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BUREAU OF ENGINEERING, SURVEYS AND ZONING.

J. H. Neeson, Chief Engineer and Surveyor.

ANNUAL REPORT - 1936.

The Bureau of Engineering, Surveys and Zoning, has functions comprising planning, construction, investigation and reports. The construction activities comprise new City bridges; participation, with the railroads entering the City, in the elimination of grade crossings and railroad improvements; the construction of sewers and drainage structures, and such additional operations as may be assigned; plans for street improvements and other classes of construction are prepared for carrying out, under contract by other bureaus and departments. The routine duties comprise the control and operation of a laboratory for the physical and chemical testing of materials entering into construction and also the supplies purchased for the maintenance and operation of the various City institutions and plants, the issuance of permits for connections to the drainage system; the investigation and control of trade wastes, the investigation of drainage and flooding complaints; the checking and approval of applications for highway occupation by public utilities to the Highway Supervisors; the checking and approval of structural designs submitted for the work of railroads; utilities and private interests; regulating and restricting height, locations, size, bulk and use of buildings or land, in the City; and general engineering investigations of various projects affecting the interests of the City.

The Bureau of Engineering, Surveys and Zoning, 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 contract for the City construction work; they also furnish the lines and grades for construction operations within the highways of the City; the registering of land deeds and the recording of transfers of property are also functions of the Bureau.

The work in the SURVEY DISTRICTS in 1936 reached the highest peak since the year 1931, the total cash receipts, representing Surveyors' charges for private surveys, being \$71,000. This amount is 50% greater than the corresponding income for 1935, and 150% larger than the returns for 1934 and 1933, respectively. Included in the work were 3,873 surveys; 386,739 linear feet of lines and grades; 856 conveyance plans covering 3,206 properties; and 56 contracts requiring an additional 33,072 linear feet of lines and grades. A considerable portion of this activity was done under pressure due to the extensive building boom under way in the Northern and Northeastern sections of the city.

A large amount of inter-departmental work is performed annually and not included in the above statistics, since no charges can be made for these functions performed by the Bureau. During 1936, this volume of work was materially greater than for any year since 1931. There were numerous City Plan revisions; plans and surveys in connection with the Federal-Aid Municipal Highway projects; preparations of 354 plans covering 306,401 linear feet of municipal improvements.

In addition to this, the Bureau provided the necessary surveys for the \$4,000,000 W.P.A. grading project now under way; the \$7,000,000 W.P.A. highway program now pending, and the Convention Hall, Municipal Stadium and Municipal Airport improvements.

The necessity of strict economy had kept the District organization down to a minimum. In 1931, when cash receipts in Survey Districts were \$117,001., the active personnel numbered 210; whereas the work represented by the \$71,000 return in 1936, combined with all other departmental work, was performed by an active personnel of 107 -- the majority of whom are working for salaries 10% to 30% of that received in 1931. To avoid increasing the personnel and adhere to a policy of rigid economy, as well as of greater efficiency, 37 men in various grades in the Survey Bureau have been assigned to the Traffic, Registry and Zoning Divisions as an administrative measure to carry on the functions of these new administrative units, eliminating the necessity of maintaining at least this number of new employees.

CXSC
The PLANS AND REGISTRY DIVISION was considerably more active in 1936 than it has been for four years. The General Plans unit, which develops the City Plan and does related research work of the Department of Public Works, prepared during the year, in addition to numerous planning studies, a wide variety of special plans and field work in connection with important municipal events. During 1936 the outstanding examples of such special duties were planning and erecting departmental expositions for NATIONAL HOME WEEK, PHILADELPHIA ON PARADE, and W.P.A. PROGRESS EXHIBIT in the Broad Street Concourse; also complete plans and manifests covering the seating capacity of the Municipal Stadium -- laying out and checking of 102,000 seats. General Plans also collected considerable data upon various phase of planning and prepared many maps and charts for use in answering inquiries from other cities and countries, covering the design and character of the Philadelphia City Plan.

The second unit, the Registry Division, acts as custodian of all City Plans and street opening records -- a highly important activity in connection with the acquisition of property for municipal improvements; and also as its records relate to the duties of the Department of Law in condemnation proceedings. It maintains and is, likewise, the official custodian of the records of registered owners of all properties in the City. The work of this unit in 1936 shows a more than favorable increase over the preceding year, and maintained by a depleted personnel. Over 48,000 lots were plotted and in excess of 150,000 public examinations of the Registry books were made, as compared to 44,000 plottings and 137,000 public examinations in the preceding year - 1935. In 1936, there was a corresponding increase in the number of City Plans ordered, City Plans and deeds of dedication filed, and the number of Court appearances over the similar 12-months period of 1935. This work has been accomplished more economically than in any preceding year and, we feel, quite efficiently, by the assignment of five Survey District employees to assist in the preparation of plans and the giving of information to the public relating to City Plan and street opening records.

The comparatively new and important function of ZONING is being administered almost entirely by assistants assigned from the Survey District organization. The amount of work performed by this unit has been growing steadily since the Zoning Law became effective in 1933. During the past year, 15,562 requests for information were received; 6,487 applications filed; 5,991 permits issued, representing cash receipts of \$16,148., as compared to \$11,428. the preceding year, or an increase of 41%. Likewise, other items of work show increases over 1935 vary from 5% to 55%. In order to adapt the existing organization to the greatly increased volume of work in 1936, it became necessary to re-apportion the work done by each individual, re-route the applications, and change the physical arrangement of the offices for the greater convenience of the public. It resulted in a more concentrated effort by each employee and more adequate service for the public, in spite of the increased demand and limited personnel. The institution of the Zoning Law in Philadelphia has not cost the taxpayers one cent. Instead of developing this new instrument of control over building design and construction, the uses of property in the interests of values, health and safety, as a separate Bureau, the work of administration and operation has been absorbed by the Bureau of Engineering, Surveys and Zoning without additional provision in its annual budget.

The DESIGN DIVISION of the Bureau was kept working to capacity on a variety of projects with a reduced personnel, even though construction appropriations were not available. Construction plans were completed during the year for highway bridges on the line of Mill Road over Cobbs Creek and Ashburner Street over the Pennsylvania Railroad; footbridges at the Commercial Museum, and numerous culverts required for highway improvements. In connection with the proposed grade crossing elimination at Allegheny Avenue, 21st and 22nd Streets, on the line of the Reading Railroad, plans were completed for revising the street system, sewers and underground structures; also, for 26 branch sewers, the Mill Creek Relief Sewer; the 29th Street Relief Sewer; the West Central Schuylkill Intercepting Sewer, and the Sewage Intercepting Chambers along the line of Frankford Creek and Somerset Collecting Sewers. Prior to the Democratic Convention in June, this Division prepared plans for the widening of Vintage Avenue at Convention Hall and Commercial Museum, including the design of all retaining walls necessary. The plans for extension of the Press Stands; broadcasting booths; Baltimore and Ohio and Pennsylvania Railroad station facilities in the vicinity of the Municipal Stadium, and all other supporting structures including the supervision of design of the 27,000 additional seats required for the Army-Navy game, were undertaken and completed by this Division. It continued the routine work, of which there was considerably greater volume than in 1935, of checking designs submitted by other City Departments and Bureaus, which included bridges; temporary structures and supports; new stairways in Commercial Museum, and numerous sidewalk marquees and vaults.

INVESTIGATIONS AND REPORTS: Investigations and reports were made on 24 proposed revisions of the City Plan; storm-water flooding at 15 locations; preliminary studies were made and cost estimates prepared for highway bridges at City Line over the Schuylkill River; Lefevre Street over Frankford Creek; Lincoln Drive over Cresheim Road; and a method of grade separation at Ridge Avenue and the East Park Drive for traffic relief.

In anticipation of funds being made available for storm relief, 19 sewer reconstructions were studied and, in addition, drainage systems have been designed for 17 tracts proposed for building developments. The sewage treatment project was advanced by studies of the Central Schuylkill and Southeast Sewage Pumping Station units; the Lower Delaware Intercepting Sewer; the Upper Delaware Intercepting Sewer, including the branch along Poquessing Creek, and the Interceptors in the vicinity of 73rd Street and City Avenue.

start
A general review and analysis has been prepared of the Philadelphia Terminal Improvement, with a view to its revision along more equitable lines as regards City participation in this project. The routine work of the Division included investigation and action on 526 applications from utility corporations for allocation of space in City streets; the keeping up to date of 78 drainage maps covering existing and proposed sewers throughout the City, and the preparation of forms for recording operations of other Municipal Bureaus.

WASC
The CONSTRUCTION DIVISION was comparatively inactive, its work depending mainly upon the availability of loan funds against which construction work, designed and supervised by this Bureau, such as sewage disposal, bridges, main and branch sewers, grade crossing elimination, railway terminal improvements, etc., must be charged. Obviously, this reduced the personnel to a skeleton of the force required in normal times. It was fortunate, however, that the direction and responsibility of the work carried on in a number of Works Progress Administration projects could still be undertaken by this Division. The general result of this control is that the City has secured work of real social and economic value in a number of W.P.A. projects where City-sponsored contributions and supervision were essential factors in each project.

C + S E
The work of the TESTING LABORATORY, including the chemical and physical testing of materials for construction and maintenance, submitted by the various City Departments and Bureaus, increased 33-1/3% over 1935. As against 4,135 samples or specimens submitted and analyzed in 1935, there were 6,237 such samples passed through the Testing Laboratory in 1936. The work of this Division of the Bureau also included the investigation and inspection of cement manufacturing mills; of the central-mix concrete plants, as well as emergency investigations for the Bureau of Building Inspection and the Fire Marshal's Office. Considerable additional work arose as a result of the inflow of materials required on W.P.A. projects and in the drafting of specification tests for materials to be purchased.

The SEWER PERMIT DIVISION, with its Inspection Force reduced to two employees, was badly overloaded with work, being called upon to make inspections during 1936 of over 3,000 connections comprised in 500 permits. In the preceeding year inspections were made of 1,854 connections on 362 permits, which, together with the increase of receipts from \$3,503. in 1935 to \$12,500. in 1936, is an indication of the speeding up of building activity which has become more than noticeable in all other divisions of the Bureau, as well as this one. It is apparent that if this rate of progress continues throughout 1937, some way must be found to increase the force in order that the additional volume of work may be handled efficiently and safely, and the City, as well as property rights given adequate protection.

With the designation by the Mayor of the Chief Engineer as Secretary

of the Mayor's Committee, in January of this year, the Bureau became a clearing house for all WORKS PROGRESS ADMINISTRATION PROJECTS submitted by the various City Departments and Bureaus. Numerous projects were tentatively proposed, covering almost every phase of municipal functional activities, including new construction; rehabilitation and repairs to structures; extensions to plants for increased efficiency in operation; revival of maintenance work deferred because of inadequate appropriations; and surveys under the heading of White Collar Projects, covering such things as traffic counts; data relating to housing conditions; investigation of buildings to determine their usefulness and safety of occupancy; investigation of fire hazards; boiler and elevator inspection; compilation of information as to conditions in City institutions, notably those having to do with the operation of the Departments of Public Health and Public Welfare; preparations of plans and specifications after architectural surveys for construction of new City institutions or extensive improvements and repairs to existing ones. Generally speaking, these were the principal classifications of W.P.A. projects, but included among them were all of the activities that normally constitute the proper operation of a municipality. For all, there was need of Federal aid and cooperation. Because of the depressed financial condition of the City, and enforced retrenchment which first began to develop in 1930, upkeep and maintenance work of various City units had been deferred. The opportunity to participate in Federal Aid grants has, therefore, been of considerable benefit to the City and its taxpayers, in addition to giving work to the unemployed. These projects, which have been operating continuously throughout the year, have contributed to the social and economic welfare of the City.

During the year, 115 projects were selected for application, and approved and forwarded to the Local Works Progress Administrator. Many of these projects have been in continuous operation since early in the year, but, in addition, the group now in process of approval by Federal authorities contemplates work for 36,000 persons at a total cost of \$17,745,000. The City's sponsoring contribution, applied to the purchase of materials and supplies, amounts to \$2,493,000. This program is the largest and most comprehensive that the City has undertaken since the inception of the Federal Emergency Relief Program. All of the work incident to the preparation of these projects, insofar as the expenditure of the City's sponsoring contributions is concerned, is under the supervision of the ACCOUNTING AND REPORTING DIVISION of the Bureau. This work has mainly consisted of the allocation of funds for materials and supplies, preparation of proposals and receipt of bids, making of awards, supervision of the delivery of materials for various approved projects. This Division maintains separate accounts for all records in connection with the disbursement of the \$250,000 fund made available by City Council. The operation of the Division has been successfully carried on with a personnel 50% less than the immediately preceding years and, in addition, it has performed all other normal functions of dispensing and accounting for various appropriations made to the Bureau for payrolls and supplies, the maintenance of personnel and other records.

Through the subsidiaries of the Federal Emergency Relief Act, principally WORKS PROGRESS ADMINISTRATION, designed to give immediate relief to the unemployed in public works and related activities not requiring extensive preliminary plans or preparation, the City benefited in the completion of several minor public works improvements of noticeably useful value. Attention is called to several projects carried to completion prior to the Democratic Convention last June, with an expenditure of over \$200,000. of Federal-City funds. Broad Street was repaved from South Street to Pattison Avenue; 33rd Street from Chestnut to Spruce Streets; Gray's Ferry Avenue from 34th to South Streets; also, the low

level drive in Spring Garden Street, connecting Spring Garden Street with the Parkway, was constructed. Another project provided for the improvement of the North Plaza of City Hall, through the planting of trees, shrubbery and landscaping of other small areas, which, with the installation of a new lighting system, has greatly enhanced the appearance of the structure from its North approach.

A supplemental operation which could not be started in time for completion before the Convention opening -- the pointing, painting and cleaning of the whole exterior of the City Hall -- is now underway and will constitute an outstanding and representative improvement with the aid of Federal funds.

In the immediate vicinity of Convention Hall major improvements were made -- the exterior of all buildings forming the group known as the Commercial Museum has either been cleaned or the brick-work surfaced with stucco, which not only saves these buildings from decay but has greatly improved their appearance. In order to provide for traffic to the Convention, Vintage Avenue from the Convention Hall southward to University Avenue was widened and the depressed area between the avenue and the buildings graded, paved and landscaped, and a return driveway constructed at a lower level, which now makes a loop for traffic which formerly was congested in Vintage Avenue.

Finally, an operation which seemed in the early part of this year an impossibility, was planned and became a reality one week before the Convention opened. Reference is made to the opening of University Avenue through Woodlands Cemetery from its dead-end connection at Vintage Avenue to 39th Street and Woodland Avenue. This new thoroughfare, long considered vitally essential as a connection between South and West Philadelphia, may be considered a constructive high-light of all the works projects, resulting from the City's contact with the Federal Government. This particular improvement was made possible through Federal funds allocated to the Commonwealth of Pennsylvania, re-distributed to the various counties, including Philadelphia, toward which the City made a contribution of 33-1/3%. What seemed like insurmountable difficulties in the beginning were overcome through almost perfect cooperation between the owners of properties and the City in condemnation proceedings, the work of the Bureau in fast preparation of plans and, finally of the contractor who undertook the completion of grading and constructing 2,100 feet of 60 feet concrete roadway six lanes wide, in 45 working days, under the joint supervision of the State and the City Engineering Bureaus.

More recently, and as a direct result of the decision of the authorities in charge of the annual Service football game between the U.S. Military Academy and the U.S. Naval Academy, to play in Philadelphia Municipal Stadium, November 28, 1936, a comprehensive plan of improvements in and about the Stadium, including the furnishing and erection of 29,194 seats; added railway terminal facilities for handling the crowd that attended the game, and the repaving and resurfacing of the approach streets leading to the Stadium, including, also, making available parking areas for over 15,000 vehicles, presented a problem that was successfully carried out through 100% cooperation between the Federal and City authorities. The satisfactory outcome of the game, from the standpoint of management and advance preparation, may be attributed in large measure to the work that was made possible through combined Federal and City financial aid. The improvements are of such permanency that the Philadelphia Municipal Stadium today is capable of accepting any major sports spectacle which over 102,000 spectators may attend in comfort and convenience. It is, no doubt, the most accessible structure of its kind

by transportation from the Central business area of any metropolitan city in the United States, the average time by motor vehicle from City Hall being 9 minutes. For this game, 40 trains from distant points - New York, Baltimore, Washington - delivered passengers at the gates of the Stadium before play started, at the rate of one train every 3 minutes and 21 seconds. Just as expeditious movement was made away from the Stadium following the game when the entire complement of passengers was entrained in 40 sections, on return to their original point of departure, in one hour and twenty-five minutes.

The principal reaction to this accomplishment has been the decision of Army and Navy officials to play the game in Philadelphia in 1937, 1938 and 1939, and to reserve the option of playing it thereafter in the three succeeding years, the contractual agreement having been already executed and signed by the Mayor.

Many other undertakings in conjunction with the Works Progress Administration were begun and completed during the year and a large group are still in progress, which will give work to the unemployed throughout the Winter. In the Water Bureau, filter plants, pumping stations and reservoirs have benefited by repairs and cleaning; in Lighting and Gas, all the records of the Bureau have been extended, revised and brought up to date, so that it is now possible to determine exactly, without street inspection, the location of electric and gas lamps; in Engineering, Surveys and Zoning, in addition to the major projects already referred to, damaged plans and records have been replaced; surveys and collection of data for plans required for the improvement of Frankford Creek to eliminate flood damage have been progressing; and design for electrically operated bascule bridge to carry Penrose Avenue over Schuylkill River is 80% completed. Among the major projects placed under the direct supervision of this Bureau is the dredging of the Schuylkill River, Fairmount Dam to the Falls of Schuylkill, which has been carried on as satisfactorily as is possible in the absence of any comprehensive engineering plan for the control of up-river floods. The problem of keeping the Lower Schuylkill River passing through Philadelphia free of mud is not one that is going to be accomplished by mere dredging of mud from the river. The increasing load of debris, silt, culm and erosion of banks and streams leading into the Schuylkill River up-State will not be overcome until there is a genuinely concerted effort made to force these communities and industries to correct conditions at the source. Under existing conditions Philadelphia can only pursue its present policy of laboriously removing these deposits; but, if the proper engineering plans were agreed upon and financed by the Federal Government, we can at once go ahead with the necessary construction units, step by step, to perform an integral part of the plan for the control of floods along the entire length of the Schuylkill River above Fairmount Dam.

The second large project under jurisdiction of the Bureau is the construction of the Philadelphia Municipal Airport. The City, early in the year, made available to the Government its general plan for this purpose. It consisted of bringing the elevation of the entire area in Southwest Philadelphia to an established elevation of plus 2; provision for underground drainage; building of runways 5,000 feet in length, ranging in width from 150 feet to 250 feet; the construction of Administration Buildings, hangars and other housings for equipment; and the lighting and enclosing of the field. The original project, inaugurated by Works Progress Administration, contemplated this work as a

hand labor job in order to afford employment to the maximum number. While this was a worthy purpose, it did not make the progress expected of it for many reasons, an important one being lack of suitable material. A general revision of the project brings it more under the scope of an engineering operation. Work is intended to begin very shortly on raising the area to grade by hydraulic fill of acceptable material pumped in from the New Jersey side of the Delaware River. When this has been completed it is proposed to follow up immediately with the successive steps as outlined above. Philadelphia should then be in a position to accommodate all types of aerial transportation at a location which will service not only the North, South and West, but coastal and trans-Atlantic passenger and commercial lines. It will be within 15 minutes' motor ride from the Central section of the city and, therefore, more accessible than any of the metropolitan airports along the Eastern Seaboard.

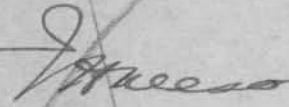
8
In the Bureau of Highways, extensive street maintenance and country road construction works have been completed and are still under way; in City Property, general repairs, improvements and modernization have been in progress in over 145 Fire Houses and Police District Stations; and under the direction of this Bureau the cleaning and painting of the interior of City Hall and Annex has been finished. In the Bureau of Street Cleaning, additions have been made to the Garbage Incinerating Plant and to the Schuylkill Reduction Plant, as well as repairs and improvements to various Street Cleaning Stations. In addition to general improvements made to the exterior of the Commercial Museum, the second floor of the North Building has been reconstructed and considerable upkeep and maintenance work performed in the interior. Repairs to City-owned Ice Boats and construction of timber fenders in the Schuylkill River, north of Market Street Bridge, were carried out under supervision of the Department of Wharves, Docks and Ferries. In the Department of Health, principally at Philadelphia General Hospital and at Byberry, a number of improvements have been made, covering alterations to wards and buildings, which will increase facilities at the Philadelphia General and take care of overcrowding at Byberry Hospital. White Collar Projects for such items as improvement of tuberculosis records; transcribing of old records; improvement and extension of diphtheria immunization records; Vital Statistics Index; extension and improvement of records of maternal mortality; binding books, reprints and medical journals; completion of Record Filing System of Standard Classified Nomenclature; scientific research; and examination of teeth of indigent children in City Health Centers, have not only given employment to a class of people in need but have been of direct and material benefit to City institutions charged with the care of the sick and indigent.

8
In the Department of Public Safety, motor vehicles of the Police and Fire Bureaus have been rehabilitated; the Electrical Bureau has installed a large quantity of electrical equipment, including generators at the City Hall and for increased electric service in municipal structures, and to Convention Hall and Commercial Museum; preparations of reports from inspection of buildings throughout the City are in process of completion; improvement of existing files and records in the offices of the Bureau of Boiler Inspection, Bureau of Elevator Inspection, Fire Marshal and Traffic Division, is still in progress.

8
Under the supervision of the Department of Welfare alterations and repairs have been made to buildings at the House of Correction; playfields and recreation centers have been restored; roads and general approaches improved at the Home for the Indigent and other units under control of this Department.

In general, it might be said that the year 1936, as a result of the activities inaugurated by the present Administration with funds made available by City Council for the purchase of materials and supplies, and labor payrolls provided by the Federal Government, shows more progress has been made in restoring City structures, in the rehabilitation of worn out official records, and in general maintenance and up-keep, than in the preceding four years combined. Continuation of these efforts cannot help but have an obvious influence on the conditioning of municipal structures long awaiting repairs because of lack of sufficient funds. The so-called White-Collar Projects will, also, if carried to completion, develop such data and information of intrinsic and worthwhile value to the Departments in formulating plans for carrying out future policies that their work must result in more efficient, convenient and satisfactory service to the taxpayers.

Respectfully submitted,


J. H. NEESON,
Chief Engineer and Surveyor.

BES:PSF:C
2-23-37.

Eng 9

9-1936

TOTAL NUMBER OF SPECIMENS FOR 1936.

Boiler Feed Water	1,276
Brick	315
Cast Iron (Arbitration Bars)	88
Cement (Hydraulic)	491
Concrete (Aggregate)	11
" (Beams)	87
" (Bituminous)	10
" (Building Block)	145
" (Cores)	44
" (Cylinders)	485
Fabrics	13
Fuels	1,565
Masonry Mortar	12
Metals (Ferrous)	76
" (Non-Ferrous)	10
Miscellaneous Materials	56
Oil (Lubricating)	112
Paint and paint materials	146
Road Materials	1,134
Rock (Wear test)	11
Rubber Compounds	26
Soap and soap materials	24
	<hr/>
Total	6,137
Anticipated to end of year	100
	<hr/>
	6,237

DISTRIBUTION OF TOTAL SPECIMENS FOR 1936

	<u>No. of Specimens</u>	<u>Per Cent</u>	<u>No. of Specimens</u>	<u>Per Cent.</u>
Commercial Museum and Convention Hall			14	0.2
Department of City Transit			95	1.6
" " Public Health			313	5.1
" " " Safety			510	8.3
Bureau of Building Inspection	462	7.5		
" " Lighting and Gas	1	0.0		
" " Police	11	0.2		
Electrical Bureau	36	0.6		
Department of Public Welfare			626	10.2
" " " Works			3,916	63.8
Bureau of City Property	16	0.3		
" " Engineering, Surveys and Zoning	566	9.2		
" " Highways	1821	29.7		
" " Water	1513	24.6		
Department of Supplies and Purchases			625	10.2
" " Wharves, Docks and Ferries			10	0.2
Fairmount Park Commission			28	0.4
			<hr style="width: 20%; margin-left: auto; margin-right: 0;"/> 6,137	<hr style="width: 20%; margin-left: auto; margin-right: 0;"/> 100.0

SPECIMENS FOR CHEMICAL TEST FOR 1936.

Boiler Feed Water		1,276
Cement (Chemical Analysis)		52
Concrete		22
Masonry Mortar	- 12	
Bituminous Concrete	- 10	
Coal		1,343
Anthracite	- 1,336	
Bituminous	- 7	
Fabrics		4
Metals		18
Ferrous	- 8	
Non-ferrous	- 10	
Miscellaneous Materials		47
Oils		334
Fuel	- 163	
Gasoline and headlight-	59	
Lubricating and lub-		
ricants	- 112	
Paint and paint materials		146
Driers	- 5	
Mixed Paints	- 68	
Linseed Oil	- 11	
Pastes	- 31	
Pigments	- 4	
Putty	- 1	
Turpentine and thinners	19	
Varnish	- 7	
Road Materials		1,134
Asphalt (Miscell.Comp)-	76	
" (Cement)	- 590	
" (Wearing surf)-	466	
Tar	- 2	
Rubber Compounds		10
Soap and Soap Materials		24
Stone		3
		<hr/>
	Total	4,413

DISTRIBUTION OF CHEMICAL SPECIMENS FOR 1936

Commercial Museum and Convention Hall	14
Department of City Transit	3
" " Public Health	313
" " " Safety	67
Bureau of Building Inspection	- 19
" " Gas and Lighting	- 1
" " Police	- 11
Electrical Bureau	- 36
Department of Public Welfare	626
" " Wharves, Docks and Ferries	10
" " Public Works	2,758
Bureau of City Property	- 15
" Engr. Surveys, Zoning	- 64
" of Highways	1,168
" of Water	1,511
Department of Supplies and Purchases	597
Fairmount Park Commission	25
Total	4,413

PHYSICAL SPECIMENS for 1936

Brick		315
Paving	- 5	
Sewer	310	
Cast Iron (Arbitration Bars)		88
Concrete		769
Aggregate Coarse	- 1	
" Fine	- 7	
Beams	-87	
Building Block	145	
Cores	44	
Cylinders	485	
Fabrics		9
Miscellaneous Materials		9
Rock (Wear Test)		11
Rubber Compounds		68
	Total	<u>1,285</u>

DISTRIBUTION OF PHYSICAL SPECIMENS FOR 1936

Department of City Transit		1
Department of Public Safety		417
Bureau of Building Inspection	417	
Department of Public Works		
Bureau of City Property	1	
Bureau of Engr. Surveys & Zoning		335
Bureau of Highways		498
Bureau of Water		2
Department of Supplies and Purchases		28
Fairmount Park Commission		3
	Total	<u>1,285</u>

CEMENT SPECIMENS FOR 1936

Domestic Hydraulic Portland Cement		426
Mortar Cements		<u>13</u>
	Total	439

DISTRIBUTION OF CEMENT SPECIMENS FOR 1936

Department of City Transit		91
Department of Public Safety		26
Bureau of Building Inspection	26	
Department of Public Works		322
Bureau of Engr. Surveys & Zoning	167	
Bureau of Highways	155	
		<hr/>
	Total	439

Sewer Permit Division

	1935	1936
Permits	362	460 Estimated 500
Connections made to Single System	993	1920
Connections made to Double System	636	662
Repairs to Laterals & inspection of old connections	225	250
	1854	2832
Total number of plans filed	23	22
Inspector's diaries filed	17	18
Receipts	\$ 8,997.81	\$ 11,679.49
	Increase over 1934 \$ 3,361.25	Increase over 1935 \$ 2681.68
		\$ 12,500.~ Increase over 1935 \$ 3502.17

Drainage Division

PRIVATE SEWERS 1935

5 Private Sewer Contracts
 6803 feet of sewer completed = 1.29 Miles
 Cost \$66,500.~

PRIVATE SEWERS 1936

7 Private Sewer Contracts
 5229 feet of sewer completed = 0.99 Miles
 Cost \$43,000.~

Designs Division

Design & contract plans for

- ✓ Bridge on line of Ashburner St. over P. R. R.
- ✓ " " " " Mill Road " Cobbs Creek
- ✓ Culvert at Martindale Road over Byberry Creek
- ✓ " " Dungan Road south of Rhawn St.
- ✓ " " Rising Sun Ave., south of Maple St.
- ✓ Foot bridges at Commercial Museum (2)
- ✓ Retaining walls & widening of Vintage Ave. at Commercial Museum
- ✓ Grade Crossing Removal at Allegheny Ave & 22nd St.
- ✓ Press stands, broadcasting booths and photograph enclosure at St.
- ✓ B. & O. Railroad station facilities at Stadium
- ✓ Branch Sewers (26)
- ✓ Mill Creek Relief Sewer
- ✓ 29th St. Relief Sewer
- ✓ West Central Schuylkill Intercepting Sewer
- ✓ Intercepting Chambers along Frankford Creek & Somerset Collector
- ✓ New types City inlets
- ✓ Retaining Walls at Windsor St. between 65th + 67th Sts.,
- ✓ " " " 58th St. " Baltimore Ave. + Hoffman St.

Plans checked for.

- ✓ Bridge carrying P. & R. Ry over Cheltenham Ave.
- ✓ New stairways at Commercial Museum
- ✓ Temporary bridge & supports at 19th + Hilbert Sts.
- ✓ Renewing stands for Parkway
- ✓ New stands at Stadium
- ✓ 15 sidewalk Marquees
- ✓ 1 " " vault
- ✓ Rock Run Relief Sewer

Investigations & Reports for

- ✓ 24 Revisions of City Plan
- ✓ 14 interferences of underground structures
- ✓ 15 storm flooding locations

Preliminary studies & estimates for

- ✓ Bridges on line of City Ave, over Schuylkill River
- ✓ " " " " Leffore St. " Frankford Creek
- ✓ " " " " Lincoln Drive " Cresham Road
- ✓ City participation in Phila. Terminal Improvement
- ✓ Grade separation at Ridge Ave. + East Park Drive
- ✓ 19 sewer reconstructions
- ✓ 17 new drainage locations
- ✓ Central Schuylkill + Southeast sewage pumping stations
- ✓ Lower Delaware Intercepting Sewer
- ✓ Interceptor at 73rd St + City Ave,
- ✓ Upper Delaware Intercepting Sewer + Poguessing Creek Branch.

Supervision of W. P. A. projects for

- ✓ Penrose Ave Bridge over Schuylkill River
- ✓ East Central Schuylkill Intercepting Sewer
- ✓ Central Schuylkill Siphon
- ✓ Southwest Main Gravity Intercepting Sewer
- ✓ Cobbs Creek High Level Cut Off Sewer
- ✓ Lower Delaware Intercepting Sewer

Reports for

- ✓ Sanitary Water Board on Frankford Creek + Somerset St. Interceptors
- ✓ Sewage flows at Northeast Works
- ✓ West Central Schuylkill Intercepting Sewer
- ✓ Division of Southwest Sewage District

Routine work

- ✓ Keeping up to date 78 drainage maps,
- Investigating and acting up 526 applications for utility service
- ✓ Printing forms for other departments & Bureaus on 123 occasions
- " " " recording operations of Water Bureau
- " " " Bureau of Lighting & Gas.

Construction Division

	1934	1935
✓ Inspection of construction —		
sewers	7	5
connections	26	4
✓ Vintage Ave. at Commercial Museum		
✓ Stadium Improvements		
✓ Railroad facilities at Stadium		
• Supervision of Schuylkill River Dredging		

Testing Laboratory

Chemical or Physical Tests on	6237 samples	1935 4,135
✓ Investigation & inspection of cement manufacturing mills.		
" " " " " central mix concrete plants.		
Preparation of specifications for materials of construction.		

Permit Division

Inspection of 3000 connections on 500 permits — (1935 = 1854 on 302)
Receipts \$12,500. — (1935 = 8,997.81)



CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
CITY HALL ANNEX

MARTIN J. McLAUGHLIN
DIRECTOR

JOHN H. NEESON
CHIEF OF BUREAU

REPLY AND REFER TO BES - AFB:S

December 8, 1936

From: Engineer of Tests, Testing Laboratory
To: Mr. P. S. Fisher, Chief Clerk.
Subject: REPORT OF TESTING LABORATORY ACTIVITIES FOR 1936

Work consisted of chemical and physical testing of materials for construction and maintenance, submitted by the various City departments and bureaus, in accordance with their respective specifications; investigations of materials proposed for use on City contracts were made to decide their quality; consulting service and investigation on cases hereafter mentioned, sample collection was performed when and where required. The appended tables show the total, variety, distribution and percentage of distribution of tested specimens.

Efficiency of work is maintained at the highest possible levels by virtue of the laboratory's connection with organizations of high repute such as the American Society for Testing Materials, aiding in research work necessary for the forming of standard specifications and test methods for materials of constructions, the American Society for Testing Materials standards are broadly adopted and used by the City of Philadelphia. Periodic cooperative tests are performed with various laboratories of recognized standing to establish a ratio of efficiency between the same; these cooperative tests are necessary due to the age of many pieces of apparatus possessed by the City laboratory as compared to modern laboratory apparatus used by many business concerns selling their products to the City.

All possible economies are ever practiced by the laboratory. The total expenditure for all materials purchased for all testing performed during the calendar year is less than for any preceding year based on equal volume of work performed. Working hours are temporarily increased to meet any emergency or press of work.

Emergency work is standard practice in a laboratory of this class. Investigations are performed and reports made thereon as requested by any of the various branches of the City service, such work for 1936 include the following: Investigation and inspection of four plants manufacturing hydraulic cements followed by a three month period of testing to obtain data as to the value of their products for use on City contracts, and in order that such products may be placed on the list of approved materials. Investigation of the condition of a steel tower supporting a large water tank on top of a central city property after a severe fire. Investigation and rigid inspection of ready mixed concrete plants, supplying their product to the City and to decide their ability to produce the quality of concrete demanded by City specification. Investigation of masonry mortars used by contractors in the construction of large buildings and dwellings and subsequently aiding in rearranging

20-1936

To: Mr. P. S. Fisher, Chief Clerk

Subject: REPORT OF TESTING LABORATORY ACTIVITIES FOR 1936

12-8-36

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the Philadelphia Building Code on this subject. Preparing a report on the characteristics of propane gas and safety measures advisable for the use of this gas as a commercial and domestic fuel. Investigation of the relative values of sand-lime brick and hard burned clay building brick when used in exposed construction. Investigation of rerolled axle steel concrete reinforcing bars. Investigation of concrete used on City and School W. P. A. Projects. Plant sampling and mixing paints to conform to specification for City-Democratic convention. Investigation of rerolled rail steel concrete reinforcing bars for school W. P. A. Projects. Investigation of "Titan" brand foreign hydraulic cement. Assembling a laboratory exhibit for Philadelphia on Parade. Investigation determining the cause of stains on many large photographic prints intended for Philadelphia on Parade exhibit. Specifications for varied materials have been furnished by the laboratory as required.

These investigations have decided disputes and clarified situations thus resulting in the saving of possible losses by the City; they also are time consumers and quite often cause delay to routine work, but the laboratory force being at a minimum for the work required such delays are considered unavoidable. Practically all these investigations are of the consultant type.

A. F. Burbidge,
Division Engineer in Charge of Testing.

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CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
CITY HALL ANNEX

MARTIN J. McLAUGHLIN
DIRECTOR
JOHN H. NEESON
CHIEF OF BUREAU

JEA:E

December 16, 1936.

REPLY AND REFER TO:

ABSTRACTS FOR MAYOR'S REPORT - 1936.

DESIGN DIVISION: The reduced personnel of the Design Division was kept working at capacity on a variety of projects, even though construction appropriations were not available. During the year 1936, construction plans were completed for highway bridges on the line of Mill Road over Cobbs Creek and Ashburner Street over the Pennsylvania Railroad. The Ashburner Street plans were later revised by the Pennsylvania Railroad and returned to the City for checking. Designs were completed for two foot bridges at the Commercial Museum and three culverts required for highway improvements. These were Martindale Road over Byberry Creek, Dungan Road south of Rhawn Street, and Rising Sun Avenue south of Maple Street. Plans were completed for revising the street system, sewers and underground structures in connection with the Grade Crossings Removal at Allegheny Avenue and 22nd Street. Plans were also completed for 26 branch sewers, the Mill Creek Relief Sewer, the 29th Street Relief Sewer, West Central Schuylkill Intercepting Sewer, and the Sewage Intercepting Chambers along the line of the Frankford Creek and Somerset Collecting Sewers.

In connection with the preparations for the Democratic Convention, plans were made for the widening of Vintage Avenue at Convention Hall and Commercial Museum, and included the design of the retaining walls necessary to support the street.

In connection with work at the Municipal Stadium, designs were made for the extension of the Press Stands, for the broadcasting booths and the moving picture site; also included were plans for the B & O Railroad temporary station facilities at the

Stadium.

Retaining walls were designed for two locations where existing walls threatened collapse.

Included in the work of this Division is the checking of designs submitted from other City sources for supplying under contract or affecting the highways of the City. Among these structures submitted in 1936 were a bridge carrying the tracks of the Reading Company over Cheltenham Avenue; a temporary bridge and supports at 19th and Filbert Streets; new stairways at the Commercial Museum; portable reviewing stands for the Municipal Stadium; 15 sidewalk marquises and 1 sidewalk vault.

INVESTIGATIONS AND REPORTS: Investigations and reports were made on 24 proposed revisions of the City Plan; storm water flooding at 15 locations; and 14 interferences of underground structures. Preliminary studies were made and cost estimates prepared for highway bridges on the lines of City Avenue over the Schuylkill River; Lefevre Street over Frankford Creek; and Lincoln Drive over Cresheim Road.

A method of grade separation at Ridge Avenue and the East Park Drive for traffic relief.

In connection with the drainage system, 19 sewer reconstructions to eliminate storm flooding were studied and a drainage system designed for 17 tracts proposed for building developments.

The sewage treatment project was advanced by studies of the Central Schuylkill and Southeast Sewage Pumping Stations. The Lower Delaware Intercepting sewer; the Upper Delaware Intercepting Sewer and the branch along Poguessing Creek and an interceptor at 73rd Street and City Avenue.

A review was also made of the City participation in the Philadelphia Terminal Improvement of the Pennsylvania Railroad.

WPA projects were carried on in space allotted in the Design Division quarters

and City supervision was given for the following design work:

Bridge on line of Penrose Avenue over the Schuylkill River;
East Central Schuylkill Intercepting Sewer;
Central Schuylkill Syphon under the Schuylkill River;
Southwest Main Gravity Intercepting Sewer;
Cobbs Creek High Level Cut-off Sewer;
Lower Delaware Intercepting Sewer.

Reports were prepared for the Pennsylvania State Sanitary Water Board on the sewage interceptors along the line of the Frankford Creek and Somerset Collecting Sewers; on present and anticipated flows reaching the Northeast Works; on flow conditions of the West Central Schuylkill Intercepting Sewer and on certain revisions of the Southwest Sewage District.

Routine work of the Division required investigating and acting upon 526 applications from utility corporations for place in the City streets; the keeping up to date of 78 drainage maps covering existing and proposed sewers throughout the City of Philadelphia; and the printing of various forms for other departments and bureaus on 123 occasions, and including forms for recording operations of the Bureau of Water and for the Bureau of Lighting and Gas.

CONSTRUCTION DIVISION: The personnel of this Division has been reduced to the Division Engineer of Construction only. Work normal to this Division during 1936 required the inspection of 7 branch sewer contracts, carried on at private cost, and of 26 special sewer connections. In 1935, there were 5 sewer contracts and 4 special sewer connections. This Division assumed the direction and responsibility for the work carried on in a number of WPA projects, among which were the widening of Vintage Avenue and improvements at the Convention Hall and Commercial Museum, prior to the Democratic Convention. Included in this work was the construction of 592 linear feet of concrete retaining wall along the easterly house line of Vintage Avenue in front of

the Commercial Museum to permit the grading of Vintage Avenue to full width and providing a paved sidewalk for pedestrian use. A foot bridge was also constructed from the level of Vintage Avenue to the second floor of the Commercial Museum building. Shortage of time made necessary intensive work on this project and it was carried on by two shifts of six hours each between March 15th and its completion on June 15th. Supervision over the improvements at the Municipal Stadium, necessary to accommodate the Army-Navy football game, comprised the erection of 760 tons of fabricated, structural steel, the extension of the Press Box, the construction of broadcasting booths, moving picture locations, score boards, alterations to existing seats and general repairs and replacements throughout the Stadium.

The City, through this Division, also participated in the construction of temporary stations of the Pennsylvania and Baltimore & Ohio Railroads to furnish railroad transportation at the Stadium. The work comprised cinder-covered walkways, ramps and railroad platforms and was completed in 55 working days. It successfully handled Pennsylvania Railroad trains to a total of 38, of 12 cars each, and 10- 12-car trains of the B & O Railroad, carrying a total of 25,036 paid passengers in addition to the cadets from West Point and midshipmen from Annapolis.

Work continued during the year on the dredging of the Schuylkill River between Fairmount Dam and Strawberry Mansion Bridge. During 1936, 70,000 cubic yards were dredged from the river bed and placed in new embankment along the west side of the river; 800 linear feet of river bank was riprapped; 150 feet of dry rubble wall was built at the Belmont Pumping Station and a 6'8" diameter brick culvert was extended for 250 feet.

TESTING LABORATORY: The chemical and physical testing of materials for construction and maintenance submitted by the various City departments and bureaus increased one-third over 1935. During 1936, tests were made on 6,237 samples as compared with 4,135 during 1935.

The work of this Division also includes the investigation and inspection of cement manufacturing mills and of the central-mix concrete plants, as well as emergency investigations for the Bureau of Building Inspection and the Fire Marshall's office. Considerable work arose from materials required on WPA projects and in the drafting of specifications for materials of construction to be purchased.

SEWER PERMIT DIVISION: This Division, with its inspection force reduced to two employees, is badly overloaded having been called upon to make inspections during 1936 of 3,000 connections comprised in 500 permits. During 1935, inspections were made of 1,854 connections on 362 permits. Some way should be found to increase the force in order that the increased volume of work may be handled efficiently and safely.

The receipts of this Division for the year were \$12,500, - an increase over the 1935 receipts of \$8,997.

JOHN E. ALLEN,
Principal Assistant Engineer.



CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING
CITY HALL ANNEX

MARTIN J. McLAUGHLIN
 DIRECTOR
JOHN H. NEESON
 CHIEF OF BUREAU

REPLY AND REFER TO **BES - 1649 - JGB:S**

December 7, 1936

From: Division Engineer, Construction Division
 To: Mr. P. S. Fisher, Chief Clerk.
 Subject: ACCOMPLISHMENTS OF THE BUREAU DURING THE YEAR 1936
 Report of Construction Division.

1 - Operations during the year -

The following work required the supervision of the Division Engineer of Construction and sewer inspectors:

	<u>1936</u>		<u>1935</u>	
	<u>Contracts</u>	<u>Inspector Days</u>	<u>Contracts</u>	<u>Inspector Days.</u>
Contract Work	None	--	None	--
Sewers at Private Cost	7	187 days	5	193 days
Special Sewer Connections	26	64 "	4	22 "

Inspection cost paid by contractor or plumber.

2 - The organization of the Construction Division consists of only the Division Engineer and the lack of construction work by the City precluded steps towards innovations to increase the efficiency of the work, except in a personal way.

3 - Steps taken to effect economy within the Division were precluded in the same way.

4 - The Division Engineer assumed the responsibility for the accomplishment of work in two important W. P. A. projects as follows:

WPA PROJECT 6578 for Widening Vintage Avenue along the front of Convention Hall and the Commercial Museum.

This improvement consisted of building a concrete retaining wall along the easterly houseline of Vintage Avenue for a distance of 592 feet in front of Commercial Museum which permitted the grading of the street to full width allowing the widening of the cartway, an additional 12 ft. along Convention Hall and Commercial Museum properties for a distance of approximately 900 feet and provided adequate sidewalk areas in front of the Museum.

The yard of the Museum at a lower level lying between the base of the retaining wall and the building was improved with a 20 ft. wide concrete pavement along the wall which extended the existing roadway at the lower level to form a

To: Mr. P. S. Fisher, Chief Clerk,

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Subject: ACCOMPLISHMENTS OF THE BUREAU DURING 1936.

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traffic loop parallel with Vintage Avenue. The balance of the yard area was paved with suitable concrete driveway to the Museum doors and with asphalt which provided room for the handling of truck traffic to and from the Museum. The buildings were bordered with a marginal space planted with suitable flowering bushes and sod.

A concrete encased structural steel footway bridge was constructed from the level of Vintage Avenue to the second floor of the Museum to provide access to the building from the street level.

The labor work was done with WPA forces under the direct supervision of the Division Engineer of Construction of this Bureau, who acted as superintendent of work in all details. It was started on March 15, 1936, and completed on June 15, 1936, working two shifts at six hours each, six days per week and by intensive driving it was completed before the Democratic National Convention which convened on June 23, 1936.

The accompanying photographs will give a good idea of the extent of the work.

The items of work accomplished were:

- 2,078 cu. yds. of concrete in wall
- 32,300 lbs. of reinforcing rods in wall
- 465 lin. ft. of new 8" granite curb
- 410 ft. of 8" cement curb
- 445 ft. of 6" granite curb reset
- 600 lin. ft. 6", 15" and 20" vitrified pipe
- 11 inlets
- 4 manholes
- 20 feet 3'0" diameter brick sewer
- 1,590 sq. yds. concrete roadway paving
- 1,924 sq. yds. asphalt paving on concrete base (surfaced by Bureau of Highways)
- 1,325 sq. yds. bituminous concrete cold mix paving (by contract)
- 1,584 cu. yds. backfilling
- 18,000 sq. feet sodding
- 440 sq. feet concrete footway
- 22 Oriental Plane Trees
- 660 ft. Creosoted Wood Duct
- 3,400 cu. yds. excavation
- 641 lin. ft. wrought iron fence
- Quantity of flowering bushes and plants.

WPA PROJECT 10463 to develop the facilities for handling railroad traffic to and from the ARMY-NAVY game in the Stadium.

The Mayor had requested officials of the Pennsylvania Railroad and the Baltimore and Ohio Railroad to cooperate in developing the facilities for handling

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To: Mr. P. S. Fisher, Chief Clerk

Subject: ACCOMPLISHMENTS OF THE BUREAU DURING 1936

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their passenger traffic to and from the Army-Navy game which later resulted in an understanding with this Bureau that the City would furnish all labor, materials for lighting system; water connections; traffic signs; lumber; small tools; steam rollers and other incidental materials and that the railroads would furnish supervision of work on their right-of-way, materials for new track and drainage; cinders for platforms; ramps; etc.; all water pipe under six inches; locomotives, cars and cranes for loading and placing cinders and other incidentals which may occur on their right-of-way. On this basis the City negotiated with the Works Progress Administration for a project to furnish labor and certain materials which resulted in the approval of the project under which the work was carried on.

This improvement consisted of the construction of cinder-covered walkways, ramps and railroad platforms with labor supplied by WPA, superintended in all detail by the Division Engineer of Construction of this Bureau.

The work was started on October 13, 1936, and completed on November 27, 1936, a total of 33 WPA working days. The force during October worked but four days a week and was insufficient but increases in numbers were made after November first, and continued on a six days per week basis with an average of 550 men per day until completion. Nearly all of the work was done by hand with small tools.

After the cinder platforms were completed, the railroad companies procured 24 carloads of crushed stone dust for the covering of all the platforms, ramps and walkways for the purpose of eliminating disagreeable cinder dust on windy days which proved very satisfactory on the day of the game.

The amount of work done in connection with both railroads is as follows:

- 3,300 lin. ft. 30' wide walkways and ramps on city property
- 7 $\frac{1}{2}$ miles of 15' and 20' wide cinder platforms along the tracks of the railroad companies
- 3,550 ft. of protecting fence along ramps and walkways
- 32,100 lin. ft. platform lighting wire supported by 4" x 4" wooden lamp posts with a
 - 75 watt Mazda lamp each 50 ft.
 - 10 large flood lights
- 288 lin. ft. 8" and 6" Cast iron water pipe laid to deliver water to P. R. R.
- 20,000 lin. ft. 2" pipe with connections for water supply to railroad equipment
- 2,800 cu. yds. excavation and fill for ramps and walkways
- 1,400 cu. yds. crushed stone dust spread upon platforms, ramps, etc.
- 8,000 cu. yds. cinders placed on platforms on the railroad right-of-way and walkways
- 10,000 lin. ft. railroad track surfaced and brought to grade
- 5,000 lin. ft. of new track laid

All platforms and ramps were rolled with City rollers

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To: Mr. P. S. Fisher, Chief Clerk

Subject: ACCOMPLISHMENTS OF THE BUREAU DURING 1936

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This work accommodated railroad traffic as follows:

Pennsylvania Railroad	- 38	trains	of	12	cars	each
Baltimore and Ohio "	- 10	"	"	12	"	"
Total	<u>48</u>	"	"	12	"	"

Pennsylvania Railroad	- 19,036	paid	passengers	
Baltimore and Ohio "	- 6,000	(est.)	paid	passengers
Total	<u>25,036</u>	paid	passengers	

(Baltimore and Ohio Railroad carried Cadets from West Point and Midshipmen from the Naval Academy)

In addition to the work done under the Project, the Pennsylvania Railroad Company established a telephone signal system for their trains for arrival and departure which operated perfectly and also furnished without charge all of the electric current required for the lighting on their own platforms as well as the Baltimore and Ohio's platforms, which was brought to the site and wired with switches at their own expense.

The officials of the Terminal Division of the Pennsylvania Railroad cooperated in every possible way and also furnished a gang of approximately a hundred men doing track work.

The photographs and exhibits accompanying this report give a fairly good idea of the work accomplished and consist of a group of two large airplane photographs showing the Stadium and the Pennsylvania Railroad Station with ramps, tracks, etc.; a group of seven photographs showing the ramps, platforms and how the traffic was handled; a diagram of the track and platform locations of the Pennsylvania Railroad and a schedule of the trains arriving at the stadium.

The above photographs were given with the compliments of Superintendent Wolcott, of the Pennsylvania Railroad.

WPA PROJECT 2618 to Dredge the Schuylkill River bed between Fairmount Dam and Strawberry Mansion Bridge, including improvements of the river banks.

The work done on this project this year is an extension of similar activities done under LWD Project 1044, and a CWA project prior to that which originated in 1934.

All of the labor was furnished by the Works Progress Administration and the equipment consisted of a City-owned dredge, a tugboat, scows, an unloading derrick, small tools, City-owned and City-hired trucks and a hired crane.

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Subject: ACCOMPLISHMENTS OF THE BUREAU DURING 1936

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Works Progress Administration furnished for a portion of the time, trucks and an additional crane.

The work accomplished in 1936 was as follows:

- 70,000 cu. yds. of material dredged and used for making new embankment along the west side of the river immediately below and above the Girard Avenue Bridge
- 800 lin. ft. of river bank improved by rip rapping with broken asphalt
- 150 lin. ft. of dry rubble which completed the wall in front of Belmont Pumping Station
- 250 lin. ft. of 6'8" diameter brick culvert with stone foundation and headwall.

All the West Park Drive street drains were extended to the outer edge of the new river bank improvements.

All of the river bank improvements were brought to grade and covered with a coating of 3" of gravel.

2 New Pontoons for the City-owned Dredge was constructed and are in readiness to be substituted for the old ones.

The work being done under Project 2618 is to be continued on a newly approved project


This Division, through our Bureau, assumed the responsibility of engineering and supervision of preparing the Stadium for the Army-Navy Game.

The work done under this project was

760 tons of fabricated structural steel supports erected to support 30,000 additional seats and also appurtenant work, consisting of alterations to existing seats, press boxes, scoreboards, playing field and track.

Repairing the concourse around the Stadium, including
Repairing of locker rooms, toilets, concession booths, storage rooms, ticket booths, wire fence, painting where necessary and Paving.

It is proposed to continue further work of this nature in the Stadium on a new WPA Project.


J. G. Bailey,

Division Engineer, Construction.

Enclosures

31-1936

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



December 7, 1936

REPLY AND REFER TO: BESZ - ERS:MET

From: Division Engineer of Design.
To: Mr. P. S. Fisher, Chief Clerk.
Subject: ACCOMPLISHMENTS DURING 1936.

Comparison cannot be made with 1935 nor any other year, since very little of the work of the design division is routine work.

The Ashburner Street Bridge contract plans and specifications were completed and forwarded to the Pennsylvania Railroad for use in connection with a P.W.A. grant from the Government. A re-study of the plans was prepared by the Pennsylvania Railroad Company with a view to cutting the cost. This re-study was investigated for strength by this Division, and a report submitted thereon.

The Bridge on the line of the Bethlehem Branch (Reading Company) over Cheltenham Avenue to replace the old stone arch structure was checked for strength.

Mill Road Bridge over Cobbs Creek was designed and contract plans and specifications therefor prepared during the year.

Capacity studies were made and plans were prepared for culverts to be constructed by W.P.A. forces at the following locations:

Martindale Road over Byberry Creek
Dungan Road south of Rhawn Street
Rising Sun Avenue south of Napfle Street

Preliminary design and estimates were made for

City Avenue Bridge over Schuylkill River
Lefevre Street " " Frankford Creek
Lincoln Avenue " " Cresheim Road

The design and preparation of plans for Penrose Avenue Bridge over Schuylkill River was supervised by this Division, although the plans were actually being drawn by W.P.A. draftsmen.

Two foot bridges at the Commercial Museum were designed and construction plans and specifications prepared. Only one of these was actually constructed by the W.P.A. for use of visitors attending the Democratic Convention.

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Accomplishments during 1936 (Continued)

Plans were prepared for a retaining wall and improvements along Vintage Avenue in connection with the rehabilitation of the Commercial Museum. ✓

Sketches and stress calculations were made for new stairways in the Commercial Museum. ✓

Investigation was made of a design of temporary bridge and supports to carry tracks over failing and unsafe arch over 19th Street at Filbert Street. ✓

22nd and Allegheny Avenue grade crossing removal. Contract plans and estimates were prepared for all street and drainage work along Allegheny Avenue, 21st Street and 22nd Street, in connection with this improvement. Tentative plans for Reading Company's bridges across Allegheny Avenue, 21st and 22nd Street were checked. ✓

A preliminary estimate was prepared for the City work in connection with the completion of the Philadelphia Terminal Improvements. ✓

Colored plans were prepared showing status of South Philadelphia Improvements.

Investigation of failure of Parkway grandstands was made, and plans for the temporary stands to be used at the Stadium for the Army-Navy Game were checked for strength. ✓

Designs of Press stands, broadcasting booths and moving picture enclosure at the Stadium for the Army-Navy game were prepared. ✓

Design of B & O facilities at the Stadium was prepared. ✓

Study was made of grade separation at Ridge Avenue and East River Drive. ✓

Fifteen marquees and one vault were checked for strength for the Highway supervisors. ✓

Twenty-six branch sewer plans were drawn for the use of private builders. ✓

Nineteen preliminary estimates were prepared for the reconstruction of old sewers. ✓

Seventeen preliminary designs and estimates were made for sewers for proposed developments. ✓

Estimate and proposal prepared for the Winghocking Flood Relief Sewer.

Contract plans were check for the Rock Run Flood Relief Sewer. ✓

Contract plans are being prepared for the Mill Creek and 29th Street Relief Sewers. These plans are being designed and supervised by the Design Division. ✓

Ten of the fourteen contract plans for the West Central Schuylkill Intercepting sewer were back-checked and completed and an estimate prepared of the cost of construction of the entire job. ✓

Accomplishments during 1936 (continued)

The design of the Central Schuylkill and Southeast Pumping Station were worked on during the year. ✓

The alignment of the Lower Delaware Intercepting Sewer was studied and located. ✓

The plans and specifications for the Intercepting Chambers along the Somerset Intercepting Sewer and the Upper and Lower Frankford Creek Intercepting Sewers were revised and completed. Thirty-three plans were advertised and bids received. ✓

The Design Division also designed and supervised the preparation of plans by the W.P.A. for the following Sewage Disposal units:

East Central Schuylkill Intercepting Sewer ✓
Central Schuylkill Siphon
Southwest Main Gravity Intercepting Sewer
Cobbs Creek High Level Cutoff Sewer in 60th Street
Lower Delaware Intercepting Sewer

Plans and estimates were prepared for new City inlets. ✓

An estimate was made for intercepting slot at 73rd and City Avenue. ✓

Estimate was made for sewer in Government property southeast of Rising Sun Avenue.

Plans and estimates were prepared for retaining walls in the rear of Windsor Street between 65th Street and 67th Street, and 58th Street between Baltimore Avenue and Hoffman Street. ✓

Preparation of sketch for heating mains and electrical conduits in Haines Street and 22nd Street for the Board of Education.

78 record drainage maps were kept up to date by plotting sewer return information thereon, and plotting City Plan revisions as approved by the Board of Surveyors. Extensions to drainage systems were also designed on these maps. ✓

24 drainage reports on proposed City Plan revisions were made, involving studies and estimates of the cost of the sewers therefor. ✓

14 reports on interference between existing or proposed sewer locations and proposed water mains were made for the Bureau of Water. ✓

The Design Division represented the Bureau of Engineering at meetings of the Coordination Committee, Utilities Technical Committee, Wharves, Docks and Ferries Hearing, and U.S. Army Engineers hearing on the Lefevre Street bridge over Frankford Creek.

15 investigations of flooding and unsatisfactory drainage conditions with the design of relief therefor. ✓

Accomplishments during 1936 (continued)

Preparation of map showing location of existing and proposed intercepting chambers and connections to the Northeast Low Level Intercepting Sewers for the State Sanitary Water Board. ✓

Preparation of engineering reports to submit with the application to the State Sanitary Water Board for permission to construct the Intercepting Chambers to the Upper Frankford Creek, Lower Frankford Creek, and Somerset Intercepting Sewers. ✓

Preparation of table of Sewage Flows to be expected at the Northeast Sewage Pumping Station. ✓

Preparation of Engineering Reports on the West Central Schuylkill Low Level Intercepting Sewer, Intercepting Chambers and appurtenant work. ✓

Preparation of Engineering Report on the Revised Southwest Sewage Disposal District. ✓

Design of sewage interception in Rising Sun Avenue outlet sewer, east of Tacony Creek (outlet for Hill Creek Federal Housing Development).

Study of proposed extension of the Upper Delaware Low Level Intercepting Sewer and the Poquessing Creek Branch to Somerton, for a possible W.P.A. construction project. ✓

Printing of proposals in connection with W.P.A. Projects: ✓

For Engineering, Surveys & Zoning	20	
Convention Hall & Commercial Museum	23	
Bureau of Highways	36	
Bureau of City Property	13	
Department of City Transit	29	
Bureau of Water	3	
Total		123

Printing of forms for Bureau of Water at various times, for the compilation of data for the various pumping stations under its jurisdiction. ✓

Printing forms for Bureau of Lighting & Gas for W.P.A. projects for enumeration of lamps in the City, some 800 sheets. Also schedules and contract for the year's lighting service, etc. ✓


Approval of applications for the Public Utilities for the construction of their underground services as follows: ✓

Philadelphia Gas Works	324	
Bell Telephone Co.	120	
Philadelphia Electric Co.	17	
Philadelphia Rapid Transit Co.	12	
Keystone Telephone Co.	3	
Miscellaneous (Phila. Steam - Overbrook Steam, etc.)	50	
Total		526

Each application must be checked against interference with the Bureau's activities before approval is given.

Accomplishments during 1936 (continued).

Bureau activities include filing of all plans made by and issued to the Bureau, indexing books, catalogs, etc., attending to all blueprints for Bureau, printing all forms for Bureau and contract specifications, getting out and filing away plans after use by the men of the Bureau and other Departments of the City interested in our construction.



E. R. Schofield
Division Engineer of Design

Sewer Registrar

Permits
 Connections made to Single System
 " " Double "
 Repairs to laterals and old connections inspected
 Total
 No of Plans Filed
 Inspectors Diaries Filed
 General Routine of the Office
 Information to Plumbers, Architects, Builders
 and Title Companies
 Receipts

	1935	To Dec. 3 1936	Dec. Estimated 1936
Permits	342	460	500
Connections made to Single System	636		
" " Double "	993	1920	2080
Repairs to laterals and old connections inspected	636	662	666
Total	225	250	260
	1854	2832	3006
No of Plans Filed	23	22	
Inspectors Diaries Filed	17	18	
General Routine of the Office			
Information to Plumbers, Architects, Builders and Title Companies			
Receipts	\$ 8,997.81	\$ 11,679.49	\$ 12,500.00
	* 3,361.26	* 2,681.68	3502.19
	over 1934	over 1935	over 1935

Summary - 1936 Activities

<u>Plans</u>	<u>No.</u>	
<u>Drainage Structures -</u>		
✓ Branch Sewers	25	
✓ Sewage Disposal (Interceptors + West Central)	67	
✓ Flood Relief (Rock Run)	5	
✓ Grade Crossing Elimination (22nd)	4	
Miscellaneous Structures (Inlets etc) Culverts	5	106
<u>Bridges & Structures -</u>		
Bridge Ashburner, Mill	16	
Stadium, Convention Hall etc	12	
Retaining walls etc	6	34
		140
<u>Studies, Estimates, Records etc</u>		
Drainage maps kept up to date	78	
Drainage Reports and Investigations	66	46
Estimates of Cost of Drainage work	37	37
Estimates of Cost - Bridges & Misc Structures	12	12
Approval of Marqueses, Bridge + Misc Structures	23	12
Approval of locations for utility structures	526	19
Investigation of Bridge + stands for Fairline	2	13
Sewage Disposal Project studies, reports etc	11	
Investigation of locations for interference of	14	

Summary - 1936 - Activities

<u>Printing</u>	
Proposals, Forms etc - sheets	9000
<u>Committee Representation</u>	
Meetings & conferences	26