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Boston Public Works Department

ANNUAL REPORT

OF THE

PUBLIC WORKS DEPARTMENT

FOR THE YEAR 1933

[DOCUMENT 24—1934]

CONTENTS.

PART I.

REPORT OF THE COMMISSIONER OF PUBLIC WORKS.

	PAGE		PAGE
Appropriations.....	5	Maintenance, comparative	
Employees.....	10	table.....	7
Expenditures.....	6	Organization.....	1
Expenditures, by items, seg-		Pavements, area of.....	14
regated budget.....	6	Pavements, length of.....	14
General review.....	2	Revenue.....	8

PART II.— APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF THE BRIDGE AND FERRY SERVICE.

(BRIDGE SERVICE.)

(PAGE 16.)

	PAGE		PAGE
Appropriations, special.....	27	Bridge Miscellaneous.	
Appropriations, special, sum-		Allston Bridge, Cambridge	
mary of.....	27	Street, over Boston &	
Bridge openings.....	36	Albany Railroad.....	21
Bridges, work done on:		B Street Foot Bridge, Hyde	
Federal Civil Works Ad-		Park, over Neponset	
ministration.....	19	River.....	22
Boylston Street Bridge,		Chelsea South Draw.....	22
over Boston & Albany		Congress Street Bridge,	
Railroad.....	19	over Fort Point Channel,	22
Broadway Bridge, over		Huntington Avenue	
Boston & Albany Rail-		Bridge, over Boston &	
road.....	19	Albany Railroad.....	22
Byron Street Bridge, over		Summer Street Bridge,	
Boston, Revere Beach		over Fort Point Channel,	22
& Lynn Railroad.....	20	Expenditures.....	27
Dorchester Avenue Bridge,		Expenditures, special ap-	
over Fort Point Channel		propriations.....	33
Milton Lower Mills Bridge		Expenditures, special ap-	
over Neponset River...	20	propriations, summary	
Toll Gate Way Foot		of.....	27
Bridge, over New York,		Repairs on bridges.....	33
New Haven & Hartford		Work done.....	16
Railroad... ..	21		
Warren Bridge.....	21		

(FERRY SERVICE.)

(PAGE 24.)

	PAGE		PAGE
Appropriations.....	38	Financial statements.....	38
Appropriations, amount paid from.....	38	Motor vehicle traffic.....	45
Balance sheet.....	39	Receipts at each ferry.....	43
Expenditures.....	38	Ticket statement.....	43
Expenditures and receipts since 1858.....	41	Travel on ferries.....	44
Ferryboats.....	25	Traffic rates.....	46
		Work done.....	25

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE
HIGHWAY DIVISION.

GENERAL REVIEW.

(PAGE 47.)

	PAGE
Federal Public Works Administration.....	48

(LIGHTING SERVICE.)

(PAGE 49.)

	PAGE		PAGE
Expenditures.....	47	Revenue.....	47
Financial statement.....	47	Work done.....	49

(PAVING SERVICE.)

(PAGE 47.)

	PAGE		PAGE
Expenditures, objects of....	47	Street openings.....	52
Expenditures, detail of.....	47	Work done.....	47
General review.....	47	By contract, summary of,	50
Permits.....	52	By day labor, summary of,	53
Permits, revenue from.....	52		

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF THE
SANITARY DIVISION.

(SANITARY SERVICE.)

(PAGE 55.)

	PAGE		PAGE
Appropriations.....	55	Materials:	
Ashes, collected by contract, number of loads.....	58	Collected by districts.....	58
Complaints.....	56	Cost of collecting and disposing of refuse by contract.....	58
Financial statement.....	55	Offal collected by con- tract, number of loads..	58
Income.....	55	Revenue.....	55
Maintenance.....	55	Work done.....	55
Cost of collecting and dis- posing of refuse by day labor.....	59		

(STREET CLEANING AND OILING SERVICE.)

(PAGE 62.)

	PAGE		PAGE
Expenditures, distribution of.....	62	Macadam streets, cost of oiling.....	62
Expenditures, items of.....	62	Work done.....	62
Financial statement.....	62		

APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF THE
SEWER DIVISION.

(PAGE 63.)

	PAGE		PAGE
Catch-basins, cleaned by contract.....	65	Expenditures:	
Expenditures:		Maintenance, detail of, recapitulation of.....	66
Maintenance.....	64	Financial statement.....	64
Maintenance, detail of...	66	Pumping sewerage, average cost per million foot gallons.....	92

	PAGE		PAGE
Pumping station, Calf Pasture, work done	91	Summary of sewer construction (twelve months) . . .	89
Pumps, Calf Pasture, average lift and duty	91	Work done	63
Refuse, removing same from gatehouse	91	Work in charge of division,	63

 APPENDIX E.

 REPORT OF THE DIVISION ENGINEER OF THE
 WATER DIVISION.

(WATER SERVICE.)

(PAGE 93.)

	PAGE		PAGE
Construction, cost of	96	Meters:	
Expenditures	96	In service December 31,	
Expenditures, detail of	96	1933	103
Financial statement	96	Installed	102
High pressure fire system	98	On hand December 31,	
Hydrants, total number of,		1933	103
December 31, 1933	99	Repaired	104
Hydrants, total number and		Set	104
kind of, established and		Revenue	96
abandoned	99	Service pipes:	
Income branch	101	Total number of lengths	
Meter branch	102	of	101
Meter repairs	105	Water pipes, total length of . . .	97
Meters:		Work done	93
Applied	108	Work done, detail of	93
Changed	106		
Condemned	109		

 APPENDIX F.

 REPORT OF THE BOSTON AND CAMBRIDGE
 BRIDGE COMMISSION.

(PAGE 110.)

	PAGE		PAGE
Bridges in charge of commission	110	Work done	110
		Expenditures	111



ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT
FOR THE
YEAR ENDING DECEMBER 31, 1933.

Boston, January 2, 1934.

HON. FREDERICK W. MANSFIELD,
Mayor of Boston.

DEAR SIR,— In compliance with the Revised Ordinances, the annual report of the operations and expenses of the Public Works Department for the year ending December 31, 1933, is respectfully submitted. The Public Works Department, created by Ordinances 1910, chapter 9, now chapter 27 of the Revised Ordinances of 1925, was formed by consolidating the Engineering, Water and Street Departments.

ORGANIZATION.

The department is composed of six main divisions, viz.:
Bridge and Ferry Division.— This division, under a division engineer, has the charge and care of all bridges used as highways which are, in whole or in part, under the control of the city; and the care and management of the ferries owned by the city, including boats, slips, drops and buildings.

NOTE.— The Boston and Cambridge Bridge Division, so called, is not, strictly speaking, a division of the Public Works Department, as this work is in charge of a commission of two, one member appointed by the Mayor under the provisions of chapter 412 of the Acts of 1904;

but because of the fact that the present Commissioner of Public Works is the Boston member of this commission, and also because one half of the expense of the commission is defrayed by the Bridge Service, it is in this report treated as a division of this department.

Highway Division.—This division, under a division engineer, has charge of the construction, reconstruction and maintenance of roadways and sidewalks, and the care of lamps and lighting of streets, parks and alleys.

Sanitary Division.—This division, under a division engineer, has charge of the collection and removal of ashes, garbage and refuse, street cleaning, and the oiling and flushing of streets.

Sewer Division.—This division, under a division engineer, has charge of the construction and maintenance of sewers, catch-basins and waterways.

Water Division.—This division, under a division engineer, has the care of all water pipes in the water system, the laying and relaying of water mains and the care of high pressure fire system.

Water Income Division.—This division, under a division engineer, has charge of financial operations in connection with the sale of water, reading of water meter registrations, making out quarterly water bills for all consumers, forwarding said bills to City Collector's office, installation and maintenance of water meters and enforcement of payment of water bills.

BRIDGE AND FERRY DIVISION.

Plans for bridges which should have major repairs have been made, and the work should be done in the year 1934, as further delay is dangerous to the bridges in question. The dangerous condition of the Chelsea North Bridge fixed spans has been finally recognized and a special commission was appointed by the Legislature of the year 1933 to make a report on the bridge and it is expected that the commission's report will recommend measures to remedy the present dangerous condition.

On April 29, 1933, the North Ferry was discontinued and traffic to and from East Boston has been satisfactorily cared for at the South Ferry. With the abandonment of the North Ferry the present fleet of ferryboats can be reduced, and I recommend that the "John H. Sullivan," built in 1912, and the oldest ferryboat in service, be disposed of.

HIGHWAY DIVISION.

A loan of \$500,000 inside the debt limit was used for the reconstruction of streets and under new street construction authorized by the Board of Street Commissioners, there was expended \$393,299.44. The policy of replacing defective brick sidewalks in the older streets of various sections of Boston was continued, and this replacement is a large factor in reducing amounts of money paid for personal injuries and the lessening of claims.

SANITARY DIVISION.

The yearly contracts for disposal of refuse in East Boston, Brighton, West Roxbury and Hyde Park Districts, were awarded as in previous years, but the time is rapidly approaching when the providing of incinerators in at least two of the central districts must be considered as the dumping facilities are rapidly disappearing.

SEWER DIVISION.

During the year \$560,000 was provided in the budget from tax levy and \$1,000,000 was provided inside the debt limit for this division, and of this amount \$1,414,389.74 was expended. The second 40,000,000-gallon electrically driven centrifugal pump was placed in operation in April, 1933, and the Calf Pasture pumping station is now operating normally under electrical power and the present No. 5 steam unit will be reserved only for emergencies. The customary loan of \$1,000,000 inside the debt limit for sewerage works should be provided early in the spring.

WATER DIVISION.

This division has continued its activities in laying and relaying street mains in our construction program, and has also continued the policy of relaying old small-sized pipe with larger sized mains and replacing older type fire hydrants with the new adopted type-box hydrant. The number of service pipes installed is 413 as against 442 service pipes installed in 1932, and is an indication of the small building construction during the year. The use of lead pipe for service pipe from $\frac{5}{8}$ inch to $1\frac{1}{2}$ inches in diameter was abandoned in the spring and replaced by the use of copper pipe, the smallest sized

copper pipe used being $\frac{3}{4}$ inch in diameter. Lead pipe had been used in the Boston Water Service since 1849, but we have experimented with copper pipe for the past three years. The decision to change was arrived at as the copper pipe now on the market is superior for our purpose to the lead pipe for service pipe usage.

WATER INCOME DIVISION.

Under the Legislative Acts of 1907, relative to metering water services, 23 meters were set on old service pipes in existence previous to 1907, and 382 meters were set on new service pipes in 1933, making a total of 405 meters set during the year. The total number of meters in the system at the end of the year was 101,295. The total revenue collected from all sources was \$4,401,-349.82. The total expenditures were \$4,262,630.73, leaving a balance on December 31, 1933, of \$138,719.09.

IN GENERAL.

On September 1, 1933, Commissioner Joseph A. Rourke retired on account of ill health, after a number of years spent in the service of the city. Entering the city service in 1901, he advanced through the various grades and was instrumental in the installation of the high pressure fire system in Boston, designing the high pressure type of hydrant attached to the system. He served as Commissioner of Public Works from 1922 to 1926, and from 1930 to 1933.

On a rearrangement of the Public Works Department on September 1, 1933, the Water Division, which previously included both the maintenance and repair of the water system, physically and financially, was divided into two divisions for improved functioning and the financial portion separated from the physical portion and made an independent division having jurisdiction and control of the financial portion of the Public Works Department.

COOPERATION WITH THE WELFARE DEPARTMENT.

Able-bodied men receiving welfare aid work from one to four days in our activities, and, necessarily, require extra tools and supervision. The net gain from their services is the reduction in permanent labor pay rolls by not replacing those retired or otherwise leaving the service. The maximum number of men working in

this department at one time was 4,000. The broad gain is the maintenance of a good morale through these men thinking they are rendering an equivalent for the welfare aid.

In November the Federal Civil Works Administration approved the payment of monthly grants of funds to put the unemployed to work. Advantage was taken of these grants, and in all divisions of the department, except in the Water Income Branch, much work was done, including the construction of streets, catch-basins and surface drains and the laying of water pipes. Repairs were made in buildings and yards of the department and a considerable part of the equipment was reconditioned.

APPROPRIATIONS.

The money assigned for the maintenance work of the Public Works Department during the year 1933 was derived from the income of the city raised by taxation. In December, 1932, the department estimates were submitted to the Mayor, in segregated form. His Honor the Mayor made such allowances as he considered necessary and submitted them to the City Council. The total maintenance appropriations as passed by the City Council and approved by the Mayor are shown below:

Central Office	\$77,095 00
Bridge Service	398,500 00
Ferry Service	416,700 00
Lighting Service	986,355 00
Paving Service	1,240,300 00
Sanitary Service	2,504,150 00
Sewer Service	560,000 00
Water Service	1,357,800 00
Water Income Division	* 115,700 00
	<hr/>
Total	<u>\$7,540,900 00</u>

* Water Income Division established September 1, 1933, \$115,700 transferred from Water Service appropriation.

The expenditures under the several appropriations for the different services for the year 1933 were as follows:

DIVISIONS AND SERVICES.	Current Expenses.	Special Appropriations.	Total Expenditures.	Balance December 31, 1933.
Central Office.....	\$75,719 95		\$75,719 95	
Bridge Service.....	395,675 09	\$65,176 14	460,851 23	\$17,210 93
Ferry Service.....	398,763 96	1,164 10	399,928 06	58,435 84
Lighting Service.....	952,977 66		952,977 66	
Paving Service.....	1,238,390 98	1,467,894 43	2,706,285 41	49,194 95
Sanitary Service.....	2,503,351 91		2,503,351 91	
Sewer Service.....	539,276 73	\$92,663 64	1,431,940 37	* 492,436 17
Water Service.....	1,274,552 64	13,579 14	1,288,131 78	44,834 02
Water Income.....	92,481 14		92,481 14	
Totals.....	\$7,471,190 06	\$2,440,477 45	\$9,911,667 51	\$662,111 91

* \$200,000 authorized, but not issued.

Yours respectfully,

C. J. CARVEN,
Commissioner of Public Works.

Cost of Maintenance of the Public Works Department Since 1924.

DIVISION AND SERVICES.	1924-25.	1925. (11 months.)	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.
Central Office.....	\$86,511 11	\$81,432 27	\$89,009 05	\$88,214 06	\$87,166 21	\$89,413 93	\$89,937 12	\$86,174 74	\$83,938 64	\$75,719 95
Bridge Service.....	426,330 81	396,596 57	445,564 07	452,916 60	451,024 62	455,411 38	443,173 33	450,235 11	424,195 05	388,473 44
Boston and Cambridge Bridges.....	31,740 49	19,309 12	18,983 08	16,496 35	15,584 52	14,893 33	10,193 85	10,238 78	7,551 34	7,201 65
Ferry Service.....	523,527 46	472,240 69	516,316 65	552,328 81	558,335 56	554,744 35	548,567 65	560,744 34	522,866 29	398,763 96
Lighting Service.....	830,736 90	829,768 34	927,329 94	953,642 82	977,195 76	1,010,513 01	1,018,777 86	998,042 63	1,021,810 12	952,977 66
Paving Service.....	1,208,563 43	1,230,788 13	2,252,030 79	1,396,279 48	1,597,712 85	1,511,609 52	1,568,071 57	1,372,518 26	1,301,479 46	1,149,006 34
Removal of Snow.....	349,375 57	75,494 95	1,234,123 87	786,521 98	313,692 83	641,255 20	230,214 07	* 254,847 76	* 152,084 55	* 148,457 36
Sanitary Service.....	2,073,913 32	1,877,228 67	2,050,603 65	2,089,907 75	2,087,116 27	2,177,678 60	2,207,807 64	2,128,811 57	2,287,465 40	1,841,384 92
Sewer Service.....	635,928 74	592,155 15	688,876 44	699,708 79	688,722 54	716,638 53	693,107 93	654,430 64	601,781 01	539,276 73
Street Cleaning Service.....	592,615 85	719,296 18	696,834 10	740,599 35	790,641 45	775,287 28	803,516 15	743,140 28	707,858 56	583,862 21
Street Watering and Oiling Service.....	79,476 90	53,420 88	51,458 88	49,375 06	41,700 49	46,366 66	59,753 80	38,211 61	30,561 12	19,032 06
Water Service.....	1,608,320 10	1,309,163 72	1,511,407 58	1,483,018 23	1,598,068 76	1,585,134 62	1,753,218 23	1,679,667 56	1,588,803 85	1,274,552 64
Water Income Division.....										92,481 14
Totals.....	\$8,447,000 68	\$7,657,894 67	\$9,382,558 10	\$9,309,009 28	\$9,176,962 86	\$9,578,946 41	\$9,426,339 20	\$8,977,063 28	\$8,755,395 39	\$7,471,190 06

* Does not include charges against special appropriation for snow removal.

REVENUES, 1933.

On Account of the Public Works Department, as Per Auditor's Statement.

Central Office:			
Sale of plans, etc.			\$3,034 00
Bridge Service:			
Albany Street Bridge	\$836	20	
Clerical services	250	00	
Rent	200	00	
			<hr/>
			1,286 20
Charlestown Bridge:			
Rents	\$1,680	00	
			<hr/>
			1,680 00
Ferry Service:			
Tolls	\$64,275	25	
Rent	359	00	
Commission on telephones	69	61	
Cleaning telephone booths	44	00	
Concessions	24	00	
			<hr/>
			64,771 86
Lighting Service:			
Damage to posts			192 00
Paving Service:			
From assessments on abutters for costs of laying sidewalks in front of their premises, including material for the same	\$39,508	36	
Permits	10,190	08	
Sale of material	1,362	05	
Labor and materials (chapter 27, section 9, Revised Ordinances, 1925)	19	50	
Labor and materials furnished, etc.	42	48	
Use of rollers	9	00	
Rent of signs	2	00	
Repairing of signs	20	60	
Refund of gasoline tax	69	66	
Sale of cart	40	00	
Refund on bond	5	00	
Rebate on sidewalks	73	50	
			<hr/>
			51,342 23
Sanitary Service:			
Collection of commercial waste	\$25,509	88	
Sale of manure	2,202	40	
Removal of dirt	711	80	
Damage to automobile	139	11	
Oil drums and barrels	22	35	
Cleaning dumps	625	00	
			<hr/>
			29,210 54
Sewer Service:			
Pumping sewage, amount received from Commonwealth,	\$17,857	00	
Entrance fees	3,600	08	
Labor and materials furnished,	1,017	12	
Sale of junk	37	42	
Assessment	75	00	
			<hr/>
			\$22,586 62
<i>Carried forward</i>			<hr/>
			\$22,586 62
			<hr/>
			\$151,516 83

<i>Brought forward</i>	\$22,586 62	\$151,516 83
Sewerage Works:		
Assessment, under chapter 450,		
Acts of 1899	\$60,119 86	
Interest on ditto	15,293 57	
Services of inspector	50 72	
Rent	260 00	
	<hr/>	
	75,724 15	98,310 77
Water Service:		
Water rates due:		
For the year 1933 and prior	\$4,326,782 97	
Service pipes for new water takers, extend-		
ing, repairing, etc.	27,493 06	
Labor and materials	25,936 61	
Elevator and fire pipe connections	4,624 13	
Fees on overdue rates	12,774 47	
Shutting off and letting on water	76 00	
Interest on deposits	56 30	
Testing meters	257 95	
Relocating hydrants	405 90	
Damage to hydrants	447 39	
Board of horse	549 00	
Sale of property	496 65	
Refund on bonds	3 78	
Sale of land, Orient avenue, East Boston	646 75	
Vending machines	5 70	
Metering	770 00	
Weighing fees, etc.	23 16	
	<hr/>	
		4,401,349 82
		<hr/>
		<u>\$4,651,177 42</u>

The records of the department show that there are now 2,833 persons eligible for employment in the several divisions, and of that number 2,772 were upon the January, 1934, pay rolls.

Grade and Number of Employees.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Water Income.	Water.	Total.
Commissioner	1									1
Division engineers		1	1	1			1	1	1	6
Engineer, chief		1								1
Chief clerk	1									1
Clerks	38	25	7	2	2	1	2	25	17	119
Assistant engineers (civil)		13	28	1			8		4	54
Draughtsmen		1	11				2		2	16
Instrumentmen		14	17				3		5	39
Rodmen		7	7				2			16
Inspectors		81	49	52	25		3	1	17	228
Foremen		11	5	12	11		1		10	50
Subforemen		17					3	1		21
Blacksmiths and assistants		6	2	18					2	28
Blueprinters	2		3							5
Chauffeurs-teamsters		45	24	81	34		4		10	198
Carpenters and assistants		14	3	5		2	15		7	46
Chief inspectors		1	1						1	3
Cement testers and assistants	3									3
Chemists and assistants		2								2
Constables		1	1	8				18		28
Cashier						1				1
Drawtenders and assistants							132			132
Deckhands						19				19
Engineers (steam)		10	4			9				23
Electricians			1			1	1			3
Feeders		1		2						3
Firemen		6	8			24				38
Gatemen			4			12				16
General foremen								1		1
<i>Carried forward</i>	45	257	172	182	72	57	177	46	76	1,084

Grade and Number of Employees.—Continued.

TITLE.	SERVICES.									Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Water Income.	Water.	
<i>Brought forward</i>	45	257	172	182	72	57	177	46	76	1,084
Harnessmakers and assistants.....				5						5
Head chauffeurs.....		5			1					6
Horseshoers.....				8						8
Janitor.....						1				1
Matrons.....						5				5
Joiners.....						4				4
Laborers.....		245	83		110	10	5	3	130	586
Lamplighter.....						1				1
Machinist and assistants.....			3			8	1		22	34
Meter testers.....								8		8
Meter readers.....								36		36
Masons (stone and brick).....			7	1					1	9
Medical inspectors.....		1		1						2
Oilers, filth hoisters.....			19			10				29
Pipe fitters.....						2				2
Pavers.....		56								56
Plumbers.....									18	18
Painters.....		6	1	12		3	3			25
Captains.....						10				10
Quartermasters.....						7				7
Repairers and auto mechanics.....		25	1		1			25	137	189
Roofer.....						1				1
Rigger.....						1				1
Sealers.....								3		3
Sewer flushers.....			29							29
Supervisors and deputy.....		2		1		1	1			5
Stenographers.....		1	3							4
Stonecutters.....		10	2							12
Superintendents and deputy.....		2	1					1	1	5
Stockkeeper.....				1						1
Stablemen.....		10		11	22		1		1	45
Teamsters and helpers.....		69		325	131					525
<i>Carried forward</i>	45	610	325	210	184	133	187	123	385	2,202

Grade and Number of Employees.—Concluded.

TITLE.	SERVICES.									
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Water Income.	Water.	Total.
<i>Brought forward.</i>	45	610	325	210	184	133	187	123	385	2,202
Telephone operators.....					1				1	2
Tollmen.....						17				17
Chief veterinarian.....		1								1
Watchmen.....				7	5		1		6	19
Wharfingers.....				3						3
Wharfmen.....				1						1
Wheelwrights and assistants.....				7						7
Yardmen.....		5	1	2	1				1	10
Totals.....	45	695	326	567	344	150	189	123	394	2,833

Number of Employees Actually Employed January 1, 1933, and January 1, 1934.

	Central Office.	Bridge.	Ferry.	Water Income.	Paving and Lighting.	Sanitary.	Sewer.	Street Cleaning and Watering.	Water.	Total.
January 1, 1933.....	38	198	161	129	674	576	325	376	402	2,879
January 1, 1934.....	45	183	142	119	683	555	321	339	385	2,772

Total Eligible Force.

January 1, 1933.....	47	199	164	129	688	590	332	372	408	2,929
January 1, 1934.....	45	189	150	123	695	567	326	344	394	2,833

Appointments, Transfers, Resignations, Retirements, Deaths, etc., of Employees.

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 1, 1933.	SERVICES.		January 1, 1934.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
							1933-1934.						
1	.....	1	1	.....	1	47	Central Office ..	.....	* 45	1	.....	.....	1
4	7	.....	1	.....	.....	199	Bridge .....	.....	189	.....	.....	.....	2
9	4	.....	1	.....	3	164	Ferry .....	.....	150	.....	.....	2	1
22	28	.....	1	.....	7	688	Lighting and Paving	.....	695	10	2	.....	53
11	14	3	12	2	.....	590	Sanitary .....	.....	567	5	2	2	10
15	8	1	6	1	4	372	Street Cleaning .	.....	344	5	2	.....	.....
9	18	3	.....	.....	1	332	Sewer .....	.....	326	3	3	.....	19
9	11	1	2	.....	.....	537	Water .....	.....	394	.....	.....	1	2
							Water Income ..	.....	123	.....	.....	.....	.....
80	90	9	24	3	16	2,929	Totals .....	.....	2,833	24	9	5	88

*Includes eight Central Office employees who are paid on Water Service pay roll.

Table Showing Length and Area of Paving on Accepted Streets, Correct to January 1, 1934.

	LENGTH IN MILES.										AREA IN SQUARE YARDS.												
	Sheet Asphalt.	Asphalt Concrete.	Grange Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	No Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Grange Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	No Graded.	Totals.	
Year 1932 report	121.80	119.28	90.77	3.41	0.80	1.06	9.06	294.96	22.57	2.10	665.81	2,316,770	2,461,323	2,401,346	75,746	17,920	23,546	151,748	4,841,809	346,456	70,106	12,709,770	
Per cent	18.29	17.92	13.63	0.51	0.12	0.16	1.35	44.30	3.39	0.32	100.00	18.25	19.36	18.92	0.60	0.14	0.19	1.19	38.09	2.73	0.55	100.00	
January 1, 1934.																							
City Proper	32.72	21.84	31.83	1.33	0.16	0.40	1.00	7.72	0.03	. . .	97.02	644,277	514,498	763,981	29,461	4,058	9,780	7,552	119,649	1,150	. . .	2,094,409	
Charlestown	0.69	1.41	10.28	0.08	0.07	. . .	0.78	10.05	0.03	. . .	23.39	10,218	23,515	244,986	2,011	1,999	. . .	18,751	145,920	332	. . .	447,732	
East Boston	3.81	3.20	6.04	0.01	0.06	0.04	. . .	20.73	0.28	0.04	34.21	82,187	74,610	138,910	187	854	771	. . .	415,554	5,925	865	719,563	
South Boston	7.19	3.41	14.98	0.61	0.09	0.12	0.12	17.96	0.37	1.30	46.25	128,366	76,471	371,727	10,420	4,797	3,004	3,642	332,207	6,503	34,550	971,687	
Roxbury	25.48	12.64	14.46	0.10	0.04	0.14	0.75	39.04	1.39	. . .	94.04	453,749	257,536	379,817	3,778	1,022	3,387	15,546	577,189	18,057	61	1,710,133	
West Roxbury	19.66	29.01	3.65	0.02	0.07	. . .	2.32	67.68	4.20	0.42	127.12	335,087	564,108	173,223	42	1,447	. . .	33,283	1,079,792	68,255	13,519	2,269,653	
Dorchester	29.60	28.23	7.43	0.12	0.03	0.27	1.80	84.50	4.51	. . .	156.55	559,083	549,626	218,673	3,254	1,765	5,493	39,492	1,359,469	69,763	1,965	2,790,521	
Brighton	11.19	20.10	0.65	0.04	0.08	. . .	2.27	24.73	3.00	. . .	60.00	255,189	408,945	75,951	2,177	1,231	. . .	45,301	382,021	48,160	220	1,219,195	
Hyde Park	0.55	4.22	0.05	0.10	0.05	. . .	. . .	19.49	11.45	0.24	35.95	5,622	92,812	1,692	747	. . .	. . .	335,187	175,168	7,919	631,719	
Totals	* 130.69	† 124.06	† 89.37	2.41	0.81	0.97	§ 9.04	† 289.90	25.35	2.00	674.60	‡ 2,474,376	† 2,573,121	† 2,379,813	53,409	17,920	22,435	§ 174,477	4,746,889	393,913	59,129	12,854,612	
Per cent	19.57	18.30	13.25	0.36	0.12	0.14	1.34	42.97	3.76	0.30	100.00	19.25	19.86	18.52	0.41	0.14	0.17	1.20	36.93	3.06	0.46	100.00	

TOTAL PUBLIC STREETS, 674.60 MILES.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline is included in city proper.

* Of this amount 0.10 mile or 834 square yards is Biturock; 0.08 mile or 1,323 square yards is Kyrock; 0.02 mile or 470 square yards is Unionite.

† Of this amount 0.02 mile or 667 square yards is Amneste; 8.19 miles or 169,309 square yards is asphalt concrete; 103.63 miles or 2,140,964 square yards is bituthine; 0.06 mile or 950 square yards is Fibertone; 0.26 mile or 5,825 square yards is Simaco; 12.13 miles or 227,571 square yards is Topoka; 0.15 mile or 2,929 square yards is Carey Elastic asphalt plank; 0.16 mile or 3,132 square yards is Flintkote asphalt plank; 0.06 mile or 1,465 square yards is Johns-Manville asphalt plank.

‡ Of this amount 0.02 mile or 181 square yards is cobble; 57.48 miles or 1,759,007 square yards is granite block paving on concrete base.

§ Of this amount 0.06 mile or 924 square yards is Blome Grantoid concrete blocked pavement.

¶ Of this amount 153.44 miles or 2,630,506 square yards is bituminous macadam.

• Of this amount 33,644 square yards public alleys included in this table.

• Of this amount 332,207 square yards public streets in charge of Park Department included in this table.

• Of this amount 97,765 square yards public streets in charge of Commonwealth of Massachusetts included in this table.

In addition to this table there are 1.67 miles or 8,364 square yards of accepted footways.

PART II.
APPENDICES.

APPENDIX A.

REPORT OF THE DIVISION ENGINEER OF THE
BRIDGE AND FERRY DIVISION.

BOSTON, January 2, 1934.

MR. C. J. CARVEN,

Commissioner of Public Works:

DEAR SIR,— I respectfully submit the following report of the income, expenditures and operation of the Bridge and Ferry Division for the year ending December 31, 1933. The expenditures of the division in the regular maintenance appropriations of the department were \$794,439.05. Under a number of special appropriations \$73,330.20 was expended, making the total expenditure for the year \$867,769.25. This does not include certain expenditures for construction work for other departments, which work was supervised by the engineers of this division.

The more important works undertaken during the past year in the Bridge Service were the painting of Boylston Street Bridge and Broadway Bridge, over the Boston & Albany Railroad, the repairing of Byron Street Bridge; repairing of Dorchester Avenue Bridge (over Fort Point channel) and the rebuilding of the draw house and foundations; the rebuilding of Milton Lower Mills Bridge and repairs to the piers and abutments; repairing and painting Tollgate Way Footbridge and extending the fender pier of Warren Bridge.

As has been reported previously the pile approaches to the draw span of the Chelsea Bridge North, which are badly deteriorated and are gradually getting to be in a dangerous condition, should be rebuilt at once, preferably of granite, concrete and steel. Under chapter 36 of the Acts of 1933, a special commission was appointed to make a report relative to a proposed bridge over the Mystic river, between the cities of Boston and Chelsea. This commission consisted of the Commissioner and Associate Commissioners of the State De-

partment of Public Works, Mr. Leo Bayles Reilly, Division Engineer of Bridges and Ferries of the City of Boston; Mr. James A. O'Brien, City Engineer of the City of Chelsea, and Mr. James A. Lockhart, City Engineer of the City of Revere. Mr. Lewis E. Moore of Boston was appointed Consulting Engineer. The commission recommended the construction of a high level bridge and approaches; 50 per cent of the cost to be borne by the Commonwealth and the remaining 50 per cent by the cities and towns in the Metropolitan District: the bridge and approaches when completed to be taken over and maintained by and at the expense of the Commonwealth. If, however, this construction is not authorized the commission recommended that the present bridge be repaired and strengthened so as to make it safe for travel until such time as the construction of a high level bridge is undertaken.

It is probable that action will be taken by the Legislature during 1934 relative to the rebuilding or repairs to this bridge, which is a very important artery and is at present in such bad condition that immediate repairs or rebuilding is imperative.

Northern Avenue Bridge, over Fort Point channel, is in a weakened condition, and the superstructure and the draw fender pier should be rebuilt.

Repairs should be made to the middle pier of the South Ferry, East Boston, which is in very poor condition.

The floor of the Granite Avenue Bridge is in a weakened condition and is seriously overloaded by heavy stone trucks and other vehicles which approach the bridge and cross it at a rapid rate of speed. This structure should be strengthened and a new floor built. This bridge is maintained jointly by the County of Suffolk and the Town of Milton.

JOHN E. CARTY.

On February 5, 1933, the department and the entire city service suffered a very serious loss in the death of Division Engineer John E. Carty.

Scholar, gentleman, engineer, he represented that type of man worthy of emulation, not only by engineers but by men of any calling, who strive tirelessly for honorable achievement.

Mr. Carty started work as a young man in the Sewer Division on July 5, 1897. He was soon promoted to the position of assistant engineer and in 1906 was transferred to the Engineering Department as assistant engineer. On the formation of the Public Works Department in 1911 he was made assistant designing engineer. In 1916 he was appointed Division Engineer of the Bridge and Ferry Division and also acted for a long period of time as Deputy Commissioner of Public Works.

As division engineer he had charge of the rebuilding of Albany Street Bridge, over the Boston & Albany Railroad, Arlington Street Bridge, Beacon Street Bridge, Brookline Avenue Bridge, Chelsea Bridge, South, Clarendon Street Bridge, Columbus Avenue Bridge, Congress Street Bridge, Cambridge Street Bridge, Dartmouth Street Bridge, Malden Bridge, Massachusetts Avenue Bridge, Morton Street Bridge, River Street Bridge, Summer Street Bridge over Fort Point Channel, Shawmut Avenue Bridge, Tremont Street Bridge, and many other important structures.

He had charge of the building of new type steel ferry-boats and new type ferry bridges or drops, and was of great assistance to other departments of the city in handling many of their engineering problems.

He was recognized all over the country as an expert on bridge construction, and his advice was sought by many eminent engineers.

He was a graduate of the Massachusetts Institute of Technology, Class of 1898, and was a member of the American Society of Civil Engineers, Boston Society of Civil Engineers, and the Boston City Club.

It is a remarkable tribute to Mr. Carty himself and to the engineering profession, of which he was a leading and respected member, that from his appointment as Division Engineer until the day of his death, he conducted the affairs of an exacting municipal office, charged with the expenditure of millions of dollars of public funds, so honestly and so efficiently that he stood above politics, surviving municipal political changes. He was universally regarded as an official whose services were invaluable to the city.

Mr. Carty is survived by his wife, Esther R. Carty, a son, John E. Carty, and a daughter, Katharine E. Carty. Mr. Carty's father was a paymaster for the City of Boston for over fifty years and at his death was the oldest member in the Boston Retirement System.

Mr. Carty was a man of high ideals and great ability, modest and unassuming and eminently fair in all his dealings. He held the regard and esteem of his subordinates and inspired the confidence and respect of all who knew him. His eulogy is a record of a life well spent in the service of the public.

Federal Civil Works Administration.

On the institution of the Civil Works Administration four major projects were started by this division and supervised by our force.

The coal pocket at the North Ferry was demolished and a large amount of timber salvaged for use on bridge repairs.

Longfellow Bridge, Meridian Street Bridge and Broadway Bridge were painted. All the draw piers of these three bridges were repaired by the removal of all rotten and decayed timber.

The Election Department Building, corner of Broadway and Dorchester avenue, which was formerly under the control of this division, was repaired, with a new roof and interior painting.

Blakemore Street Bridge, over the New York, New Haven & Hartford Railroad was entirely rebuilt.

Six ferry bridges were scraped and painted.

Surveys of three bridges were completed.

The Chelsea Viaduct and Meridian Street Bridge were repaved and the approaches and the piling of Meridian Street Bridge were strengthened.

The above work was done at a saving to the city of about \$210,000, and employed about 450 men.

Boylston Street Bridge, over Boston & Albany Railroad.

On October 9, 1933, a contract was approved with Maurice M. Devine, for cleaning and painting the entire steel work of this bridge. Due to inclement weather the required time of completion of the work under the contract was exceeded. Work was completed on December 17, 1933, at a cost of \$2,300.

Broadway Bridge, over Boston & Albany Railroad.

On May 5, 1933, a contract was approved with Maurice M. Devine, for cleaning and painting the steel

work of the whole bridge. After unavoidable delays work under this contract was completed on July 16, 1933, at a cost of \$2,400.

Byron Street Bridge, over Boston, Revere Beach & Lynn Railroad.

On May 25, 1933, a contract was approved with V. J. Grande Company, to rebuild practically the entire bridge. This is a wooden structure with wooden trestle bridge seats. Most of the floor beams and all of the deck and sidewalks were renewed. The trestle supporting the outer ends of the approach spans and the intermediate span were fitted with new sills and such members as were found unsound were renewed. Work on this contract was completed on July 8, 1933, at a cost of \$1,954.20.

Dorchester Avenue Bridge, over Fort Point Channel.

On July 6, 1933, a contract was approved with A. R. Doyle, Inc., for building a new drawtenders' house, including the necessary pile foundation. The original house was of such construction and in such a dilapidated condition that it was a menace and the cost of repairs would have been unjustifiable. The new house as built is of similar design, detail and equipment to that used on recently built bridges and has been found to be quite satisfactory. Work under this contract was completed on December 1, 1933, at a cost of \$6,614.30.

Dorchester Avenue Bridge, over Fort Point Channel.

On October 17, 1933, a contract was approved with A. Orlando, Inc., to repair the westerly roadway and sidewalk of the South Boston fixed span. The area to be repaired extended from the outer rail of the Boston Elevated car tracks to the street line. Work under this contract required a new sidewalk complete with granolithic reinforced slab, new deck in roadway and such new stringers as were found necessary. Work under this contract is not yet finished.

Milton Lower Mills Bridge, over Neponset River.

On June 23, 1933, a contract was approved with the C. J. Maney Company, Inc., for the rebuilding of that part of the bridge which lies within the limits of the

city. The work anticipated the removal of the present iron structure overhanging the retaining wall on the downstream side of the approach together with the surface of the sidewalks and roadway and the wooden deck, and replacing the removed structure with steel and reinforced concrete construction, which will be capable of taking the present loadings. As work progressed the true condition of the dry masonry of the arch piers became apparent and necessitated the award of another contract to cover these repairs. A contract for this work covering masonry repairs, was approved on September 19, 1933, and was completed October 18, 1933, at a cost of \$2,840. Work on the general contract is not completed.

Toll Gate Way Foot Bridge, over New York, New Haven & Hartford Railroad.

On July 31, 1933, a contract was approved with A. Orlando, Inc., to repair and paint the steel work. Most of the latticing of the bottom chords and much of the top chords of the trusses was renewed; also the strengthening and reinforcing of main members of the bottom chords of the trusses and floor beams was included; much of the latter by electric welding. On the completion of the steel work the whole structure was painted. Work was completed on August 30, 1933, at a cost of \$2,453.13.

Warren Bridge.

On June 29, 1933, a contract was approved with W. H. Ellis & Son Company, for extending the upper fender pier of the draw of this bridge. Due to deterioration of the existing pier but primarily to the relocation of the drawbridge of the Boston & Maine Railroad this construction was necessary to protect a water pipe crossing as well as to assist vessels in passing through the draw. This work was completed on September 26, 1933, at a cost of \$4,938.52.

BRIDGE MISCELLANEOUS.

Allston Bridge, Cambridge Street, over Boston & Albany Railroad.—Owing to severe unevenness of the pavement of the westerly roadway, which was of wood block, the whole of the roadway was opened, the grade

brought up and an asphaltum wearing surface laid by the general contractor engaged in patch paving the streets in that area.

B Street Footbridge, Hyde Park, over Neponset River.—The pipe rails and the paling of the fences of this bridge were in a dangerous condition. An order for completely repairing these members was issued to the Progressive Iron Works; this order included the painting of the whole of the fences. Work under this order was completed at a cost of \$593.

Chelsea South Draw.—Owing to excessive clearance in the leaf locks, due to wear and deformation from impact, five new toggle lock pins and sixteen eccentric lock pin bushings were installed by the Bethlehem Shipbuilding Corporation, Atlantic Works Plant. This work was carried on in conjunction with department and street railway work to the roadway at a cost of \$435.16.

Congress Street Bridge, over Fort Point Channel.—In May, 1933, observations made on the operation of the draw resulted in removing somewhat in excess of three tons from the counterweight. As adjusted now the draw operates in more satisfactory manner. This work was done by the division force.

On Sunday, July 2, 1933, a small repair job on the upstream girder near the outer end of the circular rack was done by the Bethlehem Shipbuilding Corporation. The work consisted of straightening and electric welding occasioned by slight damage caused by a passing vessel. Liability has not yet been determined.

Huntington Avenue Bridge, over Boston & Albany Railroad.—Due to serious corrosion of the fences, generally, an order was issued to the Progressive Iron Works to make such repairs and renewals as necessary to make the fences safe and to paint them entirely. This work was done at a cost of \$415.63.

Summer Street Bridge, over Fort Point Channel.—On June 27, 1933, the steamship "Barron Murray," while going upstream, fouled the northerly draw leaf, knocked it off its trucks and let it down on the draw tracks; one truck was dropped overboard. The only damage to the vessel consisted of a small puncture in the starboard bow where the corner of the fascia beam of the draw was struck at a point where the flare was considerable. The division force, assisted by W. H. Ellis & Son Company, with gear, made the necessary repairs. Liability has not yet been determined.

Day Labor Force.

The day labor force patched the roadway and pier of Chelsea North Bridge; placed new sidewalk and re-sheathed Everett Street Bridge; cleaned and painted the bridge structure of Chelsea Street Bridge; repaired sidewalk and decking and fence of Bennington Street Bridge; cleaned and painted Dorchester Avenue Bridge; rebuilt bulkhead at Congress Street Bridge; repaired bulkhead and approach on South Boston side of Summer Street Bridge, over Fort Point Channel; repaired draw-house, placed new headers; patched roadway and built new fence at Chelsea South Bridge, and made general repairs to bridges — carpenter work, painting, mechanical repairs, etc. Also removed snow and ice from surfaces of bridges.

At Summer Street Bridge, over Fort Point Channel, general repairs were made to the draw and draw placed in correct position after an accident had put it out of commission.

Miscellaneous.

Aside from the purely divisional activities there was an appreciable amount of time and effort spent in other departmental work and work outside of the department itself. In passing it should be noted that in every case the work was deemed by the commissioner to be of an emergency nature that required immediate attention of the personnel of this division. Some of these items follow:

Institutions Department—Long Island.

On April 3, 1933, a contract was approved with the Bay State Dredging and Contracting Company to dredge around the Front Wharf, so called, in order that proper provision be made for berthing the "Stephen O'Meara." This contract was completed on April 12, 1933, at a cost of \$4,961.

On June 21, 1933, a contract was approved with W. H. Ellis & Son Company to make repairs to the Front Wharf which consisted of removing defective piles, timbers and planking and replacing with new material fender and supporting piles and certain areas of the deck affected by rot. Work under this contract was completed on July 31, 1933, at a cost of \$2,184.23.

Sanitary Division — Albany Street Garbage Station.

On June 3, 1933, a contract was approved with the Bay State Dredging and Contracting Company to dredge the berths for the scows under the dumping platform. Work under this contract was completed on June 18, 1933, at a cost of \$2,192.40.

On October 23, 1933, a contract was approved with the Murray Engineering Company for making extensive repairs to the ramp, the condition of which had become critical due to unavoidable deterioration and rot in the wood. Work under this contract is not yet completed.

FERRY SERVICE.

The following ferryboats are in commission:

Name.	When Built.	Length.	Gross Tons.
John H. Sullivan.....	1912	172 ft. 3 in.	527
Lieutenant Flaherty.....	1921	174 "	727
Ralph J. Palumbo.....	1921	174 "	755
Charles C. Donoghue.....	1926	174 " 4 in.	756.77
Daniel A. MacCormack.....	1926	174 " 4 "	756.77
General Sumner.....	1930	174 " 4 "	779

All these boats are of the propeller type and are all steel boats.

The North Ferry was closed on Saturday, April 29, 1933, at 10 p. m. standard time. The last trip was made by the ferryboat "Ralph J. Palumbo."

The work of this division for the year consisted entirely of maintenance work with no major repairs and no emergency work of any magnitude.

FERRYBOAT "CHARLES C. DONOGHUE."

On January 20, 1933, a contract was approved with the Bethlehem Shipbuilding Corporation for cleaning, painting the hull and repairing the hull and machinery; all incidental to the annual inspection of the boat by the United States Steamboat Inspection Service. Work was completed on February 9, 1933, at a cost of \$2,110.

FERRYBOAT "LIEUTENANT FLAHERTY."

On October 9, 1934, a contract was approved with the Quincy Dry Dock and Yacht Corporation to make general repairs to the hull, superstructure and machinery; all incidental to required inspection by the United States Steamboat Inspection Service. Included in the hull work was the repairing of the wood and steel work at the ends of the roadways. Work under this contract was completed on November 6, 1933, at a cost of \$3,723.65.

FERRYBOAT "DANIEL A. MACCORMACK."

On June 3, 1933, a contract was approved with the Quincy Dry Dock and Yacht Corporation for making

general repairs to the hull, superstructure and machinery; all incidental to the annual inspection required by the United States Steamboat Inspection Service. Work under this contract was completed on July 11, 1933, at a cost of \$2,418.20.

FERRYBOAT "GENERAL SUMNER."

On March 24, 1933, a contract was approved with the Quincy Dry Dock and Yacht Corporation for completing and overhauling the hull, superstructure and machinery; all incidental to the required annual inspection by the United States Steamboat Inspection Service. Work under this contract was completed on April 18, 1933, at a cost of \$3,915.70.

REPAIRS TO PIERS.

North and South Ferries.

On July 13, 1933, a contract was approved with Roy B. Rendle & Co., Inc., for the repairs to the ferry piers. While extensive repairs and renewals are advisable, this project was abandoned due to the lack of funds. The work under this contract consisted of removing, renewing and refastening such piles, girders, blocks and chocks as were found in a dangerous condition. Until such time as an extensive rebuilding program may be inaugurated, considerable repairs annually will be necessary. The work under the above contract was completed on September 12, 1933, at a cost of \$4,889.94.

DEPARTMENT FORCE.

During the year machinists, carpenters, painters, riggers and electricians, who make up the personnel of the department force, made all repairs possible to the plant to the extent of equipment at their disposal. This work was made up mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways and headhouse repairs in general.

Yours respectfully,

L. BAYLES REILLY,
Division Engineer.

BRIDGE SERVICE.

FINANCIAL STATEMENT, 1933.

Expenditures from Maintenance Appropriation.

Boston bridges	\$388,473 44	
Boston and Cambridge bridges	7,201 65	
	<u> </u>	<u>\$395,675 09</u>

Total Expenditures.

From maintenance appropriation	\$395,675 09	
From special appropriations	72,166 10	
	<u> </u>	<u>\$467,841 19</u>

EXPENDITURES ON BOSTON BRIDGES.

(1.) Administration:

Salaries:

Division engineer	\$489 05
Supervisor	3,314 56
Engineers and draughts- men	37,209 18
Foreman	2,237 96
Clerk, executive	2,685 37
Inspectors	5,492 02
Medical inspector	190 00
Veterans' pension	4,058 00
Holiday	3,322 37
Vacations	1,508 75
Injured employees	9 00
Printing, postage, sta- tionery	1,132 81
Traveling expense	200 45
Telephone	36 00
Engineers' supplies and instruments	28 15
Typewriter inspection	18 00
Office supplies and re- pairs	64 55
Blueprint room	151 55
	<u> </u>

\$62,147 77

(2.) Yard and Stockroom:

Yard:

Clerk, watchmen and yardmen	\$9,278 30
Traveling expense	279 25
Tools, new	570 54
Tools, repaired	511 06
Telephone	295 52
Towels and furnishings . .	14 90
Light and power	365 62
Repairs at yard	122 26
Supplies	326 62

 \$11,764 07

Stockroom:

Stock pur- chased	\$16,308 88
Stock used,	16,798 83

 Decrease in stock 489 95

\$11,274 12

Automobiles, Trucks and Compressors.

	Compressor B-6.	Auto B-8.	Auto B-9.	Auto B-10.	Truck B-11.	Truck B-12.	Auto B-13.	Truck B-14.	Total.
Cost, new.....									\$3,150 26
Chauffeurs' wages.....			\$1,675 80	\$1,474 46					1,859 28
Repairs.....		\$260 80	294 83	238 87	\$1 15	\$462 36	\$89 41	\$511 77	33 94
Supplies.....		7 86	10 38		8 13	1 49	4 59	1 49	1,837 05
Gasoline and oil.....	\$77 78	201 83	305 57	168 69	274 26	398 05	102 34	308 53	82 94
Tires and tubes (new and repaired).....		20 00	40 44	6 50	6 00	5 00		5 00	16 00
Registration.....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	24 11
Equipment.....			14 36	9 75					92 08
Material.....	3 93	7 09	21 92	10 74	7 58	30 27	7 43	3 12	672 00
Storage.....		108 00	108 00	108 00	96 00	126 00		126 00	
Totals.....	\$83 71	\$607 67	\$2,473 30	\$2,019 01	\$395 12	\$1,125 17	\$205 77	\$957 91	\$7,767 66

Tidewater Bridges.

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Total.
Broadway	\$14,499 12	\$224 87	\$241 66	\$320 47	\$357 28	\$15,643 40
Charlestown	19,971 67	4,209 47	3,562 19	1,616 44	517 03	29,876 80
Chelsea North	17,045 68	3,789 78	1,430 26	1,167 65	1,036 75	24,470 12
Chelsea South	16,595 34	2,143 88	1,398 35	592 57	785 05	21,515 19
Chelsea Street	14,618 57	1,815 51	986 29	916 71	357 53	18,694 61
Congress Street	14,947 84	520 63	481 73	1,297 02	463 52	17,710 74
Dorchester Avenue	14,531 25	3,773 71	1,085 97	956 19	277 21	20,624 33
Dover Street	14,511 46	1,018 33	248 18	410 92	274 83	16,463 72
L Street *	14,768 76	881 93	124 29	223 63	299 28	16,297 89
Malden	15,003 50	1,341 99	887 08	151 43	530 14	17,914 14
Meridian Street	15,033 29	1,618 20	98 62	1,240 75	481 97	18,472 83
Northern Avenue	16,739 49	2,087 67	667 64	1,680 08	3,628 08	24,803 30
Summer Street	15,006 28	2,224 90	1,008 71	2,486 21	217 70	20,943 80
Warren	14,983 50	2,638 92	574 29	1,193 79	431 52	19,822 02
Totals	\$218,255 75	\$28,289 79	\$12,795 26	\$14,254 20	\$9,657 89	\$283,252 89

* Now Summer Street, over Reserved Channel.

Repairs on Inland Bridges.

BRIDGES.	Labor and Material.
Albany Street.....	\$563 41
B Street Stairs, Hyde Park.....	590 03
Babson Street.....	105 30
Beacon Street, over Boston & Albany Railroad.....	184 45
Beacon Street, over outlet.....	72 95
Bennington Street.....	147 36
Berkeley Street.....	28 12
Blakemore Street.....	195 98
Blue Hill Avenue.....	1,265 31
Boston Street.....	126 09
Boylston Street.....	2,566 08
Braddock Park — Follen Street.....	115 13
Broadway, over Boston & Albany Railroad.....	58 67
Brooks Street Stairs.....	54 24
Brookline Avenue.....	780 19
Byron Street.....	495 43
Cambridge Street, over Boston & Albany Railroad.....	599 49
Cambridge Street, over Boston & Maine Railroad.....	759 48
Central Avenue.....	810 55
Cummins Highway.....	26 83
Dana Avenue.....	131 19
Dartmouth Street (Rent, \$300).....	345 00
Dorchester Avenue, over New York, New Haven & Hartford Railroad.....	255 15
Everett Street.....	2,979 30
Fairmount Avenue.....	15 64
Freeport Street.....	53 67
Gove Street (Foot).....	98 93
Glenwood Avenue — West.....	213 84
Harvard Street.....	133 87
Huntington Avenue.....	10 36
Hyde Park Avenue, over Sluice.....	37 95
Irvington Street — Yarmouth Street.....	292 25
Jones Avenue.....	175 85
Milton Street.....	102 44
Milton Lower Mills.....	372 65
Norfolk Street.....	461 86
<i>Carried forward.....</i>	\$15,224 78

Repairs on Inland Bridges.— Concluded.

BRIDGES.	Labor and Material.
<i>Brought forward</i>	\$15,224 78
New Allen Street.....	234 14
Perkins Street (Foot).....	1,040 93
Redfield Street.....	43 28
Southampton Street.....	12 24
Summer Street, over B Street.....	75 88
Tremont Street.....	234 78
Toll Gate Way.....	464 64
Walworth Street.....	3 96
Wordsworth Street.....	97 05
West Fourth Street.....	2,291 70
West Rutland Square — Durham Street.....	86 10
Cleaning bridges.....	1,203 10
Snow removal.....	3,018 42
Total.....	\$24,031 00

SUMMARY OF EXPENDITURES.

Administration	\$62,147 77
Yard and stockroom	11,274 12
Automobiles, trucks and compressors	7,767 66
Tidewater bridges	283,252 89
Inland bridges	24,031 00
Total	<u>\$388,473 44</u>

SPECIAL APPROPRIATIONS.

BRIDGES, REPAIRS, ETC.

BERKELEY STREET BRIDGE, OVER NEW YORK, NEW HAVEN & HARTFORD RAILROAD.

Repairs to fence	\$142 41
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BOYLSTON STREET BRIDGE, OVER BOSTON & ALBANY RAILROAD.

Maurice M. Devine	\$1,955 00	
Advertising	10 50	
Supplies	19 09	
	<u> </u>	1,984 59

BLAKEMORE STREET BRIDGE.

Advertising	11 61
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BROADWAY BRIDGE, OVER BOSTON & ALBANY RAILROAD.

Maurice M. Devine	\$2,400 00	
Advertising	8 00	
Engineering	340 78	
	<u> </u>	2,748 78

BROOKS STREET STAIRS.

Painting steel work	157 11
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BYRON STREET BRIDGE.

V. James Grande	\$2,176 05	
Supplies	19 09	
Advertising	7 25	
Engineering	204 91	
	<u> </u>	2,407 30

CAMBRIDGE STREET BRIDGE, OVER BOSTON & MAINE RAILROAD.

Paving repairs	1,911 27
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CAMBRIDGE STREET BRIDGE, OVER BOSTON & ALBANY RAILROAD.

Repairs	1,498 59
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CHARLESTOWN BRIDGE.

Iron work	\$522 62	
Paving repairs	956 78	
General repairs	396 00	
	<u> </u>	1,875 40

<i>Carried forward</i>	\$12,737 06
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<i>Brought forward</i>		\$12,737 06
CHELSEA BRIDGE NORTH.		
Paving repairs		1,821 17
CHELSEA BRIDGE SOUTH.		
Repairs		435 16
DARTMOUTH STREET BRIDGE.		
Painting		565 49
DORCHESTER AVENUE BRIDGE.		
A. R. Doyle, Inc.	\$5,620 15	
A. Orlando, Inc.	4,930 38	
Advertising	17 25	
Supplies	19 09	
Repair bills	1,206 49	
Engineering	1,020 74	
	<hr/>	12,814 10
GAINSBOROUGH STREET.		
The Boston Bridge Works, Inc.		432 23
HUNTINGTON AVENUE BRIDGE.		
Repair bills		412 06
MYSTIC AVENUE BRIDGE.		
Hill & Delaney		510 09
MILTON LOWER MILLS BRIDGE.		
C. J. Maney, Inc., bridge	\$15,502 09	
C. J. Maney, Inc., pier and abutment	2,414 00	
Inspection of steel	63 98	
Advertising	8 75	
Supplies	28 44	
Engineering	2,591 62	
	<hr/>	20,608 88
NORTHERN AVENUE BRIDGE.		
Repair pit pump	\$916 84	
Repair centering device	532 40	
Repair paving	532 62	
Inspection	76 67	
	<hr/>	2,058 53
SUMMER STREET BRIDGE, OVER RESERVED CHANNEL.		
Repairs to iron work		550 19
SUMMER STREET BRIDGE, OVER FORT POINT CHANNEL.		
Repair bills		1,097 28
SPRING STREET BRIDGE.		
Repair bills		933 87
TOLL GATE WAY BRIDGE.		
A. Orlando, Inc.	\$2,453 13	
Advertising	9 50	
Engineering	441 90	
	<hr/>	2,904 53
<i>Carried forward</i>		<hr/> \$57,880 64

Brought forward \$57,880 64

WARREN BRIDGE.

W. H. Ellis & Son Company	\$4,940 52	
Advertising	13 90	
Paving repairs	1,106 25	
Engineering	620 10	
	<u> </u>	6,680 77

WEST FOURTH STREET.

Repair bills		614 73
Total		<u>\$65,176 14</u>

ARLINGTON STREET BRIDGE.

Coleman Brothers, Inc.		<u>\$6,989 96</u>
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Expenditures from Special Appropriations, 1933.

	Balance from 1933.	Total Credits, Including Balances Carried Over and Transfers.	Expended During 1933.	Unexpended Balance December 31, 1933.
* Arlington Street Bridge.....			\$6,989 96	
Bridges, repairs, etc.....	\$57,387 07	\$25,000 00	65,176 14	\$17,210 93
Totals.....	\$57,387 07	\$25,000 00	\$72,166 10	\$17,210 93

* See also Paving Service.

Draw Openings, 1933.

BRIDGES.	STEAMERS.			SAILING VESSELS.			TUGS.			BARGES.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Caroes.	Total Number of Openings.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Broadway.....	9	11	20	22	4	26	681	76	757	229	35	264	186	35	191	1,127	131	1,258	312	721
Charlestown.....	17	13	30	69	9	78	1,022	339	1,361	339	166	505	548	244	792	1,995	771	2,766	598	893
Chelsea North.....	1,038	381	1,419	54	2	56	7,301	1,898	9,199	1,377	640	2,017	609	132	741	10,379	3,053	13,432	2,030	5,184
Chelsea South.....	54	1	55	15	.....	15	3,027	82	3,109	125	7	132	1,429	40	1,469	4,650	130	4,780	1,219	1,600
Chelsea Street.....	122	59	181	.....	.....	.....	1,629	1,040	2,667	178	108	286	403	317	720	2,330	1,534	3,864	677	2,292
Congress Street.....	121	29	150	22	4	26	1,653	199	1,852	462	71	533	763	81	844	3,021	384	3,405	535	2,028
Dorchester Avenue.....	8	10	18	24	2	26	857	60	917	219	25	244	365	13	378	1,473	110	1,583	308	882
Dover Street.....	7	10	17	21	4	25	786	77	863	214	30	244	314	13	327	1,342	134	1,476	293	701
L Street *.....	55	18	73	301	20	321	214	7	221	525	17	542	612	79	691	1,707	141	1,848	296	1,570
Malden.....	67	29	96	4	.....	4	430	57	487	242	130	372	401	181	582	1,144	397	1,541	391	1,127
Meridian Street.....	761	214	975	73	2	75	4,027	1,478	5,505	874	641	1,515	2,069	494	2,563	7,804	2,829	10,633	1,508	6,043
Northern Avenue.....	311	109	420	37	4	41	2,847	145	2,992	507	41	548	1,292	66	1,358	4,994	365	5,359	1,042	2,707
Summer Street.....	124	11	135	31	2	33	1,693	173	1,866	432	63	495	430	31	461	2,710	280	2,990	582	1,731
Warren.....	28	19	47	44	4	48	1,016	261	1,277	400	107	507	918	242	1,160	2,406	633	3,039	551	1,718
Totals.....	2,722	914	3,636	717	57	774	27,181	5,892	33,073	6,123	2,081	8,204	10,339	1,938	12,277	47,082	10,882	57,964	10,342	29,197

* Now Summer Street over Reserved Channel.

GRANITE AVENUE BRIDGE.*

Drawtenders' salaries	\$2,601 14
Material	3 76
Repairs	369 52
Supplies	41 66
	<hr/>
	\$3,016 08

* Maintained jointly by town of Milton and County of Suffolk.

	STEAMERS.		SAILING VESSELS.		TUGS.		BARGES.		ALL OTHERS.		TOTAL NUMBER OF VESSELS.		Total Number of Carries.	Total Number of Openings.						
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.								
															Day.	Night.	Total.	Day.	Night.	Total.
Openings.	2	.....	2	5	1	6	224	5	229	79	2	81	101	70	171	411	78	489	41	339

FERRY SERVICE.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1933.

1. Receipts.

Total cash receipts during the year	\$64,771 86
Cash in hands of tollmen at beginning of year	200 00
	<u>\$64,971 86</u>
Cash paid over to City Collector	\$64,771 86
Cash in hands of tollmen December 31, 1933	200 00
	<u>\$64,971 86</u>

2. Appropriations and Expenditures.

Received from annual appropriations for Ferry Service	\$416,700 00
Transferred to Paving Service	\$5,090 98
Transferred to snow removal	12,845 06
	<u>17,936 04</u>
	<u>\$398,763 96</u>
Unexpended balances from special appropriations, January 1, 1933	\$59,599 94
Total expenditures	1,164 10
	<u>\$58,435 84</u>

3. Result of Operation for the Year.

Receipts for the year (net income)	\$64,771 86
Ordinary expenses (maintenance appropriation)	\$398,763 96
Interest paid on Ferry debt	28,387 50
Depreciation on Ferryboats	84,433 79
Decrease in value of machinery and tools	324 15
Decrease in value of fuel on hand	2,011 50
	<u>\$513,920 90</u>
Increase in value of supplies on hand,	261 42
	<u>513,659 48</u>
Net outgo for the year	513,659 48
Net loss for the year	* \$448,887 62

* Does not include expenditures for special appropriations.

4. Balance Sheet.

End of Fiscal Year, December 31, 1933.

ASSETS.		LIABILITIES.
AVAILABLE ASSETS:		CURRENT LIABILITIES:
Cash in hands of tollmen at close of year.....	\$200 00	None.
INVENTORY OF SUPPLIES, VIZ.:		CONTINGENT LIABILITIES:
Supplies for Maintenance.....	13,526 84	\$58,435 84
Rents receivable.....	2,015 87	
Damages receivable.....	325 00	
Total available assets.....	\$16,067 71	
CONTINGENT ASSETS:		
City Treasurer.....	58,435 84	
FIXED ASSETS:		FIXED LIABILITIES:
Real estate, land and buildings ¹	*610,100 00	Capital of the city invested in the ferries, viz.:
Ferry-boats ³	949,795 84	Total expenditures of all kinds for seventy-
Machinery, tools, etc.....	2,917 42	six years, including interest on ferry
Total tangible assets.....	\$1,637,316 81	debt.....\$25,537,725 55
Deficiency or loss by operation and maintenance		Less total receipts..... 8,750,141 56
of the ferries for seventy-six years to date.....	15,208,703 02	16,787,583 99
	\$16,846,019 83	\$16,846,019 83
¹ Original purchase.....	\$276,375 00	² Assessors' figures.
New buildings, drops, slips, cost to 1913.....	607,523 64	³ Total cost to date, per ferry books..... \$2,529,820 50
Land, Lincoln's Wharf, cost to 1887.....	5,562 52	Less boats sold, depreciated or destroyed..... 1,580,024 69
Land, Battery Wharf, cost to 1893.....	10,000 00	\$949,795 84
New drops, both ferries, cost from 1923 to	\$89,401 16	
December 31, 1933.....	886,648 44	
	\$1,786,109 60	

Balance Sheet for Year, 1933.

<i>Assets.</i>	
Cash, tollmen's capital	\$200 00
Rents receivable	2,015 87
Supplies in stock	13,526 84
City Treasurer (balance of appropriation)	58,435 84
Ferryboats (less depreciation).	949,795 84
Machinery and tools	2,917 42
Real estate, land and buildings (assessors' valuation)	610,000 00
Total tangible assets	<u>\$1,636,991 81</u>
Cost of avenues, etc., East Boston (previous to 1871)	¹ \$315,815 68
Deficiency of assets (loss)	14,893,212 34
Totals	<u>\$16,846,019 83</u>

<i>Liabilities.</i>	
Capital invested by City of Boston to date	\$16,787,583 99
Appropriations account (credit balances)	58,435 84
Total liabilities	<u>\$16,846,019 83</u>

Details of Capital Invested by the City of Boston.

Total expenditures to date per ferry books	\$25,230,189 20
Interest of debt for the year (per City Auditor's reports)	28,387 50
Interest, previous years, etc. (net debits, per City Auditor's reports)	279,148 85
Total expenditures	<u>\$25,537,725 55</u>
Deduct total receipts paid to City Collector	8,750,141 56
Excess expenditures, capital	<u>\$16,787,583 99</u>

COMPARISON OF RECEIPTS, APPROPRIATIONS AND EXPENDITURES.

<i>Receipts.</i>	
From foot passengers (tollmen)	\$15,822 94
From foot passengers (office sales)	176 80
From extra passengers on teams (gatemen)	353 91
From team tickets (office sales)	* 5,491 60
From strip team tickets (tollmen)	8,644 40
From cash for teams (gatemen)	33,780 60
Total from rates	* \$64,270 25
From rents	188 00
From other sources	313 61
Total ordinary receipts	<u>* \$64,771 86</u>

¹ Included in deficiency of assets in Balance Sheet.

* Includes sale of coupons to city departments.

* Includes \$58 coupons sold in 1932; paid for in 1933.

Expenditures (Ordinary.)

Office:	
Division engineer's salary (part)	\$1,215 63
General foreman and cashier	5,013 27
Clerk	1,521 73
Retired veteran's pensions	6,292 02
Retired employees' pensions	1,080 00
Medical inspector (part)	100 00
Stationery	161 28
Printing	1,144 00
Telephones	355 34
Advertising	40 00
Car fares	133 45
Postage	6 25
Premiums, surety companies	165 00
Total office expenses	<u>\$17,227 97</u>
Ferryboats and landings:	
Employees (wages)	\$284,513 29
Fuel	38,014 33
Teaming, weighing coal, etc.	2,799 00
Supplies	11,020 68
Gas	5,344 71
Oil	1,089 28
Electric light	3,984 89
Repairs of boats	22,552 89
Repairs of buildings, drops and piers	9,530 03
Furnishings	34 80
Other expenditures	2,652 09
Total	<u>\$398,763 96</u>

RECEIPTS, APPROPRIATIONS AND EXPENDITURES.

Expenditures from Special Appropriations.

Ferry improvements, etc.	1,164 10
Total expenditures, regular and special	<u>\$399,928 06</u>
Balances in treasury unexpended	<u>\$58,435 84</u>
<i>Appropriations.</i>	
Regular annual appropriations	<u>\$416,700 00</u>

Total Expenditures upon Ferries Since 1858-59.

Expenditures for avenues, paving, interest, etc., previous to the purchase of the ferries by the City	\$444,101 30
Purchase of the ferries, April, 1870	276,375 00
Expenditures for ferryboats since April, 1870,	2,530,009 51
Expenditures for new buildings, piers, drops, etc.	1,491,468 89
Expenditures for tools and fixtures (prior to 1910)	14,752 46
<i>Carried forward</i>	<u>\$4,756,707 16</u>

<i>Brought forward</i>	\$4,756,707 16
Expenditures for land for Lincoln's Wharf in 1887	5,562 52
Expenditures for land for Battery Wharf in 1893	10,000 00
<hr/>	
Total expenditures on capital account	\$4,772,269 68
Expenditures for repairs of all kinds	2,831,821 66
Expenditures for fuel	2,995,436 99
Expenditures for salaries and wages	11,706,992 96
Expenditures for all other purposes	3,231,204 35
<hr/>	
	<u>\$25,537,725 55</u>

Total Receipts from Ferries Since 1858-59.

Receipts from rents, etc., previous to purchase of ferries	\$29,588 56
Receipts from ferry tolls since purchase of ferries	8,412,640 33
Receipts from rents since purchase of ferries,	73,062 40
Receipts from sale of ferryboats	168,004 57
Receipts from all other sources, per ferry books	36,310 85
Receipts from all other sources, additional, per City Auditor	30,734 85
<hr/>	
Total receipts from all sources	\$8,750,341 56
Less amount with tollmen as capital	200 00
<hr/>	
Total receipts, Auditor's reports	<u>\$8,750,141 56</u>

Regular Annual (Ordinary) and Special Appropriations (Extraordinary) of the Ferry Service for the Year Ending December 31, 1933.

Appropriations (regular) for the year ending December 31, 1933	\$416,700 00
Transferred to Paving Service and Snow Removal	17,936 96
<hr/>	
Amount of expenditures (regular) for the year	<u>\$398,763 96</u>

SPECIAL APPROPRIATIONS.

East Boston Ferry, two additional boats and other permanent improvements:	
Unexpended balance January 1, 1933	\$53,889 42
Expenditures for year 1933	000 00
<hr/>	
Unexpended balance December 31, 1933	<u>\$53,889 42</u>

Ferry Improvements:

Unexpended balance January 1, 1933 \$5,710 52
 Expenditures for year 1933 1,164 10

Unexpended balance December 31, 1933 \$4,546 42

Expenditures for year made up as follows:

Amount paid to Jennison-Wright Company:

136 pieces 2 feet by 6 feet creosoted oak pavement slabs
 at \$6.60 \$897 60

56 pieces 2 feet by 3 feet creosoted oak pavement slabs
 at \$3.40 190 40

Inspection of same 76 10

\$1,164 10

RECEIPTS AT EACH FERRY.

North Ferry.

FROM TOLLMEN.	From Foot Passengers.	From Tickets.	Totals.
Boston side.....	\$678 48	\$484 40	\$1,162 88
East Boston side.....	628 71	448 40	1,077 11
Totals.....	\$1,307 19	\$932 80	\$2,239 99

From tollmen \$2,239 99

From gatemen:

2,792 foot passengers at 1 cent \$27 92

Cash fares for teams 1,036 65

1,064 57

Total at North Ferry \$3,304 56

South Ferry.

FROM TOLLMEN.	From Foot Passengers.	From Tickets.	Totals.
Boston side.....	\$7,360 66	\$4,727 60	\$12,088 26
East Boston.....	7,155 09	2,984 00	10,139 09
Totals.....	\$14,515 75	\$7,711 60	\$22,227 35

From tollmen \$22,227 35

From gatemen:

32,599 foot passengers at 1 cent \$325 99

Cash fares for teams 32,743 95

33,069 94

Total at South Ferry \$55,297 29

North and South Ferries	\$58,601 85
Tickets paid for at ferry office	5,354 40
Tickets sold and paid for through City Collector's office	*314 00
Total from rates	\$64,270 25
Rents for the year	188 00
Headhouse privileges	200 00
Care of public telephone booths	44 00
Commission on public telephones	69 61
Total receipts for the year	<u>\$64,771 86</u>

TRAVEL ON THE FERRIES FROM JANUARY 1, 1932, TO
DECEMBER 31, 1932, INCLUSIVE.

Foot passengers at 1 cent each	133,511	1,484,174
Foot passengers by ticket	8,892	8,989
Total foot passengers	<u>142,403</u>	<u>1,493,163</u>

	North Ferry.	South Ferry.
Hand cart, or wheelbarrow and man 5 cents	4,365	65,287
Horse and rider 5 cents		
Horse and cattle, each with attendant 5 cents		
One or two horse vehicle with driver 5 cents		
Motor cycle with driver 5 cents		
Trailer 10 cents	8,699	208,709
Three or four horse vehicle with driver . . . 10 cents		
Passenger automobile with driver and one passenger 10 cents		
Passenger automobile with driver and more than one passenger 15 cents	21,067	166,346
Motor truck, six tons or less, with driver . . 15 cents		
Motor truck over six tons with driver 20 cents	2,768	10,904
Auto bus with driver 20 cents		
Auto bus with driver and passengers 30 cents		26
	<u>36,899</u>	<u>451,272</u>

* Includes \$58 tickets sold in 1932 and paid for in 1933.

Motor Vehicle Traffic (Reports of Captains).

January 1, 1932, to December 31, 1933.

	North Ferry.	South Ferry.	Totals.
Passenger cars.....	14,690	305,307	319,997
Trucks.....	15,197	106,956	122,153
Totals.....	* 29,887	† 412,263	442,150

Total paying foot passengers	<u>1,635,566</u>
Total foot passengers carried	<u>1,635,566</u>
Total paying teams, passenger cars and trucks	<u>488,171</u>
Total free teams	<u>17,288</u>

TOTAL TRAVEL OF BOTH FERRIES FROM JANUARY 1,
1933, TO DECEMBER 31, 1933.

	1932.	1933.
Hand cart, or wheelbarrow and man..... 5 cents	79,317	69,652
Horse and rider..... 5 cents		
Horse and cattle, each with attendant..... 5 cents		
One or two horse vehicle with driver..... 5 cents		
Motor cycle with driver..... 5 cents		
Trailer..... 10 cents	261,176	217,408
Three or four horse vehicle with driver... 10 cents		
Passenger automobile with driver and one passenger..... 10 cents		
Passenger automobile with driver and more than one passenger..... 15 cents	208,245	187,413
Motor truck, six tons or less, with driver... 15 cents		
Motor truck, six tons or less, with driver... 20 cents	14,169	13,672
Auto bus with driver..... 20 cents		
Auto bus with driver and passengers..... 30 cents	396	26
Paid teams at both ferries.....	563,303	488,171
Free teams at both ferries.....	18,383	17,288
Total teams at both ferries.....	<u>581,686</u>	<u>505,459</u>
Total paying foot passengers.....	<u>1,744,440</u>	<u>1,635,566</u>

* Includes 1,139 free.

† Includes 16,156 free.

Changes in rates of tolls on city ferryboats were made during the year 1930. The first rate, effective January 1, was superseded on April 1, 1930, by the rates which are now effective, and are as follows:

PASSENGERS.

On and after April 1, 1930, the tolls on the East Boston Ferries will be as follows:

Foot passengers	1 cent.
---------------------------	---------

VEHICLES.

One or two horse vehicle with driver	5 cents.
Motorcycle with driver	5 cents.
Trailer	10 cents.
Three or four horse vehicle with driver	10 cents.
Passenger automobile with driver and one passenger,	10 cents.
Passenger automobile with driver and more than one	
passenger	15 cents.
Motor truck, six tons or less, with driver	15 cents.
Motor truck, over six tons, with driver	20 cents.
Auto bus with driver	20 cents.
Auto bus with driver and passengers	30 cents.

MISCELLANEOUS.

Hand cart, or wheelbarrow and man	5 cents.
Horse and rider	5 cents.
Horse and cattle, each with attendant	5 cents.

TICKETS FOR VEHICLES.

Tickets in books of ten to be sold at a reduction of 20 per cent.

FUNERAL PROCESSIONS.

Funeral processions pass free of tolls.

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF THE
HIGHWAY DIVISION.

BOSTON, January 2, 1934.

MR. CHRISTOPHER J. CARVEN,
Commissioner of Public Works.

DEAR SIR.—The following is a statement of the activities, operations and expenditures of the Highway Division, consisting of the Lighting Service and Paving Service for the year ending December 31, 1933:

The maintenance expenditures of the Division for the year are as follows:

Lighting Service	\$952,977 66
Paving Service	1,238,390 98
Total	\$2,191,368 64

Construction of new streets and the resurfacing and maintenance of old streets has been large in volume but with a much less expenditure than during the two previous years.

Two contracts were awarded for repairing streets having an asphalt or bitulithic pavement on which the maintenance guarantee had expired. The city is now divided into two sections, a contract being awarded in each section.

Three unfinished contracts were carried over from 1932 and finished this year:

Harvard street (north west side), from Blue Hill to Franklin Hill avenues.

Weld street, from Centre street to Morey road, West Roxbury.

Tennyson street, from La Grange street to Emmons road, West Roxbury.

Expended for Highways, Making of \$386,389 48

This work called for thirty-six (36) contracts for sixty-one streets.

Expended for "Reconstruction of Streets" . . . \$744,013 11

This work was done under thirty-five (35) contracts on one hundred and thirty-three streets.

A considerable amount of the expenditures under the "Reconstruction of Streets" was for the construction of new artificial stone sidewalks replacing brick and crushed stone sidewalks in the older streets of Roxbury, Charlestown, South Boston, South End, Jamaica Plain and Dorchester sections of the city.

Twelve contracts with twenty streets to be constructed are to be carried over until next year as the severe winter weather has caused the work that was commenced to be suspended or else not started.

In addition to the work of construction done by contract and special appropriations the Division Forces were employed in the maintenance of public streets throughout the city, resurfacing macadam roadways, repaving and relaying the old granite paved streets and patching old street surfaces, brick and artificial stone sidewalks. In the suburban districts nearly all the street and gutter cleaning has been done by the men sent to the Paving Service from the Public Welfare Department. This force of men has averaged five hundred men for three and four days for every week during the past year.

FEDERAL PUBLIC WORKS ADMINISTRATION.

Early in November, the Federal Public Works Administration brought forth a plan for a million dollar loan for new street construction, 30 per cent of such loan to be in the form of a grant from the Federal Government. This loan and grant was for new construction on the following-named streets:

STREET.	Pavement.	Estimated Cost.
Alford street	Recut granite block with base . . .	\$32,100
Old Colony avenue	Smooth pavement with base	157,000
Savin Hill avenue	Smooth pavement with base	57,000
Ashmont street	Smooth pavement with base	66,300
Adams street	Smooth pavement with base	71,000
Walk Hill street	Smooth pavement with base	101,000
Woodrow avenue	Smooth pavement with base	41,500
La Grange street	Smooth pavement with base	210,000
Hyde Park avenue	Smooth pavement with base	188,000
Southampton street	Recut granite block with base . . .	76,000
Total . . . . .	.....	\$1,000,000

Surveys and plans are now progressing so that work may be started under this Project in the early part of 1934.

FEDERAL CIVIL WORKS ADMINISTRATION.

In November the Federal Civil Works Administration commenced the payment of monthly grants of funds for projects to put the unemployed at work. This arrangement made it possible to use unemployed persons and take men from the Welfare lists and place them on various projects approved by the State Administrator of the Civil Works Administration. The projects approved for the Highway Division included construction of new streets after they had been laid out and accepted by the Board of Street Commissioners, the repairing of old streets, fences, sea walls, retaining walls, building and office repairs, including new equipment in the various yards and offices of the Division Yards, throughout the city.

In addition thirteen streets and one public alley were laid out by the Board of Street Commissioners, and it is expected that the work will start as soon as weather conditions will allow.

LIGHTING SERVICE.

A new installation of ninety 1,000 candle power lamps was made on the American Legion Highway, and on the Veterans of Foreign Wars Parkway eighteen lamps of the same size were installed.

On Neponset avenue, Dorchester, sixteen new 1,000 candle power lamps were set up and eighteen existing lamps rearranged, making thirty-four lamps in the new lay-out. All these installations are made with concrete posts.

About the middle of May it was deemed advisable for economical reasons to take out of burning one in every three large lamp units in the city, resulting in a saving of about \$27,000 to the Lighting Service appropriation. This arrangement was continued until about August 1, 1933, when all lamps that had been put out were placed on the burning list.

Respectfully,

JOSHUA ATWOOD,
Division Engineer.

HIGHWAY DIVISION — PAVING SERVICE.
Work Done by Contract in 1933.

	Old Work.	New Work.	Total Old and New Work.
Edgestone set.....	74,292 linear feet.	54,213 linear feet.	128,445 linear feet.
Concrete base laid.....	9,732 square yards.	167,395 square yards.	177,127 square yards.
Granite block laid, gravel joints.....	2,785 " "	28 " "	2,813 " "
Recut granite block laid, gravel joints.....		21,183 " "	21,183 " "
Granite block, grout joints, lip gutters.....		407 " "	407 " "
Granite block relaid, grout joints.....		4,015 " "	4,015 " "
Asphalt and binder laid.....		146,680 " "	146,680 " "
Bitulithic pavement laid.....	11 square yards.	84,119 " "	84,130 " "
Bituminous patching contract:			
1. Full depth asphalt.....	13,991 " "	2,097 " "	16,088 " "
2. Full depth bituminous concrete.....	40,226 " "	5,781 " "	46,007 " "
3. Surface work.....	36,226 " "	2,959 " "	39,185 " "
4. Extra binder.....		115 tons.	115 tons.
5. Cement concrete base.....	1,142 square yards.		1,142 square yards.
Asphalt macadam.....		8,687 square yards.	8,687 " "
Extra binder.....		21 tons.	21 tons.
Artificial stone sidewalks.....	1,578 square yards.	151,496 square yards.	153,074 square yards.
Brick sidewalks laid.....	377 " "		377 " "
Crushed stone sidewalks laid.....	557 " "	13,530 square yards.	14,087 " "
Earth excavation.....		59,090 cubic yards.	59,090 cubic yards.

Rock excavation.....	3,631	"	"	3,631	"	"
Filling furnished.....	445	"	"	445	"	"
Gravel foundation (6 inches).....	19,021	square yards,		19,021	square yards,	
Crushed stone furnished.....	7,882	tons,		7,882	tons,	
Concrete base removed.....	6,451	square yards,		6,451	square yards,	
Loam graded and seeded.....	1,786	"	"	1,786	"	"
Covers reset.....	1,443			1,443		
Sign posts set or reset.....	68			68		
Wooden fence erected.....	54	linear feet,		54	linear feet,	
Chain link fence erected.....	413	"	"	413	"	"
Ground water drains.....	7,317	"	"	7,317	"	"
Dry wells constructed.....	13			13		
Concrete edgestone backing.....	616	square feet,		616	square feet,	
Concrete curb constructed.....	614	linear feet,		614	linear feet,	
Concrete roadway constructed.....	168	square yards,		168	square yards,	
Driveway foundation.....	4,099	linear feet,		4,099	linear feet,	
Extra concrete furnished.....	54	cubic yards,		54	cubic yards,	
Telford pavement removed.....	86	square yards,		86	square yards,	
Driveways removed (concrete).....	296	"	"	296	"	"
Fence removed.....	990	linear feet,		990	linear feet,	
Walls removed.....	25	cubic yards,		25	cubic yards,	
Granite blocks hauled.....	2,168	square yards,		2,168	square yards,	

NOTE.— Old work means same type of pavement, base, etc., being replaced or edgestone reset. New work means pavement, base etc., as shown being laid for the first time, including all incidental work.

STREET OPENINGS.

Under Classes 1 and 2 of the schedule of permit fees, permits were issued for openings in public ways, as follows:

	Number of Permits.	Length in Feet.
Sewer and Water Service.....	3,526	42,382
Edison Company.....	1,139	79,730
Miscellaneous.....	1,143	57,150
Boston Consolidated Gas Company.....	474	11,850
Emergency permits.....	1,013	25,325
New England Telephone and Telegraph Company.....	363	37,389
Boston Elevated Railway.....	73	10,950
Dedham and Hyde Park Gas and Electric Company.....	28	700
	7,759	265,476

Making a total length of openings approximately fifty miles.

Permits for other than street openings have been issued as follows:

Painting and minor repairs	2,863
Placing signs flat on buildings	610
Special permits	288
Erecting and repairing buildings	247
Erecting and repairing awnings	159
Emergency permits for raising and lowering safes	74
Moving buildings in streets	9
Cleaning snow from roof	29
Feeding horses in street	1
Driving cattle in street	1
Total	<u>4,281</u>

Total of all permits issued, 12,040.

The fees received from these permits amounted to \$10,308.08; of this amount \$7,639.08 was deposited with the City Collector and \$2,669 was billed to public service corporations.

BONDS.

There are now on file 2,262 surety bonds, in amount of one, three and twenty thousand dollars, covering the city against claims for damages, etc., through the use of permits.

Work Done by Paving Forces During 1933.

	Old.	New.	Total.
Concrete base laid.....	3,066 square yards.	.....	3,066 square yards.
Roadway, granite block, gravel joints.....	3,089 "	.....	3,089 "
Roadway, granite block, grout joints.....	22,338 "	1,101 square yards.	23,439 "
Gutter, grout block, gravel joints.....	11,866 "	.....	11,866 "
Gutter, granite block, grout joints.....	3,161 "	1,151 square yards.	4,312 "
Flagging crosswalk, gravel joints.....	395 "	15 "	410 "
Roadway, wood block, sand joints.....	1,139 "	.....	1,139 "
Macadam surface patch.....	291,187 "	.....	291,187 "
Asphalt blanket coat.....	11,638 "	.....	11,638 "
Sheet asphalt surface placed.....	.....	2,210 square yards.	2,210 "
Brick sidewalks laid.....	61,393 square yards.	300 "	61,693 "
Artificial stone sidewalk laid.....	71,796 "	.....	71,796 "
Crushed stone or gravel sidewalks.....	88,126 "	.....	88,126 "
Grading, no pavement laid.....	9,821 "	.....	9,821 "
Cobble gutters repaired.....	2,446 "	.....	2,446 "
Tar sidewalks patched.....	10,912 "	.....	10,912 "
Grading parks.....	48 "	.....	48 "
Asphalt penetration, macadam placed.....	.....	189,234 square yards.	189,234 "
Edgestone set.....	44,150 linear feet.	381 linear feet.	44,531 linear feet.

Work Done by Paving Forces During 1933.—Concluded.

	Old.	New.	Total.
Fence repairs.....	375 linear feet.	.....	375 linear feet.
Sidewalk excavating, no sidewalk laid.....	.....	282 cubic yards.	282 cubic yards.
Roadway excavating, no roadway constructed.....	250 cubic yards.	.....	250 " "
Roadway, excavating, roadway changed.....	23,138 "	.....	23,138 " "
Rock excavating.....	.....	263 cubic yards.	263 " "
Snow removed.....	.....	.....	142,317 " "
New style sign posts erected.....	.....	.....	787
Street cleaning.....	.....	.....	746,550 cubic yards.

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF
THE SANITARY DIVISION.

BOSTON, January 2, 1934.

MR. C. J. CARVEN,

Commissioner of Public Works.

DEAR SIR.—I submit herewith a statement of the activities and expenditures of the Sanitary Division for the year ending December 31, 1933.

The maintenance and expenditures are as follows . . . \$2,503,351 91
Distributed as follows:

A. Expenses not directly chargeable to 1933 operation:		
1. Excess over ten-year average of disposal contract . . .	\$22,000 00	
2. Arbitration of disposal, Ja- maica Plain and Elm Hill, . . .	49,302 85	
3. Other services	12,785 74	
		<u>84,088 59</u>
Balance		<u>\$2,419,263 32</u>
B. Waste Collection and Disposal (See Table II)		<u>\$1,757,296 33</u>
C. Street Cleaning (See Table VII)		<u>\$661,966 99</u>

Personnel Changes.—During the year there were thirty deaths, six resignations, twenty-three retirements and seven transfers out of the division, making a total of sixty-six separations. There were transferred into the division four men, thus making a net reduction in the man-power of this division of sixty-two men.

Complaints.—An analysis of 2,866 complaints received at the Central Complaint Office is shown in Table I. This shows an improvement from the 1932 figure of 3,151.

Welfare Men.—During the year 1933 there was a still further increase in the number of welfare men assigned to this division. At the beginning of the year there were 4,298 individuals so employed, averaging about this amount until the first of December, when the C. W. A. started, after which there was a falling off to 3,592 toward the end of the year. The amount of

work performed by these men amounted to about 8,900 man days per week at the beginning of the year, which rose to a maximum of 9,272 man days on December 1, falling to 6,699 at the end of the year.

Total number of days work performed by these men during the year 1933 was 472,725 as against 275,965 in 1932.

Abandoned Automobiles.—Table VI shows that fewer automobiles were removed and fewer lots were cleaned than in 1932. This is due to the fact that last year was the start of a clean-up of the accumulation of several years.

The general pay cut for the year 1933 had an important bearing upon the cost of the work in the Day Labor districts.

Yours respectfully,

A. J. Post,
Division Engineer.

TABLE I.

Complaint Analysis, 1933.	Number.	Per Cent.
No excuse	2,484	87.00
Breakdown of vehicle	6	0.20
Special	53	1.80
Total justified	2,543	89.00
Not out	54	1.87
Inaccessible	31	1.00
Wrong address	29	1.00
Frozen	3	0.10
Snow	1	0.03
Total unjustified	118	4.00
Total complaints	2,661	
Request for removal of dead animals	205	7.00
Total office complaints and requests	<u>2,866</u>	<u>100.00</u>

TABLE II.
Amount Expended for the Collection and Disposal of Ashes, Garbage, Waste and Rubbish by Districts.

Districts.	Popu- lation.	ASHES.		GARBAGE.		WASTE AND RUBBISH.		Total Cost.	Per Capita.
		Cost.	Per Capita.	Cost.	Per Capita.	Cost.	Per Capita.		
1. South Boston.....	61,694	\$125,458 42	\$2.04	\$34,968 41	\$0.56	.....	.....	\$160,426 83	\$2.60
2. East Boston.....	61,884	36,370 54	0.59	5,123 78	0.68	.....	.....	41,494 32	0.67
3. Charlestown.....	30,767	61,279 55	1.99	13,093 44	0.42	.....	.....	74,372 99	2.41
4. Brighton.....	57,506	30,817 31	0.54	12,959 20	0.22	.....	.....	43,776 51	0.76
5. West Roxbury.....	62,611	31,958 64	0.51	9,912 52	0.16	.....	.....	41,871 16	0.67
6. Dorchester.....	191,919	222,184 41	1.16	69,499 94	0.36	.....	.....	291,684 35	1.52
7. Roxbury.....	149,150	319,615 45	2.15	100,173 07	0.67	\$31,227 57	\$0.20	451,016 09	3.02
8 and 9. South End and Back Bay...	86,652	328,711 44	3.79	49,019 31	0.57	32,790 63	0.38	410,521 38	4.74
10. North and West Ends.....	56,276	183,317 54	3.26	24,276 42	0.43	19,078 13	0.34	226,672 09	4.03
11. Hyde Park.....	26,218	12,335 39	0.47	3,125 22	0.12	.....	.....	15,460 61	0.59
Totals.....	784,677	\$1,352,048 09	\$1.72	\$322,151 31	\$0.42	\$83,096 33	\$0.28	\$1,757,296 33	\$2.24

TABLE III.
Cost of Collection and Disposal of Refuse in City of Boston, 1933.

Contract Districts and Population.	CHARACTER OF REFUSE.	Cubic Yards.	Cost per Cubic Yard by Districts, Collection and Disposal.	Cost per District.	Total Cost per Capita.
2. East Boston (61,884)	Mixed refuse.....	46,780	\$0 77	\$36,370 54	\$0 67
	Garbage.....	5,820	0 88	5,123 78	
	Totals.....	52,600	Av. \$0 788	\$41,494 32	
4. Brighton (57,506)	Mixed refuse.....	59,430	\$0 518	\$30,817 31	\$0 76
	Garbage.....	18,580	0 70	12,959 20	
	Totals.....	77,960	Av. \$0 561	\$43,776 51	
5. West Roxbury (62,611)	Mixed refuse.....	52,670	\$0 607	\$31,958 04	\$0 67
	Garbage.....	14,700	0 674	9,912 52	
	Totals.....	67,370	Av. \$0 621	\$41,871 16	
6. Dorchester (191,919)	Mixed refuse.....	205,490	\$1 08	\$222,184 41	\$1 52
	Garbage.....	36,452	1 906	69,499 94	
	Totals.....	241,942	Av. \$1 206	\$291,684 35	
II. Hyde Park (25,218)	Mixed refuse.....	19,170	\$0 643	\$12,335 39	\$0 59
	Garbage.....	3,550	0 88	3,125 22	
	Totals.....	22,720	Av. \$0 68	\$15,460 61	
400,138.....	Totals.....	462,592	Av. \$0 938	\$434,286 95	\$1 085

NOTE.— Cost of District 6, Dorchester, includes a disposal charge of \$20,903.40; proportionate distribution on account of garbage delivered to disposal contractor.

TABLE V.
Comparative Costs per Cubic Yard 1932 and 1933.

DAY LABOR DISTRICTS.	COLLECTION.		TOTAL COST.		Cubic Yards. 1932.	Cubic Yards 1933.
	1932.	1933.	1932. \$0.41 Disposal.	1933. \$0.54 Disposal.		
1. South Boston.....	\$1 23	\$1 35	\$1 64	\$1 89	126,941	84,853
3. Charlestown.....	1 48	1 40	1 89	1 94	51,280	38,122
7. Roxbury.....	1 08	1 25	1 49	1 79	379,493	251,009
8 and 9. South End and Back Bay.....	1 26	1 63	1 67	2 17	245,989	188,573
10.....	1 27	1 12	1 68	1 66	141,110	136,844
Average.....	\$1 20	\$1 35	\$1 61	\$1 89	944,813	699,401
Collection Cost.....					\$1,133,745 55	\$945,009 38

CONTRACT DISTRICTS.	TOTAL COST.		Cubic Yards. 1932.	Cubic Yards. 1933.
	1932. \$0.41 Disposal.	1933. \$0.54 Disposal.		
2. East Boston.....	\$0 60	\$0 788	80,170	52,600
4. Brighton.....	63	561	85,620	77,960
5. West Roxbury.....	76	621	67,010	67,370
6. Dorchester (including disposal).....	1 04	1 206	255,896	241,942
11. Hyde Park.....	74	68	23,770	22,720
Average.....	\$0 85	\$0 938	512,466	462,592

TABLE VI.
Abandoned Automobiles Removed and Lots Cleaned under Board of Health Orders. See Chapter 185 of the Acts of 1897.

1933. DISTRICT.	REMOVED FROM PRIVATE PROPERTY.				Autos from Streets and Public Property.	Total Autos.
	Number of Autos.	Number of Lots.	Billed.	Actual Cost.		
1. South Boston.....	1	2	\$25 00	\$19 72	1	2
2. Charlestown.....	7	2	55 00	119 32	.....	7
4. Brighton.....	4	.....	20 00	79 10	.....	4
6. Dorchester.....	34	2	190 00	503 15	80	114
7. Roxbury and Jamaica Plain.....	25	1	135 00	324 77	78	103
8 and 9. South End and Back Bay.....	20	3	130 00	254 00	4	24
Totals.....	91	10	\$555 00	\$1,300 06	163	254

TABLE VII.
STREET CLEANING AND OILING SERVICE.
DISTRIBUTION OF EXPENDITURES.

Removing snow	\$59,072 72
Flushing streets	8,645 30
Street patrolling	53,773 09
Pushcart patrolling	154,925 90
Cleaning of paved streets	247,983 79
Cleaning of public streets	60,616 85
Sanding of slippery streets	1,642 62
Cleaning streets by motor machines	21,316 29
Refuse box collection	19,797 46
Cleaning public alleys	7,964 41
Disposal of old autos—lots cleaned	7,196 50
	<hr/>
Total	\$642,934 93
Oiling of public streets and ways	16,475 53
Calcide used on public streets and ways	2,556 53
	<hr/>
Total	<u><u>\$661,966 99</u></u>

APPENDIX D.

ANNUAL REPORT OF THE DIVISION ENGINEER
OF THE SEWER DIVISION.

BOSTON, January 2, 1934.

MR. C. J. CARVEN,

Commissioner of Public Works.

DEAR SIR,— I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1933.

There were built by contractors, day laborers and private parties, 17.88 miles of common sewers and surface drains throughout the city.

After deducting 0.68 miles of sewers and surface drains, rebuilt or abandoned, the net increase for 1933 is 17.20 miles, which, added to the existing 1,141.16 miles of common sewers and surface drains, and 30.93 miles of intercepting sewers, makes a grand total of 1,189.29 miles of common and intercepting sewers belonging to the City of Boston and under the care of the Sewer Division on January 1, 1934.

There were 527 catch-basins built or rebuilt and 124 abandoned or removed during the year, making a net gain of 403 catch-basins, and a grand total of 20,831 catch-basins under the care of the Sewer Division on January 1, 1934; also, 9,118 catch-basins and 101 drop inlets were cleaned by contract.

The sewerage works built during 1933 are listed in detail on the subsequent pages of this report.

Respectfully,

GEORGE W. DAKIN,
Division Engineer.

Financial Statement from January 1, 1933, to December 31, 1933.

OBJECT.	Balance on Hand Jan. 1, 1933.	Appropriations, Loans and Revenues.	Transfers to	Transfers from	Total Credits.	Expenditures during the Year 1933.	Balance on Hand Dec. 31, 1933.
Sewer Service.....	.....	\$560,000 00	.....	.....	.....	\$539,276 63	.....
Sewerage Works.....	\$363,042 20	1,000,050 72	.....	.....	\$1,163,092 92	875,113 11	\$487,979 81
Savin Hill Bay.....	17,550 53	.....	.....	* \$17,550 53	.....	.....	.....
East Boston Pumping Station and outlet.....	4,456 36	.....	.....	.....	.....	.....	4,456 36
Centre Street.....	.....	.....	.....	.....	.....	6,895 29	.....

* Expended in Savin Hill Bay, section 2; transferred to Sewerage Works Loan to repay money originally used from that loan.

Cleaning Catch-basins, 1933.— (By Contract.)

Districts.	Contractors.	Start and Finish of Work.	Price per Cubic Yard.	Cubic Yards Examined by Contractor.	Contractor Received by Districts.	Total Catch-basins Cleaned.	Total Drop Inlets Cleaned.	Average Cubic Yards per Basin.	Total Cost of Inspection.	Average Total Cost to City per Basin, including Drop Inlets.
City Proper.....	Edward J. Byrne.....	{ April 23, 1933 } { Sept. 28, 1933 }	\$1 10	5,423 17	\$5,965 49	1,791	6	3.02	\$701 44	\$3 71
Roxbury North.....	David W. Norton.....	{ April 24, 1933 } { Sept. 21, 1933 }	1 08	5,132 40	5,542 98	1,532	7	3.33	640 00	4 02
Roxbury South.....	Dooley Brothers, Inc.....	{ April 27, 1933 } { Sept. 20, 1933 }	1 25	4,709 73	5,887 17	1,379	4	3.32	614 40	4 67
South Boston.....	W. G. C. Company.....	{ April 19, 1933 } { Sept. 19, 1933 }	1 09	4,731 56	5,157 40	1,441	15	3.42	616 14	3 96
Charlestown and East Boston.....	General Contracting Company.....	{ May 1, 1933 } { Oct. 5, 1933 }	1 00	4,963 64	4,963 64	1,475	17	3.35	635 70	3 75
Dorchester and Hyde Park.....	Anthony Ryan.....	{ May 2, 1933 } { Sept. 30, 1933 }	1 15	4,837 43	5,563 04	1,500	52	3 12	625 92	3 99
Totals.....	.....	.....	.....	29,797 93	\$33,079 72	9,118	101	3 51	\$3,833 60	.....

Sewerage Works, 1933.

ACCOUNTS.	Labor.	Autos.	Teams.	Materials.	Miscellaneous.	Paid to Contractor.	Totals.
Engineers' and inspectors' salaries.....	\$144,141 40						\$144,141 40
Engineers' expense.....	5,346 33	\$2,324 26		\$192 12	\$7,942 50	\$3,799 87	19,605 08
Sundries.....	757 04	132 50		211 43	351 00	6,042 65	7,494 62
Land-takings.....					13,613 97		13,613 97
New manholes.....	10,700 06	4,966 72	\$6 50	5,087 50	46 50	4,056 57	24,863 85
New catch-basins, South Boston.....	2,057 57	427 93		620 10	7 00	1,920 27	5,032 87
New catch-basins, East Boston.....	219 97	13 25		439 35			672 57
New catch-basins, Charlestown.....	134 84	70 20		227 58		1,093 91	1,526 53
New catch-basins, Brighton.....	1,561 79	612 82		1,632 19		849 38	4,656 18
New catch-basins, West Roxbury.....	2,581 16	510 14		1,639 59	10 99	3,228 74	7,990 62
New catch-basins, Dorchester.....	7,915 51	2,025 66		4,842 41	57 62	4,973 19	20,414 39
New catch-basins, Hyde Park.....	213 60	76 19		355 93			645 72
New catch-basins, Roxbury.....	9,104 64	3,211 69	15 00	3,317 16	650 39	4,198 97	20,497 85
New catch-basins, City Proper.....	4,853 38	1,427 95		749 13	583 78	1,632 80	9,247 04
Repair streets.....				3 22		190 87	194 09
Release sewers.....				75 70			75 70
Stock.....				31,113 96			31,113 96
Holiday.....	1,114 91						1,114 91
Totals.....	\$190,702 20	\$16,399 31	\$21 50	\$50,527 37	\$23,263 75	\$31,987 22	\$312,901 35
Sewers built, entire city.....	73,827 21	2,108 05		17,891 79	15,361 65	502,870 06	612,058 76
Totals.....	\$264,529 41	\$18,507 36	\$21 50	\$68,419 16	\$38,625 40	\$534,857 28	\$924,960 11
Less transfer to construction stock, Savin Hill Bay.....				48,742 09		17,550 53	66,292 62
Totals.....	\$264,529 41	\$18,507 36	\$21 50	\$19,677 07	\$38,625 40	\$517,306 75	\$858,667 49
Plus transfer to maintenance stock and autos.....		12,310 05		4,135 57			16,445 62
Totals.....	\$264,529 41	\$30,817 41	\$21 50	\$23,812 64	\$38,625 40	\$517,306 75	\$875,113 11

SEWER DIVISION.

Savin Hill Bay — Sewerage Works, Etc.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount expended in 1933.
From existing culvert under New York New Haven & Hartford Railroad 335 feet easterly and northerly in Savin Hill Play- ground, Dorchester.....	Oct. 19, 1931.....	Nov. 28, 1932.....	A. Baruffaldi.....			\$17,550 53
Total in 1933.....						\$17,550 53

Centre Street Appropriation.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount expended in 1933.
Centre street, between Weld street and Allendale street, West Roxbury.....			C. J. Maney Company.....			\$2,849 72
Centre street, from Arborway to Allendale street and outlet, West Roxbury.....			C. J. Maney Company.....			4,045 57
Total in 1933.....						\$6,895 29

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
SOUTH BOSTON. Dorchester brook overflow, across South- ampton street about 350 feet easterly of New York, New Haven & Hartford Rail- road and Dorchester brook channel in private land, between existing 10-foot by 12-foot concrete overflow north of Massa- chusetts avenue and South bay.*	Nov. 6, 1933	.....	V. J. Grande.....	2,000.00	Channel excavation.....	\$1,155 72
EAST BOSTON. Waldemar avenue, from Washburn avenue to 850 feet northwesterly and outlet in Leverett avenue.	July 19, 1932	Aug. 23, 1932	C. Reppucci.....	.....	Final payment.....	203 94
Montmorenci avenue.....	July 28 1933	Sept. 18, 1933	D. Paci and Bartolomeo Company.	1,549.44 98.83 117.22 440.37 193.05 696.17	10" pipe, sewer..... 24" D. S. pipe, surface drain..... 20" D. S. pipe, surface drain..... 15" D. S. pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, surface drain..... 8 manholes on sewer..... 9 manholes on surface drain.	5,943 30
Sea View avenue and Waldemar avenue, East Boston and Binney street, Roxbury,	July 27, 1933	Aug. 28, 1933	Battery Contracting Com- pany.	419.05 417.20 474.73 472.30 50.00 50.00	10" pipe, sewer..... 10" pipe, surface drain..... 12" pipe, sewer..... 12" pipe, surface drain..... 10" pipe, sewer..... 12" pipe, surface drain..... 2 manholes on sewer..... 3 manholes on surface drain..... 1 combination manhole.	3,727 64

Orient avenue, from Montmorenci avenue to 330 feet easterly.	Oct.	9, 1933	Nov.	4, 1933	The Prompt Contracting Company.	364.46 361.91	10" pipe, sewer. 10" pipe, surface drain. 3 manholes on sewer. 2 manholes on surface drain.	1,592 61	
Faywood avenue *.	Nov.	2, 1933	Nov.	4, 1933	Mirand Contracting Company.	715 00 767 00	10" pipe, sewer. 12" pipe, surface drain.	2,199 70	
CHARLESTOWN.									
Call street, from Chelsea street to Park street.	Nov.	22, 1932	Jan.	7, 1933	A. Grande.	52.70	3' 6" by 3' 6" concrete sewer. 1 manhole.	3,113 24	
Chestnut street, from Adams street to Mt. Vernon avenue.	June	15, 1933	July	7, 1933	Marion Construction Company.	554.43	12" pipe, sewer. 3 manholes. 1 catch-basin.	2,220 98	
North Mead street, from Medford street to a point about 264 feet northwesterly.*	Nov.	22, 1933	Nov.	25, 1931	A. R. Doyle, Inc.	14 00 140.00	15" pipe, sewer. 10" pipe, sewer.	179 30	
BRIGHTON.									
University road, across Soldiers Field road, between Commonwealth avenue and Charles River Basin.	Oct.	13, 1931	Nov.	25, 1931	A. Grande.		Final payment.	313 71	
Bothwell road, Gardena street and Montcalm avenue.	May	12, 1932	July	13, 1932	Joseph Capone.		Final payment.	373 98	
Allston street, from Commonwealth terrace to Carol avenue.	June	6, 1932	July	1, 1932	A. Piatelli & Co.		Final payment.	156 67	
Chestnut Hill avenue, from Hatherley road to 125 feet southwesterly.	July	1, 1932	July	16, 1933	A. Piatelli & Co.		Final payment.	577 19	
Chiswick road (Brighton), and Rambler and Basile road (West Roxbury.)	July	25, 1932	Aug.	13, 1932	L. Balboni.		Final payment.	50 11	
Euston road, from Colborne road, 220 feet westerly.	Aug.	2, 1932	Aug.	29, 1932	Albert Volpe and Susi Company.		Final payment.	107 76	
Cresthill road and Dickinson road.	Sept.	12, 1932	Oct.	3, 1932	C. Reppucci & Co.		Final payment.	86 05	

* Contract not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
<i>BRIGHTON.—Continued.</i>						
Egremont road and Mt. Hood road.....	Sept. 6, 1932	Oct. 22, 1932	Joseph Capone.....	.....	Final payment.....	\$696 58
Wilson Park, from Commonwealth avenue easterly.	Oct. 31, 1932	Dec. 3, 1932	N. Cibotti.....	.....	Final payment.....	288 48
Glenmont road, from Lake street to Foster street.	May 2, 1933	June 7, 1933	DiCenso and Volpe Com- pany.	431 87 368 00 289 68 272 95	15" pipe, surface drain..... 12" pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, sewer..... 9 manholes..... 4 catch-basins.....	3,126 34
Colborne road and Monastery road.....	May 4, 1933	July 15, 1933	P. Guarino & Co., Inc.....	140 32 146 72 1,075 21	10" pipe, sewer..... 10" pipe, surface drain..... 12" pipe, surface drain..... 8 manholes..... 7 catch-basins.....	5,131 63
Arlington place, from existing sewer to 400 feet northwesterly.	June 19, 1933	July 10, 1933	P. Cacchione Company.....	400 90 400 90	10" pipe, sewer..... 12" pipe, surface drain..... 3 manholes.....	1,070 20
Englewood avenue, from Brookline line to 220 feet west of Chiswick road.	June 12, 1933	July 12, 1933	D. Federico and Giammarco Company.	174 80 414 35 649 65	15" pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, surface drain..... 7 manholes..... 3 catch-basins.....	3,177 08
Bertram, Kingsley, Travis streets and outlet,	Aug. 28, 1933	Sept. 28, 1933	Di Censo and Volpe Com- pany.	210 00 428 00 214 50 841 80 294 60 8 40	24" pipe, surface drain..... 20" and 18" pipe, surface drain..... 10" pipe, sewer..... 15" and 12" pipe, surface drain..... 10" pipe, sewer..... 24" overflow..... 13 manholes..... 11 catch-basins.....	4,469 80

Coolidge road and Arden street, from Haskell street to Hooker street.	Nov. 6, 1933	Dec. 9, 1933	The Prompt Contractors, Inc.	560.40	24" pipe, surface drain. 6 manholes.	2,528.66	
Union street, from Shepard street to 100 feet east of Snow street.	Nov. 6, 1933	Dec. 9, 1933	A. Petrucci	175.28 320.16	24" pipe, surface drain. 18" pipe, surface drain. 3 manholes. 1 catch-basin.	2,085.53	
Bagnal street, from Aldie street to Holton street and outlet in Aldie street, between Everett street and Bagnal street.*	Nov. 28, 1933		C. W. A.	138.75 230.15	12" pipe, surface drain. 12" pipe, surface drain. 3 manholes. 1 catch-basin.	229.15	
Prendergast avenue, from Beacon street to Brookline line.*	Dec. 11, 1933		Roxbury Concrete Construction Company.		Final payment.	209.64	
WEST ROXBURY.							
Stony brook, Roslindale brook, Bradeen street and Stellman road (section 11).	Nov. 19, 1930	Dec. 24, 1932	V. Barletta Company.		Final payment.	23,355.07	
Buchanan road, Bullion road, Gretter road, Parmenter road and Centre street.	May 22, 1931	Nov. 29, 1932	N. Sannella & Son.		Final payment.	5,161.47	
Edgemere road and Hinsdale road.	Oct. 26, 1931	Oct. 4, 1932	A. Cefalo.		Final payment.	6,500.59	
Guernsey street, Bowditch road and Moss Hill road.	May 18, 1932	July 18, 1932	Keystone Engineering and Construction Company.		Final payment.	502.52	
West Saville street, Morey road and Zeller street.	May 11, 1932	June 23, 1932	Metropolitan Contracting Company.		Final payment.	231.16	
Durnell avenue, between Walworth street and Washington street.	May 10, 1932	July 6, 1932	James J. Conway Corporation.		Final payment.	100.00	
Bismarck street and Boylston street.	May 18, 1932	July 21, 1932	Roxbury Concrete Construction Company.		Final payment.	583.91	
Cheswick road, between Board of Survey Street No. 1566 and Pomona street.	May 18, 1932	June 24, 1932	A. Grande.		Final payment.	195.20	
Glenhaven road, between Elmwood street and Centre street, in private land to North avenue.	June 6, 1932	Oct. 5, 1932	A. D. Daddario.		Final payment.	528.87	

* Contract not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
<i>WEST ROXBURY.—Continued.</i>						
Keith street, Francis street and Carroll street.	June 6, 1932	July 21, 1932	S. DiCarlo Company.....		Final payment.....	\$146 04
Capitol street and Newfield street.....	June 6, 1932	July 8, 1932	Tenaglia Construction Company.		Final payment.....	192 03
Rosindale brook, Stelman road and Firth road.	June 25, 1932	Nov. 4, 1932	V. Barletta Company.....		Final payment.....	3,545 65
Rosindale avenue, Bonnedale road, Bourne street and Southbourne road.	Jan. 5, 1931	March 20, 1931	D. V. Construction Company.		Final payment.....	29 12
Centre street, from Weld street to Allendale street (section 2).	March 14, 1932	Sept. 1, 1932	C. J. Maney Company.....		Final payment.....	1,037 38
Chisholm road and outlet in Poplar street..	July 11, 1932	Aug. 19, 1932	Tenaglia Construction Company.		Final payment.....	105 69
Washington street and Stony brook Reservation, from Highview avenue to Station 17 + 10.28 (section 1).	July 7, 1932	Sept. 10, 1932	C. M. Callahan, Inc.....		Final payment.....	487 79
Washington street and Stony brook Reservation from Station 17 + 10.28 to Pleasant street (section 2).	July 5, 1932	Oct. 4, 1932	John Williams.....		Final payment.....	1,607 39
Byrd avenue and Howitt road.....	Aug. 30, 1932	Sept. 19, 1932	Hanover Contracting Company.		Final payment.....	61 19
Hilburn street, from Poplar street to Metropolitan avenue.	Aug. 15, 1932	Oct. 1, 1932	Roxbury Concrete Construction Company.		Final payment.....	198 94
Johnson street, from Baker street to Johnson avenue.	Aug. 23, 1932	Oct. 11, 1932	Tenaglia Construction Company.		Final payment.....	182 62
Marmion street, from Montebello road to Germania street.	Aug. 19, 1932	Sept. 6, 1932	Ralph Susi.....		Final payment.....	129 79

Atherton street, from New York, New Haven & Hartford Railroad to Amory street.	Sept. 19, 1932	Nov. 22, 1932	M. DeSisto Company.		Final payment.	2,160 70
Centre street (section 3), from Arborway to Allendale street and outlet.	Aug. 12, 1932	Nov. 30, 1932	C. J. Maney Company.		Final payment.	1,706 42
West Saville street and outlet in Emmons road.	Sept. 14, 1932	Oct. 15, 1932	A. Tosti.		Final payment.	77 58
Hamilton street, from Billings street to Gould street.	Oct. 13, 1932	Nov. 12, 1932	S. Asgrizzi.		Final payment.	202 42
Meshaka street and White Oak avenue.	Oct. 14, 1932	Dec. 15, 1932	A. Singarella.		Final payment.	297 71
Oak avenue, from Cass street to 500 feet southwesterly.	Oct. 17, 1932	Jan. 31, 1933	Joseph Todesca.	183 81 180 77	10" pipe, sewer. 12" pipe, surface drain. 3 manholes.	2,642 94
Gordon avenue, from Child street to 200 feet southeasterly, Hyde Park, and Washington street, from Cowing street to 50 feet + southwesterly, West Roxbury.	Dec. 2, 1932	Jan. 6, 1933	M. DeSisto Company.		Final payment.	685 63
Homewood road, from Cottage avenue to 300 feet easterly, and private land, between Landseer street and Pine Ridge road.	Nov. 2, 1932	Jan. 21, 1933	Roxbury Concrete Construction Company.	171 19 156 76	10" pipe, sewer. 12" pipe, surface drain. 3 manholes.	2,550 61
Weld street, from Centre street to Morey street.	Nov. 14, 1932	Dec. 24, 1932	C. J. Maney Company.		Final payment.	4,024 67
Dent street, brook conduit in Brook Farm road, and private land, Brook Farm Parkway.	Dec. 5, 1932	Feb. 6, 1933	Charles Struzziery.	171 53	10' by 5' concrete conduit. 2 manholes.	5,636 86
George street, from Greenhaven road to North avenue, and outlet in private land to Keystone street.	Dec. 12, 1932	Feb. 28, 1933	James D'Amico.	1,074 96 156 79	10" pipe, sewer. 12" pipe, surface drain. 6 manholes.	4,011 90
St. Theresa avenue, between Centre street and 115 feet east of Howitt road extension,	May 8, 1933	Sept. 5, 1933	Tengalia Construction Company.	876 20 880 65 109 00 120 00 270 48 30 78 658 52	10" pipe, sewer. 24" pipe, surface drain. 10" pipe, sewer. 10" and 12" pipe, surface drain. 10" pipe, surface drain. 24" pipe, surface drain. 2' by 3' circular concrete conduit. 23 manholes. 13 catch-basins. 1 drop inlet.	16,018 03

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Beginn.	Finished.	Built by.	Length, (Feet.)	Character.	Amount Expended in 1933.
<i>WEST ROXBURY.—Continued.</i>						
Bonad road, Edgebrook road and Russett road.	May 1, 1933	July 1, 1933	Ralph Susi.....	621 19 675 93 389 13	15" pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, surface drain..... 13 manholes. 7 catch-basins.	\$5,583 71
Cranston road, Bonad road and private land.	May 8, 1933	Aug. 31, 1933	George A. Baker Company, Inc.	41 45 50 20 73 00 480 00 56 00	10" pipe, sewer..... 24" pipe, surface drain..... 24" pipe, surface drain..... 4' 9" circular concrete conduit. 4' circular concrete conduit. 7 manholes.	7,509 40
Eastbourne street and Westbourne street and outlet in West Roxbury Parkway.	Aug. 22, 1931	Nov. 12, 1931	Parkway Contracting Com- pany.	.....	Final payment.....	1,107 98
Redgate road, from La Grange street to 250 feet northeasterly.	April 26, 1933	June 5, 1933	Day labor.....	224 82 230 75	10" pipe, sewer..... 12" pipe, surface drain..... 2 manholes.	1,454 37
Private land, between Hyde Park avenue and railroad opposite Eldridge street.	May 6, 1933	May 17, 1933	Day labor.....	96 00	24" pipe, surface drain.....	296 67
Private land, between Stimson street and the playground.	May 18, 1933	June 12, 1933	Day labor.....	113 00	24" pipe, surface drain..... 1 manhole.	585 10
Carlford road, Blanvon road and Carrolton road.	Sept. 16, 1931	Oct. 13, 1931	Roxbury Concrete Con- struction Company.	.....	Final payment.....	11 71
Clare avenue, from Ramsdell avenue to Canterbury street.	June 13, 1933	July 13, 1933	A. Piatelli & Co.....	604 65	10" pipe, surface drain..... 5 manholes. 1 catch-basin.	1,873 88

Hollywood road, from Willowdean avenue to Church street.	June 9, 1933	June	26, 1933	DiCenso & Volpe Company,	570.23	10" pipe, sewer, 5 manholes.	1,395.94
La Grange street, between Washington street and Partridge street, and Bellevue street, between Robin street and West Border road.	June 8, 1933	June	27, 1933	Tufo & Yebba, Inc.	780.30 786.99 204.80 208.24	10" pipe, sewer, 10" by 12" pipe, surface drain 10" pipe, sewer. 10" pipe, surface drain. 10 manholes. 2 catch-basins.	4,313.85
La Grange street, from Linnet street to Redgate road.	June 9, 1933	June	24, 1933	Day labor.	110.43	Relaid 15" pipe, surface drain	532.44
Private land, Royen road, Lila road and outlet in private land and Rambler road.	June 14, 1933	June	31, 1933	Charles Struzziery.	300.35 435.37 135.72 430.10 1,376.20	24" pipe, surface drain. 18" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. 3, 9" circular concrete conduit, 16 manholes. 12 catch-basins.	14,562.53
Cowing street, from Washington street to Vershire street, and Alleyne st.	July 3, 1933	July	7, 1933	Rosindale Contracting Company.	602.77 506.70 678.75 688.12 771.91 776.41	10" pipe, sewer, 12" pipe, surface drain. 10" pipe, sewer. 10" and 12" pipe, surface drain. 10" pipe, sewer. 10" by 12" pipe, surface drain. 28 manholes.	10,633.90
Dent Street Brock, from Brook Farm Parkway to Lasell street.	July 11, 1933	July	23, 1933	C. Russo Company.	733.68 648.23 229.27	5' 6" circular concrete conduit. 12" pipe, sewer. 3' circular concrete conduit. 9 manholes.	11,671.89
Partridge street and private land, Pheasant street.	July 18, 1933	July	.....	P. Guarino & Co.	847.08 479.62 615.89 603.15	10" pipe, sewer, 12" and 10" pipe, surface drain. 10" pipe, sewer. 10" pipe, surface drain. 16 manholes.	6,569.76
Sigourney street, from Glen road to Robeson street.	Aug. 10, 1933	Aug.	1, 1933	S. Asgrezzi.	537 539	10" pipe, sewer, 18" pipe, surface drain. 9 manholes.	2,343.17

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Begun	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
<i>WEST ROXBURY.—Continued.</i>						
Washington street, from Cowing street to Cottage avenue; Cottage avenue, between Washington street and 381 feet northwesterly; and Vershire street and outlet.	June 26, 1933	Nov. 14, 1933	Keystone Engineering Company.	869.53 859.53 381.56 386.99 263.89 202.60	10" pipe, sewer..... 18" and 20" pipe, surface drain. 10" pipe, sewer. 18" and 20" pipe, surface drain. 10" pipe, sewer. 12" pipe, surface drain. 16 manholes.	\$9,751 21
Theodore Parker road, Herbert road and Zeller street.	July 28, 1931	Sept. 5, 1931	Angelo Grande.....	.....	Final payment.....	136 08
Belleve street, from March avenue to Howitt road.	Aug. 28, 1933	Oct. 12, 1933	A. Grande.....	767.71 1,499.31	18" pipe, surface drain..... 10", 12" and 15" pipe, surface drain. 15 manholes. 5 catch-basins.	7,507 28
Dwinell, Swallow, Martin and Atlantic streets.	Aug. 24, 1933	Sept. 21, 1933	R. Susi and Justino.....	318.05 322.01 729.35	10" pipe, sewer..... 10" pipe, surface drain. 10" pipe, surface drain.	2,384 74
Northbourne road, from Wachusett street to Bourne street.	Aug. 25, 1933	Sept. 23, 1933	M. DeSisto Company.....	736.48 766.88	10" pipe and sewer..... 10" and 15" pipe, surface drain.	3,646 84
Park Boulevard, from Centre street to Winchendon road.	Aug. 26, 1933	Oct. 5, 1933	C. J. Maney Company.....	1,316.69 1,292.92	10" pipe, sewer..... 10" and 12" pipe, surface drain.	11,054 78
Westchester road, from Centre street to end of street.	Aug. 10, 1933	Sept. 10, 1933	Louis Balboni.....	1,738.38	10" and 15" pipe, surface drain... 7 manholes. 6 catch-basins.	3,152 95
Cranston road, Bonad road and private land.	Sept. 25, 1933	Nov. 10, 1933	C. Russo & Co.....	29.12 70.75 350.45	24" pipe, surface drain..... 4' 9" circular concrete conduit. 4' circular concrete conduit. 3 manholes. 2 catch-basins.	4,096 28

Delano park, from Poplar street to Clarendon street.	Sept. 12, 1933	Oct. 24, 1933	S. Asgrizzi	83.66 79.39 240.66 200.14 622.72	10" pipe, sewer. 10" pipe, surface drain. 10" pipe, sewer. 15" pipe, surface drain. 10" pipe, sewer. 6 manholes. 5 catch-basins.	2,885 53
Mahler road and Colgate road.	Sept. 7, 1933	Sept. 27, 1933	D. Federico and Giammarco.	417.82 443.02 437.92	10" pipe, sewer. 10" and 12" pipe, surface drain. 10" and 12" pipe, surface drain.	2,939 99
Woodward road and outlet in private land, Stratford street.	Sept. 13, 1933	Oct. 16, 1933	Cefalo Construction Company, Inc.	418.92 354.18 58.05	10" pipe, sewer. 10" pipe, surface drain. 10" and 12" pipe, surface drain. 5 manholes.	1,886 42
Atherton avenue, from Washington street to Alban street.	Oct. 19, 1933	Nov. 6, 1933	M. DeSisto Company	328.70 283.10	10" pipe, sewer. 12" pipe, surface drain. 4 manholes.	1,416 51
Cedarwood road and outlet in Hillcroft road.	Sept. 28, 1933	Nov. 13, 1933	Joseph Capone	1,343.27	10" and 12" pipe, surface drain. 12 manholes. 5 catch-basins.	3,488 63
Orange street and Zeller street.	Oct. 11, 1933	Nov. 20, 1933	Iozza and Foraci	181.10	10" pipe, surface drain. 11 catch-basins.	2,050 19
Haverford street, from Cornwall street to Germania street.	Nov. 16, 1933	Dec. 9, 1933	Joseph Capone	812.60 385.67	10" and 12" pipe, surface drain. 10" pipe, sewer. 6 manholes. 1 catch-basin.	2,193 08
Parklawn road, from Brook Farm road to Weld street.	Nov. 14, 1933	Dec. 9, 1933	Charles Struzziery	224.40	12" and 15" pipe, surface drain. 4 manholes. 3 catch-basins.	2,596 99
Weld street, from Cerdan avenue to West Roxbury Parkway, and outlet in Ravenna road and private land.	Nov. 14, 1933		Tenaglia Construction Company.	1,170.00	24" pipe, surface drain.	4,319 29
Bronx road and Ansonia street*	Dec. 8, 1933		D. Federico and Giammarco.		Final payment	389 63

* Contract not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
<i>WEST ROXBURY.—Continued.</i>						
Keith street, from Baker street to Perlham street.*			C. W. A.			\$292 73
Perlham street, from Vermont street to Keith street.*			C. W. A.			233 80
Cranston road, private land, from Willowdean avenue, etc., in Weld street, park district.	July 21, 1930	Nov. 26, 1930	A. D. Daddario		Final payment.	100 00
<i>DORCHESTER.</i>						
Alicia road, Gallivan Boulevard and Sylvester road.	May 16, 1932	July 30, 1932	T. J. O'Connell		Final payment.	767 98
Sydney street, between Crescent avenue and Ronsey street.	June 29, 1931	Sept. 12, 1931	N. Cibotti Company		Final payment.	568 90
Thornley street and Pleasant street.....	May 31, 1932	July 26, 1932	Louis Balboni		Final payment.	624 18
Coleman street.....	June 15, 1932	Aug. 20, 1932	Zoppo & Civitarese.		Final payment.	955 05
Frederika street, Rowe street and Marsh street.	June 20, 1932	July 6, 1932	John Williams		Final payment.	144 91
Ashmont circle and outlet in Gallivan Boulevard.	June 28, 1932	July 19, 1932	Hanover Construction Company.		Final payment.	186 93
Dorchester avenue, from Hoyt street to 350 feet northeasterly.	July 14, 1932	Aug. 26, 1932	A. Piatelli & Co.		Final payment.	440 41
Lorna road and Bowdoin park.....	July 25, 1932	Sept. 2, 1932	Joseph Botti & Son.		Final payment.	372 29
Washington street, from Gallivan Boulevard to Morton street.	June 23, 1932	Sept. 10, 1932	M. Stapleton & Co.		Final payment.	150 00
Bloomfield street, from Geneva avenue to Greenbrier street.	Aug. 17, 1932	Aug. 30, 1932	Hanover Contracting Company.		Final payment.	70 95

Pumping Station, Calf Pasture, now No. 4 pump.	Aug. 26, 1932	April 11, 1933	Worthington Pump & Machine Company.	18,826 11
Croftland avenue, from Washington street to Alicia road.	Sept. 15, 1932	Oct. 6, 1932	Zoppo & Civitarese.	176 72
Mattapan street, Dorchester, and Ridge road, Hyde Park.	Sept. 14, 1932	Nov. 10, 1932	John Williams	661 83
Dudley street, from New York, New Haven & Hartford Railroad to Humphreys street.	Sept. 27, 1932	Nov. 17, 1932	Zoppo & Civitarese.	1,745 98
Pleasant street, from Stoughton street to Hinckley street.	Oct. 31, 1932	Dec. 29, 1932	Tenaglia Construction Company.	2,966 75
Steel-iron floor, stairs, crane-runway, etc., Calf Pasture Pumping Station.	Jan. 10, 1933	April 11, 1933	Brayton-Wilson-Cole Corporation.	6,221 60
Wilington avenue, from Capen street to Gallivan Boulevard.	May 8, 1933	May 22, 1933	Charles Struzziery.	2,175 69
Melville lane, from Melville avenue to 150 feet southerly.	May 8, 1933	May 24, 1933	T. J. O'Connell	1,341 41
Dudley street, between Magnolia street and Columbia road.	May 15, 1933	Sept. 6, 1933	John Williams	18,729 74
Richview street and Duxbury road	May 12, 1932	June 6, 1932	C. Reppucci & Co.	3 30
Savin Hill Bay sewerage works, etc. (sect. 2).	Oct. 19, 1931	Nov. 28, 1932	A. Baruffaldi.	11,162 92
Pumping Station, Calf Pasture, new motor-driven sewage pump No. 3.	March 10, 1933	March 10, 1933	Brayton-Wilson-Cole Corporation.	263 00

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
DORCHESTER.—Continued.						
Dorchester avenue, between Mercier avenue and Gallivan Boulevard.	May 3, 1933	June 19, 1933	Day labor	36.00 33.00	15" pipe, surface drain. 10" pipe, surface drain. 1 manhole.	\$837 35
Gallivan Boulevard, from Allendale street to Myrtlebank avenue.	May 12, 1933	June 23, 1933	Day labor	210.00 40.00 28.00	15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 2 manholes. 2 catch-basins.	1,574 02
Lenoxdale avenue and Gallivan Boulevard	May 18, 1933	July 15, 1933	Roxbury Concrete Construction Company.	292.00 623.00 292.00 388.00 389.00	10" pipe, sewer. 15" pipe, surface drain. 12" pipe, surface drain. 10" pipe, surface drain. Minor drain. 7 manholes. 6 catch-basins.	4,147 18
Temple street, between Monson street and River street.	May 8, 1933	June 14, 1933	Day labor	30.00	12" pipe, surface drain. 1 manhole.	469 50
Auckland street and Savin Hill avenue	June 5, 1933		N. Cibotti & Co.	280.00 18.00 10.00 40.00 818.83 611.18 24.00 290.00 3.00 103.00 307.30 20.00 150.00	20" pipe, sewer. 12" pipe, sewer. 24" pipe, surface drain. 12" pipe, surface drain. 3' 4" by 6' concrete conduit. 3' 4" by 6' concrete conduit. 3' 6" concrete conduit. 3' 3" concrete conduit. 3' concrete conduit. C. I. pipe, sewer. 5' circular brick sewer. Tide gate chamber. Minor drain. 16 manholes. 5 catch-basins.	37,092 28

Ashton street and Woodrow avenue	June 12, 1933	July 7, 1933	Battery Contracting Company.	8.00 271.60 671.20 362.00	Rebuild 12" pipe, sewer. 15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 11 manholes. 4 catch-basins.	2,916 40
Branchfield street, from Medway street to Butler street.	June 12, 1933	June 24, 1933	John Williams	174.00 396.00 156.00	15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 5 manholes. 2 catch-basins.	1,601 54
Crescent avenue brook, outlet in private land, between Strandway and 1,100 feet northeasterly.	July 17, 1933	. . . . .	James J. Coughlin & Sons	298.47 94.24 809.95 1,278.00	7' by 7' concrete conduit 8' by 8' concrete conduit 10' by 10' concrete conduit 3 manholes. Underdrain.	65,324 55
Huntoon street, from Medway street to Butler street.	June 14, 1933	June 29, 1933	Joseph Capone	481.50 120.00	12" pipe, surface drain Minor drain. 6 manholes. 2 catch-basins.	1,340 25
Pumping Station, Calf Pasture, 10-ton crane.	June 26, 1933	July 14, 1933	Shaw Box-Crane and Hoist Company.	. . . . .	New 10-ton crane	1,109 75
Private land, Ainsley street to Orne street, east of Adams street.	June 5, 1933	June 19, 1933	The Prompt Contracting Company.	338.20 336.80	10" pipe, sewer 10" pipe, surface drain. 3 manholes. 2 jug handle manholes.	1,177 19
Stanwood street, Blue Hill avenue and Friedane terrace.	May 12, 1932	June 22, 1932	Hanover Contracting Company.	. . . . .	Final payment	228 08
Wilmington avenue and Capen street	July 10, 1933	Aug. 3, 1933	Charles Struzziery	26.00 150.40 199.60 668.50 162.00	10" by 12" pipe, sewer 18" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 9 manholes. 5 catch-basins.	2,566 59

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive. — Continued.

LOCATION.	Began.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
DORCHESTER.—Continued.						
Fanice street and Manor street.....	Aug. 29, 1933	Oct. 26, 1933	The Prompt Contracting Company.	275.50 384.50 154.00	10" pipe, sewer..... 12" pipe, surface drain. Minor drain. 3 manholes. 1 catch-basin.	\$3,019.58
Haven avenue, from Blue Hill avenue to 330 feet westerly.	Aug. 31, 1933	Oct. 21, 1933	Charles Struzziery.....	280.50 417.20	10" pipe, sewer..... 12" pipe, surface drain. 5 manholes.	3,427.30
Tennis road and outlet in Blue Hill avenue.	Aug. 2, 1933	Oct. 25, 1933	Joseph Capone.....	110.50 435.00 273.00 261.00	18" pipe, surface drain..... 15" pipe, surface drain. 12" pipe, surface drain. Minor drain. 8 manholes. 3 catch-basins.	2,656.65
Topliff street, from Longfellow street to Bowdoin street.	Aug. 24, 1933	Sept. 27, 1933	P. Caecchione Company.....	417.00 564.00 100.00 575.00	20" pipe, surface drain..... 18" pipe, surface drain. 12" pipe, surface drain. Minor drain. 9 manholes.	3,464.94
Belden street and Brookvale street.....	Sept. 12, 1933	Oct. 23, 1933	Mirand Construction Company.	14.00 795.10 298.00	12" pipe, sewer..... 12" pipe, surface drain. Minor drain. 12 manholes. 9 catch-basins.	3,221.59
Branton street and Woodfield street, each from Gallivan Boulevard to Minot street.	Aug. 23, 1933	Sept. 5, 1933	C. Capone.....	29.00 277.00 254.00	10" pipe, surface drain..... 12" pipe, surface drain. Minor drain. 6 manholes. 6 catch-basins.	2,072.84

Crockett avenue, from Hill Top street to Milton street.	Sept. 7, 1933	Sept. 10, 1933	Joseph Capone.....	476.00 63.00	12" pipe, surface drain..... Minor drain. 4 manholes. 1 catch-basin.	1,047 10
East street, Adams street to Dorchester avenue.	Sept. 19, 1933	Nov. 20, 1933	M. E. Gaddis.....	839.00 839.00 358.00	10" pipe, sewer..... 12" pipe, sewer. Minor drain. 11 manholes. 6 catch-basins.	5,851 39
Magnolia street, from Quincy street to Bird street.	Aug. 28, 1933	Oct. 26, 1933	John Williams.....	422.32 371.56 136.00	10" pipe, sewer..... 12" pipe, surface drain. Minor drain. 7 manholes. 1 catch-basin.	3,643 69
Neponset avenue, from Adams street to Minot street.	Sept. 7, 1933	Oct. 14, 1933	Samuel J. Tomasello.....	198.50 149.00	10" pipe, surface drain (relaid)..... Minor drain. 4 manholes. 14 catch-basins. 2 drop inlets. 9 catch-basins changed to manholes.	4,210 79
Private land, between Wilder street and Normandy street.	Aug. 26, 1933	Sept. 26, 1933	Matthew Cummings Company.	106.00	24" pipe, surface drain..... 2 manholes.	3,650 55
Pine Ridge road, from Morton street to Gallivan Boulevard.	Sept. 25, 1933	Nov. 10, 1933	M. DeSisto Company.....	270.00 262.00 22.00	10" pipe, sewer..... 12" pipe, surface drain. Minor drain. 5 manholes.	2,489 81
Sewall street, from 77 feet south of Popes Hill street 203 feet southerly.	Sept. 12, 1933	Oct. 7, 1933	M. DeSisto Company.....	203.00 64.00 203.00	10" pipe, sewer..... Minor drain. Underdrain. 1 manhole.	2,237 29
Fayre street (Ward 18), from Cummins Highway to Messinger street.*	Nov. 1, 1933	.....	R. Susi and Justino.....	234.00 124.00 110.00 70.00	12" pipe, sewer..... 4 6" concrete conduit. 6 0" concrete conduit. Minor drain. 1 manhole. 4 catch-basins.	5,003 37

* Not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive. — (Continued.)

LOCATION.	Begun.	Finished.	Built by.	Length (Feet.)	Character.	Amount Expended in 1933.
DORCHESTER.— <i>Concluded</i>						
Hill Top street and private land*	Oct. 6, 1933		A. Grande	527.66 418.40 301.25	(329.21' relaid). 12" pipe, sewer. 3' concrete conduit. 2' 6" concrete conduit. 11 manholes.	\$10,383 05
Oakland brook, from Neponset river to Haven avenue.	Oct. 17, 1933	Dec. 16, 1933	Charles Strazziery	75.00 105.00	8' 6" by 5' 3", concrete conduit. Open ditch. 7 manholes.	6,413 69
Train street, from Victory road to Ashmont street.	Oct. 9, 1933	Nov. 4, 1933	John Williams	30.00 1,166.65 399.65 817.03 209.00	18" pipe, sewer (relaid.) 10" 12" pipe, surface drain. 15" pipe, surface drain. 18" pipe, surface drain. Minor drain. 17 manholes. 5 catch-basins.	5,641 51
Dudley street, from Magnolia street to Columbia road (repaving).	Oct. 19, 1933	Nov. 1, 1933	W. G. C. Company		Paving	6,858 34
Tolman street, from Neponset avenue to 200 feet easterly.	Aug. 11, 1925	Oct. 15, 1926	M. DeSisto		Final payment	235 40
Auckland street, from Bay street to Dewar street (repaving)*	June 5, 1933		Sannuel J. Tomasello		Repaving	8,478 97
Agawam street and Neponset avenue*	Nov. 28,		C. W. A. and day labor	274.70 14.00	12" pipe, surface drain. Minor drain. 3 manholes. 1 catch-basin.	134 11
Assabet street*	Nov. 28, 1933		C. W. A. and day labor	195.70 22.00	12" pipe, surface drain. Minor drain. 1 manhole. 2 catch-basins.	134 10
Freeland street, from Standard street to 130 feet north of Eskridge road.*	Dec. 18, 1933		V. Cahia	200.00	12" pipe, surface drain	465 02
Myrtlebank avenue*	Nov. 28, 1933		C. W. A. and day labor	1109.35 88.00	12" pipe surface drain Minor drain. 9 manholes. 4 catch-basins.	202 02

Cable franchise, pumping station, new air pump shaft, No. 5 engine.	Nov.	0, 1933	Nov.	27, 1933	Boston Engineering Company.		1,080 30
Pleasant street, from East Cottage street to Stoughton street (repaving).	Nov.	18, 1933	Nov.	25, 1925	Simpson Brothers Company.	Repaving.	2,000 64
Private land, from Board of Survey street No. 533 (Manchester street extension); Board of Survey street No. 541 at Clearwater Drive*	Dec.	4, 1933			Joseph Botti.		238 04
Outlook road, from Ormond street to Byers street.	Nov.	14, 1930	Dec.	19, 1930	D. V. Construction Company.	Final payment	210 73
HYDE PARK.							
Metropolitan avenue, Hyde Park, and Babson street, Dorchester.	June	14, 1932	Aug.	2, 1932	C. Reppucci Company.	Final payment	266 39
Birchoff road, private land and George street extension.	July	15, 1932	Aug.	27, 1932	Joseph Todesca.	Final payment	173 05
Beacon street, from Warren avenue to Milton avenue.	Oct.	4, 1932	Nov.	1, 1932	Hanover Contracting Company.	Final payment	424 06
Webster street and Harvard avenue.....	May	8, 1933	June	15, 1933	M. Desisto Company.	236.55 116.55 192.93 313.25 90 00	2,493 80
Gordon avenue.....	July	13, 1933	Sept.	2, 1933	Marion Construction Company.	309.95 432.85 274.00	2,417 04
Summer brook in Jefferson street, Metropolitan avenue and Central avenue.	July	3, 1933	Oct.	6, 1933	C. Reppucci, Inc.	704.15 35.25 824.65 457.11 216.55 490.00	11,605 14
Milton avenue, from Beacon street to Highland street.	Sept.	5, 1933	Oct.	17, 1933	Anthony Petrucci.	338.80 449.90 137.00	2,424 24

* Not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive.—Continued.

LOCATION.	Began.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
ROXBURY.						
Maywood brook,* Laurel street, Ottawa street, Dale street and Sherman street.	May 19, 1932	.....	John F. Kennedy.	40.20 34.20 6.00	24" pipe, sewer. 5'4" by 5'4" concrete surface drain. Reducer.	\$1,918.49
Parker street, from Heath street to Centre street.	June 14, 1932	July 22, 1932	Rosindale Company.	.....	Final payment	177.81
Peterborough street	July 11, 1932	July 19, 1932	Samuel J. Tomasello.	.....	Final payment	81.78
Allerton street and Rusfield street	Oct. 31, 1932	Dec. 5, 1932	Hanover Contracting Com- pany.	.....	Final payment	714.38
Beach Glen street, from Fort avenue 600 feet southerly.	Oct. 10, 1932	Jan. 3, 1933	Massachusetts Company.	.....	Final payment	1,383.32
Pompeii street, Roxbury, Waldemar avenue, East Boston, and D street, South Boston.	April 28, 1933	June 3, 1933	C. Reppucci & Co.	276.70 51.00 366.00	15" pipe, sewer. 12" pipe, sewer. Minor drain. 3 manholes. 12 catch-basins.	6,227.75
Brookline avenue, at Audubon road, and Back Bay Fens, near Gate house.	May 15, 1933	June 28, 1933	C. Russo.	.....	Concrete overflow and chamber, concrete and brick bulkhead.	3,304.09
Kempton street, from Fenwood road to Huntington avenue.	March 1, 1933	April 12, 1933	Day labor	60.90 34.00	15" pipe, surface drain. 10" catch-basin drain. 1 manhole. 2 catch-basins.	1,750.87
Adams street, from Dudley street to Forest street.	June 22, 1933	July 15, 1933	A. Petrucci	219.25 73.00	12" pipe, sewer Minor drain. 2 manholes. 3 catch-basins. 1 drop inlet.	1,381.00

Holborn terrace, from Holborn street south- erly to end of terrace.	June 20, 1933	Aug. 29, 1933	T. J. O'Connell Company.....	150.45 150.35 30.09	10" pipe, sewer..... 12" pipe, surface drain. Minor drain. 4 manholes. 1 catch-basin.	2,505 21	
Dorchester brook, lower level sewer in Shirley street and in Norfolk avenue.*	Oct. 11, 1933	.....	C. & R. Construction Com- pany.	250.00	2' by 3' 8" v-shaped concrete sewer, 1 catch-basin. 1 manhole.	1,675 38
Georgia street, from Blue Hill avenue to Montana street, and Rockland street from Walnut street to 95 feet westerly.	July 11, 1933	Aug. 15, 1933	DiCenso and Volpe Com- pany.	66.00 10.00 86.00 92.80 92.80	18" pipe, surface drain. 10" pipe, overflow. 10" catch-basin drain. 12" pipe, sewer. 18" pipe, surface drain. 6 manholes. 6 catch-basins. 1 drop inlet.	2,815 80	
Bay State road, from Beacon street to Soldiers' Field road.	Sept. 16, 1933	Oct. 25, 1933	Baker Matz Company.....	200.00 395.00	12" pipe surface drain. 10" and 15" pipe, minor drain. 26 manholes. 24 catch-basins. 6 drop inlets.	7,211 71	
Fellows street, from Orange court to Hunne- man street †	.....	.....	A. Piarelli.....	.....	.....	285 86
CITY PROPER.							
Church street, Tremont street and Columbus avenue.	Aug. 23, 1932	Aug. 29, 1932	A. G. Tomasello.....	.....	.....	49 95
Greenwich park, from Alley No. 519 to Claremont street.	June 27, 1932	Aug. 22, 1932	A. Grande.....	.....	.....	394 62
Arlington street, from Piedmont street to Forsyth street.	July 14, 1932	Sept. 30, 1932	Coleman Brothers.....	.....	.....	665 72
Claremont street, from Greenwich street to Wellington street, and Carleton street, from West Canton street to Alley No. 541.	Sept. 13, 1932	Nov. 8, 1932	T. J. O'Connell.....	.....	.....	965 37

* This work built by Metropolitan Construction Company in order to make a closure on the John F. Kennedy contract.

† Not completed in 1933.

Sewerage Works, Construction, January 1, 1933, to December 31, 1933, Inclusive. — Concluded.

LOCATION.	Begun.	Finished.	Built by.	Length. (Feet.)	Character.	Amount Expended in 1933.
<i>CITY PROPER.—Concluded.</i>						
Dartmouth street, near Boylston street	Dec. 16, 1932	Jan. 7, 1933	Metropolitan Contracting Company.		Special gate chamber and 30" gate.	\$1,500 00
Dorchester avenue, opposite South Station Power house.	March 16, 1933	April 20, 1933	Day labor	100.00	12" pipe, sewer	519 60
Nashua and Lowell street, overflow extension.	Sept. 5, 1933	Nov. 16, 1933	V. J. Grande Company	121.40	6' by 7' 6" concrete overflow 1 manhole.	7,264 36
Sharon street, from Albany street to Harrison avenue.	Sept. 30, 1933	Oct. 27, 1933	C. Andreussi	329 05	18" pipe, sewer 1 manhole.	4,525 01

SEWER DIVISION, 1933.

Summary of Sewer Construction for Twelve Months Ending
December 31, 1933.

DISTRICTS.	Built by City by Contract or Day Labor.	Built by Private Parties.	Total Length Built.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	650 95	322 00	972 95	0 184
Roxbury.....	1,782 65	.....	1,782 65	0 338
South Boston.....	51 00	.....	51.00	0 010
East Boston.....	7,197.33	650 00	7,847 33	1 486
Charlestown.....	708 43	.....	708.43	0 134
Brighton.....	7,829 81	.....	7,829.81	1 483
West Roxbury.....	46,030.01	.....	46,030 01	8.718
Dorchester.....	24,468.69	.....	24,468.69	4 634
Hyde Park.....	4,715 49	.....	4,715.49	0 893
Totals.....	93,434.36	972 00	94,406 36	17 880

**Net Increase in Length of Sewers Built Between January 1, 1933,
and December 31, 1933.**

DISTRICTS.	Length of Sewers Built During the Twelve Months Ending December 31, 1933.	Length of Sewers Re-built or Abandoned During the Twelve Months Ending December 31, 1933.	Net Increase for Twelve Months Ending December 31, 1933.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper	972 95	470 00	502 95	0 094
Roxbury.....	1,782 65	620 00	1,162 65	0 220
South Boston.....	51 00	.....	51 00	0 010
East Boston.....	7,847 33	110 00	7,737 33	1 466
Charlestown.....	708 43	554 43	154 00	0 029
Brighton	7,829 81	.....	7,829 81	1 483
West Roxbury.....	46,030 01	.....	46,030 01	8 718
Dorchester.....	24,468 69	843 01	23,625 68	4 475
Hyde Park.....	4,715 49	1,006 00	3,709 49	0 703
Totals	94,406 36	3,603 44	90,802 92	17 198
<i>Total Lengths of Sewers, 1933.</i>				<i>Miles.</i>
Common sewers and surface drains built previously to January 1, 1933.....				1,141 16
Net increase of common sewers and surface drains between January 1, 1933, to December 31, 1933.....				17 20
Total common sewers and surface drains to December 31, 1933.....				1,158 36
Intercepting sewers connecting with Metropolitan sewers to December 31, 1933.....				* 6 81
Boston main drainage intercepting sewers to December 31, 1933.....				* 24 12
Grand total of common and intercepting sewers to December 31, 1933,				1,189 29
Total mileage of streets containing sewerage works to December 31, 1933,				664 83

* No additional lengths during year 1933.

**Summary of Sewer Construction for Five Years Previous to
December 31, 1933.**

	1929.	1930.	1931.	1932.	1933.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
Built by city by contract or day labor.....	96,382 76	146,836 12	137,783 66	96,452 48	93,434 36
Built by private parties,	11,184 90	5,090 03	5,862 05	6,155 52	972 00
Totals.....	107,567 66	151,926 15	143,645 71	102,608 00	94,406 36

Table of Approximate Quantities, Lifts and Duties at Calf Pasture Pumping Station from January 1, 1933, to December 31, 1933, Inclusive.

MONTH.	Total Gallons Pumped.	Average per Day, Gallons.	Minimum per Day, Gallons.	Maximum per Day, Gallons.	Average Lift, Feet.	AVERAGE DAILY DUTY IN MILLION FOOT-POUNDS.	
						Per Gallon of Oil.	Per Kilowatt Hour.
January.....	2,927,292,898	94,428,803	75,885,504	96,036,547	39.2	7.8	2.1
February.....	2,770,315,057	98,939,823	79,552,838	119,281,772	39.2	7.8	2.1
March.....	3,507,517,988	113,145,741	90,179,920	147,642,294	29.2	7.9	2.1
April.....	3,513,735,265	117,126,508	82,677,754	148,388,947	39.2	8.0	2.4
May.....	2,924,133,407	94,336,884	83,424,942	102,634,348	39.2	8.3	2.0
June.....	2,886,698,742	96,223,291	85,814,198	113,817,187	39.2	8.3	2.1
July.....	2,766,679,448	89,247,724	73,531,628	120,155,949	39.2	8.2	2.0
August.....	3,003,329,576	96,881,559	75,235,811	116,432,014	39.2	7.8	2.0
September.....	3,110,624,921	103,687,497	77,150,818	180,248,331	39.2	7.6	2.0
October.....	2,915,844,030	94,059,485	78,419,554	130,097,809	39.2	7.1	2.0
November.....	2,443,910,000	81,463,667	74,037,500	98,222,500	39.2	.....	2.0
December.....	2,686,437,500	86,659,274	73,260,000	125,692,500	39.2	.....	2.0
Totals.....	33,456,578,832	1,166,200,296	.....	.....	.....	.....	.....
Averages.....	97,141,312	97,183,358	.....	.....	.....	.....	.....

NOTES. — 12,978,257,832 gallons pumped by oil; 620,291 gallons of fuel oil used.
 22,478,321,000 gallons pumped by electric power; 3,523,700 kilowatt hours used.
 Quantities are based on plunger displacement and on pump ratings, no allowance having been made for slip or condition of pump.

Catch-basins in Charge of Sewer Division.

DISTRICTS.	CATCH-BASIN DATA FOR TWELVE MONTHS ENDED DECEMBER 31, 1933.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1934.	Grand Total to January 1, 1934.
City Proper.....	72	42	30	3,564	3,594
Roxbury.....	111	43	68	3,262	3,330
South Boston.....	25	16	9	1,379	1,388
East Boston.....	19	7	12	1,002	1,014
Charlestown.....	7	2	5	803	808
Brighton.....	31		31	1,812	1,843
West Roxbury.....	97		97	3,224	3,321
Dorchester.....	141	13	128	4,765	4,893
Hyde Park.....	24	1	23	617	640
Totals.....	527	124	403	20,428	20,831

Cost of Pumping at Calf Pasture Pumping Station January 1, 1933, to December 31, 1933, Inclusive.

ITEMS.	Cost.	Cost per Million Foot Gallons.
Labor.....	\$81,440 83	\$0.05864
Fuel oil.....	† 15,230 38	.01097
Electric power, Edison 3,523,700 kilowatt hours *.....	45,011 67	.03246
Oils and waste.....	1,255 43	.00090
Rubber valves and packing.....	625 64	.00045
Miscellaneous renewals and supplies.....	8,096 94	.00583
Totals.....	\$151,660 80	\$0.10925
Labor at screens.....	7,837 28	.00564
Cleaning wells.....	2,100 00	.00151
Grand totals.....	\$161 598 17	\$0 11640

* This includes all power for auxiliaries and lighting.

† Does not include heating.

Sewerage Statistics, January 1, 1933, to December 31, 1933.

Total gallons pumped	35,456,578,832
Daily average gallons pumped	97,141,312
Average dynamic head	39.2
Foot gallons	1,389,897,890,214
Foot pounds	11,632,055,633,500

APPENDIX E.

 REPORT OF THE DIVISION ENGINEER OF
 THE WATER DIVISION.

BOSTON, January 2, 1934.

To the Commissioner of Public Works.

I respectfully submit the following report of the activities, operations and expenditures of the Water Division for the year ending December 31, 1933:

On September 1, 1933, the undersigned was appointed Division Engineer of the Water Division, to succeed C. J. Carven, who was appointed Commissioner of Public Works, and the Water Income Branch was separated from the Water Division.

A continuation of the lack of building construction in the city is reflected in the fact that only 4.59 miles of pipe, varying in size from 8-inch to 16-inch, was laid for extension as compared with 4.00 miles of pipe laid in 1932.

In districts the extension of water mains laid were:

East Boston	0.35 miles.
Roxbury . . . . .	.11 miles.
Dorchester . . . . .	.64 miles.
Brighton . . . . .	.49 miles.
West Roxbury	2.87 miles.
Hyde Park . . . . .	.13 miles.
	<hr/>
	4.59 miles.

In continuation of the policy of replacing the older and smaller water mains with larger sizes for the improvement of fire protection in the more densely populated sections of the city, 20,899 linear feet, or 3.96 miles of 4-inch and 6-inch pipe laid fifty years or more ago, were replaced with 8-inch, 10-inch and 12-inch pipe. Some of the longer lengths were:

CITY PROPER.

Newland street, between West Canton and West Dedham streets, 212 feet 4-inch relaid with 8-inch pipe.

EAST BOSTON.

Porter street, between Chelsea and Bennington streets, 1,196 feet 12-inch with 12-inch.

DORCHESTER.

Elmdale street, Adams to King street, 320 feet 6-inch with 8-inch.

ROXBURY.

New Heath street, Columbus avenue to Heath street, 810 feet 24-inch with 36-inch.

Dana street, Dudley street to Cliff street, 530 feet 4-inch with 8-inch.

Bower street, Warren street to Walnut avenue, 1,786 feet 6-inch with 8-inch.

Clarence street, Dudley street to George street, 683 feet 6-inch with 8-inch.

Savin street, Warren street to Blue Hill avenue, 1,351 feet 6-inch with 12-inch.

Laurel street, Dale street to Humboldt avenue, 735 feet 6-inch with 8-inch.

Howard street, Gerard street to Magazine street, 326 feet 6-inch with 8-inch.

BRIGHTON.

Foster street, Washington to Surrey street, 613 feet 6-inch with 12-inch.

Surrey street, Foster street to Market street, 1,100 feet 6-inch with 12-inch.

Englewood avenue, Sutherland road to Chestnut Hill avenue, 658 feet 6-inch with 12-inch.

WEST ROXBURY.

Walter street, Centre street to Weld street, 1,040 feet 8-inch with 12-inch.

Rutledge street, Park street to Bellevue street, 697 feet 6-inch with 12-inch.

Wren street, Rutledge street to point near Oriole street 1,034 feet 6-inch with 12-inch.

HYDE PARK.

Clifford street, from East Milton street to Hawthorne street, 1,270 feet 4-inch and 6-inch with 8-inch and 10-inch pipe.

Hyde Park avenue, from Stanley street to Readville track, 875 feet 6-inch with 8-inch and 10-inch pipe.

Stanley street, Hyde Park avenue to Hamilton street, 151 feet 6-inch with 8-inch.

Hamilton street, Hawthorne street to Readville track, 262 feet 4-inch with 8-inch.

Central avenue, Winthrop street to West street, 1,522 feet 6-inch with 12-inch.

Webster street, River street to Central avenue, 349 feet 6-inch with 8-inch.

Lincoln street, River street to Harvard avenue, 1,260 feet 4-inch with 8-inch.

Harvard avenue, Lincoln street to Hyde Park avenue, 118 feet 6-inch with 10-inch pipe.

Waste water surveys of Roxbury and Dorchester districts were made during the year with department forces, and while no large leaks were discovered on the main pipes, numerous small leaks on service pipe and hydrant branches were found and repaired.

The High Pressure Fire System was extended by the laying of 860 linear feet of 16-inch pipe in Cross street, from Hanover to Commercial street.

Welfare forces were used during the entire year, both on small extension and relaying work with satisfaction. A total length of 12,000 linear feet of 8-inch, 12-inch and 16-inch pipe is credited to Welfare labor.

The regular work of the Distribution Branch, consisting of leak repairs, installation of service pipes, caring for complaints, shutting off and letting on water, etc., was performed in such a manner and at such periods as to cause a minimum of delay and inconvenience to applicants for water, water takers and the general public. Practically all activities in the business district are now performed on Sundays and holidays.

Very respectfully,

D. M. SULLIVAN,
Division Engineer.

1933 — Financial Transaction — Water Division.

Balance after deducting expenditures of Water Income Division		\$4,234,123 65
Balance January 1, 1933		257,181 59
		<u>\$4,491,305 24</u>
Expenditures from Revenue:		
Current expenses and extensions	\$1,274,552 64	
Metropolitan Water Assessment	2,935,547 99	
		<u>4,210,100 63</u>
		\$281,204 61
Expenditures on Debt Account:		
Interest on water loans	\$16,305 00	
Serial loans, Boston water debt	34,000 00	
Serial loans, Hyde Park water debt	16,000 00	
		<u>66,305 00</u>
		\$214,899 61
Loan Account:		
Balance outstanding first of year,	\$438,000 00	
Paid during year	50,000 00	
		<u>\$388,000 00</u>
Construction Account:		
Balance "High Pressure Fire Service extension of" January 1, 1933	\$58,413 16	
Expended during year	13,579 14	
		<u>\$44,834 02</u>
Balance unexpended December 31, 1933		\$44,834 02
Total New Construction:		
From revenue extension of mains,	\$192,423 45	
From revenue, "High Pressure Fire Service, extension of"	15,770 30	
		<u>\$208,193 75</u>
Cost of construction December 31, 1933	\$24,905,327 37	
Cost of construction December 31, 1932	24,697,533 62	
		<u>\$207,793 75</u>
Increase in plant cost during 1933		\$207,793 75
Cost of Existing Works December 31, 1933:		
Pipe yards and buildings	\$94,832 16	
Engineering expenses	57,873 58	
Distribution system additions (1933, \$192,423.45)	* 22,266,299 39	
Hyde Park water works	175,000 00	
High Pressure Fire Service	2,311,322 24	
		<u>\$24,905,327 37</u>

* Includes \$155,023.89 expended for High Pressure Fire Service in 1925, 1926, 1931, 1932 and 1933; \$400 deducted from plant cost because of sale of water mains and appurtenances in Hamblen and George streets, Charlestown, to Boston Elevated Railway Company.

Table No. 1.

Showing Length of Water Pipes and Connections Owned and Operated by the Public Works Department, Water Division, and Number of Valves in Same, December 31, 1933.

	DIAMETER OF PIPES IN INCHES.												Totals.				
	48.	42.	40.	36.	30.	24.	20.	16.	14.	12.	10.	8.		6.	4.	3.	2.
Length owned and operated																	
December 31, 1932	21,655	15,980	15,352	43,830	90,642½	84,634	86,601	304,792	4,966	1,696,886	451,829	1,093,791	1,064,557	77,062	10,534	6,509	5,069,620½
Gate valves in same	20	4	9	21	56	79	73	722	18	4,764	1,541	3,992	3,421	561	16	16	15,313
Air valves in same	38	5	10	35	109	81	42	90	.....	56	1	4	.....	.....	.....	.....	472
Blow-offs in same	3	4	6	11	33	33	47	74	.....	161	42	179	142	64	12	2	813
Length laid and relaid during 1933																	
Gate valves in same	.....	.....	.....	767	131	76	.....	6,302	.....	12,365	2,527	21,867	865	86	499	.....	45,367½
Air valves in same	.....	.....	.....	3	5	1	.....	16	.....	59	19	112	21	1	1	.....	233
Blow-offs in same	.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....	.....	.....	.....	.....	.....	12
Length abandoned during 1933																	
Gate valves in same	.....	.....	.....	57	13	786	20	448	.....	1,988	120	3,484	15,901	3,871	2	.....	26,688
Air valves in same	.....	.....	.....	.....	.....	.....	.....	2	.....	6	3	11	50	8	.....	.....	82
Blow-offs in same	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Length owned and operated December 31, 1933	21,655	15,980	15,352	44,540	90,643	83,924	86,581	310,646	4,966	1,707,262	454,236	1,112,174	1,049,521	73,277	11,033	6,509	5,088,300
Gate valves in same	20	4	9	24	56	78	73	736	18	4,817	1,557	4,093	3,392	554	17	16	15,464
Air valves in same	38	5	10	35	114	80	42	93	.....	59	1	5	.....	.....	.....	.....	483
Blow-offs in same	3	4	6	11	33	34	48	74	.....	161	40	192	143	65	14	2	830

963.69 miles in system.

Table No. 1-A.

HIGH PRESSURE FIRE SYSTEM.

*Showing Length of Water Pipe and Connections, and Number of Valves in Same,
December 31, 1933.*

	20-INCH.	16-INCH.	12-INCH.	8-INCH.	6-INCH.	Totals.
Length owned and operated December 31, 1932.....	20,140	46,049	31,160			97,349
Gates in same.....		197	142	502		841
Blow-offs in same.....					6	6
Length laid in 1933.....		860				860
Gate valves in same.....		4				4
Length owned and operated December 31, 1933.....	20,140	46,909	31,160			98,209
Gate valves in same.....		201	142	502		845
Blow-offs in same.....					6	6

18.45 miles in system.

Table No. III.

Total Number of Hydrants in System December 31, 1933.

	Lowly.	Boston Lowly.	Boston Post.	Ordinary Post.	Batchelder and Fineran Post.	Ludlow Post.	Chapman Post.	H. P. Fire Post.	Coffin Post.	Matthews Post.	Boston.	Totals.
Brighton (public)	8	17	252	400	384						9	1,070
“ (private)				8							2	10
Charlestown (public)	52	15	122	50	107						2	348
“ (private)	13	1	2	37							5	58
City proper (public)	415	28	377	212	437			503			49	2,021
“ (private)	5		9	1	2						37	54
Dorchester (public)	68	87	631	1,020	752						14	2,572
“ (private)	1	1	9		2						4	17
East Boston (public)	12	7	167	189	160						5	540
“ (private)	8	1		9							25	43
Hyde Park (public)			100	144	332	4	62		1			643
“ (private)						13	55			4		72
Roxbury (public)	30	33	309	252	911						3	1,538
“ (private)	2	1	3	4							9	19
South Boston (public)	58	16	208	172	190						14	658
“ (private)	4	1		15							27	47
West Roxbury (public)	10	127	412	938	763						13	2,263
“ (private)				15	1						1	17
Deer Island (private)			1	19								20
Gallup's Island (private)				3							1	4
Long Island (private)				6								6
Rainsford Island (private)				3								3
Thompson's Island (private)				2								2
Quincy				9								9
Total number (public)	653	330	2,578	3,377	4,036	4	62	503	1		109	11,653
Total number (private and suburban)	33	5	24	131	5	13	55			4	111	381

WATERWORKS STATISTICS.—CITY OF BOSTON.

FOR THE FISCAL YEAR ENDING DECEMBER 31, 1933.

DISTRIBUTION.

Mains.

Kind of pipe: Cast-iron, wrought-iron, steel.

Size: 2-inch to 48-inch.

Extended, miles, 3.54.

Size enlarged, miles, 3.44.

Total miles now in use, 963.69.

Public hydrants added, 70.

Public hydrants now in use, 11,150.

Stop gates added, 151.

Stop gates now in use, 15,431.

Stop gates smaller than 4-inch, 33.

Number of blow-offs, 830.

Range of pressure on mains, 30 to 90 pounds.

Service.

Kind of pipe and size: Lead and lead lined, $\frac{1}{2}$ -inch to 2-inch; cast-iron, 2-inch to 16-inch; wrought-iron and cement lined, $\frac{3}{4}$ -inch to 2-inch; brass and copper, $\frac{3}{8}$ -inch to 2 $\frac{1}{2}$ -inch.

High Pressure Fire System.

Kind of pipe: Cast-iron.

Size: 8-inch to 20-inch.

Extended miles, .16.

Total miles now in use, 18.45.

High pressure hydrants now in use, 503.

Range of pressures on mains, 50 to 300 pounds.

Gate valves added, 4.

Gate valves now in use, 845.

Number of blow-offs, 6.

1933 — Financial Transactions — Water Income Division.

Revenues:

Receipts for water	\$4,326,782 97
All other receipts	73,920 10
Sale of land Orient avenue, East Boston	646 75

Total income	\$4,401,349 82
------------------------	----------------

Expenditures from revenue:

Current expenses, Water Income Division	\$92,481 14
Refunded water rates	2,225 10
Transfer to Collecting Department Appropriation	71,873 18
Transfer to Water Sinking Fund	646 75

167,226 17

Balance available for other water purposes	<u>\$4,234,123 65</u>
--	-----------------------

Service Pipes Installed in 1933.

Size in Inches.	Number of Pipes Installed.
$\frac{5}{8}$	71
$\frac{3}{4}$	269
1	11
$1\frac{1}{4}$	13
$1\frac{1}{2}$	18
2	8
3	6
4	15
6	2
4 (fire pipes)	16
6 (fire pipes)	1
8 (fire pipes)	1
	431

WATER INCOME DIVISION.

Statement of Each Year's Water Rates, 1912 to 1933, Inclusive,
as of December 31, 1933.

YEAR.	Amount Assessed.	Amount Abated.	Amount Collected.	Outstanding.
1912.....	\$3,001,771 87	\$58,369 39	\$2,943,402 48	
1913.....	3,004,331 52	50,147 90	2,954,183 62	
1914.....	3,034,885 83	64,653 01	2,970,232 82	
1915.....	2,960,797 45	57,782 09	2,903,015 36	
1916.....	3,130,590 53	67,771 69	3,062,818 84	
1917.....	3,120,878 86	77,353 75	3,043,525 11	
1918.....	3,359,714 95	162,415 52	3,197,299 43	
1919.....	3,210,147 91	95,812 76	3,114,335 15	
1920.....	3,503,677 88	123,509 90	3,380,167 98	
1921.....	3,615,663 51	90,946 23	3,524,717 28	
1922.....	3,612,715 51	90,453 27	3,522,262 24	
1923.....	3,817,642 72	77,449 02	3,740,193 70	
1924.....	3,832,531 26	43,663 01	3,783,314 80	\$5,553 45
1925.....	3,875,434 21	39,069 54	3,829,095 45	7,269 22
1926.....	3,910,119 54	44,537 97	3,858,004 55	7,577 02
1927.....	3,979,098 85	43,801 76	3,916,124 29	19,172 80
1928.....	4,418,027 32	37,702 73	4,370,619 96	9,704 63
1929.....	5,018,462 49	44,444 97	4,956,944 68	17,072 84
1930.....	4,864,180 27	42,838 01	4,793,013 05	28,329 21
1931.....	4,749,538 82	43,183 89	4,642,855 84	63,499 09
1932.....	4,611,359 02	26,929 23	4,314,555 69	269,874 10
1933.....	4,568,961 43	10,493 40	2,844,930 61	1,713,537 42
Total outstanding water rates December 31, 1933.....				\$2,141,589 78

METER BRANCH.

In service December 31, 1932	100,951
Permanently discontinued in 1933	61
	<hr/>
	100,890
Applied on old services in 1933	23
Applied on new services in 1933	382
	<hr/>
Total in service December 31, 1933	<u>101,295</u>

METER BRANCH.

Table No. 1. Statement of Work During Year 1933.

MAKE.	New sets.	Discontinued.	CHANGES.		Tested.	Repaired in Shop.	Repaired in Service.	Resets.
			Out.	In.				
Hersey disc.....	292	30	3,499	5,281	8,821	2,888	571	89
Worthington disc.....	16	3	1,030	409	1,449	416	.....	2
Watch dog.....	68	19	1,362	1,225	1,449	1,362	212	25
King.....	20	2	925	136	1,183	169	144	5
Hersey detector.....	3	1	1	2	25	6	111	
Hersey rotary.....	1	.....	28	5	29	.....	77	
Crown.....	2	1	48	2	51	2	18	
Federal.....	.....	.....	42	7	42	5	17	
American.....	1	1	126	74	198	84	71	1
Lambert.....	1	2	33	28	56	37	15	2
Nash.....	.....	1	83	25	84	32	20	2
Keystone.....	.....	1	12	1	13	3		
Trident.....	1	.....	12	6	19	5	13	1
Totals.....	405	61	7,201	7,201	13,419	5,009	1,269	127

Table No. II.

Meters in Service December 31, 1933.

MAKE.	DIAMETER IN INCHES.											Totals.
	$\frac{1}{8}$	$\frac{1}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey detector.....						4	42	59	34	24	5	168
Hersey disc.....	49,371	3,380	1,688	911	413	157	110	32				56,062
Hersey rotary.....	338	256	140	111	137	52	20	15				1,069
Trident.....	154	3	6	1	12	9	11	1	2	2		201
Crown.....	234	338	73	78	96	29	27	7				882
Worthington disc.....	8,171	20	27	14	59	12	1					8,304
Watch dog.....	22,979	985	1,057	705	431	241	75					26,473
King.....	4,386	225	24	23	18							4,676
Federal.....	847											847
American.....	920	364										1,284
Lambert.....	250	107	65	1	15		2					440
Nash.....	198	260	36	12	6							512
Keystone.....	160	151	1	7	3							322
Hersey compound.....						1	11	13				25
Empire.....	30											30
Totals.....	88,038	6,089	3,117	1,863	1,190	505	299	127	36	26	5	101,295

Table No. III.

Meters in Shop December 31, 1933.

MAKE.	DIAMETER IN INCHES.										Totals.
	$\frac{1}{8}$	$\frac{1}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	10		
Hersey disc.....	40	256	19	37	42	6	5	3			408
Hersey detector.....						1	4	4	1		10
American.....	62	22									84
Watch dog.....	252	16	12	20	12	7	2				321
Worthington disc.....				3							3
Lambert.....	82	2	2	1							87
Crown.....						2		1			3
Keystone.....						2					2
Totals.....	436	296	33	61	54	18	11	8	1		918

Table No. IV.

Meters Purchased in 1933.

MAKE.	DIAMETER IN INCHES.							Totals.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	
Hersey disc	2,160	300	50	50	25	10	11	2,606
Totals	2,160	300	50	50	25	10	11	2,606

Table No. V.

Meters Reset.

MAKE.	DIAMETER IN INCHES.							Totals.	Occupancy.	Connection Pieces.	Enlarged.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4				
Hersey disc	215	12	20	4	2	2	1	256	77	167	12
Worthington disc	11							11	2	9	
Watch dog	43	4	6	5	1	1		60	23	35	2
American	2	2						4	1	3	
King	10							10	5	5	
Nash	3		1					4	2	2	
Lambert		2						2	1		1
Trident						1		1	1		
Totals	284	20	27	9	3	4	1	348	112	221	15

Table No. VI.
Meters Repaired in Service.

MAKE.	Defaced.	Clock Broken.	Spindle Leak.	Coupling Leak.	Miscellaneous.	Stoppage.	Totals.
Hersey disc.....	111	39	208	124	70	19	571
Hersey detector.....	8	16	.....	.....	87	.....	111
Hersey rotary.....	14	12	.....	29	17	5	77
Watch dog.....	22	19	94	73	2	2	212
King.....	11	28	84	17	1	3	144
Crown.....	3	3	.....	11	.....	1	18
Nash.....	4	2	9	5	.....	.....	20
Federal.....	2	.....	8	7	.....	.....	17
American.....	16	9	40	4	2	.....	71
Lambert.....	2	1	9	3	.....	.....	15
Trident.....	.....	2	5	5	.....	1	13
Totals.....	193	131	457	278	179	31	1,269

Table No. VII.
Meters Changed in 1933.

MAKE.	METERS OUT. DIAMETER IN INCHES.							Totals	METERS IN. DIAMETER IN INCHES						Totals			
	1/2	1	1 1/4	2	3	4	6		1/2	1	1 1/4	2	3	4		6		
																	1/2	1	1 1/4	2	3	4	6
Hersey disc.....	3,062	205	120	52	31	18	5	6	3,499	208	163	81	48	23	8	8	5,281	
Hersey rotary	4	9	4	6	4	.....	1	.....	28	4	1	.....	.....	.....	.....	.....	5
Hersey detector.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	2	.....	2
Watch dog.....	1,145	74	65	35	28	11	4	.....	1,362	89	74	37	32	10	3	.....	1,225
King.....	883	27	7	5	3	.....	.....	.....	925	135	1	.....	.....	.....	.....	.....	136
Nash.....	60	6	12	2	3	.....	.....	.....	83	20	4	.....	.....	1	.....	.....	25
Worth disc.....	1,014	3	4	4	4	1	.....	.....	1,030	399	4	4	1	1	.....	.....	409
Lambert.....	12	13	6	1	.....	.....	1	.....	33	8	14	6	.....	.....	.....	.....	28
American.....	87	39	.....	.....	.....	.....	.....	.....	126	43	31	.....	.....	.....	.....	.....	74
Crown	12	9	8	10	5	3	.....	1	48	.....	2	.....	.....	.....	.....	.....	2
Trident.....	9	.....	.....	1	2	.....	.....	.....	12	6	.....	.....	.....	.....	.....	.....	6
Keystone.....	3	6	1	.....	.....	.....	.....	2	12	.....	1	.....	.....	.....	.....	.....	1
Federal.....	42	.....	.....	.....	.....	.....	.....	.....	42	7	.....	.....	.....	.....	.....	.....	7
Totals.....	6,333	391	227	115	79	35	11	10	7,201	6,340	352	254	118	81	35	11	10	7,201

Table No. VIII.

Causes for Meter Changes in 1933.

MAKE.	Test.	Don't Register.	No Force.	Enlarged.	Spindle Leak.	Coupling Leak.	Frost.	Set Backwards.	Relocated.	Defaced.	Totals.
Hersey disc.....	333	1,525	11	24	996	312	218	.....	29	51	3,499
Hersey rotary.....	11	15	.....	.....	.....	.....	2	.....	.....	.....	28
Hersey detector .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Watch dog.....	26	762	2	3	514	38	11	.....	.....	6	1,362
King.....	18	278	3	.....	566	4	49	.....	.....	7	925
Nash.....	.....	46	.....	.....	5	29	1	.....	.....	2	83
Worthington disc.....	34	483	.....	.....	378	114	19	1	1	1	1,030
Lambert.....	10	4	.....	1	.....	17	.....	.....	1	.....	33
American.....	4	97	.....	2	19	4	.....	.....	.....	.....	126
Crown.....	7	13	1	.....	4	17	4	.....	1	1	48
Trident.....	6	3	.....	.....	.....	2	1	.....	.....	.....	12
Keystone.....	1	5	1	.....	.....	5	.....	.....	.....	.....	12
Federal.....	3	7	.....	.....	11	9	6	.....	2	4	42
Totals	453	3,239	18	30	2,493	551	311	1	33	72	7,201

Table No. IX.

Meters Applied in 1933.

MAKE.	DIAMETER IN INCHES.									Totals.
	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	10	
Hersey disc.....	242	4	8	20	7	3	7	1	.....	292
Hersey detector.....								2	1	3
Hersey rotary.....			1							1
Watch dog.....	60	2	2	1	1	1	1			68
King.....	20									20
Worthington disc.....	14					2				16
Trident.....						1				1
Lambert.....	1									1
American.....	1									1
Crown.....						2				2
Totals.....	338	6	11	21	8	9	8	3	1	405

On old services	23
On new services	382
	<u>405</u>

Table No. X.
Meters Discontinued During 1933.

MAKE.	DIAMETER IN INCHES.								Totals.	Connection Pieces.	Vacancy.	Discontinued.	Enlarged.
	$\frac{3}{4}$	1	1	1 $\frac{1}{4}$	2	3	4	6					
Hersey disc	688	23	25	4	5	3	2	....	750	220	485	30	15
Hersey detector								1	1			1	
Watch dog	146	12	16	12	3	1			190	93	74	19	4
Worthington disc	70								70	39	26	3	2
American	2	5							7	2	4	1	
King	48		3		2				53	29	20	2	2
Lambert	2	1	3						6		4	2	
Nash	4	1							5		3	1	1
Crown	1	1					1		3	1	1	1	
Keystone		1							1			1	
Hersey rotary	1								1	1			
Trident		1							1		1		
Totals	962	45	47	16	10	4	3	1	1,088	385	618	61	24

APPENDIX F.

REPORT OF THE BOSTON AND CAMBRIDGE
BRIDGES COMMISSION.

BOSTON, January 2, 1934.

To the Honorable the Mayor.

SIR,— As Commissioner for the City of Boston, I respectfully submit herewith the annual report of the Boston and Cambridge Bridges Commission for the year ending December 31, 1933.

The commission is composed of two members, one appointed by the Mayor of the City of Boston and the other by the Mayor of the City of Cambridge, under provisions of chapter 467, Acts of 1898.

The commission has charge of the maintenance of the following named bridges between Boston and Cambridge:

Cottage Farm, Longfellow and Prison Point.

As there is no separate appropriation made for the City of Boston's portion of the expenses of this commission, the same is taken from the appropriation for the Bridge and Ferry Division, Bridge Service. The amount expended during the fiscal year ending December 31, 1933, was \$7,201.65.

Respectfully submitted,

C. J. CARVEN,
Commissioner for the City of Boston.

**Boston and Cambridge Bridges. Expenditures for the Year Ending
December 31, 1933.**

Being the Portion Paid by the City of Boston, Which is One Half of the Total Expenditure.

	Administration.	Cottage Farm Bridge.	Longfellow Bridge.	Prison Point Bridge.	Totals.
Salaries	\$48 27	\$25 00	\$3,788 93	.....	\$3,862 20
Inspection .....	.....	128 00	160 00	\$270 40	558 40
Light .....	.....	956 11	1,735 07	.....	2,691 18
Supplies .....	.....	22 17	12 32	.....	34 49
Printing and stationery	16 38	16 38
Rent	39 00	39 00
Totals	\$64 65	\$1,131 28	\$5,735 32	\$270 40	\$7,201 65

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