,264	2.0	7.7	14,829	1.3	3309	3309	11,077.	772.	1110	53	1535	14,547	1.57
1926	44.91	359	9139	0.83	18,177	2.0	7.6	16,671	0.7	2674	2674	10,108.	648.	1237	100	2613	14,706	1.69
1927	43.15	316	7720	0.87	29,710.	2.7	6.3	15,403	0.7	2660	2660	10,281.	625.30	1438	22	1638	13,504	1.75
1928	38.66	346	12,048	0.84	36,262.	3.0	6.2	15,002	1.2	3908	3908	8,664.	762.	1205	30	2496	13,157	1.09
1929	41.56	365	12,565	0.70	40,338.	3.2	6.4	16,448	1.3	2411	2411	8,650.	834.85	595	24	2491.57	12,595.43	1.00
1930	34.00	365	11,917	0.71	34,655	3.0	5.3	14,676	1.2	2126	2126	7,832.52	680.92	711.60	27.42	1990	11,241.53	0.94
1931	39.28	365	10,722	0.79	39,236.	2.8	5.4	12,838	1.2	2816	2816	8,245.	614.94	707.22	22	1482.53	11,070.83	1.03
AVERAGE	39.63	353	19,322	0.80	27,718	2.6	6.2	15,352	1.3	2724	2724	9265.91	683.22	1000.97	38.52	1971.27	12,897.46	1.30
JAN.	4.69	31	926	0.80	2484	2.6	7.3	1488	1.6	227	227	628.	54.62	20.-	1.50	10.-	714.12	
FEB.	1.58	29	828	0.80	1863	2.2	4.7	1143	1.4	185	185	476.	51.35	20.-	1.50	10.-	558.85	
MAR.	7.43	31	288	0.80	1890	2.0	1.4	1083	1.2	140	140	490.	37.30	20.-	2.-	15.-	564.30	
APR.	2.37	30	931	0.79	1674	1.8	6.0	1410	1.5	126	126	482.	61.71	10.-	1.50	15.-	570.21	
MAY	3.81	31	1032	0.78	3051	2.9	4.0	1278	1.2	78	78	482.	57.20	-	2.-	20.-	561.20	
JUNE	3.39	30	905	0.78	1175	1.3	7.6	1077	1.2	151	151	481.	31.86	-	1.50	20.-	534.36	
JULY	2.25	31	992	0.80	2943	3.0	9.0	1089	1.1	91	91	482.	43.80	-	2.-	15.-	542.80	
AUG.	3.07	31	947	0.80	1890	2.0	1.7	1200	1.3	87	87	486.	46.83	-	1.50	15.-	549.33	
SEP.	1.05	30	807	0.76	3772	4.7	2.9	1143	1.4	121	121	484.	96.23	-	1.50	20.-	601.83	
OCT.	4.30	31	863	0.75	3402	4.0	6.2	1415	1.6	101	101	480.-	91.81	-	1.50	20.-	593.31	
NOV.	7.45	30	984	0.80	5131	5.2	3.5	1529	1.6	136	136	482.-	114.77	10.-	2.-	15.-	623.77	
DEC.	3.13	31	1034	0.80	1620	1.6	2.8	1215	1.2	70	70	482.-	117.84	18.90	1.50	5.93	626.17	
TOTAL	44.52	366	11237	0.79	30895	2.7	4.8	15070	1.3	1713	1713	5935.	805.42	98.90	20.00	180.00	7040.25	0.63

SOUTHWEST SEWAGE PUMPING STATION - OPERATION 1932

OPERATION STARTED AUG. 23RD 1927 CAPITAL INVESTMENT \$300,000. PUMPING HEAD - 50 FT.

PERIOD	PUMPAGE MILLION GALLONS		PUMPING HOURS		SCREENINGS CU. FT.		PERCENTAGE MECHANICAL EFFICIENCY		COSTS								PER MILLION GALLONS SEWAGE
	TOTAL	DAILY	14" PUMP	12" PUMP	TOTAL WET	PER MIL. GALS. SEWAGE			WAGES	POWER AND LIGHT	HEAT	LUBRICANTS WASTE PACKING	SUNDRIES REPAIRS EQUIPMENT	TOTAL			
1928	254.740	0.6966	660	541	36	0.14			\$10,837.	\$4,288.	\$333.	\$15.	\$3191.	\$18,664.	\$73.27		
1929	212.300	0.5882	698	249	30	0.14			\$11,572.	\$3,533. ⁶³	\$381. ⁹²	12.	\$2,512. ⁸⁵	\$17,832. ¹⁷	83.99		
1930	189.509	0.519	624	221	30	0.16			\$11,344. ³⁴	\$2,172.	\$361. ⁷²	24.	\$1,383. ⁹⁹	\$15,286. ¹⁹	80.67		
1931	468.570	1.284	1665	382	50	0.11			\$10,993. ¹⁸	\$5,112.	\$317. ³¹	20.	\$832. ⁵⁶	\$17,275. ⁹⁵	36.86		
AVER.	281.279	0.770	912	348	36	0.14			\$11,86. ⁵³	\$3,731. ⁴¹	\$348. ⁴⁴	17.75	\$1,980. ¹⁹	\$17,264. ³³	68.70		
JAN.	40.620	1.310	137	43					\$818. ⁹⁷	\$440.-	\$75	\$2. ⁵⁹	\$10.-	\$134. ⁴⁷			
FEB.	32.880	1.134	101	48					\$505. ⁹⁹	\$488.-	\$65	\$2. ⁰⁰	\$20.	\$1080. ⁹⁹			
MAR.	29.760	0.960	103	28					\$513. ⁹⁹	\$376.-	\$55	\$2. ⁹⁰	\$20.	\$966. ⁹²			
APR.	31.44	1.048	98	44					\$516. ⁰⁰	\$424.-	\$42. ⁵⁷	\$2. ⁰⁰	\$25.	\$1009. ⁵⁷			
MAY	30.588	0.987	94	45					\$522. ⁰⁰	\$432.-	\$13. ⁴⁴	\$2. ⁰⁰	\$25.	\$994. ⁴⁶			
JUNE	27.756	0.925	87	38					\$518. ⁰⁰	\$376.-	—	\$2. ⁰⁰	\$30.	\$926. ⁰⁰			
JULY	12.960	0.418	51	4					\$509. ⁰⁰	\$288.-	—	\$1. ⁵⁰	\$30.	\$828. ⁵⁰			
AUG.	3.768	0.121	13. ⁰⁰	3. ⁶⁰					\$517. ⁰⁰	\$168.-	—	\$1. ⁰⁰	\$30.	\$716. ⁰⁰			
SEPT.	10.026	0.334	39	3. ⁷⁰					\$511. ⁵⁰	\$176.-	—	\$1. ⁵⁰	\$30.	\$719. ⁰⁰			
OCT.	14.994	0.484	60	3. ³⁰					\$514. ⁰⁰	\$168.-	—	\$1. ⁵⁰	\$40.-	\$723. ⁵⁰			
NOV.	15.600	0.520	63	2. ⁷⁰					\$474. ⁰⁰	\$252.-	\$20	\$1. ⁵⁰	\$30.-	\$777. ⁵⁰			
DEC.	9.790	0.316	39	2. ⁴⁰					\$500. ⁷⁸	\$248.-	\$50	\$1. ⁵⁰	\$20. ³⁷	\$870. ⁶⁵			
TOTAL	260.182	0.711	885	265. ⁷	30	0.11			\$6421. ⁵³	\$3836. ⁰³	\$341. ⁰³	\$21. ⁰⁰	\$310. ³⁷	\$10,909. ⁶³	41. ⁹⁶		

Department of Public Works

ANNUAL REPORT OF OFFICIAL PHOTOGRAPHER

1932

Photographic

Blue Printing

OFFICE	8x10 Films	8x10 Prints	Kodak Films	Kodak Prints	20x24 Enlg-ts	8x10 Enlg-ts	Lant. Slides	B. P. Sq. Ft.	V.D. Sq. Ft.	Lin. Sq. Ft.
ENG. SURVEY	748	2835			50	36	72	55,449	2,295	2,146
HIGHWAY	544	400	8					19,878	188	87
WATER	100	127					4	18,415	43	955
ST. CLEANING	20							5,996	60	166
CITY PROPERTY	36	189						14,72	120	
HEALTH	18	27					8	1,315	45	
LAW DEPT.	12	50								
D. P. W.	104	103								
TRAFFIC	63	34						10,489	165	
ELECTRICAL								3,894	61	
ZONING	23	73	60	164			31	1,127	375	375
WELFARE	17									
ART JURY	30	30								
TOTAL:	1,728	4,405	68	164	50	36	186	118,135	3,352	3,729

125,211

D. Alonso Diagonal
Official Photographer

ANNUAL REPORT

FOR 1932

TESTING LABORATORY

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

JANUARY 25, 1933.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: AFB:E

January 25, 1933.

FROM: Assistant Engineer, Testing Laboratory Division.
TO: John E. Allen, Principal Assistant Engineer.
SUBJECT: ANNUAL REPORT FOR 1932.

Report of the Testing Laboratory, Bureau of Engineering and Surveys, activities for the calendar year 1932 is respectfully submitted.

Work consisted of physical and chemical testing of materials of construction and maintenance, submitted by the various City departments and bureaus, in accordance with their respective specifications; investigation of materials proposed for use on City contracts were made so that those of best quality could be selected; inspection and collection service was performed when required and where required.

In accordance with instruction (from the Chief Engineer and Surveyor), the laboratory assumed the task of prevention of corrosion and embrittlement of boilers in City Hall power plant. After four months' treatment, during which time the boilers were examined and passed by the Bureau of Boiler Inspection, the cost of treatment was found to be approximately one-fifth of that previously made by commercial concerns in this line. The practical and economical success of this experiment being proven, this proper - with proper authorization - has been extended to four additional City power plants and the same results in these are anticipated.

Additional activity is with the American Society for Testing Materials. The laboratory holds membership on several of the Society's standing committees deemed important to the City's construction work, and is assisting in research work necessary for forming specifications and test methods for materials of construction published by this organization.

High standards in testing are maintained by periodic co-operative tests with various laboratories of recognized standing and by the addition of standard apparatus as permitted by available funds.

The appended tables show the total, variety, distribution and percentage of distribution of the specimens submitted for test.

A. F. Burbidge
A. F. Burbidge,
Assistant Engineer.

Encls.

55-1932

TOTAL NUMBER OF SPECIMENS FOR 1932

Boiler compounds	9
Boiler Feed Water	361
Brick	10
Cast Iron (arbitration bars)	27
Cement (hydraulic)	1476
Concrete Aggregate	17
Concrete Building Block	10
Concrete cores	53
Concrete Cylinders	2104
Conduits	4
Fabrics	4
Fertilizers	9
Fuels	2365
Granite	28
Metals (ferrous)	23
Metals (non-ferrous)	14
Miscellaneous Materials	47
Oil (mineral)	81
Paint and Paint Materials	180
Road Materials	1017
Rubber Compounds	3
Soap and Soap Materials	29
Tile	17
TOTAL.....	7,888

DISTRIBUTION OF SPECIMENS FOR 1932

	<u>No. of Specimens</u>	<u>Per Cent.</u>	<u>No. of Specimens</u>	<u>Per Cent.</u>
DEP'T. OF CITY TRANSIT			915	11.6
DEP'T. OF PUBLIC HEALTH			36	0.5
DEP'T. OF PUBLIC SAFETY			347	4.4
Bureau of Boiler Inspection	10	0.1		
" " Building Inspection	34	0.4		
" " Traffic	6	0.1		
Electrical Bureau	297	3.8		
DEP'T. OF PUBLIC WELFARE			46	0.6
DEP'T. OF PUBLIC WORKS			5630	71.3
Bureau of Engineering & Surveys	2576	32.7		
" " Highways	1479	18.7		
" " Street Cleaning	2	0.0		
" " Water	1573	19.9		
DEP'T. OF SUPPLIES AND PURCHASES			914	11.6
			<hr/>	<hr/>
			TOTALS.....	7,888
				100.0

HYDRAULIC CEMENT SPECIMENS FOR 1932

Domestic Portland Cement	1466
	<hr/>
TOTAL.....	1466

DISTRIBUTION OF HYDRAULIC CEMENT FOR 1932

DEP'T. OF CITY TRANSIT		425
DEP'T. OF PUBLIC WORKS		1041
Bureau of Engineering & Surveys	988	
" " Highways	53	
		<hr/>
TOTAL.....		1466

CHEMICAL SPECIMENS FOR 1932

BOILER COMPOUNDS		9
BOILER FEED WATER		361
CEMENT (Chemical Analysis)		10
COAL		2232
Anthracite	1723	
Ash	59	
Bituminous	<u>450</u>	
CONDUITS (Electrical)		4
FABRICS		4
FERTILIZERS		9
METALS		19
Ferrous	5	
Non-ferrous	<u>14</u>	
MISCELLANEOUS MATERIALS		27
OIL		214
Fuel	73	
Gasoline and Headlight	60	
Lubricating and Lubricants	<u>81</u>	
PAINT MATERIALS		180
Driers	21	
Mixed paints	43	
Linseed Oil	30	
Pastes	9	
Pigments	51	
Putty	1	
Turpentine and Thinners	17	
Varnish	<u>8</u>	
ROAD MATERIALS		1017
Asphalt (waterproofing)	9	
" (compounds- miscellaneous)	31	
" cement (penetration)	571	
" weafing surface	400	
Tar	<u>6</u>	
RUBBER COMPOUNDS		3
Fire Hose	1	
Sheeting	<u>2</u>	
SAND (Concrete)		1
SOAP AND SOAP MATERIALS		<u>29</u>

TOTAL..... 4,119

DISTRIBUTION OF CHEMICAL SPECIMENS FOR 1932

DEP'T. OF CITY TRANSIT		86
DEP'T. OF PUBLIC HEALTH		36
DEP'T. OF PUBLIC SAFETY		314
Bureau of Boiler Inspection	10	
" " Building Inspection	1	
" " Traffic	6	
Electrical Bureau	<u>297</u>	
DEP'T. OF PUBLIC WELFARE		46
DEP'T. OF PUBLIC WORKS		2723
Bureau of Engineering & Surveys	69	
" " Highways	1080	
" " Street Cleaning	2	
" " Water	<u>1572</u>	
DEP'T. OF SUPPLIES AND PURCHASES		914
		<hr/>
		TOTAL..... 4,119

SPECIMENS FOR PHYSICAL TEST 1932

BRICK		10
Building	1	
Paving	3	
Sewer	<u>6</u>	
CAST IRON (Arbitration bars)		27
CONCRETE		2183
Aggregate, Fine	9	
" Coarse	7	
Building Block	10	
Cores	53	
Cylinders	2072	
" (Investigation)	<u>32</u>	
GRANITE		28
MISCELLANEOUS MATERIALS		20
STEEL		18
TILE (Liner)		17
		<hr/>
	TOTAL.....	2,303

DISTRIBUTION OF PHYSICAL SPECIMENS FOR 1932

DEP'T. OF CITY TRANSIT		404
DEP'T. OF PUBLIC SAFETY		33
Bureau of Building Inspection	<u>33</u>	
DEP'T. OF PUBLIC WORKS		1866
Bureau of Engineering & Surveys	1519	
" " Highways	346	
" " Water	<u>1</u>	
		<hr/>
	TOTAL.....	2,303

BUREAU OF ENGINEERING AND SURVEYS

J. H. Neeson, Chief Engineer and Surveyor.

ANNUAL REPORT - 1932

The general economic condition made necessary drastic changes in the organization and personnel of the Bureau of Engineering and Surveys. The curtailed scale of expenditures required the halting of all but imperative construction operations, and the personnel was reduced in accordance therewith.

On January 1st, 1932, the total personnel numbered 591. As the Bureau activities decreased, employees were dropped or placed on indefinite furlough to the number of 241, leaving on December 31, 1932, a total of 350 on the roll.

Funds for construction purposes were available January 1, 1932, on the books of the Bureau to the total of \$17,885,224.32. Expenditures during the year under contracts and contract commitments amounted to \$2,576,005.06. The financial condition of the City made necessary the transfer of funds previously allotted to construction projects for other purposes and, following approval by the Electorate, transfers were made to the amount of \$8,743,850.58. The construction funds remaining on the books of the Bureau, as of December 31, 1932, amounted to \$6,565,368.68, and this amount was comprised almost entirely of funds allotted to work in connection with railroad improvement projects and to the continuation of the sewage treatment project.

The construction activities of the Bureau comprise new City bridges, the elimination of grade crossings, City participation in railroad improvements, sewers and drainage structures, the sewage treatment project, and such additional operations as may be assigned. Plans are also prepared for street improvements and various other classes of construction to be carried out under contracts by other bureaus and departments.

The routine duties comprise the operation of the sewage treatment works and pumping stations, the operation of drainage pumping stations, the control and operation of a laboratory for the physical and chemical testing of materials of construction and also supplies purchased for the maintenance and operations of the various City institutions and operating plants, the issuing of permits for connections from buildings to the drainage system, the investigation and control of trade wastes and discharges from manufacturing processes, garages and service stations into the sewer system, the investigation of drainage and flooding complaints, the checking and approval of applications for highway occupation by public utilities to the Highway Supervisors and the checking and approval of structural designs submitted for work of railroads, utilities and private interests.

The Bureau of Engineering and Surveys also comprises the Board of Surveyors who are the developers of the City Plan and the official measurers of real estate and of the quantities of work done and materials furnished under contracts for City construc-

tion work and also furnish the lines and grades for construction operations within the highways of the City; the division for registering land deeds and recording the transfers of property; the City Planning Division; the Zoning Commission; and the photographic and blueprinting activities of the Department of Public Works.

The Bureau of Engineering and Surveys has but two sources of income from which funds are paid into the City Treasury; for services rendered to the public by the District Survey offices which, for 1932, provided the sum of \$34,595.31; and the sale of sewer laterals and drainage service charges from the Sewer Registrar, which amounted to \$4,428.60. The total return of funds to the City Treasury for 1932 was \$39,023.91.

The following summary is given of the activities of the Bureau for 1932.

BOARD OF SURVEYORS.

The decline in the volume of all classes of work performed by the Survey District offices made desirable a reduction of personnel and, under authority of an Ordinance of Council, approved May 27, 1932, the number of district offices was reduced from 16 to 11 and the district boundaries revised. The districts eliminated were combined with adjacent districts on the basis of boundaries established by divisions of the platted City plans. This reorganization of districts was accompanied by a reduction of personnel from 233 to 141, and the demotion of a number of the valuable higher assistants to lower grades and salaries.

Opportunity was given by the decline in routine work to improve the office records and extend the platting of the City Plan beyond the present developed sections. The surveys, revisions and plans connected with the new U. S. Custom House site required considerable work, as did the continuation of work on the Pennsylvania Terminal Improvement and the Germantown and Chestnut Hill track elevation. Work proceeded on the tying-in of Government points on the Schuylkill River with the street system of the City and extensive surveys and investigations were required for the working data used by the City Planning Division.

The routine work of the District Survey offices comprised the following:

WORK DONE BY PRIVATE REQUEST:

Number of lots surveyed for building purposes.	1,212
" " properties surveyed for conveyance or mortgage purposes.	856
" " plans made for conveyance, architectural and legal "	348
Linear feet grades given for new buildings, curbing and driveways.	67,538
" " lines and grades given for passenger railway tracks and public utilities.	20,659
" " lines and grades given for sewers and drains	6,597
" " of sewer laterals and inlet connections measured	5,173
" " lines and grades given for grading, paving, repaving, &c	96,392
Number of cubic yards grading measured	49,678
" " square " paving, repaving, &c, measured and billed.	66,350
" " assessment bills made for municipal improvements	1,088

WORK DONE BY DEPARTMENTAL REQUEST:

Bureau of Engineering and Surveys:-

Number of City Plans prepared.	38
" " acres surveyed for new plans, plan revisions, etc. . .	6,364
" " reports prepared for various purposes.	1,073
" " stone monuments set.	495
Linear feet of sewers for which plans were prepared.	14,185
" " business frontage examined in commercial survey. . . .	1,738,604
Number of gas and naphtha lamps examined in Lighting Survey . . .	45,000
" " square yards resurfacing estimated	72,000

Bureau of Highways:-

Number of plans prepared for grading, paving, repaving, etc. . .	108
Linear feet of streets for which plans were made	43,118
" " " stakes given for grading, surfacing, etc.	47,571
Number of reports prepared on monument locations	112

Bureau of Water:-

Number of plans prepared for water pipe	39
Linear feet of streets for which plans were made	17,615
" " " lines and grades given for water pipe	6,229

Bureau of City Property:-

Number of surveys made	2
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Bureau of Street Cleaning:-

Number of surveys made	2
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Council Committee on Public Works:-

Number of reports prepared	92
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Department of Law:-

Number of plans prepared for Board of View and other legal purposes	42
" " lien descriptions prepared	125

Department of Health, Welfare, Architecture and Wharves, Docks & Ferries:-

Number of miscellaneous surveys made	8
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CITY PLANNING DIVISION

Plans were prepared of the county line roads showing physical and legal conditions along the entire northern boundary of the City from Cobb's Creek to Somerton.

Studies, charts and maps were made on population growth and distribution, commercial surveys, industrial surveys, park and recreational systems, transportation and traffic and the rehabilitation of old sections.

A number of plans were prepared for legal purposes and the sectional maps of Philadelphia were kept up to date.

Exhibition matter was prepared and assembled for the Electric and Radio Show and the Atlantic Deeper Waterways Convention. A number of addresses were given before various civic bodies on matters included in City Planning and illustrated by data prepared in this division.

A study was begun on the planning of neighborhood units in which the maximum advantage is taken of the natural topography in the layout of street systems, natural beauty is preserved to the scenery, watercourses retained for storm drainage purposes, and living and recreational facilities improved at no added cost to the City above the system of gridiron streets and row houses.

REGISTRY DIVISION

The extent of work in registering transfers of real estate during 1932 did not decline with general conditions owing to the number of foreclosure sales and re-financing operations. There were approximately 66,000 property descriptions filed during the year, although the amount of road record and City Plan work sharply decreased. Only 16 deeds of dedication were filed and no streets opened by Ordinance of Council.

During the year, the number of employees was reduced from 23 to 12, and it was necessary to make a temporary assignment of several district employees to assist in the re-classification of plans and records to enable greater accuracy and speed in answering applications.

A summary of the most extensive operations is as follows:

Transfers plotted.	57,446
Original lots plotted.	2,622
Certificates of registered owners issued	715
Plan books examined.	173,911
Descriptions filed	66,579
Certificates of street openings issued	108
Miscellaneous plans drawn.	36
Titles examined for plan book entries.	3,306
Confirmed City Plans filed	14
Jury plans filed	17
Approved street railway plans filed. .	6
Street opening agreements filed. . . .	11
Deeds of dedication filed.	16
" " " recorded	21
Releases of abutting owners filed. . .	2
" " " recorded	3

BRIDGES

No work was inaugurated on new bridge structures during the year 1932. Proposals were received and contract awarded for replacement of the bridge on the line of Walnut Lane crossing Lincoln Drive, but the financial situation did not permit of carrying out the work.

HENRY AVENUE BRIDGE OVER WISSAHICKON CREEK: This bridge was begun in 1930 and, at the end of that year, was approximately 44% completed. At the end of 1931, the structure was 91% completed, with paving of the bridge floor and the sidewalks remaining to be done. The physical work was completed on March 1, 1932; the total cost of the project being approximately \$1,770,000.

PAVING HENRY AVENUE from HUNTING PARK and ALLEGHENY AVENUES to the BRIDGE OVER THE READING RAILROAD TRACKS: This work was the first of the final steps to open Henry Avenue with paving improvements from Nicetown to Roxborough. The type of paving is asphalt on concrete base, and was started on July 21, 1932, and completed on August 16, 1932, at a cost of \$13,133.27.

IMPROVEMENT OF NORTH APPROACH TO HENRY AVENUE BRIDGE OVER THE TRACKS OF THE PHILADELPHIA & READING RAILWAY AND APPURTENANT WORK: This work was the second of the steps to open Henry Avenue with improved pavement from Nicetown to Roxborough. The work on this contract consisted of grading, temporary paving of the 20 feet wide roadway with bituminous macadam, penetration method, concrete gutters, guard rail fences and drainage. The work was begun on July 21, 1932, and completed on October 20, 1932, at a cost of \$17,698.67.

IMPROVEMENT OF HENRY AVENUE BETWEEN WALNUT LANE AND SCHOOL HOUSE LANE: - Approaches to Henry Avenue Bridge over Wissahickon Creek - This was the final step in opening Henry Avenue from Nicetown to Roxborough. The work on the contract consisted of grading, temporary paving with cold-mix bituminous macadam, concrete gutters, guard rail fences and drainage. The roadway was opened to traffic on November 12, 1932, coincident with the dedication of the Wissahickon Memorial Bridge by his Honor, Mayor Moore.

BRIDGE ON LINE OF UNIVERSITY AVENUE UNDER THE PENNSYLVANIA RAILROAD AND THE PHILADELPHIA, BALTIMORE AND WASHINGTON RAILROAD: The work under this contract, when completed, will connect South Philadelphia and West Philadelphia via 34th Street in South Philadelphia, the University Bridge over the Schuylkill River, University Avenue, Vintage Avenue and 34th Street in West Philadelphia, and consists of the grading, paving and drainage work of Vintage Avenue and University Avenue and the completion of abutments for the Undergrade Bridge supporting the tracks of the Pennsylvania Railroad over University Avenue. The work was begun on April 29, 1932, and was 84% completed at the end of the year.

PAVING 34TH STREET APPROACH TO UNIVERSITY BRIDGE FROM GRAYS FERRY AVENUE NORTHWARD, and THE UNIVERSITY BRIDGE OVER THE SCHUYLKILL RIVER and the DRAINAGE INLETS AND CONNECTIONS NECESSARY THERETO: The work under this contract is one of the steps in connecting South Philadelphia and West Philadelphia via University Bridge over the Schuylkill River and consists of the paving of 34th Street Approach to University Bridge from Grays Ferry Avenue northward with asphalt on concrete base, drainage, fences, painting the structural steel of University Bridge and the paving of the bascule leaves of University Bridge with asphalt plank. The work was begun on October 7, 1932, and was 78% completed at the end of the year.

EAST LOGAN STREET BRIDGE UNDER THE GERMANTOWN AND CHESTNUT HILL BRANCH OF THE READING COMPANY: This work was begun in 1931. The bridge is a steel plate girder type, encased in concrete, and was 40% completed at the end of 1931. The work is being performed under contract by the Reading Company and an agreement with the City, whereby the City shares to the extent of 29.31%. All the work under the agreement was completed at the end of 1932, with the exception of a small amount of electrical work.

ABOLITION OF GRADE CROSSINGS

City participation in projects of the railroads entering the City of Philadelphia in the elimination of grade crossings and general improvements required the expenditure during 1932 of \$1,183,234.46. These participating projects were in various sections of the City and were affected, to a great extent, by the conditions prevailing in the industrial world. Work which could be halted was brought to a point where it was possible to stop operations, and others were continued only in the details necessary to provide operating lines.

SOUTH PHILADELPHIA TRACK ELEVATION: During 1932, no advance was made in construction work by the Railroad Company. Their work must resume before the City can proceed with its share in the completion of street improvements, with the exception of the curbing and paving of 25th Street between Mifflin Street and Passyunk Avenue. It is not proposed, however, to continue with this work at the present time. City expenditures in 1932 were \$52,113.40.

PENNSYLVANIA TERMINAL IMPROVEMENTS: This work, in connection with the Pennsylvania Terminal west of the Schuylkill River and the Suburban Terminal at 16th Street, is of wide scope and makes extensive revisions on both the east and west sides of the Schuylkill River. Work from the River eastward has been completed until such time as the Pennsylvania Railroad abandons the Broad Street Station and the tracks leading thereto, and no operations in this locality required City action during the year.

On the west side of the River, construction work was completed under the contract previously entered into for the construction of a portion of the bulkhead wall and intercepting sewer from Spring Garden Street southward. The contract has not yet been officially closed, pending the settlement of certain questions which arose during the work.

A contract has been entered into for constructing a retaining wall along the west side of Schuylkill Avenue West from Spring Garden Street southward, but work did not proceed. Financial reasons made necessary the annulment of this contract and the deferring of the improvement.

Work proceeded under the contract for constructing a viaduct to carry 30th Street over the railroad tracks and platforms between Arch Street and Market Street.

The grading of Schuylkill Avenue West from Spring Garden Street to Arch Street has not yet been completed, although considerable filling has been placed. No work is proceeding on this item at the present time.

The interference resulting from the restriction of Market Street between 30th Street and Schuylkill Avenue West to one-way traffic, on the north shoulder, made it desirable to proceed with the construction necessary to close the gap in the south shoulder. Proposals were received for this work on December 30, 1932.

The City participation in the Pennsylvania Terminal Improvement work during 1932 required the expenditure of \$534,033.24.

MAMAYUNK ELEVATED: Work was completed during 1932 on the elevation of grade crossings along the Norristown Branch of the Reading Company, between Wissahickon Creek and Fountain Street. There still remains, as a City operation, the final street improvement of Main Street between Green Lane and Leverington Avenue, and Leverington Avenue between Main Street and the Pennsylvania Railroad. It is not planned to proceed with this work at present.

The expenditures made in connection with the Manayunk Elevated during 1932 were to the amount of \$38,844.43.

GERMANTOWN AND CHESTNUT HILL ELEVATED: The elimination of grade crossings along the Philadelphia, Germantown and Norristown Railroad and the Chestnut Hill Railroad between Wister Street and Bethlehem Pike was completed, with the exception of the crossing at Mt. Airy Avenue and the City operations in adjusting the streets to the new conditions in the section between Wister and Haines Streets.

The Reading Company is proceeding with the permanent tracks, signals and overhead work, and the new station buildings at Chelton Avenue and at Ashmead Street. On the 23rd of November, one hundred years ago, the Philadelphia and Norristown Railroad was placed in service from Greene Street to the terminal at Germantown Avenue and Price Street. Upon the extension of the railroad, as the Chestnut Hill Railroad, between Armat Street and the Bethlehem Pike, the station was transferred from Price Street to the south side of Chelton Avenue on the site where the new station is now under construction. Electrical operation of this railroad is anticipated early in 1933.

Expenditures by the City for 1932, on this project, were \$558,243.39.

PENNSYLVANIA AVENUE IMPROVEMENT: No further steps were taken during the year toward extending the improvement of Pennsylvania Avenue between 26th Street and Girard Avenue; and no expenditures were made on this project during 1932.

BALTIMORE AND OHIO RAILROAD: TERMINAL IMPROVEMENT: No progress has been made in connection with this project as the funds previously appropriated thereto were transferred to other purposes by electoral vote and Ordinance of Council.

DRAINAGE.

On January 1, 1932, funds were available for the construction of main sewers in the amount of \$625,077.22; and for branch sewers, \$295,523.81. Under urgent necessity for funds for other purposes, there was removed by vote of the Electorate and Ordinance of Council of May 24, 1932, the sum of \$492,331.90 from the main sewer appropriation, and \$300,000 from the branch sewer appropriation, and transferred.

Existing contracts, upon which no work had been done were cancelled and other active contracts were halted at points where such action could be taken. No new contracts were entered into for main or branch sewers during the year 1932. The completion of contracts, previously entered into, and the construction of two sewers at private cost increased the length of the drainage system 2.84 miles. At the end of 1932, there was a total mileage of 1781.65 comprising the drainage system of the City.

For the construction of new sewers in place of old sewers, funds were available to the amount of \$305,496.48, from which a contract was entered into for the replacement of the Mill Creek Sewer in 43rd Street from south of Walnut Street to Walnut Street. This drainage structure had failed on August 29, 1932. It is being replaced by a brick sewer 17'6" x 18'5"; and 20 linear feet have been completed. The amount of the contract is \$60,000.

The total expenditure for the year for drainage purposes was \$123,196.67.

The following main sewer contracts were entered into prior to 1932 and completed during the year:

OAK LANE MAIN SEWER IN LAKESIDE AVENUE BETWEEN 12TH STREET AND OLD YORK ROAD: This is a reinforced concrete stormwater conduit, 9'6" x 7'6" with 10 and 12" vitrified pipe sewage sewers paralleling the stormwater conduit. The length constructed was 127 feet.

LARDNER STREET AND THROUGH PRIVATE PROPERTY FROM THE DELAWARE RIVER TO NORTHWEST OF TACONY STREET: This is a reinforced concrete, twin-section, stormwater conduit on piles, each section being 8' x 10'6", and with 10 and 12" vitrified pipe sewage sewers paralleling the stormwater conduits.

The construction of the first section of the relief sewer in WINGROCKING STREET FROM PHILIP STREET WESTWARD was halted at 3rd Street. The section is 15' x 17' reinforced concrete, and 293' were built.

MINGO CREEK PUMPING STATION, which provides drainage for the low-land section of the 40th Ward, was called upon to remove a total of 2,968,000,000 gallons during the year. This is twice the amount of pumpage for 1931, and directly chargeable to the runoff from hydraulic fill operations within the lowlands of this area by the United States Government contractors and City dredging operations, together with the flows from the broken dikes in Delaware County and the breach in the protecting dike of the City of Philadelphia, which National Guard officials prevent being repaired.

This Pumping Station is steam operated and uses oil fuel under the boilers. Fuel consumption amounted to 176,974 gallons at a cost of \$5,751.91. The total expenditures for operation and maintenance, repairs and equipment for the year amounted to \$13,560.90.

The rainfall for the year amounted to 44.52", which is greater by 4" than the normal precipitation for the Philadelphia area and was the greatest since 1926. Rain storms of intensity beyond the normal occurred on July 22nd and August 18th, and resulted in wide-spread flooding throughout the City and along the watercourses of the City.

SEWAGE TREATMENT PROJECTS.

The general economic condition prevented the entering into of new contracts for continuing the sewage disposal project during the year, and application was made to the Sanitary Water Board of the State of Pennsylvania for an extension of time, during which the City would be permitted to discharge sewage into the waters of the State. A permit was issued, under date of December 22, 1932, extending the time for completion of the items required for 1932 until December 31, 1933, but, required that the City shall immediately proceed with the construction work necessary to complete the interception of sewage now discharging to Frankford Creek and to the Delaware River northward from Somerset Street.

The expenditure during the year for sewage treatment construction was \$28,028.90.

The following contracts carried forward from 1931, were completed in 1932:

SOUTHWEST WORKS MAIN EFFLUENT CONDUIT IN THE LINE OF ISLAND ROAD FROM DELAWARE RIVER TO THE CHESTER BRANCH PHILADELPHIA, BALTIMORE AND WASHINGTON RAILROAD: was completed April 7, 1932, at a cost of \$360,042.31. The length of conduit constructed lies entirely within Hog Island, which was acquired by the City by purchase from the United States Shipping Board, as agents for the United States Government.

LARDNER STREET MAIN SEWER AND CONNECTIONS TO THE UPPER DELAWARE COLLECTOR AT MILNOR STREET was completed April 5th at a cost of \$145,577.09.

The contract carried forward from 1931 for the construction of the SOMERSET LOW LEVEL COLLECTING SEWER FROM SOMERSET STREET TO NORTHEAST TREATMENT WORKS is still in progress and 96% complete.

Contracts had been entered into in 1931 for INTERCEPTING CHAMBERS AT CASIMER STREET, LEFEVRE STREET and TORRESDALE AVENUE, but work had not started. These contracts were annulled.

The Northeast Sewage Treatment Works continued in successful operation and the effluent discharged was of the requisite standard and within the capacity of the waters of the Delaware River to oxidize. The total volume of sewage treated during the year by sedimentation and digestion in Imhoff tanks amounted to 15,345,000,000 gallons. The dry weather flow has a range from 28,000,000 gallons daily at 5:00 A.M. to a maximum of 55,000,000 gallons daily at about 5 P.M. Sludge produced amounted to 15,592 cubic yards wet, or approximately 1 cubic yard per million gallons of sewage. A total of 16,000 cubic yards of digested sludge was withdrawn from the tanks.

The High Level Grit Chamber, from a total sewage flow of 11,237,000,000 gallons, produced 15,070 cubic feet of wet screenings and 30,895 cubic feet of wet grit; 1,713 cubic feet of grease were also collected.

The Low Level Grit Chamber and Pumping Station handled the flow of 4,108,000,000 gallons from which 12,860 cubic feet of wet screenings and 24,400 cubic feet of wet grit were intercepted.

The increasing number of points of interception of sewage by mechanical devices increased to an extent that required the organization of an interceptor patrol to maintain these mechanical devices in perfect operating condition.

The sewage laboratory at the Northeast Works, where chemical, bacteriological and physical determinations are made, carried out tests on 2,806 samples. Of this total, 1,967 were in connection with the operation of the Northeast Works; 36 samples from the Experimental Station; 325 were samples collected during the investigation of trade wastes and industrial discharges; 89 samples from the Frankford Grit Chamber; 153 samples from the Byberry Sewage Treatment Works, in maintaining a check on the operation of that plant; 168 samples were submitted by the Schuylkill River Patrol; and 68 were from the Delaware River.

DRAINAGE PERMIT DIVISION.

This Division is the source of information for the title insurance companies in locating charges against property for sewerconstruction costs, for locating points of connection for the work of plumbers in connecting properties, and the issuing of permits for connections to the drainage system. During the year 1932, permits were issued for 1209 connections to the drainage system. The records of the Bureau were increased by the filing of 19 plans and diaries of sewers completed during the year.

TESTING LABORATORY.

The Testing Laboratory has always been maintained at a standing comparable with laboratories recognized for their integrity and efficiency. It holds memberships in several standing committees of the American Society for Testing Materials and is assisting in research work for the development of specifications and test methods for materials of construction approved by that body.

Its work consists of the physical and chemical testing of materials to be used by the City under contracts for construction and maintenance of City institutions. This service includes all City departments and bureaus.

In 1932, the laboratory was called upon to develop a treatment process to prevent the corrosion of boilers in the power plant of the City Hall. A process was worked out and applied for four months, during which time the boilers were maintained under an inspection by the Bureau of Boiler Inspection and the treatment was declared to be satisfactory. The cost of this treatment was found to be approximately 1/5 of the cost of the treatment previously used from commercial operators in this line. The method of treatment developed has been extended to four additional City power plants and the same results in efficiency and economy are anticipated.

During the year 1932, the laboratory completed physical or chemical tests and made reports on 7,888 samples, submitted from the various departments and bureaus, distributed as follows:

Public Works	5,630
Supplies and Purchases	914
Public Safety	347
City Transit	915
Public Welfare	46
Public Health	36

In most cases, this service included inspection, collecting of samples and transportation to the laboratory, in addition to the testing operation.

OFFICIAL PHOTOGRAPHER.

This division operates for all bureaus and departments of the City government, with the exception of the Department of City Transit. During 1932, its work required the making of photographic negatives to the number of 1,728, from which prints were made numbering 4,405; the furnishing of blueprint reproduction of plans for the various departments and bureaus required the use of 125,211 square feet of blueprint paper.

ZONING COMMISSION.

The Zoning Commission, since its organization on July 2, 1929, has been engaged in the collection of data and conferences with real estate operators and civic organizations in the endeavor to draft a zoning ordinance for adoption by the City of Philadelphia.

The ordinance as developed was submitted to Council in January of 1932 and is still in the hands of the Planning and Zoning Committee of that body, awaiting public hearings before taking councilmanic action.

During the year 1932, the engineering force was engaged in recording existing conditions in locations where non-conforming uses were indicated. Each property was inspected and conditions recorded in book form for future reference. Studies were also made on the areas of industrial, commercial, residential and least restricted districts by wards and councilmanic districts. It was intended to place the results of these observations in the hands of each Councilman to enable them to have a complete understanding of conditions in their districts.

Forms have been worked out for applications, appeals and other procedures, which would be necessary in the administration of a zoning law; and tentative rules and forms have been drafted for the operation of the Board of Adjustment.

During this work, it was found advisable to make changes in the proposed Zoning Ordinance and these changes were submitted to City Council on October 13, 1932.