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ANNUAL REPORT

OF THE

STREET DEPARTMENT

Compliments of

Benjamin W. Wells,

Superintendent of Streets.



BOSTON

MUNICIPAL PRINTING OFFICE

1899.

1818

ANNUAL REPORT

OF THE

STREET DEPARTMENT

FOR THE

YEAR 1898



BOSTON

MUNICIPAL PRINTING OFFICE

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PART I.

REPORT OF THE SUPERINTENDENT OF
STREETS.

PAGES 1 TO 81.

HON. JOSIAH QUINCY,

Mayor of the City of Boston :

SIR, — In compliance with the Revised Ordinances, the annual report of the operations and expenses of the Street Department for the year 1898 is herewith respectfully submitted.

ORGANIZATION.

The work of the department during the past year has been carried on under the same organization that was effected when the consolidated department was created in 1891 and as amended in 1895, the several divisions of the department being as follows :

Central Office.	Paving Division.
Boston and Cambridge	Sanitary Division.
Bridges.	Sewer Division.
Bridge Division.	Street-Cleaning Division.
Ferry Division.	Street-Watering Division.

Each of the above divisions, with the exception of the Central Office and the Boston and Cambridge Bridges, is in charge of a Deputy Superintendent.

The Boston and Cambridge Bridges are managed by two commissioners, the Superintendent of Streets being the commissioner for the city of Boston, the other commissioner being appointed by the Mayor of the city of Cambridge.

More extensive study than is given under this *résumé* of the year's work, with detail of figures and expenditure, will be found in the division reports of the Deputy Superintendents.

APPROPRIATIONS.

The money assigned for Street Department work the past year was made available under the following appropriations:

First. — Maintenance: At the commencement of the financial year, February 1, the department estimates of the amounts necessary for the proper maintainance of the various divisions are submitted to His Honor the Mayor, who makes such recommendation as he may deem proper to the City Council. The appropriations passed for this purpose were as follows:

Central Office	\$20,000 00
Bridge Division	130,000 00
Cambridge and Boston Bridges	15,000 00
Ferry Division	220,000 00
Paving Division	725,000 00
Sanitary Division	500,000 00
Sewer Division	350,000 00
Street-Cleaning Division	315,000 00
Street-Watering Division	138,728 57
Total	<hr/> \$2,413,728 57

Second. — Special work done under loan appropriations for permanent improvements: There was made available from loan money, \$335,480 for new or reconstruction work, and in addition to this amount, balances and orders passed during the year for special items amounted as follows:

Bridge Division	\$69,587 20
Ferry Division	2,137 12
Paving Division	137,447 68
Sewer Division	28,000 00
Total	<hr/> \$237,172 10

Third. — In 1891 an Act was passed by the Legislature and amended in 1897 entitled, "An Act Relating to the Location, Laying Out and Construction of Highways in the

City of Boston." (Chap. 323.) From this fund new streets assessable on the abutting property are built. The amount expended the past year was :

Streets	\$434,350 77
Sewers	21 97
Total	<u>\$434,372 74</u>

Fourth. — In 1895 an Act was passed by the Legislature and amended in 1898 entitled, "An Act to provide for the Laying Out and Construction of Certain Highways in the City of Boston" (commonly know as the Boulevard Act). (Chap. 334 of 1895; Chap. 236 of 1898.) The amount expended this year was as follows :

Streets	\$255,522 29
Sewers	15 00
Total	<u>\$255,537 29</u>

Fifth. — In 1896 an Act was passed by the Legislature, entitled, "An Act Relative to Stony Brook in the City of Boston." (Chap. 530.) \$500,000. The amount expended this year was \$94,434.76.

Sixth. — In 1895 an Act was passed by the Legislature entitled, "An Act Relative to the establishment of a New Ferry Landing in the city of Boston." (Chap. 435.) \$500,000. The amount expended this year was \$79,135.68.

During the year the city of Boston sold to the United States Government the ferry-boats "Governor Russell" and the "East Boston" for the sum of \$71,000 and \$57,500 respectively, making a total of \$128,500, which under an order of the City Council was transferred to an appropriation for "New Ferry-boats." The amount expended this year was \$50,463.60.

Seventh. — In 1896 an Act was passed by the Legislature entitled, "An Act to Provide for a Union Station for Passengers on Railroads entering the southerly part of the City of Boston." (Chap. 516.) The amount expended this year was as follows :

Sewers	\$41,588 39
Streets	78,676 17
Total	<u>\$120,264 56</u>

Eighth — In 1897 an Act was passed by the Legislature, entitled, "An Act relative to the Sewerage Works of the City of Boston." (Chap 426.)

From this fund all "Sewerage Works" are built.

The amount expended the past year was \$1,490,743.50.

Thus the expenditures under the several appropriations of the year 1897 were as follows:

Maintenance	\$2,401,630 60
Street Improvements (by wards)	407,860 44
Bridge, specials	45,334 06
Ferry, specials	2,137 12
Paving, specials	81,669 72
Sewer, specials	25,000 00
Laying-Out and Construction of Highways, Blue Hill and Other Avenues (Boulevard Act)	434,372 74
Stony Brook Improvement	255,537 29
New Ferry Landing	94,434 76
New Ferry Boats	79,135 68
South Union Station	50,463 60
Sewerage Works	120,264 56
	1,490,743 50
Total	<hr/> \$5,488,584 07

CONSTRUCTION WORK, STREETS AND AVENUES UNDER "323" AND "BOULEVARD" ACTS.

The following streets and avenues were under construction during the year, and have been wholly or partially completed at an expenditure of \$689,910.03 for both sewer and surface work :

Amory street.	Chamberlain street.
Angell street.	Chamblet street.
Ashley street.	Charlestown street.
Astor street.	Chiswick road.
Athelwold street.	Columbia road.
Belmore terrace.	Commonwealth avenue.
Belvidere street.	Devon street.
Bernard street.	Elizabeth street.
Bloomfield street.	Ellet street.
Burt street.	Fairmount street.
Callender street.	Fenelon street.
Canal street.	Forest Hills street.
Carlos street.	Fowler street.

Francis street.	Peverell street.
Fullerton street.	Queensberry street.
Gaylord street.	Rosseter street.
Geneva avenue.	Ruggles street.
Greenbrier street.	School street.
Hamilton street.	Shirley street.
Harold street.	Spencer street.
Hewins street.	Stanley street.
Idaho street.	St. Stephen street.
Ipswich street.	Stuart street.
Jersey street.	Telford street.
Leeds street.	Thane street.
Leedsville street.	Tonawanda street.
Leroy street.	Turner street.
Lonsdale street.	Vancouver street.
Malvern street.	Van Winkle street.
Maryland street.	Waterlow street.
Mellen street.	Wensley street.
Merlin street.	West Selden street.
Middleton street.	Wolcott street.
Millet street.	Woodlawn street.
Morse street.	Public Alley No. 401
Newburg street.	“ “ 402
Nightingale street.	“ “ 403
North Harvard street.	“ “ 404
Norway street.	“ “ 437
Oakley street.	“ “ 701
Peterborough street.	

In the past eight years Boston has undergone many and great changes, and along lines of broad and progressive development; and the citizens of Boston should fully appreciate the splendid work of these last few years, and as a result the tremendous possibilities for the future of the city. This work although costly, has built the foundation for the most desirable city for business or residence in this country. The foundation was built none too soon; and what has been accomplished, had the work been undertaken a few years later, would in part have been impossible, and in every way would have been vastly more expensive.

In these eight years have been brought to a conclusion — or are well under way — the abolishing of the railroad grade crossings, the building of the subway, the completion of the great Southern Terminal Station, the development in part of the vast new dock system, the improvement of the harbor, the building up of the park system, the perfecting of the

water supply, the beginning of the great new bridge to Charlestown, and the extension of the electric car service in all parts of the city; and in addition and in close connection with all this development has followed the work of the Street Department.

In the Street Department the work of the past three years has been the greatest in its history in amount and importance. In these years have been built the five great boulevards, which, branching out in different directions, have brought the outlying sections of the city in close touch with the city proper over well-built roads, supplied with sewer, water and gas, so that great areas of most desirable residential land are now available for the rapidly growing city. The increase in population in these years has been large, and through the development of its own territory this increase has been made possible, for the reason that the city has made it attractive for its people to stay within its borders.

In addition to the boulevards a great number of assessable streets have been built which greatly add to the value and beauty of the outlying wards. In the down-town section many of the most important thoroughfares have been repaved in the best manner. But fully as important, though, owing to its nature, not so much noted by the citizen, has been the work of perfecting the Boston sewerage system, so that now there is no other city in the country where the sewer system is so complete, and the difficulties to be overcome in the future so few. Prior to 1896 no action had been taken looking to a general relief from the very pressing need for surface drainage in the outlying districts; the great problem of Stony brook was only cared for in part; the large down-town Canal Street Relief Sewer, which served the needs of a large and very congested district, and the broken-down and bad condition of which had been reported on for years, was daily becoming worse; the Main Drainage Works plant, on the efficiency of which depended the health and comfort of the entire city, and the condition of which daily threatened most serious danger to the sewerage system of the city had received no attention for years; no connections had been made with the North Metropolitan system, although rent was being paid therefor by the City of Boston to the State, and the fouling of the shores of Charlestown and East Boston had become a serious nuisance; and the capacity of the basins at Moon Island was greatly overtaxed. All these conditions have been corrected, and the sewer problems of the future are now of the ordinary nature, which can be well cared for within a reasonable appropriation, and little is left undone that appears as a menace to the general health of the community.

In the matter of the removal of offal and other refuse the methods of a half a century were still pursued. All this has been changed, and the system now in use surpasses in its sanitary completeness and general arrangements that of any city in this country.

New methods in the Street-Cleaning Division have accomplished better results than ever before.

The Ferry Division has been thoroughly equipped with new slips and drops, two boats have been built and another is under way.

The only division which has not kept pace — owing to lack of appropriations — with the general work of the department and the growth of the city has been the Bridge Division. Many of the bridges are old, and should receive attention; but the City Council has not been able or seen fit to provide the necessary moneys.

The whole scheme of street watering has been changed, so that now every public street in the city is watered by the department, and the cost assessed on the abutters, thus doing away with the old haphazard way of doing the work by private subscription, and results have been attained not possible under the old system.

PAVING DIVISION.

Expenditures.

Maintenance.	Specials.
\$726,255.20.	\$1,258,079.39.

For expenditures under Laying Out and Construction of Highways, Blue Hill and Other Avenues, and South Union Station, see page 3.

This division has charge of the maintenance and reconstruction of about four hundred and eighty (480) miles of streets.

The following shows the amount and kind of reconstruction work done by the Paving Division during the year:

	Sq. yds.
Granite blocks on concrete base, with pitch-joints .	41,491
Granite blocks on gravel base, with pitch-joints .	2,676
Granite blocks on gravel base, with gravel-joints .	93,571
Asphalt	8,539
Macadam. See note.	

NOTE. — A very large portion of the work of the Paving Division is the reconstruction of macadam streets. The amount of this work is best shown by the number of feet of edgestone laid and set up, gutters laid and relaid, and brick sidewalks laid and relaid, which are as follows:

Edgestone set and reset, 162,809 linear feet. Gutters laid and relaid, 37,279 square yards. Brick sidewalks laid and relaid, 71,813 square yards.

Crushed Stone, Ballast or Telford.*Output of Stone from City Crushers.*

	Crushed Stone Tons.	Telford Tons.
Bleiler's Ledge.....	16,221	451
Centre street crusher.....	31,510	
Chestnut Hill avenue crusher.....	1,473	
Codman street crusher.....	16,127	
Commonwealth avenue crusher.....	8,526	4,081
Dimock street crusher.....	16,362	
Rosseter street crusher.....	27,392	
Totals.....	117,611	4,532

From the maintenance appropriation of this division there was built a new stone crusher in the Brighton District, with a capacity of two hundred and twenty-five tons daily, with arrangement of bins for the storage of stone, and the whole plant is a very complete one.

In this division excellent results were accomplished as far as financial conditions would allow, but owing to the very considerable decrease in the moneys appropriated, the work was much less than conditions called for. This department for the past two years has advocated a general policy of the reconstruction and repaving of the down-town streets, so that Boston might take its place with other advanced municipalities as well paved and well cleaned. The amount made available, however, was only sufficient to do some of the more necessary work.

The average appropriation for new work under the general law (not assessable), since the consolidation of the department, which took place in 1891, has been \$850,000 per year. The appropriation for 1898 was \$448,000.

Work on the boulevards has made satisfactory progress and Columbus avenue is now completed with the exception of a short section between Centre and Ritchie streets, where one side is left uncompleted, work having been suspended in consequence of the cold weather.

On Blue Hill avenue no work has been done on the final section, owing to the failure to take action of the commis-



COMMONWEALTH AVENUE AT WASHINGTON STREET, BRIGHTON, UNDER CONSTRUCTION.

sioners appointed to make arrangements for the abolition of the grade crossing of the New England Railroad.

On Commonwealth avenue considerable work has been done, and the present Legislature, by the passage of chapter 236 of the Acts of 1898, has authorized the expenditure of a sum estimated as sufficient to complete the paving, with the added condition that the work be brought to a close before the year 1900. The plans of the avenue have been revised, and some changes made which, while lessening the cost, will be of benefit to the abutting estates and make the avenue much more attractive.

On Columbia road, from Blue Hill avenue to the New England Railroad, the road is completed and in use. Work has not been commenced upon the railroad bridge. From the bridge to Edward Everett square a large amount of work has been done. The grading is substantially completed, and nearly all the sewers, water-pipes and gas-pipes have been laid, and some work has been done on the surfacing. The contracts for construction require the work to be completed by July 1, 1899; and with the exception of the bridge above named, the progress already made indicates that it will be substantially completed at that time.

Work is also in progress on the erection of the bridge over the Plymouth Division of the New York, New Haven and Hartford Railroad, and on the filling of the section of the road and parkway between Covington and I streets. Proposals have been received for completing the grading of the section between Mercer and Mt. Vernon streets. Considerable filling has been done during the year on the latter section, under several small contracts.

On Ipswich street, the bridge over the Fens waterway, the abutments of the bridge to carry the park driveway over the street, a retaining wall along the line of the railroad, and iron fences on both sides of the street at the crossing of the Fens, have been finished, and a temporary wooden bridge to carry the park drive over the street has been erected.

The most important paving work was the reconstruction of Hanover street between Court and Washington streets, Howard street, Tremont street from Boylston street to Pleasant street, and Commercial street from State street to South Market street. These were paved with granite blocks, with pitch-joints, on a concrete base.

Other jobs of considerable size were Bunker Hill street, Charlestown, Tremont street, Roxbury, Norfolk avenue and Parker street, granite blocks on gravel base. Asphalt was

laid on portions of Shawmut avenue, Broadway, and Hayward place.

SOUTH UNION STATION.

During the past year the sea-wall on Dorchester avenue extension has been completed from Federal street to Summer street extension, and the street has been filled in, the temporary sidewalk built, and the roadway temporarily paved with granite blocks excepting a narrow strip adjoining a portion of the property of the Boston Terminal Company upon which the buildings and other structures have not as yet been so far completed as to allow the paving to be done. The work of widening Federal street bridge to connect it with the new street has also been done.

Summer street extension in front of the new station has been paved and the sidewalks built. The square formed by the intersection of Summer street and Atlantic avenue has been regraded and temporarily paved, the centre of the square having been raised about two and one-half feet. Atlantic avenue, between Summer street and Kneeland street, has been put in condition so that it can be used.

REMOVAL OF SNOW.

The regular work of the Paving Division has been considerably handicapped by the drain made upon the maintenance appropriation owing to the heavy expense of snow removal, the amount of snowfall exceeding any in the history of the department.

The loss of life and property caused by storm was so excessive and unusual that the story of the year's snow work in some detail is herewith given.

The new year of the department was ushered in by the great storm of January 31. Monday afternoon, January 31, the thermometer was stationary at about 32°, and the snow on the ground from the storm of January 26 was about six inches. In the late afternoon, the Weather Bureau reported that it might turn to rain or continue to snow; but there was no intimation given of the severe and unusual storm which followed. In the early evening it looked very threatening, and, as a matter of precaution, extra teams were ordered to report at 7 A.M. in the shopping district, the intention being to have that section of the city covered in the very early morning. All through the night the storm continued to increase, and by 1 A.M. traffic was practically suspended. The cars were stalled, the streets blocked by



STATE STREET SNOW DRIFT.



ADAMS SQUARE — SNOW.

fallen poles and wires, and from that time on, the snow, which had been wet — at times almost rain — continued. By early morning the thermometer had fallen to 20°, and continued falling until it reached 5° on the morning of February 2.

At 5.30 on the morning of February 1, the Street Department officials made arrangements for the work of the day. The department was greatly handicapped, however, from the fact that it was impossible to reach more than one or two districts by telephone, all overhead wire service being disabled. It was necessary to communicate with the district foremen, owners of teams and others, by messengers. By 7 o'clock a considerable force of contractors' teams and teams of the Paving and Street-Cleaning Divisions were at work on the main thoroughfares, and clearing away from the fire-houses. By 8 o'clock the Sanitary Division teams and men had been reached, and were added to the force of workers. As soon as possible, as many Sewer Division men as could be notified were ordered to report on snow work, so that by afternoon the entire available Street Department force and teams, and such additional contractors' teams as could be secured, were actively engaged in removing the snow. Thus, with the full force of the Paving, Street-Cleaning and Sewer Divisions, and a portion of the Sanitary men, work was carried on night and day, including Sunday.

As many men and teams were worked as could be to advantage. The number of dumps substantially regulates the entire work as only a limited number of teams can be used to advantage at each dump; and the number of men profitably engaged in work is in proportion to the number of teams. The difficulties of handling snow in Boston are increased by the scarcity of dumping-places. In this storm, owing to its severity, dumping was allowed on the Common, which greatly assisted in the work. In addition to the regular dumps, a small dump was also secured at Long Wharf, and at night the Sanitary dumping-wharf at Fort Hill was made available.

In Boston, unlike New York, the department must take into account the fact that the larger part of the teaming immediately goes on runners as soon as there is a substantial snowfall, and it is therefore not permissible to take the snow out of the streets entirely.

The conditions of the storm were a damp, heavy fall of snow, amounting to about 15 inches, followed by several days of low temperature, the thermometer ranging between 5° and 20°, thus creating a firm bed of packed snow which

turned to hard ice. As the temperature rose, this bed became full of cradle-holes, and the streets in some parts of the city, where the heaviest travel was, were almost impassable until the department had cleaned them to the paving. To do this it was necessary to pick the ice, and so, substantially, every business street in the city had first to be picked, before the bed of snow-ice could be removed, adding greatly to the cost and labor.

Another factor which made removal of the snow difficult and expensive was that, owing to the wet conditions at the time of its fall, the snow was banked on the roofs, and, on account of its weight, it was found necessary to shovel more than the usual number of roofs; and, as reported by the district foreman, who for a great number of years has had charge of the down-town district, more snow was thrown into the streets from roofs and areas than had ever been the case in his experience. This made it necessary, in a great number of streets, to do the work three times over.

The number of street department men employed on snow work was substantially as follows:

Paving Division	1,000
Sewer Division	500
Street-Cleaning Division	600
Sanitary Division (for a portion of the time)	300
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Total	2,400

The number of hired teams employed in the work ranged from 300 to 850.

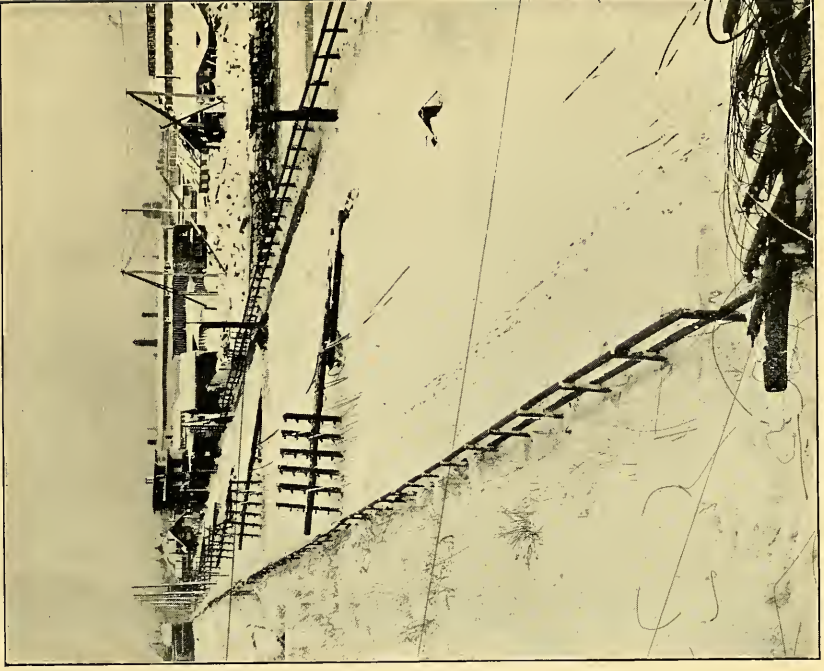
The amount charged to snow-work from February 1 to February 13, inclusive, was as follows:

LABOR ROLLS.

Paving and Sewer Divisions	\$38,747 39
Street-Cleaning Division	11,681 27
Sanitary Division	1,761 99
	<hr/>
Total	\$52,190 65

COST OF TEAMS HIRED.

Paving Division	\$33,570 50
Street-Cleaning Division	2,488 25
	<hr/>
Total	\$36,058 75



SWETT STREET AFTER STORM OF JANUARY 31, 1898.



COMMONWEALTH AVENUE AFTER STORM OF JANUARY 31, 1898.

In addition to the work as above, the department worked on snow Friday, February 4, Friday night and Saturday, February 5, and on Sunday, February 6, the entire force, including the Sanitary teams. The larger portion of the men of the Paving and Street-Cleaning Divisions, however, were continued on the final cleaning up of the snow until Thursday night, February 17. So to the above should be added, as an estimate, \$20,000 for the week's labor and teams, making a total cost of \$108,249.40.

The number of single loads removed, as reported from the dumps, is as follows:

Paving Division	103,915
Street-Cleaning Division	19,276
	<hr/>
Total	123,191

The United States weather reports show that the snowfall amounted to 14.3 inches. The minimum temperature on Monday, the day of the storm, was 5°, and the maximum 32°. On the succeeding day, February 1, the thermometer ranged from 32° down to 10°; and this was followed by three days of very low temperature.

The second great storm of the financial year commenced in the evening on November 27, 1898. This storm is referred to as "the November blizzard," and the damage to shipping and the loss of life at sea was the greatest in the history of Boston and Massachusetts Bay. On the evening of November 26 the steamer "Portland," leaving Boston at 7 o'clock was caught, it is supposed, in the gale at some point below Cape Ann, and was lost somewhere in the bay, none surviving of upwards of 170 passengers and crew. The following is the story of this storm:

Saturday, November 26, was cloudy; wind north-east, velocity 11 miles per hour; the average temperature was 29°. Snow commenced falling at 7.37 P.M., wet and heavy. During the early morning hours of Sunday, the 27th, the wind increased to a hurricane, and by morning there was a heavy fall of snow, which in many places was badly drifted, and the city streets were almost blocked. Many of the overhead wires were broken, and the telephone and other service greatly disarranged. On but few lines of the Boston Elevated Railway Company were the cars running. The Street Department commenced work early Sunday morning, but the snow continuing, and the wind blowing with great force, it

was not possible to do much more than open lines of communication between the most important fire-houses and streets that had been made passable by the plows of the Boston Elevated.

At 1.45 P.M., Sunday, the snowfall amounted to twelve inches. On Monday, the 28th, with the thermometer at 29°, there was a slight additional snowfall of a half an inch. Tuesday was clear, and the thermometer registered 33°. Wednesday there was a further fall of snow, amounting to 5.3 inches, making a total snowfall to be cared for of nearly 18 inches; and the record shows that on Wednesday, November 30, at 8 P.M., there were sixteen inches of unmelted snow on the ground where no work had been done.

All the force of the department, Paving, Street-Cleaning, Sewer and Sanitary divisions, men and horses, were substantially put on snow work, the Sanitary forces being returned to their own work as the streets were opened up so as to make it possible for them to get access to the houses. Work was continued night and day throughout the week.

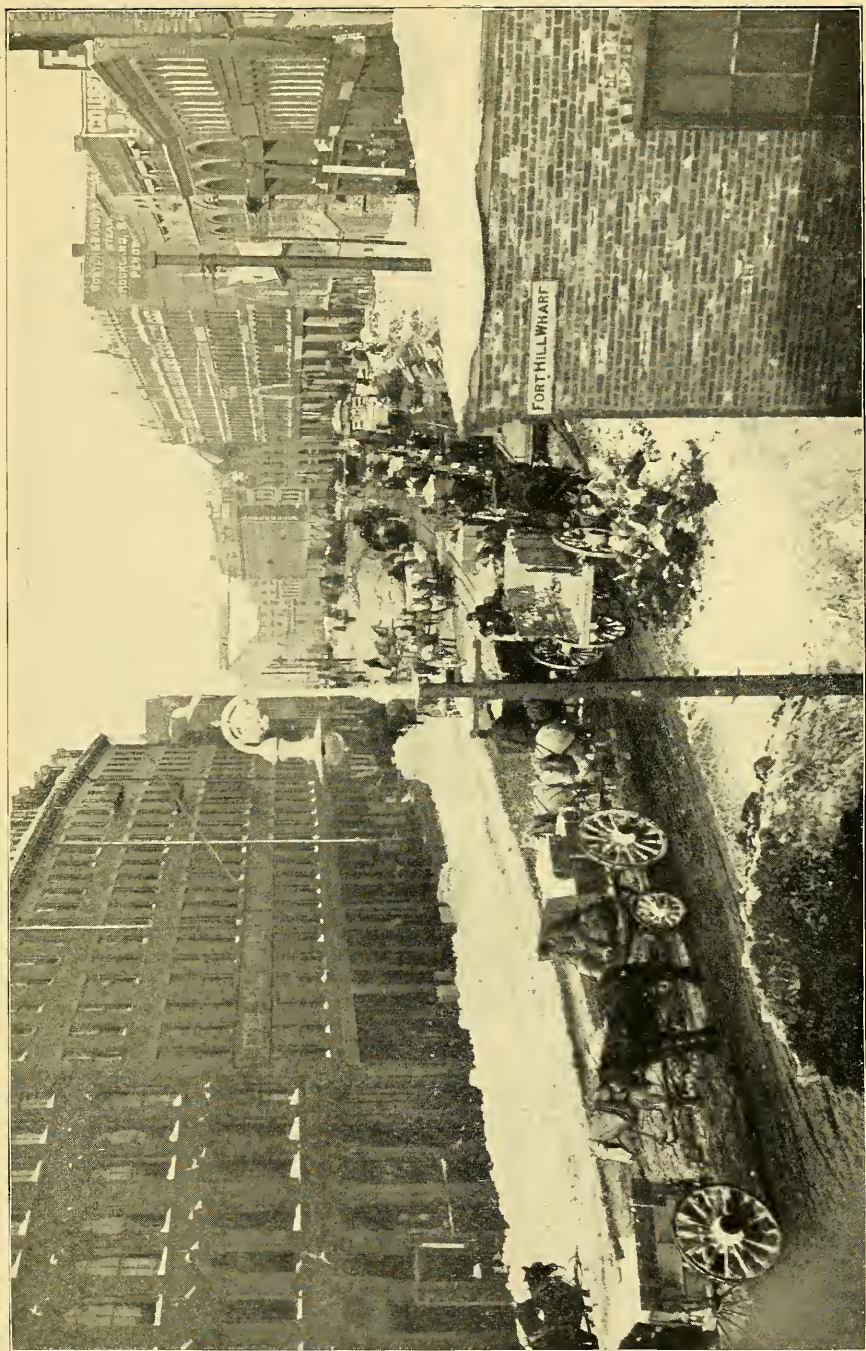
In streets where the travel was heavy the snow cradled badly, requiring the use of picks; and, in effect, from every downtown street the snow had to be carted, the temperature at no time through the week rising higher than slightly above the freezing point. The hill streets were impassable for two days, until the department was able to give them attention.

The work in the outlying districts was made heavy in some places by the tremendous drifts. Fortunately, however, the temperature did not at any time become excessively cold, so that by Sunday night a high wind and warm rain assisted greatly in bringing the streets back to a normal condition.

As compared with the snowfall of February 1 of this same year, the amount was slightly in excess; but the weather conditions were much more favorable to snow removal, so that, while the storm of February, 1898, cost in the neighborhood of \$100,000, the storm of November cost approximately \$50,000. The cost of snow removal for the financial year 1898-99 exceeds that of any year in the history of the department.

The scarcity of dumps has continued a serious obstacle in the way of the rapid and low-cost removal of the snow. The long hauls to, and the long waits at the dumps make much waste and extra labor.

The following is a statement of the number of days labor, number of days teaming, and the number of loads of snow



ATLANTIC AVENUE AT FORT HILL WHARF — SNOW TEAMS.

removed by the Street Department from Sunday, November 27, to Monday, December 5, 1898, inclusive :

Number days labor, Paving Division men	6,689
Number days labor, Street-Cleaning Division men	2,941
Number days labor, Sewer Division men	2,786
Number days labor, Sanitary Division men	279
	<hr/>
Total number days labor	12,695
Number single teams employed	3,053
Number double teams employed	2,413
Number four-horse teams employed	25
	<hr/>
Total number teams employed	5,491
Number single loads snow removed	56,695

In addition to the above, the greater portion of the Paving and Street-Cleaning forces were engaged on snow work for the following week.

The large amount of money required for snow work the present year emphasizes the recommendation made in the last two annual reports of this department that some provision be made for caring for snow, outside the maintenance appropriations of the Paving and Street-Cleaning Divisions. The maintenance appropriation of the Paving Division should be for the maintenance and care of the streets, and such other kindred duties as come within its regular province, for two reasons: first, that the cost of street maintenance from year to year could be compared; and secondly, that it might be possible, in making up the annual estimate of cost, to have a basis on which to figure.

This year the regular work of the Paving Division has been badly crippled the entire year in consequence of the tremendous inroad made on its maintenance appropriation by the storm of February. By careful management, it would have been possible, however, to end the year in this division almost within the appropriation, had it not been for this unusually early fall of snow.¹⁷ The snow cost in this one year was \$172,963.

It is not fair to those charged with the conduct of the work that, through conditions such as these, it should appear when the year is ended that they have been unable to so manage the finances of their department as to live within the appropriation allotted by the City Council; nor is it fair to

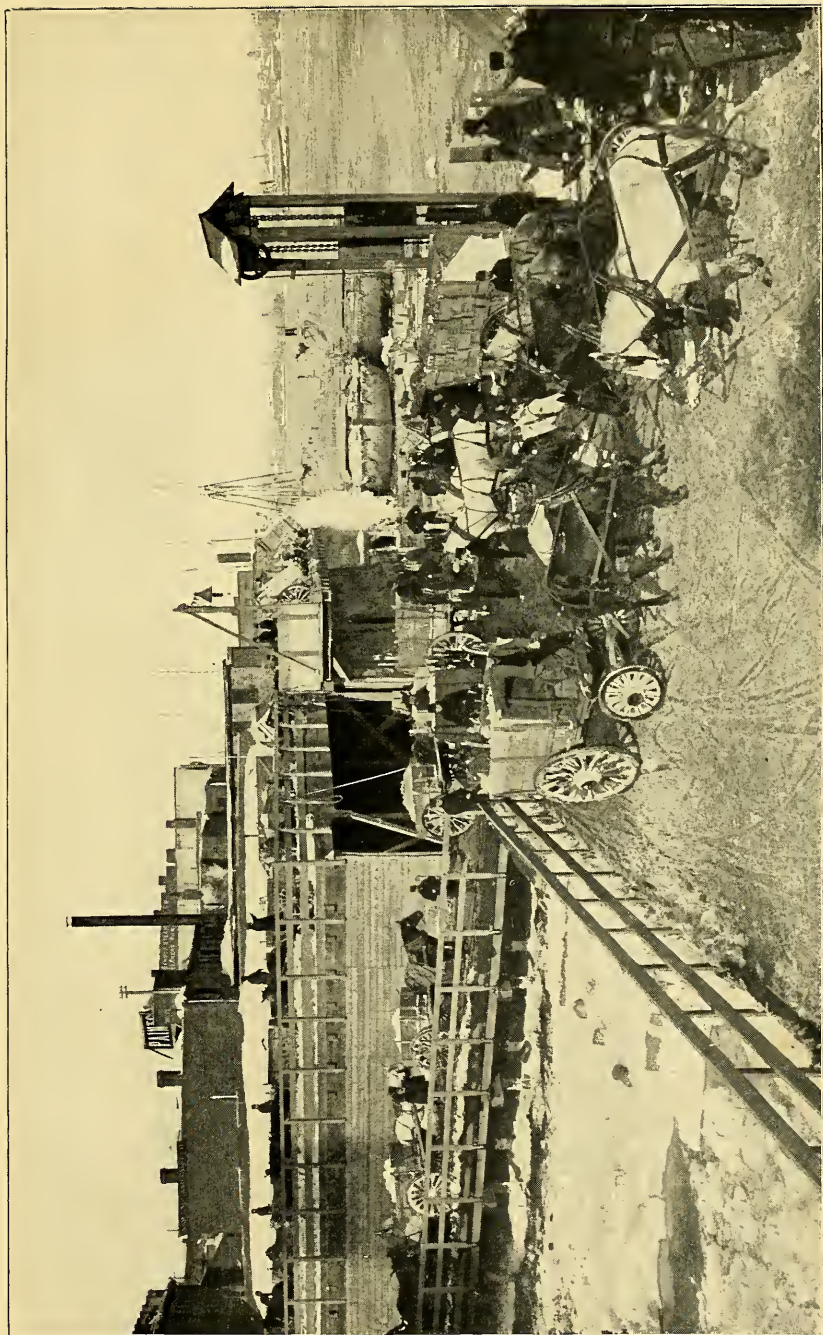
the citizen who expects a certain amount of street work to be done that, owing to weather conditions, he should be neglected. It is impossible to so plan the work that the officials in charge of the different districts of the Paving Division can be instructed or informed as to the amount which may become available for their regular work. Under the present arrangement, dependent upon the fall of snow in the early part of the financial year, the summer work is more or less governed; and there is no way of figuring what will come at the very end of the season in the way of cost of snow removal.

I urge at this time, with the experience of the past year as a lesson, that in the coming year appropriation be made for the regular work of the Paving and Street-Cleaning Divisions, and that some arrangement of moneys be made so that the cost of snow removal, whatever it may be, can be provided for from such further sum as may be set aside for that purpose.

PUBLIC ALLEYS.

In Boston, as in other cities, there are a great number of back passageways, known as alleys. With few exceptions, these were owned by private parties, and the city had no jurisdiction over them, either as regards cleaning or enforcement of city ordinances in reference to the throwing or sweeping of wastes into the street, and no power to bring about sanitary or safe conditions of paving. In some instances these created a most undesirable state of affairs.

These alleys in many cases are as important to those having occasion to use them for the delivery of goods as are the public streets. In a number of instances the department was appealed to by individual abutters, asking that some action be taken looking to repaving. Owing to the fact that it was oftentimes impossible for a number of abutters to jointly agree to do the work, but few alleys had been put in condition; and it was thought desirable on the part of the city authorities to ask legislation which would bring about a system of control. As a consequence, chapter 298 of the Acts of 1898 was passed by the Legislature. Under its provisions, any alley or passageway not exceeding twenty-five feet in width can be laid out and constructed at the expense of the abutters, in the same manner as an assessable street, such alleys not to be kept in repair, but to be cleaned at the expense of the city. Under this act twenty-three alleys and passageways were laid out as public alleys, and will be properly reconstructed during the coming season.



FORT HILL AND HECHT WHARVES — DUMPING SNOW.

Another serious source of inconvenience can be controlled under this act, and that is the blocking of these alleys with snow. It has been customary in certain districts of the city for the abutters to throw the yard and roof snow into the alley, thus making it impassable. In some alleys, by agreement, this snow was removed by contract; but in others, where agreement was not possible, the snow was allowed to remain to the great inconvenience of the city sanitary teams, as well as the various classes of merchants and tradespeople who found it necessary to use the alleys for the delivery of goods. An effort was made to secure the consent of the abutters to the removal of this snow by the city, the cost to be assessed on the individuals, but only in a few instances was this acceptable. The blocking of the alleys with snow, however, is now prevented by requiring a permit from the Superintendent of Streets to place this snow in the alley, and one of the conditions of the permit is that the applicant shall produce an agreement with some reliable contractor that the snow to be placed in the alley will be immediately removed.

In my opinion, the act should be amended so that authority would be given to the city to clear the alleys of snow at the expense of the abutters, for the reason that, as I believe, it could be done at less cost and more systematically than under the present plan of private contract.

Following is the text of the act:

[CHAPTER 298 OF THE ACTS OF 1898.]

AN ACT RELATIVE TO ALLEYS IN THE CITY OF
BOSTON.

Be it enacted, etc., as follows:

SECTION 1. The board of street commissioners of the city of Boston may, under the provisions of chapter three hundred and twenty-three of the acts of the year eighteen hundred and ninety-one and acts in amendment thereof or in addition thereto, lay out and construct any alley or passageway in the city of Boston not exceeding twenty-five feet in width as a public alley, and the provisions of said chapters shall, so far as applicable, apply to the laying out and construction of public alleys and the paying of the assessable cost thereof, as if they were laid out as highways, and any moneys applicable to the laying out and construction of highways under said act may be used for paying the expenses of laying out and constructing public alleys.

SECT. 2. Said city shall not be liable for any defect or want of repair in any public alley, nor be required to keep the same free from snow, but shall be required to keep the same free from any substance which is liable to cause sickness or a nuisance.

SECT. 3. Whoever drops or places and suffers to remain in any public alley any snow or ice, or any rubbish or obstruction of any kind, shall be fined not exceeding fifty dollars for each offence.

SECT. 4. This act shall take effect upon its acceptance by the city council of the city of Boston.—[*Approved April 8, 1898.*]

Accepted by the city council and approved by the Mayor, June 27, 1898.

PERMITS.

The matter of granting permits required by ordinance to be taken out for various kinds of work or occupation of the streets has received a great deal of careful attention; and with the co-operation of the police the system has been operated most successfully. Until 1897 no charge was made for permits, but that year, commencing with the first of January, a small charge was established; for instance, a charge of one dollar for permits to open and occupy the streets, and for the various minor permits twenty-five cents. It is estimated that this will return to the city the sum of twenty thousand dollars per year, which will about cover the cost of maintaining the Permit Office.

The following is the notice giving the cost of permits :

CITY OF BOSTON — STREET DEPARTMENT.

NOTICE TO CORPORATIONS AND CONTRACTORS.

On and after January 1, 1897, a charge will be made for each permit issued from the Permit Office of this department in accordance with the following schedule :

Class A, \$1 each.

Permits for the following purposes :

- Ordinary excavations ;
- Laying drains ;
- Laying wires, conduits and railroad tracks ;
- Occupying streets for erecting and repairing buildings, and other purposes connected with buildings, when they do not become a part of another permit ;
- Placing electric poles in the streets ;
- Placing coal-holes and vaults under the sidewalks ;
- Moving buildings ;
- Feeding horses ;
- Selling fruit, etc., from buildings ;
- Selling fruit, etc., from areas ;
- Occupying sidewalks for more than ten minutes for the purpose of loading and unloading goods (yearly permit) ;
- Driving cattle ;
- Wearing advertising coat and hat (yearly permit) ;
- Making emergency openings.



SNOW DUMP ON THE COMMON.

Class B, 25 cents each.

Permits for the following purposes :

Raising and lowering goods into and from buildings ;
 Erecting signs ;
 Erecting and repairing awnings ;
 Projecting electric lamps ;
 Distributing fine sand on pavements ;
 Occupying sidewalk to repair sidewalk lights and covers ;
 Occupying sidewalk and portion of street for cleaning snow from
 roofs of buildings (yearly permit) ;
 Watering streets with watering carts.

On extensions of permits there will be a charge of 25 cents each.

BENJ. W. WELLS,
Superintendent of Streets.

SEWER DIVISION.

Expenditures.

Maintenance.
 \$337,376.27

Specials.
 \$1,610,178.26

In the last annual report was printed a copy of the Act Relative to the Sewerage Works of the City of Boston, passed in 1897. This act has made it possible to accomplish much valuable sewer work. As this law is now under fire from two different directions, first in the Legislature, and secondly in the Supreme Court, where its validity is to be tested, the following explanation of the reason and purpose of this act is desirable as a matter of record, and also in fairness to this department:

In February, 1896, the writer of this report assumed the office of Superintendent of Streets. His first duty was the study of the conditions and needs of the several divisions of the department. As a result of this study a report was presented to the Mayor showing that the conditions as regards sewerage works were such as to demand immediate action.

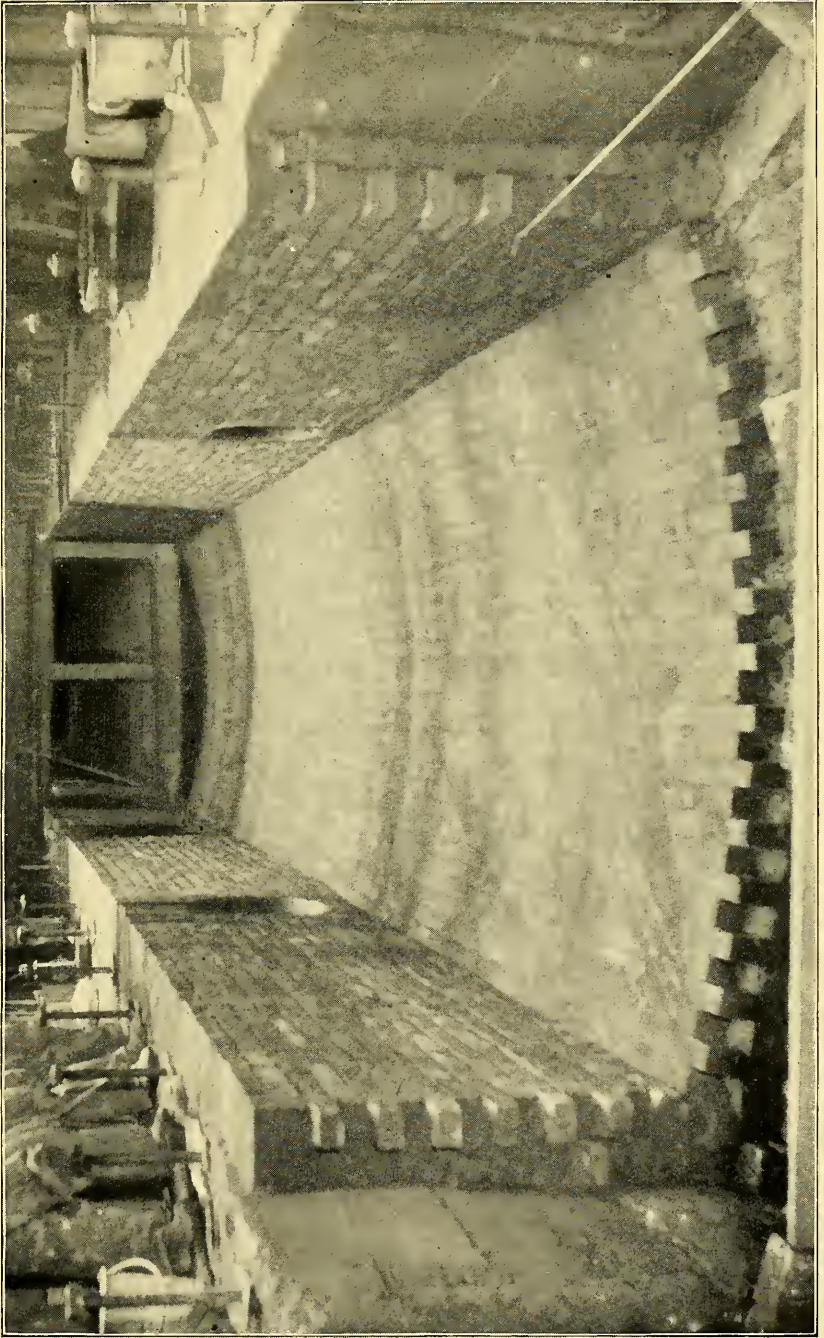
For many years sewerage works of the greatest importance and most urgently needed had been postponed from year to year until the time had arrived when further delay might bring about the most disastrous condition. The great pumping plant at the Cow Pasture, which had been in continuous operation for fifteen (15) years, had received so little

attention in the way of repairs that at any time a break might occur that would disable the entire sewer system of the city. The storage basins at Moon Island had more than reached their capacity, and the plan of discharging on the ebb tide could only be carried out in part. The so-called Canal Street Relief Sewer, serving the most thickly settled and important section of the city, referred to in the Street Department report of 1891, by Superintendent Carter, as in such condition as might bring about an outbreak of cholera unless at once attended to, was still on the list for attention. The sewage of Charlestown and East Boston was still being poured upon the shores of those districts, creating a most menacing nuisance; although the Metropolitan system of sewers, intended for the relief of these sections, was available, and rent to the State was being paid therefor, no connections therewith had been made. Several of the largest overflow sewers were broken down at the outlet, so that at times of storm entire districts were backed up and flooded. The problem of surface drainage, which had been troubling the department for some years, was unsolved. The demands of the citizens in the newly-developed parts of the city for house sewers could be met only in part.

This was the condition as regards the construction work. In the matter of proper maintenance of sewers, the department was also handicapped. The new features of this act were that a certain definite sum was annually authorized for the construction of sewers, and such money as might be needed for the maintenance of the sewers was made an assessable charge, according to the use of the sewer by the taxpayer.

No branch of municipal work has such close relations to the health and comfort of the community as the sewer system of a great city. Only those who have had the care, responsibility and direction of the sewerage system of Boston can appreciate the immense benefit which has come from the conditions made possible under the new sewerage act of 1897, which has been so criticised, so misrepresented, and which has been the subject of legal attack, and is now before the Supreme Court for decision as to its constitutionality.

It is a well recognized fact that to properly frame legislation for the building and assessing of sewerage works that will be satisfactory in all its workings is a most difficult proposition in every municipality.



CANAL STREET RELIEF SEWER, CROSSING UNDER PROPOSED SUBWAY IN HANOVER STREET.

SEWER LEGISLATION.

The first legislation on this subject affecting Boston was an Act past in 1709. All sewers and drains at that time were constructed and maintained by private individuals, and this first act simply required that permit be obtained from the selectmen of the town so that the "inconveniences and damages by frequent breaking up the highways, streets, and lanes," "for the laying and repairing of drains, or common shores, and of differences arising among partners in such drains, or common shores, about their proportion of the charge for making or repairing the same" might be prevented.

Various acts and ordinances were passed succeeding this, but not until 1837 was an ordinance enacted establishing the office of Superintendent of Sewers, and placing the matter under the control and direction of the city. After this, several acts and ordinances were passed in the attempt to more properly arrange for the building and assessing of these sewerage works.

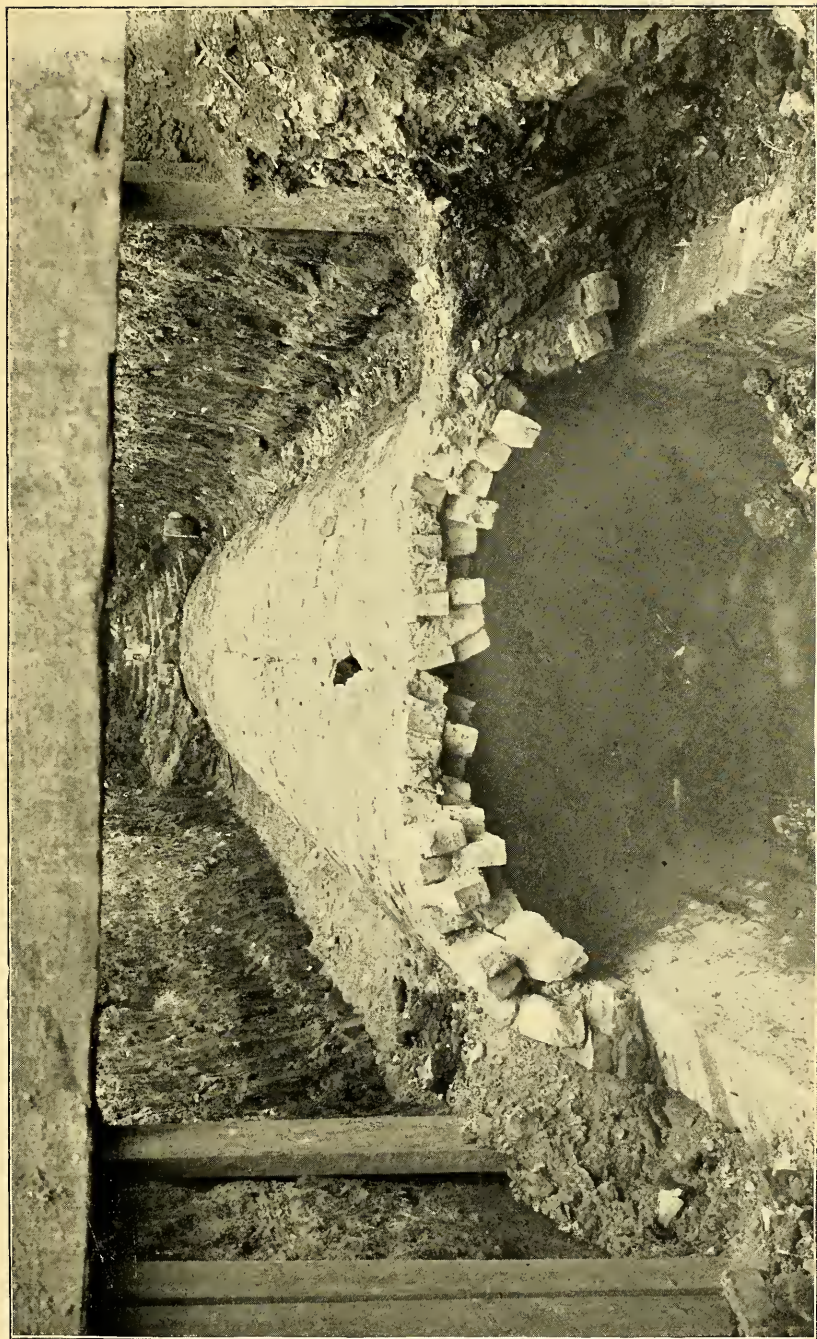
In 1896, when Josiah Quincy became Mayor, the work of building sewers was carried on under the authority of chapter 418, of the Acts of 1892, and amendments. Under this act the assessment for house sewers was not to exceed \$4.00 for each lineal foot of sewer built. The overplus came from the general tax levy; and should the sewer cost less than \$4.00 per lineal foot the abutter received the benefit of the lower cost. Thus each year there was a very considerable deficit in the assessments, and the individual was benefited at the expense of the general tax-payer. The fund from which assessable sewers were built was the appropriation known as the "323 Act," which provided \$3,000,000 for the building of assessable streets and sewers. All sewerage works such as the Main Drainage Pumping Station, and reconstruction of sewers and outlets, must be provided for by concurrent vote of the City Council, and the money obtained by loan within the debt limit. Under this system the real estate holder, in sections of the city entirely unprovided with sewerage, was taxed in his general tax-bill for the construction, building and maintenance of sewers from which he could derive no benefit. Personal property — which certainly could not be affected by the construction and maintenance of sewerage works also stood its burden of the cost. Moreover, under this system, it was impossible for the City Council, with the very limited amount at its disposal — even if other demands more attractive to the ordinary city legislator did not take precedence — to properly provide for the

very pressing demand for sewerage works. An attack was made on the city by the Metropolitan Board of Sewerage Commissioners, and an effort made in the Legislature to take away from Boston all control of her sewerage works, and a part of the plea was that Boston did not adequately care for her sewerage system.

Another question which was becoming of such vital importance that some action became imperative was the problem of how to care for the surface drainage in the outlying districts. The old water courses had become obstructed by building operations, the sewers were not originally designed to take the surface flow, and whole districts were suffering in the wet season from lack of drainage. There was no provision of law whereby this matter could be taken in hand by the department.

Thus the problem presented was a serious one. The matter was taken in hand and carefully studied by experts and officials of the Sewer Division, and the results submitted to the city Law Department, with a view to perfecting an act which would give adequate relief, and at the same time assess the expense on those benefited by the construction and maintenance of sewerage works. As a result of this study, what afterwards became chapter 426 of the Acts of 1897 was formulated, introduced into the Legislature, and referred to the Committee on Metropolitan Affairs, who, after careful consideration and hearings, reported favorably, and the act was passed.

This act in substance provides that the City Council for the city of Boston shall annually appropriate sums not exceeding one million dollars in any one year for constructing sewerage works in said city, and shall also appropriate, to be met by annual charges such sums as the Mayor of said city should deem sufficient for maintaining and operating the sewerage works. All sewers, drains, pumping stations and other works for the collection or disposal of sewage or surface or ground water in said city shall be included in the term sewerage work as used in the act. It further provides that the Board of Street Commissioners, with the approval of the Mayor, shall order the construction of sewers or drains; that streams or water courses within the limits of said city may be filled up or diverted, widened, deepened, paved or covered by the order of said Board. Said Board is authorized to make takings for sewers, water courses, etc. The Superintendent of Streets or such other officer as the Mayor of said city shall from time to time direct shall carry out such orders. The Treasurer of said city, to meet



HALLECK STREET, SHOWING BROKEN DOWN SEWER.

the expenses incurred in constructing any sewerage works, shall from time to time and on the request of the Board of Street Commissioners, issue sewerage bonds. The Board of Street Commissioners, with the approval of the Mayor, are empowered to annually determine just and equitable sewerage charges to be paid by estates of said city for the construction, maintenance and operation of the sewerage works, as caused by each estate, the amount of use thereof, if any, by the estate or its occupants, and the benefit received therefrom by the estate.

Early in the year the Board of Street Commissioners authorized the Superintendent of Streets to submit to them a study and plan of making assessments under the act, and the subject was taken in hand by the Sewer Division of the Street Department. A special detail of department engineers and expert assistants with a sufficient clerical corps prepared the plans and figures, which were later submitted to the Board of Street Commissioners, and accepted by them, with the approval of His Honor the Mayor, and of the city Law Department.

The preparation of the plans and figures involved an immense amount of detail work; but early in September the figures and plans for the assessment were delivered to the Board of Street Commissioners, the Street Department keeping the control of the engineering account in connection with the sewer assessment work, this engineering force preparing the plans and obtaining the data on which future assessments will be based.

The system of assessments put into operation covering the expenditures of the past year is as follows:

The assessment was divided into two parts —

1. Maintenance and operation.
2. Construction.

For the first part, the maintenance and operation, the city government allowed \$350,000. One-quarter of that amount is assessed on all the estates of the city of Boston on the basis of land valuations, for the reason that all the estates in the city derive some benefit from sewerage works, through the maintenance of sewers, water courses and catch-basins which care for the surface water from the streets, and also for the benefits they receive from the use of public buildings, which are exempt from assessment. The remaining three-quarters is based on the water tax, and in this city it has been found that the proportion which this assessment should have to the water tax is about 1 to 5.

There are something over thirty classes of water-takers, and

allowance is made in each special class for such amount of water as is not returned to the sewers. The proceeds of this assessment are used for the care and maintenance of all the sewerage works.

Class 2, Construction, is sub-divided into three classes.

The first class is composed of main drainage, main channels and other large works of which the whole city derives a part of the benefits. This is assessed on all the estates according to their land valuation.

The second class of sewers, which are designated as district sewers or sub-mains, are assessed on district areas, the engineering force of the Sewer Division having divided the entire city into distinct drainage areas, and for the purpose of sewerage works each district is carried in a separate account.

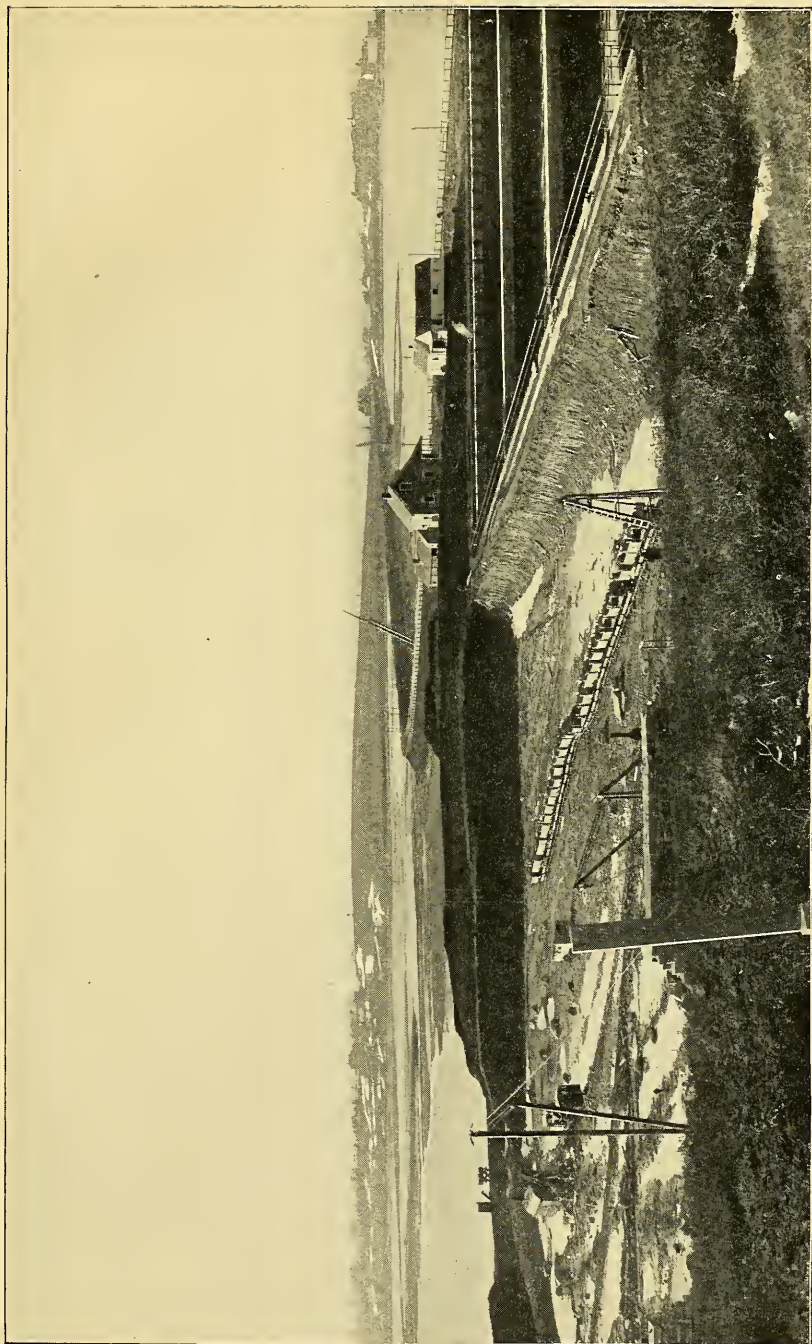
Third, lateral sewers, which are assessed on frontages to the amount of \$1.25 for each assessable foot, any cost in excess of this amount being charged on the district area; and, in case of any sewer costing less than \$1.25 per foot, the area is credited with the difference.

The assessment for construction is the amount of the sinking fund charges and interest on 30-year bonds.

This, in a general way, explains the method of determining the sewerage charges. It may be that in practice the plan as adopted is not perfect in all its details, and some changes may be necessary in future assessments. The assessment, however, is determined by the Board of Street Commissioners each year, so that any defect in the present plan can be corrected, and but slight hardship entailed by any assessment of the past year.

As stated above, owing to the inability of the city under the old sewerage law to provide the necessary moneys to properly care for and extend its sewerage system, many large and difficult problems must be met and taken care of at the outset. In a few years, however, these larger works of construction will have been accomplished, the city provided with a perfect and comprehensive system of sewerage works, and the annual charges be greatly decreased. There will of course be some opposition to the tax, which comes as a new burden; but if the large tax-payers and real estate owners were to thoroughly consider the entire subject, I believe that they would be convinced of the great value of this act, whereby, without great hardship to any one, it is possible to perfectly develop and maintain the most important branch of city work.

During the two years that the department has been able to conduct its work under this act, the problems which had



EXTENSION OF RESERVOIR OF MAIN DRAINAGE SYSTEM AT MOON ISLAND.

been presented to every superintendent and administration for fifteen years were substantially cared for; and the city today is in a condition, as regards its Main Drainage System, the large overflows, the most expensive part of the great surface drains, and the rebuilding of certain broken-down sewers most important to the general health, which never could have been reached without this legislation. The problems of the future are comparatively unimportant, except as regards quantity, — that is, conditions dangerous to public health and safety have been remedied. There still remains to be cared for, however, the tremendous demand for house sewers which has been brought about by the building of the new avenues and the construction of certain lines of main drains.

SANITARY DIVISION.

Expenditures.

\$508,152.88.

The past year the collections of this division were as follows: 394,937 loads, 54 cubic feet each, of house dirt and ashes, 57,764 loads of house offal.

The principal changes or improvements made in this division during the past year have been as follows:

A contract has been closed with the New England Sanitary Product Company for the utilization of about 78 per cent. of the swill collected in this city daily (the bulk of which was heretofore sold to farmers), with provisions for taking the balance whenever it is convenient for the city to deliver the same. The plant is located in an isolated section of the city which is known as the Cow Pasture, was started on the 15th of November, is now treating daily about 130 or 140 tons, and in a very short time (as soon as the new dumping place on the Roxbury Canal is completed) will take the balance of the amount contracted for, while in the near future the swill now collected in the East Boston and Dorchester districts will be treated in the same manner.

There has also been put in force a third separation, viz., separating the papers and other combustible waste from the ashes. The disposition of this class of waste has heretofore been a great nuisance to this department, as it is not desirable for filling, and, when towed to sea, it often floated back upon the neighboring beaches, causing considerable annoyance and some complaint.

This waste is now being separated in 55 per cent. of our daily collections of ashes, and the same carted to a new plant which has recently been erected near Fort Hill Wharf, and which has just gone into operation. The matter there will be sorted, the marketable portion culled out, and the balance burned.

In making this third separation the hearty co-operation of the public is desired.

There have also been purchased 30 new steel-bodied dumping wagons for collecting offal, which have displaced a like number of the old wooden ones heretofore used.

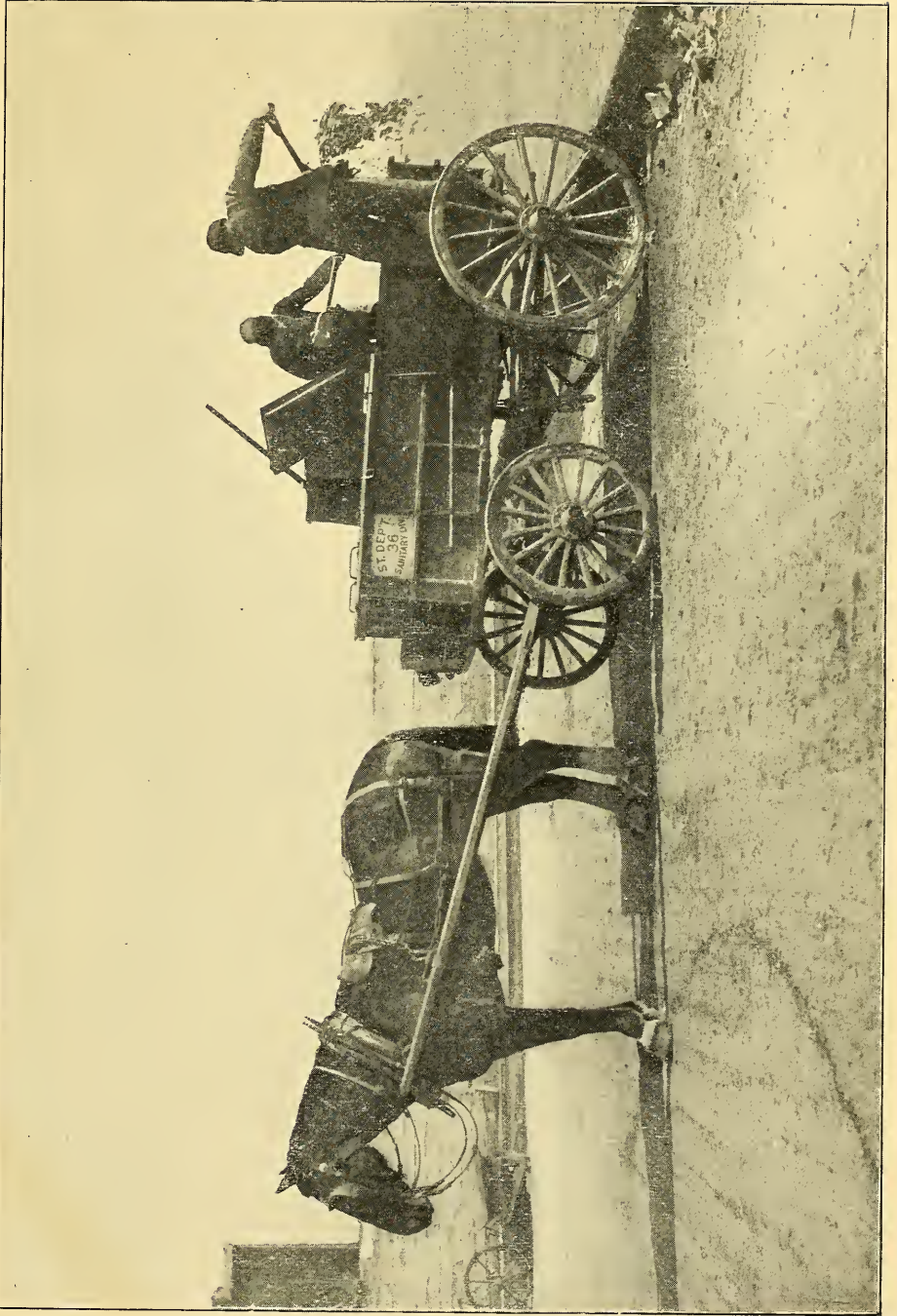
There has also been built a new dumping-plant at Fort Hill Wharf for the more expeditious and sanitary handling of the garbage. A similar plant, for a like purpose, is also being constructed on the Roxbury Canal at the foot of East Canton street, and will be ready for operation in a very short time.

With these changes in the methods of collection and disposal of garbage the system in Boston now surpasses that in use in any other city in this country. It is the purpose of the department during the coming year to still further improve the service, and by January 1, 1900, there will be little room left, as far as can be seen, for improvement.

The horses of the division are in excellent condition, many of the older ones having been replaced by the purchase of new animals. The stables have received such attention as has been possible from the maintenance appropriation, and the condition, while not all that might be desired, is fair.

The series of pictures shown in connection with the Sanitary Division illustrate the change from old to new methods. The first two pictures show the old way of collecting mixed waste materials, with the rag-pickers overhauling the barrels. This made a continual litter on the streets, besides being objected to by the Board of Health, on the ground that this material, carried into the houses, was likely to spread disease. Under the new system, householders and storekeepers are required to keep their combustible waste separate from the ashes. The police have stopped the overhauling of barrels by rag-pickers, and the improvement as regards cleanliness of streets is quite notable.

The third plate shows the interior of the plant where the combustible waste is cared for. What appears in the centre of the plate as a trough is the revolving belt, with the material carried past the men, each sorting into a chute (also shown in the picture), the material then passing below into the basement, where it is baled for shipment. The next plate shows the continuation of the belt, carrying the refuse,



UNLOADING GARBAGE — OLD METHOD.

which is of no value, into the furnaces, where it furnishes the fuel to operate the plant. The next plate shows the building erected for the purpose of handling the combustible wastes.

The next plate shows the loading of the farmers' wagons at the South End swill yard under the old system. It can be easily seen that this method was most objectionable. In the first place the city wagons dumped the offal in great masses on the platform. This, being shoveled over into the farmers' wagons and again carted through the streets, was the source of constant and proper complaint. The offal from the central down-town section of the city was carried by barge and dumped in the bay, creating a constant nuisance and source of complaint to the dwellers along its shores. The next plate shows the offal wagons dumping their loads into the scow at the South End wharf, and there is also shown in this picture the change from the wooden box-carts to the iron carts. It will be noted that the old-fashioned box-carts, so long in use in Boston, are emptied by the men shoveling out the contents, whereas the new iron cart is simply dumped, and the load is disposed of in a few seconds.

The next picture shows the plant of the New England Sanitary Product Company at the Cow Pasture.

The shop work carried on under the direction of the deputy of the Sanitary Division has been continued with excellent results, the greater part of the shoeing of the horses, building and repairing of carts, harnesses, etc., of the department being done by this division.

STREET-CLEANING DIVISION.

Expenditures.

\$316,052.73.

Removed 131,705 loads of dirt.

The appropriation for the Street-Cleaning Division work remaining about as in past years it has not been possible to extend the service, as recommended in the last annual report, to Dorchester, Brighton and East Boston. The work in these districts now is either done by the Paving Division — which in the busy season is unable to give it proper attention — or a portion of the street-cleaning force is sent weekly or bi-weekly into these districts.

A change has been made in the manner of doing the work in the West and North ends of the city from machine sweeping

to hand sweeping, and the results attained have been so excellent that this method will be extended. The old way was to sweep the streets at night, two, three or four times a week, by machine. Under the present method the streets are divided into small sections, and swept by hand continuously. The expense has been but slightly greater, and the increase in cleanliness very apparent, as, under the old way, within a few hours after sweeping, paper and litter thrown into the streets would create an untidy appearance.

I again call attention to the failure on the part of the police to enforce the ordinances in regard to throwing waste materials into the streets, which, in certain sections of the city, makes it impossible to bring about better conditions without an expenditure of money which is unnecessary and unwarranted.

EMERGENCY WAGON.

Suggested by an occurrence which happened early in the year, a so-called emergency wagon and emergency corps have been established within the department. In February, during the progress of a fire, a building collapsed, carrying down with it a large number of firemen. This happening at an early hour in the morning it was not possible to at once get together a force of street department men to assist the firemen and police in their efforts to clear away the ruins. It was not until almost 7 o'clock that the men could be summoned to the work, when they were able to render substantial assistance.

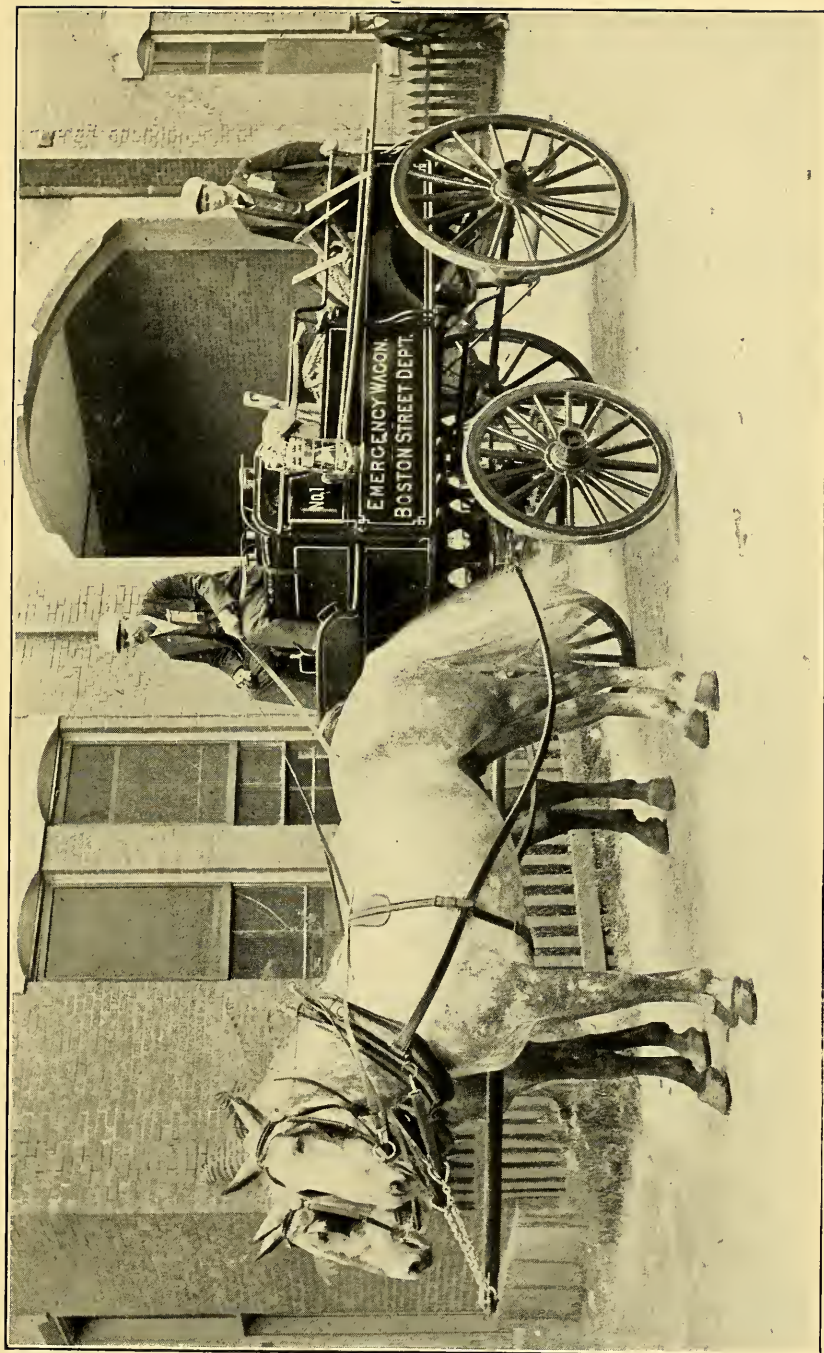
After perfecting the organization the following letter was sent to the Fire Commissioner, and a similar letter to the Board of Police:

BOSTON, October 4, 1898.

COL. H. S. RUSSELL, *Fire Commissioner*:

DEAR SIR,— I desire to notify you that this department has put into service a so-called emergency wagon, and that arrangements have also been made so that such a number of men as might be needed on an emergency call could be furnished from this department. The wagon is equipped with ropes, jacks, shovels, crowbars, axes, saws and such wrecking and other tools as might be of service in case of a falling building, fire or other accident.

Should occasion arise where this department can be of assistance to your force, a telephone message to City Hall 25 (West End Stables, North Grove street) will bring the wagon and such number of men as may be deemed necessary.



EMERGENCY WAGON.

The arrangement for summoning the men is as follows :

On call from the proper authority, the watchman at the yards will send, through the men living nearest to the yard, cards to a certain number of the men on the district to report at the yard. From that point they can be sent wherever needed. Those in charge of these men are instructed to report at the place of call to the officer in charge, and to take all instructions from him.

On very short notice quite a considerable number of men could be brought together in the down-town district, and the limit of the available force is not reached until a thousand or fifteen hundred men are called for.

Trusting that, should occasion arise, you will not hesitate to call upon this department, I beg to remain

Yours very truly,

(Signed)

BENJ. W. WELLS,

Superintendent of Streets.

BRIDGE DIVISION.

Maintenance.

Expenditure.

\$129,253.03.

Special.

Expenditure.

\$11,006.04.

New construction under charge of the City Engineer.

\$34,328.02.

In the Bridge Division, owing to the fact that absolutely no new money was appropriated except for the regular maintenance, there has been no work of any considerable importance undertaken. I cannot too strongly call the attention of the City Council to the necessity for action in relation to many of the bridges. Some are in need of almost entire reconstruction, and others should be thoroughly overhauled. There is also need for additional and improved machinery on several bridges to assist in the passage of vessels through the draws. The maintenance appropriation is but barely sufficient to care for the running expenses, such as the payment of draw-tenders, the purchase of supplies, and the most ordinary repairs. It is only by the most careful attention on the part of the deputy in charge that the bridges have been kept in running order, and accidents avoided.

FERRY DIVISION.

Maintenance.

Expenditure.

\$213,055.79.

Receipts.

\$165,001.57.

Specials.

Expenditure.

\$131,736.40.

Traffic.

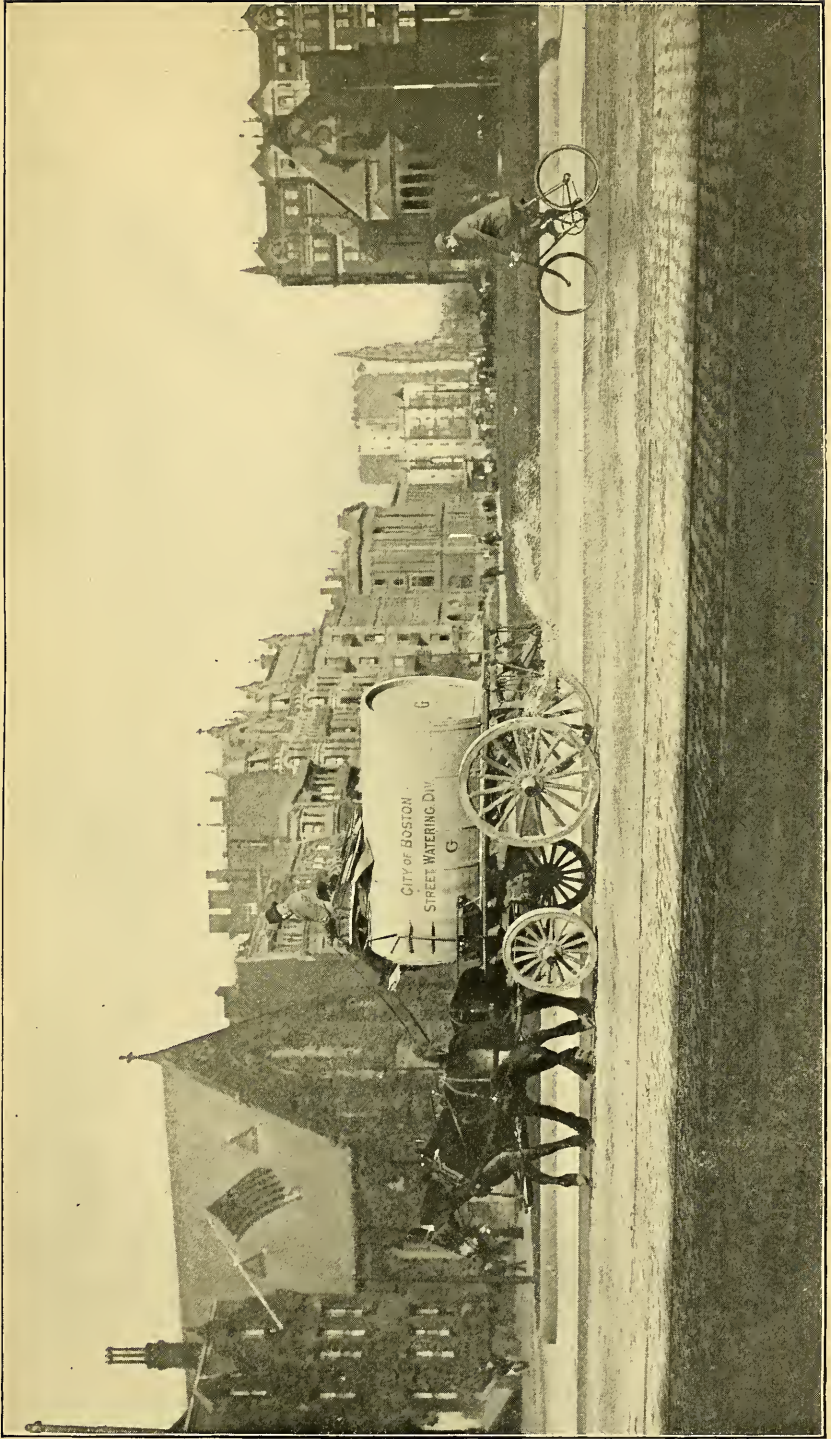
12,182,842 foot passengers.

938,140 teams.

The new boat, "Governor Russell," just ready to go into commission, was purchased by the United States government for war purposes, for the sum of \$71,000, the exact cost to the city. Also, the propeller ferry-boat "East Boston" was taken for the same purpose, for which was paid the sum of \$57,500, making a total of \$128,500. A contract was made for another new boat, which will be completed by February 15, 1899. Contracts for two new drops and tanks have been made, and these are now being put in place. This will make all the drops practically new, as the eight drops have been built since 1894; and it is expected that no new drops will be required for at least twenty years. Two slips have been sheathed at an expense of about \$4,000. This work was necessary, as if it had been left undone much longer new piling would have been required, which would have cost at least \$10,000 more. The work done in this line would last for ten years.

The boats, slips, tanks, landings and head-houses, with the exception of the South ferry, East Boston side, are in good condition, and no extraordinary expense will be required for some years.

Another new boat should be built, unless both the boats sold to the United States government should be repurchased.



STREET WATERING — CART AND INSPECTORS.

STREET-WATERING DIVISION.

Expenditure.

\$138,728.57.

Miles of streets watered, 409.95.

Prior to 1891, any watering of the city streets was done by private subscription. In that year a change was made, the city undertaking the watering of all macadam streets, leaving the paved streets to still be watered by the abutters. The appropriation for this work was taken from the general tax levy.

This method was unsatisfactory in many ways, for the reason that on the paved streets the difficulty or neglect of the individual abutters making arrangements led to very uncertain conditions, and also distributed the cost very unevenly.

The past year another change was inaugurated, the city undertaking the watering of all public streets, whether paved or not, assessing the cost of the work on the abutting estates, under authority of the statute authorizing all cities of 50,000 inhabitants and over to do street-watering by special assessment. Under this act, however, it was not possible to assess by districts. It was therefore thought best to omit, as far as possible, from the assessment the more sparsely settled districts of the city, where the frontages were very considerable and the cost might bear as a burden upon the estates. The line was drawn to substantially include the territory within four miles of City Hall, and all estates within this line abutting on public streets were assessed five cents per front foot for the street-watering, the portion of the city outside of the four-mile limit being cared for out of the general tax levy.

The statute should be amended so that it would be possible to assess the watering by districts, in order that the sections of the city requiring and receiving the greater service and the greater benefit should pay proportionally.

As a result of the change the service rendered by the Street-Watering Division has given great satisfaction, and this very important branch of the public service has been maintained at its proper standard.

In the report of the Division Superintendent (see Appendix G) this ground is more fully covered, with the detail of the figures and the act giving authority for doing the work in this manner.

One electric watering car was in service during the

season, and gave excellent satisfaction. It was not possible to extend the system, owing to certain uncontrollable conditions.

SMOKE NUISANCE.

Under the authority of an act passed by the Legislature in 1895 in relation to the preventing of smoke nuisance, the Mayor appoints the Superintendent of Streets as the official to enforce the law. The matter is handled by an inspector, and two assistants. I think there is less trouble from this source in Boston, perhaps, than in many other large cities. At the same time, it is only constant activity on the part of the Street Department that prevents the growth of the evil.

The department keeps well in touch with the owners of large steam plants, and also with the coal dealers. There has been very little friction, and all seem willing to co-operate as far as possible in keeping good conditions. At certain times, owing to the scarcity of proper grades of coal, there is a temptation on the part of both dealers and consumers to substitute low-grade smoky coal. In these times the work of the department is made more difficult.

The report of the Chief Inspector, Appendix I., gives the number of inspections and general detail of the work.

PURCHASE OF SUPPLIES.

A most important factor in the proper administration of a large department is the purchase of supplies. This branch of the work has been given most careful and faithful attention by the Purchasing Agent of the department, to whom warrants for all stock and materials are sent, and, with the approval of the Superintendent, purchases made for all divisions

The volume of business can be understood from the fact that in the past year 9,639 requisitions were made for supplies ordered by the various divisions. Advantage has been taken of the market, when possible, and goods bought by the quantity.

BOSTON AND CAMBRIDGE BRIDGES.

By an act of the Legislature, chapter 467, Acts of 1898, in addition to the bridges already under their charge, all bridges between Boston and Cambridge were placed under the care of the Commissioners for the Boston and Cambridge bridges, thus taking from the Boston Bridge Division and putting under the control of the Boston and Cambridge Commissioners the following additional bridges :

Essex street, Cambridge street, North Harvard street and Western avenue bridge to Cambridge.

As substantially all the bridges are old and in more or less poor condition, constant attention and supervision are required to avoid accidents and keep them in good condition for travel. I have again to thank my fellow Commissioner, Mr. William J. Marvin, of Cambridge, for the excellent results and conditions which have been brought about by his careful and constant work.

I would earnestly recommend the building of a new bridge between old Cambridge and Brighton at North Harvard street. This street has been widened and constructed on both the Boston and the Cambridge sides, and the connection is made by an extremely narrow and old bridge. As this is the bridge leading to the Soldiers' Field, where the college sports are held, and is also the main thoroughfare connecting Cambridge with the new Metropolitan park, and also with Boston, some action should be taken at the coming session of the Legislature to provide a more suitable bridge.

A special commission, consisting of Hon. Josiah Quincy, Mayor of Boston, Hon. Edgar R. Champlin, Mayor of Cambridge, and E. D. Leavitt, Consulting Engineer, was appointed under an act of the Legislature to construct the new West Boston bridge to Cambridge; and plans for this structure are well in hand, and other work will be proceeded with the coming season.

Craigie's Bridge.

On the south side of the Boston end of this bridge the sidewalk had settled, and hard pine, eight by twelve inches, was placed the whole length to keep it in place.

A new bulkhead and fence have been built on the north side of the Cambridge end of this bridge four hundred feet in length, commencing at the draw. A brick sidewalk has been laid, curbstone reset, and roadway paved from the curb to the track. The paving on other parts of the bridge has been repaired, and the brick sidewalk on the old part has been relaid. The fence on the north side of the bridge and part of that on the south side has been given two coats of paint.

The roadway has been swept and cleaned; the bridge watered three times every day when necessary, from April to November.

The draw has been sheathed.

Ordinary repairs and sweeping and cleaning snow from the sidewalks are done by the draw-tender and assistants.

Before deciding the grade to be established on Bridge street, near the entrance to Austin street, where the city of Cambridge and Boston and Maine Railroad Company are to build an overhead street, it would be well to consider what the rise of grade will be and the width and the side to be widened when a new bridge will be built to take the place of the present Craigie's bridge. A part of this bridge on the Boston end and also on the Cambridge end, is in very poor condition. Some of the piles in the Cambridge end have been in position about one hundred years. Trusses have been put under it, holes cut in the bridge, and piles driven through to strengthen it.

The draw is worn out. It is also too narrow. Teams and cars cannot pass over together.

The traffic on this bridge is immense and increasing every year. One-half of the travel comes from places outside of Cambridge.

By the time the new Cambridge bridge is built to take the place of West Boston bridge, a new bridge, as wide and as good as this new bridge will be, will have to be built to take the place of Craigie's bridge.

Harvard Bridge.

In November, 1897, the roadway for the entire length of the bridge was newly sheathed. Heretofore this sheathing was renewed every year, either in October or November. This year by looking after it carefully and patching when necessary, we expect to carry it through until spring. By putting down new sheathing in April we will have a smooth surface all summer which will be much better for vehicles and bicycles. We required more room for storage, etc., at house on pier, and added to the present structure twelve feet by fourteen feet, one story, and painted it and the building connected with it. The greater part of the work was done by the draw-tenders on the bridge. The iron work underneath the surface of the bridge, where the salt water comes in contact with it, rusts very badly. We had the worst places scraped and painted. The work was done by the men on the bridge. Next year all the ironwork the whole length and width of the bridge will have to be painted.

Other parts of the bridge are in fairly good condition. In April the Welsbach light on the Boston end of the bridge was put on. The contract expires in April, 1899.

The bicycle path put down last November, three feet wide on each side of the bridge near the curb, seems to give good

satisfaction to the riders of these vehicles. Ordinary repairs on the bridge, keeping the electric light globes clean and in order, the sidewalks free from snow in winter and cleaning the bridge, is done by the draw-tender and his assistants.

Prison Point Bridge.

This bridge is kept in as good repair as is possible. It being old we do not care to expend a large amount on it. We expect the Boston and Maine Railroad Company will soon build an overhead street. When they do a new draw will then take the place of the old one.

The draw-tender keeps the bridge clean, and does ordinary repairs.

West Boston Bridge.

The Boston end of this bridge had settled. To keep it in place three trusses were put under the roadway.

The under plank on the roadway of the draw were replaced by new three-inch plank, and new sheathing laid over them. The bridge is in very poor condition, and is going to be replaced by a new one. No more work is done than is necessary to make the bridge safe for travel. The bridge was watered three times daily from April 1 to November 1.

The ordinary repairs, repairing, paving, and cleaning the bridge have been attended to.

The draw-tender and assistants have swept and cleaned the snow from sidewalks and piers, when necessary, and have made the repairs.

A temporary bridge is being built on the south side of this bridge to take its place while building the new one. This new bridge, when completed, will be named the Cambridge bridge.

Cambridge-street Bridge.

This bridge is in fair condition. New chains for hoisting the draw were put in place. Repairs were made on the bridge, draw and piers; and the small houses on the piers were repaired.

One arc light has been placed on the Cambridge end of this bridge.

Essex-street Bridge.

This bridge is in very good condition, having been rebuilt two years ago.

The draw-tenders do all ordinary repairs, such as sweeping the bridge and repairing sheathing on bridge and draw. A small building for tools and storage was placed on the

pier; the work was done by the men employed on the bridge.

New chains for hoisting draw were put on.

The bridge was poorly lighted. There were only two arc lights the whole length of the bridge, and travel at night was unsafe. Three new arc lights have been added, two Boston side, one Cambridge side.

North Harvard-street Bridge.

Repairs have been made on this bridge, draw, piers and small houses on piers.

This bridge ought to be replaced with a new, wider and more modern one. Cambridge has widened Boylston street, Boston is now widening and raising the grade of North Harvard street.

The park on the borders of Charles river, on Cambridge side, is very fine.

Extensive improvements now being made on the Boston side of the Charles river for a park and speedway, when all are completed, will make this part of the river quite ornamental. A bridge at this place should be in keeping with the surroundings.

Western-avenue Bridge.

Repairs were made on the roadway, draw and small houses.

The planking in the waterway, piers and guard were repaired.

One arc light has been placed on the Cambridge end of this bridge.

IN GENERAL.

The usual statement is appended showing the number of draw openings and the number of vessels which passed through.

The amount of revenue received for rents, dockage, repairs to Boston Elevated Railway Company's tracks, etc., has been \$1,292.40, and one-half, \$646.20, has been paid to each city.

The following is a statement of the payments made by the city of Boston on account of the Boston and Cambridge bridges from February 1, 1898, to January 31, 1899:

Amount of appropriation for financial year of	
1898-99	\$15,000 00
Expended to January 31, 1899	13,569 89
	<hr/>
Balance February 1, 1899	\$1,430 11

STREET DEPARTMENT.

37

Classification of Expenses.

	Canal or Craicie's Bridge.	Harvard Bridge.	Prison Point Bridge.	West Boston Bridge.	Cambridge Street Bridge.	Essex Street Bridge.	N. Harvard Street Bridge.	Western Ave. to Cam- bridge.	General Account.	Totals.
Salaries	\$1,562 50	\$1,340 00	\$379 47	\$1,352 00	\$206 90	\$349 00	\$176 33	\$206 97	\$250 00	\$5,813 23
Electric light.....	245 20	775 50	.....	441 34	.....	.....	.....	.....	.....	1,462 04
Lumber	480 38	127 54	84 12	227 09	89 97	122 97	55 90	67 72	.....	1,264 69
Repairing sidewalk and fence.....	1,198 63	.....	.....	.....	.....	.....	.....	.....	.....	1,198 63
General repairs.....	353 97	179 01	83 19	214 18	68 75	.....	32 43	28 88	.....	960 41
Inspection, 1898.....	207 50	117 50	52 50	92 50	25 00	.....	35 00	30 00	.....	560 00
Cleaning bridges.....	149 05	65 75	.....	174 00	.....	.....	.....	.....	.....	388 80
Gas light.....	.....	305 33	.....	.....	.....	.....	.....	.....	.....	305 33
Watering roadways.....	131 25	.....	.....	131 25	.....	.....	.....	.....	.....	262 50
Paving.....	131 25	.....	28 94	94 28	.....	.....	.....	.....	.....	254 47
Fuel.....	136 24	13 47	.....	84 99	6 73	10 11	.....	.....	.....	251 54
Electric current.....	.....	150 00	.....	.....	.....	.....	.....	.....	.....	150 00
Ironwork.....	20 94	29 55	19 78	35 84	10 71	22 64	3 96	2 03	.....	145 45
Tools and hardware	68 85	7 88	12 55	21 42	15 54	4 06	1 58	8 05	.....	139 93
Electric repairs .....	.....	113 82	.....	.....	.....	.....	.....	.....	.....	113 82
Sundry small supplies.....	44 24	30 35	1 25	15 75	7 68	4 59	81	1 75	.....	106 42
Paint and painting	41 18	5 00	.....	3 71	1 00	10 58	1 00	1 00	.....	63 47
Travelling expenses.....	.....	.....	.....	.....	.....	.....	.....	.....	52 50	52 50
Water rates	16 00	.....	5 50	11 00	.....	.....	.....	.....	.....	32 50
Stationery .....	.....	.....	.....	.....	.....	.....	.....	.....	29 82	29 82
Printing .....	.....	.....	.....	.....	.....	.....	.....	.....	14 34	14 34
Totals	\$4,786 18	\$3,260 70	\$667 30	\$2,899 35	\$432 28	\$523 95	\$307 07	\$346 40	\$346 66	\$13,563 89

Number of times the Draws in Canal, Harvard, Prison Point, and West Boston Bridges have been opened and the number of vessels which have passed through, for the year beginning February 1, 1898, and ending January 31, 1899.

DATE.	CANAL.		HARVARD.		PRISON POINT.		WEST BOSTON.		* CAMBRIDGE STREET.		* ESSEX STREET.		* NO. HARVARD STREET.		* WESTERN AVENUE.	
	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.	Number of Draw Openings.	Number of Vessels Passed Through.
February 1, 1898,	71	99	8	23	16	16	13	15	107	287	88	145	85	266	98	255
to																
January 31, 1899.																
February	344	355	106	130	15	15	134	224	181	557	104	173	115	342	179	550
March	283	419	260	286	14	18	129	224	119	338	80	136	67	126	108	310
April	321	488	239	275	37	54	177	312	86	304	60	102	36	57	79	307
May	270	390	200	238	36	57	116	218	89	169	96	169	63	133	77	153
June	358	404	114	150	36	50	137	235	119	338	80	136	36	57	79	307
July	328	494	164	188	32	47	188	310	181	557	104	173	115	342	179	550
August	318	506	137	150	45	69	133	229	119	338	80	136	67	126	108	310
September	406	258	133	133	26	40	130	220	86	304	60	102	36	57	79	307
October	262	462	178	207	50	79	158	285	89	169	96	169	63	133	77	153
November	226	428	154	204	36	55	129	278	66	119	81	159	43	86	42	75
December	171	260	30	34	70	119	54	105	14	25	17	28	.....	.....	4	8
January, 1899																
Totals	3,385	4,563	1,713	2,003	413	632	1,498	2,655	662	1,799	526	912	409	1,010	587	1,658

* July 1, 1898, to January 31, 1899, inclusive.

Revenue, February 1, 1898, to January 31, 1899.

DATE. 1898.	L. B. 4 Pages.	Received from.	Totals.	One-half City of Boston, City Collector.	One-half City of Cambridge, W. J. M.
June 16....	169	Wharfage, rents, etc.....	\$339 00	\$169 50	\$169 50
Aug. 29....	206	Boston Elevated Ry. Co...	560 40	280 20	280 20
Dec. 7....	238	Wharfage, rents, etc.....	193 00	96 50	96 50
1899.					
Jan. 4....	260	N. E. Tel. & Tel. Co.....	200 00	100 00	100 00
		Totals.....	\$1,292 40	\$646 20	\$646 20

SUMMARY OF WORK DONE.

BRIDGE DIVISION.

Overhauled and repaired the following bridges, viz. :

Broadway, Charles river, Congress street, Mt. Washington avenue, Warren, Ferdinand street and Hyde Park avenue over Stony brook.

Talbot-avenue bridge was completed this year, the entire work of grading and building the bridge so as to allow the street to pass under the New York, New Haven and Hartford Railroad (Midland Division), being done by the railroad company at an expense to the city of \$25,000.

FERRY DIVISION.

One boat was hauled out on the railway and stripped and calked.

Two new drops and tanks were built and placed in position, and two piers were stripped and planked.

One new ferry-boat, "Governor Russell," was built and with the "East Boston" was sold to the United States Government, and a contract made for another boat, which is now building.

PAVING DIVISION.

Paved and regulated 14 streets with granite blocks, 41,491 square yards on concrete base and 96,247 square yards on gravel base, or a total of about 137,738 square yards.

Thirty-seven thousand two hundred and eighty-four square yards of gutters paved, 162,809 linear feet of edgestone set and reset.

Eight thousand five hundred and thirty-nine square yards asphalt on a concrete base.

Sidewalks laid and relaid as follows, viz. :

Brick, 71,813 square yards.

Crushed stone, 25,390 square yards.

Artificial stone, 15,797 square yards.

Work has progressed on 32 streets, laid out and ordered constructed under the "323" Act, and 20 of these have been finished.

SEWER DIVISION.

Built 38.37 miles of sewers, 671 new catch-basins, flushed 201 miles of sewers, removed 808 cubic yards of deposit from sewers and 8,670 cubic yards of sludge from the Pumping Station, cleaned 6,061 catch-basins removing 19,735 cubic yards of deposit.

SANITARY DIVISION.

Collected and removed 394,937 loads of 54 cubic feet each of house dirt and 57,764 loads of house offal.

STREET-CLEANING DIVISION.

Removed 131,705 loads of street sweepings, etc., and emptied 27,148 public waste barrels.

STREET WATERING DIVISION.

Watered 409.95 miles of streets.

EMPLOYMENT OF LABOR.

The report of the Civil Service Clerk, showing the classification of the employees of the department and the transfers and requisitions made for the several divisions of the department, will be found in Appendix J.

The detailed financial statements, work done, etc., will be found in the Central Office Report and the eleven appendices following.

Respectfully submitted,

BENJ. W. WELLS,

Superintendent of Streets.

CENTRAL OFFICE DIVISION.

EXPENSES OF THE CENTRAL OFFICE.

For the current expenses of the Central Office the City Council appropriated the sum of twenty thousand (20,000) dollars, which was expended as follows :

Salaries	\$15,786 67
General office expenditures	3,399 57
	<hr/>
Total	\$19,186 24

leaving a balance of eight hundred thirteen dollars and seventy-six cents (\$813.76), which was transferred as follows, viz. :

To the Street Cleaning Division	\$450 44
To the City Treasury	363 32
	<hr/>
	<u>\$813 76</u>

FINANCIAL STATEMENT OF THE STREET DEPARTMENT APPROPRIATION.

From February 1, 1898, to January 31, 1899.

MAINTENANCE.

APPROPRIATION.	Appropriations and transfers during 1898.	Revenue.	Total Credits.	Expenditures for the twelve months ending January 31, 1899.	Balances January 31, 1899.
Street Department:					
Central Office.....	1 \$19,549 56	.....	\$19,549 56	\$19,186 24	\$363 32
Bridge Division.....	2 129,253 03	.....	129,253 03	129,253 03	
Boston and Cambridge Bridges.....	3 15,000 00	.....	15,000 00	13,569 89	1,430 11
Ferry Division.....	4 213,055 79	.....	213,055 79	213,055 79	
Paving Division.....	5 725,000 00	\$1,255 20	726,255 20	726,255 20	
Sanitary Division.....	6 507,152 88	1,000 00	508,152 88	508,152 88	
Sewer Division.....	7 550,000 00	.....	550,000 00	337,376 27	12,623 73
Street Cleaning Division.....	8 313,388 74	63 99	313,052 73	316,052 73	
Street Watering Division.....	9 138,728 57	.....	138,728 57	138,728 57	
Totals.....	\$2,413,728 57	\$2,319 19	\$2,416,047 76	\$2,401,630 60	10 \$14,417 16
1 Appropriation 1898-99.....	\$20,000 00		\$220,000 00	7 Appropriation 1898-99.....	\$350,000 00
Transferred to Street Cleaning Division.....	450 44		6,944 21	8 Appropriation 1898-99.....	\$315,000 00
			\$213,055 79	Work done for corporations.....	63 99
	\$19,549 56		\$725,000 00	Transferred from Bridge Division.....	538 30
	\$130,000 00		1,255 20	Transferred from Central Office.....	450 44
			\$726,255 20		\$316,052 73
2 Appropriation 1898-99.....	\$538 30		\$500,000 00	9 Appropriation 1898-99.....	\$10,000 00
Transferred to Street Cleaning Division.....	208 67		1,000 00	Transferred from "General Revenue".....	128,728 57
			6,944 21		\$138,728 57
	\$129,253 03		208 67	10 Transferred to City Treasury.	
			\$508,152 88		
	\$15,000 00				

Comparative Table showing Cost of Maintenance of the Street Department since Organization.

DIVISION.	1891-92. (13 months.)	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
Central Office.....	\$16,050 00	\$18,793 60	\$20,805 96	\$20,884 29	\$18,315 79	\$18,781 85	\$17,789 95	\$19,186 24
Bridge.....	123,010 63	128,954 37	133,159 24	130,137 21	119,716 00	119,963 55	126,529 32	129,253 03
Boston and Cambridge Bridges.	11,866 42	11,079 76	11,493 16	11,986 85	12,537 33	13,835 54	14,403 92	13,569 89
Ferry.....	.....	.....	.....	.....	209,911 30	218,353 10	219,983 24	213,055 79
Paving.....	872,936 40	915,460 99	745,631 52	715,608 62	683,809 42	628,675 46	690,187 34	726,355 20
Sanitary.....	2500,342 24	469,370 74	481,300 63	467,459 02	432,778 52	477,241 54	492,670 56	508,152 88
Sewer.....	446,222 69	560,608 19	373,517 38	304,133 40	280,596 07	276,615 25	295,522 25	337,376 27
Street Cleaning.....	3215,929 33	288,320 42	308,707 30	301,477 44	305,998 50	310,266 39	309,963 38	316,052 73
Street Watering.....	104,263 62	94,507 80	99,430 16	87,169 08	76,424 70	71,211 81	578,736 72	188,728 57
Totals.....	\$2,229,621 33	\$2,487,095 87	\$2,174,095 35	\$2,038,855 91	4 \$2,140,177 63	\$2,134,944 49	\$2,245,816 68	\$2,401,630 60

¹ Nine months only.

² Includes street cleaning for four months to May 1, 1891.

³ Nine months only, but includes expenditure for Street Police, May 1 to July 10, 1891 — \$464.41.

⁴ For comparison, deduct Ferry Division, not before shown, making total — \$1,934,263.33.

⁵ Not including water bills of \$76,330.40 not previously paid by Street Watering Division.

Bridge Division Specials.

OBJECT OF APPROPRIATION.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1898, to Jan. 31, 1899.	Balances on hand Jan. 31, 1899.
Gold-street Bridge.....	\$9,328 02	\$9,328 02	
Harvard-street Bridge.....	2,643 80	335 91	\$2,307 89
Lauriat-avenue Bridge.....	21,000 00	.....	21,000 00
Reconstruction of Bridges.....	11,615 38	10,670 13	945 25
Talbot-avenue Bridge.....	25,000 00	25,000 00	
Totals	\$69,587 20	\$45,334 06	\$24,253 14

Ferry Division Specials.

Electric lights for ferry-boats.....	\$2,137 12	\$2,137 12	
New ferry-boats.....	128,500 00	50,463 60	\$78,036 40
New ferry landing (chapter 435, Acts of 1895).....	435,742 19	79,135 68	356,606 51
Totals.....	\$566,379 31	\$131,736 40	\$434,642 91

Paving Division Specials.

Abolishment of Grade Crossings.....	\$6,905 37	\$6,905 37	
Albany street, in front of Massachusetts Homeopathic Hospital.....	4,359 92	1,222 00	\$3,137 92
Alford street.....	10,000 00	10,000 00	
Atlantic street	10,000 00	6,441 71	3,558 29
Beacham street.....	9,000 00	3,878 39	5,121 61
Brighton avenue.....	1,408 03	1,072 91	335 12
Brooks street.....	35,000 00	3,000 00	32,000 00
Cabot street.....	207 52	207 52	
Carleton street.....	208 09	208 09	
Centre street, Ward 20.....	1,250 00	1,250 00	
Charlestown Bridge.....	14,712 61	14,712 61	
Commonwealth avenue.....	4,105 54	.....	4,105 54
Dudley street	1,139 00	1,139 00	
Eleanor and Ridgemont streets.....	605 51	.....	605 51
Freeport street.....	7,406 25	6,372 98	1,033 27
Hull street.....	6,851 63	6,851 63	
North Margin street.....	152 89	152 89	
Quincy street	277 71	277 71	
Carried forward.....	\$113,590 07	\$63,692 81	\$49,897 26

OBJECT OF APPROPRIATION.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1898, to Jan. 31, 1899.	Balances on hand Jan. 31, 1899.
<i>Brought forward</i>	\$113,500 07	\$63,692 81	\$49,807 26
Rand street.....	1,604 55	1,604 55	
Rapid Transit.....	17,500 00	16,265 06	1,234 94
Sydney street.....	253 06		253 06
Washington street.....	4,500 00	107 30	4,392 70
Totals	\$137,447 68	\$81,669 72	\$55,777 96

Street Improvements.

Street Improvements, Ward 1.....	\$6,000 00	\$6,000 00	
Street Improvements, Ward 2.....	6,000 00	6,000 00	
Street Improvements, Ward 3.....	26,493 91	26,493 91	
Street Improvements, Ward 4.....	19,421 13	14,488 78	\$4,932 35
Street Improvements, Ward 5.....	6,283 16	6,165 17	117 99
Street Improvements, Ward 6.....	22,705 96	22,705 96	
Street Improvements, Ward 7.....	20,194 53	20,194 53	
Street Improvements, Ward 8.....	21,210 96	19,874 66	1,336 30
Street Improvements, Ward 9.....	20,116 34	17,955 16	2,161 18
Street Improvements, Ward 10.....	13,619 36	12,922 87	696 49
Street Improvements, Ward 11.....	6,000 00	6,000 00	
Street Improvements, Ward 12.....	15,255 04	13,481 83	1,773 21
Street Improvements, Ward 13.....	9,197 51	8,304 65	892 86
Street Improvements, Ward 14.....	11,781 46	11,087 59	693 87
Street Improvements, Ward 15.....	19,266 81	16,091 85	3,174 96
Street Improvements, Ward 16.....	18,797 25	13,771 74	5,025 51
Street Improvements, Ward 17.....	13,960 00	10,976 23	2,983 77
Street Improvements, Ward 18.....	20,077 14	20,077 14	
Street Improvements, Ward 19.....	20,199 31	12,547 34	7,651 97
Street Improvements, Ward 20.....	13,960 00	13,960 00	
Street Improvements, Ward 21.....	6,000 00	6,000 00	
Street Improvements, Ward 22.....	13,960 00	13,086 29	873 71
Street Improvements, Ward 23.....	13,960 00	13,301 91	658 09
Street Improvements, Ward 24.....	13,960 00	13,960 00	
Street Improvements, Ward 25.....	6,000 00	4,186 90	1,813 10
General.....	88,666 55	78,225 93	10,440 62
Totals	\$453,086 42	\$407,860 44	\$45,225 98

Sewer Division Specials.

OBJECT OF APPROPRIATION.	Appropriations, Balances and Transfers.	Expended from Feb. 1, 1898, to Jan. 31, 1899.	Balances on hand Jan. 31, 1899.
Back Bay Fens Sewage.....	\$25,000 00	\$25,000 00	.....
Dam from Maverick street to Prescott street, East Boston.....	3,000 00	.....	\$3,000 00
Sewerage Works.....	1,535,170 00	1,490,743 50	44,426 50
Stony Brook Improvement.....	141,108 10	94,434 76	46,673 34
Totals	\$1,704,278 10	\$1,610,178 26	\$94,099 84

Laying-out and Construction of Highways.*Expenditures.*

Sewer construction	\$21 97
Street construction	434,350 77
Total	<u>\$434,372 74</u>

Blue Hill and Other Avenues.*Expenditures.*

OBJECT OF APPROPRIATION.	Street Construction.	Sewer Construction.	Totals.
Blue Hill avenue.....	\$6,629 95	.....	\$6,629 95
Columbus avenue.....	163,601 74	.....	163,601 74
Commonwealth avenue extension.....	1,113 30	\$15 00	1,128 30
Commonwealth avenue construction...	84,177 30	.....	84,177 30
Totals	\$255,522 29	\$15 00	\$255,537 29

South Union Station.*Expenditures.*

Sewer construction	\$41,588 39
Street construction	78,676 17
Totals	<u>\$120,264 56</u>

**Recapitulation of Expenditures for the Twelve Months Ending
January 31, 1899.**

OBJECT OF APPROPRIATION.	Current Expenses for the twelve months ending Jan. 31, 1899.	Special Appropriations.	Totals.
Street Department:			
Central Office	\$19,186 24		\$19,186 24
Bridge Division	129,253 03	\$45,334 06	174,587 09
Boston and Cambridge Bridges ...	13,569 89		13,569 89
Ferry Division	213,055 79	131,736 40	344,792 19
Paving Division	726,255 20	81,669 72	807,924 92
Sanitary Division	508,152 88		508,152 88
Sewer Division	337,376 27	1,610,178 26	1,947,554 53
Street Cleaning Division	316,052 73		316,052 73
Street Watering Division	138,728 57		138,728 57
Street Improvements		407,860 44	407,860 44
Laying-out and Construction of Highways		434,372 74	434,372 74
Blue Hill and Other Avenues		255,537 29	255,537 29
South Union Station		120,264 56	120,264 56
Totals	\$2,401,630 60	\$3,086,353 47	\$5,488,584 07

**Street Building Under Chapter 323 of the Acts of 1891, or
Special Acts or Amendments Thereto.**

STREET.	Paving.	STREET.	Paving.
Amory st.....	\$28 50	Malvern st.....	\$4,246 04
Angell st.....	52 63	Maryland st.....	1,245 38
Ashley st.....	12 50	Mellen st.....	5,224 61
Astor st.....	39 99	Merlin st.....	1,760 83
Athelwold st.....	185 17	Middleton st.....	43 00
Belmore terrace.....	3,828 12	Millet st.....	25 60
Belvidere st.....	293 00	Morse st.....	98 32
Bernard st.....	9,789 47	Newburg st.....	18 00
Bloomfield st.....	87 85	Nightingale st.....	9,074 52
Burt st.....	5,748 90	North Harvard st.....	23,867 95
Callender st.....	11 00	Norway st.....	166 35
Canal st.....	16,409 32	Oakley st.....	6,608 33
Carlos st.....	2,144 47	Peterborough st.....	29 40
Chamberlain st.....	69 86	Peverell st.....	2,540 11
Chamblot st.....	2,563 54	Queensberry st.....	13,028 65
Charlestown st.....	4 50	Rosseter st.....	7,176 50
Chiswick road.....	45 00	Ruggles st.....	9,612 42
Columbia road.....	167,992 11	School st.....	125 00
Commonwealth ave.....	31 22	Shirley st.....	14 50
Devon st.....	19 75	Spencer st.....	726 56
Elizabeth st.....	2,144 51	Stanley st.....	7 62
Ellet st.....	56 96	St. Stephen st.....	2,676 13
Engineering expense.....	1,077 45	Stuart st.....	1,724 40
Fairmount st.....	16,776 03	Telford st.....	1,759 51
Fenelon st.....	120 86	Thane st.....	7 38
Forest Hills st.....	43 37	Tonawanda st.....	11,867 51
Fowler st.....	43 45	Turner st.....	185 71
Francis st.....	52 86	Vancouver st.....	2,465 64
Fullerton st.....	116 69	Van Winkle st.....	19 65
Gaylord st.....	47 10	Waterlow st.....	3,477 32
Geneva ave.....	329 81	Wensley st.....	57 75
Greenbrier st.....	139 83	West Selden st.....	531 96
Hamilton st.....	2,380 16	Wolcott st.....	163 62
Harold st.....	423 86	Woodlawn st.....	15 38
Hewins st.....	3,848 47	Public alley No. 401.....	138 27
Idaho st.....	31 50	402.....	117 27
Ipswich st.....	45,467 26	403.....	47 40
Jersey st.....	19,732 17	404.....	1,064 76
Leeds st.....	43 40	437.....	1,787 90
Leedsville st.....	4,367 27	701.....	43 94
Leroy st.....	4,966 85		
Lonsdale st.....	8,992 82		
		Total.....	\$434,350 77

**List of Contracts from February 1, 1898, to January 31, 1899,
made by the Street Department.**

Paving-Blocks.

CONTRACT.	Awarded to	Dated	Price per M. delivered on wharves.
Large Paving-blocks, 748,000....	Rockport Granite Co...	Feb. 25, 1898....	\$48 30
Gutter Paving-blocks, 179,000...	Rockport Granite Co...	July 19, 1898....	40 00
Gutter Paving-blocks, 100,000...	Rockport Granite Co...	July 19, 1898....	41 00
Philadelphia Paving-blocks, 538,000.....	Rockport Granite Co...	Feb. 25, 1898....	48 30
(2 Contracts)	Rockport Granite Co...	July 23, 1898..	
Large Paving-blocks, 407,000 ..	Pigeon Hill Granite Co.	March 12, 1898..	48 30
Philadelphia Paving-blocks, 207,000.....	Pigeon Hill Granite Co.	March 13, 1898..	48 30
Large Paving-blocks, 211,000 ...	Cape Ann Granite Co..	July 13, 1898....	48 30
Philadelphia Paving-blocks, 200,000.....	Cape Ann Granite Co..	July 13, 1898....	48 30
Gutter Paving-blocks, 47,000....	Cape Ann Granite Co..	July 13, 1898....	48 30
Large Paving-blocks, 71,000	A. Ford & Son.	Feb. 17, 1898....	44 30
Philadelphia Paving-blocks, 82,000.....	J. Grant & Co.....	Feb. 17, 1898....	44 50

Bank Gravel and Sand.

DISTRICT.	Awarded to	Dated	PRICE.			
			Gravel.		Sand.	
			A.	B.	A.	B.
South Boston.....	F. J. Hannon..	May 9, 1898.	\$1 50	\$0 75	\$1 50	\$0 75
East Boston.....	L. F. Leary....	May 9, 1898.	1 33	0 69	1 33	0 69
Charlestown.....	P. O'Riorden...	May 9, 1898.	1 50	0 63	1 20	0 60
Brighton.....	Neill McBride..	May 10, 1898....	1 46	0 73	1 46	0 73
West Roxbury....	J. A. Whitte- more's Sons..	May 11, 1898....	1 08	0 54	0 98	0 49
Dorchester.....	F. McGovern..	May 9, 1898.	1 24	0 55	1 45	0 73
Roxbury.....	H. P. Nawn....	May 9, 1898.	1 59	0 50	1 70	0 60
City Proper, Dis- tricts 8 and 9....	Wm. Gilligan ..	May 9, 1898.	1 65	0 80	1 65	0 80
City Proper, Dis- trict 10.....	P. O'Riorden ..	May 9, 1898.	1 30	0 62	1 30	0 62

EXPLANATION OF LETTERS: A, double loads; B, single loads.

Spruce Lumber.

DISTRICT.	Awarded to	Dated	Price per M. ft. B. M.	Price for planing per M. ft.
South Boston.....	Curtis & Pope Lumber Co.,	Jan. 29, 1898..	\$13 94	\$0 95
East Boston.....	Curtis & Pope Lumber Co.,	Jan. 29, 1898..	15 44	0 95
Charlestown.....	G. Fuller & Son.....	Jan. 29, 1898..	15 25	0 95
Brighton.....	G. Fuller & Son.....	Jan. 29, 1898..	14 44	0 95
West Roxbury...	G. Fuller & Son.....	Jan. 29, 1898..	15 44	0 95
Dorchester.....	G. Fuller & Son.....	Jan. 29, 1898..	13 94	0 95
Roxbury.....	G. Fuller & Son.....	Jan. 29, 1898..	13 94	0 95
City Proper.....	G. Fuller & Son.....	Jan. 29, 1898..	13 94	0 95

Beach Gravel.

DISTRICT.	Awarded to	Dated	Price per ton deliv- ered on wharves.
City Wharves.....	T. Cargill, Jr.....	March 12, 1898..	\$0 59½

Iron Castings.

CONTRACT.	Awarded to	Dated	Price per 100 lbs.
Iron Castings.....	Sessions Foundry Co..	Feb. 14, 1898....	\$1 13½

Coal.

CONTRACT.	Awarded to	Dated	Price per ton 2,240 lbs.
1,500 tons, Pumping Station, Dorchester.....	Garfield & Proctor Coal Co.....	Feb. 24, 1898....	\$2 70
1,500 tons, Pumping Station, Dorchester.....	John Morrison.....	May 6, 1898....	3 03
1,500 tons, Pumping Station, Dorchester.....	Metropolitan Coal Co.....	Dec. 29, 1898....	3 23
1,500 tons, Ferry Wharves.....	John Morrison.....	May 6, 1898....	3 03
7,000 tons, Ferry Wharves.....	Metropolitan Coal Co.....	July 30, 1898....	2 49

Crosswalk Flagging.

CONTRACT.	Awarded to	Dated	PRICE PER SQUARE FT..	
			On Wharves.	On Streets.
Granite.....	Rockport Granite Co..	Feb. 25, 1898....	\$0 30	.
North River....	J. J. Cuddihy.....	July 26, 1898....	0 33	\$0 36½

Lease of Ledge Lots, Quarrying Stone, etc.

CONTRACT.	Lessor.	Dated	Price.
Lease of ledge lot, Rosseter st. ¹	W. T. Emerson.....	April 1, 1898.....	\$0.25 per ton.
Lease of ledge lot, Centre st., between Allandale and Walter sts. ²	Thomas Minton.....	January 2, 1899.....	\$0.18 per ton.
Lease of ledge lot, Heath st., near Day st.	Frederick Bieller.....	April 1, 1898.....	\$0.20 per ton.
Quarrying and cutting stone from ledge on Washington st., near Townsend, and delivering the same at Dimock-st. crusher.....	H. P. Nawn.....	April 16, 1898.....	\$0.97½ per ton.
Quarrying and cutting stone from west side of Commonwealth ave., between Washington st. and Howard pl. and delivering same as ordered.....	Michael Kiernan.....	August 9, 1898.....	(A) \$1.35 per cubic yard. (B) \$1.60 per cubic yard. (C) \$1.90 per cubic yard. (D) \$0.15 per cubic yard.
Quarrying and cutting stone from Commonwealth ave., between Washington and Warren sts. and delivering the same as ordered.....	A. McMurtry & Sons.....	October 10, 1898.....	(A) \$1.27 per cubic yard. (B) \$1.60 per cubic yard. (C) \$1.90 per cubic yard. (D) \$0.15 per cubic yard.
Quarrying and cutting stone from east side of Commonwealth ave., between Washington st. and Howard pl. and delivering the same as ordered.....	M. Kiernan	January 4, 1899.....	(A) \$1.35 per cubic yard. (B) \$1.60 per cubic yard. (C) \$1.90 per cubic yard. (D) \$0.15 per cubic yard.

EXPLANATION OF LETTERS.

¹ Expires February 1, 1902. ² Expires February 1, 1903.

(A) Delivered at the foot of the ledge. (B) Delivered on the platform of the Commonwealth ave. Crusher or within one-half mile haul of the ledge. (C) Delivered on North Harvard st. (D) For all stone loaded into city teams.

Lease of Land, etc.

CONTRACT.	Lessor.	Dated	Price.
Lease of wharf, 466 to 470 Atlantic av.....	J. H. Hecht	February 19, 1898	First five years, \$10,000 per year; last five years \$11,500 per year. Taxes and water rates and interest at six per cent. per annum on all amounts paid by the Lessor for public assessments or betterments laid upon these premises after March 1, 1898.
Lease of wharf, etc., Revere st.....	J. J. Costello.....	December 29, 1898.....	\$5,500 per year and taxes.
Lease of certain privileges at Harvard-st. bridge.....	N. Y., N.H. & H. R.R. Co.	January 19, 1899.....	\$1 per year.

Collecting and Removing Ashes.

CONTRACTOR.	Lessor.	Dated	Price.
Collecting and removing ashes, etc., Meeting House Hill District	P. J. Lyons.....	March 26, 1898.....	\$3,645 per year for two years.

Collecting and Removing House Offal.

CONTRACTOR.	Lessor.	Dated	Price.
Collecting and removing house offal, etc., West Roxbury District	Geo. T. Barnes	March 23, 1898.....	\$1,800 per year for three years.
Collecting and removing house offal, etc., Brighton District,	Geo. T. Barnes	May 4, 1898.....	\$3,000 per year for three years.

Furnishing Filling.

CONTRACT.	Awarded to	Dated	Price.
1,450 cubic yards on Columbia road.....	R. J. Johnson.....	April 13, 1898.....	(A) \$0.50
6,500 cubic yards on St. Stephen street, from Bryant street about 803 feet northeasterly.....	James T. Gilligan.....	April 28, 1898.....	(B) \$0.20
6,000 cubic yards on Columbus avenue, opposite Roxbury street.....	James T. Gilligan.....	June 11, 1898.....	(B) \$0.30
2,000 cubic yards on Columbus avenue near Ritchie street..	J. P. Niland.....	June 14, 1898.....	(B) \$0.30
45,000 cubic yards on Jersey street between Audubon road and Peterborough street....	Boston and Albany Railroad Co.	August 24, 1898.....	(A) \$0.51
30,000 cubic yards on Columbia road between Mercer and Mt. Vernon streets.....	John S. Jacobs & Son.....	October 20, 1898.....	(A) \$0.35
4,500 cubic yards on Columbia road near Allbright street...	J. McGovern.....	December 17, 1898.....	(B) \$0.59½
8,000 cubic yards on Columbia road between Mt. Vernon and Mercer streets.....	J. J. Sullivan.....	December 24, 1898.....	(A) \$0.60
2,000 cubic yards on Belvidere street in the old location of the B. & A. R. R. Co.	William Gilligan.....	January 25, 1899.....	(B) \$0.40
Grading Columbia road between I street and the west line of Atlantic street.....	Simon J. Donovan.....	October 25, 1898.....	(B) \$0.46½
Building culvert and grading Columbia road between Mercer and Mt. Vernon streets.....	Simon J. Donovan.....	December 28, 1898.....	(C) \$2,386.24 (B) \$0.69½

(A) Per cubic yard Bank measurement. (B) Per cubic yard measured in the fill. (C) Culvert (wooden).

Paving and Regulating.

CONTRACT.	Awarded to	Dated	Price.
Summer st. and Dorchester ave	H. P. Nawu.....	March 25, 1898.....	\$3.00 each single team and driver; \$5.00 each double team and driver; labor and materials cost plus 15 %.
Bunker Hill st., between Chelsea and Elm sts.....	J. Turner & Co.....	May 4, 1898.....	(B) \$0.08; (D) \$0.25; (F) \$0.18.
Hull st., between Salem and Commercial sts	P. H. Bradley & Co.....	May 16, 1898.....	(B) \$0.08; (D) \$0.25; (F) \$0.18.
Hanover st., between Washington and Court sts.....	H. Gore & Co.....	June 1, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Brighton st., between Leverett and Lowell sts.....	D. J. Kiley.....	August 1, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Shawmut ave., between Cherry st. and 108 feet north of Cobb st.....	H. Gore & Co.....	August 16, 1898.....	(B) \$0.08; (C) \$5.00; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Tremont st., between Boylston and Pleasant sts., and Shaw- mut ave., between Tremont and Pleasant sts.....	H. Gore & Co.....	August 22, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Tremont st., between Weston and Hammond sts.....	J. Doherty & Co.....	October 1, 1898.....	(B) \$0.08; (D) \$0.25; (F) \$0.18.
Howard st., between Bulfinch and Court sts.....	H. Gore & Co.....	October 4, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Brattle st., between Washington and Court sts	H. Gore & Co.....	October 18, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Commercial st., between State and Clinton sts.....	H. Gore & Co.....	October 24, 1898.....	(B) \$0.08; (D) \$0.25; (E) \$0.90; (F) \$0.18.
Norfolk ave., between Magazine and Shirley sts.....	Barnes, Rufin Co.....	October 28, 1898.....	(A) \$1.20; (B) \$0.08; (D) \$0.25; (G) \$0.12.
Alford st., between Main st. and Malden bridge.....	P. Brennan & Co.....	October 28, 1898.....	(B) \$0.08; (D) \$0.25; (F) \$0.18.

EXPLANATION OF LETTERS.

(A) Excavation (old macadam surface, etc.). (B) Setting edgestones. (C) Furnishing and laying a 6-in. American cement concrete base. (D) Laying granite blocks and flagging crosswalks with gravel joints. (E) Laying granite blocks and flagging crosswalks with pitch joints. (F) Laying brick sidewalks. (G) Laying gravel sidewalks.

Furnishing and Laying a 6-inch American Cement Concrete Base.

CONTRACT.	Awarded to	Dated	Price.
Hanover st., between Washington and Court sts.....	Perrin & Carter.....	June 1, 1898.....	\$5.00 per cubic yard.
Tremont st., between Boylston and Pleasant sts., and Shawmut ave., between Tremont and Pleasant sts.....	Perrin & Carter.....	August 22, 1898.....	\$5.00 per cubic yard.
Commercial st., between State and Clinton sts.....	Perrin & Carter.....	October 22, 1898.....	\$4.75 per cubic yard.
Howard st., between Bulfinch and Court sts.....	Perrin & Carter.....	October 1, 1898.....	\$4.75 per cubic yard.

1 Artificial Stone Sidewalks.

CONTRACTOR.	Dated	Price.	CONTRACTOR.	Dated	Price.
Aberthaw Construction Company.....	April 14, 1898..	6 cts. per square foot.	Robert A. Moore.....	Sept. 19, 1898..	6 cts. per square foot.
Barnes, Ruffin Company.....	May 17, 1898..	6 cts. per square foot.	W. A. Murrfeldt Company.....	April 14, 1898.	6 cts. per square foot.
Boston Paving Company.....	May 18, 1898..	6 cts. per square foot.	H. P. Nawn.....	June 23, 1898..	6 cts. per square foot.
Thomas J. Hind.....	April 14, 1898.	6 cts. per square foot.	J. C. Newborg.....	April 14, 1898.	6 cts. per square foot.
P. F. Loneragan.....	June 29, 1898..	6 cts. per square foot.	Simpson Bros. Corporation.....	April 14, 1898.	6 cts. per square foot.
John Mahan.....	May 18, 1898..	6 cts. per square foot.	J. Uihell & Co.....	Sept. 29, 1898..	6 cts. per square foot.

¹ These walks are guaranteed by a surety company bond for five (5) years from date of completion, and were laid on various accepted streets where the Contractor had agreements with the abutters.

Paving with Trinidad Asphalt.

CONTRACT.	Awarded to	Dated	Price.
Beacon st., from about 148 ft. east of the easterly line of Gloucester st. to about 75 ft. west of the westerly line of Gloucester st.....	Barber Asphalt Paving Company.....	May 28, 1898.....	(A) \$3.00 per square yard.
Kilby st., from Milk st. to State st.....	Barber Asphalt Paving Company.....	September 7, 1898.....	(B) \$2.00 per square yard, (C) \$5.00 per cubic yard, (D) \$12.00 per cubic yard.
Parkman st., from North Anderson st. across Blossom st....	Barber Asphalt Paving Company.....	September 28, 1898.....	(E) \$2.75 per square yard.
Paving with Trinidad asphalt and regulating Public Alley 437, between Beacon and Marlborough sts., from Arlington st. to Berkeley st.....	Barber Asphalt Paving Company.....	November 10, 1898.....	(F) \$2,063.20.

Paving with Sicilian Rock Asphalt.

Shawmut ave., from Cherry st. to a point about 108 ft. north of Cobb st.....	Boston Asphalt Company.....	August 16, 1898.....	(G) \$3.00 per square yard, (H) \$2.25 per square yard.
West Broadway, from a point 263 ft. east of the easterly line of P st. to a point about 350 ft. easterly.....	Boston Asphalt Company.....	October 2, 1898.....	\$3.00 per square yard.

Paving with Asphaltina.

Hayward pl., between Washington st. and Harrison ave....	Boston Paving Company.....	October 28, 1898.....	(I) \$3.00 per square yard.
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EXPLANATION OF LETTERS.

(A) Furnishing and laying a 6-in. American cement concrete base, a 2-in. wearing surface and 1½-in. binder on existing concrete base. (B) Furnishing and laying a 2-in. wearing surface and 1½-in. binder on existing concrete base. (C) Extra concrete base furnished and laid. (D) Extra binder furnished and laid. (E) Furnishing and laying a 6-in. American cement concrete base and 1½-in. wearing surface and binder. (F) Furnishing and laying a 6-in. American cement concrete base and 1½-in. wearing surface and regulating edgestones and sidewalks and guaranteeing the pavement for a period of ten (10) years after completion. (G) Furnishing and laying a 6-in. American cement concrete base and a 2-in. wearing surface. (H) Furnishing and laying a 2½-in. wearing surface on existing concrete base. (I) Furnishing and laying a 6-in. American cement concrete base and a 2½-in. wearing surface, including all excavation and regulating edgestones and sidewalks.

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendment.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Sewer in Chiswick road, between Strathmore and Selkirk roads.....	T. J. Young & Co.....	February 19, 1898.....	\$1,031 25
Sewer in Selkirk road, between Chiswick and Sutherland roads.....	T. J. Young & Co.....	March 24, 1898.....	518 75
Sewers and drains in Summer-st. extension, between E st. and L-st. bridge.....	J. P. O'Connell.....	April 14, 1898.....	1,537 75
Sewer in Kilsyth road, from Colliston road northerly.....	T. J. Young & Co.....	April 23, 1898.....	146 25
Sewers and drains in Peverell st., between Sawyer ave. and Salcombe st.....	Flynn & Brophy.....	April 25, 1898.....	746 55
Sewers and drains in Fairmount st., between Capen and Morion sts.....	James McGraw & Co.....	April 27, 1898.....	223 30
Drains, Telford st., between Western ave. and Charles river reservation.....	T. J. Young & Co.....	May 2, 1898.....	288 50
Sewers and drains, Harold st., between Walnut ave. and Monroe st.....	H. P. Nawn.....	May 3, 1898.....	1,485 00
Sewers in Allston st., between Commonwealth ave. and Warren st.....	T. J. Young & Co.....	May 6, 1898.....	482 50
Sewers and drains in Carlos st., between Chapman and Lauriat aves.....	Flynn & Brophy.....	May 10, 1898.....	663 10
Sewers and drains in Lonsdale st., between Adams st. and Dorchester ave.....	Flynn & Brophy.....	May 12, 1898.....	516 94
Sewer work in Astor st.....	J. P. O'Connell.....	May 10, 1898.....	3,767 57
Drains in Bernard st.....	James Dolan.....	May 14, 1898.....	67 50

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendment. — *Continued.*

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Sewers and drains in Sonoma st., between Maple st. and Elm Hill ave.....	James Dolan.....	May 14, 1898.....	\$727 31
Drains in Woodlawn st., between Hyde Park ave. and Forest Hills Cemetery.....	Thomas Minton.....	May 16, 1898.....	1,043 55
Sewers and drains in Norfolk st., between Ballou ave. and Mascot st.....	J. McGraw & Co.....	May 16, 1898.....	508 25
Sewers in Kilsyth road, between Lanark and Selkirk roads.	T. J. Young & Co.....	May 16, 1898.....	1,870 40
Sewers in Selkirk road, between Kilsyth and Sutherland roads.....	T. J. Young & Co.....	May 16, 1898.....	1,856 50
Sewers and drains, Torrey and Wentworth sts.....	Frank A. Foster.....	May 25, 1898.....	1,821 75
Sewers and drains in Chiswick road and outlets, Brighton..	P. & F. E. McCarthy.....	May 26, 1898.....	5,687 04
Sewers in Sherwood st., between Garden st. and Ashland st.....	D. M. Dwyer.....	May 26, 1898.....	729 30
Sewers and drains in Waterlow st. and outlet.....	A. E. Stewart.....	June 3, 1898.....	1,055 60
Sewer in Barry st., between Barrington and Quincy sts....	J. H. Brennan.....	June 4, 1898.....	730 00
Sewers and drains in Hamilton st. and outlet.....	D. M. Dwyer.....	June 13, 1898.....	1,433 88
Sewers in Richmond and Butler sts.....	J. McGraw & Co.....	June 18, 1898.....	2,282 92
Sewers and drains in Seaver st., between Humboldt and Elm Hill ayes.....	R. L. Barrett.....	June 21, 1898.....	1,690 01
Sewers and drains in Leedsville st.....	J. P. O'Connell.....	June 16, 1898.....	263 50
Sewer in Walnut ave., Roxbury.....	J. P. O'Connell.....	June 16, 1898.....	346 00
Sewers and drains in Mellen st. and outlet.....	J. P. O'Connell.....	June 16, 1898.....	539 70

STREET DEPARTMENT.

Drains in Merlin st.....	J. McGraw & Co.....	June 16, 1898.....	55 00
Sewers and drains in West Brookline st., between Washington st. and Shawmut ave.....	J. McGraw & Co.....	June 16, 1898.....	549 75
Sewers and drains in Middleton ave., between Norfolk st. and Willowwood st.....	A. E. Stewart.....	June 23, 1898.....	1,363 00
Sewer in Sedgwick st.....	J. McGraw & Co.....	June 25, 1898.....	247 50
Sewer in Warren st., between Cambridge st. and 250 feet easterly.....	T. J. Young & Co.....	June 30, 1898.....	672 50
Catch-basin drains in Shenandoah and Carruth sts.....	J. P. O'Connell.....	June 27, 1898.....	257 50
Sewers in Mascot st., between Jones and Mountain aves.....	Flynn & Brophy.....	July 1, 1898.....	339 00
Sewer in Evelyn st. and outlet.....	Flynn & Brophy.....	July 5, 1898.....	2,169 20
Sewer in Raven st.....	George Tucker.....	July 8, 1898.....	225 00
Sewers and drains in Spencer st., between Wheatland and Talbot aves.....	James Dolan.....	July 11, 1898.....	521 00
Drains in Astor st., between Massachusetts ave. and Henway st.....	J. P. O'Connell.....	July 11, 1898.....	1,334 82
Sewer work in St. Stephen st.....	D. E. Lynch.....	July 12, 1898.....	3,685 92
Sewer in Lauriat st.....	Flynn & Brophy.....	July 15, 1898.....	289 56
Sewers in Beech Glen st.*.....	George Tucker.....	July 15, 1898.....	399 50
Sewer in Torrey st., Dorchester.....	F. A. Foster.....	July 16, 1898.....	1,152 50
Sewers and drains in West Selden st.....	T. J. Young & Co.....	July 18, 1898.....	6,093 30
Sewer and drains in Blackwell and Bowman sts.....	P. F. Danehy.....	July 18, 1898.....	448 00
Sewer and drains in Maryland st.....	P. F. Danehy.....	July 18, 1898.....	271 25
Sewers and drains in Ipswich st., between Charlesgate West and Boylston road.....	J. P. O'Connell.....	July 21, 1898.....	3,003 54

* Cancelled September 6, 1898.

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendment. — *Continued.*

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Sewers and drains in Francis and Vila sts. and Kenwood road.....	J. McGraw & Co.....	July 21, 1898.....	\$2,903 80
Sewer in Massasoit ave.....	F. A. Foster.....	July 22, 1898.....	1,243 50
Sewer in Trescott st., between Faxon and Harvard sts.....	F. A. Foster.....	July 22, 1898.....	1,534 75
Sewer in Bowdoin st., Dorchester.....	T. H. Connolly.....	July 25, 1898.....	1,504 00
Sewers and drains in Rugles and Vancouver sts.....	J. P. O'Connell.....	July 25, 1898.....	625 75
Sewers and drains in Nightingale st., Dorchester.....	Quimby & Ferguson.....	July 28, 1898.....	841 55
Sewer in Westbourne st.....	James Dolan.....	July 30, 1898.....	335 50
Sewer in Dorchester ave., South Boston.....	McDowell & Sons.....	August 1, 1898.....	890 50
Sewer in Ferndale st., Dorchester.....	D. E. Lynch.....	August 4, 1898.....	116 50
Sewer in Nottingham st.....	D. E. Lynch.....	August 4, 1898.....	185 30
Sewer in Roland park, Dorchester.....	J. P. O'Connell.....	August 4, 1898.....	167 00
Sewer in Melbourne st., between Joseph and Centre sts.....	D. E. Lynch.....	August 4, 1898.....	470 75
Sewer in Lanark road, between Sutherland and Kinross roads.....	T. J. Young & Co.....	August 4, 1898.....	1,083 75
Sewer in Whitfield st., Dorchester.....	D. E. Lynch.....	August 4, 1898.....	198 20
Sewers and drains in Wambeck st.....	D. M. Dwyer.....	August 9, 1898.....	485 22
Sewers and drains in Wensley st., between Heath and Bickford ave.*.....	George Tucker.....	August 9, 1898.....	828 25
Sewers and drains in Stanley st.....	D. M. Dwyer.....	August 9, 1898.....	308 50

STREET DEPARTMENT.

Drains in Thane st.....	J. P. O'Connell.....	August 9, 1898.....	245 20
Sewer in Peter st, South Boston.....	Flynn & Brophy.....	August 11, 1898.....	201 50
Drains in Gawain st., Dorchester.....	Flynn & Brophy.....	August 9, 1898.....	325 00
Sewer in Lanark road, between Englewood ave. and Kill-syth road.....	T. J. Young & Co.....	August 11, 1898.....	650 00
Sewers in Eaton sq., Dorchester.....	D. M. Dwyer.....	August 11, 1898.....	693 00
Conduit for Tenean brook, between 100 feet south of the Shawmut Branch R.R. to Charles st.; thence to Geneva ave.....	H. P. Nawn.....	August 15, 1898.....	12,000 00
Surface drain for Mattapan brook in Selden st., passageway and Capen st.....	T. H. Connolly.....	August 22, 1898.....	8,531 62
Sewer in Smith st., between Phillips and St. Alphonsus sts.	T. H. Connolly.....	August 22, 1898.....	707 75
Sewers in Norfolk and Walk Hill sts.....	T. H. Connolly.....	August 22, 1898.....	1,847 00
Sewer in Harrison st., West Roxbury.....	McDowell & Sons.....	August 22, 1898.....	359 25
Sewers and drains n Columbia road, section 3.....	J. C. Coleman & Son.....	August 23, 1898.....	12,562 50
Sewers, culvert and drains in Idaho st. and outlet.....	D. E. Lynch.....	August 23, 1898.....	2,783 15
Sewers in Kinross road between Sutherland road and Commonwealth ave.....	T. J. Young & Co.....	August 25, 1898.....	1,607 50
Drains in Peterborough st., between Audubon road and Audubon road.....	Quimby & Ferguson.....	August 26, 1898.....	2,250 36
Sewers and drains in Temple and Perham sts., and outlets...	T. H. and G. M. Bryne.....	August 27, 1898.....	14,780 00
Sewers and drains in Newburg st.....	James Dolan.....	August 31, 1898.....	2,919 05
Drains in North Harvard st., Brighton.....	T. J. Young & Co.....	September 5, 1898.....	3,202 50
Sewer in Ditson st.....	D. E. Lynch.....	September 6, 1898.....	149 68

* Cancelled September 6, 1898.

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendment. — *Continued.*

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Sewers in Park st., between Centre and Montview sts.....	McDowell & Sons.....	September 7, 1898.....	\$1,394 50
Sewers in Newark st., Roxbury.....	James Dolan.....	September 10, 1898.....	1,491 75
Drains in Columbus ave., section 7.....	T. J. Young & Co.....	September 12, 1898.....	1,575 40
Completing sewer in Beech Glen st., originally awarded to George Tucker.....	J. P. O'Connell.....	September 13, 1898.....	2,300 00
Sewer in Bray st., Roxbury.....	J. P. O'Connell.....	September 19, 1898.....	177 00
Sewers and drains in Oakridge st., and outlet.....	D. M. Dwyer.....	September 29, 1898.....	1,446 30
Sewer in Bullock st., South Boston.....	J. P. O'Connell.....	September 19, 1898.....	555 60
Sewers in the Parkway for outlet for Francis and Vila sts., and Kenwood road.....	J. McGraw & Co.....	September 20, 1898.....	3,100 00
Sewers in Argyle and Marmion sts., and private land between Brookside ave., and Argyle st.....	Thomas F. Minton.....	September 20, 1898.....	919 00
Sewers in Kenwood road.....	J. McGraw & Co.....	September 20, 1898.....	758 70
Completing sewer in Wensley st., between Heath and Bucknam sts., originally awarded to George Tucker.....	T. J. Young & Co.....	September 22, 1898.....	1,300 00
Sewer in Highland st., Roxbury.....	James Dolan.....	September 24, 1898.....	178 00
Sewers in Dorchester ave., City Proper.....	R. J. Malone.....	September 24, 1898.....	2,611 45
Sewers and drains in Savin Hill ave., between Wesley ave. and Evandale terrace.....	McDowell & Sons.....	September 30, 1898.....	4,502 25
Drains in Bragdon st.....	McDowell & Sons.....	September 30, 1898.....	438 85
Sewer in Charlestown st., between Haymarket sq. and Causeway st.....	R. J. Malone.....	September 30, 1898.....	3,211 00

STREET DEPARTMENT.

Sewers and drains in Malvern st., between existing sewer and Milton st.	James Dolan.....	October 1, 1898.....	458 95
Drains in Ipswich st., between Boylston st. and Charlesgate West.	J. P. O'Connell.....	October 3, 1898.....	3,743 40
Sewer in Centre st., between Dorchester ave. and Remington st.....	F. A. Foster.....	October 6, 1898.....	1,621 00
Sewers and drains in Richmond and Adams sts., and outlet,	P. & F. E. McCarthy	October 8, 1898.....	9,722 26
Sewers and drains in Public Alleys 401 to 405 inclusive, between Huntington ave. and St. Botolph st., from Irvington st. to alley northeast of Massachusetts ave.....	J. P. O'Connell.....	October 13, 1898.....	1,232 50
Drains on Orkney road.....	T. J. Young & Co.....	October 20, 1898.....	765 75
Drains in Amory st.....	Patrick McCarthy.....	October 20, 1898.....	609 50
Conduit for Teaneb brook from a point 100 feet south of the Shawmut Branch R.R. to Park st.....	H. P. Navin.....	October 21, 1898.....	10,860 00
Sewers and drains in Shirley st.....	Quimby & Ferguson.....	October 22, 1898.....	1,188 64
Drains in St. Stephen st.....	D. E. Lynch.....	October 22, 1898.....	1,285 00
Sewer and drains in Stanwood st.....	D. E. Lynch.....	October 26, 1898.....	388 90
Drains in Fowler st.....	J. P. O'Connell.....	October 27, 1898.....	1,146 25
Drains in Angell st.....	D. E. Lynch.....	October 28, 1898.....	1,169 75
Surface drain for Mattapan brook, in Selden st., passage-way and Capen st., originally awarded to T. H. Connolly, West Newton sts	J. P. O'Connell.....	October 29, 1898.....	9,450 00
Sewers and drains in Belvidere st., between Dalton and West Newton sts	McDowell & Sons.....	November 1, 1898.....	670 55
Sewer in Leicester st., between Bennett and Surrey sts.....	T. J. Young & Co.....	November 2, 1898.....	1,038 75
Conduit in Callender st., between Don and Lyons sts.....	R. J. Malone.....	November 5, 1898.....	16,394 50
Sewers and drains in private land and Endleigh st., Dorchester	P. McCarthy.....	November 8, 1898.....	3,816 14

Sewer Construction under Chapter 426 of the Acts of 1897, and Amendment. — Concluded.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Sewer in Saratoga street, East Boston.....	Ward & Conlin	November 10, 1898.....	\$ 432 50
Sewer in Centre street, between Remington street and Centre avenue.....	F. A. Foster.....	November 14, 1898.....	348 00
Sewers and drains in Wachusett street, between Walk Hill and Varney streets.....	J. P. O'Connell.....	November 14, 1898.....	827 00
Sewer and drains in Hopkins street, Dorchester.....	D. M. Dwyer.....	November 18, 1898.....	2,400 00
Sewers and drains in Centre street, between Elm lawn and 300 feet easterly.....	F. A. Foster.....	November 28, 1898.....	788 50
Sewers and drains in Walk Hill street, between Blue Hill avenue and 300 feet north of Tileston avenue.....	James Dolan.....	December 1, 1898.....	1,456 00
Sewer in private way off Romsey street, Dorchester.....	John McMorrow.....	December 1, 1898.....	161 00
Sewers and drains in Devon street.....	J. C. Coleman & Son.....	December 3, 1898.....	2,673 20
Sewers and drains in Columbia road, Sect. 2.....	H. P. Nawn.....	December 6, 1898.....	2,157 50
Sewers in Sparhawk street, Brighton.....	T. J. Young & Co.....	December 8, 1898.....	324 80
Sewers in Faxon street and Harvard avenue, Dorchester.....	J. P. O'Connell	December 16, 1898.....	1,078 75
Sewers and drains in Huntoon street, between Butler and Medway streets.....	James McLaughlin & Son.....	December 19, 1898.....	1,129 01
Sewer in Harriet street and outlet, Brighton.....	T. J. Young & Co.....	December 20, 1898.....	3,189 75
Conduit for Oakland Garden Fork, Canterbury branch of Stony brook.....	H. P. Nawn.....	December 8, 1898.....	2,570 00
Rock excavation for sewer, Columbia road, Sect. 1.....	H. P. Nawn.....	April 21, 1898.....	2 90 per cubic yard.
Rock excavation for sewer, Columbia road, Sect. 2.....	H. P. Nawn.....	June 20, 1898.....	2 90 per cubic yard.

Street Construction under Chapter 323 of the Acts of 1891, or Special Acts or Amendments thereto.

Macadam Roads.

CONTRACT.	Awarded to	Dated	Cost of contract as per estimated quantities, not including materials.
Chamblet st., between Magnolia and Hartford sts.	John Connors.....	April 14, 1898.....	\$1,165 45
Belmore ter., between Boylston st. and Boylston ter.	P. O'Hara & Co.....	April 14, 1898.....	1,116 30
Leroy st., between Geneva ave. and Dilton st.	P. Doherty.....	June 1, 1898.....	910 10
Rosseter st., between Bullard st. and Bowdoin ave.	P. O'Hara & Co.....	June 1, 1898.....	1,864 10
Elizabeth st., between Norfolk and Astoria sts.	Collins & Ham.....	June 24, 1898.....	610 06
Leedsville st., between Dorchester ave. and Adams st.	Collins & Ham.....	June 24, 1898.....	1,200 66
Lonsdale st., between Dorchester ave. and Adams st.	P. O'Hara & Co.....	June 27, 1898.....	2,505 30
Carlos st., between Lauriat ave. and Chapman ave.	P. O'Hara & Co.....	June 27, 1898.....	586 50
Oakley st., between Bowdoin st. and Geneva ave.	John Connors.....	June 30, 1898.....	1,263 40
Malvern st., between Brighton ave. and Ashford st.	J. Doherty & Co.....	June 30, 1898.....	1,373 30
Burt st., between Washington and Ashmont sts.	Collins & Ham.....	August 4, 1898.....	2,617 80
Peverell st., between Sawyer ave. and Salcombe st.	Collins & Ham.....	August 4, 1898.....	1,512 40
Nightingale st., between Talbot ave. and Bernard st.	J. Doherty & Co.....	August 4, 1898.....	2,504 60
Telford st., between Western ave., and Charles river reservation.	J. Doherty & Co.....	August 4, 1898.....	583 40
Merlin st., between Athelwold and Park sts.	Patrick McGovern.....	September 7, 1898.....	1,597 10
Mellen st., between Ocean and Montague sts.	Collins & Ham.....	September 7, 1898.....	1,544 01
Hewins st., between Columbia road and Erie st.	P. Doherty.....	September 7, 1898.....	1,134 70
Waterlow st., between Harvard and Harvard st.	J. Doherty & Co.....	September 24, 1898.....	941 40
Hamilton st., between Bowdoin st. and Homes ave.	James McGovern.....	September 24, 1898.....	1,505 70
Maryland st., between Savin Hill ave. and Bay st.	P. Doherty.....	September 24, 1898.....	707 30

Street Construction under Chapter 323 of the Acts of 1891, or Special Acts or Amendments thereto.

Macadam Roads. — Concluded.

CONTRACT.	Awarded to	Dated	Cost of contract as per estimated quantities, not including materials.
Spencer st., between Wheatland and Talbot ayes.	James McGovern.....	September 24, 1898.....	\$882 70
Stuart st., between Dartmouth st. and Trinity pl.	Collins & Ham.....	September 29, 1898.....	643 26
Completing Lonsdale st., original contract awarded to P. O'Hara & Co.....	Barnes, Ruffin Co.....	October 3, 1898.....	
Fowler st., between Greenwood and Glenway sts.....	Collins & Ham.....	November 2, 1898.....	1,345 41
Wensley st., between Heath st., about 720 ft. easterly.....	Collins & Ham.....	November 2, 1898.....	2,133 41
Angell st., between Blue Hill ave. and Canterbury st.....	J. Doherty & Co.....	November 2, 1898.....	1,497 60
Harold st., between Munroe st. and Walnut ave.....	P. McGovern.....	November 5, 1898.....	1,408 41
Astor st., between Massachusetts ave. and Parker st.....	P. McGovern.....	November 5, 1898.....	1,723 31
Francis st., between Huntington and Brookline ayes.....	J. Doherty & Co.....	November 5, 1898.....	3,432 40
Middleton st., between Norfolk st. and 600 ft. northerly.....	P. Doherty.....	November 14, 1898.....	1,175 40
Hamilton st., between Stonehurst and Bowdoin sts., sub- grading.....	D. M. Dwyer.....	August 5, 1898.....	0.30 per cubic yard earth excavation. 2.00 per cubic yard rock excavation.

Telford Macadam Roads.

Columbia road, from a point 220 ft. north of Glendale st. to the southerly line of Hancock st., and from Dudley st. to Edward Everett sq.....	James McGraw & Co.....	August 15, 1898.....	\$14,510 00
Columbus ave., between Centre st. and a point 100 ft. north of Ritchie st.....	D. E. Lynch.....	September 27, 1898.....	1,727 70
North Harvard st., between Western ave. and Charles river.....	G. H. Wentworth & Co.....	September 30, 1898.....	7,240 00

Paving and Regulating.

CONTRACT.	Awarded to	Dated	Cost of contract, as per estimated quantities, not including materials.
Columbus ave., between Hanley sq. and New Heath st.	Jones & Meehan.....	May 10, 1898.....	\$25,668 30
Columbus ave., between New Heath and Heath sts.	Jones & Meehan.....	July 5, 1898.....	7,845 70
Canal st., between Haymarket sq. and Causeway st.	Jones & Meehan.....	October 6, 1898.....	12,105 00

Building Ferry-boats, Ferry-drops, Tanks, etc.

CONTRACT.	Awarded to	Dated	Price.
Plans, specifications and superintendence of double-screw ferry-boat No. 3.....	R. F. Keough.....	May 2, 1898.	3 per cent. of the total cost.
Building two ferry-tanks.	J. M. Brooks.....	September 3, 1898.....	\$1,875 00 each.
Building ferry-drop at South Ferry, East Boston side.....	J. M. Brooks.....	September 3, 1898.....	5,775 00
Building ferry-drop at North Ferry, Boston side.....	J. M. Brooks.....	September 3, 1898.....	5,775 00
Building double-screw ferry-boat No. 3.	Wm. McKie.....	September 2, 1898.....	66,000 00
Building steam pumps for double-screw ferry-boat No. 3.....	Deane Steam Pump Company...	October 26, 1898... ..	1,357 00
Wiring and installing the electric light plan in double-screw ferry-boat No. 3.....	Public Buildings Department, Electrical Construction Division	October 5, 1898.....	3,470 80
Two safety valves for double-screw ferry-boat No. 3.....	Crosby Steam Gauge and Valve Company.....	October 22, 1898.....	135 00

Repairs on Engines, etc., at the Pumping Station, Calf Pasture, Dorchester.

CONTRACT.	Awarded to	Dated	Price.
Repairs on valves and seats of Worthington pump.....	The Atlantic Works.....	March 11, 1898.....	\$16,500 and \$7,50 for each new cop- per stud fitted.
Furnishing and placing the engine-house floor.....	New Jersey Steel and Iron Com- pany.....	May 2, 1898.....	\$6,484 00
Repairing the two fly-wheel pumping engines, contract E.....	The Lockwood Manufacturing Company.....	August 26, 1898.....	
Valves, etc., for the two fly-wheel pumping engines, con- tract F.....	The Lockwood Manufacturing Company.....	November 17, 1898.....	
Feed water heater, meters, etc.....	The Lockwood Manufacturing Company.....	December 23, 1898.....	2,400 00
Furnishing two strainers for pumping station.....	The Geo. F. Blake Manufaktur- ing Company.....	January 2, 1899.....	210 00
Furnishing one ten-inch bronze condenser with elbow, T, and relief valve for No. 1 Engine.....	Henry W. Bulkley.....	December 12, 1898.....	300 00
Furnishing and placing 990 copper studs in the Worthington pumps.....	Coffin Valve Company.....	August 3, 1898.....	498 00
Building twenty special ten-inch check valves of composi- tion and bronze.....	Blanchard Machine Company.....	June 22, 1898.....	385 00

Dredging, Building Platforms, etc.

CONTRACT.	Awarded to	Dated	Price.
Dredging Roxbury canal and towing the material to sea.....	Perkins & White.....	February 4, 1898.....	\$100 per day, city to furnish tow.
Dredging the Back Bay Pans.....	Perkins, White & Co.....	March 15, 1898.....	\$23,689 01
Removing old sea-wall, dredging dock, building timber / bulkhead, etc., at Fort Hill wharf.....	W. H. Ellis & Co.....	June 15, 1898.....	3,376 00

Dredging dock at the Sanitary Division wharf, Albany st.....	Eastern Dredging Co.....	November 18, 1898.....	1,260 00
Building platform over dock at the Sanitary Division Wharf, Albany st.....	Thomas E. Ruggles.....	November 30, 1898.....	5,470 00
Building platform over dock at Fort Hill Wharf.....	W. H. Ellis.....	September 2, 1898.....	2,499 00

Pile Driving.

CONTRACT.	Awarded to	Dated	Price.
Furnishing and driving spruce piles in Ipswich st., between Boylston st. and Charlesgate west.....	W. S. Rendle.....	February 3, 1898.....	\$0.10 per lin. ft., pile driven.
Furnishing and driving spruce piles for sewer, in private land, between Selwyn and Walter sts., West Roxbury....	J. W. Pickering & Co.....	April 7, 1898.....	0.11 per lin. ft., pile driven.
Furnishing and driving spruce piles for sewer in Haskins st., Roxbury.....	A. A. Hersey.....	May 28, 1898.....	0.09½ per lin. ft., pile driven.
Furnishing and driving spruce piles for sewer in Mt. Washington ave.....	W. H. Ellis.....	February 9, 1898.....	0.14 per lin. ft., pile driven.

Garbage and Refuse Waste Disposal Stations.

CONTRACT.	Awarded to	Dated	Price.
Garbage disposal station, Calf Pasture, Dorchester.....	New England Sanitary Product Co.....	February 8, 1898.....	\$47,400 per year for ten years.
Refuse disposal station, Atlantic ave.....	City Refuse Utilization Com. pany.....	September 10, 1898.....	\$5,500 per year for ten years.

Abutments, Retaining-walls and Bridge Strengthening.

CONTRACT.	Awarded to	Dated	Price.
Abutments and pier, Columbia road, at Mt. Vernon st.	D. F. O'Connell.....	October 10, 1898.....	\$23,800 00
Constructing a bridge over Brooks st., Brighton, and doing other work incidental thereto.....	Boston and Albany Railroad Company.....	June 16, 1898.....	\$7,453 and actual cost with interest at 4 per cent. per annum from August 10, 1898.
Rebuilding sidewalk and fence, Canal bridge.....	W. H. Ellis & Co.....	May 12, 1898.....	\$2,582 00
Retaining-walls on Rosseter st.	R. L. Barrett.....	October 15, 1898.....	1,275 00
Concrete and brick arches for the floor of Cottage Farm bridge.....	G. W. Judd.....	July 18, 1898.....	\$875 for brick arches, \$7 per cubic yard for Portland cement concrete.
Building bridge across the Back Bay Fens waterway at Ipswich st.....	Holbrook, Cabot & Daly.....	March 11, 1898.....	\$4,500 00
Completing the artificial stone sidewalk and curb on Cottage Farm bridge.....	Simpson Bros. Corporation.....	August 25, 1898.....	850 00
Building temporary bridge across Ipswich st.....	Holbrook, Cabot & Daly.....	June 22, 1898.....	490 00

Sale of Ferry-boats to the United States Government.

NAME OF BOAT.	Date of Selling.	Price.
"Governor Russell"	May 11, 1898.....	\$71,000
"East Boston"	June 2, 1898.....	57,500

Miscellaneous Agreements.

CONTRACT.	Awarded to	Dated	Price.
Furnishing coping and pier stones for the reservoir extension, Moon Island.....	Cape Ann Granite Company....	February 14, 1898.....	\$10,135 42
Permission to place weighing machines in ferry head-houses till February 1, 1900.....	National Automatic Machine Company.....	February 25, 1898.....	200 00 per year payable to city.
Building a sea-wall at Moon Island.....	Perkins, White & Co.....	March 18, 1898.....	10 00 per broom.
Refilling street sweeping machine brooms.....	Hickory Broom Fibre Company	April 30, 1898.....	
Furnishing dimension stones for flushing gutters and gate chambers for reservoir extension, Moon Island.....	Cape Ann Granite Company....	May 27, 1898.....	6,390 90
Laying gas pipes in Ruggles and Vancouver sts.....	A. N. Farrington.....	May 31, 1898.....	501 50 to be paid by Brookline Gas Co.
Furnishing Telford base for Ruggles and Vancouver sts.....	James T. Gilligan.....	June 29, 1898.....	0 50 per ton.
Building iron fences on Ipswich st.....	James Russell Boiler Works....	July 25, 1898.....	875 00
Removing the old Boston and Maine Railroad Station on Canal st.....	A. A. Elston & Co.....	September 6, 1898.....	95 00 and the old material.
Furnishing 20,000 lin. ft. edgestones.....	Simpson Bros. Corporation.....	October 3, 1898.....	0 62 per lin. ft.
Paving, grading and building parapet wall on the outfall sewer embankment, Moon Island.....	Perkins, White & Co.....	December 30, 1898.....	5,500 00
Agreement to dispose of the house sewage only, of a portion of the City of Newton.....	City of Boston.....	January 4, 1899.....	\$13,350 to be paid by the City of Newton.
Agreement to keep the sewer at Moon Island free from grease for five years.....	W. J. Tavender.....	August 5, 1898.....	All grease and other materials removed to become the property of said Tavender.
Repairing streets along the route of the subway.....	Street Department.....	October 20, 1898.....	Boston Transit Commission to pay the Street Department the sum of \$17,500.
Making and placing an ornamental iron fence at Cottage Farm bridge.....	P. J. Dinn & Co.....	December 28, 1898.....	\$2.50 per lin. ft. on iron girders; \$2.85 per lin. ft. on stone wall.

List of Streets Paved with Trinidad Asphalt, February 1, 1899.
City Proper.

Name.	Location.	Length.	Area.	Year Laid.
Albany st.....	East Concord st. to East Springfield st.	450	2,700	1884
Areh st.....	Franklin st. to Milk st	426	1,267	1883-93
Ash st.....	Bennet st. to Nassau st.....	230	427	1887
Barton ct.....	Brighton st. to Barton st.....	134	186	1894
Batterymarch st..	Milk st. to Liberty sq.....	150	466	1896
Beacon st.....	Charles st., across Arlington st.....	870	3,800	1891
Beacon st.....	Dartmouth st. to within 150 ft. of westerly line of Gloucester st.....	1,744	9,277	1892
Beacon st.....	150 ft. from westerly line of Gloucester st. to 68 ft. beyond westerly line of Gloucester st.....	218	1,183	1898
Beacon st.....	68 ft. west of Gloucester st. to Massachusetts ave	1,019	5,391	1893
Bennet st.....	90 ft. west of Harrison ave. to 162 ft. east of Washington st.....	180	350	1887
Bond st.....	Hanson st. to Milford st.....	192	426	1895
Boylston st.....	East side of Berkeley st., across Clarendon st.....	656	3,869	1897
Brattle sq	Brattle st. to Elm st.....	281	670	1888
Brighton st.....	Leverett st. to Allen st.....	845	1,737	1892
Brimmer st.....	Beacon st. to Pinckney st....	1,087	3,300	1895
Central st.....	Broad st. to Kilby st.....	313	869	1887
Chambers st.....	Green st., across Poplar st.....	460	1,061	1894
Chambers st.....	Brighton st. to Charles st.....	272	604	1895
Charter st.	Hanover st., across Unlty st.....	318	636	1894
Cherry st... ..	Washington st. to Shawmut ave.....	334	594	1892
Clark st.....	Hanover st. to North st.....	319	614	1892
Columbus ave.....	B. & A. R. R. bridge, across Massachusetts ave.....	3,505	15,000	1884-87 -88-91
Columbus ave.....	Massachusetts ave. to 301 ft. south of Camden st.	903	5,418	1896
Corning st.....	Washington st. to Shawmut ave.....	338	734	1896
Congress sq.....	Between Devonshire st. and Congress st.....	19	37	1883
Cooper st.....	North Margin st., across Endicott st....	194	597	1887
Cooper st... ..	Endicott st. to Charlestown st.....	205	604	1887-97
Court st.....	Washington st. to Court sq.....	231	642	1891
Court sq.....	Court st. to Court st.....	665	1,883	1881-94
Davis st.....	Washington st. to Harrison ave.....	323	646	1892
<i>Carried forward</i>	.....	16,881	64,988	

List of Streets Paved with Trinidad Asphalt.—*Continued.*

City Proper.

Name.	Location.	Length.	Area.	Year Laid.
<i>Brought forw'd</i>		16,881	64,988	
Dartmouth st.....	Boylston st. to Newbury st.....	266	2,058	1894
Doane st.....	Kilby st. to Broad st.....	312	624	1881
Edinboro' st.....	Essex st. to Beach st.....	470	924	1895
Endicott st.....	Cooper st., across Thacher st.....	312	1,005	1884
Exchange pl.....	Congress st. to Kilby st.....	244	678	1887
Groton st.....	Washington st. to Shawmut ave.....	335	558	1892
Hanover ave.....	Hanover st. to North st.....	307	266	1892
Harrison ave.....	East Newton st. to E. Springfield st....	928	2,681	1888-95
Harrison ave. ...	Northerly side of East Springfield st. to Roxbury line.....		130	1888-95
Hollis st.....	Tremont st. toward Washington st....	276	521	1891
Hudson st.....	Beach st. to within 90 ft. north of Curve st. (minus Kneeland and Harvard sts.)	1,407	3,938	1891
Kilby st.....	State st. to Milk st.(including Liberty sq.)	640	4,059	1881- 88-98
Laconia st.....	Washington st. to Harrison ave.....	330	727	1896
La Grange st. ...	Tremont st. toward Washington st.....	181	355	1897
Lincoln pl.....	Worcester st. to West Springfield st....	217	313	1897
Malcolm st.....	Mt. Vernon st. to Chestnut st.....	261	290	1892
Massachusetts ave.	Columbus ave. to Tremont st. (southerly roadway).....	267	1,621	1892
Massachusetts ave.	Tremont st. to Shawmut ave. (southerly roadway).....	470	2,934	1892
Massachusetts ave.	Shawmut ave. to Washington st. (south- erly roadway).....	180	994	1892
Moon st.....	Between North sq. and Fleet st.....	182	384	1891
North Bennet st..	Hanover st. to Salem st.....	552	920	1883
North Margin st..	Thacher st. to Wiget st.....	515	1,154	1895
Oxford st.....	Beach st. to Essex st.....	430	735	1895
Parkman st.....	North Anderson st., across Blossom st.,	241	550	1898
Parmenter st.....	Hanover st. to Salem st.....	279	764	1895
Pinckney st.....	Charles st., across Brimmer st.....	271	723	1893
Pine st.....	Washington st. to Harrison ave.....	419	597	1896
Poplar st.....	Chambers st. to Charles st.....	1,188	2,442	1887-92
Public alley 301..	Pinckney st. to River st.....	270	400	1897
Public alley 417..	Exeter st. toward Fairfield st.....	115	102	.....
Public alley 420..	Clarendon st. to Berkeley st.....	580	515	.....
<i>Carried forw'd</i>		29,326	98,950	

List of Streets Paved with Trinidad Asphalt. — Continued.
City Proper.

Name.	Location.	Length.	Area.	Year Laid.
<i>Brought forw'd</i>		29,326	98,950	
Public alley 437...	Arlington st. to Berkeley st.	631	561	1898
Spring st.	Poplar st. to Leverett st.	447	908	1895
Stevens st.	Lincoln pl. toward Shawmut st.	16	22	1897
Stillman st.	Between Salem st. and Endicott st.	150	417	1892
Stoddard st.	Howard st. to Court st.	135	150	1892
Sun Court st.	North st. to Moon st.	151	218	1891
Thacher st.	Charlestown st. to Endicott st.	203	562	1892
Tileston st.	155 ft. west of Hanover to Salem st.	417	470	1887-95
Unity st.	Charter st. to Tileston st.	330	500	1897
Warrenton st.	Eliot st. to Tremont st.	670	1,587	1891
Warrenton st.	Shawmut ave. to Washington st.	468	910	1891
Water st.	Congress st. to Kilby st.	255	694	1889
Water st.	Liberty sq. to Broad st.	252	682	1896
Wiggin st.	North Bennet st. to Tileston st.	107	119	1887
Wiget st.	Salem st. to North Margin st.	259	240	1897
		33,817	106,990	

Charlestown District.

Austin st.	Seminary pl. to Lawrence st.	144	421	1891
Bunker Hill st. ...	At Tufts st.		150	1897
Corey st.	124 ft. north of Moulton st. to Moulton st.	124	276	1897
Moulton st.	Easterly side of Corey st. to Vine st.	81	243	1897
Moulton st.	Vine st. to Bunker Hill st.	130	390	1897
Rutherford ave ...	Devens st., 128 ft. westerly	128	284	1897
Tufts st.	Bunker Hill st., 141 ft. northerly	141	415	1897
Vine st.	Bunker Hill st. across Moulton st.	165	670	1897
		913	2,849	

South Boston.

D st.	West Fifth st. to Gold st.	126	448	1889
E st.	West Third st. to Bolton st.	111	410	1892
Rogers st.	Dorchester st. to Preble st.	360	480	1891
West Sixth st.	West of C st. toward D st.	91	305	1887
West Third st.	153 ft. west of E st., across E st.	185	769	1892
		873	2,412	

List of Streets Paved with Trinidad Asphalt. — Concluded.
Roxbury.

Name.	Location.	Length.	Area.	Year Laid.
Cabot st.	Tremont st. to Vernon st.	1,959	6,559	1891-92
Cabot st.	Easterly side Vernon st. to Linden Park st.	484	1,390	1897
Columbus ave.	From 301 ft. south of Camden st. across Terry st.	2,640	15,840	1896
		5,083	23,789	

Streets Paved with Sicilian Rock Asphalt.
City Proper.

Name.	Location.	Length.	Area.	Year Laid.
Acton st.	Washington st. to Bradford st.	259	352	1896
Albany st.	Easterly side of Stoughton st., across East Concord st.	285	1,710	1897
Avery st.	Washington st. to Mason st.	360	275	1897
Ash st.	Oak st. across Nassau st.	220	391	1895
Barton st.	Leverett st. to Milton st.	427	723	1895
Bradford st.	Waltham st. to Shawmut ave.	600	1,270	1897
Charles st.	Between Revere st. and Cambridge st. (in front of Eye and Ear Infirmary)	191	225	1895
Cobb st.	Washington st. to Shawmut ave.	347	1,041	1897
Decatur st.	Washington st. to Harrison ave.	370	781	1892
Dwight st.	Shawmut ave. to Tremont st.	716	2,075	1893
Exeter pl.	Chauncey st. to Harrison ave.	170	387	1897
Fabin st.	Newland st. to Ivanhoe st.	421	615	1895
Fay st.	Dover st. to Harrison ave.	318	560	1894
Hamburg st.	Mystic st. to Harrison ave.	383	597	1896
Hanover st.	Tileston st. across Charter st.	315	934	1896
Huntington ave.	Boston & Albany Railroad bridge to Cumberland st.	1,591	8,840	1896
Mason st.	From a point 213 ft. south of West st. for a distance of 231 ft. southerly.	231	480	1894
Massachusetts av.	Washington st. to Albany st. (southerly roadway)	662	4,151	1894
Mayo st.	Castle st. to Cobb st.	251	418	1897
Meander st.	East Dedham st. to Malden st.	307	437	1896
Motte st.	Washington st. to Harrison ave.	332	516	1892
Mystic st.	Malden st. to East Dedham st.	204	226	1896
Mystic st.	East Dedham st. to East Canton st.	215	335	1896
<i>Carried forward</i>		9,175	27,339	

List of Streets Paved with Sicilian Rock Asphalt. — Concluded.
City Proper.

Name.	Location.	Length.	Area.	Year Laid.
<i>Brought forward</i>		9,175	27,339	
Mystic st.	East Canton st. to East Brookline st.	216	337	1896
North Margin st. ...	Thacher st. toward Endicott st.	205	518	1897
Norwich st.	Mystic st. to Meander st.	221	339	1896
Ohio st.	Washington st. to Shawmut ave.	343	277	1896
Pemberton st.	Front of Suffolk Court House	323	1,365	1894
Prince st.	Hanover st. to Bennet ave.	293	654	1895
Shawmut ave.	132 ft. south of Castle st. across Cherry st.	327	945	1898
Taylor st.	Dwight st. to Milford st.	196	274	1896
Whitmore st.	Kneeland st. to Harvard st.	249	445	1895
		11,548	32,493	

South Boston.

Athens st.	West Second st. to A st.	617	916	1895
Athens st.	B st. to C st.	515	746	1892
East Broadway ...	Front of Lincoln School	180	1,000	1897
K st.	East Sixth to East Eighth st.	566	1,083	1896
West Broadway ..	From 196 ft. east of easterly line of Dorchester ave. to A st.	360	2,000	1892
West Broadway ..	Gardner pl. to 150 ft. easterly	150	648	1893
West Broadway ..	Between New England bridge and E st. (4-ft. gutters)		1,487	1897
West Broadway ..	150 ft. west of F st. to 267 ft. east of F st.	448	1,544	1897
West Broadway ..	267 ft. east of F st. to Dorchester st.	410	1,818	1898
		3,246	11,242	

Charlestown.

Warren st.	Winthrop st. to Soley st.	127	365	1895
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Roxbury.

Columbus ave.	Terry st. to within 61 ft. north of Station st.	884	5,304	1896
Huntington ave. ...	Easterly side Cumberland st. to Massachusetts ave.	747	4,150	1896
Huntington ave. ...	Massachusetts ave. to Gainsborough st.	587	3,372	1896
		2,218	12,826	

Streets Paved with Seyssel Asphalt.

City Proper.

Name.	Location.	Length.	Area.	Year Laid.
Paul st.....	Emerald st. to Village st.	133	236	1897
Paul st....	Village st. to Tremont st.....	276	456	1897
Pelham st.....	Washington st. to Shawmut ave.....	320	693	1897
Waterford st.....	Washington st. to Shawmut ave.....	316	544	1897
		1,045	1,929	

Other Asphalt Streets.

Name.	Location.	Length.	Area.	Year Laid.
Harris st.....	Hanover st. to North st., coal tar (Ayers),	294	425	
Hayward pl.....	Harrison ave. to Washington st. (asphaltina).....	260	578	1898
Massachusetts av.	Columbus ave. to Tremont st. (asphaltina).....	267	1,622	1897
Public alley 436....	Clarendon st. to Berkeley st. (tar concrete),	580	516	1898
I st., S. Boston....	E. Broadway to E. Fourth st., coal tar (Ayers)	272	1,027	
		1,673	4,168	

Summary.

Trinidad asphalt....	Length	40,686 ft. or 7.70 miles	or	136,040 sq. yds.
Sicilian rock asphalt..	"	17,139 " " 3.24	" "	56,926 " "
Seyssel asphalt.....	"	1,045 " " 0.20	" "	1,929 " "
Other asphalts	"	1,673 " " 0.32	" "	4,168 " "
Total sheet asphalts,		60,543 " " 11.46	" "	199,063 " "
Asphalt blocks.....	"	3,940 " " 0.75	" "	11,325 " "
Total		64,483 " " 12.21	" "	210,388 " "

Street Mileage.

The following table shows the length of public highways and character of the pavements, February 1, 1899:

DISTRICTS.	Asphalt.	Block.	Brick.	Cobble.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1897 Report....	11.50	82.95	0.38	1.47	261.31	102.43	11.15	471.19
February 1, 1899.								
City Proper.....	*9.80	†44.67	0.60	0.92	26.20	0.41	0.12	82.72
Charlestown.....	0.20	9.04	.....	.....	13.69	.....	0.02	22.95
East Boston.....	.....	4.95	.....	0.13	6.74	15.37	0.12	27.31
South Boston.....	0.83	12.91	.....	0.05	21.17	1.55	6.32	42.83
Roxbury.....	1.38	9.25	.....	0.04	62.93	10.31	2.22	86.13
West Roxbury.....	.....	0.10	.....	.....	47.63	29.08	1.09	77.90
Dorchester.....	.....	4.26	.....	.....	69.20	23.30	1.17	97.93
Brighton.....	.....	.....	.....	.....	22.67	18.70	0.33	41.70
Total.....	12.21	85.18	0.60	1.14	270.23	98.72	11.39	479.47

NOTE.— The above districts refer to areas enclosed by the original boundary lines.
 * Of this amount 0.75 miles = asphalt blocks.
 † Of this amount 6.37 miles = granite-block paving on concrete base.
 2.29 miles of public alleys, chap. 298, Acts of 1898, included in this table.

Total length of public streets 479.47 miles.

There have been laid out and accepted by the Street Commissioners during the year, 5.63 linear miles of public streets and 2.29 miles of public alleys; corrections to previous measurements on account of revision and correction of previous tables from all causes show an increase of 0.36 miles, making a total net increase of 8.28 miles.

The rate of increase from year to year is shown in the following table:

1859....111.50 miles.	1880....350.54 miles.	1890....404.60 miles.
1871....201.32 "	1881....355.50 "	1891....409.60 "
1872....207.40 "	1882....359.85 "	1892....434.59 "
1873....209.24 "	1883....367.99 "	1893....443.34 "
1874....313.90 "	1884....374.10 "	1894....447.65 "
1875....318.58 "	1885....379.60 "	1895....452.12 "
1876....327.50 "	1886....383.55 "	1896....456.11 "
1877....333.20 "	1887....390.30 "	1897....459.12 "
1878....340.39 "	1888....392.72 "	1898....471.19 "
1879....345.19 "	1889....397.84 "	1899....479.47 "

Areas of Pavement.

The following table shows the area of pavements in square yards arranged by districts :

DISTRICTS.	Asphalt.	Block.	Brick.	Cobble.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1897 Report	203,728	1,800,105	5,018	16,576	4,837,473	1,644,330	300,224	8,807,454
Feb. 1, 1899.								
City Proper.....	155,878	970,136	6,050	8,302	497,663	2,998	8,064	1,649,091
Charlestown....	3,214	203,241	.....	.....	205,143	.....	275	411,873
East Boston....	.....	111,012	.....	2,600	140,251	283,535	2,418	39,816
South Boston...	14,681	274,609	.....	1,192	376,458	30,319	168,034	865,293
Roxbury.....	36,615	203,857	.....	377	1,158,676	154,592	47,711	1,601,828
West Roxbury..	.....	2,347	.....	.....	812,076	436,040	21,583	1,272,046
Dorchester.....	.....	94,046	.....	.....	1,239,360	373,726	64,029	1,771,161
Brighton.....	.....	.....	.....	.....	567,057	294,386	9,277	870,720
Total.....	210,388	1,859,248	6,050	12,471	4,996,684	1,575,596	321,391	8,981,828

NOTE.-- The above districts refer to areas enclosed by the original boundary lines.

* Of this amount 11,325 square yards = asphalt blocks.

† Of this amount 133,285 square yards = granite-block paving on concrete base.

11,489 square yards of public alleys, chap. 298, Acts of 1898, included in this table.

INCOME.

Statement showing the amount of bills and cash deposited with City Collector, less bills withdrawn, for the year ending January 31, 1898, by the several divisions of the Street Department :

Bridge Division	\$275 00
Boston and Cambridge Bridges	646 20
Ferry Division	293,627 65
Paving Division	56,361 66
Sanitary Division	31,604 11
Sewer Division	635,421 91
Street-Cleaning Division	5,943 99
Street-Watering	137,874 02

\$1,161,754 54

Statement showing the amount paid into the city treasury during the same period on account of the several divisions of the Street Department:

Bridge Division	\$600 00
Boston and Cambridge Bridges	646 20
Ferry Division	293,496 15
Paving Division	50,433 32
Sanitary Division	29,267 90
Sewer Division	312,655 61
Street-Cleaning Division	1,873 24
Street-Watering	109,273 51
	<hr/>
	<u>\$798,245 93</u>

LAYING-OUT AND CONSTRUCTION OF HIGHWAYS.

From assessments on abutters for cost of sidewalk in front of their premises, chapter 401, Acts 1892	\$8,736 12	
Interest on do.	2,534 76	
	<hr/>	\$11,270 88
Sewer assessments, chapter 402, Acts 1892	\$77,783 31	
Interest on do.	13,566 23	
	<hr/>	91,349 54
Street Construction, chapter 323, Acts 1891, and amendments, assessments:		
Abbotsford street	\$463 99	
Interest on do.	188 62	
	<hr/>	652 61
Audubon road	\$20,378 65	
Interest on do.	1,587 82	
	<hr/>	21,966 47
Batavia street	\$159 15	
Interest on do.	79 59	
	<hr/>	238 74
Bloomfield street	\$523 91	
Interest on do.	20 14	
	<hr/>	544 05
Boylston street	\$39,680 00	
Interest on do.	320 65	
	<hr/>	40,000 65
<i>Carried forward</i>		<u>\$166,022 94</u>

<i>Brought forward</i>	\$166,022 94	
Brighton avenue	\$9,510 00	
Interest on do.	28 40	
	<hr/>	9,538 40
Fullerton street	\$442 38	
Interest on do.	24 16	
	<hr/>	466 54
Greenbrier street	\$12,446 06	
Interest on do.	1,614 15	
	<hr/>	14,060 21
Josephine street	\$310 16	
Interest on do.	218 83	
	<hr/>	528 99
Kenmore street	\$705 86	
Interest on do.	114 61	
	<hr/>	820 47
Miner street	\$1,242 85	
Interest on do.	395 57	
	<hr/>	1,638 42
Newbury street	\$727 42	
Interest on do.	682 83	
	<hr/>	1,410 25
Norway street	\$377 82	
Interest on do.	193 92	
	<hr/>	571 74
St. Germain street	\$3,411 86	
Interest on do.	363 09	
	<hr/>	3,774 95
Wolcott street	\$293 45	
Interest on do.	18 71	
	<hr/>	312 16
Canal street, paving, between rail- road tracks		3,110 30
Columbus avenue, sale of old build- ings		5,742 25
	<hr/>	<u>\$207,997 62</u>

BLUE HILL AND OTHER AVENUES.

Paving between railroad tracks and grading	<u>\$13,751 87</u>
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PART II.

APPENDICES.

PAGES 1 TO 285.



APPENDIX A.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE BRIDGE DIVISION.

927 AND 928 TREMONT BUILDING,
BOSTON, February 1, 1899.

MR. BENJ. W. WELLS,

Superintendent of Streets :

DEAR SIR,—I herewith submit my annual report of the expenditures, income and operations of the Bridge Division of Street Department for the financial year ending January 31, 1899.

The sum of \$130,000 was appropriated for the care and maintenance of this division during the year. The total number of bridges in charge of this division previous to the enactment of chapter 467 of the Acts of 1898 was 73. Chapter 467 of the Acts of 1898 authorized the appointment of a commission by the cities of Boston and Cambridge to construct and maintain a bridge over the Charles river, to be known as the Cambridge bridge, at, upon or near the site of the so-called West Boston bridge, and provided that said bridge and draw and all other bridges and draws between the two cities should be maintained by Boston and Cambridge under the care of this commission.

In accordance with this Act, on July 1, 1898, four bridges of this division, viz., Essex street, Cambridge street, North Harvard street and Western avenue bridge to Cambridge were transferred to this commission, thus leaving 69 bridges in the care of this division. This number does not include culverts.

The total number of bridges in Boston is 132, 32 of which are supported wholly by railroad corporations, 100 are wholly or in part supported by the city of Boston, including the four transferred to the commission. There are eighteen tide-water draw-bridges, of which six are operated by steam, four by electricity, and eight by hand power.

The inland bridges have been given a careful inspection, and every effort made to keep them in a safe condition.

They have been thoroughly swept, and kept free and clean.

Good discipline has been maintained among the men. They have faithfully and efficiently performed their respective duties, and no accidents have occurred through neglect of duty.

I would recommend that the following-named bridges be provided with proper machinery to assist vessels through the draw, and thus obviate largely the inconvenience to public travel, — Chelsea North, Federal street, Dover street, Mt. Washington avenue, Meridian street, and Malden bridge.

Respectfully yours,

WM. H. CARBERRY,

Deputy Superintendent.

OBJECT OF EXPENDITURES.

ADMINISTRATION.

Office expenses :	
Printing reports, etc.	\$288 53
Stationery and office books	195 98
Telephone, photographs, etc.	322 50
Sundry office supplies	136 30

	\$943 31
Salaries of Deputy Superintendent, Chief Clerk and Messenger	5,933 33
Salaries of Chief Drawtender and Chief of Draws and Bridges	3,590 08
Board of Deputy Superintendent's horse, extra horse and carriage hire	679 70
Telephone at Deputy Superintendent's house	61 86

Amount expended, administration	<u>\$11,208 28</u>

OBJECT OF EXPENDITURES.

Office Expenses.

Salaries	\$9,523 41
General office expenditures	1,684 87

	<u>\$11,208 28</u>

REGULAR EXPENDITURES.

Administration	\$11,208 28
On tide-water bridges	92,035 93
On inland bridges	12,136 17
North yard and stable	5,353 92
South yard and stable	8,518 73

Total	<u>\$129,253 03</u>

FINANCIAL STATEMENT.

REGULAR APPROPRIATION.

Appropriation 1898-99	\$130,000 00
Amount of expenditures from February 1, 1898, to January 31, 1899	\$129,253 03
Transferred to Street Cleaning Division January 31, 1899	538 30
Transferred to Sanitary Division January 31, 1899,	208 67
Total	\$130,000 00

SPECIAL APPROPRIATIONS IN CHARGE OF BRIDGE DIVISION.

OBJECT OF APPROPRIATION.	Appropriations, Balances and Transfers.	Expended Feb. 1, 1898, to Jan. 31, 1899.	Balances on hand Jan. 31, 1899.
Gold-street bridge	\$9,328 02	\$9,328 02	
Harvard-street bridge reconstruction..	2,643 80	335 91	\$2,307 89
Reconstruction of bridges.....	11,615 38	10,670 13	945 25
Talbot-avenue bridge.....	25,000 00	25,000 00	
Totals.....	\$48,587 20	\$45,334 06	\$3,253 14

Amount of expenditures February 1, 1898, to January 31, 1899	\$45,334 06
Balances unexpended	3,253 14
Amount of appropriations and transfers	\$48,587 20

AMOUNTS CHARGED TO SPECIAL APPROPRIATIONS IN CHARGE OF OTHER DIVISIONS.

NAME OF APPROPRIATION.	Where expended.	Amount expended.
Abolishment of grade crossings.....	Congress-st. sidewalk ...	\$118 71
Blue Hill and other avenues.....	Cottage Farm bridge	563 89
City Council, Incidental Expenses.....	Jeffries Point landing ...	300 00
Laying-out and construction of highways .	Ipswich-street bridge....	1,795 39
Reserved fund.....	Accident, Meridian- street bridge.....	50 00
Stony Brook Improvement.....	Coffer dam, Roxbury Crossing.....	66 60
Total		\$2,894 59

Amount expended and charged to regular appropriation	\$129,253 03	
Amount expended and charged to Bridge Division, specials	45,334 06	
Amount expended and charged to appropriations in charge of other divisions	2,894 59	
		<hr/>
Grand total of expenditures February 1, 1898, to January 31, 1899	\$177,481 68	<hr/>

A detailed statement of expenditures and description of work performed follows; also a list of those bridges supported wholly or in part by the city of Boston; statement of the public landing-places; list of cable-houses and boxes; census of traffic taken on some of the most important bridges; number of draw openings made for navigation; width of draw openings, and table showing widths of bridges and kind of roadway and sidewalks.

TIDE-WATER BRIDGES.

Broadway bridge (over Fort Point channel).

Patched deck in various places, patched sheathing in numerous places under twenty-seven orders issued at different times, repaired waterway, sidewalks, fence, machinery, engines, built and painted new house on the pier and painted the draw-house.

Carpenters	\$1,580 40	
Painters	369 75	
Lumber and nails	1,409 03	
Paint stock	52 82	
Repairing engines, machinery, etc.	426 05	
Sundry expenses	51 90	
	<hr/>	\$3,889 95
Regular expenses :		
Draw-tenders	\$5,102 34	
Substitutes	380 00	
Coal, gas, water and supplies	292 27	
Rowboat	65 00	
	<hr/>	5,839 61
		<hr/>
		\$9,729 56

Cambridge-street bridge (from Brighton to Cambridge).

Repaired counterbalance and machinery	\$74 34	
	<hr/>	
<i>Carried forward,</i>	\$74 34	\$9,729 56

<i>Brought forward,</i>	\$74 34	\$9,729 56
Regular expenses :		
Draw-tender	\$154 66	
Supplies	6 31	
	<u>160 97</u>	
		<u>235 31</u>

Charles-river bridge (from Boston to Charlestown).

Sheathed the draw, patched draw and deck various times, repaired fence, sidewalk, gate, engines, water-pipes, put in new steam winch, reset buoy and painted fence and room.

Carpenters	\$404 93	
Painters	62 50	
Lumber and nails	256 02	
New steam winch and re- pairing engines	135 43	
Resetting buoy	195 00	
Plumbing and teaming	34 39	
	<u>\$1,088 27</u>	
Regular expenses :		
Draw-tenders	\$4,429 02	
Substitutes	182 50	
Coal, gas, cordage and supplies	731 30	
	<u>5,342 82</u>	
		<u>6,431 09</u>

Chelsea bridge [North] (over North channel, Mystic river).

Sheathed the draw, repaired iron fence, machinery, motor and switch, put in truck, reset buoy, painted fence and inside of draw-house.

Carpenters	\$190 15	
Painters	396 00	
Lumber and nails	97 75	
Paint stock	61 70	
Repairing machinery, iron fence and electric motor,	149 46	
Resetting buoy	213 90	
Plumbing	37 01	
Damage to tug	74 86	
	<u>\$1,220 83</u>	
Regular expenses :		
Draw-tenders	\$4,386 72	
Coal, electric lights, flag and sundries	182 23	
	<u>4,568 95</u>	
		<u>5,789 78</u>

Carried forward, \$22,185 74

<i>Brought forward,</i>			\$22,185 74
Chelsea bridge [South] (over South channel, Mystic river).			
Patched deck, sheathing and pier, built new gate and fence, repaired engine, machinery, water- pipes, and painted roof of house.			
Carpenters	\$201 23		
Painters	77 50		
Lumber and nails	86 30		
Paint stock	11 07		
Repairing engine, machinery and water-pipes	128 07		
Plastering	10 50		
	<hr/>	\$514 67	
Regular expenses :			
Draw-tenders	\$5,348 54		
Substitute	10 00		
Coal, gas and supplies	293 24		
	<hr/>	5,651 78	
		<hr/>	6,166 45
Chelsea-street bridge (from East Boston to Chelsea).			
Sheathed bridge in part, repaired fence, and painted bridge.			
Carpenters	\$29 40		
Painters	180 76		
Lumber and nails	69 64		
Hand-wheel	4 50		
	<hr/>	\$284 30	
Regular expenses :			
Draw-tender	\$299 00		
Coal and supplies	10 55		
	<hr/>	309 55	
		<hr/>	593 85
Commercial Point or Tenean bridge (Dor- chester).			
Built temporary fence, new deck, and sheathing on draw, and repaired hoisting machinery.			
Carpenters	\$124 25		
Lumber and nails	109 03		
Hoisting chain and iron- work	17 07		
	<hr/>	\$250 35	
Regular expenses :			
Draw-tender	\$50 00		
Supplies	2 20		
	<hr/>	52 20	
		<hr/>	302 55
<i>Carried forward,</i>			\$29,248 59

Brought forward, \$29,248 59
Congress-street bridge (over Fort Point channel).

Sheathed draw three times, patched deck, sheathing and sidewalk, repaired fence, waterways, fender-guard, pier, foundation to draw-house and machinery, painted draw-house, fence, and iron-work under draw.

Carpenters	\$904 86	
Painters	343 50	
Lumber and nails	830 64	
Paint stock	55 33	
Repairing fender-guard and corner	500 00	
Repairing pier	300 00	
Repairing foundation to draw-house	900 00	
Repairing fence, machinery, rack, gates, and iron guard	362 36	
Teaming old lumber	40 00	
	<hr/>	\$4,236 69

Regular expenses :

Draw-tenders	\$5,391 62	
Substitutes	15 00	
Coal, water, and supplies	486 29	
	<hr/>	5,892 91
		<hr/>

10,129 60

Dover-street bridge (over Fort Point channel).

Patched sheathing in various places; put in oak headers, repaired sidewalk, machinery, iron fence, electric controller, reset buoy, put in gas fixtures and connections in draw-house and painted hood.

Carpenters	\$219 00	
Painters	46 25	
Lumber and nails	160 86	
Paint stock	7 00	
Repairing iron fence, machinery, electric controller	259 52	
Gas fixtures and connections	67 00	
Resetting buoy	98 93	
Teaming	10 00	
	<hr/>	\$868 56

Carried forward,

\$868 56

\$39,378 19

<i>Brought forward,</i>	\$868 56	\$39,378 19
Regular expenses :		
Draw-tenders	\$5,284 24	
Substitutes	185 00	
Coal and supplies	79 38	
	<u>5,548 62</u>	
		6,417 18
Essex-street bridge (from Brighton to Cambridge).		
Repaired machinery, hinge and flap.		
Carpenters	\$12 50	
Lumber	4 70	
Bolts	5 80	
Repairing machinery	70 38	
	<u>\$93 38</u>	
Regular expenses :		
Draw-tender	278 52	
	<u>278 52</u>	
		371 90
Federal-street bridge (over Fort Point channel).		
Sheathed draws, repaired sheathing, put in oak headers, new gate, ring bolts, repaired landing, sidewalk, machinery, smoke-stack, iron fence, and electrical apparatus, and painted and oiled draw-house.		
Carpenters	\$265 84	
Painters	88 50	
Lumber and nails	80 95	
Paint stock	12 60	
Repairing machinery, furnace, iron fence, and electrical apparatus	296 34	
	<u>\$744 23</u>	
Regular expenses :		
Draw-tenders	\$5,284 24	
Substitutes	197 50	
Coal, gas and supplies	175 18	
	<u>5,656 92</u>	
		6,401 15
Granite bridge (from Dorchester to Milton).		
Sheathed draw, repaired sheathing, and put in new flaps.		
Carpenters	\$50 95	
Lumber	46 79	
Ironwork	10 23	
	<u>\$107 97</u>	
<i>Carried forward,</i>	\$107 97	\$52,568 42

<i>Brought forward,</i>	\$107 97	\$52,568 42
Regular expenses :		
Draw-tender	\$239 20	
Supplies	75	
	239 95	
		347 92

L-street bridge (over reserved channel at junction of Congress and L streets).
 Sheathed the draw, repaired machinery, new smoke-stack, wire rope, grates, repaired water pipes and reset buoys, and painted house in part.

Carpenters	\$149 65	
Painters	28 00	
Lumber and nails	87 82	
New ironwork, smoke-stack, wire rope and grates	122 48	
Plumbing	58 12	
Resetting buoys	187 50	
	\$633 57	
Regular expenses :		
Draw-tenders	\$3,993 46	
Substitutes	962 50	
Coal and supplies	457 85	
	5,413 81	
		6,047 38

Malden bridge (from Charlestown to Everett).
 Sheathed the draw, patched deck and sheathing in various places, repaired up-stream pier, new chimney on draw-house and painted and oiled house inside.

Carpenters	\$207 00	
Painters	117 75	
Lumber	65 59	
Paint stock	16 82	
Repairing up-stream pier	500 00	
Ironwork and new chimney	15 43	
	\$922 59	
Regular expenses :		
Draw-tenders	\$3,589 04	
Substitutes	125 00	
Coal, gas, rowboat and supplies	169 58	
	3,883 62	
		4,806 21
<i>Carried forward,</i>		\$63,769 93

Brought forward,

\$63,769 93

Meridian-street bridge (from East Boston to Chelsea).

Sheathed the draw, repaired sheathing, fence, sidewalk, stable, steps, waterway, machinery and electrical apparatus.

Carpenters	\$248 05	
Painters	11 00	
Lumber and nails	119 79	
Repairing machinery, electrical apparatus, also new segments	517 52	
	<hr/>	\$896 36

Regular expenses :

Draw-tenders	\$4,386 72	
Substitutes	110 00	
Horseshoeing	26 65	
Coal, feed, gas, flag and supplies	257 27	
	<hr/>	4,780 64
		<hr/>

5,677 00

Mt. Washington-avenue bridge (over Fort Point channel).

Sheathed draw, patched sheathing and deck various times, repaired fender-guard, waterway, pier, steps and ladder, shingled roof, reset buoy, and painted house and roof.

Carpenters	\$957 18	
Painters	166 50	
Lumber and nails	508 38	
Paint stock	23 70	
Repairing fender-guard	580 00	
Ironwork and resetting buoy	127 00	
	<hr/>	\$2,362 76

Regular expenses :

Draw-tenders	\$5,038 80	
Substitutes	145 00	
Rent of land	60 00	
Coal, gas, flag, rowboat and supplies	234 45	
	<hr/>	5,478 25
		<hr/>

7,841 01

Neponset bridge (from Dorchester to Quincy).

Patched sheathing four times, repaired machinery, pier and gear-box.

Carried forward,

\$77,287 94

STREET DEPARTMENT — BRIDGE DIVISION. 13

<i>Brought forward,</i>		\$77,287 94
Carpenters	\$296 85	
Lumber	50 22	
Repairing machinery	40 81	
	<hr/>	\$387 88
Regular expenses:		
Draw-tender	\$398 84	
Supplies	75	
	<hr/>	399 59
		<hr/>
		787 47

North Beacon-street bridge (from Brighton to Watertown).

Sheathed draw, built new sidewalk and patched sheathing.		
Carpenters	\$43 50	
Lumber and nails	85 80	
Ironwork	10 89	
	<hr/>	\$140 19
Regular expenses:		
Draw-tender	\$60 89	
Substitute	58 61	
	<hr/>	119 50
		<hr/>
		259 69

North Harvard-street bridge (from Brighton to Cambridge).

Put in new flaps and repaired latch.		
Carpenters	\$10 00	
Lumber	2 11	
Ironwork	6 52	
	<hr/>	\$18 63
Regular expenses:		
Draw-tender	\$154 66	
Fuel	1 66	
	<hr/>	156 32
		<hr/>
		174 95

Warren bridge (from Boston to Charlestown).

Sheathed the draws, repaired deck, steps, fence, pier, sidewalk, patched sheathing ten different times, built new winch-house and sand box, three new gates, repaired machinery, slate roof and water pipes, new concrete walk and painted draw-house, boilers, gates and fence.		
Carpenters	\$1,465 69	
Painters	196 00	
	<hr/>	
<i>Carried forward,</i>	\$1,661 69	<hr/>
		\$78,510 05

<i>Brought forward,</i>	\$1,661 69	\$78,510 05
Lumber and nails	405 41	
Paint stock	23 74	
Ironwork, repairing machinery, trucks, fence and gates	812 86	
New steam winch	475 00	
New concrete walk	324 15	
Repairing slate roof, covering steam pipe, plumbing and teaming	211 01	
	<u> </u>	\$3,913 86
Regular expenses :		
Draw-tenders	\$5,284 24	
Substitutes	219 00	
Coal, gas, flag, row-boat and supplies	855 37	
	<u> </u>	6,358 61
		<u> </u>
		10,272 47
Western-avenue bridge (from Brighton to Cambridge).		
Sheathed draw and repaired flaps.		
Carpenters	\$31 25	
Lumber	15 98	
Chains, bolts and plates . .	27 18	
	<u> </u>	\$74 41
Regular expenses :		
Draw-tender	\$154 66	
Fuel	1 67	
	<u> </u>	156 33
		<u> </u>
		230 74
Western-avenue bridge (from Brighton to Watertown).		
Sheathed draw, patched sheathing, new headers, new gate, repaired machinery and painted bridge.		
Carpenters	\$172 20	
Painters	217 50	
Lumber	85 55	
Truss-rods, clamps and bolts	24 98	
	<u> </u>	\$500 23
Regular expenses :		
Draw-tender	\$60 89	
Substitute	118 62	
Coal and supplies	7 89	
	<u> </u>	187 40
		<u> </u>
		687 63
<i>Carried forward,</i>		<u> </u>
		\$89,700 89

<i>Brought forward,</i>		\$89,700 89
Winthrop bridge (from Breed's Island to Winthrop).		
Patched sheathing.		
Lumber		\$16 74
Regular expenses :		
Draw-tender	\$100 00	
Supplies	1 65	
	<u> </u>	101 65
		118 39
Sundry expenditures on tide-water bridges :		
Oak lumber for headers	\$385 20	
Nails	78 42	
Sundry car-fares, Boston Elevated Railway Co. (mechanics)	200 00	
Sundry Street Department tickets, N. Y., N. H. & H. R.R. (mechanics)	20 00	
	<u> </u>	\$683 62
Regular expenses :		
Messenger to Chief Draw-tender	\$797 68	
Draw-tenders' books	119 78	
Sundry supplies	258 44	
	<u> </u>	1,175 90
		1,859 52
Public landings.		
Commercial wharf :		
Repaired float and run.		
Carpenters	\$54 15	
Truck-wheels, shackles, etc.	14 75	
	<u> </u>	\$68 90
East Boston :		
New wheels on run.		
Ironwork	\$13 23	
Regular expenses :		
Rent of flats and dock	\$250 00	
Watchman	25 00	
	<u> </u>	275 00
		288 23
		357 13
Total expended on tide-water bridges,		<u><u>\$92,035 93</u></u>

NOTE.— By statute, Western-avenue bridge to Cambridge, Cambridge-street, North Harvard-street and Essex-street bridges were placed in charge of Cambridge Bridges Division on July 1, 1898.

RECAPITULATION.

Table showing Expenditures on the Tide-water Bridges from
February 1, 1898, to January 31, 1899.

NAME OF BRIDGE.	Repairs, Labor, Lumber, Ironwork and Painting.	Regular Ex- penses, Salar- ies, Fuel and Supplie	Total
Broadway	\$3,889 95	\$5,839 00	9,728 95
Cambridge street.....	74 34	160 07	234 41
Charles river	1,088 27	5,342 20	6,430 47
Chelsea (North)	1,226 83	4,568 00	5,794 83
Chelsea (South).....	514 67	5,651 80	6,166 47
Chelsea street.....	284 30	309 00	593 30
Commercial point.....	250 35	52 00	302 35
Congress street	4,236 69	5,892 00	10,128 69
Dover street	868 56	5,548 00	6,416 56
Essex street	93 38	278 52	371 90
Federal street	744 23	5,656 92	6,401 15
Granite	107 97	239 95	347 92
L street	633 57	5,413 81	6,047 38
Malden.....	922 59	3,883 62	4,806 21
Meridian street	896 36	4,780 64	5,677 00
Mt. Washington avenue.....	2,362 76	5,478 25	7,841 01
Neponset.....	387 88	399 59	787 47
North Beacon street	140 19	119 50	259 69
North Harvard street.....	18 63	156 32	174 95
Warren	3,913 86	6,358 61	10,272 47
Western avenue (to Cambridge).	74 41	156 33	230 74
Western avenue (to Watertown).	500 23	187 40	687 63
Winthrop	16 74	101 65	118 39
Sundry expenditures.....	683 62	1,175 90	1,859 52
Public landings.....	82 13	275 00	357 13
	\$24,006 51	\$68,029 42	\$92,035 93

INLAND BRIDGES.

Albany-street bridge (over Boston & Albany Railroad).

Patched sheathing five times, and repaired sidewalk.

Carpenters	\$80 63
Lumber	83 76
Nails	1 80

 \$166 19
Allston bridge (over Boston & Albany Railroad at Cambridge street).

Sheathed one side, patched deck and sheathing, and laid new border.

Carpenters	\$107 30
Lumber	106 17
Nails	5 40

 218 87
Ashland-street bridge (over New York, New Haven & Hartford Railroad, Providence Division).

Patched sheathing twice, built and painted fence.

Carpenters	\$23 00
Painters	34 50
Lumber	20 25
Nails and bolts	2 55
Paint stock	6 25

 86 55
Ashland-street culvert (at Canterbury street, West Roxbury).

New deck and sheathing.

Carpenters	\$107 70
Lumber	94 01

 201 71
Athens-street bridge (over New York, New Haven & Hartford Railroad, Midland Division).

Repaired sidewalk.

Carpenters	2 50
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Baker-street bridge (at Brook Farm, West Roxbury).

Patched sheathing.

Carpenters	\$23 55
Lumber	12 66

 36 21
Carried forward,

 \$712 03

<i>Brought forward,</i>		\$712 03
Beacon-street bridge (over Boston & Albany Railroad).		
Decked and sheathed part, and painted bridge.		
Carpenters	\$378 61	
Painters	248 00	
Lumber, nails, lag screws, and bolts	393 86	
Paint stock	25 43	
Teaming	20 00	
	<hr/>	1,065 90
Beech-street culvert (near Anawan avenue, West Roxbury).		
Patched sheathing.		
Carpenters	\$13 55	
Lumber	6 67	
	<hr/>	20 22
Berkeley-street bridge (over Boston & Albany Railroad).		
Sheathed bridge, patched deck and sheathing, and repaired sidewalk.		
Carpenters	\$64 15	
Lumber	47 18	
Nails	24	
Teaming	5 00	
	<hr/>	116 57
Berkeley-street bridge (over New York, New Haven & Hartford Railroad, Providence Division).		
Sheathed bridge, patched sheathing, deck, and border.		
Carpenters	\$171 05	
Lumber	312 77	
Nails	10 80	
	<hr/>	494 62
Berwick Park [foot] bridge (over New York, New Haven & Hartford Railroad, Providence Division).		
Repaired steps, and added safety treads to same.		
Carpenters	\$47 50	
Lumber	4 24	
Stair-treads	168 00	
Hardware	2 85	
	<hr/>	222 59
<i>Carried forward,</i>		<hr/>
		\$2,631 93

Brought forward, \$2,631 93

Blakemore-street bridge (over New York, New Haven & Hartford Railroad, Providence Division).

Patched sheathing.

Carpenters	\$24 15	
Lumber	39 73	
	<hr/>	63 88

Boylston-avenue bridge (over Stony brook, West Roxbury).

Reconstructed bridge.

Carpenters	\$80 00	
Watchman	25 55	
Lumber	15 70	
	<hr/>	121 25

[See "Reconstruction of Bridges," for balance of expense.]

Boylston-street bridge (over Boston & Albany Railroad).

Sheathed the bridge, patched sheathing and painted all iron work.

Carpenters	\$56 45	
Painters	603 34	
Lumber and nails	172 14	
Paint stock	90 19	
Teaming	10 00	
	<hr/>	932 12

Broadway bridge (over Boston & Albany Railroad).

Patched sheathing six different times, patched deck and border.

Carpenters	\$88 52	
Lumber	137 15	
Nails	3 60	
	<hr/>	229 27

Central-avenue bridge (from Dorchester to Milton, over Neponset river).

Patched deck, sheathing and sidewalk.

Carpenters	\$73 15	
Lumber	32 87	
	<hr/>	106 02

Carried forward, \$4,084 47

<i>Brought forward,</i>		\$4,084 47
Columbus-avenue bridge (over Boston & Albany Railroad).		
New deck and sheathing, westerly side, patched deck and sheathing, laid new sidewalk in part on easterly side, and painted beams under roadways and easterly sidewalk.		
Carpenters	\$171 50	
Painters	161 75	
Lumber	50 21	
Paint stock	23 10	
	<hr/>	406 56
Cottage Farm bridge (over Boston & Albany Railroad at Commonwealth avenue).		
Painted bridge.		
Painters	\$125 00	
Paint stock	18 00	
	<hr/>	143 00
Cottage-street [foot] bridge (over flats, East Boston).		
Patched sidewalk and painted house.		
Bridge-tender	\$728 00	
Carpenters	95 85	
Painters	8 00	
Lumber and nails	39 86	
Coal and supplies	16 27	
	<hr/>	887 98
Dartmouth-street bridge (over Boston & Albany Railroad and Providence Division of New York, New Haven & Hartford Railroad).		
Repaired sidewalk and sheathing.		
Carpenters	\$26 30	
Lumber	4 22	
	<hr/>	30 52
Dorchester-street bridge (over New York, New Haven & Hartford Railroad, Plymouth Division).		
Repairs made by railroad company, the city paying its part, one-fifth		8 20
Everett-street bridge (over Boston & Albany Railroad, Brighton).		
Patched sheathing.		
Carpenters	\$10 00	
Lumber	9 44	
	<hr/>	19 44
<i>Carried forward,</i>		<hr/>
		\$5,580 17

<i>Brought forward,</i>		\$5,580 17
Ferdinand-street bridge (over Boston & Albany Railroad).		
Decked and sheathed, repaired sidewalk, and painted ironwork underneath.		
Carpenters	\$275 10	
Painters	381 25	
Watchman	64 65	
Lumber, nails and bolts	296 70	
Paint stock	54 46	
	<hr/>	1,072 16
Huntington-avenue bridge (over Boston & Albany Railroad).		
Patched sheathing.		
Carpenters		7 65
Hyde Park-avenue bridge (over Stony brook, West Roxbury).		
Bolts, washers, etc., used in rebuilding bridge		12 70
Irvington-street [foot] bridge (over New York, New Haven & Hartford Railroad, Providence Division).		
Built new steps and put on safety treads.		
Carpenters	\$117 75	
Lumber	40 32	
Bolts	3 01	
	<hr/>	161 08
Linden Park-street bridge (over Stony brook).		
Paid professional services, accident to boy while repairs were being made, May 27, 1896		25 00
Massachusetts-avenue bridge (over Boston & Albany Railroad).		
Sheathed one side and patched the other.		
Carpenters	\$39 40	
Lumber	97 56	
Nails	5 40	
Teaming	10 00	
	<hr/>	152 36
Massachusetts-avenue bridge (over New York, New Haven & Hartford Railroad, Providence Division).		
Sheathed roadways and patched sheathing.		
Carpenters	\$110 18	
Lumber	67 82	
Nails	3 60	
Teaming	10 00	
	<hr/>	191 60
<i>Carried forward,</i>		<hr/>
		\$7,202 72

<i>Brought forward,</i>		\$7,202 72
Mattapan bridge (from Dorchester to Milton).		
Painted bridge	\$17 50	
Paint stock	2 50	
Lumber	24	
	<hr/>	20 24
Milton bridge (from Dorchester to Milton).		
Repaired sidewalk.		
Carpenters		5 00
Shawmut-avenue bridge (over Boston & Albany Railroad).		
Patched sheathing.		
Carpenters	\$8 55	
Mortar	14 25	
Teaming	10 00	
	<hr/>	32 80
Spring-street bridge (from West Roxbury to Dedham, over Charles river).		
Repaired stone wall.		
Pointing stonework		118 75
Swett-street bridge (east of New York, New Haven and Hartford Railroad, Midland Division).		
Sheathed bridge and patched deck and sheathing.		
Carpenters	\$146 73	
Lumber	212 43	
Nails and bolts	10 95	
	<hr/>	370 11
Swett-street bridge (west of New York, New Haven & Hartford Railroad, Midland Division).		
Sheathed, decked, put in new fence and sidewalk and patched sheathing.		
Carpenters	\$165 80	
Lumber	35 66	
	<hr/>	201 46
West Fourth-street bridge (over New York, New Haven & Hartford Railroad, Plymouth Division).		
Sheathed bridge, repaired sidewalk and patched sheathing.		
Carpenters	\$212 52	
Lumber	343 83	
Nails	12 60	
	<hr/>	568 95
<i>Carried forward,</i>		<hr/>
		\$8,520 03

Brought forward, \$8,520 03

West Newton-street bridge (over New York, New Haven & Hartford Railroad, Providence Division).

Sheathed one side and patched the other, and repaired concrete walks.

Carpenters	\$77 05	
Lumber	68 91	
Paint stock and teaming	9 86	
Resurfacing concrete walks	70 85	
	<hr/>	226 67

West Rutland square [foot] bridge (over New York, New Haven & Hartford Railroad, Providence Division).

Repaired steps.

Carpenters		2 50
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Williams-street bridge (over Stony brook, West Roxbury).

Patched deck and sheathing.

Carpenters	\$20 95	
Lumber	9 96	
	<hr/>	30 91

Williams-street culvert (over Stony brook, West Roxbury).

Sheathed.

Carpenters	\$7 50	
Lumber	8 03	
	<hr/>	15 53

Sundry expenditures on inland bridges.

Labor, on snow	\$1,288 97	
Labor, cleaning bridges	1,276 54	
Nails	19 55	
Sundry car fares, Boston Elevated Railway Company (mechanics)	100 00	
Sundry Street Department tickets, New York, New Haven & Hartford Railroad Company (mechanics)	11 25	
	<hr/>	2,696 31

Congress street, sidewalk, near L-street bridge.

Covered concrete walk with temporary plankwalk.

Carpenters		80 15
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[Work done for Abolishment of grade crossings.]

Carried forward, \$11,572 10

<i>Brought forward,</i>		\$11,572 10
Atlantic avenue , near India wharf.		
Repaired sidewalk and fence.		
Carpenters	\$196 20	
Painters	22 50	
	\$218 70	
Hecht's wharf , Atlantic avenue.		
Built fender-guard for snow-dump.		
Carpenters		58 15
North End Paving Yard.		
Planked and repaired pier.		
Carpenters		178 75
Ruth street , East Boston.		
Painted fence.		
Painters	\$80 50	
Paint stock	27 97	
	108 47	
Work done for Paving Division		564 07
Total expended on inland bridges		\$12,136 17

RECAPITULATION.

Table showing Expenditures on the Inland Bridges from February 1, 1898, to January 31, 1899.

Name of Bridge.	Repairs, Labor, Lumber, Ironwork and Painting.
Albany street	\$166 19
Allston	218 87
Ashland street	86 55
Ashland street (culvert)	201 71
Athens street	2 50
Baker street	36 21
Beacon street (over B. & A. Railroad)	1,065 90
Beech street (culvert)	20 22
Berkeley street (over B. & A. Railroad)	116 57
Berkeley street (over Providence Division)	494 62
Berwick park	222 59
Blakemore street	63 88
Boylston avenue	121 25
Boylston street (over B. & A. Railroad)	932 12
Broadway (over B. & A. Railroad)	229 27
Central avenue	106 02
Columbus avenue	406 56
Cottage Farm	143 00
Cottage street	887 98
Dartmouth street	30 52
Dorchester street	8 20
Everett street	19 44
Ferdinand street	1,072 16
Huntington avenue	7 65
Hyde Park avenue	12 70
Irvington street	161 08
Linden Park street	25 00
Massachusetts avenue (over B. & A. Railroad)	152 36
Massachusetts avenue (over Providence Division)	191 60
Mattapan	20 24
Milton	5 00
Shawmut avenue	32 80
Spring street	118 75
Swett street (east)	370 11
Swett street (west)	201 46
West Fourth street	568 95
West Newton street	226 67
West Rutland square	2 50
Williams street	30 91
Williams street (culvert)	15 53
Sundry expenditures	2,696 31
Work done for Abolishment of grade crossings	80 15
Work done for Paving Division	564 07
Total	\$12,136 17

REGULAR MAINTENANCE EXPENSES AT NORTH AND SOUTH YARDS.

NORTH YARD, DISTRICT No. 1.

Warren Bridge.

Two messengers, watchman and boy	\$2,711 28	
Repairing buildings, painters	55 50	
Tools for carpenters and painters	34 07	
Telephone	82 50	
Gas, water, clock and supplies	88 98	
	<hr/>	\$2,972 33

STABLE, DISTRICT No. 1.

Warren Bridge.

Teamster and hostler	\$1,695 00	
Feed	300 23	
Bay gelding	150 00	
New harness and repairing old ones	97 85	
Horseshoeing	131 50	
Supplies	7 01	
	<hr/>	2,381 59

Total expended, North Yard and Stable \$5,353 92

SOUTH YARD, DISTRICT No. 2.

No. 45 Foundry Street.

Two messengers, watchman and lumber measurer	\$3,065 86	
Carpenters, repairing buildings and on traffic account	71 35	
Tools for carpenters and painters	116 81	
Telephone	82 03	
Plumbing	8 10	
Badges for mechanics	12 00	
Coal and supplies	123 38	
	<hr/>	\$3,479 53

STABLE, DISTRICT No. 2.

No. 135 Dorchester Avenue.

Teamster and stable boy	\$1,547 00	
Board and shoeing of horses	2,005 25	
Repairing buggies, wagons and sleighs,	497 46	
Veterinary service and clipping horses,	102 55	
New harness and repairing old ones	180 25	
Chestnut mare and bay horse	275 00	
Concord wagon, express wagon and sleigh	365 00	
Supplies	66 69	
	<hr/>	5,039 20

Total expended, South Yard and Stable \$8,518 73

SPECIAL APPROPRIATIONS.

IN CHARGE OF BRIDGE DIVISION.

Gold-street bridge (over New York, New Haven & Hartford Railroad, Midland Division).

Paid John E. V. Hayden September 21, 1898, under execution of court, damage to estate, change of grade	\$9,328 02
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Transferred from Street Laying-Out Department, widening and extending, loan	\$4,878 92
Engine-house and site, North End	4,449 10

Transferred to Gold-street bridge January 31, 1899,	<u>\$9,328 02</u>
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Harvard-street bridge, reconstruction (over New York, New Haven & Hartford Railroad, Midland Division).

Widened bridge by building new sidewalk on northerly side.

Carpenters	\$302 91
Painters	33 00

Total expended January 31, 1899	\$335 91
Balance	2,307 89

Appropriation on hand February 1, 1898	<u>\$2,643 80</u>
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RECONSTRUCTION OF BRIDGES.

Beacon-street bridge (over Boston & Albany Railroad).

Completed work on south-westerly roadway, new deck, beams and sheathing, and painted all iron-work.

Carpenters	\$29 75
Lumber and nails	592 12
Paint stock	181 02
Flagman	31 50
Sundry expenses	97 92

<u>\$932 31</u>

Carried forward,

<u>\$932 31</u>

<i>Brought forward,</i>		\$932 31
Boylston-avenue bridge (over Stony brook).		
Reconstructed bridge.		
Carpenters	\$183 75	
Lumber and nails	316 48	
Sundry expenses	41 18	
	<hr/>	541 41
[See "Regular appropriation" for balance of expense.]		
Broadway-bridge (over Fort Point channel).		
Repaired pier, fender-guard, and iron fence.		
Pulling old piles on pier; putting in new hard pine stringers, capping, etc., \$1,375 24		
Driving piles; planking top of pier and repairing fender-guard 491 00		
Carpenters	216 70	
Repairing iron fence, etc.	105 40	
	<hr/>	2,188 34
Charles-river bridge (from Boston to Charlestown).		
New stage landing for park boats.		
Pulling up guard-rail, putting in hard pine, spruce, and building stage landing 200 00		
Chelsea bridge [North] (over North channel, Mystic river).		
Repairing pier 200 00		
Columbus-avenue bridge (over Boston & Albany Railroad).		
Decked and sheathed easterly side.		
Carpenters	\$319 67	
Lumber and nails	254 25	
Sundry expenses	78 00	
	<hr/>	651 92
Congress-street bridge (over Fort Point channel).		
Repaired deck under roadway and sidewalk, and laid new concrete walk. (Begun in 1897.)		
Carpenters	\$1,435 14	
Lumber and nails	731 67	
New concrete walk	377 30	
Sundry expenses	100 24	
	<hr/>	2,644 35
Cornwall-street bridge (over Stony brook).		
Put in new deck, and sheathed the same.		
Completing work begun in 1897.		
Lumber		67 97
		<hr/>
<i>Carried forward,</i>		\$7,426 30

<i>Brought forward,</i>		\$7,426 30
Elmwood-street bridge (over Stony brook).		
Patched deck, sheathed and repaired sidewalk.		
Completing work begun in 1897.		
Lumber		10 88
Huntington-avenue bridge (over Boston & Albany Railroad).		
Sheathed the bridge.		
Carpenters	50 25	
Lumber and nails	153 62	
Teaming	10 00	
	<hr/>	213 87
Hyde Park-avenue bridge (over Stony brook).		
Completed work begun in 1897.		
Taking down and rebuilding bridge wall,	\$589 55	
Lumber	430 36	
	<hr/>	1,019 91
Keyes-street bridge (over Stony brook).		
Put in new deck, and sheathed the same.		
Completing work begun in 1897.		
Lumber		99 50
Malden bridge (from Charlestown to Everett).		
Repaired pier.		
Hard pine, piles, iron, etc.		770 00
Mt. Washington-avenue bridge (over Fort Point channel).		
New guard rail		450 00
Warren bridge (from Boston to Charlestown).		
New concrete walk on down-stream side, Boston end,		320 98
Winthrop bridge (from Breed's Island to Winthrop).		
Sheathed the bridge.		
Carpenters	\$97 75	
Lumber and nails	260 94	
	<hr/>	358 69
Total expended January 31, 1899		\$10,670 13
Balance		945 25
		<hr/>
Appropriation on hand February 1, 1898		\$11,615 38
		<hr/>
Talbot-avenue bridge.		
Excavating, altering grade, building abutments and bridge, the street passing under the New York, New Haven and Hartford Railroad, Midland Division, as per contract dated October 30, 1897		\$25,000 00
		<hr/>

[Appropriation \$25,000.]

AMOUNTS CHARGED TO SPECIAL APPROPRIATIONS IN CHARGE
OF OTHER DIVISIONS.

Congress street, near L-street bridge.

Built temporary wooden covering for protection
of concrete walk.

Lumber \$118 71

[Charged to Abolishment of Grade Crossings.]

Cottage Farm bridge (over Boston & Albany
Railroad, at Commonwealth avenue.)

Painted girder and beams under the sidewalk on
northerly side of bridge.

Painters \$563 89

[Stock furnished by Bridge Division.]

[Charged to Blue Hill and other avenues.]

Jeffries-point landing.

Use of wharf for public landing at Jeffries Point,
and keeping the same in repair during the year
1898

\$300 00

[Charged to City Council, incidental expenses.]

Ipswich-street bridge.

Third approximate estimate on retain-
ing walls, abutments and piers . \$1,745 65
Use of boring rig, labor and teaming . 38 74
Advertising 11 00

\$1,795 39

[Charged to laying out and construction of high-
ways.]

[See Paving Division for balance of account.]

Award of Committee on Claims.

Award given for damage caused to yacht at Meri-
dian-street bridge

\$50 00

[Charged to Reserved Fund.]

Building coffer-dam at Roxbury Crossing.

Carpenters \$66 60

[Charged to Stony-brook Improvement.]

LIST OF BOSTON BRIDGES.

I.—BRIDGES WHOLLY SUPPORTED BY BOSTON.

[In the list those marked with an asterisk (*) are over navigable waters, and are each provided with a draw.]

In charge of Bridge Division.

- Allston, over Boston & Albany Railroad at Cambridge street, Brighton.
- Ashland street, over N. Y., N. H. & H. Railroad, Providence Division, West Roxbury.
- Athens street, over N. Y., N. H. & H. Railroad, Midland Division.
- Baker street, at Brook farm, West Roxbury.
- Beacon street, over outlet to Back Bay Fens.
- Beacon street, over Boston & Albany Railroad.
- Berkeley street, over Boston & Albany Railroad.
- Berkeley street, over N. Y., N. H. & H. Railroad, Providence Division.
- Berwick park (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.
- Blakemore street, over N. Y., N. H. & H. Railroad, Providence Division.
- Bolton street, over N. Y., N. H. & H. Railroad, Midland Division.
- Boylston avenue, over Stony brook, West Roxbury.
- Boylston street, over Boston & Albany Railroad.
- * Broadway, over Fort Point channel.
- Broadway, over Boston & Albany Railroad.
- Brookline avenue, over Boston & Albany Railroad.
- Byron street, over Boston, Revere Beach & Lynn Railroad.
- * Charles river, from Boston to Charlestown.
- * Chelsea (South), over south channel, Mystic river.
- * Chelsea street, from East Boston to Chelsea.
- Columbus avenue, over Boston & Albany Railroad.
- * Commercial Point, or Tenean, Dorchester.
- * Congress street, over Fort Point channel.
- Cornwall street, over Stony brook, West Roxbury.
- Cottage Farm, over Boston & Albany Railroad, at Commonwealth avenue.
- Cottage street (foot-bridge), over flats, East Boston.
- Dartmouth street, over Boston & Albany, and Providence Division of N. Y., N. H. & H. Railroad.
- * Dover street, over Fort Point channel.
- Elmwood street (private way), over Stony brook, Roxbury.
- * Federal street, over Fort Point channel.
- Ferdinand street, over Boston & Albany Railroad.
- Florence street, over Stony brook, West Roxbury.

Gold street (foot-bridge), over N. Y., N. H. & H. Railroad, Midland Division.

Huntington avenue, over Boston & Albany Railroad.

Hyde Park avenue, over Stony brook, West Roxbury.

Irvington street (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.

Keys street, over Stony brook, West Roxbury.

* L street, over reserved channel at junction of Congress and L streets.

Leyden street, over Boston, Revere Beach & Lynn Railroad.

Linden Park street, over Stony brook, Roxbury.

* Malden, from Charlestown to Everett.

Massachusetts avenue, over Boston & Albany Railroad.

Massachusetts avenue, over N. Y., N. H. & H. Railroad, Providence Division.

* Meridian street, from East Boston to Chelsea.

* Mt. Washington avenue, over Fort Point channel.

Shawmut avenue, over Boston & Albany Railroad.

Sweet street, east of N. Y., N. H. & H. Railroad, Midland Division.

Sweet street, west of N. Y., N. H. & H. Railroad, Midland Division.

Texas street, over Stony brook, Roxbury.

* Warren, from Boston to Charlestown.

West Newton street, over N. Y., N. H. & H. Railroad, Providence Division.

West Rutland square (foot-bridge), over N. Y., N. H. & H. Railroad, Providence Division.

Williams street, over Stony brook, West Roxbury.

Winthrop, from Breed's Island to Winthrop.

In charge of Park Department.

Agassiz, in Back Bay Fens.

Arborway, over Stony brook.

Audubon road, over Boston & Albany Railroad.

Bernier street (foot-bridge), in the Riverway.

Boylston street, in Back Bay Fens.

Bridle path, in the Riverway, over Muddy river.

* Castle Island (foot-bridge), from Marine park, South Boston, to Castle Island.

Charlesgate, Back Bay Fens, over Boston & Albany Railroad.

Circuit drive, over Scarboro' pond, in Franklin park.

Commonwealth avenue, in Back Bay Fens.

Ellicott arch, in Franklin park.

Fen, Back Bay Fens.

Forest Hills entrance, in Franklin park.

Leverett pond (foot-bridge), in Leverett park.

Neptune road, over Boston, Revere Beach & Lynn Railroad.

Scarboro' pond (foot-bridge), in Franklin park.

Stony brook, Back Bay Fens.

In charge of Public Grounds Department.

Public Garden (foot-bridge).

II. — BRIDGES OF WHICH BOSTON SUPPORTS THE PART WITHIN ITS LIMITS.

In charge of Bridge Division.

Central avenue, from Dorchester to Milton.

* Chelsea (North), from Charlestown to Chelsea.

* Granite, from Dorchester to Milton.

Mattapan, from Dorchester to Milton.

Milton, from Dorchester to Milton.

* Neponset, from Dorchester to Quincy.

* North Beacon street, from Brighton to Watertown.

Spring street, from West Roxbury to Dedham.

* Western avenue, from Brighton to Watertown.

In charge of Park Department.

Bellevue street, in the Riverway, over Muddy river.

Bernier street (foot-bridge), in the Riverway, over Muddy river.

Brookline avenue, in the Riverway, over Muddy river.

Longwood avenue, from Roxbury to Brookline.

Tremont street, in the Riverway, over Muddy river.

III. — BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

In charge of Bridge Division.

Albany street, over Boston & Albany Railroad.

Chelsea bridge, over Boston & Maine Railroad.

Dorchester street, over N.Y., N.H. & H. Railroad, Plymouth Division.

Everett street, over Boston & Albany Railroad, Brighton.

Harvard street, over N.Y., N.H. & H. Railroad, Midland Division.

West Fourth street, over N.Y., N.H. & H. Railroad, Plymouth Division.

In charge of Commissioners of Cambridge Bridges.

* Cambridge street, from Brighton to Cambridge.

* Canal, from Boston to Cambridge.

* Essex street, from Brighton to Cambridge.

* Harvard, from Boston to Cambridge.

* North Harvard street, from Brighton to Cambridge.

* Prison Point, from Charlestown to Cambridge.

* West Boston, from Boston to Cambridge.

* Western avenue, from Brighton to Cambridge.

IV. — BRIDGES SUPPORTED BY RAILROAD CORPORATIONS.

1st. — Boston & Albany Railroad.

Harrison avenue.
 Market street, Brighton.
 Tremont street.
 Washington street.

2d. — Boston & Maine Railroad, Eastern Division.

Main street.
 Mystic avenue.

3d. — Boston & Maine Railroad, Western Division.

Main street.
 Mystic avenue.

4th. — Boston, Revere Beach & Lynn Railroad.

Everett street.

5th. — New York, New Haven & Hartford Railroad, Midland Division.

Dorchester avenue.
 Morton street, Dorchester.
 Norfolk “ “
 Norfolk “ “
 Silver street.
 Washington street, Dorchester.
 West Broadway.
 West Fifth street.
 West Fourth street.
 West Second street.
 West Sixth street.
 West Third street.

6th. — New York, New Haven & Hartford Railroad, Plymouth Division.

Adams street.
 Ashmont street and Dorchester avenue.
 Cedar Grove Cemetery.
 Freeport street.
 Savin Hill avenue.

7th. — New York, New Haven & Hartford Railroad, Providence Division.

Beech street, West Roxbury.
 Bellevue street, West Roxbury.
 Canterbury street, West Roxbury.
 Centre and Mt. Vernon streets, West Roxbury.
 Dudley avenue, West Roxbury.
 Park street, West Roxbury.

RECAPITULATION OF BRIDGES.

I. Number wholly supported by Boston :		
In charge of Bridge Division	54	
In charge of Park Department	17	
In charge of Public Grounds Department	1	
	—	72
II. Number of which Boston supports the part within its limits :		
In charge of Bridge Division	9	
In charge of Park Department	5	
	—	14
III. Number of which Boston pays a part of the cost of maintenance :		
In charge of Bridge Division	6	
In charge of Commissioners of Boston and Cambridge Bridges	8	
	—	14
IV. Number supported by railroad corporations :		
1. Boston & Albany	4	
2. Boston & Maine, Eastern Division	2	
3. Boston & Maine, Western Division	2	
4. Boston, Revere Beach & Lynn	1	
5. New York, New Haven & Hartford, Midland Division	12	
6. New York, New Haven & Hartford, Plymouth Division	5	
7. New York, New Haven & Hartford Providence Division	6	
	—	32
Total number		<u>132</u>

**List of Small Bridges or Culverts having Wooden Tops, which are repaired by Bridge Division. — Walls
Repaired and Openings cleaned by Sewer Division.**

LOCATION.	Span. <i>Feet.</i>	Height of Opening <i>Feet.</i>	Length. <i>Feet.</i>	Side-walls,	Covering.
Ashland street and Canterbury, near Calvary Cemetery, West Roxbury.	7.6	5.5	75	Stone.....	Wood.
Beech street, near Anawan avenue, at Central station, West Roxbury.	4.0	4.0	50	Stone.....	Wood.
Cass street, near Spring-street station, West Roxbury	7.0	3.0	21	Stone.....	Wood.
Cohasset street, Roslindale.....	14.0	7.5	60	Stone.....	Wood.
Gardner street, near Cow Island, West Roxbury.....	5.0	5.5	33	Wood.....	Wood.
Jamaica street, Jamaica Plain.....	10.0	4.0	39	Stone.....	Wood.
Park street, west of Dorchester avenue, Dorchester	5.0	3.7	50	Stone.....	Wood.
Park street, west of N.Y., N.H. & H. Railroad, Dorchester	8.5	5.0	50	Stone.....	Wood.
Powell street, near Spring-street station, West Roxbury.....	12.0	3.0	65	Stone.....	Wood.
Spring street, near Spring-street station, West Roxbury.....	2.7	2.7	63	Stone.....	Wood.
Summer street, near Spring-street station, West Roxbury	4.0	4.5	40	Stone.....	Wood.
Williams street, at Stony brook, West Roxbury	5.0	5.0	50	Wood.....	Wood.
Woodman street, Jamaica Plain	6.3	4.0	65	Stone.....	Wood.

PUBLIC LANDING PLACES.

The following public landing-places have been built by the city, and are maintained and controlled by the Street Department :

Charles-river Bridge.— Size, 40 × 60. Built in 1890. Moored from city's property.

Essex-street Bridge. — Size, 9 × 23. Built in 1890. Moored from city's property.

East Boston, Public Landing.— Size, 18 × 30. Built in 1893. Moored at dock of East Boston Dry Dock Company. Dock and flats leased at \$250 per year.

Commercial Wharf.— Size, 30 × 50. Built by M. F. Sullivan; contract dated January 1, 1892. Moored at dock of Commercial Wharf Corporation. Dock and flats leased November 30, 1891, at \$1,000 per year.

Federal-street Bridge.— Size, 20 × 30. Built by M. F. Sullivan, October 26, 1892. Moored from city's property.

Jeffries' Point, East Boston.— Size, 20 × 50. Moored from Fitzpatrick's Wharf; \$300 per year.

CABLE-HOUSES AND BOXES.

The following is a list of cable-houses and boxes on bridges in charge of this division :

New England Telephone and Telegraph Company :

Charles-river bridge, 2 houses, 1 unused box.

Chelsea [South] bridge, 1 house.

Congress-street bridge, 2 houses.

Dover-street bridge, 2 houses or boxes.

Chelsea [North] bridge, 1 box.

Chelsea-street bridge, 1 box.

Malden bridge, 4 boxes.

Meridian-street bridge, 2 boxes.

Neponset bridge, 2 boxes on poles.

Warren bridge, 2 boxes.

American Telephone and Telegraph Company :

Federal-street bridge, 1 house.

Merchants' Telegraph Company :

Congress street bridge, 2 boxes.

Postal Telegraph Cable Company :

Congress-street bridge, 2 houses.

Malden bridge, 2 boxes.

Warren bridge, 2 boxes.

Boston Electric Light Company :

Congress-street bridge, 2 boxes.

Lynn & Boston Railroad Company :

Chelsea [North] bridge, 4 boxes.

Chelsea [South] bridge, 8 boxes.

West End Street Railway Company :

- Cambridge-street bridge, 1 house.
- Dover-street bridge, 1 house, 1 box.
- Federal-street bridge, 2 houses.
- Malden bridge, two houses.
- Warren bridge, 2 houses.

Boston Police Department :

- Chelsea [South] bridge, 1 box.
- Malden bridge, 2 boxes.

Boston Fire Department :

- Chelsea [North] bridge, 1 box.
- Dover-street bridge, 1 house, 1 box.
- Meridian-street bridge, 2 boxes.
- Warren bridge, 2 boxes.

On Warren bridge there are also five small boxes ; the owners of the same are unknown.

**Statement of Traffic on Monday, October 24, 1898, between
the hours of 6 A.M. and 7 P.M.**

North Bridges.

NAME OF BRIDGE.	Foot passengers from Boston.	Foot passengers to Boston.	Teams from Boston.	Teams to Bos- ton.	Street cars from Boston.	Street cars to Boston.
Charles river.....	5,830	4,619	1,673	1,540		
Chelsea (North).....	1,019	1,065	803	915	366	392
Chelsea (South).....	1,190	1,237	837	877	369	392
Malden.....	840	943	835	932	299	343
Meridian street.....	1,156	1,180	464	478	108	113
Warren.....	5,049	5,367	3,597	3,858	1,282	1,323

South Bridges.

Broadway.....	5,100	7,365	2,160	2,700	290	380
Congress street.....	7,050	7,405	4,089	4,455		
Dover street.....	4,525	4,560	920	972	165	170
Federal street.....	1,729	1,038	976	763	239	245
Mt. Washington avenue.....	1,710	1,455	644	719		

DRAW-TENDERS' REPORTS. 1

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston, from February 1, 1898, to January 31, 1899.

NAME OF BRIDGE.	STEAMERS.			SAILING VESSELS.			TUGS.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			Total Number of Carries.	Total Number of Openings.
	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.	By Day.	By Night.	Total.		
Broadway	9	4	13	1,744	659	2,403	2,645	390	3,035	1,041	195	1,236	5,439	1,248	6,687	1,745	4,362
Cambridge street *				29		29	238	18	256	194	16	210	461	34	495	109	262
Charles river.....	30	4	34	1,534	477	2,011	3,893	800	4,753	2,358	554	2,912	7,815	1,895	9,710	2,443	6,416
Chelsea (North).....	76	23	99	1,022	221	1,243	6,148	1,744	7,892	3,489	1,259	4,748	10,735	3,247	13,982	2,541	8,228
Chelsea (South).....	38	1	39	1,128	69	1,197	3,033	167	3,200	1,081	39	1,120	5,280	276	5,556	1,388	4,035
Chelsea street.....				11	1	12	116	3	119	49		49	176	4	180	25	189
Commercial point.....																	
Congress street.....	64	6	70	2,640	781	3,421	7,166	1,232	8,418	2,824	472	3,296	12,694	2,511	15,205	2,691	8,317
Dover street	7	3	10	1,525	563	2,088	2,099	335	2,494	792	164	956	4,423	1,125	5,548	1,597	3,965
Essex street *	1	1	2	30	1	31	253	26	279	135	10	145	419	38	457	64	284
Federal street.....	12	3	15	1,800	749	2,549	3,136	628	3,764	1,260	273	1,533	6,208	1,653	7,861	1,990	5,642
Granite.....				48		48	298	1	299	71		71	357	1	358	61	222
L street		2	2	435	121	556	1,808	302	2,200	1,263	293	1,556	3,506	718	4,314	557	2,004
Malden.....	2		2	253	19	272	1,238	140	1,378	815	120	935	2,308	279	2,587	562	1,580

Meridian street	48	10	58	500	33	533	4,364	1,065	5,429	2,568	631	3,199	7,480	1,739	9,219	2,175	5,656
Mt. Washington avenue	61	8	69	2,177	680	2,857	5,370	824	6,194	2,262	348	2,655	9,870	1,905	11,775	2,643	6,553
Neponset				47	1	48	250	8	258	77	2	79	374	11	385	59	244
North Beacon street										2		2	2		2		2
North Harvard street *				23	1	24	183	13	196	236	15	251	442	29	471	121	292
Warren	31	5	36	1,274	560	1,834	2,653	685	3,338	1,568	503	2,071	5,526	1,753	7,279	1,871	4,796
Western avenue to Cambridge *				26		26	200	14	214	172	13	185	398	27	425	96	217
Western avenue to Watertown							144	4	148	57		57	201	4	205	28	149
Totals	379	70	449	16,246	4,436	21,182	45,265	8,539	53,804	22,314	4,952	27,266	84,204	18,497	102,701	22,766	63,875

¹ West Boston, Prison Point, Canal (or Craigie's), and Harvard bridges, not included in these tables, being in the care of commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

* Western avenue to Cambridge, Essex street, North Harvard street, and Cambridge street bridges were placed in charge of same commissioners on July 1, 1886, and figures are for five months only.

Table showing the Widths of Openings for Vessels in all Bridges provided with Draws in the City of Boston, 1899.

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Boston & Maine R.R., Eastern Division	Boston to Charlestown.....	1	39 feet 7 inches.
Boston & Maine R.R., Eastern Division	Over Miller's river.....	1	35 " 6 "
Boston & Maine R.R. (freight), Southern Division.....	Boston to East Cambridge	1	40 " 2 "
Boston & Maine R.R. (passenger), Southern Division	" "	1	39 " 7 "
Boston & Maine R.R., Western Division	Boston to Charlestown.....	1	39 " 7 "
Boston & Maine R.R., Western Division	Over Miller's river.....	1	35 " 10 "
Broadway	Over Fort Point channel...	1	43 " 3 "
Cambridge street.....	Brighton to Cambridge...	1	36 " 4 "
Canal (or Craigie's).....	Boston to East Cambridge.	1	36 " 0 "
Charles river.....	Boston to Charlestown....	1	36 " 0 "
Chelsea (south channel)	Charlestown to Chelsea ...	1	38 " 9 "
Chelsea (north channel).	" "	1	44 " 10 "
Chelsea st. (East Boston side)....	East Boston to Chelsea....	2	36 " 0 "
Chelsea street(Chelsea side)	" "	..	36 " 0 "
Commercial Point (or Tenean)...	Dorchester	1	24 " 0 "
Congress street (Boston side).....	Over Fort Point channel..	2	43 " 3 "
" South Boston side....	" "	..	43 " 9 "
Dover street	" "	1	37 " 0 "
Essex street.....	Brighton to Cambridge...	1	36 " 0 "
Federal street.....	Over Fort Point channel..	1	41 " 10 "
Fitchburg R.R.....	Boston to Charlestown....	1	36 " 0 "
Fitchburg R.R. (for teaming freight)	" "	1	36 " 0 "
Grand Junction R.R.....	Brighton to Cambridge...	1	36 " 0 "
" "	East Boston to Chelsea ...	1	34 " 6 "
Granite	Dorchester to Milton.....	1	36 " 0 "
Harvard (Boston side).....	Boston to Cambridge.....	2	36 " 6 "
" (Cambridge side).....	" "	..	36 " 10 "
L street	Over Reserved channel, South Boston	1	40 " 0 "
Malden.....	Charlestown to Everett....	1	43 " 4 "

Table showing Width of Openings, etc. — *Concluded.*

NAME OF BRIDGE.	Location.	Number of Openings.	Width.
Meridian st. (East Boston side) ..	East Boston to Chelsea	2	59 feet 2 inches.
“ (Chelsea side)	“ “	..	59 “ 0 “
Mt. Washington avenue (Boston side).....	Over Fort Point channel ..	2	42 “ 2 “
Mt. Washington avenue (South Boston side).....	“ “	..	42 “ 3 “
Neponset.....	Dorchester to Quincy.....	1	36 “ 0 “
New England R.R.	Over South Bay.....	1	28 “ 4 “
North Beacon street	Brighton to Watertown ...	1	30 “ 3 “
North Harvard street.....	Brighton to Cambridge ...	1	36 “ 0 “
New York, New Haven & Hartford R.R.	Over Fort Point channel..	1	36 “ 3 “
New York, New Haven & Hartford R.R.	Dorchester to Quincy.....	1	35 “ 10 “
Prison Point.....	Charlestown to Cambridge	1	36 “ 0 “
Summer street (building).....	Over Fort Point channel..	1	
Warren	Boston to Charlestown	1	36 “ 0 “
West Boston (Boston side).....	Boston to Cambridge.....	2	35 “ 6 “
“ (Cambridge side)...	“ “	..	36 “ 6 “
Western avenue	Brighton to Cambridge....	1	36 “ 0 “
“	Brighton to Watertown ...	1	35 “ 10 “

Table showing Width of Bridges, kind of Roadways, Sidewalks, etc., on Tide-water Bridges, 1898.

NAME OF BRIDGE.	Width of Bridge.		ROADWAY.		SIDEWALKS.	
	Width.	Kind of Roadway.	No.	Width.	Kind of Walks.	
	<i>Ft. In.</i>	<i>Ft. In.</i>		<i>Ft. In.</i>		
Broadway.....	60 0	40 0	Plank	2 10 0	Coal-tar concrete.	
Cambridge street	40 0	32 9	"	1 6 0	Plank.	
Canal	64 0	48 0	Paved	2 8 0	Brick.	
Charles river.....	50 0	34 0	"	2 8 0	"	
Chelsea, North	49 0	40 0	"	1 8 0	Coal-tar concrete and plank.	
" South	50 3	41 2	"	1 8 0	Plank.	
" street	30 0	23 2	Plank	1 6 0	"	
Commercial point.....	about 34 0	about 27 0	"	0		
Congress street	60 0	44 0	Paved.....	2 8 0	Coal-tar concrete.	
Dover st. (over water)	60 0	40 0	"	2 10 0	Asphalt.	
Essex street.....	31 0	22 8	Plank	1 7 6	Plank.	
Federal street.....	69 0	49 0	Paved	2 10 0	Asphalt.	
Granite	30 2	24 4	Plank	1 5 0	Plank.	
Harvard.....	69 4	51 0	"	2 9 2	Asphalt.	
L street	60 0	44 0	Paved.....	2 8 0	"	
Malden.....	40 0	32 0	"	1 7 0	Coal-tar concrete.	
Meridian street	50 0	36 0	"	2 7 0	" "	
Mt. Washington ave...	61 0	39 6	"	2 10 9	" "	
Neponset.....	30 0	23 10	Plank	1 5 5	Plank.	
North Beacon street...	31 0	25 2	"	1 5 0	"	
North Harvard street.	28 2	26 7	"	0		
Prison Point.....	50 0	36 0	{ Plank part / { Paved part }	2 7 0	Coal-tar concrete.	
Warren	80 0	60 0	Paved	2 10 0	" "	
Western ave. to Cambridge.....	33 2	26 3	Plank	1 6 0	Plank.	
Western ave. to Watertown.....	33 0	24 2	"	1 8 0	"	
Winthrop	24 2	19 10	"	1 3 7	"	
West Boston.....	50 0	36 0	Paved	2 7 0	Brick.	

DRAW-TENDERS' REPORTS.¹

Giving the Number of Vessels passing through the Drawbridges controlled by the City of Boston during the Years 1894, 1895, 1896, 1897 and 1898.

NAME OF BRIDGE.	STREAMERS.					SAILING VESSELS.					TUGS.					ALL OTHERS.					TOTAL NUMBER OF VESSELS.					Totals. Feb. 1, 1894 to Feb. 1, 1899.
	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	
Broadway.....	6	16	22	8	13	2,800	3,115	3,082	2,995	2,403	1,935	2,279	2,358	3,507	3,035	795	816	890	1,209	1,236	5,536	6,226	6,352	7,719	6,087	32,720
Cambridge street..	.....	.....	.....	.....	.....	109	150	133	125	29	523	599	572	710	256	205	181	217	396	210	837	930	922	1,281	495	4,415
Charles river.....	34	45	39	48	34	2,503	2,815	2,857	2,576	2,011	2,942	3,641	4,121	4,257	4,753	2,971	2,492	2,634	2,926	2,912	7,750	8,993	9,551	9,807	9,710	45,811
Chelsea (North)...	66	115	159	93	99	1,141	995	1,163	978	1,243	3,841	4,662	4,373	5,186	7,892	1,631	2,383	2,229	2,799	4,748	6,679	8,155	7,930	9,056	13,982	45,802
Chelsea (South)...	51	31	39	46	39	850	847	1,260	1,345	1,197	1,810	2,275	2,748	3,373	3,200	1,083	984	914	963	1,120	3,794	4,137	4,961	5,757	5,556	24,205
Chelsea street.....	6	.....	6	.....	.....	57	24	30	19	12	159	105	163	138	119	116	41	105	80	49	338	170	304	237	180	1,229
Commercial Point,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2	.....	.....	.....	.....	3
Congress street....	277	383	292	113	70	4,080	4,174	4,264	4,318	3,421	7,626	7,886	8,947	9,745	8,418	2,850	2,838	3,059	3,541	3,296	14,833	15,281	15,962	17,717	15,205	78,998
Dover street.....	6	16	20	6	10	2,355	2,894	2,871	2,813	2,088	1,557	1,999	2,146	3,009	2,494	711	712	741	975	956	4,629	5,621	5,778	6,803	5,548	28,379
Essex street.....	4	.....	4	1	2	134	158	238	174	31	639	721	685	788	279	244	242	295	422	145	1,021	1,121	1,222	1,385	457	5,206
Federal street....	6	16	17	6	15	3,017	3,366	3,196	3,196	2,549	2,261	2,666	2,941	4,025	3,764	816	848	1,083	1,226	1,533	6,100	6,896	7,454	8,456	7,861	36,747
Granite street....	.....	.....	.....	.....	.....	82	126	64	58	48	220	306	240	258	239	37	41	55	63	71	339	473	359	379	358	1,908
L. street.....	4	2	18	4	2	678	541	730	673	556	2,754	3,132	2,556	2,066	2,200	1,335	2,128	1,128	1,219	1,556	4,971	5,803	4,432	3,962	4,314	23,482

¹ West Boston, Prison Point, Canal (or Craigie's) and Harvard Bridges not included in these tables, being in the care of commissioners representing the two cities (Boston and Cambridge) connected by these bridges.

DRAW-TENDERS' REPORTS. — Concluded.

NAME OF BRIDGE.	STEAMERS.					SAILING VESSELS.					TUGS.					ALL OTHERS.					TOTAL NUMBER OF VESSELS.					TOTALS. Feb. 1, 1894, to Feb. 1, 1899.
	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	1894.	1895.	1896.	1897.	1898.	
Malden.....	8	2	4	2	2	360	273	352	450	272	1,226	1,619	1,384	1,652	1,378	574	1,236	961	1,059	695	2,168	3,130	2,701	3,163	2,587	13,749
Meridian street....	47	58	51	57	58	846	818	633	610	533	4,030	4,046	4,391	4,145	5,429	2,088	2,031	1,954	2,464	3,139	7,011	6,953	7,049	7,276	9,219	37,508
Mt. Washington avenue.....	87	69	88	74	69	3,432	3,690	3,700	3,786	2,857	4,782	5,119	5,426	6,443	6,194	2,246	2,229	2,304	2,509	2,655	10,547	11,116	11,518	12,812	11,775	57,768
Neponset.....	.....	.....	.....	.....	.....	105	148	66	57	48	224	306	256	254	258	40	47	60	66	79	369	501	376	377	385	2,008
No. Beacon street, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. Harvard street, .....	.....	.....	.....	.....	.....	64	96	92	80	24	168	224	279	672	196	36	35	72	988	251	268	355	443	1,740	471	3,277
Warren.....	63	47	42	41	36	2,081	2,312	2,320	2,476	1,834	2,124	2,588	3,007	2,981	3,338	1,699	2,007	2,143	1,766	2,671	5,967	6,954	7,512	7,254	7,279	34,976
Western avenue to Cambridge.....	2	.....	.....	.....	.....	95	115	114	103	26	426	485	451	565	214	153	136	158	332	185	676	736	723	1,000	425	3,560
Western avenue to Watertown.....	.....	.....	.....	.....	.....	7	.....	36	7	.....	28	7	102	108	148	20	7	45	58	57	55	14	183	173	205	630
Totals.....	667	800	801	499	449	24,797	26,666	27,424	26,842	21,182	39,275	44,665	46,540	53,882	53,804	19,151	21,434	20,947	25,092	27,266	83,890	93,565	95,712	106,315	102,701	482,183

Note.—Western avenue to Cambridge, Essex street, North Harvard street and Cambridge street bridges were placed in charge of same commissioners on July 1, 1895, and 1898 figures are for five months only.

APPENDIX B.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE FERRY DIVISION.

NORTH FERRY, EAST BOSTON, February 1, 1899.

MR. BENJ. W. WELLS,

Superintendent of Streets :

DEAR SIR, — I respectfully submit the annual report of the expenditures, income and operation of the Ferry Division of the Street Department for the financial year ending January 31, 1899.

South Ferry, East Boston side, located at the termination of Lewis street, covers an area of 58,725 square feet of land and water. On these premises are one head-house, one coalshed, one work-shop for carpenters, machinists and blacksmith, one gate-room and oil-room, all in very poor condition; three piers, which form the two ferry-slips, two drops and tanks, and one dock, where boats are laid when not in use or while undergoing repairs.

South Ferry, Boston side, located at the termination of Eastern avenue, covers an area of 28,135 square feet of land and water, upon which are one head-house, with canopies extending over driveways, one gate-room, three piers, which form the two slips, and two drops and tanks.

The wharf property adjoining these premises was leased by the East Boston Ferry Company April 30, 1853, for 999 years, at a rental of \$4,000 per year, which lease was assigned to the Ferry Department. This entire wharf is sub-let to the Public Institutions Department for \$2,000 per year, making a net loss to this division of \$2,000 per year, which should be borne by the Public Institutions Department.

North Ferry, Boston side, located at the termination of Battery street, covers an area of 45,000 square feet of land and water, upon which are one head-house, with canopies, one gate-room and steam-room, three piers, which form the two slips, and two drops and tanks.

North Ferry, East Boston side, located at the termination of Border street, covers an area of 62,138 square feet of land and water, upon which are one head-house, with canopy, boiler-room, oil-room, stable and coal-shed, three piers, which form the two slips, two drops and tanks.

There are eight drops. Two new drops and tanks have been put in the past year—one at North Ferry, Boston side, and the other at South Ferry, East Boston side—thus making all the drops practically new, so that no more will be required for at least twenty years. There are twelve piers. Two of them have been stripped and planked the past year at a cost of about \$4,200.

The rest are in fair condition, with the exception of south pier, North Ferry, Boston side, which should be entirely rebuilt.

The landings and head-houses are in good condition, with the exception of South Ferry, East Boston side, which is in a deplorable state. The coal-shed at this place is in a very dangerous condition, so much so that we are unable to store coal in it any longer. It is imperative that something be done with this landing before long.

During the past year the ferry-boat "Revere" has been hauled out on railway, and stripped and calked, at a cost of about \$1,000. Owing to her age it was deemed advisable not to copper her.

One new propeller ferry-boat, the "Governor Russell," was built the past year, but was sold to the United States Government, being required for war purposes, for the sum of \$71,000, before she could be given her trial trip. The propeller ferry-boat "East Boston" was also sold to the government for the sum of \$57,500.

A contract was made for a new ferry-boat, which is now building, and should be completed by the middle of February; and another new boat must also shortly be contracted for, unless one of the boats sold to the government is to be repurchased.

Respectfully yours,

WILLIAM F. McCLELLAN,
Deputy Superintendent.

FINANCIAL STATEMENT.

REGULAR ANNUAL AND SPECIAL APPROPRIATIONS OF STREET DEPARTMENT, FERRY DIVISION, FOR YEAR ENDING JANUARY 31, 1899.

Appropriation for year ending January 31, 1899	\$220,000 00
Amount of expenditures	\$213,055 79
Amount transferred to Sanitary Division	6,944 21
	\$220,000 00

OBJECTS OF EXPENDITURE.

Salaries and wages for maintenance	\$128,590 40
Salaries and wages for repairs	17,812 29
Current expenses	17,209 58
Fuel	29,955 00
Supplies for maintenance	5,178 49
Supplies for repairs	4,073 14
Repairs on boats	8,223 00
Repairs on buildings, piers and drops	901 55
Damages to persons and property	76 82
Tools and fixtures	431 73
Incidental expenses	603 79
	\$213,055 79
Unexpended balance transferred to Street Department, Sanitary Division	6,944 21
	\$220,000 00

SPECIAL APPROPRIATIONS.

Appropriation authorized for new ferry-landings, head-house, new boats, slips and drops	\$500,000 00
Amount issued during year ending January 31, 1897	\$30,000 00
Amount issued during year ending January 31, 1898	112,800 00
Amount issued during year ending January 31, 1899	26,000 00
	\$168,800 00
Total amount issued	\$168,800 00

OBJECTS OF EXPENDITURES.

Amount expended as per annual report of 1896	\$21,961 61
Amount expended as per annual report of 1897	44,180 33
Amount expended during 1898	77,251 55

Total amount expended to February 1, 1899	\$143,393 49
Unexpended balance of amount issued	25,406 51

\$168,800 00

Amount authorized but not issued, New Ferry- Landing Loan	331,200 00
--	------------

\$500,000 00

Amount expended during past year as above	<u>\$77,251 55</u>
---	--------------------

William McKie, on contract, and R. F. Keough, for plans and specifications, for double-screw ferry-boat "Gov. Russell"	\$52,217 01
---	-------------

John M. Brooks, for building two new drops and tanks	13,493 78
---	-----------

W. H. Ellis & Co., for rebuilding slips and piers	1,750 00
--	----------

Maginnis, Walsh & Sullivan, on ac- count new head-house, South Ferry, East Boston	1,000 00
---	----------

Sundry bills for labor and material fur- nished during the year	8,790 76
--	----------

\$77,251 55

Appropriation for installing electric lights on ferry- boats	<u>\$8,000 00</u>
---	-------------------

Amount expended as per annual report of 1897	\$5,862 88
---	------------

Electric installation on ferry-boat "D. D. Kelly"	2,137 12
--	----------

\$8,000 00

Appropriation for building new ferry-boats	<u>\$128,500 00</u>
--	---------------------

OBJECTS OF EXPENDITURE.

William McKie, on contract for building double- screw ferry-boat Number 3, "Noddle Island"	\$48,000 00
---	-------------

R. F. Keough, for superintending construction of double-screw ferry-boat Number 3	1,050 00
--	----------

Carried forward, \$49,050 00

STREET DEPARTMENT — FERRY DIVISION. 51

<i>Brought forward,</i>	\$49,050 00
Deane Steam Pump Co., on account of four steam-pumps for ferry-boat Number 3	1,000 00
Sundry bills incurred in course of construction	296 14
Bill of specifications for double-screw ferry-boat Number 3	117 46
<hr/>	
Total amount expended	\$50,463 60
Appropriation unexpended	78,036 40
<hr/>	
	<u>\$128,500 00</u>

TOTAL APPROPRIATIONS.

Annual maintenance	\$220,000 00
New ferry-landing loan	500,000 00
Installation electric lights on boats	8,000 00
New ferry-boats	128,500 00
<hr/>	
	\$856,500 00

TOTAL EXPENDITURES.

Annual maintenance	\$213,055 79
New ferry-landing	143,393 49
Installation electric lights on boats	8,000 00
New ferry-boats	50,463 60
<hr/>	
	\$414,912 88
Transfer to Sanitary Division	6,944 21
<hr/>	
	421,857 09
<hr/>	
	<u>\$434,642 91</u>

UNEXPENDED.

New ferry-landing	\$356,605 51
New ferry-boats	78,036 40
<hr/>	
	<u>\$434,642 91</u>

INCOME.

<i>Cash Receipts from February 1, 1898, to February 1, 1899.</i>	
From Tollmen :	
For 11,737,776 foot-passengers, at 1 cent	\$117,377 76
sales of strip team tickets	25,478 50
From Gatemen :	
For 298,085 foot-passengers, at 1 cent	2,980 85
cash ferriage for teams	14,152 26
At office of City Collector :	
From sale of ferry boat " Gov. Russell "	71,000 00
sale of ferry boat " East Boston "	57,500 00
<hr/>	
<i>Carried forward,</i>	\$288,489 37

<i>Brought forward,</i>			\$288,489 37
From sales of foot-passes			381 00
sales of strip team tickets			63 00
rents			2,740 00
free ferries, July 4, 1898			25 00
At Ferry Division office :			
From sales of foot-passes			1,007 50
sales of strip team tickets			613 00
sales of old material			97 70
boat privileges to bootblacks			52 00
cash with gatemen as capital turned in			33 00
			<hr/>
Total receipts for year			\$293,501 57
			<hr/>
From sale of ferry-boats	\$128,500 00		
regular ferry income	165,001 57		
			<hr/>
			\$293,501 57
			<hr/>

STATEMENT SHOWING RECEIPTS AT EACH FERRY.

North Ferry.

From Tollman.	Foot-Passengers.	Team Tickets.	Total.
No. 2.....	\$12,229 23	\$1,864 00	\$14,093 23
" 3.....	12,154 17	1,971 00	14,125 17
" 5.....	12,271 53	2,002 00	14,273 53
" 6.....	12,007 22	1,948 00	13,955 22
" 9.....	12,028 40	1,951 00	13,979 40
" 10.....	11,968 35	1,883 50	13,851 85
" 13.....	12,107 95	1,858 00	13,965 95
	<hr/>	<hr/>	<hr/>
	\$84,766 85	\$13,477 50	\$98,244 35
	<hr/>	<hr/>	<hr/>

From Tollmen		\$98,244 35
From Gatemen :		
For 191,194 foot-passengers, at 1c.,	\$1,911 94	
cash fares for teams	6,479 73	
		<hr/>
		8,391 67
		<hr/>
Total at North Ferry		\$106,636 02
		<hr/>

South Ferry.

From Tollman.	Foot-Passengers.	Team Tickets.	Total.
No. 1.....	\$7,670 10	\$3,173 00	\$10,843 10
“ 4.....	7,614 27	2,800 00	10,414 27
“ 7.....	7,838 89	2,909 50	10,748 39
“ 8.....	7,320 51	2,921 50	10,242 01
“ 11.....	952 49	101 50	1,053 99
“ 12.....	1,214 65	95 50	1,310 15
	\$32 610 91	\$12,001 00	\$44,611 91

From Tollmen \$44,611 91

From Gatemen :

For 106,891 foot-passengers, at 1c., \$1,068 91

cash fares for teams . . . 7,672 53

8,741 44

Total at South Ferry \$53,353 35

North and South ferries, as above \$159,989 37

Tickets paid for at office of City Collector 444 00

Tickets paid for at office of Ferry Division 1,620 50

Free ferries, July 4, 1898 25 00

Total income from ferriages \$162,078 87

Sales of ferry-boats 128,500 00

Rents 2,740 00

Old material, bootblack privileges, and gatemen's

cash capital turned in 182 70

Total cash receipts, as above \$293,501 57

CASH STATEMENT.

From February 1, 1898, to February 1, 1899.

Dr.

To cash received \$293,501 57

Cr.

By amount paid City Collector . . . \$293,496 15

Amount of rejected coin 5 42

\$293,501 57

STATEMENT OF RECEIPTS.

From April 1, 1870 (date of purchase by the City of Boston, of the East Boston Ferries), to February 1, 1899.

Cash received for tolls from April 1, 1870, to February 1, 1895	\$4,081,824 68	
Cash received for tolls from February 1, 1895, to February 1, 1896	166,307 33	
Cash received for tolls from February 1, 1896, to February 1, 1897	163,769 67	
Cash received for tolls from February 1, 1897, to February 1, 1898	168,083 88	
Cash received for tolls from February 1, 1898, to February 1, 1899	162,078 87	
	<hr/>	\$4,742,064 43
Cash received for rent	\$47,651 30	
Cash received for old boats	72,746 71	
Cash received for one new boat	71,000 00	
Cash received from all other sources	10,070 01	
	<hr/>	201,468 02
Total receipts in 28 years 10 months		<u><u>\$4,943,532 45</u></u>

CASH STATEMENT.

From April 1, 1870, to February 1, 1899.

Dr.

To receipts from all sources in 28 years 10 months	\$4,943,532 45
--	----------------

Cr.

By amount paid to City Collector, \$4,942,881 35	
By cash with tollmen as capital	575 00
By counterfeit and rejected money in 28 years 10 months	76 10
	<hr/>
	<u><u>\$4,943,532 45</u></u>

EXPENDITURES.

From March 4, 1857, to April 1, 1870.

Amount charged to the East Boston Ferries by Auditor previous to purchase:		
For avenues . . .	\$250,000 00	
For repairs . . .	65,815 68	
	<hr/>	\$315,815 68
For ferry property purchased April 1, 1870	276,375 00	
	<hr/>	\$592,190 68
Amount of expenditure from April 1, 1870, to February 1, 1895	\$5,688,363 40	
Amount of expenditure from February 1, 1895, to February 1, 1896	221,813 94	
Amount of expenditure from February 1, 1896, to February 1, 1897	241,057 70	
Amount of expenditure from February 1, 1897, to February 1, 1898	270,043 21	
Amount of expenditure from February 1, 1898, to February 1, 1899	342,908 06	
	<hr/>	6,764,186 31
		<hr/>
		\$7,356,376 99

DEDUCT.

Amount paid to City Treasury	4,942,881 35
	<hr/>
Net cost of ferries to city to date, not including interest on loans	<u>\$2,413,495 64</u>

STATEMENT SHOWING THE ACTUAL STANDING OF FERRY DIVISION, STREET DEPARTMENT, WITH THE CITY OF BOSTON, FEBRUARY 1, 1899.

Dr.

Amount paid previous to April 1, 1870	\$592,190 68
Amount paid from April 1, 1870, to February 1, 1899, as follows:	
Eight ferry steamers	447,773 05
New buildings, piers and drops	433,218 35
Fuel	978,215 01
Repairs of all kinds	684,753 69
	<hr/>
<i>Carried forward,</i>	\$3,136,150 78

<i>Brought forward,</i>	\$3,136,150 78
Salaries and wages	3,234,092 63
Tools and fixtures	13,716 49
Land from Lincoln's Wharf in 1887	5,562 52
Land from Battery Wharf in 1893	10,000 00
All other expenses	956,854 57
	<hr/>
	\$7,356,376 99
	<hr/> <hr/>

Cr.

By amount paid the city for income	\$4,942,881 35
amount charged to ferry property for avenues that were laid out as streets, August, 1880, and which should be credited to this division,	250,000 00
paving avenues	11,530 84
amount paid to Department of Public Build- ings previous to January 1, 1881, and which should be credited to this division	60,277 56
estimated value of six ferry steamers \$116,771 90	
less 6 per cent. for depreciation,	7,006 31
	<hr/>
	109,765 59
estimated value of real estate and franchise as per last re- port \$675,900 00	
added during the past year	27,000 00
	<hr/>
	702,900 00
amount paid for awning, North Ferry, East Boston	742 94
land from Lincoln's Wharf	5,562 52
land from Battery Wharf	10,000 00
estimated value of tools and fixtures	6,000 00
estimated value of fuel on hand	84 66
estimated value of supplies on hand	2,888 19
amount expended on Eastern-avenue Wharf	1,499 46
cash with tollmen as capital	575 00
amount charged to new ferry steamers to date, amount not yet charged to new buildings and drops	50,275 67
	448 22
profit and loss in 28 years and 10 months	1,200,944 99
	<hr/>
	\$7,356,376 99
	<hr/> <hr/>

STATEMENT SHOWING THE DIFFERENCE IN TRAVEL ON THE FERRIES
FROM FEBRUARY 1, 1898, TO FEBRUARY 1, 1899.

	<i>North.</i>	<i>South.</i>
Foot-passengers, at 1 cent each	8,667,879	3,367,982
Foot-passengers, by ticket	96,374	50,607
	<hr/>	<hr/>
	8,764,253	3,418,589
	<hr/> <hr/>	<hr/> <hr/>

Foot-passengers, free	71,405	5,614
One-horse teams and pleasure carriages	230,691	165,175
Two-horse teams	83,275	102,530
Three-horse teams	3,612	4,360
Four-horse teams	5,820	8,175
Two-horse pleasure carriages and hacks	5,737	1,777
Two-cent tolls (at gate), hand carts, etc.	4,412	2,438
Four-cent tolls	132,384	157,172
Six-cent tolls	3,432	2,636
Seven-cent tolls	8	7
Eight-cent tolls	9,285	12,312
Ten-cent tolls	693	809
Thirteen-cent tolls	505	811
Fifteen-cent tolls	64	35
Twenty-cent tolls	1	1
Thirty-cent tolls	7	5
Free teams	<u>4,524</u>	<u>2,183</u>

Total Travel on both Ferries from February 1, 1894, to February 1, 1899.

	From Feb. 1, 1894, to Feb. 1, 1895.	From Feb. 1, 1895, to Feb. 1, 1896.	From Feb. 1, 1896, to Feb. 1, 1897.	From Feb. 1, 1897, to Feb. 1, 1898.	From Feb. 1, 1898, to Feb. 1, 1899.
One-horse teams.....	690,427	676,294	733,478	738,514	685,422
Two-horse teams.....	204,667	248,291	219,306	240,434	207,402
Three-horse teams.....	6,242	9,095	9,290	7,716	<u>9,474</u>
Four-horse teams.....	14,503	16,939	14,902	14,961	<u>15,311</u>
Two-horse carriages and hacks.....	16,236	10,349	16,299	14,659	13,582
Two-cent tolls for hand-carts, etc.....	5,726	7,059	8,321	8,819	6,850
Drag-wheels, etc.....	57	101	76	75	99
Foot-passengers.....	<u>11,281,321</u>	<u>11,929,796</u>	<u>12,034,300</u>	<u>12,466,272</u>	<u>12,182,842</u>

TICKET STATEMENT.

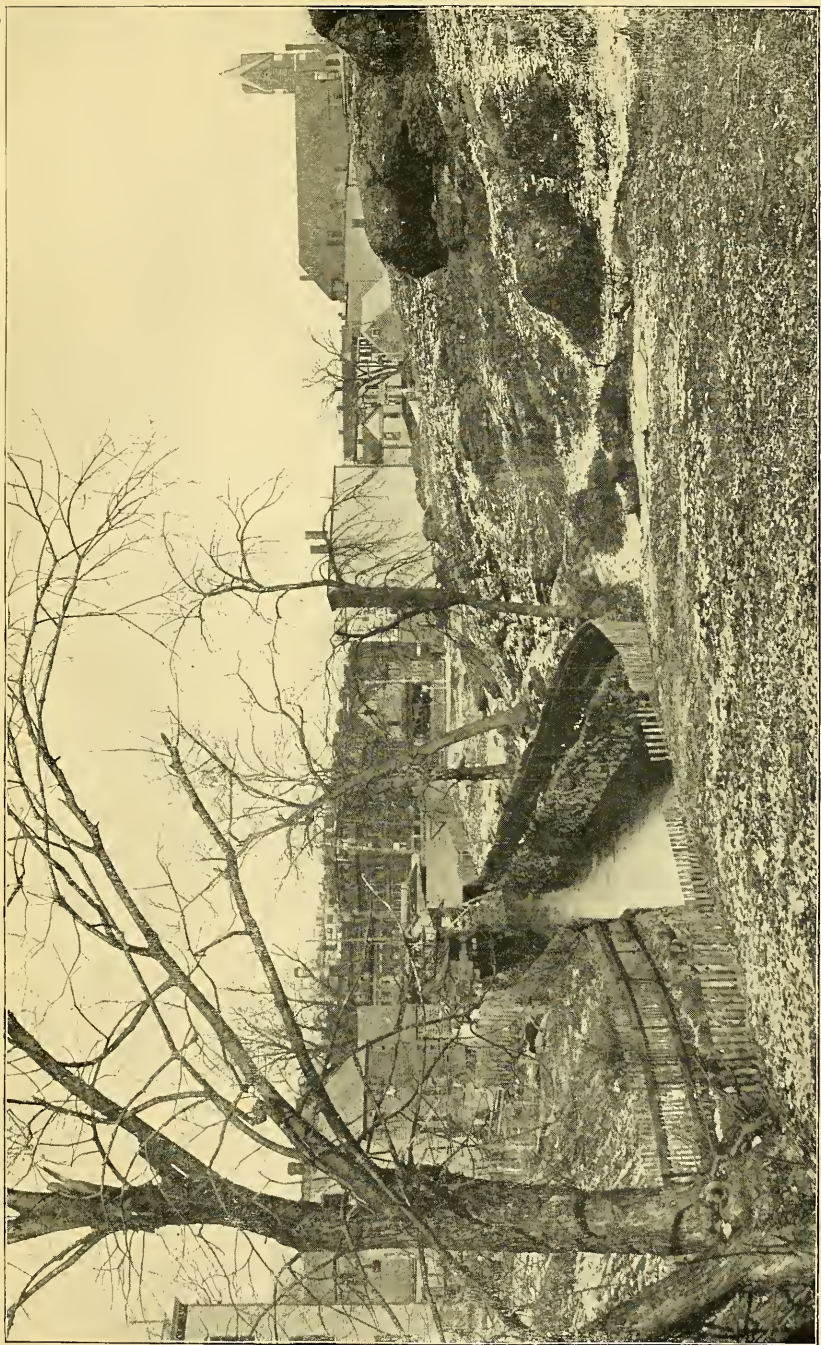
Foot-passes outstanding February 1, 1898	194,730
Foot-passes sold during the year	138,850
Foot-passes delivered on requisitions	8,700
	<u>342,280</u>
Received and destroyed during this year	146,981
	<u>195,299</u>
Outstanding February 1, 1899	<u>195,299</u>

Team Tickets.

	1-Horse.	2-Horse.	3-Horse.	4-Horse.
Outstanding February 1, 1898....	58,284	33,008	2,208	4,899
Sold during the year.....	346,640	185,808	7,902	13,580
Delivered on requisitions.....	4,144	688		
	409,068	219,504	10,110	18,879
Received and destroyed during the year.....	345,144	185,805	7,972	13,995
Outstanding February 1, 1899....	63,924	33,699	2,138	4,884

Pleasure Carriage Tickets.

	1-Horse.	2-Horse.
Outstanding February 1, 1898.....	17,943	2,979
Sold during the year.....	51,020	7,540
Delivered on requisitions.....	700	
	69,663	10,519
Received and destroyed during the year....	50,722	7,514
Outstanding February 1, 1899.....	18,941	3,005



COLUMBUS AVENUE, BETWEEN CENTRE AND RITCHIE STREETS, IN 1896.

APPENDIX C.

REPORT OF THE DEPUTY SUPERINTENDENT OF THE
PAVING DIVISION.

ROOM 44, CITY HALL, BOSTON, February 1, 1899.

MR. BENJ. W. WELLS, *Superintendent of Streets* :

DEAR SIR,—I respectfully submit the annual report of the expenditures and income of the Paving Division of the Street Department for the financial year ending January 31, 1899, showing the nature of the work, the number and variety of permits issued, and the details of expenditures involved in paving, macadamizing, regulating and constructing various streets.

Respectfully yours,

JOHN L. KELLY,
Deputy Superintendent.

The following table shows the amount expended for maintenance of the Paving Division and from special appropriations derived from loans for the last eight (8) years, not including the cost of street watering, to be found on another page :

	Maintenance.	Specials.	Totals.
1891 (13 months).....	\$872,936 40	\$1,014,324 26	\$1,887,260 66
1892	915,460 99	962,889 09	1,878,350 08
1893	745,681 52	707,801 49	1,453,483 01
1894	715,608 62	839,713 78	1,555,322 40
1895	683,899 42	823,011 70	1,506,911 12
1896	628,675 46	1,755,176 71	2,383,852 17
1897	690,187 34	1,413,142 79	2,103,330 13
1898	726,255 20	1,258,079 39	1,984,334 59

FINANCIAL STATEMENT.

REGULAR APPROPRIATION.

Appropriation for 1898-99	\$725,000 00
Amount collected for repairs made by Paving Division and inspector's services for different companies, etc.	1,255 20
	<hr/>
	\$726,255 20
Amount of expenditures from February 1, 1898, to January 31, 1899	\$726,255 20
	<hr/> <hr/>

SPECIAL APPROPRIATIONS, PAVING AND STREET IMPROVEMENTS.

Amount of balances, 1897-98, less transfers	\$173,714 28	
Amount of appropriations, 1897-98, revenues and transfers	368,424 13	
	<hr/>	\$542,138 41
Amount of expenditures		447,491 02
		<hr/>
Balances unexpended		<u>\$94,647 39</u>

TOTAL EXPENDITURES.

Maintenance appropriation	\$726,255 20
Special appropriations	447,491 02
Laying out and construction of highways	434,350 77
Blue Hill and other avenues	255,522 29
South Union Station	78,676 17
Rapid transit	16,265 06
Charlestown bridge	14,712 61
Abolishment of grade crossings	6,905 37
Beacham street	3,878 39
Quincy street, Ward 4	277 71
	<hr/>
	<u>\$1,984,334 59</u>

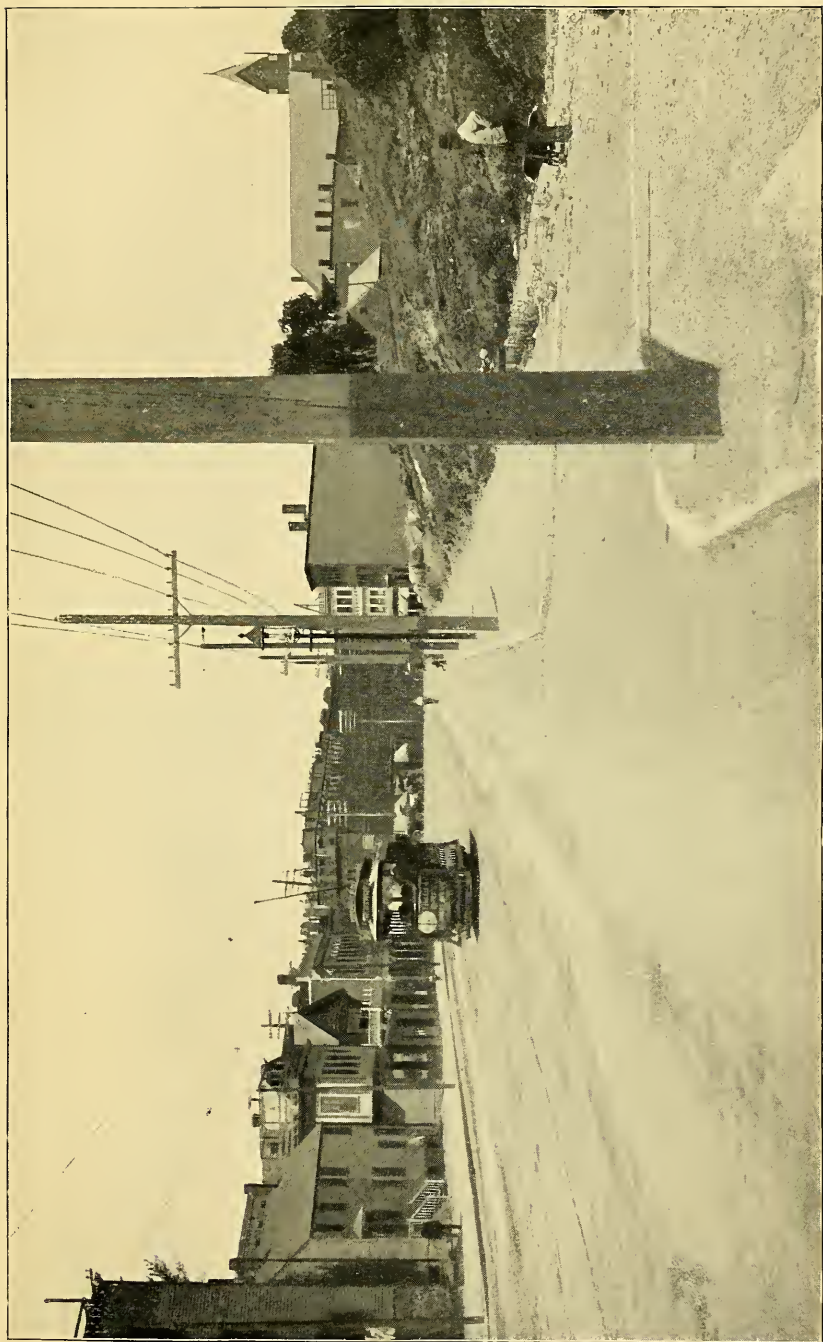
INCOME.

Statement showing the amount of bills deposited with the City Collector from February 1, 1898, on account of the Paving Division.

Edgestone and sidewalk assessments	\$6,371 60
Permits	15,240 50
	<hr/>
	<u>\$21,612 10</u>

The amount paid into the city treasury during the year on account of the Paving Division, is as follows :

Sidewalk construction assessments (law of 1892)	\$8,736 12
Edgestone and sidewalk assessments (law of 1893)	8,017 78
Permits	10,547 00
	<hr/>
	<u>\$27,300 90</u>



COLUMBUS AVENUE, BETWEEN CENTRE AND RITCHIE STREETS, IN 1898.

Objects of Expenditures from the Regular Appropriation, Classified by Districts, from Feb. 1, 1898, to Jan. 31, 1899.

DISTRICTS.	Repairs.	Snow.	Edgestone and Sidewalk Repairs.	Repairing Fences.	Repairing Plankwalks.	A. Miscellaneous.	B. In excess of Special Appropriation.	C. New Work.	Totals.
1. South Boston.....	\$3,630 52	\$11,424 94	\$6,854 53	\$870 78	\$1,149 94	.....	.....	.....	\$23,930 71
2. East Boston.....	21,437 28	7,458 40	4,900 30	241 11	1,000 86	.....	.....	.....	35,037 95
3. Charlestown.....	9,564 98	12,154 04	2,599 50	26 70	373 38	.....	.....	.....	24,718 60
4. Brighton.....	11,571 74	5,551 33	335 51	.....	1,149 43	.....	.....	.....	18,608 01
5. West Roxbury.....	29,238 25	8,431 42	1,311 37	68 00	2,330 39	.....	.....	.....	41,439 43
6. Dorchester.....	46,133 22	9,996 73	6,165 06	259 44	4,783 90	.....	\$2,705 00	.....	70,043 35
7. Roxbury.....	45,764 47	23,843 92	9,302 20	583 62	1,822 47	.....	.....	\$7,876 06	89,192 74
8. South End.....	18,423 78	46,614 29	4,535 02	13 94	1,975 03	.....	.....	.....	71,562 06
9. Back Bay.....	36,346 11	8,429 18	5,297 56	510 92	580 37	.....	.....	.....	51,164 14
10. North End.....	19,809 78	39,059 23	5,857 65	152 50	160 63	.....	.....	.....	65,039 79
						\$235,518 42	.....	.....	235,518 42
Totals.....	\$241,920 43	\$172,963 48	\$47,158 70	\$2,727 01	\$15,386 40	\$235,518 42	\$2,705 00	\$7,876 06	\$726,255 20

SCHEDULE A.

Salaries of Paving Division office, February 1, 1898, to January 31, 1899.	\$13,550 59
Salaries of Permit office, February 1, 1898, to January 31, 1899	9,672 52
Salaries of inspectors, February 1, 1898, to January 31, 1899	19,167 11
Salaries of engineers, February 1, 1898, to January 31, 1899	4,378 37
Advertising in and subscribing for daily papers	259 77
Messenger service	120 55
Printing and stationery	5,779 52
Photographs	81 83
Medical attendance	73 00
Boiler insurance	400 00
Badges for employees	191 00
Holidays	24,417 03
Expenses of yards and stables, including repairs to carts and harnesses and stables, and care of horses	\$127,514 70
Less amount earned by Division teams	80,170 00
	<hr/>
	47,344 70
Veterinary services	1,137 31
Tools, cost of keeping same in repair, etc.	12,139 35
Telephones	2,310 83
Signs	4,017 74
Sundries	3,360 83
Edgestones and sidewalks, new	11,894 04
Artificial stone walks	4,024 66
Building new fences and plankwalks	459 89
Street cleaning	56,873 71
Execution of court (Tremont-street ledge)	5,726 12
Crossing repairs	12,226 31
Crossings (new)	1,748 39
New crusher (Brighton)	3,622 61
Building new shed at Back Bay Yard	1,328 76
Building new office at West Roxbury Yard	754 44
Stock	3,934 03
	<hr/>
	\$250,146 60
Less credit for stone taken from ledges	\$12,931 35
Less amount earned by steam rollers	1,696 83
	<hr/>
	14,628 18
	<hr/>
	<u>\$235,518 42</u>

SCHEDULE B.

The following schedule shows the expenditure from the maintenance appropriation of this division, in excess of special appropriations :

Dudley street	\$2,622 61
Street Improvements, Ward 24 :	
Marsh street	82 39
	<u>\$2,705 00</u>

SCHEDULE C.

NEW WORK.

Shirley street, Norfolk avenue to George street, macadamized, edgestone set (unfinished work from 1897).

Labor, teaming and materials, furnished by the city,	\$5,907 33
Amount paid to John McCourt, paving	1,968 73
	<u>\$7,876 06</u>

DETAIL OF EXPENDITURES MADE UNDER SPECIAL APPROPRIATIONS.

Albany street, in front of Homœopathic Hospital (unfinished work from 1897).

Teaming furnished by the city	\$5 00
Amount paid to H. Gore & Co., paving	893 84
Amount paid to Boston Asphalt Company asphaltng,	323 16
	<u>\$1,222 00</u>

Alford street, Main street to Malden bridge. (Work unfinished.)

Labor, teaming and materials, furnished by the city	\$10,312 02
Amount of appropriation for Alford street	\$10,000 00
Amount paid out of Street Improvements, Ward 4	312 02
	<u>\$10,312 02</u>

Atlantic street, Ward 15, widening and construction (unfinished work from 1897).

Labor, teaming and materials, furnished by the city,	\$1,675 93
Amount paid to W. A. Murtfeldt Co., artificial stone retaining walls	379 25
Amount paid to T. F. Broderick, retaining walls and fences	25 00
	<hr/>
	\$2,080 18
Amount paid out of appropriation for Atlantic street, Ward 15	\$1,861 18
Amount paid out of Street Improvements, Ward 15	219 00
	<hr/>
	<u>\$2,080 18</u>

Beacham street, between Main street and Arlington avenue. Paved and regulated.

Labor, teaming and materials, furnished by the city	\$5,129 43
Amount paid to P. Brennan & Co., paving	526 11
	<hr/>
	\$5,655 54
Amount paid out of appropriation for Beacham street	\$3,878 39
Amount paid out of appropriation for Street Improvements, Ward 4	1,775 15
	<hr/>
	<u>\$5,655 54</u>

Brighton avenue, between Linden and Chester streets. Resurfaced.

Labor, teaming and materials, furnished by the city	\$969 81
Amount paid to George H. Wentworth & Co., paving	103 10
	<hr/>
	<u>\$1,072 91</u>

Brooks street, Ward 25, construction.

Amount paid to John E. Cassidy, land damages	<u>\$3,000 00</u>
--	-------------------

Cabot street, Linden Park to Vernon street, asphalted.

Amount retained from Barber Asphalt Paving Co. for work done in 1897, under contract	<u>\$207 52</u>
--	-----------------

Carleton street, Ward 10.

Labor, teaming and materials, furnished by the city,	<u>\$208 09</u>
--	-----------------

Centre street, Dorchester, reconstruction, macadamized and regulated.

Labor, teaming and materials, furnished by the city	\$4,808 07
Amount paid to James Dolan, paving	373 46
	\$5,181 53

Amount of appropriation for Centre street	\$1,250 00
Amount paid out of appropriation for Street Improvements, Ward 20	2,564 45
Amount paid out of appropriation for Street Improvements, Ward 24	1,367 08
	\$5,181 53

Dorchester avenue, D street to Dorchester street, repaved and regulated.

Labor, teaming and materials, furnished by the city	\$3,122 78
Amount paid to Higgins & McGovern, paving	1,457 75
	* \$4,580 53

Dudley street, Brook avenue to Upham's corner, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$3,642 20
Amount paid to T. M. Gill, paving	310 87
Amount paid to Doherty & Connors, paving	79 39
	\$4,032 46

Amount of appropriation for Dudley street	\$1,139 00
Amount paid out of appropriation for Paving Division	2,622 61
Amount paid out of appropriation for Street Improvements, Ward 16	270 85
	\$4,032 46

Freeport street, Ward 24, retaining wall.

Labor	\$354 88
Amount paid to Collins & Ham, building retaining wall	6,018 10
	\$6,372 98

* Charged to appropriation for Atlantic street, Ward 15, to offset the amount charged for Covington street to Street Improvements, Ward 15, in 1897.

Hull street, Salem to Snowhill street, paved with large granite blocks and regulated. Snowhill street to Commercial street, macadamized and regulated.

Labor, teaming and materials, furnished by the city		\$7,024 21
Amount of appropriation for Hull street	\$6,851 63	
Amount paid out of appropriation for Street Improvements, Ward 6	172 58	
		<u>\$7,024 21</u>

North Margin street, Thacher to Endicott street, asphalted.

Labor, teaming and materials, furnished by the city		\$78 56
Amount retained from Boston Asphalt Company, for work done in 1897 under contract		74 33
		<u>\$152 89</u>

Quincy street, Ward 4 (now St. Martin street).

Labor, teaming and materials, furnished by the city		<u>\$277 71</u>
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Rand street, Roxbury, reconstruction, unfinished work from 1897.

Labor, teaming and materials, furnished by the city		\$2,765 02
Amount paid to John McCourt, paving		90 93
		<u>\$2,855 95</u>
Amount of appropriation for Rand street	\$1,604 55	
Amount paid out of appropriation for Street Improvements, Ward 16	1,251 40	
		<u>\$2,855 95</u>

Washington street, Grove Hall to Columbia road.

Labor and teaming		<u>\$107 30</u>
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ABOLISHMENT OF GRADE CROSSINGS.

Congress and L streets.

Paving blocks		<u>\$6,905 37</u>
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CHARLESTOWN BRIDGE.

Approaches to bridge paved with large granite blocks and regulated.

Labor, teaming and materials, furnished by the city		<u>\$14,712 61</u>
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RAPID TRANSIT.

Tremont street, repaved from Boylston to Beacon street, and from Beacon street to Scollay square, where car tracks were removed.

Amount paid to Joseph B. O'Rourke, paving	\$900 12
Amount paid to Boston Elevated Railway Company, paving	1,154 68
	<hr/>
	<u>\$2,054 80</u>

SOUTH UNION STATION.

Atlantic avenue and Dewey square, repaved with large granite blocks, and regulated.

Labor, teaming and materials, furnished by the city	\$15,734 43
Amount paid to H. P. Nawn, paving, etc.	8,225 91
	<hr/>
	<u>\$23,960 34</u>

Dorchester avenue, paved with large granite blocks and regulated.

Labor, teaming and materials, furnished by the city	\$24,904 23
Amount paid to H. P. Nawn, paving, etc.	10,259 23
	<hr/>
	<u>\$35,163 46</u>

Summer street, paved with large granite blocks and regulated.

Labor, teaming and materials, furnished by the city	\$11,511 63
Amount paid to H. P. Nawn, paving, etc.	8,040 74
	<hr/>
	<u>\$19,552 37</u>

STREET IMPROVEMENTS, GENERAL.

Adams, Haymarket and Scollay squares, crossings relaid.

Labor, teaming and materials, furnished by the city	\$1,236 37
	<hr/>

Beacon street, Dartmouth to Exeter street, resurfaced (asphalt).

Amount paid to Barber Asphalt Paving Company, asphaltting	\$633 90
	<hr/>

Brattle street, Washington to Court street repaved with large granite blocks with pitch joints on a gravel base and regulated.

Labor, teaming and materials, furnished by the city	\$2,187 24
Amount paid to H. Gore & Co., paving	1,362 41

\$3,549 65

Amount paid out of appropriation for Street Improvements, general	\$2,577 17
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Amount paid out of appropriation for Street Improvements, Ward 6	972 48
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\$3,549 65

Commercial street, State to Clinton street, repaved with large granite blocks on a concrete base, with pitch joints and regulated.

Labor, teaming and materials, furnished by the city	\$8,819 49
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Hayward place, Washington street to Harrison avenue, asphalted.

Labor, teaming and materials, furnished by the city	\$437 12
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Amount paid to Boston Paving Company, asphaltina	1,584 88
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\$2,022 00

Amount paid out of appropriation for Street Improvements, general	\$1,687 38
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Amount paid out of appropriation for Street Improvements, Ward 7	334 62
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\$2,022 00

Howard street, Bulfinch to Court street, repaved with large granite blocks on a concrete base with pitch joints and regulated.

Labor, teaming and materials, furnished by the city,	\$4,477 26
Amount paid to H. Gore & Co., paving	1,090 78

Amount paid to Perrin & Carter, concrete base	809 88
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\$6,377 92

Amount paid out of appropriation for Street Improvements, general	\$4,943 71
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Amount paid out of appropriation for Street Improvements, Ward 6	1,434 21
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\$6,377 92

* \$134.85 paid by Boston Elevated Railway Company.

Kilby street, State to Milk street, asphalted.

Amount paid to Barber Asphalt Paving Company,
asphalting \$6,949 00

Massachusetts avenue.

Bricks \$250 00

Tremont street, Boylston to Pleasant street, and **Shawmut avenue**, Tremont street to Pleasant street.

Repaved with large granite blocks on a concrete base with pitch joints, and regulated.

Labor, teaming and materials, furnished by the city \$26,296 93
Amount paid to H. Gore & Co., paving 7,364 26
Amount paid to Perrin & Carter, concrete base 6,846 00

*\$40,507 19

Amount paid out of appropriation for Street Improvements, general . \$22,076 88
Amount paid out of appropriation for Street Improvements, Ward 7 . 4,220 05
Amount paid out of appropriation for Rapid Transit 14,210 26

\$40,507 19

Tremont street, Weston to Hammond street, repaved with large granite blocks, on a gravel base, and regulated.

Labor, teaming and materials, furnished by the city \$22,326 50
Amount paid to James Doherty & Co., paving 2,384 12

\$24,710 62

Amount paid out of appropriation for Street Improvements, general \$18,180 61

Amount paid out of appropriation for Street improvements, Ward 18 6,530 01

\$24,710 62

STREET IMPROVEMENTS, WARD 1.

Breed street, resurfaced.

Labor, teaming and materials, furnished by the city \$981 18

* \$6,531.70 paid by Boston Elevated Railway Company.

Eutaw street , edgestone set, brick sidewalks laid.	
Labor, teaming and materials, furnished by the city	\$401 60
Amount paid to Ward & Conlin, paving	37 25
	<hr/>
	<u>\$438 85</u>

Maverick street.	
Teaming	<u>\$12 50</u>

Meridian street , Eutaw to Condor street, resurfaced and regulated.	
Labor, teaming and materials, furnished by the city	\$2,785 65
Amount paid to Ward & Conlin, paving	723 09
	<hr/>
	<u>\$3,508 74</u>

Morris street , resurfaced.	
Labor, teaming and materials, furnished by the city	<u>\$916 56</u>

Paris street.	
Teaming	<u>\$22 50</u>

Pope street , Swift to Curtis street, edgestone reset and brick sidewalks laid.	
Teaming	\$48 00
Amount paid to Ward & Conlin, paving	71 67
	<hr/>
	<u>\$119 67</u>

STREET IMPROVEMENTS, WARD 2.

London street.	
Gravel	<u>\$53 20</u>

Marginal street , resurfaced and regulated.	
Labor, teaming and materials, furnished by the city	<u>\$878 11</u>

Maverick street , resurfaced.	
Labor, teaming and materials, furnished by the city	<u>\$385 96</u>

Meridian street , Decatur street to Central square, repaved and regulated.	
Labor, teaming and materials, furnished by the city	\$3,048 44
Amount paid to Ward & Conlin, paving	1,789 91
	<hr/>

Carried forward, \$4,838 35

<i>Brought forward,</i>	\$4,838 35
Amount paid out of appropriation for Street Improvements, Ward 2	\$4,557 53
Amount paid out of appropriation for Street Improvements, gen- eral	280 82
	<u>\$4,838 35</u>

Paris street.

Labor and material	<u>\$125 20</u>
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STREET IMPROVEMENTS, WARD 3.

Bainbridge street.

Labor	<u>\$28 73</u>
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Bunker Hill street, Chelsea to Elm street, repaved with large granite blocks, and regulated.

Labor, teaming and materials, furnished by the city	\$27,122 63
Amount paid to John Turner & Co., paving	\$4,377 73
Less amount paid for old paving blocks	2,234 55
	<u>2,143 18</u>
	*\$29,265 81

Amount paid out of appropriation for Street Improvements, Ward 3	\$22,967 89
Amount paid out of appropriation for Street Improvements, Ward 4	6,297 92
	<u>\$29,265 81</u>

Green street, resurfaced.

Labor, teaming and materials, furnished by the city	<u>\$486 87</u>
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Hancock street.

Stone	<u>\$20 72</u>
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Hull street, repaved and regulated.

Labor, teaming and materials, furnished by the city	\$280 30
Amount paid to P. Brennan & Co., paving	121 69
	<u>\$401 99</u>

* \$3,946.20 paid by Boston Elevated Railway Company.

Marion street, macadamized and regulated.

Labor, teaming and materials, furnished by the city	\$1,070 59
Amount paid to James F. Haley, paving	212 61
	<hr/>
	<u>\$1,283 20</u>

Princeton street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$183 65
Amount paid to James F. Haley, paving	252 36
	<hr/>
	<u>\$436 01</u>

Vine, Tufts, Moulton and Corey streets, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$542 04
Amount retained from Barber Asphalt Paving Company, for work done in 1897 under contract,	318 96
	<hr/>
	<u>\$861 00</u>

STREET IMPROVEMENTS, WARD 4.

Arlington avenue, resurfaced.

Labor, teaming and materials, furnished by the city	\$289 60
Amount paid to P. Brennan & Co., paving	126 38
	<hr/>
	<u>\$415 98</u>

Baldwin street, unfinished work from 1897.

Stone	<u>\$385 19</u>
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Dorrance street, unfinished work from 1897.

Stone	<u>\$356 16</u>
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Main street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$385 61
Amount paid to Haley & O'Hara, paving	230 11
	<hr/>
	\$615 72

Amount paid out of appropriation for Street Improvements, Ward 4	\$592 36
Amount paid out of appropriation for Street Improvements, Ward 3	7 50
Amount paid out of appropriation for Street Improvements, Ward 5	15 86
	<hr/>
	<u>\$615 72</u>

Mill street, between Rutherford avenue and Essex street, repaved and regulated.

Labor, teaming and materials, furnished by the city,	\$709 85
Amount paid to James F. Haley, paving	249 60
	\$959 45

Perkins street, Cambridge street to Somerville line, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$1,550 77
Amount paid to James F. Haley, paving	424 75
	\$1,975 52

St. Martin's street.

Amount paid to Geo. T. McLauthlin & Co., fence and railing	\$310 00
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Sullivan street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$926 86
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West street, Beacham to Alford street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city,	\$68 00
Amount paid to P. Brennan & Co., paving	112 17
	\$180 17

STREET IMPROVEMENTS, WARD 5.

Boyle street, unfinished work from 1897.

Teaming and materials	\$20 00
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Call street, Park street to Chelsea street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$316 95
Amount paid to James F. Haley, paving	119 04
	\$435 99

Chestnut street, Mt. Vernon to Chestnut street, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$1,657 07
Amount paid to P. Brennan & Co., paving	498 05
	\$2,154 12

Harvard street, westerly side, between Washington and Devens street, regulated.

Amount paid to James F. Haley, paving . . . \$201 52

Joiner street, Park to Water street, macadamized and regulated.

Labor, teaming and materials, furnished by the city . . . \$1,382 83

Amount paid to James F. Haley, paving . . . 254 90

\$1,637 73

Lynde street.

Teaming \$10 00

Miller street, Lawrence street to Rutherford avenue, resurfaced and regulated.

Labor and materials, furnished by the city . . . \$143 00

Amount paid to P. Brennan & Co., paving . . . 439 40

\$582 40

Putnam street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city . . . \$129 40

Amount paid to Haley & O'Hara, paving . . . 180 15

\$309 55

Washington street, resurfaced.

Labor, teaming and materials, furnished by the city . . . \$798 00

STREET IMPROVEMENTS, WARD 6.

Atlantic avenue, easterly side, between T and Commercial wharves, repaved.

Labor, teaming and materials, furnished by the city . . . \$2,421 74

Amount paid to Ward & Conlin, paving . . . 535 32

\$2,957 06

Bartlett place, repaved.

Labor, teaming and materials, furnished by the city . . . \$357 26

Beacon street, Tremont to Somerset street, unfinished work from 1897.

Amount paid to H. Gore & Co., paving . . . \$968 09

Bulfinch street, Bowdoin street to Bulfinch place, unfinished work from 1897.

Amount paid to H. Gore & Co., paving . . . \$725 82

Congress street, at Water street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city \$273 69

Amount paid to H. Gore & Co., paving 131 60

* \$405 29

Cooper street, Endicott to Stillman street, asphalted.

Amount retained from Barber Asphalt Paving Company, for work done in 1897, under contract, \$62 99

Hanover street, Washington to Court street, repaved with large granite blocks on a concrete base, with pitch joints and regulated.

Labor, teaming and materials, furnished by the city \$8,350 49

Amount paid to Perrin & Carter, concrete base 2,264 55

Amount paid to H. Gore & Co., paving 2,571 54

† \$13,186 58

Amount paid out of Street Improvements, Ward 6 \$8,350 49

Amount paid out of Street Improvements, General 4,836 09

\$13,186 58

Lime alley, unfinished work from 1897.

Teaming \$63 00

Margaret street, repaved.

Labor, teaming and materials, furnished by the city \$744 63

Amount paid to B. Green, paving 76 85

\$821 48

North street, Merchants' row to Union street, unfinished work from 1897.

Amount paid to H. Gore and Co., paving \$701 77

Sheafe street, paved with large granite blocks, and regulated.

Labor, teaming and materials, furnished by the city \$3,228 01

Amount paid to B. Green, paving 385 50

\$3,613 51

* \$26.72 paid by Boston Elevated Railway Company.

† \$2,520.18 paid by Boston Elevated Railway Company.

Somerset street, unfinished from 1897.

Teaming	<u>\$100 50</u>
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State street, Washington to Commercial street.

Amount retained from H. Gore & Co., for work done in 1897, under contract	<u>\$276 25</u>
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Unity street, Charter to Tileston street, asphalted.

Amount retained from Barber Asphalt Paving Company, for work done in 1897, under contract	<u>\$74 97</u>
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Water street, Washington to Devonshire street, unfinished work from 1897.

Amount paid to H. Gore & Co., paving	<u>\$612 69</u>
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Wiget street, North Margin to Salem street, asphalted.

Amount retained from Barber Asphalt Paving Company, for work done in 1897, under contract	<u>\$35 52</u>
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STREET IMPROVEMENTS, WARD 7.

Atlantic avenue, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	<u>\$273 17</u>
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Avery street, unfinished work from 1897.

Amount paid to H. Gore & Co., paving	<u>\$693 18</u>
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Boylston street, Washington street to Park square, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$133 54
Amount paid to T. M. Gill, paving	208 95

<u>\$342 49</u>

Congress street, Atlantic avenue to the bridge, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$1,280 66
Amount paid to H. Gore & Co., paving	1,084 70

<u>\$2,365 36</u>

Exeter place, unfinished work from 1897.

Amount paid to H. Gore & Co., paving	\$223 83
Amount retained from Boston Asphalt Paving Company, for work done in 1897, under contract	53 18
	<u>\$277 01</u>

Hollis and other streets, asphalted.

Amount paid to Barber Asphalt Paving Company, asphaltting	\$602 98
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Lagrange street, Tremont street to Police Station No. 4, asphalted.

Amount retained from Barber Asphalt Paving Company, for work done in 1897, under contract	\$55 92
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Mason street, unfinished work from 1897.

Amount paid to T. M. Gill, paving	\$93 88
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Tyler street, Broadway to Beach street, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$9,629 73
Amount paid to P. H. Bradley, paving	630 56
	<u>\$10,260 29</u>

Washington street, Eliot street to the bridge.

Amount retained from William Higgins, for work done in 1897, under contract	\$504 30
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Winthrop square.

Amount retained from H. Gore & Co., for work done in 1897, under contract	\$171 28
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STREET IMPROVEMENTS, WARD 8.

Bowdoin street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$429 46
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Bowdoin street, Cambridge to Allston street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$1,759 61
Amount paid to D. J. Kiley, paving	214 32
	<u>\$1,973 93</u>

Brighton street, Lowell to Leverett street, paved with large granite blocks on a gravel base, with pitch joints, and regulated.

Labor, teaming and materials, furnished by the city	\$2,955 28
Amount paid to D. J. Kiley, paving	987 07
	<u>\$3,942 35</u>

Bulfinch street.

Teaming	\$56 50
	<u>56 50</u>

Chambers street, unfinished work from 1897.

Paving	\$21 93
	<u>21 93</u>

Charles street, Cambridge to Leverett street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$1,123 36
Amount paid to D. J. Kiley, paving :	679 82
	<u>\$1,803 18</u>

Derne street, unfinished work from 1897.

Teaming	\$56 00
	<u>56 00</u>

Eaton street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city	\$1,476 33
Amount paid to D. J. Kiley, paving	251 00
	<u>\$1,727 33</u>

Fruit street, at corner Charles street, regulated.

Labor, teaming and materials, furnished by the city,	\$540 77
Amount paid to D. J. Kiley, paving	92 77
	<u>\$633 54</u>

Leverett street, repaved.

Material	\$126 82
Amount paid to Patrick McGovern, paving	308 00
	<u>\$434 82</u>

Lynde street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$1,227 52
	<u>1,227 52</u>

Myrtle street.

Labor and materials, furnished by the city	\$102 60
	<u>102 60</u>

North Russell street, unfinished work from 1897.

Teaming	\$218 50
Amount paid to D. J. Kiley, paving	92 86
	<u>\$311 36</u>

Parkman street, North Anderson to Blossom street, asphalted and regulated.

Labor, teaming and materials, furnished by the city,	\$1,990 24
Amount paid to D. J. Kiley, paving	315 75
Amount paid to Barber Asphalt Paving Company, asphaltting	1,486 65
	<u>\$3,792 64</u>

Stanford street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$547 13
Amount paid to D. J. Kiley, paving	133 41
	<u>\$680 54</u>

Willard street, repaved and regulated.

Labor, teaming and materials, furnished by the city,	\$2,360 54
Amount paid to D. J. Kiley, paving	320 42
	<u>\$2,680 96</u>

STREET IMPROVEMENTS, WARD 9.

Asylum street, paved.

Proportional part of cost of paving paid to A. A. Libby & Co.	<u>\$325 00</u>
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Bradford street, asphalted.

Labor	\$11 55
Amount retained from Jones & Meehan, for work done in 1897, under contract	183 50
	<u>\$195 05</u>

Cobb street, asphalted.

Amount retained from Boston Asphalt Company, for work done in 1897, under contract	<u>\$149 37</u>
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Dedham street, Tremont street to Shawmut avenue, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$4,084 99
Amount paid to Jones & Meehan, paving	644 64
	<u>\$4,729 63</u>

Harrison avenue, at Dover street, repaved.

Labor, teaming and materials, furnished by the city,	<u>\$488 40</u>
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Malden street, Washington to Meander street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$1,000 62</u>
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Mayo street, asphalted.

Cement	\$2 30
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Amount retained from Boston Asphalt Company for work done in 1897, under contract	61 11
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<u>\$63 41</u>

Pelham street, asphalted.

Flagging	\$34 97
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Amount retained from Jones & Meehan for work done in 1897, under contract	97 77
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<u>\$132 74</u>

Plympton street.

Labor	<u>\$4 00</u>
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Shawmut avenue, Lucas street to a point 250 feet northerly,
asphalted and regulated.

Labor, teaming and materials, furnished by the city,	\$2,450 30
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Amount paid to H. Gore & Co., paving	1,062 26
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Amount paid to Boston Asphalt Company, asphalt- ing	2,808 67
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<u>*\$6,321 23</u>

Upton street (unfinished work from 1897), Tremont street to
Shawmut avenue, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$2,511 00
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Amount paid to Jones & Meehan, paving	554 03
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<u>\$3,065 03</u>

Washington street, Eliot to Dover street, unfinished work
from 1897.

Labor and materials, furnished by the city	\$140 88
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Amount retained from Jones & Meehan for work done in 1897, under contract	429 26
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<u>\$570 14</u>

Washington street, Dover to Waltham street, unfinished work from 1897.

Flagging	\$163 68
Amount retained from Jones & Meehan for work done in 1897, under contract	366 67
	\$530 35

Waterford street, asphalted.

Amount paid to Jones & Meehan, paving	\$298 34
Amount retained from Jones & Meehan for work done in 1897, under contract	79 35
	\$377 69

STREET IMPROVEMENTS, WARD 10.

Artificial stone sidewalks.

Amount allowed on artificial stone sidewalks	\$172 32
	\$172 32

Belvidere street, Falmouth street to Boston & Albany Railroad, resurfaced and regulated.

Labor, teaming and materials, furnished by the city,	\$615 46
Amount paid to T. M. Gill, paving	212 77
	\$828 23

Berwick park, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$2,741 51
Amount paid to Barnes-Ruffin Company, paving	312 08
	\$3,053 59

Fayette street, Pleasant street to Ferdinand street, old cobble stones removed and paved with granite blocks and regulated.

Labor, teaming and materials, furnished by the city,	\$3,670 62
Amount paid to Barnes-Ruffin Company, paving	942 85
	\$4,613 47

Irvington street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$569 52
	\$569 52

Melrose street, Ferdinand to Pleasant street, old cobble stones removed and paved with granite blocks and regulated.

Labor, teaming and materials, furnished by the city,	\$2,783 59
Amount paid to Barnes-Ruffin Company, paving	744 74
	\$3,528 33

New edgestones and sidewalks.

Paving	<u>\$157 41</u>
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STREET IMPROVEMENTS, WARD 11.

Beacon street, asphalted.

Labor, teaming and materials, furnished by the city,	\$1,888 78
Amount paid to Barber Asphalt Paving Company, asphalting	<u>3,518 00</u>

	<u>\$5,406 78</u>
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Boylston street, Berkeley to Clarendon street.

Amount retained from Barber Asphalt Paving Com- pany for work done in 1897, under contract	<u>\$593 22</u>
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STREET IMPROVEMENTS, WARD 12.

Camden street, Washington to Northfield street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$2,327 95
Amount paid to Jones & Meehan, paving	<u>123 43</u>

	\$2,451 38
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Amount paid out of Street Improve- ments, Ward 12	\$2,448 88
Amount paid out of Street Improve- ments, Ward 9	<u>2 50</u>

	<u>\$2,451 38</u>
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Camden street, Tremont street to Columbus avenue, macadamized

Labor, teaming and materials, furnished by the city,	<u>\$1,751 32</u>
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Columbus avenue, Massachusetts avenue to Railroad bridge. Amount paid to Barber Asphalt Paving Co., asphalt- ing	<u>\$2,021 72</u>
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Concord square, unfinished work from 1897.

Material	<u>\$42 47</u>
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**Concord street, Albany street to Harrison avenue, resur-
faced.**

Labor, teaming and materials, furnished by the city,	<u>\$1,625 86</u>
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East Lenox street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	<u>\$460 25</u>
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East Newton street , Albany street to Washington street.	
Labor, teaming and materials, furnished by the city,	<u>\$1,946 85</u>
Greenwich park , unfinished work from 1897.	
Labor, teaming and materials, furnished by the city,	<u>\$96 30</u>
Lincoln place.	
Amount retained from Barber Asphalt Paving Company for work done in 1897, under contract	<u>\$46 82</u>
Massachusetts avenue , Columbus avenue to Tremont street, asphalted.	
Amount retained from Boston Paving Company for work done in 1897, under contract	<u>\$676 29</u>
Northampton street (work not finished).	
Labor, teaming and materials, furnished by the city,	<u>\$862 17</u>
Wellington street , Columbus avenue to N.Y., N. H. & H. R.R.	
Labor, teaming and materials, furnished by the city,	<u>\$1,502 90</u>

STREET IMPROVEMENTS, WARD 13.

B street , Seventh to Fourth street, repaved and regulated; Broadway to Third street, macadamized and regulated.	
Labor, teaming and materials, furnished by the city,	\$2,426 01
Amount paid to William Higgins, paving	1,178 58
	<u>\$3,604 59</u>
Broadway , E street to railroad bridge.	
Labor and materials, furnished by the city	\$174 41
Amount retained from H. Gore & Co., for work done in 1897, under contract	413 03
	<u>\$587 44</u>
Congress street , A to C street, repaved.	
Labor, teaming and materials, furnished by the city,	\$1,066 79
Amount paid to J. B. O'Rourke, paving	431 97
	<u>\$1,498 76</u>
D street.	
Teaming	<u>\$27 00</u>
Dorchester avenue , repaved.	
Labor	<u>\$255 90</u>

Gold street, A to B street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$1,079 70
Amount paid to William H. Glenn, paving	117 20
	<u>\$1,196 90</u>

Third street, A to B street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$1,134 06</u>
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STREET IMPROVEMENTS, WARD 14.

Broadway, at Lincoln School, asphalted, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$82 25
Amount paid to H. Gore & Co., paving	648 83
Amount retained from Boston Asphalt Company, for work done in 1897, under contract	150 42
	<u>\$881 50</u>

Broadway, Dorchester street to St. John's Church, asphalted (unfinished).

Labor, teaming and materials, furnished by the city,	*\$1,595 52
Amount paid out of appropriation for Street Improvements, Ward 14	\$934 27
Amount paid out of appropriation for Street Improvements, Ward 15	661 25
	<u>\$1,595 52</u>

East First street.

Teaming	<u>\$18 00</u>
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East Fourth street, H to N street, resurfaced and regulated.

Labor, teaming and materials furnished by the city	\$2,703 54
Amount paid to W. H. Glenn, paving	472 73
Amount paid to Redmond McDonough, paving	267 52
	<u>\$3,443 79</u>

East Seventh street, L to M street (unfinished work from 1897).

Teaming and materials, furnished by the city	\$460 00
Amount paid to Redmond McDonough, paving	522 26
	<u>\$982 26</u>

* \$1,874.61 paid by the Boston Elevated Railway Company.

East Seventh street, M to N street.

Labor, teaming and materials, furnished by the city	\$1,879 22
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Emerson street (unfinished).

Labor and teaming	\$97 00
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Fifth street, I to K street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$1,939 83
Amount paid to Redmond McDonough, paving	451 17

<u>\$2,391 00</u>

Jay street, unfinished work from 1897.

Teaming	\$210 00
Amount paid to Redmond McDonough, paving	81 54

<u>\$291 54</u>

L street.

Teaming	\$6 00
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Ninth street.

Teaming	\$43 50
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O street, unfinished work from 1897.

Teaming	\$12 00
Amount paid to Redmond McDonough, paving	107 51

<u>\$119 51</u>

STREET IMPROVEMENTS, WARD 15.

Artificial stone sidewalks.

Amount allowed on artificial stone sidewalks	\$264 02
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Broadway, E to Dorchester street, asphalted (unfinished work from 1897).

Amount paid to H. Gore & Co., paving	\$1,863 25
Amount retained from Boston Asphalt Company, for work done in 1897, under contract	271 76

<u>*\$2,135 01</u>

Dorchester avenue.

Labor	\$126 73
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E street.

Labor, teaming and materials, furnished by the city, '	\$89 55
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*\$471.69 paid by Boston Elevated Railway Company.

Eighth street.

Teaming	\$9 00
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Fourth street.

Material furnished by the city	\$139 38
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Gates street, unfinished work from 1897.

Teaming and materials, furnished by the city	\$142 02
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Gold street, F to Dorchester street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$338 42
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Loring street, Seventh to Eighth street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$202 50
Amount paid to W. H. Glenn, paving	308 10

\$510 60

Mercer street, Dorchester to Eighth street, unfinished work from 1897.

Teaming and materials, furnished by the city	\$497 05
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Middle street, Dorchester avenue to Dorchester street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$1,151 28
Amount paid to William H. Glenn, paving	541 76

\$1,693 04

Newman street, Dorchester to Mercer street, unfinished work from 1897.

Teaming and materials, furnished by the city	\$513 45
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Story street, removing hill.

Labor, teaming and materials, furnished by the city,	\$4,383 71
Amount paid to J. J. Sullivan, excavating	1,256 52

\$5,640 23

Woodward street, Dorchester avenue to Dorchester street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$1,420 32
Amount paid to J. B. O'Rourke, paving	443 58

\$1,863 90

STREET IMPROVEMENTS, WARD 16.

Andrew square, unfinished work from 1897.

Teaming and materials, furnished by the city . . .	\$1,622 70
Amount paid to J. B. O'Rourke, paving . . .	116 75
	<hr/>
	\$1,739 45

Amount paid out of appropriation for Street Improvements, Ward 16 . . .	\$490 25
Amount paid out of appropriation for Street Improvements, Ward 15 . . .	1,249 20
	<hr/>
	\$1,739 45

Boston street, unfinished work from 1897 . . .

Teaming and materials, furnished by the city . . .	\$194 20
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Clifton street, regulated.

Labor, teaming and materials, furnished by the city,	\$571 19
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Dacia street, unfinished work from 1897.

Teaming and materials, furnished by the city . . .	\$284 50
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	<hr/>

Dorchester avenue, unfinished work from 1897.

Gravel	\$149 97
Amount paid to J. B. O'Rourke, paving . . .	1,044 25
	<hr/>
	\$1,194 22
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	<hr/>

East Cottage street,

Labor, teaming and materials, furnished by the city,	\$990 70
	<hr/>
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Hartford street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$2,844 74
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	<hr/>

Howard avenue, resurfaced.

Labor, teaming and materials, furnished by the city,	\$1,006 80
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	<hr/>

Ingleside street, unfinished work from 1897.

Teaming and materials, furnished by the city . . .	\$197 39
	<hr/>
	<hr/>

Judson street, unfinished work from 1897.

Teaming	\$135 50
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	<hr/>

Julian street, unfinished work from 1897.

Teaming	\$69 00
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Locust street, unfinished work from 1897.

Teaming and materials, furnished by the city . . .	\$221 29
	<hr/>
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Massachusetts avenue.

Labor, teaming and materials, furnished by the city	\$215 80
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Mt. Vernon street, unfinished work from 1897.

Material furnished by the city	\$40 60
Amount paid to Redmond McDonough, paving	134 30
	<u>\$174 90</u>

Preble street.

Amount paid to J. B. O'Rourke, paving	\$36 40
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Quincy street.

Teaming	\$80 00
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Sargent street, resurfaced.

Labor, teaming and materials, furnished by the city	\$1,084 69
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Swett street, unfinished work from 1897.

Material furnished by the city	\$40 00
Amount paid to J. B. O'Rourke, paving	609 98
	<u>\$649 98</u>

Wayland street, resurfaced.

Labor, teaming and materials, furnished by the city	\$1,540 46
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Willow² court, unfinished work from 1897.

Teaming and materials, furnished by the city	\$267 48
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STREET IMPROVEMENTS, WARD 17.

Ambrose street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city	\$470 06
Amount paid to John McCourt, paving	284 12
	<u>\$754 18</u>

Dearborn street.

Labor, teaming and materials, furnished by the city	\$58 48
Amount paid to John McCourt, paving	157 22
	<u>\$215 70</u>

Massachusetts avenue.

Labor	\$14 30
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Norfolk avenue, Magazine to Shirley street, repaved with old granite blocks and regulated.

Labor, teaming and materials, furnished by the city	\$4,812 10
Amount paid to Barnes, Ruffin Company, paving	3,915 35
	<hr/>
	<u>\$8,727 45</u>

Washington street, at Ball street, repaved.

Amount paid to McCourt & Gilligan, paving	\$527 37
	<hr/>
	<u>\$527 37</u>

Webber street.

Labor, teaming and materials, furnished by the city	\$478 72
	<hr/>
	<u>\$478 72</u>

Winthrop street.

Labor, teaming and materials, furnished by the city	\$258 51
	<hr/>
	<u>\$258 51</u>

STREET IMPROVEMENTS, WARD 18.

Camden street, Shawmut avenue to Tremont street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$4,600 32
	<hr/>
	<u>\$4,600 32</u>

Calumet street, unfinished work from 1897.

Teaming and materials, furnished by the city	\$77 80
	<hr/>
	<u>\$77 80</u>

Sterling street.

Teaming	\$161 50
	<hr/>
	<u>\$161 50</u>

Terry street, unfinished work from 1897.

Teaming	\$6 00
	<hr/>
	<u>\$6 00</u>

Tremont street, Lenox street to Roxbury crossing, unfinished work from 1897.

Labor, teaming and materials, furnished by the city,	\$530 86
	<hr/>
	<u>\$530 86</u>

Vernon street, Washington to Tremont street, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$7,087 82
Amount paid to Wm. E. Curley, paving	1,018 03
	<hr/>
	<u>\$8,105 85</u>

Warren street, unfinished work from 1897.

Gravel	\$55 80
	<hr/>
	<u>\$55 80</u>

Washington street, unfinished work from 1897.

Teaming	\$9 00
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	<u>\$9 00</u>

STREET IMPROVEMENTS, WARD 19.

Burney street, unfinished work from 1897.Gravel \$21 65**Calumet street**, unfinished work from 1897.Teaming and materials, furnished by the city . \$177 14**Conant street**, Parker to Phillips street, unfinished work from 1897.

Labor, teaming and materials, furnished by the city, \$4,027 84

Amount paid to John McCourt, paving 541 30

\$4,569 14**Heath street**, unfinished work from 1897.Material, furnished by the city \$82 65**Longwood avenue**, unfinished work from 1897.Labor and materials, furnished by the city \$39 98**Parker street**, Huntington avenue to Ruggles street, paved with granite blocks, and regulated.Labor, teaming and materials, furnished by the city, \$6,650 41**Tremont street**, unfinished work from 1897.Materials, furnished by the city \$102 47**Vernon street**, unfinished work from 1897.Material, furnished by the city \$10 80**Wait street.**Labor, teaming and materials, furnished by the city, \$893 10

STREET IMPROVEMENTS, WARD 20.

Artificial stone sidewalks.Amount allowed on artificial stone sidewalks \$591 92**Elmo street**, edgestones set, gutters paved, sidewalks graveled.Labor, teaming and materials, furnished by the city, \$1,178 55**Glenway street**, Bradshaw to Harvard street, macadamized.Labor, teaming and materials, furnished by the city, \$1,857 19

Grampian way.

Labor, teaming and materials, furnished by the city,	<u>\$438 96</u>
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New edgestones and sidewalks.

Labor, teaming and materials, furnished by the city,	\$1,248 45
Amount paid to J. B. O'Rourke, paving	151 69
Amount paid to James Dolan, paving	428 48
	<u>\$1,828 62</u>

Park street, Spencer street to New England Railroad, and Geneva avenue to N. Y., N. H. & H. R.R., resurfaced.

Labor, teaming and materials, furnished by the city,	\$2,360 54
Amount paid to John McMorro, retaining wall	60 00
Amount paid to James Dolan, paving	148 75
	<u>\$2,569 29</u>

Amount paid out of appropriation for	
Street Improvements, Ward 20	\$1,412 06
Amount paid out of appropriation for	
Street Improvements, Ward 24	1,157 23

	<u>\$2,569 29</u>
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Savin Hill avenue.

Labor, teaming and materials, furnished by the city,	<u>\$192 60</u>
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Topliff street, macadamized.

Labor, teaming and materials, furnished by the city,	<u>\$725 84</u>
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Washington street, Blue Hill avenue to Centre street, macadamized.

Labor, teaming and materials, furnished by the city,	\$2,738 41
Amount paid out of appropriation for	
Street Improvements, Ward 20	\$776 53
Amount paid out of appropriation for	
Street Improvements, General	1,961 88
	<u>\$2,738 41</u>

Westville street, Bowdoin street to Geneva avenue, macadamized.

Labor, teaming and materials, furnished by the city,	<u>\$2,393 28</u>
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STREET IMPROVEMENTS, WARD 21.

Artificial stone sidewalks.

Amount allowed on artificial stone sidewalks	<u>\$56 82</u>
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Bower street, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$2,107 72
Amount paid to McCourt & Gilligan, paving	1,256 81

\$3,364 53

Amount paid out of appropriation for street Improvements, Ward 21	. \$2,573 20
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Amount paid out of appropriation for Street Improvements, General	. 791 33
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\$3,364 53

Cedar street, regulated.

Labor, teaming and materials, furnished by the city,	\$133 74
Amount paid to McCourt and Gilligan, paving	334 20

\$467 94

Circuit street, near corner Washington street, regulated.

Labor, teaming and materials, furnished by the city,	\$272 41
Amount paid to John McCourt, paving	207 36

\$479 77

Edgewood street, resurfaced and regulated,

Labor, teaming and materials, furnished by the city,	\$1,171 25
Amount paid to John McCourt, paving	895 90

\$2,067 15

New edgestones and sidewalks.

Labor and materials, furnished by the city	\$201 20
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Thornton street.

Material, furnished by the city	\$19 30
Amount paid to John McCourt, paving	56 77

\$76 07

Townsend street.

Labor, teaming and materials, furnished by the city	\$35 85
Amount paid to John McCourt, paving	42 00

\$77 85

STREET IMPROVEMENTS, WARD 22.

Bickford street.

Labor, teaming and materials, furnished by the city	\$137 25
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\$137 25

Boylston avenue, Boylston to Green street, macadamized and regulated.

Labor, teaming and materials, furnished by the city	\$5,133 59
Amount paid to James Dolan, paving	728 92
	<hr/>
	<u>\$5,862 51</u>

Brookside avenue.

Labor, teaming and materials, furnished by the city	\$318 50
	<hr/>
	<u>\$318 50</u>

Centre street, Day to Eliot street, resurfaced.

Labor, teaming and materials, furnished by the city	\$4,212 86
Amount paid out of appropriation for Street Improvements, Ward 22	\$2,106 43
Amount paid out of appropriation for Street Improvements, Ward 23	2,106 43
	<hr/>
	<u>\$4,212 86</u>

Concrete sidewalks.

Amount paid to Simpson Bros. Corp., concreting,	<u>\$1,122 00</u>
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New edgestones and sidewalks.

Labor, teaming and materials, furnished by the city	\$639 55
Amount paid to James Dolan, paving	138 75
	<hr/>
	<u>\$778 30</u>

Sheridan street, Centre street to Chestnut avenue, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$1,530 57
Amount paid to James Dolan, paving	149 50
	<hr/>
	<u>\$1,680 07</u>

Washington street, at Columbus avenue, repaved.

Labor, teaming and materials, furnished by the city,	\$375 50
Amount paid to James Dolan, paving	579 82
	<hr/>
	<u>\$955 32</u>

Wyman street, edgestones and sidewalks.

Amount allowed on artificial stone sidewalks	\$28 56
Sand	1 70
Amount paid to James Dolan, paving	95 65
	<hr/>
	<u>\$125 91</u>

STREET IMPROVEMENTS, WARD 23.

Concrete sidewalks.

Teaming	\$22 50
Amount paid to Simpson Bros. Corp., concreting	554 20
	<u>\$576 70</u>

Eliot street, Centre to Pond street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$502 78</u>
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Kittredge street, Washington to Albano street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$719 17</u>
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New edgestones and sidewalks.

Labor	\$76 00
Amount paid to James Dolan, paving	288 11
	<u>\$364 11</u>

South street, Walter to Centre street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$1,220 52</u>
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Walk Hill street, Harvard street to Hyde Park avenue, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$2,561 98</u>
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Washington street, Green to Morton street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city,	<u>\$3,328 07</u>
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Weld street, Centre to Corey street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$1,922 15</u>
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STREET IMPROVEMENTS, WARD 24.

Adams street, Gibson to Park street, paved with large granite blocks and regulated.

Labor, teaming and materials, furnished by the city,	\$3,001 35
Amount paid to James Dolan, paving	391 68
	<u>\$3,393 03</u>

Artificial stone sidewalks.

Amount allowed on artificial stone sidewalks	<u>\$40 08</u>
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Gibson street, resurfaced.

Labor, teaming and materials, furnished by the city,	<u>\$1,005 51</u>
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King street, granolithic sidewalks.

Amount paid to W. A. Murtfeldt Company, granolithic sidewalks	<u>\$201 12</u>
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Marsh street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$395 34
Amount paid out of appropriation for Street Improvements, Ward 24	\$312 95
Amount paid out of appropriation for Paving Division	82 39
	<u>\$395 34</u>

Neponset avenue, Adams to Minot street, macadamized and regulated.

Labor, teaming and materials, furnished by the city,	\$7,308 20
Amount paid to James Dolan, paving	969 20
	<u>\$8,277 40</u>
Amount paid out of appropriation for Street Improvements, Ward 24	\$5,276 10
Amount paid out of appropriation for Street Improvements, General	3,001 30
	<u>\$8,277 40</u>

Norfolk street, Washington to Nelson street, resurfacing.

Labor, teaming and materials, furnished by the city,	<u>\$1,206 90</u>
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STREET IMPROVEMENTS, WARD 25.

Allston station.

Amount paid to Geo. H. Curtis, putting up iron fence	<u>\$349 50</u>
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Artificial stone sidewalks.

Amount allowed on artificial stone sidewalks	<u>\$336 00</u>
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Dustin street, resurfaced.

Labor, teaming and materials, furnished by the city,	\$534 89
Amount paid to Geo. H. Wentworth & Co., paving,	195 10
	<u>\$729 99</u>

Franklin street, Lincoln street to Fern street, resurfaced and regulated.

Labor, teaming and materials, furnished by the city,	\$1,974 71
Amount paid to Geo. H. Wentworth & Co., paving,	306 06
	<u>\$2,280 77</u>

Kinross road.

Labor, teaming and materials, furnished by the city,	<u>\$91 49</u>
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Lanark road.

Labor, teaming and materials, furnished by the city,	<u>\$399 15</u>
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*SUMMARY OF EXPENDITURES UNDER
SPECIAL APPROPRIATIONS.*

TOTAL AMOUNT EXPENDED.

Albany street, in front of Homœopathic Hospital .	\$1,222 00
Alford street	10,312 02
Atlantic street, Ward 15	2,080 18
Beacham street	5,655 54
Brighton avenue	1,072 91
Brooks street, Ward 25	3,000 00
Cabot street	207 52
Carleton street, Ward 10	208 09
Centre street (Dorchester)	5,181 53
Dorchester avenue, D to Dorchester street	4,580 53
Dudley street	4,032 46
Freeport street	6,372 98
Hull street	7,024 21
North Margin street	152 89
Quincy street, Ward 4 (now St. Martin street)	277 71
Rand street	2,855 95
Washington street (Dorchester)	107 30
Abolishment of grade crossings :	
Congress and L streets	6,905 37
Charlestown bridge	14,712 61
Rapid Transit :	
Tremont street, Boylston to Beacon, and Beacon to Scollay square	2,054 80
South Union Station :	
Atlantic avenue and Dewey square	23,960 34
Dorchester avenue	35,163 46
Summer street	19,552 37
Street Improvements, General :	
Adams, Haymarket and Scollay squares	1,236 37
Beacon street, Dartmouth to Exeter street	633 90
Brattle street	3,549 65
Commercial street	8,819 49
Hayward place	2,022 00
Howard street	6,377 92
Kilby street	6,949 00
Massachusetts avenue	250 00

Carried forward,

\$186,531 10

<i>Brought forward,</i>	\$186,531 10
Tremont street, Boylston to Pleasant street, and Shawmut avenue, Tremont street to Pleasant street	40,507 19
Tremont street, Weston to Hammond street	24,710 62
Street Improvements, Ward 1 :	
Breed street	981 18
Eutaw street	438 85
Maverick street	12 50
Meridian street	3,508 74
Morris street	916 56
Paris street	22 50
Pope street	119 67
Street Improvements, Ward 2 :	
London street	53 20
Marginal street	878 11
Maverick street	385 96
Meridian street	4,838 35
Paris street	125 20
Street Improvements, Ward 3 :	
Bainbridge street	28 73
Bunker Hill street	29,265 81
Green street	486 87
Hancock street	20 72
Hull street	401 99
Marion street	1,283 20
Princeton street	436 01
Vine, Tufts, Moulton and Corey streets	861 00
Street Improvements, Ward 4 :	
Arlington avenue	415 98
Baldwin street	385 19
Dorrance street	356 16
Main street	615 72
Mill street	959 45
Perkins street	1,975 52
St. Martin street	310 00
Sullivan street	926 86
West street	180 17
Street Improvements, Ward 5 :	
Boyle street	20 00
Call street	435 99
Chestnut street	2,154 12
Harvard street	201 52
Joiner street	1,637 73
Lynde street	10 00
Miller street	582 40
Putnam street	309 55
Washington street	798 00
<i>Carried forward,</i>	<hr/> \$309,088 42

<i>Brought forward,</i>	\$309,088 42
Street Improvements, Ward 6 :	
Atlantic avenue	2,957 06
Bartlett place	357 26
Beacon street	968 09
Bulfinch street	725 82
Congress street	405 29
Cooper street	62 99
Hanover street	13,186 58
Lime alley	63 00
Margaret street	821 48
North street	701 77
Sheafe street	3,613 51
Somerset street	100 50
State street	276 25
Unity street	74 97
Water street	612 69
Wiget street	35 52
Street Improvements, Ward 7 :	
Atlantic avenue	273 17
Avery street	693 18
Boylston street, Washington street to Park square	342 49
Congress street, Atlantic avenue to bridge	2,365 36
Exeter place	277 01
Hollis and other streets	602 98
Lagrange street	55 92
Mason street	93 88
Tyler street, Broadway to Beach street	10,260 29
Washington street, Eliot street to the bridge	504 30
Winthrop square	171 28
Street Improvements, Ward 8 :	
Bowdoin street	429 46
Bowdoin street, Cambridge to Allston street,	1,973 93
Brighton street	3,942 35
Bulfinch street	56 50
Chambers street	21 93
Charles street, Cambridge to Leverett street	1,803 18
Derne street	56 00
Eaton street	1,727 33
Fruit street	633 54
Leverett street	434 82
Lynde street	1,227 52
Myrtle street	102 60
N. Russell street	311 36
Parkman street	3,792 64
Staniford street	680 54
Willard street	2,680 96
<i>Carried forward,</i>	\$369,565 72

<i>Brought forward,</i>	\$369,565 72
Street Improvements, Ward 9 :	
Asylum street	325 00
Bradford street	195 05
Cobb street	149 37
Dedham street	4,729 63
Harrison avenue, at Dover street	488 40
Malden street	1,000 62
Mayo street	63 41
Pelham street	132 74
Plympton street	4 00
Shawmut avenue	6,321 23
Upton street	3,065 03
Washington street, Eliot to Dover street	570 14
Washington street, Dover to Waltham street	530 35
Waterford street	377 69
Street Improvements, Ward 10 :	
Artificial stone sidewalks	172 32
Belvidere street	828 23
Berwick park	3,053 59
Fayette street	4,613 47
Irvington street	569 52
Melrose street	3,528 33
New edgestone and sidewalks	157 41
Street Improvements, Ward 11 :	
Beacon street	5,406 78
Boylston street	593 22
Street Improvements, Ward 12 :	
Camden street, Washington to Northfield street,	2,451 38
Camden street, Tremont street to Columbus	
avenue	1,751 32
Columbus avenue	2,021 72
Concord square	42 47
Concord street	1,625 86
East Lenox street	460 25
East Newton street	1,946 85
Greenwich park	96 30
Lincoln place	46 82
Massachusetts avenue	676 29
Northampton street	862 17
Wellington street	1,502 90
Street Improvements, Ward 13 :	
B street	3,604 59
Broadway	587 44
Congress street	1,498 76
D street	27 00
Dorchester avenue	255 90
Gold street	1,196 90
Third street	1,134 06
<i>Carried forward,</i>	\$428,230 23

<i>Brought forward,</i>	\$428,230 23
Street Improvements, Ward 14 :	
Broadway, at Lincoln School	881 50
Broadway, Dorchester street to St. John's Church	1,595 52
East First street	18 00
East Fourth street	3,443 79
East Seventh street, L to M street	982 26
East Seventh street, M to N street	1,879 22
Emerson street	97 00
Fifth street, I to K street	2,391 00
Jay street	291 54
L street	6 00
Ninth street	43 50
O street	119 51
Street Improvements, Ward 15 :	
Artificial stone sidewalks	264 02
Broadway, E to Dorchester street	2,135 01
Dorchester avenue	126 73
E street	89 55
Eighth street	9 00
Fourth street	139 38
Gates street	142 02
Gold street	338 42
Loring street	510 60
Mercer street	497 05
Middle street	1,693 04
Newman street	513 45
Story street	5,640 23
Woodward street	1,863 90
Street Improvements, Ward 16 :	
Andrew square	1,739 45
Boston street	194 20
Clifton street	571 19
Dacia street	284 50
Dorchester avenue	1,194 22
East Cottage street	990 70
Hartford street	2,844 74
Howard avenue	1,006 80
Ingleside street	197 39
Judson street	135 50
Julian street	69 00
Locust street	221 29
Massachusetts avenue	215 80
Mt. Vernon street	174 90
Preble street	36 40
Quincy street	80 00
Sargent street	1,084 69
<i>Carried forward,</i>	\$464,982 24

<i>Brought forward,</i>	\$464,982 24
Swett street	649 98
Wayland street	1,540 46
Willow court	267 48
Street Improvements, Ward 17 :	
Ambrose street	754 18
Dearborn street	215 70
Massachusetts avenue	14 30
Norfolk avenue	8,727 45
Washington street	527 37
Webber street	478 72
Winthrop street	258 51
Street Improvements, Ward 18 :	
Camden street	4,600 32
Calumet street	77 80
Sterling street	161 50
Terry street	6 00
Tremont street	530 86
Vernon street	8,105 85
Warren street	55 80
Washington street	9 00
Street Improvements, Ward 19 :	
Burney street	21 65
Calumet street	177 14
Conant street	4,569 14
Heath street	82 65
Longwood avenue	39 98
Parker street	6,650 41
Tremont street	102 47
Vernon street	10 80
Wait street	893 10
Street Improvements, Ward 20 :	
Artificial stone sidewalks	591 92
Elmo street	1,178 55
Glenway street	1,857 19
Grampian way	438 96
New edgestones and sidewalks	1,828 62
Park street	2,569 29
Savin Hill avenue	192 60
Topliff street	725 84
Washington street	2,738 41
Westville street	2,393 28
Street Improvements, Ward 21 :	
Artificial stone sidewalks	56 82
Bower street	3,364 53
Cedar street	467 94
Circuit street	479 77
<i>Carried forward,</i>	\$523,394 58

<i>Brought forward,</i>	\$523,394 58
Edgewood street	2,067 15
New edgestones and sidewalks	201 20
Thornton street	76 07
Townsend street	77 85
Street Improvements, Ward 22 :	
Bickford street	137 25
Boylston avenue	5,862 51
Brookside avenue	318 50
Centre street	4,212 86
Concrete sidewalks	1,122 00
New edgestones and sidewalks	778 30
Sheridan street	1,680 07
Washington street	955 32
Wyman street	125 91
Street Improvements, Ward 23 :	
Concrete sidewalks	576 70
Eliot street	502 78
Kittredge street	719 17
New edgestone and sidewalks	364 11
South street	1,220 52
Walk Hill street	2,561 98
Washington street	3,328 07
Weld street	1,922 15
Street Improvements, Ward 24 :	
Adams street	3,393 03
Artificial stone sidewalks	40 08
Gibson street	1,005 51
King street	201 12
Marsh street	395 34
Neponset avenue	8,277 40
Norfolk street	1,206 90
Street Improvements, Ward 25 :	
Allston street	349 50
Artificial stone sidewalks	336 00
Dustin street	729 99
Franklin street	2,280 77
Kinross road	91 49
Lanark road	399 15
	<hr/>
	\$570,911 33
Less amount paid out of appropriation for Paving Division	2,705 00
	<hr/>
	<u>\$568,206 33</u>

BLUE HILL AND OTHER AVENUES.

Blue Hill avenue, Grove Hall to Walk Hill street.

Labor, teaming and materials, furnished by the city,	\$4,083 90
Amount paid to Metropolitan Construction Company, building retaining wall	1,347 00
Amount paid to Doherty & Connors, construction work	309 12
	<hr/>
	<u>\$5,740 02</u>

Blue Hill avenue, Walk Hill street to Mattapan.

Labor, teaming and materials, furnished by the city,	<u>\$889 93</u>
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Columbus avenue.

Labor, teaming and materials, furnished by the city,	\$114,282 24
Amount paid to Jones & Meehan, paving	40,909 48
Amount paid to D. E. Lynch, paving	3,035 98
Amount paid to James Dolan, paving	543 45
Amount paid to William Hennessey, building retaining wall	665 00
Amount paid to James T. Gilligan, filling	1,547 40
Amount paid to J. P. Niland, filling	448 20
Amount paid to P. F. Donovan, labor and stone,	2,139 99
	<hr/>
	* <u>\$163,601 74</u>

Commonwealth avenue.

Labor, teaming and materials, furnished by the city,	\$71,418 33
Amount paid to Michael Kiernan, quarrying and cutting stone	10,434 87
Amount paid to A. McMurtry & Sons, quarrying and cutting stone	2,324 10
	<hr/>
	<u>\$84,177 30</u>

Commonwealth avenue, Chestnut Hill avenue to Newton line.

Labor, teaming and materials, furnished by the city,	\$1,113 30
Amount paid to J. A. Whittemore's Sons, construction work	31 22
	<hr/>
	\$1,144 52
Amount paid out of Blue Hill and other avenues	\$1,113 30
Amount paid out of Laying Out and Construction of Highways	31 22
	<hr/>
	<u>\$1,144 52</u>

* Includes \$13,751.87 paid by Boston Elevated Railway Company and others.

*SUMMARY OF EXPENDITURES FOR BLUE
HILL AND OTHER AVENUES.*

Blue Hill avenue, Grove Hall to Walk Hill street	\$5,740 02
Blue Hill avenue, Walk Hill street to Mattapan	889 93
Columbus avenue	163,601 74
Commonwealth avenue	84,177 30
Commonwealth avenue, Chestnut Hill avenue to Newton line	1,144 52
	<hr/>
	\$255,553 51
Less amount paid out of appropriation for Laying Out and Construction of Highways	31 22
	<hr/>
	<u>\$255,522 29</u>

*LAYING OUT AND CONSTRUCTION OF
HIGHWAYS.*

Amory street.	
Labor and advertising	<u>\$28 50</u>
Angell street.	
Labor and advertising	<u>\$52 63</u>
Ashley street.	
Labor	<u>\$12 50</u>
Astor street.	
Labor and advertising	<u>\$39 99</u>
Athelwold street, between School and Kilton streets,	
Amount retained from Collins & Ham, for work done in 1897, under contract	<u>\$185 17</u>
Belmore terrace, between Boylston street and Boylston terrace.	
Labor, teaming and materials, furnished by the city,	\$2,084 68
Amount paid to Patrick O'Hara & Co., construc- tion work	1,743 44
	<hr/>
	<u>\$3,828 12</u>
Belvidere street.	
Labor and advertising	<u>\$293 00</u>
Bernard street, between Harvard street and Talbot avenue.	
Labor, teaming and materials, furnished by the city,	\$6,757 89
Amount paid to J. A. Whittemore's Sons, con- struction work.	3,031 58
	<hr/>
	<u>\$9,789 47</u>

Bloomfield street, between Geneva avenue and Greenbrier street.

Amount retained from Collins & Ham, for work done in 1897, under contract	\$87 85
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Burt street, between Washington and Ashmont streets.

Labor, teaming and materials, furnished by the city,	\$3,792 69
Amount paid to Collins & Ham, construction work,	1,956 21
	<u>\$5,748 90</u>

Callender street.

Labor	<u>\$11 00</u>
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Canal street, between Haymarket square and Causeway street.

Labor, teaming and materials, furnished by the city,	\$9,013 56
Amount paid to Jones & Meehan, construction work	7,395 76
	<u>*\$16,409 32</u>

Carlos street, between Lauriat and Chapman avenues.

Labor, teaming and materials furnished by the city,	\$1,514 37
Amount paid to Patrick O'Hara & Co., construction work	630 10
	<u>\$2,144 47</u>

Chamberlain street, between Harvard and Algonquin streets.

Amount retained from Collins & Ham, for work done in 1897, under contract	<u>\$69 86</u>
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Chamblet street, between Magnolia and Hartford streets.

Labor, teaming and materials, furnished by the city,	\$1,478 52
Amount paid to John Connor's, construction work,	1,085 02
	<u>\$2,563 54</u>

Charlestown street.

Labor	<u>\$4 50</u>
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Chiswick road.

Labor	<u>\$45 00</u>
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* Includes \$3,110.30 paid by Boston Elevated Railway Company.

Columbia road.

Labor, teaming and materials, furnished by the city	\$85,104 12
Amount paid to H. P. Nawn, construction work between Blue Hill avenue and Stanwood street,	32,175 32
Amount paid to H. P. Nawn, construction work between Stanwood and Glendale streets	26,487 58
Amount paid to J. McGraw & Co., construction work between Glendale street and Edward Everett square	6,603 11
Amount paid to D. F. O'Connell, abutments and pier of bridge	5,375 40
Amount paid to Simon J. Donovan, filling	5,590 03
Amount paid to J. J. Sullivan, filling	2,932 56
Amount paid to F. J. Hannon, filling	2,274 40
Amount paid to J. S. Jacobs & Son, filling	727 09
Amount paid to R. J. Johnson, filling	722 50
	<hr/>
	\$167,992 11

Devon street.

Labor	\$19 75
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Elizabeth street, between Norfolk and Astoria streets.

Labor, teaming and materials, furnished by the city	\$1,527 18
Amount paid to Collins & Ham, construction work,	617 33
	<hr/>
	\$2,144 51

Ellet street, between Adams street and Dorchester avenue.

Amount retained from H. Gore & Co., for work done in 1897, under contract	\$56 96
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Engineering Expenses

\$1,077 45

Fairmount street, between Washington and Morton streets.

Labor, teaming and materials, furnished by the city	11,056 37
Amount paid to James McGovern, construction work	5,719 66
	<hr/>
	\$16,776 03

Fenelon street, between Washington and Merrill streets.

Amount retained from D. E. Lynch, for work done in 1896, under contract	\$120 86
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Forest Hills street.

Labor and advertising	\$43 37
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Fowler street.

Labor and advertising	\$43 45
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Francis street.

Labor and advertising	\$52 86
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Fullerton street, between Brookline avenue and Fairhaven street.

Amount retained from Philip Doherty, for work done in 1897, under contract	\$116 69
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Gaylord street, between Washington & Chamberlain streets.

Amount retained from Doherty & Connors, for work done in 1897, under contract	\$47 10
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Geneva avenue, between Westville street and Dorchester avenue.

Amount retained from Finneran & O'Hearn, for work done in 1897, under contract	\$329 81
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Greenbrier street, between Bloomfield and Park streets.

Amount retained from H. Gore & Co., for work done in 1897, under contract	\$139 83
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Hamilton street, between Bowdoin street and Homes avenue.

Labor, teaming and materials, furnished by the city,	\$1,135 49
Amount paid to D. M. Dwyer, excavating	763 19
Amount paid to James McGovern, construction work	481 48

<u>\$2,380 16</u>

Harold street.

Labor, teaming and materials, furnished by the city,	\$423 86
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Hewins street, between Columbia road and Erie street.

Labor, teaming and materials, furnished by the city,	\$2,783 59
Amount paid to Philip Doherty, construction work,	1,064 88

<u>\$3,848 47</u>

Idaho street.

Labor	\$31 50
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Ipswich street , between Boylston road and Boylston street.	
Labor, teaming and materials, furnished by the city,	\$4,649 99
Amount paid to Holbrook, Cabot & Daly, retaining walls, abutments and piers	37,221 70
Amount paid to Boston & Albany Railroad Company, filling	2,706 57
Amount paid to James Russell Boiler Works Company, iron fences	889 00
	<u>\$45,467 26</u>

Jersey street , between Audubon road and Brookline avenue.	
Labor, teaming and materials, furnished by the city,	\$914 70
Amount paid to Boston & Albany Railroad Company, filling	18,817 47
	<u>\$19,732 17</u>

Leeds street.	
Labor and advertising	<u>\$43 40</u>

Leedsville street , between Dorchester avenue and Adams street.	
Labor, teaming and materials, furnished by the city,	\$2,747 34
Amount paid to Collins & Ham, construction work,	1,619 93
	<u>\$4,367 27</u>

Leroy street , between Geneva avenue and Ditson street.	
Labor, teaming and materials, furnished by the city,	\$2,568 39
Amount paid to Barnes-Ruffin Company, artificial stone sidewalks	1,457 07
Amount paid to Philip Doherty, construction work,	941 39
	<u>\$4,966 85</u>

Lonsdale street , between Dorchester avenue and Adams street.	
Labor, teaming and materials, furnished by the city,	\$6,084 53
Amount paid to Barnes-Ruffin Company, construction work	2,241 73
Amount paid to Barnes-Ruffin Company, artificial stone sidewalks	378 88
Amount paid to J. C. Newborg, artificial stone sidewalks	287 68
	<u>\$8,992 82</u>

Malvern street , between Brighton avenue and Ashford street.	
Labor, teaming and materials, furnished by the city,	\$2,639 39
Amount paid to James Doherty & Co., construction work	1,606 65
	<u>\$4,246 04</u>

Maryland street , between Savin Hill avenue and Bay street.	
Labor, teaming and materials, furnished by the city	\$971 69
Amount paid to Philip Doherty, construction work,	273 69
	<hr/>
	<u>\$1,245 38</u>
Mellen street , between Ocean and Montague streets.	
Labor, teaming and materials, furnished by the city	\$3,009 60
Amount paid to Collins & Ham, construction work,	2,215 01
	<hr/>
	<u>\$5,224 61</u>
Merlin street , between Athelwold and Park streets.	
Labor, teaming and materials, furnished by the city	\$415 22
Amount paid to Patrick McGovern, construction work	1,345 61
	<hr/>
	<u>\$1,760 83</u>
Middleton street.	
Labor and advertising	<u>\$43 00</u>
Millet street.	
Labor and advertising	<u>\$25 60</u>
Morse street , between Washington and Bowdoin avenue.	
Amount retained from Doherty & Connors, for work done in 1897, under contract	<u>\$98 32</u>
Newburg street.	
Labor	<u>\$18 00</u>
Nightingale street , between Talbot avenue and Bernard street.	
Labor, teaming and materials, furnished by the city	\$5,579 03
Amount paid to James Doherty & Co., paving	3,495 49
	<hr/>
	<u>\$9,074 52</u>
North Harvard street , between Western avenue and Charles river.	
Labor, teaming and materials, furnished by the city	\$13,301 96
Amount paid to Geo. H. Wentworth & Co., construction work	10,565 99
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	<u>\$23,867 95</u>

Norway street, between Massachusetts avenue and Parker street.

Amount retained from Doherty & Connors, for work done in 1897, under contract	\$166 35
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Oakley street, between Bowdoin street and Geneva avenue.

Labor, teaming and materials, furnished by the city	\$3,325 50
Amount paid to John Connors, construction work,	1,260 66
Amount paid to John C. Newborg, artificial stone sidewalks	2,022 17
	<u>\$6,608 33</u>

Peterborough street, between Audubon road and Fairhaven street.

Labor and advertising	\$29 40
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Peverell street, between Sawyer avenue and Salcombe street.

Labor, teaming and materials, furnished by the city,	\$1,411 81
Amount paid to Collins & Ham, construction work,	1,128 30
	<u>\$2,540 11</u>

Queensbury street, between Audubon road and Fairhaven street.

Labor, teaming and materials, furnished by the city,	\$446 11
Amount paid to Boston and Albany Railroad Company, filling	12,582 54
	<u>\$13,028 65</u>

Rosseter street, between Bullard street and Bowdoin avenue.

Labor, teaming and materials, furnished by the city,	\$4,707 41
Amount paid to Patrick O'Hara & Co., construction work	\$1,668 39
Amount paid to R. L. Barrett, building retaining walls and fences	800 70
	<u>\$7,176 50</u>

Ruggles street, between Parker street and Back Bay Fens.

Labor, teaming and materials, furnished by the city,	\$4,980 60
Amount paid to Doherty & Connors, construction work	4,261 32
Amount paid to James T. Gilligan, stone	370 50
	<u>\$9,612 42</u>

School street.

Removing trees, etc.	\$125 00
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Shirley street.

Labor	\$14 50
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Spencer street, between Wheatland and Talbot avenues.

Labor, teaming and materials, furnished by the city,	\$531 45
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Amount paid to James McGovern, construction work	195 11
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<u>\$726 56</u>

Stanley street.

Labor	\$7 62
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St. Stephen street, from Bryant street 803 feet northeasterly.

Labor, teaming and materials, furnished by the city,	\$1,599 93
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Amount paid to James T. Gilligan, filling	1,076 20
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<u>\$2,676 13</u>

Stuart street, between Dartmouth street and Trinity place.

Labor, teaming and materials, furnished by the city,	\$995 73
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Amount paid to Collins & Ham, construction work,	728 67
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<u>\$1,724 40</u>

Telford street, between Western avenue and Charles river reservation.

Labor, teaming and materials, furnished by the city,	\$1,219 01
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Amount paid to James Doherty & Co., construction work	540 50
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<u>\$1,759 51</u>

Thane street.

Labor	\$7 38
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Tonawanda street, between Geneva avenue and Greenbrier street.

Labor, teaming and materials, furnished by the city	\$7,411 05
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Amount paid to Philip Doherty, construction work,	4,456 46
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<u>\$11,867 51</u>

Turner street, between Haviland and Astor streets.

Amount paid to Doherty & Connors, construction work	\$185 71
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Vancouver street, between Huntington avenue and Ruggles street.

Labor, teaming and materials, furnished by the city,	\$1,326 56
Amount paid to Doherty & Connors, construction work	1,139 08
	<u>\$2,465 64</u>

Van Winkle street.

Labor and advertising	<u>\$19 65</u>
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Waterlow street, between Harvard and Harvard streets.

Labor, teaming and materials, furnished by the city	\$2,336 88
Amount paid to James Doherty & Co., construction work	1,140 44
	<u>\$3,477 32</u>

Wensley street.

Labor and advertising	<u>\$57 75</u>
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West Selden street.

Labor, teaming and materials, furnished by the city	<u>\$531 96</u>
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Wolcott street, between Columbia road and Erie street.

Artificial stone sidewalks	\$89 76
Amount retained from Collins & Ham, for work done in 1897 under contract	73 86
	<u>\$163 62</u>

Woodlawn street.

Labor and advertising	<u>\$15 38</u>
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Public alley 401.

Materials, furnished by the city	<u>\$138 27</u>
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Public alley 402.

Labor and materials, furnished by the city	<u>\$117 27</u>
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Public alley 403.

Labor, teaming and materials, furnished by the city	<u>\$47 40</u>
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Public alley 404.

Labor, teaming and materials, furnished by the city	<u>\$1,064 76</u>
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Public alley 437.

Labor, teaming and materials, furnished by the city	\$161 09
Amount paid to the Barber Asphalt Paving Company, asphaltting	1,626 81
	<hr/>
	\$1,787 90
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Public alley 701.

Labor, printing and advertising	\$43 94
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SUMMARY OF EXPENDITURES.

LAYING-OUT AND CONSTRUCTION OF HIGHWAYS.

TOTAL AMOUNT EXPENDED.

Commonwealth avenue	\$31 22
Amory street	28 50
Angell street	52 63
Ashley street	12 50
Astor street	39 99
Athelwold street	185 17
Belmore terrace	3,828 12
Belvidere street	293 00
Bernard street	9,789 47
Bloomfield street	87 85
Burt street	5,748 90
Callender street	11 00
Canal street	16,409 32
Carlos street	2,144 47
Chamberlain street	69 86
Chamblet street	2,563 54
Charlestown street	4 50
Chiswick road	45 00
Columbia road	167,992 11
Devon street	19 75
Elizabeth street	2,144 51
Ellet street	56 96
Engineering expenses	1,077 45
Fairmount street	16,776 03
Fenelon street	120 86
Forest Hills street	43 37
Fowler street	43 45
Francis street	52 86
Fullerton street	116 69
Gaylord street	47 10
Geneva avenue	329 81
	<hr/>
<i>Carried forward,</i>	\$230,165 99

<i>Brought forward,</i>	\$230,165 99
Greenbrier street	139 83
Hamilton street	2,380 16
Harold street	423 86
Hewins street	3,848 47
Idaho street	31 50
Ipswich street	45,467 26
Jersey street	19,732 17
Leeds street	43 40
Leedsville street	4,367 27
Leroy street	4,966 85
Lonsdale street	8,992 82
Malvern street	4,246 04
Maryland street	1,245 38
Mellen street	5,224 61
Merlin street	1,760 83
Middleton street	43 00
Millet street	25 60
Morse street	98 32
Newburg street	18 00
Nightingale street	9,074 52
North Harvard street	23,867 95
Norway street	166 35
Oakley street	6,608 33
Peterborough street	29 40
Peverell street	2,540 11
Queensbury street	13,028 65
Rosseter street	7,176 50
Ruggles street	9,612 42
School street	125 00
Shirley street	14 50
Spencer street	726 56
Stanley street	7 62
St. Stephen street	2,676 13
Stuart street	1,724 40
Telford street	1,759 51
Thane street	7 38
Tonawanda street	11,867 51
Turner street	185 71
Vancouver street	2,465 64
Van Winkle street	19 65
Waterlow street	3,477 32
Wensley street	57 75
West Selden street	531 96
Wolcott street	163 62
Woodlawn street	15 38
Public Alley 401	138 27
“ “ 402	117 27

Carried forward,

\$431,406 77

<i>Brought forward,</i>		\$431,406 77
Public Alley 403		47 40
“ “ 404		1,064 76
“ “ 437		1,787 90
“ “ 701		43 94
		*\$434,350 77

NEW EDGESTONE.

The following tables show the amount of new edgestone set during the year :

CITY PROPER.

Wards 6, 7, 8, 9, 10, 11, 12, 17 and 18, in whole or in part. (Paving Districts Nos. 8, 9 and 10.)

	Lin. ft.
Blackwood street	133
Hereford street	250
Newbury street	126
Northampton street	174
Stuart street	598
	1,281

ROXBURY.

Wards 16, 17, 18, 19, 21 and 22, in whole or in part. (Paving District No. 7.)

	Lin. ft.
Burrell, Batchelder and Marshfield streets	1,052
Columbus avenue, from Centre street to Ritchie street	1,179
Columbus avenue, from Hanley square to Centre street and Centre street, from Columbus avenue to Amory street	7,033
George street	171
Humboldt avenue	149
Ruggles street	1,914
Ruthven street	137
Vancouver street	510
Wabon and Wabeno streets	232
Wait street	256
Sundry streets in small quantities	619
	13,252

* Includes \$31.22 for Blue Hill and other avenues.

DORCHESTER.

Wards 16, 20 and 24, in whole or in part. (Paving District No. 6.)

	Lin. ft.
Bradlee street	180
Bernard street	2,789
Bellevue and Quincy streets	398
Blue Hill avenue and Quincy streets	456
Blue Hill avenue and Lawrence avenue	229
Blue Hill avenue and Stanwood street	495
Burt street	1,700
Carlos street	655
Centre street	460
Chamblet street	972
Columbia road	9,649
Dorchester avenue	109
Dewey street	113
Elizabeth street	619
Elmo street	1,478
Edson street	290
Fairmount street	5,191
Hamilton street	1,250
Hewins street	1,400
Leroy street	1,391
Leedsville street	1,220
Lonsdale street	3,300
Magnolia street	105
Maryland street	800
Mellen street	1,537
Merlin street	945
Milton avenue and Norfolk street	188
McLellan street	234
Nightingale street	2,966
Norfolk street	144
Oakley street	1,748
Peverell street	850
Rosseter street	1,779
Standish street	141
Savin Hill avenue	102
Spencer street	575
Summer street	118
Tonawanda street	1,760
Waterlow street	972
Welles avenue	100
Sundry streets in small quantities	716

50,124

SOUTH BOSTON.

Wards 13, 14, 15 and 16, in whole or in part. (Paving District No. 1.)

	Lin. ft.
Covington street	450
East Third street	111
Locust street	219
Vale street	325
Sundry streets in small quantities	154
	<hr/>
	<u>1,259</u>

EAST BOSTON.

Wards 1 and 2. (Paving District No. 2.)

	Lin. ft.
Morris street	125
Pope street	228
Putnam street	158
Sundry streets in small quantities	407
	<hr/>
	<u>918</u>

BRIGHTON.

Ward 25. (Paving District No. 4.)

	Lin. ft.
Commonwealth avenue	218
Gardner street	101
Henshaw street	44
Malvern street	1,388
North Harvard street	3,428
Telford street	730
	<hr/>
	<u>5,909</u>

WEST ROXBURY.

Wards 22 and 23, in whole or in part. (Paving District No. 5.)

	Lin. ft.
Belmore terrace	645
Boylston and Adelaide streets	781
Cranston street	387
Keyes street	125
Sundry streets in small quantities	247
	<hr/>
	<u>2,185</u>

	Sq. yds.
<i>Brought forward,</i>	2,438
Bowdoin street	360
Dartmouth street	277
Eaton street	205
Fayette street	805
Hull street	847
Melrose street	660
Sheafe street	552
Tyler street	1,017
Parkman street	280
Stuart street	415
Willard street	475
Wellington street	777
West Dedham street	1,013
	<hr/>
	10,121
	<hr/> <hr/>

ROXBURY.

Wards 16, 17, 18, 19, 21 and 22, in whole or in part. (Paving District No. 7.)

	Sq. yds.
Ambrose street	430
Batchelder, Burrell and Marshfield streets	330
Bickford street	235
Blue Hill avenue	220
Bower street	1,432
Cedar street	725
Centre street	140
Chadwick street	117
Clifton street	229
Conant street	787
Dearborn street	171
Dudley street	112
Edgewood street	1,200
Elm Hill avenue	152
George street	113
Harrison avenue	192
Highland street	167
Roxbury street	238
Ruthven street	222
Sherman street	204
Tremont street	298
Vernon street	2,749
Warren street	137
Washington street	1,622
Wait street	267
Webber street	310
Sundry streets in small quantities	984
	<hr/>
	13,783
	<hr/> <hr/>

SOUTH BOSTON.

Wards 13, 13, 15 and 16 in whole or in part. (Paving District No. 1.)

	Sq. yds.
B street	921
Dorchester avenue	198
East Fourth street	972
East Fifth street	1,063
Loring street	471
Woodward street	862
	<hr/>
	4,487
	<hr/>

EAST BOSTON.

Wards 1 and 2. (Paving District No. 2.)

	Sq. yds.
Brooks street	189
Decatur street	1,232
Eutaw street	379
Lexington street	257
Meridian street	3,446
Pope street	177
Putnam street	197
Webster street	338
Sundry streets in small quantities	238
	<hr/>
	6,453
	<hr/>

DORCHESTER.

Wards 16, 20 and 24, in whole or in part. (Paving District No. 6.)

	Sq. yds.
Blue Hill avenue and Quincy street	220
Blue Hill avenue and River street	199
Bowdoin street	278
Dorchester avenue	199
Harvard and Standish streets	143
Pleasant street	127
Stoughton street	294
Thornley street	114
Tonawanda street	2,751
Willis street	203
Sundry streets in small quantites	195
	<hr/>
	4,723
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WEST ROXBURY.

Wards 22 and 23, in whole or in part. (Paving District No. 5.)

	Sq. yds.
Ashland street	156
Boylston avenue and Boylston street	111
Burroughs street	293
Poplar street	242
Wyman street	197
Sundry streets in small quantities	226
	<hr/>
	1,225
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CHARLESTOWN.

Wards 3, 4 and 5. (Paving District No. 3.)

	Sq. yds.
Beacham street	218
Call street	250
Chestnut street	1,074
Harvard street	330
Hunter street	126
Main street	237
Marion street	498
Miller street	427
Perkins street	797
Princeton street	570
West street	126
	<hr/>
	4,653
	<hr/>

BRIGHTON.

Ward 25. (Paving District No. 4.)

	Sq. yds.
Brighton avenue	172
Franklin street	44
	<hr/>
	216
	<hr/>

RECAPITULATION.

	Sq. yds.
City Proper	10,121
Roxbury	13,783
South Boston	4,487
East Boston	6,453
Dorchester	4,723
West Roxbury	1,225
Charlestown	4,653
Brighton	216
	<hr/>
	45,661
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New Brick Sidewalks.

First laying. Square yards.

YEAR.	City Proper.	Roxbury.	South Boston.	East Boston.	Dorchester.	West Roxbury.	Brighton.	Charlestown.	Back Bay.	Total.
1891.....	3,881	9,098	3,628	2,176	1,478	967	377	120	.....	21,725
1892.....	10,423	20,231	4,484	12,847	10,462	2,905	1,068	3,451	.....	65,871
1893.....	964	5,912	751	2,197	2,412	350	.....	175	.....	12,761
1894.....	1,537	11,533	2,706	2,115	453	834	.....	437	.....	19,615
1895.....	4,103	6,246	1,946	1,151	2,146	1,734	2,908	408	.....	20,632
1896.....	1,044	15,897	2,314	381	2,616	542	.....	288	5,073	28,155
1897.....	17,287	21,596	13,460	16,125	2,995	1,855	2,128	14,454	.....	89,900
1898.....	10,121	13,783	4,487	6,453	4,723	1,225	216	4,653	.....	45,661
Totals.....	49,360	104,296	33,766	43,445	27,285	10,412	6,697	23,986	5,073	304,320

PROPERTY IN CHARGE OF THE DEPUTY SUPERINTENDENT OF PAVING DIVISION.

Buildings and wharf on Albany street, opposite Sharon street. The building is of brick and wood, and covers some 8,000 square feet of land, and is divided into a shed for storage, blacksmith's and carpenter's shops, tool-room and stable. The total contents of the lot, including wharf and building, are 63,180 square feet.

Fort Hill Wharf, containing 21,054 square feet, placed in charge of the Paving Department May 18, 1874, to be used for the landing and storage of paving-blocks and gravel until such time as said wharf shall be wanted for the extension of Oliver street. The greater part of said wharf is occupied by the Sanitary Division as a garbage-dump, and the building thereon is leased to a tenant.

Lot on Chelsea, Marion and Paris streets, East Boston, containing 43,550 square feet. Part of this lot used by the Sewer Division.

Ledge lot on Washington street, corner Dimock street, Roxbury, containing 134,671 square feet. Upon this lot are buildings containing a steam-engine and stone-crusher.

Highland-street stable lot. Upon this lot is a large brick stable, erected in 1873, and occupied by the Sanitary and Paving Divisions; also a brick building used as a blacksmith's shop, and a shed for the storage of tools, etc.

Ledge lot on Codman street, Dorchester, containing 299,000 square feet, was purchased in 1870. Upon this lot is a shed

containing a steam-engine and stone-crusher; also a stable and tool-house.

On the Almshouse lot, Hancock street, Dorchester, there are two stables; also a shed and tool-house.

Ledge lot on Magnolia street and Bird place, Dorchester, containing 81,068 square feet. This lot was purchased by the town of Dorchester in 1867.

Downer-avenue lot, Dorchester, containing 35,300 square feet.

On Child street, West Roxbury, a lot of land containing 43,024 square feet, upon which are a stable and shed, blacksmith's shop, and tool-house.

Gravel lot in the town of Milton, on Brush Hill road, containing 64,523 square feet, hired by the town of Dorchester for 999 years.

Gravel lot on Morton street, Ward 23, containing about one-third of an acre, purchased by the town of West Roxbury in 1870, used for storage purposes.

Ledge and gravel lot, rear of Union street, containing about 37,000 square feet, purchased by the town of Brighton. This lot is at present leased.

Ledge lot on Chestnut Hill avenue, Brighton, containing about thirteen acres, upon which are an office, engine-house, stable and crusher plant.

On Medford street, Charlestown, a wharf lot, foot of Elm street, containing 78,000 feet, upon which are sheds, office, stable, etc.

In South Boston, corner of H and Ninth streets, stable, carriage house, shed, tool-house and office on leased land.

On Hereford street, a yard with shed, tool-house and office.

Wharf, known as Atkin's wharf, 521 Commercial street, purchased in 1887 for \$24,000, containing 22,553 square feet, having on it an office and stable.

On Centre street, West Roxbury, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Rosseter street, Dorchester, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Heath street, Roxbury, buildings containing engines, stone-crushers, tools, etc., on leased land.

On Revere street, wharf for storing paving-blocks, etc.

Wharf on Chelsea street, East Boston, containing 61,000 square feet, with buildings purchased in 1897 for \$15,000.

Streets Laid Out or Extended and Ordered to be Constructed.

DATE.	Street.	Location.	Length. Lin. ft.
Aug. 26,	Alexander st..	Southerly over a private way, called Oleander street.....	602.00
Sept. 30,	Angell st.	From Blue Hill ave. to Canterbury st.	852.60
Oct. 21,	Ashley st.	From Breed street to Walley st..	632.84
Aug. 23,	Atherstone st.	From Fuller st. to Bailey st.....	300.00
Jan. 24,	Blandford st..	From Commonwealth ave. to the B. & A. R.R.	377.15
July 29,	Bragdon st....	From Columbus ave. to Amory st.	608.45
Oct. 3,	Callender st..	From Tucker st. to Don st.....	2,173.59
Oct. 3,	Chester st....	From Brighton ave. to Common- wealth ave.....	620.49
Jan. 24,	Cumming ton st.	From Blandford st. to Avon st..	1,174.64
Aug. 17,	Devon st.	From Blue Hill ave. to Columbia road.....	1,850.01
Dec. 5,	Florida st.	From King st. to Templeton st..	1,113.95
Sept. 7,	Fowler st.	From Glenway st. to Greenwood st.	855.15
March 2,	Hewins st....	From Columbia road to Erie st..	700.48
Aug. 17,	Homes ave. ..	From Bowdoin st. to Topliff st..	842.00
April 22,	Hubbard st. ..	From Chestnut ave. to Lamartine st.	434.86
July 15,	Jersey st.	From Brookline ave. to Audubon road.....	1,631.00
July 14,	Leeds st.	From Woodward st. to Dorches- ter ave.	370.25
May 27,	Mellen st.	From Ocean st. to Montague st..	761.14
April 29,	Merlin st.	From Park st. to Athelwold st..	464.90
July 29,	Middleton st..	From Norfolk st.	585.88
	Millet st.	From Park st. to Athelwold st..	468.40
May 16,	Newburg st..	From Beech st. to Belgrade ave.,	1,976.00
Oct. 18,	Orkney road..	From Strathmore road to Suther- land road.....	819.72
March 23,	Park st.	From Centre st. to Montview st.	1,162.02
Nov. 16,	Shafter st.	From Waterlow st. to Faxon st..	733.00
Aug. 18,	Shirley st.	From Norfolk ave., over and in- cluding Bartlett ct., to Massa- chusetts ave.	924.00
May 27,	Spencer st....	From Wheatland ave. to Talbot ave.....	620.00
July 17,	Spencer st....	From Park st. to Athelwold st..	465.65
July 14,	Stanley st....	From Quincy st. to Bellevue st..	363.00
Aug. 31,	Stuart st.....	From Dartmouth st. to Trinity pl.	260.00
July 7,	Thane st.....	From Park st. to Athelwold st..	465.23
March 1,	Telford st....	From Western ave.	349.12
Dec. 5,	Trinity pl.	From St. James st. to Stuart st..	390.00
Aug. 2,	Van Winkle st.	From Dorchester ave. to Shawmut Branch R.R.	759.62
Nov. 9,	Woodcliff st..	Eastwardly from Howard ave....	213.00
			26,921.13

Streets Laid Out or Extended, Construction not Ordered.

DATE.	Street.	Location.	Length, Lin. ft.
Nov. 29,	Baneroft st. . .	From Columbus ave. to West Walnut Park	262.33
Nov. 29,	Ernst st.	From Bragdon st. to West Walnut Park	312.31
April 12,	Hunter st. . . .	From Bunker Hill st. to Vine st.	160.23
Nov. 29,	Miles st.	From Bragdon st. to West Walnut Park	262.64
Nov. 29,	West Walnut Park	Extended to Amory st.	665.49
Jan. 26, 1899,	Worthington st.	From Longwood ave. to the Fenway	1,128.00
			2,791.00

Streets Widened and Relocated.

STREET.	Location.	Date.	Widening.	Discontinuance.
Amory st.	From School st. to Bragdon st.	July 29,	8,376 sq. ft.	
Adams st.	N. E. side, cor. Park st.	Oct. 21,	212 "	
Canal st.	{ Haymarket sq. to Causeway st.	Aug. 10,	24,890 "	
Charlestown st.	{ . . . . .	. . . . .	30,349 "	
Francis st.	Huntington ave. to Brookline ave.	July 13,	15,985 "	
Forest Hills st.,	Washington st., at Glen road.	Aug. 10,	4,443 "	
N. Harvard st.	Between Western ave. and Charles river	June 22,	47,778 "	
Morton st.	Between W. Selden st. and N. E. R.R.	July 14,	21,285 "	
Ruth st.	South-easterly side, N. W. from Marginal st.	June 29,	124 "	
South st.	Footway across location of railroad to Conway st.	Aug. 10,		
Spring st.	Centre st. to Gardner st.	June 28,	42,378 "	
Traverse st. . . .	Between Canal st. and Haverhill st.,	Aug. 30,	.....	110 lin. ft., 4,400 sq. ft.

Public Alleys.

Accepted under Chapter 323 of the Acts of 1891, and Amendments, and Chapter 298 of the Acts of 1898.

DATE.	Number.	District.	Location.	Length, Lin. ft.
Oct. 12,	401, 402, 403, 404,	5,	From Irvington st., between Huntington ave. and St. Botolph st., to rear of estates on northeasterly side of Massachusetts ave.,	2,028.84
Oct. 12,	405,	5,	From Huntington ave. to St. Botolph st., in rear of estates fronting on Massachusetts ave.....	236.00
Oct. 12,	414, 415, 416, 417, 418, 419, 420, 421,	5,	From Arlington st. to Massachusetts ave., between Beacon and Marlborough sts.....	4,335.00
Oct. 27,	301,	4,	From River st. to Pinckney st.	256.00
Oct. 31,	101,	2,	From Richmond st. to Cross st., between Fulton and Commercial sts.	374.73
Nov. 10,	430, 431, 432, 433, 435, 436, 437,	5,	From Massachusetts ave. to Arlington st., between Commonwealth ave. and Newbury st.....	4,335.00
Dec. 21,	2,001,	21,	From Webster st. to Marginal st., south-east of Cottage st.	240.00
				<u>11,805.57</u>

The records of the Street Commissioners for the year 1898 show the following results :

Streets laid out or extended	29,712.13	linear feet.
Streets widened and relocated	195,820	square feet.
Streets discontinued	4,400	square feet.
Increase in mileage	5.63	miles.
Public alleys	11,805.57	= 2.23 miles.

Permits for excavating have been issued from this office during the year ending January 31, 1899, as follows :

STREET OPENINGS.

	Permits.	Feet.
American Telegraph Co.....	3	88
Auxiliary Fire Alarm Co.....	1	50
Automatic Fire Alarm Co.....	2	475
Boston Fire Department	7	100
Boston Lamp Department	341	3,171
Boston Park Department	5	85
Boston Public Buildings Department.....	15	85
Boston Street Department, Sewer Division....	222	2,700
Boston Water Department	3,432	120,355
Boston Water Department, Income Division.....	256	2,750
Boston & Albany R.R. Co.....	5	100
Boston & Maine R.R. Co.....	40	650
Boston Electric Light Co.....	476	47,649
Boston Elevated Railway Co.	408	172,138
Boston Gaslight Co.	859	32,080
Boston Low Tension Wire Association	3	165
Boston & Providence R.R. Co.....	1	750
Brookline Gaslight Co.	354	21,065
Charlestown Gaslight Co.....	72	2,167
Church Green Light and Power Co.....	6	235
Donovan & Co.....	70	6,058
Dorchester Gaslight Co.....	509	36,248
Edison Electric Illuminating Co.....	530	17,220
Eastern Cold Storage Co.	22	2,469
East Boston Gaslight Co.	150	8,863
Fitchburg R.R. Co.	17	30
French Telegraph Co.	2	40
Jamaica Plain Gaslight Co.	108	3,622
Lynn & Boston R.R. Co.....	1	10
Massachusetts Pipe Line Co.....	13	42,150
Metropolitan Construction Co.....	5	260
Metropolitan Water Commission	7	39,800
N. E. Telephone and Telegraph Co.	293	35,170
N. E. Telegraph Co.	7	120
Newtownville & Watertown Ry. Co.....	2	11,300
N.Y., N.H. & H. R.R. Co.....	34	1,496
Norfolk Suburban Street Railway Co.	1	400
Postal Telegraph and Cable Co.....	6	505
Quincy & Boston Street Railway Co.....	1	260
Quincy Market Cold Storage Co.	38	2,065
Roxbury Gaslight Co.	380	11,101
South Boston Gaslight Co.....	180	8,048
Simpson Bros., Corporation.....	140	5,525
Standard Oil Co.	8	124
Union Freight Railway Co.	2	1,200
W. Roxbury & Roslindale Street Railway Co.....	3	2,768
Western Union Telegraph Co.	20	4,751
Miscellaneous	3,194	146,130
Emergency permits.....	1,553	9,318
Totals	<u>13,804</u>	<u>803,909</u>

Total number of feet opened was 803,909 feet.

Making the total length of openings about 152.25 miles.

Permits other than for opening streets have been granted as follows :

Advertising by men wearing hat and coat lettered	33
Clearing snow from roof	371
Distributing sand	6
Driving cattle	4
Erecting, repairing and removing awnings	4,647
Erecting and repairing buildings	4,421
Feeding horses on the street	169
Moving buildings	45
Loading and unloading goods on sidewalk	190
Pedlers, two different classes	689
Placing signs flat on buildings	1,461
Projecting lamps and signs	154
Raising and lowering safes, etc.	382
Selling from areas	167
Selling from buildings	359
Special for various purposes	144
Special for June 17 and July 4	60
Extensions of permits	403
	<hr/>
	13,705
	<hr/>
Total number of permits for street openings	12,251
Total number of permits for all other purposes	13,705
	<hr/>
Total	<u>25,956</u>

Three thousand letters, postal cards and notices have been sent to storekeepers and householders, in connection with selling from doorways, windows etc.

There have been 10,484 notices sent the various foremen during the year, directing them to repair defects in the public streets, which have been reported by the police and others; also 1,055 notices to private parties to repair work improperly done when permits had been granted to open streets, and to owners of estates where coal-holes and sidewalk lights were defective.

There have been 216 notices sent to departments and corporations regarding proposed street improvements.

Three hundred and forty-three new bonds have been filed during the year.

Ten thousand two hundred and sixty-three dollars and fifty cent for permits has been received and deposited with the City Collector.

There is \$7,473 due for permits at this date from corporations and departments.

Street numbers have been assigned to the estates in the different districts as follows :

East Boston District	1 whole, and	27 parts of streets.
Charlestown District	1 whole, and	10 parts of streets.
City proper		59 parts of streets.
South Boston District		29 parts of streets.
Dorchester District	9 whole, and	346 parts of streets.
Roxbury District	12 whole, and	167 parts of streets.
West Roxbury District	14 whole, and	171 parts of streets.
Brighton District	16 whole, and	94 parts of streets.
		—
Total	53 whole, and	903 parts of streets.

Five thousand five hundred and ninety-seven figures were required for this work.

Numbers were changed on 210 estates, 31 streets are now listed and ready to be numbered, and 3 to be renumbered.

All street openings made during the year have been examined as to repaving, etc., and where defects were found the parties making the opening were notified to put the paving in a condition satisfactory to the Superintendent of Streets. In all, four thousand one hundred notices were sent by the Superintendent of Inspectors in regard to these defects.

Inspectors were detailed to serve on work done by the various corporations, to be present at all times while work was in progress, and to make a weekly report, in writing, covering the work done and its condition.

APPENDIX D.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE SANITARY DIVISION.

ROOMS 917-920 TREMONT BUILDING,
BOSTON, February 1, 1899.

BENJ. W. WELLS, Esq.,

Superintendent of Streets:

DEAR SIR, — I hereby respectfully submit the annual report of the expenditures, income and operation of the Sanitary Division of the Street Department for the financial year ending January 31, 1899.

Respectfully submitted,

PATRICK O'SHEA,

Deputy Superintendent.

The work of the Sanitary Division includes the removal of house offal and the removal of house dirt and ashes accumulated from the burning of materials for heating buildings and for domestic purposes.

This work has been done on practically the same basis as in former years, although there have been some changes made in the interests of economy and better service. The method of collecting ashes by what was known as the route system has been abolished in the section of the city north of Massachusetts avenue, and the more satisfactory and less expensive method of collection by districts or divisions substituted. The offal will be handled in the same manner during the summer months, and more frequent collections will be made.

The cost of disposing of the 1,500 loads of refuse collected daily is constantly increasing, as owing to the undesirable character of much of it for use as filling it is difficult to obtain suitable dumping places. The low lands contiguous to the thickly settled parts of the city have for the most part been filled, and the only available dumps are so far distant from the points of collection that the expense of hauling is abnormally increased. In fact, the economic disposal of this kind of refuse, namely, ashes, is becoming a serious problem, and unless it can be made of commercial value in the near future it will be necessary to secure additional dumping places on the water front, so that it may be towed to sea. Much progress has been made toward this end in the separation by householders and storekeepers of the combustible portion of the waste, which has



WASTE BARRELS AND SCAVENGERS.



COLLECTING COMBUSTIBLE WASTE — SHOWING CITY TEAM.

been placed by them in a third receptacle, and otherwise tied in bundles for convenience in handling. It is collected by the paper carts, and delivered at the plant of the City Refuse Utilization Company on Atlantic avenue. Here the various grades of paper, rags, twine, etc., are culled out, put up in bales and sold as merchandise, the balance being burned in a Morse-Boulger furnace specially designed for the purpose. This plant has been in successful operation since January, 1899, and was designed to utilize all combustible refuse collected in the city proper north of Massachusetts avenue, which has been estimated at about 300 cubic yards daily. It is obvious that the disposal of clean ashes, separated from lighter, but more bulky, refuse — such as paper, etc. — is a comparatively easy matter to handle. In the short time that it has been tested, most satisfactory results have been obtained, and I would recommend its extension to other sections of the city, where smaller and less expensive plants might be centrally located for treating refuse of this kind.

The separation has been brought about largely through the distribution of circulars calling the attention of housekeepers to the matter, and when they understand more fully its object their co-operation will be of invaluable assistance to this division.

During the past year a new method has been adopted for the disposal of the two hundred and fifty tons of offal collected in the city daily. In past years it has been the custom to sell to farmers each day as large a portion as possible of the collections, the balance remaining unsold being towed to sea; but, as stated in the report for 1897, a contract was made for a period of ten years with the New England Sanitary Product Company for the utilization of this material, and on November 15, 1898, their plant was put into operation, and they are now treating from 180 to 200 tons of refuse daily, which we deliver to their boats. The balance, about fifty tons, is collected in the outlying sections of the city, and is disposed of there by the contractors.

I would respectfully call your attention to Barney Dumping Boat No. 1, which has been in service in this city for more than twenty years. The boat is unseaworthy, and will not admit of further repairs. Attention is also called to the stables in charge of this division, which are very much out of repair. Special appropriation for their reconstruction is recommended, as also for the purchase of a new boat.

The following table shows the amounts expended for the maintenance of the Sanitary Division for the past five (5) years:

1894	.	.	.	.	.	.	.	.	.	.	\$467,459 02
1895	.	.	.	.	.	.	.	.	.	.	432,778 52
1896	.	.	.	.	.	.	.	.	.	.	476,807 34
1897	.	.	.	.	.	.	.	.	.	.	492,670 56
1898	.	.	.	.	.	.	.	.	.	.	508,152 88

Comparative Table, showing Net Cost of Maintenance of the Sanitary Division to the City of Boston.

	Expended.	Income.	Net Cost to City.
1894	\$467,459 02	\$42,320 55	\$425,638 47
1895	432,778 52	42,985 53	389,792 99
1896	477,241 54	36,146 77	441,094 77
1897	492,670 56	34,430 48	458,240 08
1898	508,152 88	28,269 90	479,882 98

HOUSE OFFAL.

There are employed in the removal of house offal two hundred and thirty-four men and ninety-eight wagons. The offal is removed from dwelling-houses twice a week during the summer, and once a week during the winter months, and from hotels, markets and restaurants daily. The men are required to enter yards, collect the offal, empty into wagons and deliver at the depots, located as follows: One on Albany street; one at the Almshouse, Charlestown; also to the dumping boats located at Fort Hill Wharf on Atlantic avenue.

Four sections of the city are done by contract, as follows: The collection of house offal in East Boston, by T. Mulligan; Dorchester District, by John Bradley; Brighton District and a portion of West Roxbury, by George T. Barnes.

The revenue received from the sale of house offal for the past five years has been as follows:

1894	.	.	.	.	.	.	.	.	.	.	\$26,262 40
1895	.	.	.	.	.	.	.	.	.	.	27,374 47
1896	.	.	.	.	.	.	.	.	.	.	21,884 11
1897	.	.	.	.	.	.	.	.	.	.	17,416 75
1898	.	.	.	.	.	.	.	.	.	.	10,982 25

The following table shows the number of loads of house offal collected and removed in the last five (5) years:

Year.	<i>Amount of House Offal Removed.</i>										No. of Loads.	
1894	50,637
1895	51,327
1896	56,402
1897	56,783
1898	57,764

Each load of offal is equivalent to fifty-six (56) cubic feet, and has a maximum weight of one and a quarter ($1\frac{1}{4}$) tons at certain seasons of the year.

Of the amount, 57,764 loads, collected during the year 1898, 3,726 were collected by the East Boston contractor, 1,472 by the Brighton contractor, 6,058 by the Dorchester contractor, and 805 loads by the West Roxbury contractor, leaving 45,703 loads collected by city teams.

The collection of this material is attended to in winter by an average regular force of 71 city offal carts and 169 men, and on contract work 27 offal carts and 65 men, making a total of 98 offal carts and 234 men.

The disposal has been made during the year in the following manner: The offal from the markets and the offal that had decayed was put on board a scow and towed to sea; that of Charlestown was taken to the yard at Malden bridge and there disposed of to farmers; that of East Boston was collected by a contractor and removed to Revere; the offal of the city proper, Roxbury, a part of West Roxbury and South Boston was conveyed to the yard at the South End and disposed of to farmers, who removed it daily; a portion of the West Roxbury offal was collected by contract and removed to Needham; that of Brighton was collected by contract and disposed of outside of the district; and that in Dorchester was collected by a contractor and sold to farmers.

During the year a contract was made with the New England Sanitary Product Company, for the utilization of the offal collected in the city daily; and commencing November 15, 1898, the offal collected in the South Boston, Charlestown, City Proper, Roxbury, and part of West Roxbury districts, in all about 80 per cent. of the total daily collections, was sent to Fort Hill Wharf and deposited on boats owned by this company. In order to carry out the provisions of this contract it was necessary to construct a new wharf at the foot of Oliver street, at an expense of about \$6,000, and also to purchase twelve new steel dumping carts.

Out of 57,764 loads collected during the past year in the city and suburbs, 34,141 loads, or 59 per cent., was fed to hogs, and 23,652 loads, or 41 per cent., carried in dumping boats to the sea.

Collection and Disposal of Offal.

Year.	Total amount collected.	Amount sold.	Amount dumped on scow and towed to sea or wasted.	Per cent. wasted to total collection.	Amount of receipts from sales.
1894 ¹	42,082 loads	37,057 loads	5,025 loads	12 per cent.	\$26,262 40
1895 ²	41,480 "	36,620 "	4,860 "	12 "	27,374 47
1896 ³	45,844 "	35,549 "	10,295 "	22 "	21,187 76
1897 ⁴	46,071 "	32,495 "	13,576 "	29 "	17,416 75
1898 ⁵	45,703 "	20,463 "	23,652 "	51 "	10,982 25

¹ In East Boston, 3,720 loads; Brighton, 1,539 loads; Dorchester, 3,296 loads, — total, 8,555 loads. Collected during 1894 are not included in above table. For 1891 and 1892, East Boston and Brighton were estimated at 5,100 loads.

² In East Boston, 3,732 loads; Brighton, 1,419 loads; Dorchester, 4,179 loads; West Roxbury, 517 loads, — total, 9,847 loads. Collected during 1895 not included in above table.

³ In East Boston, 3,786 loads; Brighton, 1,362 loads; Dorchester, 4,707 loads; West Roxbury, 703 loads, — total 10,558 loads. Collected during 1896 not included in above table.

⁴ In East Boston, 3,720 loads; Brighton, 1,520 loads; Dorchester, 4,712 loads; West Roxbury, 760 loads, — total, 10,712 loads. Collected during 1897 not included in above table.

⁵ In East Boston, 3,726 loads; Brighton, 1,472 loads; Dorchester, 6,058 loads; West Roxbury, 805 loads, — total, 12,061 loads. Collected during 1898 not included in above table.

The following table shows the full force engaged in the collection of offal alone throughout the entire city:

The Force Employed.

CITY FORCE.	No.	Hired Teams.	CONTRACTORS' TEAMS.				Total.
			East Boston.	Brighton.	Dorchester.	West Roxbury.	
Sub-foremen	3						3
Inspectors.....	8		1	1	1	1	12
Offal clerk.....	1						1
Teamsters.....	68	3	6	6	12	3	98
Helpers.....	73	3	6	6	23	3	114
Dumpers.....	5						5
Tallyman.....	1						1
Totals.....	159	6	13	13	36	7	234

The money received from the sales of house offal is deposited monthly with the City Collector, and then credited to the sinking fund of the City of Boston.

HOUSE DIRT AND ASHES.

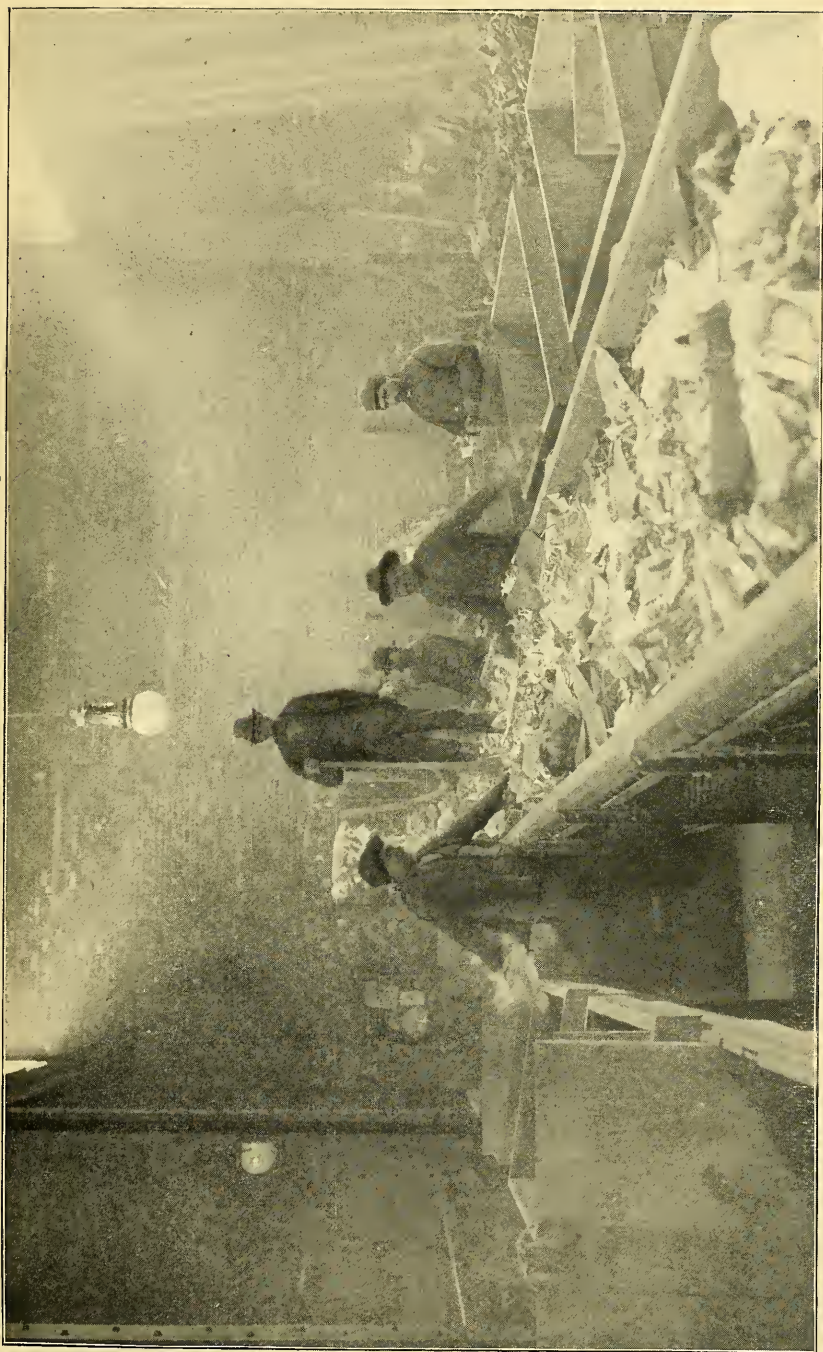
In the collection of house dirt and ashes there are employed 380 men and 163 carts. This material is removed from hotels, tenement houses and stores daily; from dwelling houses once a week.

The City Ordinances of 1898 (chap. 38, sect. 1) require that house dirt and ashes shall be kept in an easily accessible place for their removal, the men being obliged to enter the yards and remove the receptacles to the sidewalks, where their contents are dumped into the carts. The receptacles are then placed in their original position. The material is disposed of, if possible, on low lands, being used for filling, and is also dumped on scows, to be carried to sea. Of the amount collected last year, 28 per cent. was carried to sea.

The collection of house dirt and ashes in four sections of the city is done by contract, as follows: South Dorchester, by Denis Flynn, and North Dorchester by Patrick J. Lyons; East Boston, by W. F. Hedrington, and a part of West Roxbury by John J. Moore.

Of the 394,937 loads of ashes collected during the past year, 234,223 loads, or 60 per cent., were deposited on low lands in the outlying districts of the city; 113,528 loads, or 28 per cent., were towed to sea, and the balance, 47,186 loads, or 12 per cent., were collected by contractors and used on low lands for filling.

Good results were made in the collection of store-sweepings in what is known as the business section of the city, the occupants of stores, etc., being requested, by the distribution of printed notices,



COMBUSTIBLE WASTE PLANT — SORTING.

to put out all waste material previous to 7.30 A.M., so that the collectors could remove it while the streets were passable, much annoyance and inconvenience which had previously existed being in a large measure prevented.

Several complaints have been received concerning the failure of the division to promptly remove offal and ashes; investigation of these has usually shown that either offal has not been properly separated from ashes or other refuse, as is insisted upon by the department, or else that the receptacles were kept in some inaccessible place, or were larger than the ordinances provide and the regulations of the department permit.

In order that householders might understand these regulations and that the work be not unnecessarily delayed, the following circular was issued:

Notice is hereby given that the new plant erected for the incineration of combustible waste will be in operation at an early date, and the following regulations in regard to the three separations of refuse will be enforced by this department:

1. Ashes must be kept free from all other refuse matter and in metallic vessels.

2. House offal or garbage must be kept free from all other refuse matter (except food cans and food bottles) and in suitable vessels.

3. All other refuse, such as paper, rags, excelsior, straw, mattresses, old clothes, pasteboard boxes, carpets, etc., must be kept free from ashes and garbage and in suitable vessels, or in bundles firmly fastened so as to prevent the rubbish from being scattered in handling, and must be protected from the weather until collected by the proper authorities.

The above rules must be complied with, or refuse will not be removed.

The removal of ashes and other refuse is governed by the following provisions of law:

ACTS OF 1892, CHAPTER 419, SECTION 112.

All receptacles for ashes, waste and other substances, liable, by spontaneous combustion or otherwise, to cause a fire, shall be made of incombustible material, satisfactory to the inspector. Every building used as a tenement or lodging house shall have outside, and appurtenant to it, a suitable space, satisfactory to the inspector, for the temporary deposit of garbage and other refuse matter.

REVISED ORDINANCES OF 1892, CHAPTER 43, SECTION 14.

No person shall keep in his house, or on his land, any house offal, unless the same is placed in a suitable vessel, free from ashes and other refuse matter, and so placed as to be easily removed.

REVISED ORDINANCES OF 1892, CHAPTER 43, SECTION 17.

No person shall place or keep in or near any building, ashes or cinders in such a manner as to be liable to cause fire, nor mix them with other substances, nor place or keep them except in metallic vessels, so placed as to be easily removed.

BENJAMIN W. WELLS,
Superintendent of Streets.

PATRICK O'SHEA,
Deputy Supt. Sanitary Division.

November, 1898.

It will be noted that the circular also requires a third separation, viz., that all refuse other than household ashes or offal be placed in a third receptacle. This was done in anticipation of an arrangement for caring for the combustible waste separate from the heavy ash by incineration.

The annual spring cleaning of the entire city was undertaken with good results, and the following notice issued to the public:

CITY OF BOSTON.

Notice to Housekeepers and Tenants.

Housekeepers and other occupants of dwellings are requested to place their house and cellar dirt and sweepings in the streets opposite their premises between the hours of sunrise and 2 o'clock P.M. of the following days: Monday, May 2; Tuesday, May 3; Wednesday, May 4; Thursday, May 5; Friday, May 6; when they will be removed by the city carts. After which times no person will be allowed to place any dirt, ashes, filth or rubbish of any kind whatever in any of the ways, streets or places of the city, without a permit from the Superintendent of Streets.

Dirt of any kind not to be placed in the streets on Saturday.

BENJAMIN W. WELLS,
Superintendent of Streets.

CITY HALL, BOSTON, 1898.

NOTE.—This circular, printed in English, Hebrew and Italian, was posted in prominent places by the regular bill-posting companies, and for a week was also carried on the sides of all the wagons and carts owned by this division.

Special Notice.

On and after above-named days, ashes, etc., in order to be removed by city carts, must be placed in receptacles not larger than an ordinary flour barrel, and in a position on a level with the grade of the adjoining sidewalk.

Vault filth, offal, bricks and mortar, gravel and earth, garden rakings and shrubbery are not included in the above, and will not be removed by the city if placed in the streets.

REMOVAL OF ASHES AND HOUSE DIRT.

The removal of ashes, house and store dirt has been attended to during the year by a minimum force of three hundred and eighty men and one hundred and forty-two city carts, also by six carts with the East Boston contractor, twelve carts with Dorchester contractors, and three carts with the West Roxbury contractor.

This work shows a constant increase from year to year, as will be seen in the following table, and is an indication of the actual growth of the city:

AMOUNT OF ASHES, HOUSE AND STORE DIRT REMOVED.

Year.	No. of Loads.
1894	326,798 of 44 cubic feet
1895	336,886 " " " "
1896	363,975 " " " "
1897	1 389,098 " " " "
1898	1 394,937 " " " "

¹ Previous to the year 1897, each load of ashes contained about 44 cubic feet. During the year 1897 all the ash carts owned by the city were equipped with side-boards, increasing their capacity to 54 cubic feet, but for the purpose of comparison the old basis has been used.

Comparative Statement of Number of Loads of Ashes Collected during Sixteen Weeks of the Summer and Sixteen Weeks of the Winter.

Summer.	Loads.	Winter.	Loads.	Difference for Winter.	Loads.
April 27, 1894, to August 16, 1894.....	88,865	October 25, 1894, to February 7, 1895.....	116,915	1894	28,050
“ 26, 1895, “ “ 15, 1895.....	94,671	“ 18, 1895, “ “ 6, 1896.....	121,873	1895	27,202
“ 30, 1896, “ “ 13, 1896.....	101,135	“ 16, 1896, “ January 28, 1897.....	117,214	1896	16,079
“ 29, 1897, “ “ 19, 1897.....	109,366	“ 15, 1897, “ “ 27, 1898.....	126,057	1897	16,691
“ 29, 1898, “ “ 18, 1898.....	110,931	“ 7, 1898, “ “ 26, 1899.....	129,208	1898	18,277

The following table shows the force engaged in this collection throughout the entire city:

The Force Employed.

CITY TEAMS.	No.	Hired Teams.	CONTRACTORS' TEAMS.				Total.
			North Dorchester.	South Dorchester.	East Boston.	West Roxbury.	
Sub-foremen	6	.....	.....	.....	.....	.....	6
Inspectors.....	5	.....	1	.....	1	1	8
Tallymen.....	3	.....	.....	.....	.....	.....	3
Teamsters.....	104	38	7	5	6	3	163
Helpers	120	38	7	5	6	3	179
Dumpers	21	.....	.....	.....	.....	.....	21
Totals	259	76	15	10	13	7	380

Material Collected by Districts.

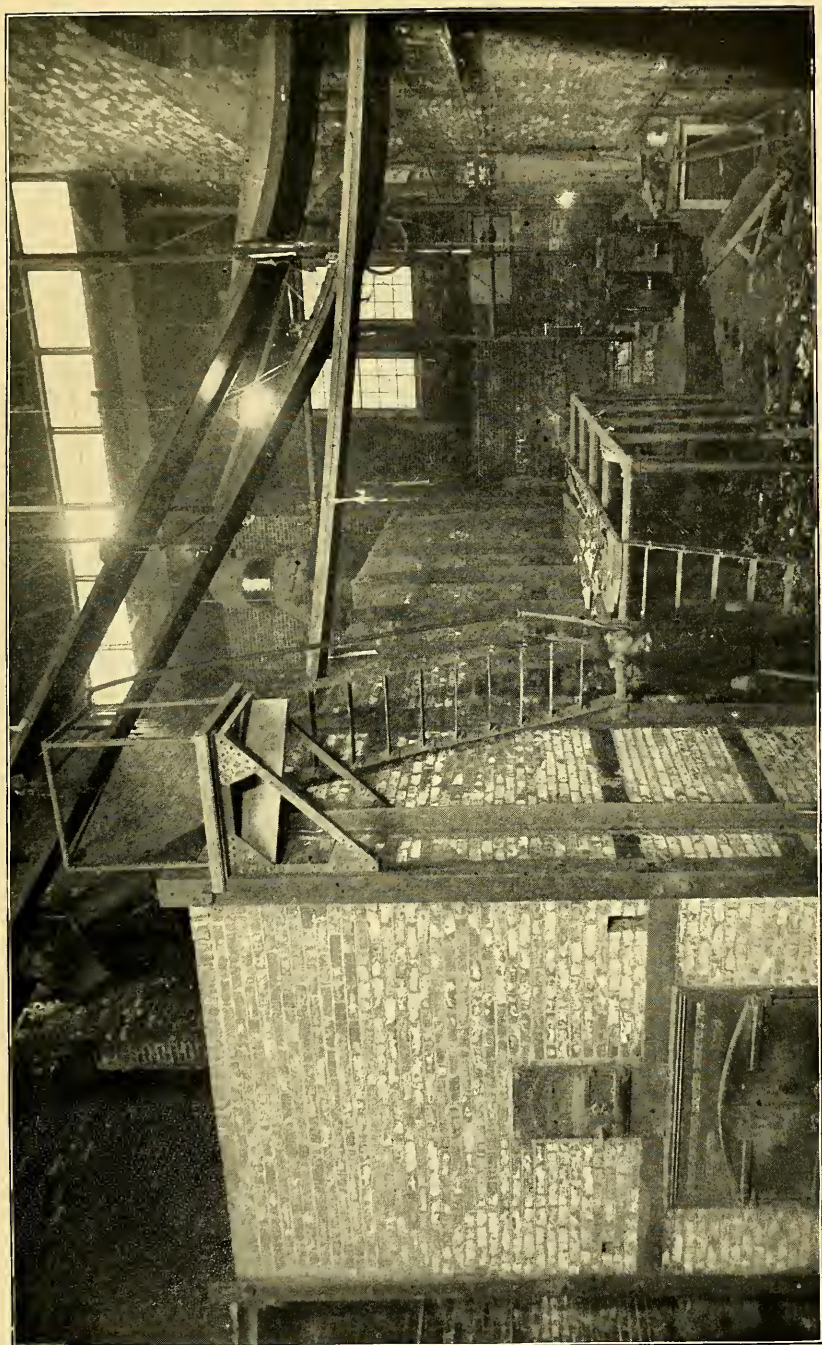
MATERIAL.	South Boston.	East Boston.	Charlestown.	Brighton.	West Roxbury.	Dorchester.	Roxbury.	South End and Back Bay.	North and West Ends.	Total Loads.
House dirt and ashes.	28,678	12,639	23,027	10,483	23,650	27,485	60,165	114,763	94,047	394,937
House offal.	3,938	3,726	2,621	1,472	3,002	6,058	8,582	24,576	3,789	57,764
Totals....	32,616	16,635	25,648	11,955	26,652	33,543	68,747	139,339	97,836	452,701

Number of Loads of Material Collected from January 31, 1893, to February 1, 1899.

YEARS.	Ashes.	Offal.	Total Loads.
1894	326,798	50,637	377,435
1895	336,886	51,327	388,213
1896	363,975	56,402	420,377
1897	389,098	56,783	445,881
1898	¹ 394,937	² 57,764	452,701

¹ William F. Hedrington, East Boston, collected.....12,639 Loads.
 Patrick J. Lyons, North Dorchester, collected.....16,266 "
 Denis Flynn, South Dorchester, collected.....11,219 "
 John J. Moore, part of West Roxbury, collected.....7,062 "
 47,186 "

² Thomas Mulligan, East Boston, collected.....3,726 Loads.
 George T. Barnes, Brighton, collected.....1,472 "
 John Bradley, Dorchester, collected.....6,058 "
 George T. Barnes, part of West Roxbury, collected.....805 "
 12,061 "



COMBUSTIBLE WASTE PLANT — FURNACE ROOM.

Disposition of Material Collected.

WHERE DUMPED.	Loads of House Dirt and Ashes.	Loads of House Offal.	Loads of Street Sweepings, Street Clean- ing Division.	Loads of Cess- pool Matter, Sewer Divi- sion.	Total Loads.
Swett st., J. C. Cobb.....	36,795	.....	.....	.....	36,795
Ward st., Sewall-Day Co.....	23,229	.....	.....	.....	23,229
First st., E. Camb., J. T. Scully	19,497	.....	.....	.....	19,497
Norfolk ave., J. J. Nawn....	16,609	.....	.....	.....	16,609
Alford st., City Park Dept....	16,063	.....	.....	.....	16,063
Gainsboro' st., Mr. Clark	11,389	.....	.....	.....	11,389
Lansdowne st., Mr. Carter....	10,809	.....	.....	.....	10,809
D st., Commonwealth of Mass.,	9,580	.....	.....	.....	9,580
Williams st., Mrs. Carey.....	8,558	.....	.....	.....	8,558
Vale st., Choate-Burnham Est.,	7,557	.....	.....	.....	7,557
Harold st., John Stone.....	7,294	.....	.....	.....	7,294
Centre st., Owen Nawn.....	6,909	.....	.....	.....	6,909
Rutherford ave., B. & M. R.R.,	6,795	.....	.....	.....	6,795
Parker st., Mr. Bowers.....	6,675	.....	.....	.....	6,675
Maverick st., E. Bost. Land Co.,	5,425	.....	.....	.....	5,425
E. Ninth st., H. J. Bowen, agt.,	4,669	.....	.....	.....	4,669
Norfolk ave., Hub Brewing Co.,	3,975	.....	.....	.....	3,975
Congress st., Com ^r of Mass....	3,163	.....	.....	.....	3,163
K st., Fiske, Holmes & Co....	2,483	.....	.....	.....	2,483
Bennington st., E. Boston Co.,	2,389	.....	.....	.....	2,389
Gardner st., Gordon Dexter...	2,365	.....	.....	.....	2,365
Chelsea st., Patrick Haley....	2,283	.....	.....	.....	2,283
Border st., Geo. McQuesten...	2,256	.....	.....	.....	2,256
Various places, City teams....	29,809	1,588	.....	.....	31,397
Various places, contracts.....	34,833	.....	.....	.....	34,833
At sea by scows.....	113,528	23,652	27,230	4,859	169,269
Sold to farmers.....	.....	20,463	.....	.....	20,463
E. Boston, by Thos. Mulligan,	.....	3,726	.....	.....	3,726
Brighton, by G. T. Barnes....	.....	1,472	.....	.....	1,472
Dorchester, by John Bradley..	.....	6,058	.....	.....	6,058
W. Roxbury, by G. T. Barnes..	.....	805	.....	.....	805
Totals.....	394,937	57,764	27,230	4,859	484,790

Final disposition of all material collected from February 1, 1898, to February 1, 1899, together with the portion of street sweepings and cesspool dirt, disposed of for other divisions by the Sanitary Division, is shown in the following table :

	Amount collected.	Deposited on low lands.	Towed to sea.	Collected by con- tractors.	Sold to farmers.
	Loads.	Loads.	Loads.	Loads.	Loads.
Ashes, house and store dirt	394,937	234,223	113,528	47,186	.....
House offal.....	57,764	1,588	23,652	12,061	20,463
Street sweepings.....	27,367	.....	27,367	.....	.....
Cesspool dirt.....	4,934	.....	4,934	.....	.....
Totals.....	485,002	235,811	169,481	59,247	20,463

¹ This amount is included in the amount collected, 57,764. Of the 12,061 loads, 3,726 were collected in East Boston, 6,058 in Dorchester, 1,472 in Brighton, and 805 in West Roxbury.

Cost of Hired Teams, Including Contracts.
MATERIAL COLLECTED.

DISTRICT.	AMOUNT EXPENDED.			NUMBER OF LOADS.		
	Ashes.	ffal.	Total.	Ashes.	Offal.	Total.
1. — South Boston	\$6,845 00	\$55 00	\$6,900 00	14,066	22	14,088
2. — East Boston	7,450 00	8,000 00	15,450 00	¹ 12,639	⁴ 3,726	16,365
3. — Charlestown.....	1,125 00	542 50	1,667 50	1,729	210	1,939
4. — Brighton.....	4,269 00	2,715 50	6,984 50	6,802	⁵ 1,472	8,274
5. — { West Roxbury, by District 7	3,130 00	820 00	3,950 00	5,349	306	5,655
	{ West Roxbury, south of Pond, May and Morton streets.....	2,250 00	1,722 00	3,972 00	² 7,062	⁶ 805	7,867
6. — Dorchester.....	7,943 17	4,980 00	12,923 17	³ 27,485	⁷ 6,058	33,543
7. — Roxbury.....	11,910 50	1,892 50	13,803 00	21,389	706	22,095
8 and 9. — { South End and Back Bay.....	18,575 50	1,152 50	19,710 00	28,567	351	28,918
10. — North and West Ends...	12,115 00	120 00	12,235 00	20,153	68	20,221
Totals	\$75,595 17	\$22,000 00	\$117,595 17	145,241	13,724	158,965

CONTRACTS.

<i>Offal.</i>		<i>Ashes.</i>	
¹ William Hedrington.....	\$7,300 00	⁴ Thomas Mulligan	\$8,000 00
² John J. Moore.....	2,100 00	⁵ George T. Barnes	3,000 00
³ Patrick J. Lyons.....	3,645 00	⁶ " "	1,800 00
Denis Flynn.....	3,850 00	⁷ John Bradley.....	4,980 00

DIVISION OF AMOUNT EXPENDED.

	Hired Teams.	Contractors.	Total.
Ashes	\$57,952 00	\$17,643 17	\$75,595 17
Offal	4,582 50	17,417 50	22,000 00
Total.....	\$62,534 50	\$35,060 67	\$97,595 17

The total expenditures of the division, including work done for other divisions and paid for by them, was	\$541,102 94
Less amount so repaid	32,950 06
	<hr/>
Cash paid and bills rendered to City Collector	\$508,152 88
	27,663 49
	<hr/>
Net cost of maintenance of Sanitary Division, February 1, 1898, to January 31, 1899	<u>\$480,489 39</u>

Details of expenditures, income and operation will be found on pages 141 to 143.

FINANCIAL STATEMENT.

Amount of appropriation		\$500,000 00
Transferred from Surplus Revenue	\$7,152 88	
Transferred from rent of Hecht's Wharf	1,000 00	
		<u>8,152 88</u>
Total amount appropriation		\$508,152 88
Total amount expended		<u>\$508,152 88</u>

INCOME.

Amounts of moneys deposited and bills presented to the City Collector for collection for material sold and work performed by the Sanitary Division of the Street Department during the year ending January 31, 1899.

On February 1, 1898, checks for \$2,649.80 were deposited with the City Collector, as the messenger of the Sanitary Division, who was custodian of same, was unable to reach the office on account of the severe storm, hence the Collector credited the division with the amount, \$2,649.80 not included in above table, as a part of the income for the year 1898-99.

Moneys Deposited with City Collector.

From sale of house offal	\$10,982 25	
From letting of scow privileges	1,223 60	
		<u>\$12,205 85</u>

Bills Deposited with City Collector.

For the removal of engine ashes	\$13,952 55	
For the sale of manure	483 44	
For the letting of scow privileges	21 65	
For the letting of Fort Hill Wharf	1,000 00	
		<u>15,457 64</u>

\$27,663 49

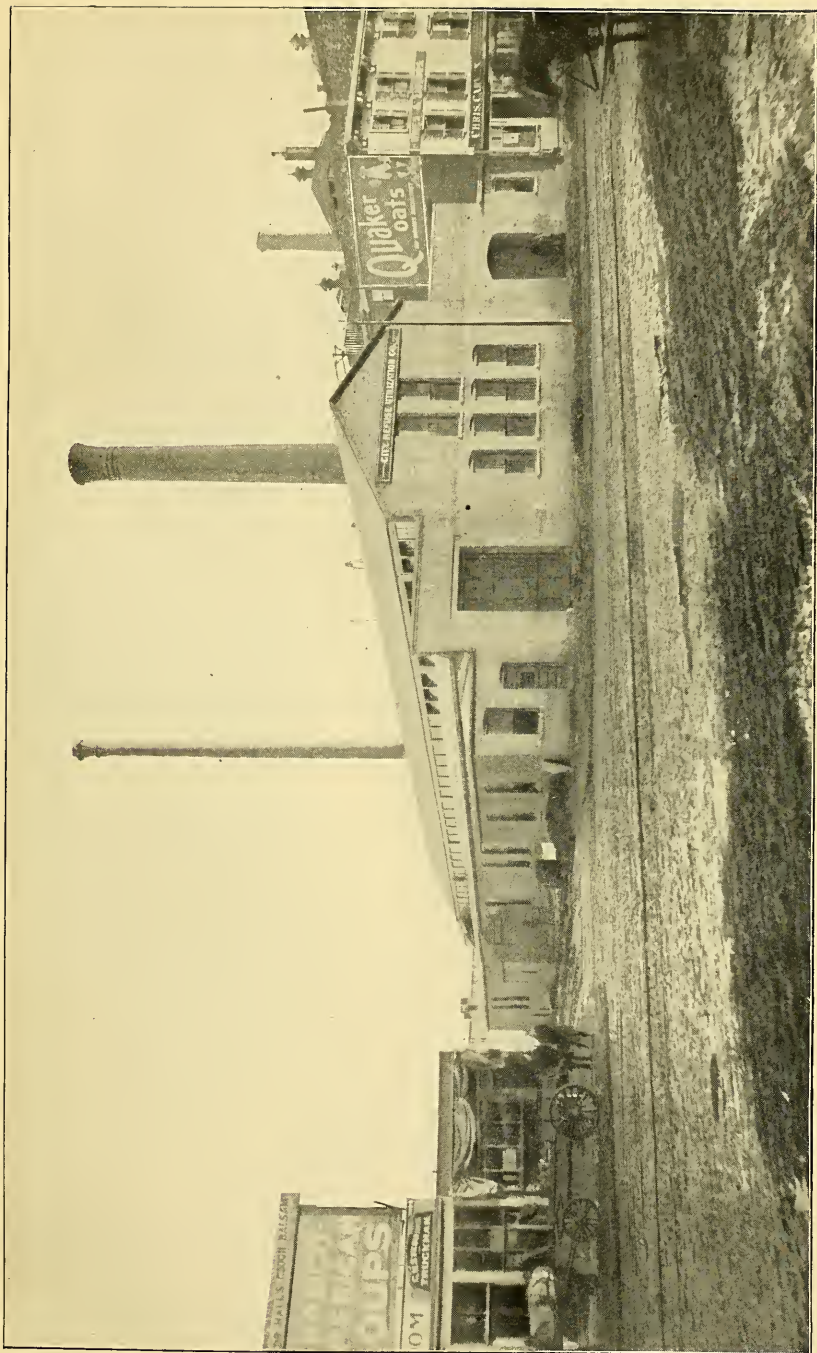
Amount collected by the Collector		<u>\$28,269 90</u>
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Objects of Expenditures.

ITEMS.	Total amount expended.	Amount paid by other Divisions.	Amount charged to the Sanitary Division.
Salary of Deputy Superintendent	\$3,000 00	.....	\$3,000 00
Salaries of clerks and messengers in office	7,695 82	.....	7,695 82
Salaries of foremen	8,449 97	\$291 51	8,158 46
For labor in removing house dirt and ashes	138,287 32	13,462 78	124,824 54
For labor, sub-foremen and inspectors, collecting house dirt and ashes	12,896 25	918 50	11,977 75
For extra teams collecting house dirt and ashes	57,952 00	.....	57,952 00
<i>Carried forward</i>	\$228,281 36	\$14,672 79	\$213,608 57

Objects of Expenditures.—Continued.

ITEMS.	Total amount expended.	Amount paid by other Divisions.	Amount charged to the Sanitary Division.
<i>Brought forward</i>	\$228,281 36	\$14,672 79	\$213,608 57
For collecting house dirt and ashes in East Boston	7,450 00	.....	7,450 00
For collecting house dirt and ashes in West Roxbury, south of Pond, May, Arborway and Morton streets ...	2,250 00	.....	2,250 00
For collecting house dirt and ashes in Dorchester, south of Park, School and Harvard streets	4,000 00	.....	4,000 00
For collecting house dirt and ashes in Dorchester, north of Park, School and Harvard streets	3,943 17	.....	3,943 17
For ash stock, consisting of shovels, cart covers, etc....	1,624 19	.....	1,624 19
For labor in removing house offal	85,579 77	10,354 41	75,225 36
For labor, sub-foremen and inspectors, removing house offal	9,570 76	713 74	8,857 02
For extra teams, removing house offal.....	4,582 50	.....	4,582 50
For removing house offal in East Boston.....	8,000 00	.....	8,000 00
For removing house offal in Brighton.....	2,715 50	.....	2,715 50
For removing house offal in West Roxbury, south of Pond, May, Arborway and Morton streets	1,722 00	.....	1,722 00
For removing house offal in Dorchester.....	4,980 00	.....	4,980 00
For offal stock, consisting of wagons, buckets, etc.....	2,909 75	.....	2,909 75
For disposition of offal.....	1,775 00	.....	1,775 00
For labor of men employed in stables and yards.....	23,168 74	1,050 66	22,118 08
For allowed time holidays...	23,564 67	413 42	23,151 25
For grain.....	14,935 96	223 73	14,712 23
For hay and straw.....	10,780 36	1,115 66	9,664 70
For horses.....	3,642 50	40 00	3,602 50
For veterinary services and medicines.....	2,255 08	.....	2,255 08
For stable stock, consisting of sponges, currycombs, brushes, etc.....	1,208 25	.....	1,208 25
For board, use and clipping horses	733 12	.....	733 12
For miscellaneous stable supplies.....	35 38	.....	35 38
<i>Carried forward</i>	\$449,708 06	\$28,584 41	\$421,123 65



COMBUSTIBLE WASTE PLANT ON ATLANTIC AVENUE.

Objects of Expenditures. — *Concluded.*

ITEMS.	Total amount expended.	Amount paid by other Divisions.	Amount charged to the Sanitary Division.
<i>Brought forward</i>	\$449,708 06	\$28,584 41	\$421,123 65
For horseshoeing (outside shops).....	2,750 41	1,788 50	961 91
For labor, stock and tools, horseshoeing shops.....	6,585 44	295 05	6,290 39
For labor, stock and tools, wheelwright shop.....	10,095 60	568 92	9,526 68
For labor, stock and tools, blacksmith shop.....	8,401 50	569 51	7,831 99
For labor, stock and tools, harness shop.....	5,330 59	328 55	5,002 04
For labor, stock and tools, paint shop.....	9,095 71	809 38	8,286 33
For labor, rental, towage, etc., on account of dumping boats,	27,934 24	.....	27,934 24
For repairs on stables and sheds (outside shops).....	1,486 09	.....	1,486 09
For fuel.....	765 30	.....	765 30
For gas.....	507 67	.....	507 67
For electric lights.....	502 60	.....	502 60
For water.....	651 40	.....	651 40
For printing.....	1,567 34	.....	1,567 34
For stationery.....	884 25	.....	884 25
For advertising.....	544 13	.....	544 13
For rents.....	12,311 18	.....	12,311 18
For telephones.....	469 92	5 74	464 18
For tolls and fares.....	967 65	.....	967 65
For damages by city teams...	44 49	.....	44 49
For badges of employees.....	108 00	.....	108 00
For office items and expenses,	391 37	.....	391 37
Total	\$541,102 94	\$32,950 06	\$508,152 88

Recapitulation of Expenditures.

Weekly pay-rolls, foremen and laborers	\$331,461 77	
“ “ clerks	5,895 82	
		\$337,357 59
Monthly pay-roll, deputy and clerk	\$4,800 00	
“ “ dumping boat	1,800 00	
		6,600 00
Monthly teaming-roll		62,494 00
“ bills and special drafts for stock, etc., including monthly pay-rolls of Sewer Division for towboat, etc.		134,651 35
		\$541,102 94

INCOME.

From board and care of horses, and for repairing vehicles of:	
Street Cleaning Division	\$11,270 21
Paving Division	10,163 13
Sewer Division	7,284 29
<i>Carried forward</i>	\$28,717 63

<i>Brought forward</i>	\$28,717 63	
Street Watering Division	900 14	
Bridge Division	228 86	
Central Office	850 08	
County of Suffolk	1,322 07	
Public Buildings Department, Repairs Division, Public Grounds Department, Highland Park ap- propriation	706 78	120 00
City Engineer's Department, Dorchester avenue grade crossing	104 50	
	<u> </u>	<u>\$32,950 06</u>
Deducted from weekly pay-rolls	\$31,627 99	
Deducted from monthly bills	1,322 07	
	<u> </u>	<u>\$32,950 06</u>
Net cost of maintenance, Sanitary Division, for year 1898- 1899		<u>\$508,152 88</u>

The division expenditures show an excess over the amount appropriated of \$8,152.88.

When the estimates were made and this appropriation granted, I did not anticipate that the division would be obliged to pay for the following extraordinary expenses:

Rent of wharf on Atlantic avenue, leased from Jacob Hecht, April 1, 1898		\$7,499 97
Payments made under contract of New England Sanitary Product Company		1,775 00
Payments made under contracts for constructing:		
Wharf on Atlantic avenue	\$2,843 33	
Widening dock	3,376 00	
	<u> </u>	6,219 33
New paper carts, Thomas Hill	\$1,106 00	
New iron offal wagons:		
P. F. McDonald	2,000 00	
P. Lally & Sons	520 00	
	<u> </u>	3,626 00
		<u>\$19,120 00</u>

Total Cost for Removal of House Dirt, Ashes and House Offal.

HOUSE DIRT AND ASHES ACCOUNT.

Expended for labor, as per pay-rolls	\$209,135 57	
Expended for stock, etc., as per ledger account,	106,556 39	
Expended on contracts, Dorchester	7,943 17	
Expended on contract, East Boston	7,450 00	
Expended on contract, part of West Roxbury	2,250 00	
	<u> </u>	\$333,335 13

HOUSE OFFAL ACCOUNT.

Expended for labor, as per pay-rolls	\$99,733 03	
Expended for stock, etc., as per ledger account,	69,671 49	
Expended on contract, East Boston	8,000 00	
Expended on contract, Brighton	2,715 50	
Expended on contract, Dorchester	4,980 00	
Expended on contract, West Roxbury	1,722 00	
	<u> </u>	186,822 02
Salaries deputy, clerks and foremen		20,945 79
Total		<u>\$541,102 94</u>

Comparative Table showing the Cost of Collecting Ashes and Offal and Delivering same at Various Dumps.

Cost per cart-load, including administration expenses . . .	\$1 10
“ “ “ minus “ “ . . .	1 07
“ “ “ of ashes, hired teams and contracts . . .	52
“ “ “ “ labor, hired teams, contracts, etc., . . .	57
“ “ “ “ offal, “ “ “ “ . . .	2 02
“ “ “ “ hired teams and contracts . . .	1 60
“ “ dumping-boat load to transport garbage to sea . . .	71 02
“ “ cart-load “ “ “ “ . . .	15

Amount Expended for the Collection of House Dirt, Ashes and House Offal, Labor, Hired Teams and Contracts.

DISTRICTS.	Expended for Collecting.	
	Ashes.	Offal.
1 — South Boston.....	\$16,893 38	\$8,509 50
2 — East Boston.....	7,897 75	8,447 75
3 — Charlestown.....	14,941 52	6,805 76
4 — Brighton.....	7,015 50	3,124 25
5 — West Roxbury.....	14,301 00	7,626 63
6 — Dorchester.....	8,376 67	5,413 50
7 — Roxbury.....	34,086 39	18,995 08
8-9 — South End and Back Bay.....	71,896 01	51,745 77
10 — West and North Ends.....	51,371 52	6,462 29
Totals.....	\$226,779 74	\$117,330 53

Maintenance of Dumping Boats, Amount Expended.

For towing by department towboat	\$6,858 97	
“ “ “ hired towboat	3,227 00	
		\$10,085 97
For repairs on Fort Hill Wharf	\$92 45	
“ “ “ dumping boat	1,620 00	
“ “ “ both by division employees	791 10	
		2,503 55
For dredging	\$450 00	
“ rents	3,999 96	
“ disinfectants	270 52	
“ manila rope, etc.	30 22	
“ telephone, salt, etc.	70 50	
“ kerosene oil and supplies	85 33	
“ coal,	55 96	
“ advertising	23 50	
“ screens, etc.	30 40	
		5,016 39
For labor:		
foreman	\$1,800 00	
crew, dumpers, etc.	6,777 59	
holidays	310 50	
		8,888 09
		<u>\$26,494 00</u>
Number of trips to sea by department towboats,	327	
Number of trips to sea by hired towboats	46	
		<u>373</u>
Number of loads of garbage carried to sea		169,269
Cost per cart-load of garbage carried to sea		\$0 15
Cost per boat-load of garbage carried to sea		71 02

(The above statement does not include the cost of alterations made on Fort Hill Wharf.)

Contracts.

OBJECT.	Contractor.	Price.	CONTRACT.	
			Commenced.	Ends.
Removal of ashes, East Boston	Wm. F. Hedrington	\$7,300 00	January 1, 1899..	April, 1899.
" " part of West Roxbury	John J. Moore	2,100 00	April 10, 1897....	April 15, 1899.
" " South Dorchester	Denis Flynn	3,850 00	April 10, 1897....	April 15, 1899.
" " North Dorchester	Patrick J. Lyons	3,645 00	April 1, 1898.....	April 1, 1900.
" " house offal, East Boston	Thomas Mulligan	8,000 00	January 1, 1899..	March 1, 1899.
" " Brighton	George T. Barnes	3,000 00	June 1, 1898.....	June 1, 1901.
" " part of West Roxbury	George T. Barnes	1,800 00	April 1, 1898.....	April 1, 1901.
" " Dorchester	John Bradley	4,980 00	May 11, 1897....	May 12, 1900.
" " sea wall, etc., Fort Hill Wharf	W. H. Ellis & Co.	3,376 00	November 1, 1898.	Work finished.
Building platform, etc., Fort Hill Wharf	W. H. Ellis & Co.	2,843 33	September 2, 1898.	"
Dredging new dock at Fort Hill Wharf	Eastern Dredging Com- pany	1,260 00	July 14, 1898	"
Building platform over dock, Albany street	Thomas E. Ruggles	5,470 00	January 16, 1899.	"
Lease of wharf, Atlantic avenue	Jacob H. Hecht	10,000 00	March 1, 1898.....	March 1, 1908.
Destruction of house offal	New England Sanitary Product Company	47,400 00	June 1, 1898.....	June 1, 1908.
Destruction of waste and rubbish	The City Refuse Utiliza- tion Company	5,500 00	December 1, 1898.	December 1, 1908.

Material Sold by Contract.

OBJECT.	Contractor.	Price.	Payments made to City Collector.
Manure of horses at South Yard	G. A. Safford	\$2 00 a horse per year.	\$224 44
" " " West and Charlestown Yards	Geo. P. Winn	2 00 " " " "	190 00
" " " Highland Yard	J. A. Budlong & Son	1 00 " " " "	69 00

DIVISION REPAIR SHOPS.

Located at the South End yards, situated at No. 650 Albany street. At these shops all of the repairs on carriages, carts, wagons, etc., are made, together with the painting of the same; all harnesses are repaired and many made, and a portion of the horseshoeing done.

The mechanics in these shops are engaged also in making repairs on the vehicles, etc., sent by the different divisions of the Street Department; all street signs are painted for the Paving Division, and a certain amount of the horseshoeing is done for the several divisions.

WHEELWRIGHT SHOP.

Cost to maintain during the past year the sum of \$10,095.60, of which amount \$4,097.73 was expended for labor and \$5,997.87 for stock. The carts, wagons and other vehicles of the division were properly overhauled when in need of repairs, and the entire lot of ash and offal sleds were put in proper working order. Of the above amount expended in maintaining these shops the following amounts were charged off to the several divisions, and others, for repairing, altering and putting in good condition their carts, wagons, watering-carts, sleds, etc.:

Paving Division	\$2,803 09
Sewer Division	1,105 14
Street Cleaning Division	13 01
Bridge Division	68 76
Street Watering Division	167 95
Central Office	174 55
County of Suffolk	25 89
Public Buildings Department, Repairs Division	155 87
	<hr/>
	\$4,514 26
	<hr/>

This leaves a net cost of \$5,581.34 for the repairs and construction of all work of this character for the Sanitary Division.

There are employed in this shop four wheelwrights and one helper.

BLACKSMITH SHOP.

Cost to maintain during the past year the sum of \$8,401.50, of which amount \$5,189.33 was expended for labor and \$3,212.17 for stock. The carts, wagons and other vehicles of the division were properly overhauled when in need of repairs, and the entire lot of ash and offal sleds were put in proper working order. Of the above amount expended in maintaining these shops the following amounts were charged off to the several divisions for repairing, altering and putting in good condition their carts, wagons, watering-carts, sleds, etc.:

Paving Division	\$1,164 25
Sewer Division	1,786 25
Bridge Division	69 15
Street Watering Division	409 32
Central Office	158 16
County of Suffolk	54 89
Public Buildings Department, Repairs Division	105 94
	<hr/>
	\$3,747 96
	<hr/>

This leaves a net cost of \$4,653.54 for the repairs and construction of all work of this character for the Sanitary Division.

There are employed in this shop six blacksmiths and one helper.

PAINT SHOP.

Cost to maintain \$9,095.71, of which amount \$7,489.14 was expended on labor and \$1,606.57 for stock. The work done by this shop was the painting and lettering of that which was either built or repaired in the wheelwright or blacksmith shops, together with 1,186 different styled signs that were painted for the Paving Division. Of the above amount expended for maintaining this shop, the following amounts were paid by the several divisions of the departments for painting carts, wagons, buggies, signs, etc.:

Paving Division	\$2,281 68
Sewer Division	1,145 07
Street Cleaning Division	921 04
Bridge Division	26 00
Street Watering Division	126 56
Central Office	156 92
County of Suffolk	78 40
Public Buildings Department, Repairs Division	69 50
	\$4,865 17

Leaving the balance, \$4,290.54, as the cost of this work for the Sanitary Division.

This shop employs seven painters and three helpers.

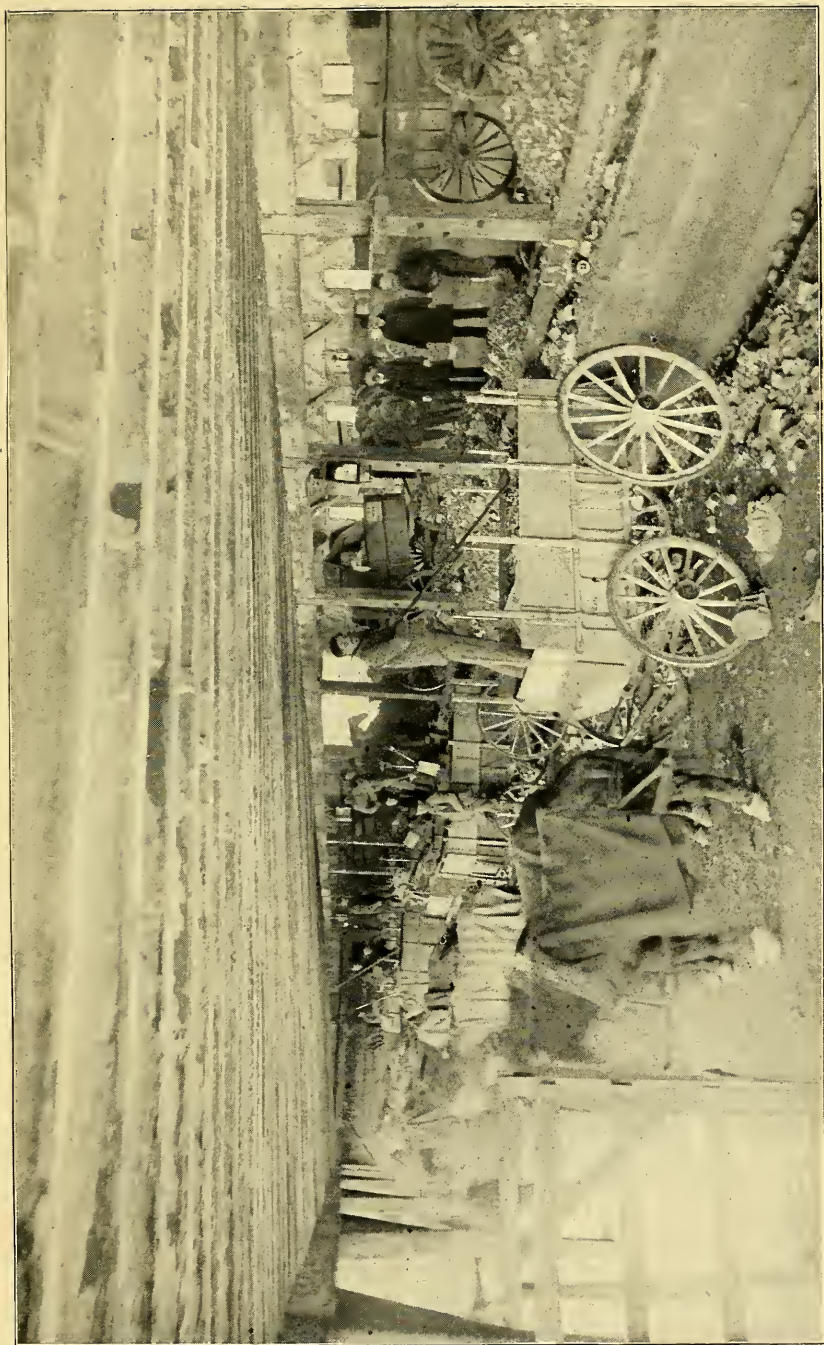
HARNESS SHOP.

Cost to maintain \$5,330.59, of which amount \$2,961.74 was expended for labor and \$2,368.85 on stock; part of the work sent to the blacksmith and wheelwright shops was also repaired here, such as Goddard and Concord buggies, leather seats for wagons, etc., together with all the new pieces of harness made for the several divisions. The entire lot of old and new harness owned by the Sanitary Division has during the year been overhauled, repaired and oiled at this shop. Of the above amount paid out for maintaining this shop the amounts charged to the several divisions of the department for work done were as follows:

Paving Division	\$113 48
Sewer Division	991 06
Street Cleaning Division	363 79
Bridge Division	22 01
Street Watering Division	120 74
Central Office	114 95
County of Suffolk	10 39
Public Buildings Department, Repairs Division	24 87
	\$1,764 89

Leaving balance, \$3,565.70, as the net cost of work done for the Sanitary Division.

This shop employs three harness-makers and one helper.



SOUTH END YARD — FARMERS PURCHASING OFFAL — OLD METHOD.

HORSESHOEING SHOPS.

Cost to maintain during the past year: South Yard, \$4,150.31; West Yard, \$2,435.15; of which amount, \$2,998.97 was expended for labor at South Yard, and \$1,932.41 at West Yard, and for stock at South Yard \$1,151.34, and for West Yard \$502.72. All of the horses at the South Yard, together with the Street Cleaning Division horses stabled there, as also some of the horses located in the different stables of this division, and of other divisions of this department, are shod at these shops, and for which the several divisions were charged the following amounts:

	South Yard.	West Yard.
Paving Division.....	\$205 00	\$5 75
Sewer Division.....	442 50	307 75
Street Cleaning Division	1,015 00	868 00
Central Office.....		245 50
County of Suffolk.....		112 50
Public Buildings Department, Repairs Division	6 00	61 00
	\$1,668 50	\$1,600 50

Leaving balance of \$2,481.81, South Yard, as the cost to the Sanitary Division for this class of work.

Leaving balance of \$835.63, West Yard, as the cost to the Sanitary Division for this class of work.

These shops employ three horseshoers at South Yard and two at West Yard.

Cost of Horseshoeing.

		Division Shops.	Outside Shops.
Stock	\$1,654 06		
Labor	4,931 38		
		\$6,585 44	\$2,750 41

KIND AND STYLE.	DIVISIONS.							TOTAL.
	Sanitary Division.	Street Cleaning Division.	Sewer Division	Paving Division.	Central Office.	County of Suffolk.	Public Buildings Department, Repairs Division.	
New shoes...	5,808	2,887	1,054	310	381	193	113	10,746
Bar shoes....	114	20	59	1				194
Resets	1,088	436	262	61	74	8	6	1,935
Leathers	2,409	1,204	403	58	118	71	34	4,297

Average cost per shoe, 46 cents. West Yard, average cost per shoe, 44 cents. South Yard, average cost per shoe, 47 cents.

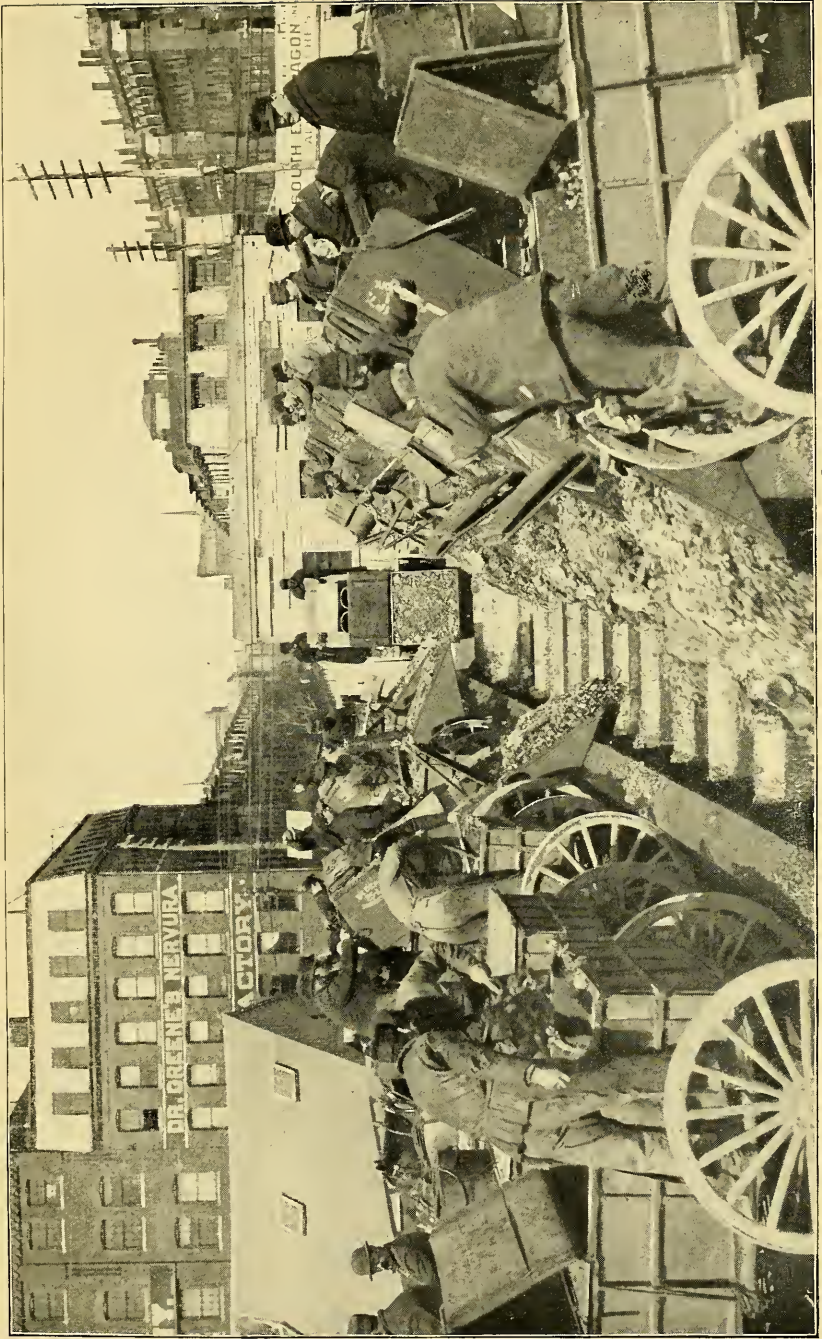
Table showing the Amounts Paid for the Different Kinds and Character of Work Performed by the Sanitary Division for the Several Other Divisions of the Street Department, and Others.

	Paving Division.	Sewer Division.	Street Cleaning Division.	Street Watering Division.	Bridge Division.	Central Office.	Public Buildings Department, Repairs Division.	County of Suffolk.	City Engineer's Department.	Totals.
Wheelwright shop.....	\$2,803 09	\$1,105 14	\$13 01	\$167 95	\$68 76	\$174 55	\$155 87	\$25 89	.....	\$4,514 26
Blacksmith	1,164 25	1,786 25	.....	409 32	69 15	158 16	105 94	54 89	.....	3,747 96
Harness	113 48	991 06	363 79	120 74	22 01	114 95	28 47	10 39	.....	1,764 89
Paint	2,281 68	1,145 07	921 04	126 56	26 00	156 92	69 50	78 40	.....	4,805 17
Horseshoeing shop, south.....	2,205 00	442 50	1,015 00	.....	.....	.....	6 00	.....	.....	1,668 50
" " west.....	5 75	307 75	868 00	.....	.....	245 50	61 00	112 50	.....	1,600 50
Dumping boats.....	.....	777 44	4,348 80	.....	.....	.....	.....	.....	.....	5,126 24
Hay, grain, straw, etc.....	.....	.....	1,500 42	.....	.....	.....	.....	.....	.....	1,500 42
Feeders, watchmen and stablemen.....	.....	.....	1,216 17	.....	.....	.....	.....	.....	.....	1,216 17
Water, fuel, light, etc.....	.....	.....	601 06	.....	.....	.....	.....	.....	.....	601 06
Removing snow.....	3,242 52	.....	.....	.....	.....	.....	.....	.....	.....	3,242 52
Horses, Nos. 522 and 584.....	.....	262 00	.....	.....	.....	.....	.....	.....	.....	262 00
Telephone at Highland yard.....	.....	.....	29 72	.....	.....	.....	.....	.....	.....	29 72
Board and care of new horses.....	234 61	235 65	119 39	6 28	42 94	.....	.....	.....	.....	638 87
Registering carts.....	105 75	.....	.....	.....	.....	.....	.....	.....	.....	105 75
Board and care of horses.....	.....	51 43	.....	34 65	.....	.....	280 00	1,040 00	.....	1,406 08
Two two-seated wagons.....	.....	180 00	.....	.....	.....	.....	.....	.....	.....	180 00
Bills of Water and Public Buildings Departments, Repairs Division.....	.....	.....	208 07	.....	.....	.....	.....	.....	.....	208 07
Bireh broom stock.....	7 00	.....	.....	.....	.....	.....	.....	.....	.....	7 00
Filling marsh land on Sweet street.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	104 50
Filling Highland Park.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	120 00
Totals.....	\$40,163 13	\$7,284 29	\$11,264 47	\$865 50	\$228 86	\$850 08	\$705 78	\$1,322 07	\$224 50	\$52,909 68

Table showing the Number and Variety of Vehicles, etc., belonging to the Several Divisions of the Street Department, on which Repairs were made at the Wheelwright Shop of the Sanitary Division.

From January 28, 1898, to January 26, 1899.

KIND.	DIVISIONS.					OTHER DEPARTMENTS		Total.
	Paving.	Sewer.	Sanitary.	Street Watering.	Central Office.	Public Buildings Department, Repairs Division.	County of Suffolk.	
Carts	23	6	194					223
Half moon iron carts.....		2						2
Double tip carts.....	6							6
Iron tip carts.....			18					18
Paper carts.....			9					9
Street watering carts.. . . .	3			7				10
Express wagons	1	29	9			1		40
Market wagons.....			3					3
Wooden offal wagons			75					75
Two-horse wagons.....							4	4
Two-horse cesspool wagons		1						1
Double jiggers	1							1
Sleighs	1	7	3					11
Double-runner pungs			1					1
Offal sleds			17					17
Ash sleds			60					60
Goddard buggies.....	12	11	8	1		2		34
Box buggies.....	4	3	4	2	1			14
Concord buggies	9	31	21	5	4	1		71
Stanhope buggies					3			3
New sleds.....			5					5
New carts.....			7					7
New paper carts.....			11					11
Barge		1						1
Two-seated wagons.....		9	1					10
Derricks.....	2	2						4
Sectional rollers.....	5							5
Snow levelers.....	2							2
Patrol carts	2							2
Offal wagons			2					2
Total	71	102	448	15	8	4	4	652



UNLOADING GARBAGE — SHOWING OLD AND NEW STYLE CARTS.

Table showing the Number and Variety of Vehicles, etc., belonging to the several Divisions of the Street Department, and others, on which Repairs were made at the Blacksmith Shop of the Sanitary Division.

From January 28, 1898, to January 26, 1899.

KIND.	DIVISIONS.						OTHER DEPARTMENTS.		Total.
	Paving.	Sewer.	Sanitary.	Bridge.	Street Watering.	Central Office.	Public Buildings Department, Re- pairs Division.	County of Suffolk.	
Carts	21	4	296						321
Half-moon iron carts		16							16
Double tip carts	5	2							7
Paper carts.	2		40						42
Street watering carts	3				17				20
Express wagons	2	32	12	4			4		54
Market wagons			10						10
Wooden offal wagons.....			122						122
Iron offal wagons.....			62						62
Two-horse offal wagons			8						8
Two-horse cesspool wagons.....		7							7
Two-seated wagons.....		2	1						3
Double jiggers.....	3								3
Sleighs		6	3		1	1			11
Double-runner pungs.....	1	2	1						4
Offal sleds			17						17
Ash sleds			71						71
Goddard buggies	10	14	13	3	2	5	3		50
Box buggies	3	1	7	1	2	5			19
Concord buggies.....	18	38	30	5		13			104
Corning buggies		1							1
Stanhope buggies.....			1			5			6
Top buggies			2						2
Sectional rollers.....	6								6
Snow levelers.....	2								2
Barges		2							2
Prison vans.....								6	6
New offal chisels.....			37						37
Total.....	76	127	733	13	22	29	7	6	1,013

Table showing the Number and Variety of Vehicles, etc., Belonging to the Several Divisions of the Street Department, and others on which Work was Performed by the Paint Shop of the Sanitary Division.

From January 28, 1898, to January 26, 1899.

KIND.	DIVISIONS.							OTHER DEPARTMENTS.		Total.
	Paving.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Street Watering.	Central Office.	Public Buildings Department, Repairs Division.	County of Suffolk.	
Carts	29	3	114	43						189
Half-moon iron carts.....		8								8
Double-tip carts.....	4									4
Paper carts.....	2		38							40
Street watering carts.....	3			14		10				27
Express wagons.....	3	19	7	1	2			2		34
Market wagons.....			3							3
Wooden offal wagons.....			88							88
Iron offal wagons.....			27							27
Two-horse stone wagons.....	2									2
Two-horse cesspool wagons.....		4								4
Two-seated wagons.....		1	1							2
Double jiggers.....	4									4
Sleighs	2	5	2	1						10
Double-runner pungis.....	3									3
Offal sleds.....			17							17
Ash sleds.....			61							61
Goddard buggies.....	8	15	6		1	2	3	2		37
Box buggies.....	2	2	3	1	1	1	4			14
Concord buggies.....	12	32	16	6	2		9			77
Stanhope buggies.....		1	2				3			6
Push-cart tubs.....				6						6
Sweeping machine.....				1						1
Double sweeping machines.....				8						8
Prison van.....									3	3
Barges		2								2
Street rollers.....	5									5
Total.....	79	92	385	81	6	13	19	4	3	682

Table showing the Number and Variety of Signs Painted for the Several Divisions of the Street Department by the Paint Shop of the Sanitary Division.

From January 28, 1898, to January 26, 1899.

KIND.	DIVISIONS.						OTHER DEPARTMENTS.		Total.
	Paving.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Street Watering.	Central Office.	Public Buildings Department, Repairs Division.		County of Suffolk.
Style No. 1	59								59
“ 2.....									
“ 3.....	379								379
“ 4.....	20								20
“ 5.....	84								84
“ 6.....	114								114
“ 7.....	83								83
“ 8.....	4								4
“ 9.....	63								63
“ 10	196								196
“ 11.....	21								21
“ 12.....									
Special	4			2					6
	1027			2					1,029

Table showing the Number of Articles and the Variety of Work Performed for the Several Divisions of the Street Department and Others at the Harness Shop of the Sanitary Division, from January 28, 1898, to January 26, 1899.

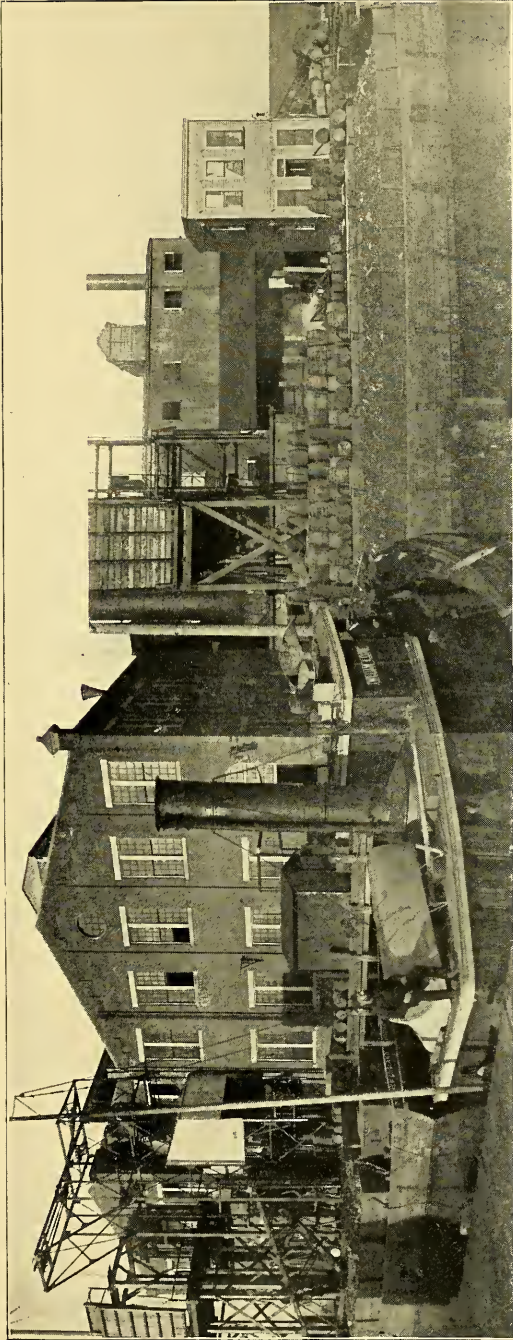
KIND.	DIVISIONS.							OTHER DEPARTMENTS.		Total.
	Paving.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Street Watering.	Central Office.	Public Buildings, Repairs Division.	County of Suffolk.	
Harness, parts of, repaired..	1	150	927	287	.....	8	23	.....	2	1,398
Harness, new parts made....	.....	16	53	15	.....	4	4	.....	5	97
" new.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Buggies repaired, Goddard..	10	12	11	.....	2	2	1	3	.....	41
" " box.....	1	1	1	1	.....	2	1	.....	.....	7
" " Concord...	8	17	11	2	1	.....	4	.....	.....	43
" " Stanhope..	.....	1	.....	.....	.....	.....	3	.....	.....	4
Sleighs repaired.....	.....	3	.....	.....	.....	1	1	.....	.....	5
Wagons repaired, express....	3	17	3	.....	1	.....	.....	2	.....	26
" " two-seated,	.....	1	1	.....	.....	.....	.....	.....	.....	2
Cart repaired, half-moon iron,	.....	1	.....	.....	.....	.....	.....	.....	.....	1
" " street-watering	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Horses numbered	13	18	17	7	2	.....	3	.....	.....	60
" renumbered	2	1	3	2	.....	.....	.....	.....	.....	8
Saddle pads made.....	1	2	64	6	.....	.....	.....	.....	.....	73
Collar " " .....	.....	.....	67	21	.....	.....	.....	.....	.....	88
Sweat collars " .....	.....	2	48	.....	.....	.....	.....	.....	.....	50
Muzzles " .....	.....	.....	2	.....	.....	.....	.....	.....	.....	2
Calking-boots " .....	.....	.....	3	.....	.....	.....	.....	.....	.....	3
New halters " .....	.....	4	.....	.....	.....	.....	.....	.....	.....	4
Carriage boots made and re- paired .....	.....	2	1	.....	.....	.....	1	.....	.....	4
Interfering boots made .....	.....	.....	3	.....	.....	2	2	.....	.....	7
Weight straps " .....	.....	3	1	2	.....	3	.....	.....	.....	9
Hame straps, single, made...	.....	18	10	.....	.....	.....	.....	.....	.....	28
" " double, " .....	.....	.....	5	.....	.....	.....	.....	.....	.....	5
Carriage covers made.....	.....	.....	.....	1	.....	.....	3	.....	.....	4
Leathers for oil covers made.	.....	.....	67	.....	.....	.....	.....	.....	.....	67
Carpet blankets made.....	.....	.....	23	.....	.....	2	.....	.....	.....	25
Stable blankets repaired.....	.....	10	178	.....	.....	2	.....	.....	.....	190
<i>Carried forward.....</i>	40	279	1,500	344	6	26	46	5	7	2,253

Work of Harness Shop. — Concluded.

KIND.	DIVISIONS.							OTHER DEPARTMENTS.		Total.
	Paving.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Street Watering.	Central Office.	Public Buildings, Repairs Division.	County of Suffolk.	
<i>Brought forward</i>	40	279	1,500	344	6	26	46	5	7	2,253
Buffalo robes repaired.....		2	3							5
Whips repaired.....		2					2			4
Cart-covers repaired.....			152							152
Oil-covers “.....			10							10
Harness blacked and oiled.....		4	252						1	257
Prison wagon.....									1	1
Felt saddle-pads.....		4	2			2	3			11
Leather card-box.....							1			1
Hose for water-cart.....				3						3
Saddle-pads repaired.....				8						8
Lantern covers.....				2						2
Carriage pulls.....		1								1
Safety body belts.....		3								3
Window shades.....		3								3
Wagon cushions.....		2								2
Leather seat for tip-cart.....		1								1
Baggage-strap.....		1								1
Barges repaired.....		2								2
Canopy tops.....		2								2
Wagon shade covered.....		1								1
Hoisting chains covered.....			2							2
Hooks covered.....			4							4
New dust covers.....			122							122
Gleason bridles.....			2							2
New shaft girths.....			52							52
Safety straps, pairs.....			58							58
Shoe boil-boots.....			3							3
Tag straps, new.....	5	3	6	5						19
Dust covers repaired.....			39							39
Leather weight-box.....							2			2
Totals	45	310	2,207	362	6	28	54	5	9	3,026

Hay and Grain.
Account of Hay, Grain and Straw Fed Out and Used from January 28, 1898, to January 26, 1899.

YARDS.	MATERIAL.	Pounds.	Total Cost.	Cost per Horse per Day.	Lbs. per Horse per Day.	Horses. Divisions: Sanitary. St. Cleaning.	
South-yard Stable.	Hay	465,238	\$3,114 60	\$0.101 ⁶⁶⁹⁰ ₂₃₄₇₇	15 ²³⁰⁸³ ₂₉₄₇₇	29,477	
	Oats.....	513,014	5,692 68	.19 ³⁰⁴⁹⁷ ₅₉₉₂	17 ³¹⁹²⁵ ₅₉₉₂		
	Shorts.....	11,300	97 30	.97 ³⁰⁰ ₁₁₃₀₀	1 ¹³⁰⁰ ₁₁₃₀₀		
	Straw.....	46,337	266 47	2 ⁹⁴⁷⁷ ₄₆₃₃₇	2 ⁹⁴⁷⁷ ₄₆₃₃₇		
	Corn	3,192	23 66	.23 ⁶⁶ ₃₁₉₂	1 ³¹⁹² ₃₁₉₂		
	Carrots	7,230	39 76	2 ⁹⁴⁷⁷ ₇₂₃₀	2 ⁹⁴⁷⁷ ₇₂₃₀		
	Salt.....	.....	6 90	2 ⁹⁴⁷⁷ ₆₉₀	2 ⁹⁴⁷⁷ ₆₉₀	
	English Vegetable Food, 15 bbls.	225 00		Average per day. 81
	Totals	1,046,311	\$9,466 37	\$0.32 ³³⁷³ ₂₉₄₇₇	35 ¹⁴⁵¹⁹ ₂₉₄₇₇		
	West-yard Stable.	Hay	356,041	\$2,387 57	\$0.121 ³⁸⁵⁷ ₃₅₆₀₄₁		18 ¹⁷⁴⁹¹ ₃₅₆₀₄₁	Sanitary. Repairs Div. 15,038 406 Supt. of Sts. Pur. Agent. 1,947 1,434 18,825 Average per day. San., 41 Repairs Div., 1 Supt. of Sts. Pur. Agent. 5 4
Oats.....		260,700	2,872 21	.15 ⁴⁸⁴⁶ ₁₈₈₂₅	13 ¹⁸⁸²⁵ ₁₈₈₂₅		
Shorts.....		4,600	37 80	.18 ⁸²⁵ ₄₆₀₀	3 ¹⁸⁸²⁵ ₄₆₀₀		
Straw.....		56,649	329 41	.01 ⁴¹¹⁶ ₁₈₈₂₅	3 ¹⁵⁴⁴ ₁₈₈₂₅		
Corn .....		.....	.....	.....	.....
Carrots		4,540	24 97	2 ⁴⁹⁷ ₄₅₄₀	4 ⁵⁴⁰ ₄₅₄₀		
Salt.....		.....	13 90	1 ⁸⁹⁰ ₁₈₈₂₅	1 ⁸⁸²⁵ ₁₈₈₂₅	
English Vegetable Food, 5 bbls. ....		.....	75 00	7 ⁵⁰⁰ ₁₈₈₂₅	.....	
Totals		682,530	\$5,740 86	\$0.30 ⁹³³⁶ ₁₈₈₂₅	36 ⁴⁸³⁰ ₁₈₈₂₅		



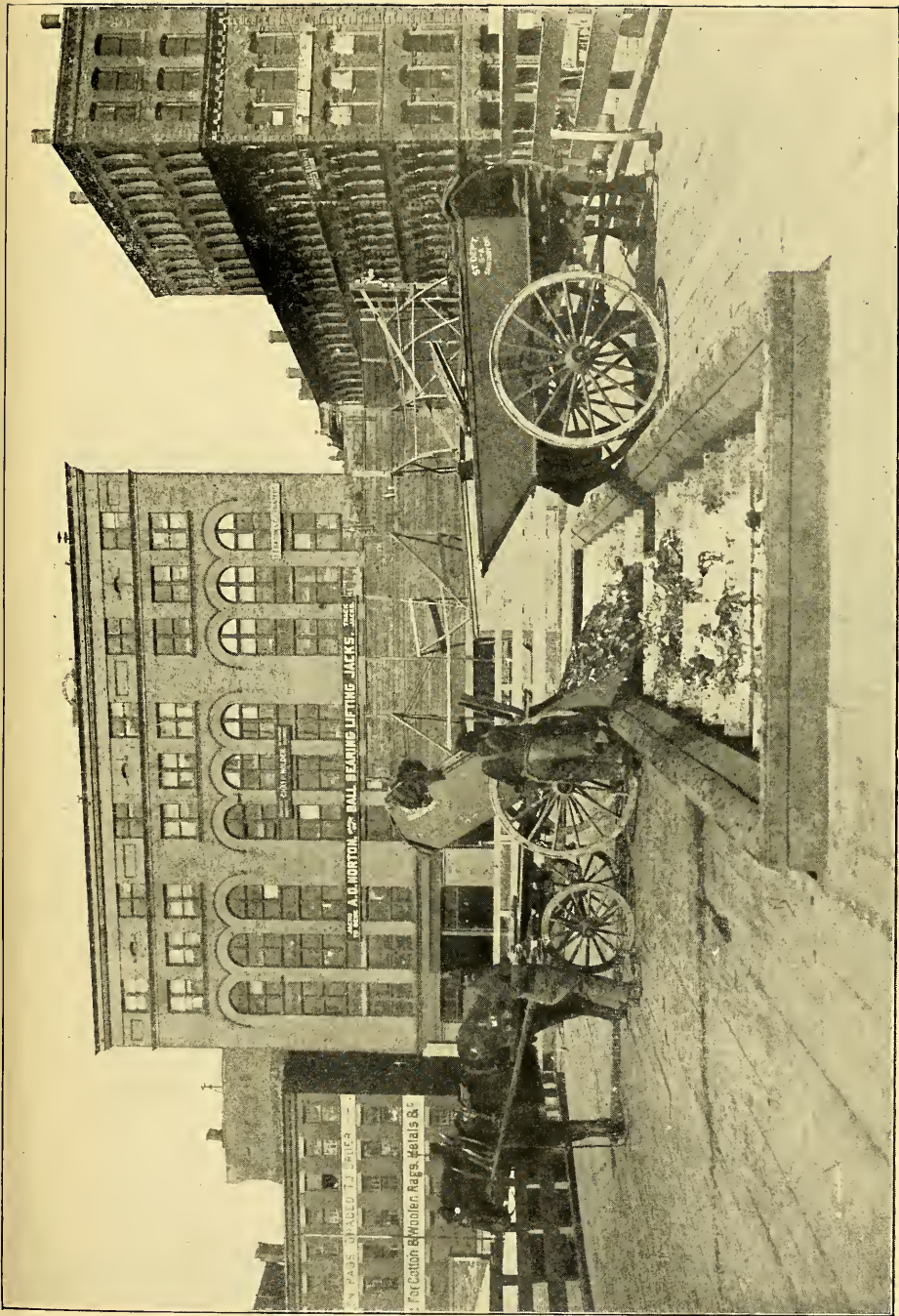
GARBAGE REDUCTION PLANT AT COW PASTURE.

Hay and Grain. — Continued.
Account of Hay, Grain and Straw Fed Out and Used from January 28, 1898, to January 26, 1899.

YARDS.	MATERIAL.	Pounds.	Total Cost.	Cost per Horse per Day.	Lbs. per Horse per Day.	Horses. Divisions: Sanitary. St. Cleaning.
Highland-yard Stable.	Hay.....	246,518	\$1,664 89	\$0.0819552	1213614	17,939
	Oats.....	270,788	2,997 90.	.157440	1317332	Street Watering.
	Shorts.....	5,300	46 95	19492	19492	97
	Straw.....	63,717	352 77	.0113785	35241	19,492
	Corn.....	18,200	141 38	17132	17132	Average per day.
	Carrots.....	3,610	19 86	19492	19492	49
	Salt.....		1 50	1502	1502	4
	English Vegetable Food, 8 bbls.....		120 00	12000	12000	Street Watering, ⁹⁷ ₃₆₄
	Totals.....	608,133	\$5,345 25	\$0.278241	31,3881	
	Charlestown-yard Stable.	Hay.....	144,813	\$976 46	\$0.11747	163862	5,802
Oats.....		132,000	1,482 25	.162207	148805	Pur. Agent.
Shorts.....		2,200	19 90	.1990	2200	45
Straw.....		21,740	122 04	.013395	21723	8,809
Corn.....				.013809	28805	Average per day.
Carrots.....		1,560	8 58	858	1569	16
Salt.....			45 00	4500	4500	8
English Vegetable Food, 3 bbls.....				3809	3809	Pur. Agent, ⁴⁵ ₃₀₄
Totals.....		302,313	\$2,654 23	\$0.301153	343805	

Hay and Grain. — Concluded.
Account of Hay, Grain and Straw Fed Out and Used from January 28, 1898, to January 26, 1899.

YARD.	MATERIAL.	Pounds.	Total Cost.	Cost per Horse per Day.	Lbs. per Horse per Day.	Sanitary.	Horses. Divisions: St. Cleaning.	
South Boston Stable.	Hay.....	117,094	\$821 20	\$0.132560	19.814	6,048	72	
	Oats.....	99,840	1,128 50	0.112900	16.61300			
	Shorts.....	1,850	17 63	0.009510	1.850			
	Straw.....	6,679	39 08	0.005850	1.579			
	Corn.....	.....	.....	0.000000	0.00000	
	Carrots.....	1,940	10 67	0.005450	1.940			
	Salt.....	.....	2 50	0.000000	0.00000		
	English Vegetable Food, 3 bbls.....	.....	45 00	0.000000	0.00000		
	Totals.....	227,403	\$2,064 58	\$0.334798	37.963			Average per day. 17 61
					6120			



UNLOADING GARBAGE — SHOWING NEW METHOD.

Recapitulation.

MATERIAL.	Pounds.	Cost.	HORSES PER DAY.		NUMBER OF HORSES FED.
			Cost.	Fed out, Pounds.	
Hay.....	1,329,704	\$8,964 72	\$0.10	16,618.6	Sanitary Division..... 74,304
Oats.....	1,015,642	11,301 33	.13	12,347.0	Street Cleaning Division..... 4,418
Shorts.....	25,250	219 58		2,336.0	Superintendent of Streets.... 1,947
Straw.....	195,122	1,109 77	.01	2,217.0	Purchasing Agent, horses pur-
Corn.....	21,392	165 04		2,217.0	chased but not assigned... 1,479
Carrots.....	18,880	103 84		1,880.0	Repairs Division..... 406
Salt.....		24 80		248.0	Street Watering Division..... 97
English Vegetable Food, 34 bbls..		510 00		510.0	Sewer Division..... 72
Totals.....	2,605,990	\$22,399 08	\$0.27	311,572.3	82,723

74,304 Sanitary Division horses (average number per day)..... 204
 4,418 Street Cleaning Division horses (average number per day)..... 12
 1,947 Superintendent of Streets horses (average number per day)..... 5
 1,479 unassigned horses (average number per day)..... 4
 406 Repairs Division horses (average number per day)..... 1
 97 Street Watering Division horses (average number per day)..... 30.7
 72 Sewer Division horses (average number per day)..... 36.4

} at \$.27 ^{6,887}/_{8,272.3} =

\$20,119 45
 1,196 27
 527 20
 400 47
 109 93
 26 26
 19 50

\$22,399 08

PLANT AND PROPERTY IN CHARGE OF THE SANITARY DIVISION.

South City Stables, Shops and Sheds.

Situated on Albany street, opposite Newton street. The lot belonged to the city before being used for this purpose, and contains 90,780 feet.

The stable and buildings connected therewith are of brick. There are also on the premises five wooden sheds, used for storing wagons, etc. The stable is two stories high, with French roof, and has accommodations for 100 horses. Twenty-three horses are kept in sheds. Total original cost, exclusive of land, \$79,089.23.

Connected with stables are blacksmith, wheelwright, paint and harness-makers' shops, in which the wagons, carts, harnesses, etc., used by the department are constructed and kept in repair; also a horseshoeing shop for shoeing the horses of the department located in this section of the city.

Offal Depots.

Erected in 1864, on the wharf fronting on Albany street, opposite Brookline street, on the other side of the dock from that used by the Paving Division. The lot which the building occupies and the yard attached to the same contains 39,511 feet, and belonged to the city before being used for this purpose. Total original cost of building \$18,578.89. This building is used for the deposit of house-offal daily collected in the city carts, and from which it is thence conveyed without the city limits by purchasers.

West Stable and Sheds.

The stable is a brick building, a story and a half high, 128 feet by 50, located on North Grove street, built in 1860, with suitable out-buildings attached to the same. It has accommodations for 90 horses, in stables and sheds. The lot contains about 45,152 square feet. On May 11, 1896, a horseshoeing shop was established for the purpose of shoeing the horses of the department stabled in this section of the city.

Highland Stable.

With accommodations for 72 horses, on the old Almhouse lot, Highland street, containing 81,082 square feet. A part of this stable and adjoining lot is used by the Paving Division. There is on this lot a brick stable, which cost \$88,594.13. On this lot is an offal shed, erected in 1875, at a cost of \$1,160.12.

During the year the stabling of horses in the basement of this building was abandoned, and 15 stalls were placed in the second story of the building at a cost of \$3,000. April 1, 1897, the offal shed erected in 1875 was abandoned and renovated for the purpose of storing wagons and carts.

Charlestown Stable,

with accommodations for 25 horses, is situated on Rutherford avenue; lot contains 17,300 square feet of land; stable built in 1875, cost \$5,083.07; sheds and out-buildings built in 1879.

Fort Hill Wharf.

Containing 21,054 square feet, placed in charge of the Sanitary Division, used as a dumping station for the city's garbage and refuse and as a landing-place for scows, which convey this stuff to sea. There are two dumping-boats, known as the Barney dumping-

APPENDIX E.

 REPORT OF THE DEPUTY SUPERINTENDENT OF
 THE SEWER DIVISION.

30 TREMONT STREET,
 BOSTON, February 1, 1899.

MR. BENJAMIN W. WELLS,
Superintendent of Streets :

DEAR SIR, — I respectfully submit report of expenses, income and operation of the Sewer Division for the financial year ending January 31, 1899.

Yours truly,
 CHARLES R. CUTTER,
Deputy Superintendent.

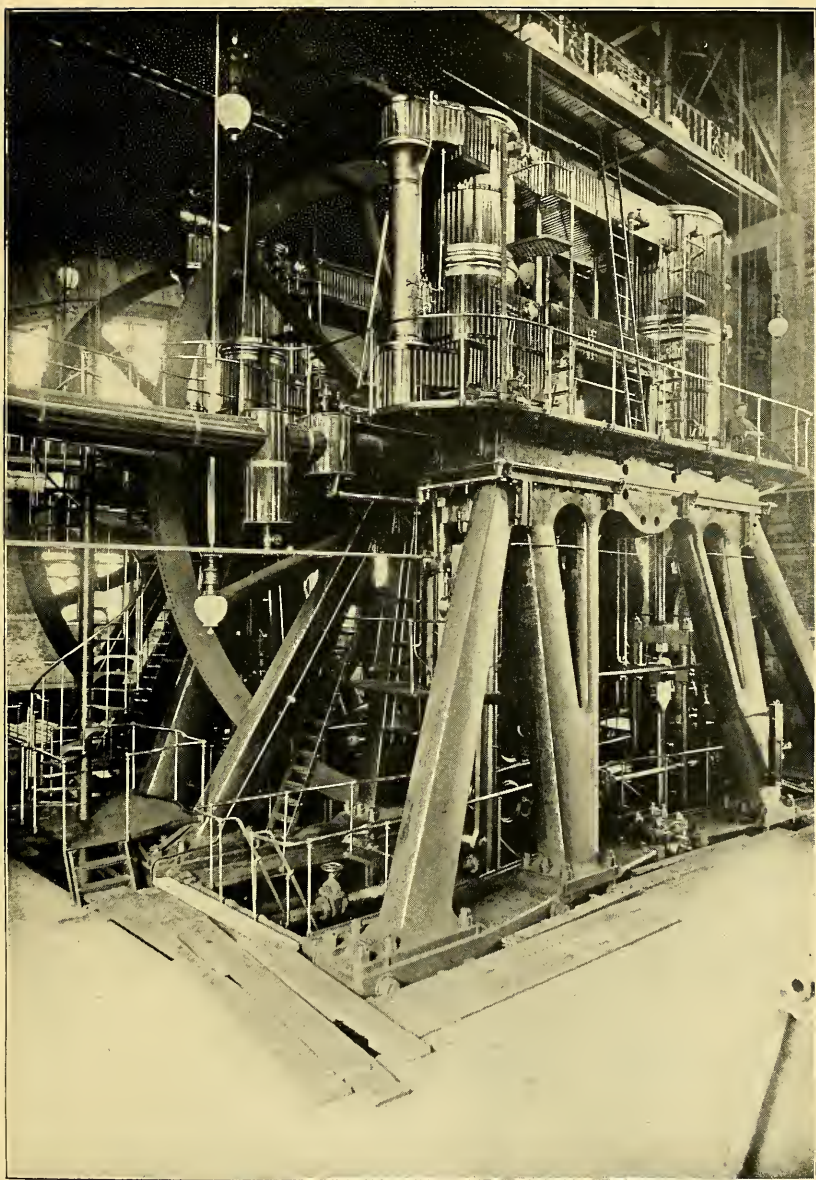
The Sewer Division has charge of the following work :

1. Construction and maintenance of all sewerage works, including Main Drainage Works.
2. Construction and maintenance of the channels of Stony brook.
3. Preparation of plans, and the engineering and supervision required in the construction and maintenance of sewerage works.
4. Investigation of complaints in regard to defective sewerage and surface drainage.
5. The granting of permits for all connections to be made with the common sewers, and the custody of bonds filed by drain layers authorized to make such connections.

The following table shows the maintenance appropriation of this division for the past ten (10) years :

1889	.	.	.	.	.	\$268,230 00
1890	.	.	.	.	.	347,000 00
1891	.	.	.	.	.	350,000 00
1892	.	.	.	.	.	350,000 00
1893	.	.	.	.	.	350,000 00
1894	.	.	.	.	.	320,000 00
1895	.	.	.	.	.	300,000 00
1896	.	.	.	.	.	280,000 00
1897	.	.	.	.	.	300,000 00
1898	.	.	.	.	.	350,000 00

A general statement of the work done during 1898, and work necessary to be done, is given in the succeeding pages.



LEAVITT ENGINES — PUMPING STATION, SEWER DIVISION.

SOUTH BOSTON.

During the past year the rebuilding of the Kemp-street outlet has been started and 600 feet completed. B-street sewer between Dorchester avenue and Fourth street was rebuilt, affording a proper outlet for sewers in that vicinity, and allowing the rebuilding of many small tributary sewers as the future may demand.

Dorchester-avenue sewer, between D street and Dexter street, and the sewers in Dexter and Ellery streets were also rebuilt, thereby obviating a long-standing source of complaint, and doing away with the temporary sewer overflow into the South bay at D street, the whole flow of this territory being carried to the B and Seventh-streets overflow, which was built last year.

The H-street sewer and overflow were rebuilt between Eighth street and tide-water, affording an adequate outlet for a large district in time of heavy storm, and doing away with the numerous complaints the division has received in the past, of water backing up into the cellars.

In regard to future work the first thing that demands our attention is the effect which the change in location of the New York, New Haven & Hartford Railroad Company will have upon the sewer system. The sewer in Blake street will have to be rebuilt, as it is not strong enough to stand the jarring of the trains which will pass over it. The sewers in Dorchester avenue, Powers street and Boston street are not large enough for the future requirements of the district, but as they will answer for a number of years it is perhaps better policy not to attempt to rebuild them at the present time in anticipation of the raising of the grades of the streets, but to leave this matter for the future, and when the district becomes so well developed as to overcrowd these sewers, to relieve it by running a large main sewer around the artificial hill caused by raising the grades of the streets, finding a location for this sewer in streets which will have to be laid out in the vacant land either to the east or west of Dorchester avenue.

As the filling of Columbia road between City Point and Mt. Vernon street is nearing completion it would be advisable to build the sewers in this road as soon as possible.

The Commonwealth lands on South Boston flats, which by reason of their proximity to the new Union Station will shortly be placed on the market for commercial purposes, will therefore require the attention of this division during the coming year.

The sewer in D street, between Dorchester avenue and Ninth street, and also between Second street and Broadway, should be rebuilt as the sewer is broken down and settled in many places, and is in a bad condition.

EAST BOSTON.

Connection with the Metropolitan sewer has been made at Eagle square and work is in progress at Chelsea street and at Curtis street. The connection with the Metropolitan sewer will be

made at Chelsea street early in the coming year. The sewers in Bennington and Chelsea streets, between Eagle square and Putnam street, are too small to properly drain the territory and should be rebuilt. House sewers and surface drains are needed in the East Boston parkway.

The East Boston low-level sewer should be built as soon as possible to drain the low lying territory at Orient Heights, and to afford an outlet for the sewers in the proposed Bennington-street boulevard and the sewers and surface drains ought to be promptly begun if the construction of this boulevard is ordered.

CHARLESTOWN.

All connections with the Metropolitan sewer have been made in this district, except in Beacham-street district. The Beach-street overflow is in progress, and will be finished early in the coming year. The Beacham-street district should be connected at an early date, and the sewers rebuilt on the separate system using those now in existence for surface drains as far as it is possible.

The sewers in Main and Cambridge streets, from Beach street to the Somerville line, are in a very leaky condition and much too small to satisfactorily drain the territory through which they run. They should be rebuilt at the earliest possible date, or at all events before the grade of Cambridge street is raised in abolishing the grade crossings at this point.

BRIGHTON.

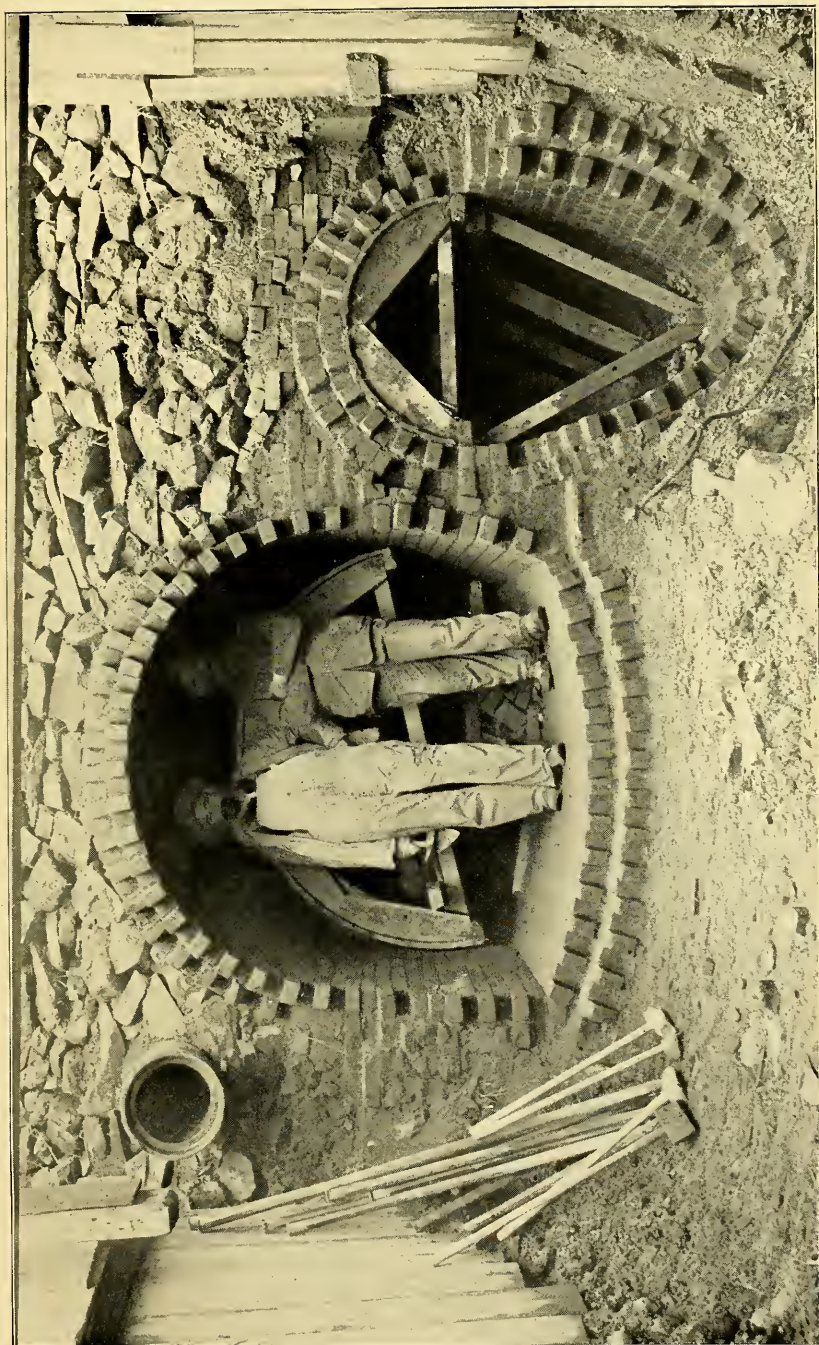
About 600 feet of six feet six inches by seven feet, and 400 feet of six feet by six feet brick conduit for Salt creek, and 1,600 feet of thirty inches by thirty-six inches brick sewer in Cambridge street, between Seattle street and Charles river were built. The outlet for house sewers and surface drains for the part of Commonwealth avenue, between Summit avenue and Kinross road, has been started, and the house sewer system for the Aberdeen district practically completed. During the coming year Commonwealth avenue, between Warren street and Chestnut Hill avenue should have a complete system of house sewers and surface drains, and the surface drainage system for the Aberdeen district should be built.

The Shepard-street brook should be taken in a covered conduit from the pond at the wool-scouring establishment on North Beacon street, near the iron bridge to Shannon street and the Faneuil Valley brook should be improved by deepening and widening from the same pond to Lake street.

The conduit for the Salt Creek brook should also be finished from Charles river to its present terminus at Gardner street.

WEST ROXBURY.

On Goldsmith brook, between Washington and South streets, there were built about 1,600 feet of brick conduit, principally eight



ROSEMONT STREET, DORCHESTER, SHOWING SURFACE DRAIN AND MAIN SEWER.

feet six inches by six feet nine inches. This is the portion of the brook which was subjected to continual flooding at every rain.

Surface drains in Keyes and Lee streets and a conduit in Calder street for Franklin park branch of Stony brook are in progress, as well as house sewers in Walter and Jones streets, South street, near Congreve street, Congreve street, Wachusett street, and outlets for Temple and Perham streets, all of which will be completed early in the coming year. During the coming year sewers should be built in Mendum street, Gardner street, between the Metropolitan sewer and Baker street, and a surface drain in Baker street from Spring street brook to Gardner street. Goldsmith brook conduit should be extended to West Roxbury parkway. Sewers and surface drains in Spring street, between Centre street and Gardner street, are needed, and the West Roxbury low level sewer should be extended beyond Forest Hills.

DORCHESTER.

The most important work done in Dorchester during the past year has been in the way of surface drains of large size to carry the somewhat large brooks which pervade this territory.

This is in pursuance of the recommendations made in former reports. The old sewers, built many years ago, on the "combined" system, were professedly designed only for a small percentage of the total storm-water of the district. Now that new streets are being laid out in every direction, each one with its catch-basins taking the surface water from the gutters, the old sewers refuse to longer carry this additional load. Therefore, a separate system of surface drains for storm water only is imperatively demanded; and this division has made a good beginning in this direction.

The large surface water drain to carry the water of "Tenean creek," commencing (at the lower end) at what is known as "King's Mill pond," in the neighborhood of Harrison square, has been finished nearly up to Charles street, near Field's Corner Station. This will drain out the so-called "Clay-Pits" (back of the car stables), a long standing nuisance, and will afford good surface drainage to Bloomfield and Tonawanda streets and Geneva avenue, and the whole of that neighborhood. A branch of this drain crossing Gibson and King streets and running up through Rosemont street has been well carried up towards its final destination on Carlisle street. For a considerable portion of the way this was built in the same trench with the new outlet house sewer for this region.

A branch of this last-named drain should be extended during the coming season through Shawmut park (now Florida street) to Edwin and Templeton streets.

One thousand seven hundred and fifty linear feet of these drains were built in 1898, making, with what was built in 1897, a total length of 1,960.5 linear feet of conduit, running from 14 feet \times 12 feet to 6 feet \times 6 feet 6 inches in size, built to date.

Another improvement of great importance has been commenced on the "Canterbury branch" of Stony brook, between the West Roxbury boundary line at Harvard (formerly Back) street, and the upper large culvert on Lauriat avenue.

With a view to immediate relief of this district from the winter and spring floods, this improvement, so far, has taken the shape of an open ditch (the excavation for which will all be utilized in building a more permanent channel), with the exception of the portion lying in Callender street, between Lyons and Don streets, where a brick conduit ten feet in diameter is being constructed at a grade of from fourteen to twenty-two feet below the surface; the cutting being in solid rock. This solid construction is adopted so that the grading and curbing of Callender street, under chapter 323 of 1891, can be proceeded with, as ordered by the Board of Street Commissioners.

The whole territory, also, between Lauriat avenue and Norfolk street, especially in the neighborhood of Dumas, Mascot and Willowood streets, is in a state of bad flooding in storms; and although the open ditches we are now cutting there will be invaluable for temporary relief, yet they are shifty and unreliable for a term of years. They should be superseded by brick or concrete channels in the same excavation as soon as funds will allow.

An important feature of this same Canterbury branch, namely, "Oakland Garden Fork," has been under construction all the way from the Franklin Field ditch upward. With the completion of Columbia road from Blue Hill avenue to Stanwood street and of many streets in this vicinity, a large amount of surface water was necessarily carried to this water-course; and during the past year the improvements have been started in several places and should be completed the coming year, so as to take care of all the water coming down from the north-east corner of Franklin Park and through the former Oakland Garden territory, which water has heretofore done much damage by flooding.

Work has also been nearly completed for the surface drain to carry the water of Mattapan brook from Norfolk street through Capen and Fuller streets, near Fairmount, and through Selden street to Morton street. There it can empty into an unoccupied swamp until such time as the construction of the remainder of the "Blue Hill avenue boulevard" provides for the improvement of this brook down to its extreme lower end at the Neponset river.

The whole of the large valley of "Davenport brook," embracing all that territory between Lower Mills and Ashmont, is practically destitute of any system of surface drainage; and the growing demand for catch-basins here, and the bad flooding occurring under the present arrangement, make a large amount of construction imperative here as soon as the necessary funds are provided.

The necessary takings have been made for the improvement of what is called the Freeport-street brook, between Dorchester

bay and Freeport street; this improvement should be started this coming year; and the brook channel, between Talbot avenue and Blue Hill avenue, should receive the attention of the division, as we have received many complaints from the same.

The improvement of the surface drainage for the Devon-street district should also receive our early attention.

The separation of the surface water and the house sewage in the district drained by the Dorchester brook sewer is a very important matter and should be carried along to completion, as we have already started to apply this principle at the upper end of this district.

With the building of the proposed Columbia road at Mt. Vernon street, the old brook channel, between tidewater and Edward Everett square, will necessarily have to be improved, thereby affording an overflow for the Crescent-avenue sewer, which in time of storm is very much overtaxed.

It will be necessary to make an extensive study during the coming year for a gravity outlet for the system of sewers which is now taken care of by the Lyons-street pumping station. When these sewers were built it was the intention of this division eventually to provide an outlet to take their flow by gravity to a tunnel sewer in the vicinity of Park street connecting with the Dorchester interceptor, but during the last year the Metropolitan Sewerage Commissioners have made an extensive study for a high level sewer which will pierce the Stony brook *divide* in the vicinity of Mt. Hope Cemetery, and will be deep enough to afford an outlet for this system of sewers and to connect the Lyons-street pump wells with the Metropolitan high level sewer at this point; this sewer can probably be built considerably cheaper than the proposed Park-street tunnel, and it will therefore become necessary to make surveys to find the best route for such a sewer.

In connection with the building of the south branch of Tenean brook, the new outlet for Carlisle street, which is designed to relieve the Centre-street tunnel of a part of its overload, has been extended 3,345 feet, making a grand total of 3,460 linear feet to date; 1,820 feet of which are combined with the Rosemont-street surface drain in the same trench.

This outlet will undoubtedly be completed during the coming season, so as to afford much desired relief to the Centre-street tunnel.

One of the most conspicuous cases of house-sewer construction in this district includes the Adams and Richmond-street sewers at Lower Mills, of which 5,295 linear feet in all have been built in 1898.

This will practically round out the sewerage of "Lower Mills Village" for the present; leaving only scattered small portions to be built as called for by future needs.

During the past year the sewer system for Columbia road between Franklin Park and Edward Everett square has been carried on, and with the exception of the outlet in Ceylon street is ready for house connections.

The sewer system for the northern half of Savin Hill has been started and will be pushed to completion during the coming year.

An unusual amount of sewer work was completed this year on account of the improvement of many streets under chapter 323 of the Acts of 1891, etc., and these streets necessarily required attention from the division.

ROXBURY.

The sewer system in Columbus avenue, between Northampton street and Franklin Park, is now complete; the point between Roxbury crossing and Dimock street being the connecting link.

The sewer in Hemenway street has been built and also part of the sewer in passageway in rear of Boylston street that has caused so much trouble.

The surface drain and house drain have been built in Peterborough street; before either can be used it will be necessary to provide an outlet for this street.

The sewer in Halleck street, that has been so often reported in a dangerous condition, has at last collapsed. The sewers in this district are all too high, and to rebuild this sewer at its present grade on the combined system would be a mistake, but in order to lower it it would be necessary to rebuild the 3 feet 9 inches \times 4 feet brick sewer in Ruggles street and Halleck street to the railroad, which is in good condition but too high. It has been decided to build a house sewer in Ruggles street and Halleck street, which will be connected with the intercepting sewer in Ruggles street at the railroad, and build it low enough to be extended all over the district. This has been done in Ruggles street as far as Halleck street, and when the Halleck-street sewer which is over 1,000 feet long is being constructed, the house sewer will be built in the same trench and used as an underdrain, thereby saving the cost of pumping the large quantity of water which is discharged at the breweries. When the proper time arrives the sewers in this district can be changed into the separate system.

When the water in the Back Bay Fens was lowered for the construction of the Ipswich-street bridge, the deposit brought down by the Stony Brook channel was exposed. The odors arising from this deposit were so objectionable that it was decided to remove it. A large centrifugal pump, boilers, engines, etc., and flexible discharge pipe were built in pontoons and the deposit between Stony Brook channel and the Agassiz bridge was pumped into the Stony brook covered channel below the gate-house and flushed to Charles river, where it was dredged into scows and carried to sea. The cost of this work was \$25,000.

It has been recommended in several previous reports to build house sewers along the side of Stony Brook channel, between Huntington avenue and Elmwood street. This work has not yet been started.

The Muddy River conduit in Brookline avenue should be repaired and a considerable portion of it rebuilt. This will be very expensive work.



STONY BROOK AT BOYLSTON AVENUE, SHOWING BRIDGE CARRIED AWAY BY FLOOD.

A surface drain should be built in Heath street, between Huntington avenue and Lawn street. When this work is done there will be less trouble with the syphon at the Parkway which is continually being cleaned of the gravel which washes from Parker Hill.

The surface drains in the South Huntington avenue system are still connected with the sewer in Heath street.

Nothing has been done about the overflow or surface drain for the Vila street district.

Jersey street is to be the outlet for the entire surface drain system of the Back Bay lands, bounded by Brookline avenue, B. & A. R.R. and the Parkway. The outlet will drain into the Muddy River conduit in Brookline avenue; it will be a 4 feet 9 inches circular brick drain. This size is required to provide for water which should drain into the Muddy river channel (the natural outlet) through smaller drains. This will be a very expensive piece of work. Piles from 20 to 35 feet in length will be required for a foundation. An expensive tide-gate will be required to keep the tide which may rise to grade 15 from flooding the passageways, yards and cellars. The catch-basins in the passageways will be grade 13. This drain should now be built, as the drains built on Boylston street, Peterborough street and Ipswich street now drain on to private land. The house sewer for Jersey street will be in the same trench as the surface drain.

Boylston-street extension is in an unfinished condition. The house drains have not been built. The surface drain discharges on to the land at the side of the street and cannot be provided with an outlet until Jersey street drain is built.

Peterborough street sewers and drains are built, but there is no outlet. A sewer is required in Jersey street, connecting this sewer with the Boylston street sewer; and the catch-basin drain must wait for the Jersey street drain.

Ipswich street has all its sewers and drains built, with the exception of the house drains. This sewer is connected with the Boylston street sewer, but the surface drain discharges on to the land and must wait for the Jersey street system and a surface drain in a proposed street, from Jersey street, parallel to Boylston-street extension.

Sewers and surface drains have been built in the Francis street district, which is to be changed into the separate system. A surface drain has been built which drains into Muddy river, and a house sewer has been built in the Riverway drive which is to connect with the Brookline sewer at Francis street the coming year.

Sewers in the old Francis-street district are on the combined system and discharge into the Brookline sewer without an overflow; on account of the elevation of the district above the outlet, there has been no flooding.

Streets in the low part of the district (which lies to the south of Francis street) have been built, and, if the sewers were to be built on the combined system, they would receive the storm water

from the old district and cellars would be flooded. It has therefore been decided to build new sewers on the separate system and run a system of surface drains over the old district.

The outlet for these sewers is carried across Muddy river to the Brookline sewer; this outlet is too small for the whole district and will have to be enlarged; this will be done by carrying another pipe across the river alongside the present sewer; if complications had not arisen with the Boston and Albany Railroad, this would have been done during the present year.

The most important sewers completed during the past year in the southern part of this district were the relief sewer for the Notre Dame street district which has suffered for many years from floods of surface water; the rebuilding of the Haskins street sewer which was found in a very bad condition and from which we have received numerous complaints in the past; the much called for sewer in Benton street, thereby abating a nuisance of long standing, and the completion of the long-needed Harrison avenue sewer, thereby allowing the city to rectify the sewer system of the adjacent territory.

During the past year we have received numerous complaints from the sewers in Cottage terrace and Marshfield street, and, after an examination of the same, found that they should be rebuilt, as they have settled and become so distorted that it is impossible to clean them.

The outlet for the proposed sewer in Ritchie street has been completed during the past year, and by building the sewer in Ritchie street we will relieve a large area from which we have received numerous complaints.

During the coming year the Sherman street district should be attended to, as the sewers in this district are much too small and a suitable outlet should be built, thereby relieving a large district.

This matter has been recommended for the past seven years and is a much needed public improvement.

CITY PROPER.

The Canal Street Relief Sewer was built in 1896 in Central street; it has been carried on through India, Commercial and Clinton streets; this year it was built in Fulton and Cross streets. As fully described in last years' report, the route of the sewer was changed from Blackstone street to Cross street. In crossing Hanover street, a section was built which will allow the proposed subway to pass over the sewer. It was found to be impracticable to construct this crossing without making a syphon with a depression in grade of at least eleven inches. The arch of the sewer is flat, being constructed of iron "I" beams embedded in concrete. The sewer has been constructed to within about one hundred feet of Endicott street and will be completed the coming year to Canal street at Traverse street.

The Kneeland street sewer has been completed; the South street sewer is within a few feet of completion at Harvard street;

and the district regulator in Dewey square is ready for its machinery. When these things are finished, and the small regulator at Oswego street is built, the change in the sewer system at the Southern station will be completed for the present, but eventually this district should be changed to the separate system. The district regulator at Dewey square, when completed, will take the place of the present regulator at Dover street, and should greatly help the district between Dover street and Essex street, covering an area of 164 acres which will then be below, instead of above, the regulator. This benefit will be more fully appreciated when the changes in the Pumping Station and the extension of the Reservoirs at Moon Island are completed.

That portion of the intercepting sewer which was in the line of the subway, on the Terminal Company's ground near Federal street bridge, has been destroyed and a new sewer 235.5 feet in length has been built by this Division and paid for by the Terminal Company.

Work has been started on the sewer system of Charlestown street. The eighteen-inch pipe sewer on the east side, from Causeway street to Stillman street, has been built, but will not be in use until the Canal Street Relief Sewer reaches this point. The sewer on the west side cannot be built until the buildings are removed.

Canal street has been laid out, the catch-basins have been built and connected with the old sewer which will be rebuilt when the Canal Street Relief Sewer reaches this street at Traverse street.

The old wooden sewer in Way street, destroyed by the widening of the Boston and Albany location for the N.Y., N.H. & H. R.R., has been replaced with a twelve-inch pipe sewer by the N.Y., N.H. & H. R.R., at their expense.

A sewer is needed in Albany street from Wareham street toward Plympton street.

The sewer in Hanover street crosses Washington street under the subway in a syphon and discharges through the Friend street sewer which is seven feet higher than the syphon. The grade of the syphon was so placed that the sewer from its outlet could be carried down Hanover street to the Canal Street Relief Sewer in Cross street, when the relief sewer should reach that street. The Canal Street Relief Sewer is now ready and the connecting sewer should be built, unless the proposed subway in Hanover street is going to be built immediately, in which case the sewer should be built in connection with it.

Sewers in North street, India street, Milk street, and adjoining streets, Commercial street to Clark street, and Salem street, should be rebuilt.

MOON ISLAND.

Of the estimated amount of excavation to be done on the extension of reservoir, 152,497 cubic yards, or about 95 per cent., have been taken out. The easterly wall of the reservoir is completed, and one-third of the southerly wall. Three-quarters

of the easterly division wall is completed, and one-third of the foundation of the centre division wall is in place. The masonry is completed in gate chamber No. 4.

The roadway embankment at southerly end of reservoir has been filled to grade 17, and the gravel filling and ballast on slope is in place. Two-thirds of the ballast placed is covered with rip-rap.

Two hundred and ten linear feet of flushing sewer have been built; 610 linear feet of ten-inch and fifteen-inch drain pipe have been laid, and three (3) manholes built.

The twenty-four-inch iron and earthen pipe for tide gate chamber outlet has been laid.

About 111,000 cubic yards of waste material have been deposited for filling back of sea wall.

The storm of November 27 did considerable damage to the outfall sewer embankment between the island and Squantum, by washing away the gravel above the rip-rap to the extent of about 4,000 cubic yards. As there was some wash above the rip-rap before by storms of less magnitude, it was considered advisable, when repairing the bank, to place slope paving on the bank to grade 18, to protect it in the future. Four hundred linear feet of filling and paving have been placed to date.

The floor of the gate-house at the outlet was destroyed, and the joints of the masonry started during the same storm.

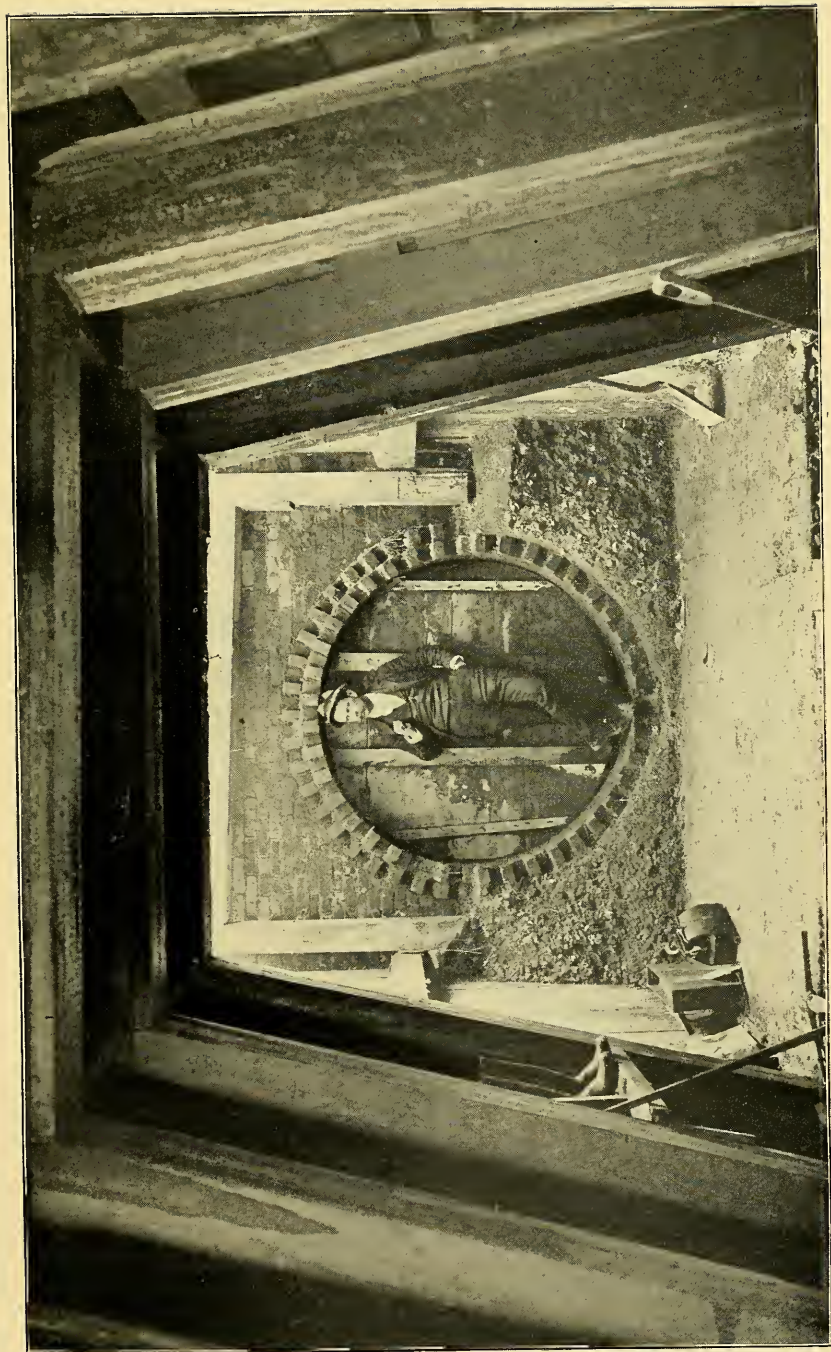
On account of the possibility of greater damage being done by some future storm, it is advisable to extend the sea wall, now building, for a short distance on the opposite side of the gate-house, to allow for filling on all sides of the foundation, except the face, and insure the stability of it in the future.

There are several necessary things about the island that should be done before the work of extending the reservoir is completed.

The bluff on the north-easterly side of the island, which is over 100 feet in height, washes and furrows badly each year, carrying large quantities of material into the water. Now, that the sea wall is built on this side of the island, with a fill behind it to an established grade, it will be necessary to grade the bluff to such a slope that a sod can be grown on it to protect it from the action of the rains and frost, or the grade of the filling at its base cannot be maintained, and will always present an unsightly appearance.

A portion of the rip-rap around the island should be relaid as the action of the ice, together with the storms, has moved it so much in places that the ballast beneath it is liable to be washed, and endanger the embankment in which the outfall sewer is built.

The wharf at the island should be extended about forty-five feet, and a channel dredged from it to deep water. The department boat cannot land at the wharf if the water is below half-tide. A run should also be built alongside the wharf, so the small boat can be launched under any conditions of weather. The old boat and house for same were carried away by the storm of November 27, 1898.



STONY BROOK — OAKLAND GARDEN FORK OF THE CANTERBURY BRANCH, SHOWING TUNNEL UNDER THE N. Y. & N. E. R. R.

The automatic tide gauge should be set up at the wharf, so that a continuous and correct record of the height of the tide can be preserved. Aside from the need of it in connection with the works, its usefulness is demonstrated by the repeated requests for such information by the different city departments and others.

A registering gauge should also be placed at the east end of the tunnel to obtain data in regard to the waves that occur there, so that the same may be determined if possible.

The lack of facilities for keeping the outfall sewer clean has long been felt, and I would recommend laying a six-inch water pipe from the gate-house to the connection chamber, with hydrants on it, so that salt water may be used for the purpose.

The old stable, which should have been replaced long ago, cannot be used with economy any longer. Aside from its tumble-down condition, it will not properly accommodate the horses, and there is no chance to get the wagons under cover. A new stable should be built, with proper accommodations and in keeping with the other buildings on the island.

During the summer season, the island is becoming quite a favorite place for people to visit in carriages and on bicycles, not only to see the work, but to get the sea breezes and the fine view of the harbor that may be had from the top of the hill. If the proposed boulevard in Quincy and Squantum becomes a fact, the number will increase, and a driveway around the island and to the top of the hill, with the grounds about the reservoir graded in proper shape, would greatly add to the appearance of the plant and the pleasure of the public.

I think it advisable at this time to consider the necessity of increasing the capacity of the reservoirs beyond the limits of the present contracts, in the near future. If the proposed design for a high level sewer is adopted, and constructed by the State, it will be several years before it will be in operation, and the increase in the amount of sewage received before these works are completed may necessitate storage capacity equal to the capacity of the tunnel.

STONY BROOK.

During the past year, extensive studies have been made of what is known as the Stony brook drainage area. The district has been thoroughly surveyed, and a complete system of drainage for this area designed. This is the largest drainage area in the city of Boston, and should be completed as soon as possible.

FINANCIAL STATEMENT.

Sewer assessments have been made by this division for the year ending January 31, 1899, in accordance with chapter 402 of the Acts of 1892, and amendments thereto, to the amount of \$147,335.37, and the bills have been deposited for collection with the City Collector.

Bills for sewer assessments, amounting to \$759.87, have also been deposited for collection, representing those estates assessed

under chapter 456 of the Acts of 1889, and amendments thereto, which have been connected with the public sewers during the year; making the total amount of assessments deposited for collection, \$148,095.24.

There remain on the books of this division, at 5 per cent. interest, \$24,548.37, representing the assessments under the Acts of 1889, and amendments thereto, for those estates which have not been connected with the sewer for which they were assessed, and bills for which will be deposited for collection as the connections are made. This sum represents 18.5 per cent. of the total assessments made under those Acts. Entrance fees to the amount of \$3,350.06 have been collected from estates upon which no sewer assessment was ever paid, in accordance with chapter 38, section 10, of the Revised Ordinances.

Three thousand and fifty-eight permits have been issued to licensed drain-layers to make connections with the public sewers, and the work done under these permits has been inspected, and a record of the same made on the plans of this division, in accordance with the provisions of chapter 38, section 6, of the Revised Ordinances.

The following tables and statements will show the amount of money expended and work done during the year :

Financial Statement.

APPROPRIATIONS.	Balances on hand February 1, 1898.	Appropriations and Income added during the year.	Total Credits.	Expenditures during the year.	Balances on hand January 31, 1899.
Street Department, Sewer Division.....	.....	* \$337,376 27	\$337,376 27	\$337,376 27	
Sewerage Works	\$35,170 00	1,500,000 00	1,535,170 00	1,490,743 50	\$44,426 50
Stony Brook Improvement.....	141,108 10	.....	141,108 10	94,434 76	46,673 34
Dam, from Maverick to Prescott street, East Boston..	3,000 00	.....	3,000 00	.....	3,000 00
Laying-Out and Construction of Highways (Sewer Construction).....	.....	21 97	21 97	21 97	
Blue Hill and other avenues (Sewer Construction).....	.....	15 00	15 00	15 00	
Back Bay Fens Sewage.....	.....	25,000 00	25,000 00	25,000 00	
Totals.....	\$179,278 10	\$1,862,413 24	\$2,041,691 34	\$1,947,591 50	\$94,099 84

* Provided for by income from annual charges.

In addition to the above there was expended for sewer work necessitated by the construction of South Union Station, \$41,588.39, making a total of \$1,989,179.89.

OBJECTS OF EXPENDITURE.

STREET DEPARTMENT, SEWER DIVISION.

Improved Sewerage Maintenance.

Pumping-station, inside	\$53,582 69	
Pumping-station, outside	11,283 70	
Engines and boilers	1,792 29	
Main and intercepting sewers	16,562 63	
Moon Island	12,602 86	
Towboat	\$9,392 83	
Less paid by Sanitary Division	6,775 29	
	<u>2,617 54</u>	\$98,441 71

Pumping Station, Forest-avenue Section, Dorchester.

Maintenance	6,397 55
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Stony Brook.

Maintenance	11,325 50
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Miscellaneous Maintenance Charges.

Office expenses, Administration, Permit and Record Offices, in- cluding salaries	\$66,709 91	
Office expenses, Engineering Divi- sion, not included elsewhere	537 72	
Current expenses of yards and lockers	29,138 67	
Current expenses of stables, in- cluding cost of horses, vehicles, harnesses, etc.	\$37,689 38	
Less amount earned by department teams	12,569 71	
	<u>25,119 67</u>	
Repairing catch-basins	4,860 10	
Repairing sewers	5,528 75	
Cleaning and flushing sewers	7,208 33	
Cleaning catch-basins	32,963 65	
Repairing streets	260 01	
Repairing and cleaning culverts and surface drains, not included in the Stony brook system	1,218 01	
Examining condition of sewers and catch-basins	7,364 69	
Work for departments and others	611 46	
House connections	4,730 93	
Damages and claims	351 60	
Holidays	7,471 75	
Travelling and incidental expenses	3,926 23	
Repairing department buildings, stables and yards	4,494 67	
General repairs	814 41	
Hardware, tools and blacksmithing	3,728 18	
Rubber goods	1,755 47	
Increase in stock	12,417 30	
	<u>221,211 51</u>	
Total maintenance	<u>\$337,376 27</u>	

STONY BROOK IMPROVEMENT.

Salaries	\$8,063 40
Water furnished Boston Belting Company	52,533 51
Section 5	202 01
Section 6	112 95
Section 7	2,141 96
Connections at gate-house, Cedar and New Heath streets	1,446 24
Connections at Centre and Heath streets	7,475 55
Connection in private and city land at railroad	17,083 77
Fore-bay and gate-house connections	701 92
Boylston-avenue bridge	3,167 24
Miscellaneous	1,506 21
Total	<u>\$94,434 76</u>

BACK BAY FENS, SEWAGE.

Dredging, Perkins, White & Co.	\$23,689 01
Inspection and engineering	1,310 99
	<u>\$25,000 00</u>

LAYING-OUT AND CONSTRUCTION OF HIGHWAYS.

Ellet street (Quimby & Ferguson)	<u>\$21 97</u>
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BLUE HILL AND OTHER AVENUES.

Commonwealth-avenue outlet at Lake street (E. McHale & Co.)	<u>\$15 00</u>
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SOUTH UNION STATION.

Federal street	\$7,865 50
* Kneeland street, Section 2	5,460 16
Mt. Washington avenue	20,388 44
Summer street	6,492 18
Holidays	1,382 11
Total	<u>\$41,588 39</u>

SEWERAGE WORKS.

Miscellaneous Construction Charges.

Office expenses, Administration and Permit offices, including salaries	\$14,250 63
Office expenses, Engineering Division, including salaries	107,139 98
Water used in sewer construction	5,196 18
Holidays on sewer construction	33,497 20
Work for departments and others	1,772 30
Hardware, tools and blacksmithing	8,807 15
Balances on old construction accounts	483 04
Damages and claims	7,710 72

Carried forward, \$178,857 20

* Kneeland street, Section 2, was finished out of Sewerage Works appropriation; the total cost for the year was \$9,802.19, of which \$4,342.03 was paid out of Sewerage Works.

<i>Brought forward,</i>	\$178,857 20	
Rubber goods	1,907 55	
Dredging Roxbury canal	3,325 00	
Cleaning sewers	2,321 15	
Faneuil Hall Market. (Extension of house connections)	808 60	
Connection of old and new conduits, Stony brook	4,469 92	
New manholes	284 87	
Preliminary advertising on sewer construction not yet begun	198 00	
Sundries, incidentals and travelling expenses	7,419 16	
		\$199,591 45

Improved Sewer Construction.

Pumping-station, outside, new coal run	\$2,999 31	
Pumping-station, inside, electric plant	5,005 06	
Pumping-station, inside, engine-house floor	821 48	
Pumping-engines	55,751 96	
Air-pumps	4,789 14	
Moon Island reservoir	106,484 44	
Moon Island sea wall	50,291 13	
Moon Island, engineering expenses (including salaries)	5,118 53	
Main and intercepting sewers, stock	4,782 33	
Extension of bullseye at Squantum, connection for city of Quincy	1,060 42	
		237,103 80

Sewer and Catch-basin Construction.

As per tables on pages 184 to 227.

	Sewers.	Catch-basins.	
South Boston	\$85,247 32	\$577 90	
East Boston	32,652 54	330 26	
Charlestown	31,772 11	2,129 56	
Brighton	94,900 85	4,768 17	
West Roxbury	137,686 00	1,170 98	
Dorchester	385,563 42	5,171 25	
Roxbury	157,756 19	7,544 91	
City	102,325 95	5,436 18	
	\$1,027,904 38	\$27,129 21	\$1,055,033 59
			\$1,491,728 84
Less net earnings of department engines and boilers			985 34
			\$1,490,743 50

RECAPITULATION.

Street Department, Sewer Division	\$337,376 27
Stony brook improvement	94,434 76
Laying-out and construction of highways	21 97
Blue Hill and other avenues	15 00
Back Bay Fens, sewage	25,000 00
South Union station	41,588 39
Sewerage works	1,490,743 50
Total expenditures by the division for fiscal year	\$1,989,179 89

Summary of Sewer Construction for the Twelve Months ending January 31, 1899.

DISTRICT.	Built by the City, by Contract or Day Labor.	Built by Private Parties.	Total length built during the 12 months ending Jan. 31, 1899.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
City Proper.....	8,530.54	—	8,530.54
East Boston.....	1,839.04	298.39	2,137.43
Charlestown.....	1,882.38	162.00	2,044.38
South Boston.....	7,667.84	—	7,667.84
Roxbury.....	34,603.50	4,014.45	38,617.95
West Roxbury.....	26,602.64	1,309.22	27,911.86
Dorchester.....	93,085.61	3,541.93	96,627.54
Brighton.....	18,928.13	—	18,928.13
Total.....	203,139.68	9,325.99	212,465.67

Catch-basins built, February 1, 1898, to January 31, 1899.

	Day Labor.	Contract.	City Engineer.	Private Parties.	Total.
City Proper.....	27	37	23	1	88
Roxbury.....	30	130	—	10	170
Dorchester.....	75	183	—	—	258
West Roxbury.....	10	23	—	2	35
Brighton.....	3	60	—	—	63
Charlestown.....	4	12	—	26	42
East Boston.....	3	—	—	—	3
South Boston.....	4	8	—	—	12
Totals.....	156	453	23	39	671

1,061,761 linear feet sewers flushed.

808 cubic yards material removed from sewers.

6,061 catch-basins cleaned; 19,735 cubic yards removed.

Schedule of Sewers built to Date in the City of Boston, February 1, 1899.

DISTRICT.	Total length built during the 12 months ending Jan. 31, 1899.	Length rebuilt and abandoned during the 12 months ending Jan. 31, 1899.	Additional length for 12 months ending Jan. 31, 1899.	
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Miles.</i>
City Proper.....	8,295.04	2,591.28	5,703.76	1.08
East Boston.....	2,137.43	—	2,137.43	0.40
Charlestown.....	2,044.38	493.62	1,550.76	0.29
South Boston.....	7,667.84	3,950.29	3,717.55	0.70
Roxbury.....	38,617.95	2,029.40	36,588.55	6.93
West Roxbury.....	37,911.86	—	37,911.86	7.18
Dorchester.....	96,627.54	—	96,627.54	18.30
Brighton.....	18,928.13	525.34	18,402.79	3.49
Totals.....	212,230.17	9,589.93	202,640.24	38.37
Length built previous to January 31, 1898.....				450.83
Total.....				489.20
Length of intercepting sewer.....				24.12
Total.....				513.32



CALLENDER STREET, DORCHESTER, ROCK CUT.

MAIN DRAINAGE STATION.

The following is a record of sludge received in and removed from deposit sewers for twelve months ending January 31, 1899 :

1898.	RECEIVED.	1898.	REMOVED.
February	418 cubic yards.	February	425 cubic yards.
March.....	538 " "	March.....	680 " "
April	520 " "	April.....	680 " "
May.....	620 " "	May.....	595 " "
June.....	640 " "	June.....	765 " "
July.....	725 " "	July.....	765 " "
August	980 " "	August.....	1,105 " "
September	875 " "	September.....	935 " "
October.....	615 " "	October	595 " "
November.....	524 " "	November	510 " "
December.....	720 " "	December	765 " "
1899.		1899.	
January.....	820 " "	January.....	850 " "
	7,995 cubic yards.		8,670 cubic yards.

PROPERTY IN CHARGE OF THE SEWER DIVISION.

Sewer yard, with buildings, at 678 Albany street, South End.

Sewer yard, with building, on North Grove street, West End.

Sewer yard, on Gibson street, Dorchester, with buildings. This is Gibson School-fund land. The buildings were erected by the Sewer Department.

Sewer yard, on Columbus avenue, Roxbury.

Sewer yard, with buildings, on Rutherford avenue, Charlestown.

Sewer yard, with buildings, corner Paris and Marion streets, East Boston.

Sewer yard, with buildings, on Massachusetts avenue, near Albany street, South End.

Sewer yard, with buildings, on Western avenue, Brighton.

Sewer yard, with buildings, on Revere street, West End.

Sewer yard, with buildings, H and Ninth streets, South Boston.

Sewer yard, with buildings, Child and South streets, West Roxbury.

Land and buildings at pumping-station, Old Harbor Point, with roadway (Mt. Vernon street).

Land, buildings and reservoirs at Moon Island and Squantum.

Summary of Sewer Construction, for Five Years, Previous to February 1, 1899.

	1894.	1895.	1896.	1897.	1898.
	Feet.	Feet.	Feet.	Feet.	Feet.
Built by the city, by contract or by day labor	90,802.77	139,200.09	116,008.25	134,324.93	203,139.68
Built by private parties...	24,877.05	36,287.35	37,825.92	38,969.14	9,325.99
Total number of feet built,	115,679.82	175,487.44	153,834.17	173,294.70	212,465.67

South Boston.

Sewers built between February 1, 1893, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
B st.	Dorchester ave. and Broadway	{ 553.49	5 ft. X 6 ft. 6 in., brick . }	Day labor (rebuilding),	\$16,148 04
Bullock st.	C st. and D st.	{ 292.10	3 ft. X 3 ft. 2 in., brick . }	Contract	1,677 64
Dorr st.	Dorchester ave. and Ames st.	{ 599.80	12-in. pipe	Built in 1897	1,151 98
Dexter and Ellery sts.	Dorchester ave. and Boston st.	{ 1,007.87	2 ft. 6 in. X 3 ft., brick.. }	Day labor (rebuilding),	24,876 99
Dorchester ave.	Dorr st. and Dexter st.	{ 1,134.15	3 ft. 6 in. X 3 ft. 8 in. . . }	Built in 1897	1,516 37
Dorchester ave.	B and Dorr sts.	{ 21.30	5 ft., circular brick	Contract (rebuilding)..	5,410 10
H st.	Tide-water and E. Eighth st.	{ 278.70	5 ft. X 5 ft. 3 in., brick . }	Day labor	745 29
K st.	Tide-water and Ninth st.	{ 175.00	12-in. pipe	Day labor (rebuilding),	26,374 74
Kemp st.	Tide-water and Washington ave.	{ 600.00	10 ft. 3 X 6 ft. 3 in., brick .	Day labor	854 31
Passageway off A st.	Ast. and Fort Point channel, East Seventh st. and East Sixth st.	{ 573.10	12-in. pipe	Contract	316 56
Peters st.	E st. and L-st. bridge	{ 249.98	12-in. pipe	Contract	3,841 42
Summer-st. extension.	F and Dorchester sts.	{ 409.25	18-in. pipe	Built in 1897	57 00
Tudor st.	Tide-water and Sixth st.	{ 740.49	12-in. pipe	Day labor (rebuilding),	2,276 88
Q-st. outlet.	Tide-water and Sixth st.	{ 220.00	6-in. pipe, house drain.. }		
		{ 48.00	30-in. iron pipe		
		{ 14.68	2 ft. 6 in., circular brick. }		
		6,917.91			\$85,247 32

Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

Summer-st. extension.....	E-st. and L-st. bridge.....	{ 540.00 209.93 749.93	{ 18-in. pipe..... 10-in. pipe..... 7 catch-basins.....	} Contract.	577 90
Catch-basins built.....					\$85,825 22

East Boston.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

Ashley ave.....	Bennington st. and Breed st.	.....	.....	Built in 1897.....	\$172 13
Chelsea st.	Chelsea bridge and Curtis st.	570.00	3-ft. 6-in. X 3-ft. 8-in., brick,	Day labor.....	9,206 25
Brooks st.	Overflow at Bremen st. ....	.....	.....	Built in 1897.....	52 37
Curtis st.	Chelsea st. and Chaucer st. ...	96.00	24-in. pipe.....	Day labor.....	688 92
Bremen st.	Existing sewer and Putnam st.	.....	.....	Built in 1897.....	44 10
Bennington street boulevard.....	.....	.....	.....	Construction not yet begun.....	43 00
Eagle sq.	Connection with Metropolitan sewer.....	{ 19.27	{ 18-in. pipe..... 1 sump manhole..... 1 regulator manhole..... 1 overflow manhole..... 1 tide-gate manhole.....	Day labor.....	9,330 56
Sumner st.	Connection Metropolitan sewer at Jeffries st. ....	.....	.....	Built in 1897.....	596 74

East Boston. — *Concluded.*
Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Falcon st.	Border st. and Meridian st..	240.35	12-in. pipe.....	Day labor	\$693 38
Lanson st.	Connection with Metropoli- tan sewer at Maverick st...	17.00	3-ft. diameter, brick.....	Built in 1897	122 77
Wordsworth st...	Saratoga and Pope sts.....	10.00	12-in. pipe.....	Built in 1897	1,978 74
		13.49	1 sump manhole.....	.....
Marginal st.....	Connection with Metropoli- tan sewer at Cottage st. ....	.....	1 regulator manhole.....	.....	4,668 57
		.....	1 overflow manhole.....	.....
		.....	1 tide-gate manhole.....	.....
Marginal st.....	Connection with Metropoli- tan sewer at Ruth st. ....	.....	1 sump manhole.....	.....	2,552 19
		.....	1 regulator manhole.....	Day labor	
		.....	1 overflow manhole.....	.....
		.....	1 tide-gate manhole.....	.....
Marginal-st. ex- tension	Jeffries street to tide-water..	470.13	12-in. pipe.....	Day labor	877 81
Saratoga st.	Austin ave. and 250 ft. east- erly	250.80	12-in. pipe.....	Contract	655 34
Summer st.	Lanson st. and Scaver st....	152.00	12-in. pipe.....	Day labor	969 67
<i>Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.</i>					\$32,652 54
Frankfort st....	Maverick st. and Gove st....	298.39	12-in. pipe.....	.....	330 26
Catch-basins built.....	.....	.....	.....	.....	\$32,982 80

Charlestown.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

Beach st.....	Connection with Metropolitan sewer.....	103.25	18-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole..... 1 overflow manhole..}	\$3,124 04
Charles River ave. and Warren ave.	Connection with Metropolitan sewer.....	{ 109.46 60.00	{ 15-in. pipe..... 12-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole. 1 overflow manhole.. 1 tidegate manhole..}	2,830 88
Front st.....	Connection with Metropolitan sewer at Union st.....	106.82	12-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole. 1 overflow manhole.. 1 tidegate manhole..}	2,735 34
Front st.....	Connection with Metropolitan sewer at Walford st....	39.14	12-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole. 1 overflow manhole.. 1 tidegate manhole..}	3,333 57
Roland st.....	Connection with Metropolitan sewer.....	{ 772.54 311.40	{ 12-in. pipe..... 12x12-in. wood.....	{ House sewer..... 1 sump manhole..... 1 tidegate manhole..}	4,662 55
Rutherford ave ...	Outlet and Chapman st.....	331.62	3ft. 9in. circular, brick..	Rebuilding.....	8,078 84
Water st.....	Connection with Metropolitan sewer at Gray st.....	25.50	15-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole. 1 overflow manhole.. 1 tidegate manhole..}	4,813 42
Water st.....	Connection with Metropolitan sewer at Wapping st..	22.65	15-in. pipe.....	{ 1 sump manhole..... 1 regulator manhole. 1 overflow manhole.. 1 tidegate manhole..}	2,193 47
<i>Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.</i>					\$31,772 11
Gray-st Outlet.....	.....	162.00	48-in., iron pipe.....	Rebuilding.	2,129 56
Catch-basins built.....	.....	.....	.....	.....	\$33,901 67

Brighton.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Allston st.....	Commonwealth ave. and Warren st.....	282.10	12-in. pipe.....	Contract.....	\$1,776 74
Cambridge st....	Charles River and Seattle st.	1,606.06	30-in. X 36-in, brick.....	Day labor.....	13,686 77
Cambridge st....	Seattle and N. Harvard sts.	.....	.....	Built in 1897.....	1,571 21
Chiswick road...	Strathmore road and Selkirk road.....	263.85	12-in. pipe.....	Contract.....	1,445 69
Commonwealth ave.....	Sidlaw and Strathmore roads.....	.....	.....	.....	109 22
Cypress road....	Murlock st. and Dustin st....	195.15	12-in. pipe.....	Day labor.....	236 74
Empire st.....	N. Harvard st. and Sorrento st.	399.65	12-in. pipe.....	Day labor.....	450 49
Hano st.....	Everett st. and Cambridge st.	493.74	12-in. pipe.....	Day labor; rebuilding.	2,399 50
Hardwick st....	Bigelow st. and Dunboy st..	784.56	12-in. pipe.....	Day labor.....	1,890 77
Harriet st. and private land...	Faneuil st. and Parson st....	1,172.80	12-in. pipe.....	Contract.....	3,087 50
Kilsyth road.....	Colliston road and 75 ft. west.....	74.81	12-in. pipe.....	Contract.....	160 93
Kilsyth road.....	Lanark road and Selkirk road,	373.93	12-in. pipe.....	Contract.....	2,853 62
Kilsyth road and private land...	Colliston road and Sutherland road.....	350.00	12-in. pipe.....	Day labor.....	708 30
Kimross road....	Sutherland road and Commonwealth ave.....	545.33	10-in. pipe.....	Contract.....	2,765 99

Lanark road.....	Sutherland road and Kinross road.....	476.17	12-in. pipe.....	Contract.....	2,811 39
Lanark road.....	Englewood ave. and Kilsyth road.....	229.60	12-in. pipe.....	Contract.....	1,107 71
Leicester st.....	Bennett st. and Surrey st.....	324.87	12-in. pipe.....	Contract.....	1,529 20
N. Harvard st....	Cambridge st. and Empire st.....	202.00	12-in. pipe.....	Day labor.....	585 24
Selkirk road.....	Sutherland road and Chiswick road.....	74.21	10-in. pipe.....	Contract.....	1,413 37
Selkirk road.....	Sutherland road and Kilsyth road.....	415.52	10-in. pipe.....	Contract.....	2,248 30
Sparhawk st.....	Murdock st. and Cambridge st.....	159.90	12-in. pipe.....	Contract.....	296 10
Strathmore road.	Commonwealth ave. and Chestnut Hill ave.....	664.78	12-in. pipe.....	Contract.....	5,669 57
Sutherland road.	Chestnut Hill ave. and Englewood ave.....	600.30	12-in. pipe.....	Day labor.....	3,370 05
Warren st.....	Cambridge st. and 250 ft. easterly.....	251.81	18-in. pipe.....	Contract.....	1,739 83
Webster st.....	Off Cambridge st.....	.....	.....	Built in 1897.....	91 58
Washington st....	Nantasket ave. and Commonwealth ave.....	100.79 664.79	15-in. pipe..... 12-in. pipe.....	Day labor.....	5,576 82
<i>Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts referring thereto.</i>					
Chester st.....	Brighton ave. and Commonwealth ave.....	20.91 31.60 603.24 287.76	10-in. pipe, C. B. drain.. 12-in. pipe, rebuilt..... 12-in. pipe..... 6-in. pipe, house drain, 2 catch-basins.....	Day labor.....	1,941 81

Brighton. — *Concluded.*
Sewers built by the City in streets laid out under Chapter 323, Acts of 1891, etc. — Concluded.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Chiswick road and outlet in Commonwealth ave.	Chestnut Hill ave. and Englewood ave.	1,511.72 179.31 388.60 494.15 383.10 645.58	10-in. pipe, house sewer. 10-in. pipe, C. B. drain... 12-in. pipe, C. B. drain... 15-in. pipe, C. B. drain... 18-in. pipe, C. B. drain... 6-in. pipe, house drain. 11 catch-basins	Contract	\$6,422 99
Commonwealth ave.	Outlet at Lake st.	507.00	10-in. pipe, C. B. drain...	Built in 1897	177 06
North Harvard st.	Charles River and Western ave.	702.32	6-in. pipe, house drain... 26 catch-basins	Contract	3,198 20
Orkney road	Strathmore road and Sutherland road	247.58 105.68	10-in. pipe, C. B. drain... 6-in. pipe, house drain... 4 catch-basins	Contract	921 00
Telford st.	Western ave. and Charles River Reservation	31.26 171.36	10-in. pipe, C. B. drain... 6-in. pipe, house drain... 1 catch-basin	Contract	336 20
<i>Surface drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.</i>					
Culvert, Commonwealth ave.	100 ft. west of Brighton ave. and 650 ft. east of Malvern st.	596.00 77.99	6-ft. 6-in. X 7-ft., brick... 6-ft. X 6-ft., brick.....	Day labor	14,000 79

			Day labor	Cost shown in house sewer table.
Kilsyth road and private land . . .	Colliston road and Sutherland road	30.00	30-in. pipe	4,732 82
Salt Creek Brook in private land.	Commonwealth ave. and B. & A. R.R.	324.25	6-ft. X 6-ft., brick	
Private land	Commonwealth ave. and Chiswick road . . . . .		. . . . .	150 13
Strathmore road.	Englewood ave. and Commonwealth ave.	{ 98.48	3-ft., circular brick	3,286 57
Sutherland road brook, Sutherland road, and Commonwealth ave.		{ 733.52	30-in. pipe	
	Outlet in private land and westerly side of Commonwealth ave., near Glendon ave.	50.00	30-in. pipe	191 65
				\$94,900 85
<i>Sewers rebuilt between February 1, 1898, and February 1, 1899.</i>				
Chester st.	Brighton ave. and Commonwealth ave.	31.60	12-in. pipe.	4,768 17
Hano st.	Everett st. and Cambridge st., Catch-basins built	493.74	12-in. pipe.	
				\$99,669 02

West Roxbury.
Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Anson st. and private land.....	Spalding st. and South st....	584.63	12-in. pipe.	Day labor.....	\$622 84
Argyle and Marion sts. and private land...	Brookside ave. and Germania st.				
Beech st.....	Newburg st. and summit of hill.....	1,096.36	12-in. pipe.	Contract.....	1,299 92
Calder st.....	Blue Hill ave. and Canterbury st.....	240.86	12-in. pipe.	Day labor.....	356 92
Catherine st.....	Florence st. and Bourne st..	500.00	10-in. pipe.....	Day labor.....	915 61
Corey st.....	Existing sewer and 75 feet northerly.....	66.05	6-in. pipe, house drain...	Day labor.....	1,517 63
Harrison st.....	Florence st. and end of street,	75.50	12-in. pipe.....	Day labor.....	230 48
Jones st.....	Walter st. and Fairview st..	574.02	12-in. pipe.....	Contract.....	544 77
Keyes st.....	Washington st. and N.Y., { N.H. & H. R.R.....}	58.00	6-in. pipe, house drain..	Day labor.....	467 89
Park st.....	Centre st. and Montview st.,	439.77	12-in. pipe.....	Day labor; built in connection with Goldsmith brook..	Cost shown under Goldsmith brook.
Percy st.....	Anson st. and St. Mark st....	1,164.74	12-in. pipe.....	Contract.....	1,320 51
Perkins st.....	Jamaicaway and Day st.....	37.00	6-in. pipe, house drain..	Day labor.....	211 47
Private land at Parental School,		238.41	12-in. pipe.....	Day labor.....	5,249 05
Private land and Rosemary st.....	Spalding st. and South st....	438.93	12-in. pipe.....	Day labor.....	2,505 99
		529.97	12-in. pipe.....	Day labor.....	1,585 67
		699.90	12-in. pipe.....	Day labor.....	

Proctor st., outlet in Selwyn and Morrison sts., and Private land				Day labor.....	12,095 29
Arundel st. and Fairview st.	{	465.22	18-in. pipe.....		
		493.05	15-in. pipe.....		
		915.45	12-in. pipe.....		
Percy st. and South st.....		359.73	12-in. pipe.....	Day labor.....	740 68
Existing sewer and Elm st...		150.27	12-in. pipe.....	Contract.....	312 57
Garden st. and Ashland st...		1,035.13	12-in. pipe.....	Contract.....	1,472 94
Congreve st. and 380 ft. westerly		190.00	12-in. pipe.....	Day labor.....	864 65
South and Con- greve sts.....		315.00	12-in. pipe.....	Day labor.....	1,320 23
South and Farqu- har sts.....		1,828.21	12-in. pipe.....	Day labor.....	7,227 20
South and Fletch- er sts.....		1,594.34	12-in. pipe.....	Day labor.....	5,829 81
Substitute way for South st....	{	720.75	15-in. pipe.....	Day labor.....	5,984 68
Temple and Pel- ham sts., and outlet in.....		637.74	12-in. pipe.....		
Lagrange st..					
Glenham st..					
Harwood st..					
Lasell st.....		10,300.00	12-in. pipe.....	Contract.....	19,095 16
Private land					
Keith st.....					
Alden st.....					
Mt. Vernon st.					
Dent st.....					
Ivory st.....					
Wachusett st.....		200.00	12-in. pipe.....	Contract.....	188 96
Walter st.....		409.54	12-in. pipe.....	Day labor.....	1,600 77
Walter st.....		102.66	12-in. pipe.....	Day labor.....	610 13
Outlet near Proctor st. and Mendum st.....					

West Roxbury. — *Concluded.*
Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or by Day Labor. — Concluded.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Weld and Corey sts.	Metropolitan sewer and Vermont st.	365.00	12-in. pipe.	Day labor.	\$1,426 69
Westbourne st. . . .	Beech st. and Cornell st.	360.15	12-in. pipe.	Contract.	640 98
Woodside ave.	Washington st. and Forest Hills st. ....	.....	.....	Built in 1897.	227 10
<p><i>wers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892 or Special Acts referring thereto.</i></p>					
Angell st.	Blue Hill ave and Canterbury st.	{ 20.00 255.00 }	{ 10-in. pipe C. B. drain ... 6-in. pipe, house drain.. 2 catch-basins	Contract	806 85
Belmore terrace ..	Boylston st. and Boylston ter.	{ 1,976.79 259.72 399.46 278.04 340.18 1,007.16 }	{ 12-in. pipe, house sewer.. 24-in. pipe, C. B. drain .. 15-in. pipe, C. B. drain .. 12-in. pipe, C. B. drain .. 10-in. pipe, C. B. drain .. 6-in. pipe, house drain.. 10 catch basins..... 4 drop inlets.....	Built in 1897.....	421 07
Newburg st.	Belgrade ave and Beech st. . . .	{ 764.22 55.35 510.12 }	{ 12-in. pipe, C. B. drain .. 10-in. pipe, C. B. drain .. 6-in. pipe, house drain.. 5 catch-basins	Contract	5,141 44
Woodlawn st.	Hyde Park ave. and Forest Hills Cemetery	{ 764.22 55.35 510.12 }	{ 12-in. pipe, C. B. drain .. 10-in. pipe, C. B. drain .. 6-in. pipe, house drain.. 5 catch-basins	Contract	1,556 44

Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.

Henshaw terrace. Montebello road. Whittemore st...	Off Corey st..... Washington st. and Walnut ave..... Montview st. and Crest st....	132.20 847.22 329.80	10-in. pipe. 12-in. pipe. 12-in. pipe.	
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Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or by Day Labor.

Franklin Park brook in Calder st. and private land.....	Blue Hill ave. and Canter- bury st.....	175.00	4 ft., circular brick.....	Day labor.....	1,547 93
Centre st.....	Bellevue st. and N.Y., N.H. & H. R.R.....	77.61	18-in. pipe.....	Day labor.....	} Built from } main te- } nance. 11 78
Lyde Park ave...	Stony brook and Weld Hill st.....			Built in 1897.....	
Keyes st. and pri- vate land.....	Washington st. and South st.	556.31	8 ft. 6 in. X 6 ft. 9 in., brick.....	} Goldsmith's brook } conduit; day labor; } 12-in. pipe built in } connection with } this. See sewers } built by the city by } contract or day } labor.....	50,646 43
Goldsmith brook.	1,050.89	8 ft. 6 in. X 6 ft., brick..			Day labor.....
Spalding st.....	South st. and N.Y., N.H. & H. R.R.....	{ 39.04 444.78	18-in. pipe..... 15-in. pipe.....	Day labor.....	653 21
Keyes and Lee...	.....			Just begun.	434 26

Catch-basins built.....

\$137,686 00
1,170 98
\$138,856 98

Dorchester.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or by Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-1899.
Built in	Between				
Barry st.	Barrington st. and Quincy st.	400.48	12-in. pipe.....	Contract; some rock..	\$1,154 32
Bowdoin st.	Barrington st. and Quincy st.	400.51	12-in. pipe.....	Contract; all rock	1,402 60
Ditson st.	Charles st. and Josephine st.	247.69	12-in. pipe.....	Contract	279 60
Dorchester ave....	Dorchesterway and Mt. Vernon st.	225.30	12-in. pipe.....	Contract	966 16
Elmo st.	Main sewer, westerly toward Erie st. ....	.....	.....	Built in 1897.....	250 59
Eaton sq.	Draper ct. and Adams st.	211.76	12-in. pipe.....	Contract	366 00
Elmo and Greenwood .....	.....	.....	.....	Built in 1897	1,004 39
Faxon st.	Trescott st. and Washington st. ....	.....	.....	.....	.....
Harvard ave.	Washington st. and Harvard st.	1,000.00	12-in. pipe.....	Contract	765 45
Leedsville st.	Dorchester ave. and Adams st. ....	.....	.....	Built in 1897	73 38
Magnolia sq.	Magnolia st. and the end....	267.27	12-in. pipe.....	Day labor; some rock..	787 78
Magnolia st.	Magnolia sq. and point 200 feet south.....	165.00	12-in. pipe.....	Day labor; some rock..	1,117 52
Nottingham st. ..	Existing sewer and Bullard st.	145.00	12-in. pipe.....	Contract	215 18

Private way.....	Romsey st. and end.....	140.41	12-in. pipe.....	Contract.....	28 90
Private land and Endleigh st.....	.....	.....	.....	Just begun.....	337 49
Raven st.....	Crescent ave. and Harbor View st.....	449.65	12-in. pipe.....	Contract.....	443 03
Roland Park.....	Summer st. and point 210 feet east.....	209.64	12-in. pipe.....	Contract.....	224 83
Sawyer ave.....	Downer and Cushing aves.....	.....	.....	Built in 1897.....	72 43
Savin Hill ave. ..	Wesley ave. and Ewaldale terrace.....	910.00	15-in. pipe.....	Contract; much rock..	4,377 31
Stanwood st.....	Blue Hill ave. and 282 feet easterly.....	840.00	12-in. pipe.....	Contract; much rock..	1,099 48
Trescott st.....	Faxon st. and Harvard st.....	282.15	12-in. pipe.....	Contract.....	1,441 15
Stanwood st.....	Normandy st. and Blue Hill ave.....	707.69	.....	Built in 1897.....	1,363 13
Stanwood st.....	Normandy st. and Columbia road.....	.....	.....	Built in 1897.....	2,347 22

South Dorchester.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or by Day Labor.

Adams st.....	Hillsdale and Medway sts. ..	623.15	15-in. pipe.....	} Contract; much rock..	6,671 78
Private land.....	Milton Branch R.R. and Adams st.....	3,125.00	12-in. pipe.....		
Richmond st.....	Adams st. and Swans ct.....	670.00	6-in. pipe, house drain ..	} Built in 1897.....	277 35
Birch st.....	Chapman and Lauriat aves....	.....	12-in. pipe.....		
Blackwell st.	Neponset ave. and Bowman st.	549.27	12-in. pipe.....	} Contract.....	762 79
Bowman st.	Blackwell st. and private land,	78.00	6-in. pipe, house drain ..		

South Dorchester. — *Continued.*

Sewers built between February 1, 1898, and February 1, 1899, by the City, by Contract or by Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Centre st.	Dorchester ave. and Remington st.	560.75	12-in. pipe.	Contract	} 3,049 94
Centre st.	Remington st. and Centre ave. Elm lawn and summit, early	240.80	12-in. pipe.	Contract; much rock.	
Centre st.	Existing sewer and Newhall st.	296.27	12-in. pipe.	Contract; very much rock	1,877 83
Coffey st.	Pump well and Lyons st. . . . .	. . . . .	. . . . .	Built in 1897	8 00
Chapman ave.	Lyons and Tucker sts.	363.63	12-in. pipe.	Contract; very much rock	488 84
Evans st.	Capen and Stanton sts. . . . .	. . . . .	. . . . .	Built in 1897	1,876 42
Evelyn st.	Norfolk st. and Blue Hill ave. Elizabeth and Evelyn sts.	1,553.57	12-in. pipe.	Contract; very much rock	404 59
Norfolk st.	Nelson st. and summit. Neponset and Frost aves. . . . .	. . . . .	. . . . .	Built in 1897	3,328 29
Evans st.	Morton st. and summit. Southern ave. and existing sewer	367.96	12-in. pipe.	Day labor	369 71
Fairview st.	Fairview st. and summit . . . . .	. . . . .	. . . . .	. . . . .	670 44
Evans st.	Passageway and Morton st.	35.77	12-in. pipe.	Contract	524 64
Ferndale st.					
Frost ave.		148.80	12-in. pipe.	Contract	319 34
Fuller st.		265.29	12-in. pipe.	Day labor	476 26
			12-in. pipe.	Contract; much rock.	698 19

Hopkins st.	Evans and Corbett sts.	180.00	12-in. pipe.	Contract; very much rock.	1,298 19
Huntoon st.	Butler and Medway sts.	435.00	12-in. pipe.	Contract; much rock.	737 51
Lauriat st.	Chapman and Lauriat aves.	330.41	12-in. pipe.	Contract; some rock.	415 14
L Lyons st.	Chapman and Lauriat aves.	137.25	12-in. pipe.	Day labor.	361 76
Malvern st.	Adams and Milton sts.	453.40	12-in. pipe.	Contract.	744 18
Mascot ave.	Mountain ave. and Norfolk st.	311.00	6-in. pipe, house drain.		
Jones ave.	Mascot ave. and private land,	187.19	12-in. pipe.	Day labor.	1,368 16
Private land.	Jones and Lauriat aves.	249.50	12-in. pipe.	Contract; some rock.	402 71
Mascot ave.	Talbot and Mountain aves.	557.75	12-in. pipe.	Contract.	1,117 75
Massasoit ave.	Talbot and New England aves.	204.90	12-in. pipe.	Contract; some rock.	272 86
Melbourne st.	Joseph and Centre sts.	797.66	12-in. pipe.	Contract and day labor; considerable rock.	1,340 02
Middleton ave.	Norfolk st. and private land.				
Private land.	Middleton ave. and Willow-wood st.				
Morton st.	Lower Mills main sewer and Oak Ridge st.	550.00	15-in. pipe.	Contract; some rock.	1,937 23
Oak Ridge st.	Morton st. and Codman st.	600.00	12-in. pipe.		
Mountain ave.	Lauriat and Ballou aves.	759.87	12-in. pipe.	Contract; very much rock.	3,317 73
Dumas st.	Mascot and Willowwood sts.	174.15	12-in. pipe.	Contract; much rock.	1,910 92
Nelson st.	Selden and Norfolk sts.			Built in 1897.	78 08
Newhall pl.	Newhall ave. and lot line.	264.88	18-in. pipe.	Contract; some rock.	2,547 78
Norfolk st.	Evelyn and Walk Hill sts.	1,032.35	12-in. pipe.	Contract; considerable rock.	702 63
Walk Hill st.	Norfolk st. and Bline Hill ave.	342.30	12-in. pipe.	Built in 1897.	230 49
Norfolk st.	Ballou ave. and Mascot st.			Contract; much rock.	3,893 71
Oak terrace.	Dorchester ave. and Swans ct.	1,016.07	12-in. pipe.	Built in 1897.	204 02
Richmond st.	Adams and Richmond sts.	529.78	12-in. pipe.		
Butler st.					
Shelton st.					
private land.					

South Dorchester. — *Continued.*
Sewers built between February 1, 1898, and February 1, 1899, by the City, by Contract or by Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Rosemont st., outlet in.....	Intercepting sewer and Adams st.....	3,110.00	3 ft. 4 in. X 5 ft., brick..		
Mill st.....	Mill and Centre sts.....	800.00	12-in. pipe.....		
Adams st.....	Adams st. and private land..	149.79	4 ft. diameter, overflow.		
Centre st.....		12.00	4 ft. to 5 ft. X 5 ft. 2 in., reducer.....		
Private land.....	Centre and King sts.....	29.98	5 ft. X 5 ft. 2 in., overflow,		
Kingst. and private land.....		6.00	5 ft. X 5 ft. 2 in. to 6 ft. X 5 ft. 8 in., reducer..	Day labor; much rock.	\$72,613 09
Rosemont road ..	King st. and Rosemont road.	17.10	6 ft. X 5 ft. 8 in., brick..		
	Private land and Shawmut pk.	8.59	Chamber.....		
		12.00	4 ft. diameter, tide-gate chamber.....		
River, Fremont and Norfolk sts.	Blue Hill ave. and 300 ft. north of Tileston ave.....	1,025.45	12-in. pipe.....	Built in 1897	236 09
Walk Hill st	Existing sewer and Torrey st., Wentworth and Learned sts.....	510.30	6-in. pipe, house drain..	Contract; some rock.	349 21
Wentworth st....		300.98	15-in. pipe.....		
		468.65	15-in. pipe.....	Contract; some rock..	2,510 65
Torrey st.....	Learned and Washington sts.	531.35	12-in. pipe.....	.....	1,036 38

White terrace.....	Lauriat and Jones aves.....	298.30	12-in. pipe.....	Day labor.....	452 79
Whitfield st.....	Northern and Wheatland aves	273.97	12-in. pipe.....	Contract.....	277 60
Washington st.....	Miller's lane and Grant pl....	.....	.....	Built in 1897.....	205 65
Washington st.....	Main Sewer to Sanford st....	.....	.....	Built in 1897.....	115 89
Wrentham st.....	Dorchester ave. and existing sewer.....	.....	.....	Built in 1897.....	5 00

Sewers built between February 1, 1898, and February 1, 1899, by the City, under Chapter 323 of the Acts of 1891, as amended by Chapter 418, of the Acts of 1892, or Special Acts referring thereto.

Bernard st.....	Talbot ave. and Harvard st....	.....	.....	Built in 1897.....	833 62
Callender st.....	Don and Lyons sts.....	200.00	10-ft., circ. brick conduit.	Contract; much rock.	4,841 18
Burt st.....	Ashmont and Washington sts.	.....	.....	Built in 1897.....	387 43
Bloomfield st.....	Geneva ave. and Greenbrier st.	295.32	12-in. pipe, sewer.....	Built in 1897.....	29 69
Carlos st.....	Chapman and Lauriat aves..	182.00	6-in. pipe, house drain,	Contract; much rock.	1,025 26
Eli z a b e t h and outlet in Norfolk st....	Norfolk and Astoria sts.....	13.00	12-in. pipe, C. B. drain.	.....	.....
Morton st.....	Ballou ave. and Elizabeth st.	28.00	10-in. pipe, C. B. drain.	.....	.....
Fairmount st.....	Culvert and Norfolk st.....	.....	1 catch-basin.....	.....	.....
		.....	1 drop inlet.....	.....	.....
		0.98	15-in. pipe, sewer.....	.....	.....
		191.35	12-in. pipe, sewer.....	.....	.....
		22.55	6-in. pipe, house drain,	.....	.....
		52.80	15-in. pipe, C. B. drain....	Contract; very much	2,287 84
		3.86	12-in. pipe, C. B. drain.	rock.....	.....
		20.54	10-in. pipe, C. B. drain.	.....	.....
		.....	1 drop inlet.....	.....	.....
		155.30	12-in. pipe, sewer.....	Contract.....	1,180 42
		156.00	6-in. pipe, house drain,	.....	.....

South Dorchester. — Concluded.

Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or special Acts referring thereto.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Greenbrier st . . .	Bloomfield and Park sts.	1,153.00 832.00	12-in. pipe, sewer. 6-in. pipe, house drain,	Built in 1897.	\$10 56
Idaho st. and outlet	River and Manchester sts	80.00 349.95 53.96	18-in. pipe, C. B. drain. 12-in. pipe, C. B. drain. 10-in. pipe, C. B. drain. 4 catch-basins.	Contract; considerable rock	4,233 78
Leroy st.	Ditson st. and Geneva ave.	65.15 200.00 28.00	1 drop-inlet. 24-in. pipe, culvert. 6-in. pipe, house drain. 12-in. pipe, sewer.	Contract.	470 73
Lonsdale st.	Dorchester ave. and Adams st.	21.82 202.00 288.92 520.43 97.68	6-in. pipe, sewer. 6-in. pipe, house drain, 15-in. pipe, C. B. drain. 12-in. pipe, C. B. drain. 10-in. pipe, C. B. drain. 7 catch-basins	Contract.	1,313 61
Mellen st.	Ocean and Montagne sts.	220.80 314.00 188.00 258.04 28.25	3 drop-inlets. 12-in. pipe, sewer. 6-in. pipe, house drain, 20-in. pipe, C. B. drain. 12-in. pipe, C. B. drain. 10-in. pipe, C. B. drain. 3 catch-basins. 1 drop-inlet.	Contract; some rock.	1,361 89

Oakley st.	436.70	12-in. pipe	Built in 1897.	131 65
Peverell st.	442.00	6-in. pipe, house drain..	Contract	1,310 42
	65.00	10-in. pipe, C. B. drain ..		
	503.00	4 catch-basins	Contract; rock.....	2,456 56
Fowler st.	42.00	6-in. pipe, house drain ..		
	496.52	10-in. pipe, C. B. drain..	Contract; rock.....	5,630 71
	617.63	4 catch-basins		
	343.85	15-in. pipe, sewer	Contract; rock.....	3,298 32
	679.84	12-in. pipe, C. B. drain..		
	315.50	15-in. pipe, C. B. drain..	Day labor	379 00
	20.80	12-in. pipe, C. B. drain..		
	783.00	10-in. pipe, C. B. drain..	Contract	Cost shown on next page.
	70.00	6-in. pipe, house drain..		
	616.00	7 catch-basins	Contract and day labor; very much rock	
	814.70	10-in. pipe, sewer		
	169.00	6-in. pipe, house drain ..		
	45.10	6-in. pipe, C. B. drain ..		
	4,776.13	30-in. brick, C. B. drain..		
	600.00	2 catch-basins		
	87.80	1 drop inlet.....		
	64.56	6-in. pipe, house drain..		
	197.40	10-in. pipe, C. B. drain ..		
	550.11	12-in. pipe, C. B. drain..		
	1,747.80	15-in. pipe, C. B. drain..		
	747.37	12-in. pipe, C. B. drain..		
		10-in. pipe, C. B. drain..		
		27 catch-basins		
		9 drop-inlets.....		
Geneva ave. and Bowdoin st.,				
Sawyer ave. and Salcombe st.				
Glenway st. and Greenwood st.				
{ Homes ave. and Bowdoin st.				
{ Topliff st. and Hamilton st.				
Erie st. and Columbia road..				
Dorchester ave. and Adams st.				
Blue Hill ave. and Stanwood st.				
Columbia road, Sect. 1				

Dorchester. — *Continued.*

Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts referring thereto.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Columbia road, Sect. 2	Stanwood st. and N.E. R.R.	2,411.73	12-in. pipe.	Contract and day labor; very much rock	\$57,299 95
		256.00	6-in. pipe, house drain		
		1,354.21	18-in. pipe, C. B. drain		
		141.91	12-in. pipe, C. B. drain		
		207.27	10-in. pipe, C. B. drain		
			7 catch-basins		
			7 drop-inlets		
Columbia road, part of Sect. 2 .	Near N.E. R.R. crossing	106.00	15-in. pipe.	Contract; some rock.	
		351.80	18-in. pipe, C. B. drain		
		198.87	12-in. pipe.		
			1 catch-basin		
Columbia road, Sect. 3	Quincy st. and Dudley st.	3,260.00	12-in. pipe.	Contract; much rock.	
		503.00	18-in. pipe, C. B. drain		
		1,162.00	15-in. pipe, C. B. drain		
		510.00	12-in. pipe, C. B. drain		
		673.00	10-in. pipe, C. B. drain		
1,240.00	6-in. pipe, house drain				
	30 catch-basins				
	7 drop-inlets				

Columbia road, Sect. 4	Dudley st. to Edward Everett sq.	1,047.47 128.00 267.47	12-in. pipe..... 6-in. pipe, house drain .. 10-in. pipe, C. B. drain.. 7 catch-basins	} Contract
Devon st.	Columbia road and Blue Hill ave.	495.00 35.00 9.00	1 drop-inlet..... 6-in. pipe, house drain... 12-in. pipe, C. B. drain.. 10-in. pipe, C. B. drain.. 1 catch-basin .....		} Contract; some rock.

101 29

Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.

Claybourne st....	Bowdoin st. and 422 ft. south- erly.....	422.49	12-in. pipe.
Dakota st.....	Greenbrier and Washington sts.....	370.00	12-in. pipe.
Draper st.....	Homes ave. and Bowdoin sts.....	622.27	12-in. pipe.
Mt. Ida road....	Bowdoin st. and Potosi st... Percival ave. and Mt. Ida road.....	796.30	12-in. pipe.
Wilder road.....	Columbia road and Nor- mandy st.	287.90	12-in. pipe.
		465.45	12-in. pipe.

South Dorchester.

Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.

Alpha road.....	Waldeck and proposed sts...	389.20	12-in. pipe	} Contract (private).
Santuit st.....	Rosemont st. and Welles ave.	121.32	12-in. pipe .....		} Contract (private).

Dorchester. — *Concluded.*

Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Oakland Garden . Fork, Canterbury Branch, Stony Brook.....	.....	459.00	4 ft. drain, brick.....	Day labor.....	\$17,160 79
Oakland Garden Fork of Can- terbury Branch of Stony Brook,	Park st. and Elmo st.....	1,364.60	4 ft. 6 in. drain, brick....		
Canterbury branch of Stony brook, Park st.....	Bernard st. and Talbot ave..	8.00 280.00	7 ft. X 5 ft. 8 in. to 5 ft. } 6 in., reducer..... } 5 ft. 6 in., circular brick. }	Contract.....	
Tenean Creek....	Harvard and Callender sts.....	935.00	Open ditch	Day labor	365 31
	Spence st. and Kilton st....	375.00	24 in. pipe, C. B. drain..	Day labor	
Tenean Creek....	Park st. and Charles st.....	110.00	8 ft. X 6 ft. 6 in., brick..	Day labor	101,961 08
		810.70	8 ft. X 6 ft. 6 in., brick... }	Contract.....	
		268.44	5 ft. 3 in. X 5 ft. 3 in., brick..... }	Contract.....	
Tenean Creek or Smelt Brook, the South Branch.....	Main brook and Gibson st...	128.18	4 ft. diameter, brick	Contract.....	
		127.65	15 in. pipe	Contract (rebuilding),	
		203.41	6 ft. 6 in. X 6 ft. 6 in., brick.....	Day labor.....	

Tenean Creek or Smelt Brook...	Point nearly opposite Elm st., and point on Park st. between Dorchester and Geneva aves.....	335.53 262.62 948.33	14 ft. X 12 ft., brick..... 10 ft. 6 in. X 9 ft., brick.. 8 ft. X 6 ft. 6 in., brick..	Day labor. Some rock
South Dorchester.				
<i>Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.</i>				
Bernard st.....	Harva st. and Talbot ave...	46.00	18-in. pipe	Contract
Carruth st.....	Weyanoke and Shenandoah sts.	101.50 307.92 29.32	15-in. pipe	Contract
Shenandoah st....	Carruth and Wessex sts.	12.00	12-in. pipe	Contract
Mattapan brook in Selden st.....	Nelson st. and passageway ..	1,350.00 560.00	2 catch-basins	Contract
Passageway	Selden and Capen sts.....	1,096.08	3 drop-inlets	Contract
Capen st.....	Passageway and Norfolk st. .	9.00	5 ft. X 3 ft. 9 in. to 3 ft. 6 in. reducer	Contract
Private land.....	Passageway and Fairmount st.	67.00 66.00	3 ft. 6 in., circular brick ..	Contract
Rosemont st., Outlet in	Centre ct. and private land...	1,855.00	24-in. pipe	Contract
Centre st.	Centre and King sts.....		15-in. pipe	Contract
Private land.....	King st. and Rosemont road, Private land and Shawmut pk.		12-in. pipe	Contract
King st. and private land.....			10-in. pipe	Contract
Private land			11 catch-basins	Contract
Rosemont road...			2 drop-inlets	Contract
			6 ft. X 6 ft., brick	Day labor; much rock.
				Cost shown in house- sewer table.

South Dorchester. — *Concluded.*

Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or by Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Wessex, Weyanoke and Bushnell sts. ....	.....	.....	.....	Built in 1897	\$919 20
Dorchester.					
<i>Surface Drains built between February 1, 1898, and February 1, 1899, by Private Parties.</i>					
Private land.....	Wilder st. and Geneva ave....	67.00	24-in. pipe, C. B. drain ..	.....	\$385,563 42
Catch-basins built.....	.....	.....	.....	.....	5,171 25
					\$890,734 67

Roxbury.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract, or by Day Labor.

Adams pl.	Williams st. and Washington st.....	459.83	12-in. pipe.....	Day labor.....	\$1,208 44
Benton st.....	Columbus ave. and Tremont st.....	299.50	18-in. pipe.....	Day labor.....	834 41
Beech Glen st.....	Highland st. and Fort ave....	335.00	12-in. pipe	Contract (all rock).....	4,508 43

Bray st.....	Columbus ave. and Washington st.....	238.10	12-in. pipe.....	Contract.....	502 78
Fellows st.....	Hunnean st. and Webber st.....	234.00	6-in. pipe, house drain..	Day labor.....	922 03
Fairweather st...	Harrison ave. and Reed st...	32.50	10-in. pipe, C. B. drain..	Day labor.....	439 53
Harrison ave.....	Massachusetts ave. and Eustis st.....	249.30	2 catch-basins.....	Day labor (rebuilding).	9,421 48
Haskins st.....	Ruggles st. and Vernon st...	200.00	12-in. pipe.....	Day labor (rebuilding).	4,959 64
HIGHLAND st.....	Existing Sewer and Dorr st..	284.95	12-in. pipe.....	Contract.....	253 41
HOLLANDER st.....	Harold st. and Crawford st..	425.00	2 ft. 4-in. X 3 ft. 6-in., brick	Day labor (rebuilding) }	Built from
Linden Park st..	Lamont st. and 210 feet west-erly.....	100.04	15-in. pipe.....	Day labor (rebuilding) }	maintenance
ELLINGWOOD st....	Lawn st. and end.....	150.00	12-in. pipe.....	Day labor.....	503 08
Hemenway st....	Norway and Boylston sts....	205.14	30 in. X 36 in., brick sewer	Built in 1897.....	402 74
Mozart st.....	Armstrong and Centre sts....	410.83	24-in. pipe, sewer.....	Rebuilding.....	5,245 71
River way and Brookline ave..	Kenwood road and Muddy river.....	295.11	18-in. pipe, sewer.....	Built in 1897.....	221 62
Parker Hill ave..	Parker and Calumet sts.....	397.20	24-in. pipe, C. B. drain.	Outlet for Francis st.; built by contract....	10,662 77
Smith st.....	Phillips and St. Alphonsus sts.....	193.29	24-in. iron pipe, C. B. drain.....	Built in 1897.....	31 50
Kenwood road...	Vila st. and Huntington ave.,	12.00	15-in. pipe, sewer.....	Built by contract.....	1,220 13
Ruggles st.....	Rogers ave. and Halleck st.,	566.06	12-in. pipe, sewer.....	Built by contract.....	1,210 54
(Ruggles and Halleck sts.)	Tremont st. and Columbus av.	440.00	18-in. pipe, sewer.....	.....	3,067 49
Walpole st.....			.....	Built in 1897.....	12 25

Roxbury. — Continued.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-1899.
Built in	Between				
Hutchins ave. Wabeno st.	Day and Lawn sts. Waumbeck and Wyoming sts.	264.00	12-in., pipe, sewer	Built by contract Built in 1897	\$1,849.96 42.38
Passageway Walnut ave.	Hemenway st. and Massachusetts ave. Pickering ave. and Rockland st.	408.06	15-in., pipe, sewer	Built by day labor Built in 1897	1,694.35 21.53
Newark st. Notre Dame st. and passageway,	Cedar st. and end of street. Columbus ave. and Washington st.	{ 50.00 424.23 }	{ 18-in. pipe 12-in. pipe }	Contract Day labor. (Partly rebuilding) Day labor	402.90 12,479.42 151.10
Private land Seaver st.	Lamont st. and Prentiss pl., Humboldt and Elm Hill avenues	100.02 1,002.65 428.87	12-in. pipe 12-in. pipe 12-in. pipe	Contract; rock Contract Day labor; rock	2,008.88 785.53 510.63
Sonoma st. Townsend st. Willow Park	Existing sewer and Walnut ave. Shawmut ave. and end of park	90.00 75.00	12-in. pipe 10-in. pipe	Day labor. Maintenance. (Rebuilding),	{ Built from main- tenance.

Walnut ave.	Harrishoff and Townsend sts.	219.00	12-in. pipe	Contract; some rock..	484 22
Waumbeck st.	Harold st. and Humboldt ave.	467.47	12-in. pipe	Contract	816 93

Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts referring thereto.

BOULEVARDS:					
Columbus ave., Sections 4, 5 and 6	Roxbury crossing and Old Heath st.	920.00 608.00 330.00	8-in. pipe, house drain, 6-in. pipe, house drain, 10-in. pipe, catch-basin drain.....	}	4,283 18
		404.20	17 catch-basins		
			2 drop-inlets.....		
			4 ft. X 4 ft., brick and stone, catch-basin drain.....		
Columbus ave., Sect. 7	Old Heath and Ritchie sts.	63.60	2 ft. 4 in. X 3 ft. 6 in., brick, sewer.....		
		24.40	2 ft. X 3 ft., brick, sewer..		
		321.80	24-in. pipe, sewer.....		
		59.60	12-in. pipe, sewer.....		
		366.00	8-in. pipe, house drain, 6-in. pipe, house drain, 27.20		
Columbus ave., Sect. 7	Old Heath and Ritchie sts.	254.00	10-in. pipe, catch-basin drain.....		
			9 catch-basins	Built by contract	9,576 76
Bryant st.	Huntington ave. and Parker st.	Built in 1897.....	111 10

Roxbury. — *Continued.*

Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts relating thereto.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Francis st.....	Brookline ave. and Huntington ave.....	1,022.70 1,351.90 166.03	12-in. pipe, sewer..... 6-in. pipe, house-drain, 15-in. pipe, catch-basin drain.....	Built by contract	
		145.10 101.10	12-in. pipe, catch-basin drain..... 10-in. pipe, catch-basin drain..... 5 catch-basins		
Vila st.....	Kenwood road and Francis st.....	180.00 9.00	12-in. pipe, sewer..... 15-in. pipe, catch-basin drain.....	. . . . .	\$6,613 09
		178.40	12-in. pipe, catch-basin drain.....		
Kenwood road...	Brookline ave. and Vila st...	708.38 661.70	12-in. pipe, sewer..... 24-in. pipe, catch-basin drain.....	Outlet for Francis-st. sewers. Built by contract.....	
		35.15	15-in. pipe, catch-basin drain.....		
Parker, Turner and Norway sts.	.....	.....	.....	Built in 1897.....	305 21

Ruggles st.	Parker st. and Back Bay Fens,	54.80 48.20	18-in. pipe, sewer. 10-in. pipe, catch-basin drain. 4 catch-basins	Built by contract	620 85
Vancouver st.	Huntington ave. and Ruggles st.	50.00	6-in. pipe, house-drain,	Built in 1897	814 30
Peterborough st.,	Boylston st. and Audubon road	482.66 1,170.17	15-in. pipe, catch-basin drain. 12-in. pipe, catch-basin drain.	Built by contract	3,863 18
Peterborough st.,	Audubon road and Audubon road	284.20 2,261.79	10-in. pipe, catch-basin drain. 6-in. pipe, house-drain, 10 catch-basins	Built by day labor	
Ipswich st.	Boylston st. and Charlesgate west	833.16 463.60 324.59 164.15	10 drop-inlets 30-in. X 36-in. brick sewer, 24-in. pipe, catch-basin drain. 18-in. pipe, catch-basin drain.	Built by contract	26,038 71
Ipswich st.	Charlesgate west and Boyl- ston road	583.07 755.68 48.00 108.67 40.00 154.00	12-in. pipe, catch-basin drain. 10-in. pipe, catch-basin drain. 9 catch-basins 6 drop-inlets 18-in. pipe, sewer 12-in. pipe, catch-basin drain 10-in. pipe, catch-basin drain 8-in. pipe, house-drain, 6-in. pipe, house-drain, 5 catch-basins 1 drop-inlet	Built by contract	

Roxbury. — Continued.

Sewers built between February 1, 1898, and February 1, 1899, by the City in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts referring thereto.

LOCALITY.		Length in Feet.	Dimensions and Materials.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
St. Stephen st.	Bryant and Jarvis st.	771.55 60.55 27.83 116.50 559.05	2-ft. 6-in. X 3-ft., brick, sewer 18-in. pipe, sewer 12-in. pipe, sewer 10-in. pipe, catch-basin drain 6-in. pipe, house-drain, 10 catch-basins	Built by contract	\$7,990 30
Astor st.	Massachusetts ave. and Hem-enway st.	876.15 63.97 136.83 37.50 953.29	2 ft. 6 in. X 3-ft., brick, sewer 18-in. pipe, sewer 10-in. pipe, catch-basin drain 8-in. pipe, house drain, 6-in. pipe, house drain, 11 catch-basins	Built by contract	6,410 58
Wensley st.	Heath and Bucknam sts.	24.30 350.00 68.00	10-in. pipe, sewer 6-in. pipe, house drain, 10-in. pipe, catch-basin drain 5 catch-basins	Built by contract	1,647 72

Amory st.....	Bragdon st. and School st....	{ 699.00 11.00 546.00 43.00 345.00 64.00 454.09 125.00 828.00	{ 6-in. pipe, house drain, 10-in. pipe, C. B. drain.. 2 catch-basins	Contract	829 12
Bragdon st.....	Amory st. and Columbus ave.	{	{ 6-in. pipe, house drain, 10-in. pipe, C. B. drain.. 3 catch-basins	Contract	633 64
Harold st.....	Walnut ave. and Monroe st..	{	{ 6-in. pipe, house drain, 10-in. pipe, C. B. drain.. 4 catch-basins	Contract	2,460 64
Shirley st.....	Norfolk ave. and Massachu- setts ave.....	{	{ 18-in. pipe	Contract	1,959 14

Surface Drains built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

Queensbury st... Old Stony Brook Channel	At Kilmarnoch st..... Amory st. and Columbus ave.	89.60 160.00	12-in. pipe, surface drain. 4 ft. X 4 ft., brick.....	Built by contract..... Day labor	252 31 1,694 74
<i>Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.</i>					
McCarthy pl.....	Tremont st., southwesterly..	320.99	12-in. pipe, sewer.		

Roxbury. — *Continued.*
Sewers built between February 1, 1898, and February 1, 1899, by Private Parties.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Brookledge st....	Humboldt and Elm Hill aves.....	1,084.41	12-in. pipe.		
		212.60	12-in. pipe.		
		180.00	6-in. pipe, house drain.		
Copley st.....	Columbus ave. and West Walnut pk.....	15.00	12-in. pipe, C. B. drain.		
		25.00	10-in. pipe, C. B. drain.		
		.....	2 catch-basins.		
		238.25	12-in. pipe.		
		192.00	6-in. pipe, house drain.		
		30.00	10-in. pipe, C. B. drain.		
Ernst st.....	Bragdon st. and West Walnut pk.....	25.00	12-in. pipe, C. B. drain.		
		.....	2 catch-basins.		
		187.20	12-in. pipe.		
		168.00	6-in. pipe, house drain.		
		685.00	15-in. pipe.		
		552.00	6-in. pipe, house drain.		
		45.00	10-in. pipe, C. B. drain.		
		54.00	12-in. pipe, C. B. drain.		
		.....	6 catch-basins.		
				
West Walnut pk.	Amory st. and Columbus ave.				

Sewers built between February 1, 1898, and February 1, 1899, by the City of Boston, by Contract or Day Labor, under the direction of the Stony Brook Improvement Office.

Connection in private and city land at railroad.	Intersection of Centre st. and Columbus ave.....	52.00	12-in. pipe	{ Rebuilt; contract built from appropriations for Stony Brook Improvement. }
West Roxbury low level outlet in Columbus ave.....	Centre st. and Cedar st.....	.....	Built 7 ft. × 10 ft., brick.	
Tremont st..... Columbus ave.....	At Roxbury Crossing..... At Heath st.....	..... .....	Built 7 ft. × 7 ft., brick..	{ Converted from old Stony Brook channels..... Same as above..... Regulator and tide gate to prevent flooding of Boston Belting Company's property by backing up of Stony Brook Valley sewer. }

\$6,196 31

1,620 30

Roxbury. — *Concluded.*
Surface Drains built between February 1, 1898, and February 1, 1899, by the City of Boston, by Contract or Day Labor, under the direction of the Stony Brook Improvement Office.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Connection in city land and private land at railroad	Section in Centre st. and private land and portion built by N.Y., N.H. & H. R.R. Co.	60	15 ft. 6 in. X 17 ft., brick.	{ Contract built from Stony Brook appropriation cost shown under that heading.	
Tremont and Linden Park sts...	Roxbury Crossing and Hampshire st.....	729	3 ft. X 7 ft., brick.....	Made by building division wall through centre of 7 ft., X 7 ft., sewer. See records of West Roxbury low level sewer.	6,959 20
Catch-basins built.....					\$157,756 19
					7,544 91
					\$165,301 10

City Proper.

Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

Atlantic ave.	South Market st. and Commercial Wharf.....	.....	.....	Built in 1897.....	\$157 86
Barton st.	Barton pl. and Milton st.....	.....	.....	Built in 1897	218 24
Bothnia and Boylston sts.....	Cambria st. and Massachusetts ave.....	.....	.....	Built in 1897	49 53
Passageway	St. Botolph st. and N.Y., N.H. & H. R.R.....	624.12	12-in. pipe, sewer.....	Rebuilding; built from maintenance appropriation	
Dorchester ave....	Summer st. and Mt. Washington ave.....	254.24 973.96	15-in. pipe, sewer..... 12-in. pipe, sewer.....	} Contract	3,526 77
West Brookline st.	Washington st. and Shawmut ave.	226.16	12-in. pipe, sewer.....			Contract; rebuilding..	391 84
Canal st., relief sewer:	Commercial and Fulton sts....	80.32	5 ft. 6 in. X 5 ft. 9 in., brick sewer.....	}	58,064 85
In Clinton st...	Clinton and Cross sts.....	274.27	5 ft. 6 in. X 5 ft. 9 in., brick sewer.....		
In Fulton st. ..	Fulton and Hanover sts.	58.47	6 ft. 6 in. X 3 ft. 10 in., brick sewer.....		
In Cross st. ...		576.93	5 ft. 6 in. X 5 ft. 9 in., brick sewer.....		
		24.00 5.00	reducers (brick)..... 2 ft. 6 in. X 3 ft., brick sewer		
In Cross st.....	Hanover and Endicott sts.....	291.00	4 ft. 9 in. X 5 ft. brick sewer.....		

City Proper.— *Continued.*
Sewers built between February 1, 1898, and February 1, 1899, by the City, either by Contract or Day Labor.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Charles and Allen sts.....	Poplar and Brighton sts.....	.....	Back filling.....	Built by contract..... Sewer finished in 1897.	3,687 20
Dewey sq.....	.....	.....	District regulator.....	On intercepting sewer, Construction shown under South Union Station, partial cost charged against sewerage works after South Union Station money was spent...	2,875 60
Kneeland st., Sec. 2	Federal to Cove sts.....	.....	.....	.....	.....
Kneeland st., Sec. 1	Cove and South sts.....	163.50	5 ft. 8 in. X 8 ft. 6 in., brick sewer.....	.....	4,342 03
South st.....	Kneeland and Harvard sts....	24.00	4 ft. X 5 ft., wood sewer	.....	22,597 01
Way st.....	Albany st. and Harrison ave.	6.00	18-in. pipe, sewer.....	.....
Tremont st.....	Corning st. and railroad.....	24.00	Brick reducer.....	.....	22,597 01
		538.00	4 ft. 6 in. X 6 ft. 9 in., brick sewer.....	.....
		360.00	12-in. pipe, sewer.....	Rebuilt by N.Y., N.H. & H. R.R. Built in 1897.....	24 20

South Union Station.

Mt. Washington ave. Railroad yard and Kneeland st.	Fort Point Channel and South st.	90.00	6 ft. 9 in. X 6 ft. 9 in., brick sewer.	Piles by contract.	Built from special appro- priation for South Union Station, cost shown on p.
		210.70	2 ft. 6 in. X 3 ft., brick sewer.		
Kneeland st., Sec. 2	Federal to Cove sts.	15.80	20-in. circular brick sewer	Intercepting sewer.	
		8.00	Brick reducer at tide gate,		
		18.33	Brick tide gate chamber..		
		10.50	Brick regulator manhole.		
Federal st. and railroad yard.	Near Federal-st. bridge.	217.80	3 ft. X 5 ft., brick sewer,		
		13.70	2 ft. 8 in. X 4 ft. 6 in., brick sewer.		
Summer st.	Fort Point Channel and Cove st.	4.00	Brick reducer.	Piles by contract.	
Cove st.	At Summer st.	138.19	5-ft., circular, brick sewer }		
		61.44	2 ft. 8 in. X 4 ft., brick sewer.		

City Proper.— *Continued.*

Sewers built between February 1, 1898, and February 1, 1899, by the City, in streets laid out under Chapter 323 of the Acts of 1891, as amended by Chapter 418 of the Acts of 1892, or Special Acts referring thereto.

LOCALITY.		Length in feet.	Dimensions and Material.	Remarks.	Expenditure during the fiscal year 1898-99.
Built in	Between				
Public alley, No. 401.....	Irvington and Garrison sts...	27.20	6-in. pipe, house drain .. 2 catch-basins .....	.....	\$419 25
Public alley, No. 402.....	Garrison and W. Newton sts.	.....	1 manhole.....	.....	192 79
Public alley, No. 403.....	W. Newton and Cumberland sts.....	.....	1 catch-basin	Built by contract	204 05
Public alley, No. 404.....	Cumberland st. and Public alley, No. 405.....	22.00	1 manhole..... 6-in. pipe, house drain .. 2 catch-basins .....	.....	346 30
Public alley, No. 405.....	St. Botolph st. and Hunting-ton ave.	22.00	6-in. pipe, house drain, 1 catch-basin .....	.....	253 57
Belvidere st.....	Dalton and West Newton sts.	219.25 53.52 364.00	2 manholes	Built by contract	964 48
Public alley, No. 437.....	Berkeley and Arlington sts..	.....	12-in. pipe, sewer	Built by contract	286 68
Charlestown st...	Haymarket sq. and Causeway st.	996.14	10-in. pipe, C. B. drain.. 6-in. pipe, house drain, 6 catch-basins	Built by contract	3,708 44
			2 catch-basins, 1 manhole	Built by contract	
			18-in. pipe, sewer	Built by contract	

Surface Drains built between February 1, 1898, and February 1, 1899, either by Contract or Day Labor.

	Harcourt st. and Boston and Providence Railroad		Built in 1897
St. Botolph and Irvington sts.	Harcourt st. and Boston and Providence Railroad		\$15 26
<i>Surface Drains built between February 1, 1898, and February 1, 1899.</i>			
Dorchester ave. extension.	Summer st. and Mt. Washington ave.	{ 473.00 392.00 338.00 210.00	} 15-in. pipe, catch-basin drain 12-in. pipe, catch-basin drain 10-in. pipe, catch-basin drain 12 catch-basins 10-in. pipe, catch-basin drain 5 catch-basins. 4 drop-inlets 10-in. pipe, catch-basin drain 4 catch-basins. 10-in. pipe, catch-basin drain 1 catch-basin
Summer st. extension.	Fort Point channel and Atlantic ave. . . . .	.....	} Built by contract.
Atlantic ave.	Summer and Kneeland sts.	115.00	
East st.	Near Atlantic ave.	6.00	\$102,325 95 5,436 18 \$107,762 13
Catch-basins built . . . . .		.....

Sewers Abandoned or Rebuilt between February 1, 1898, and February 1, 1899.

LOCALITY.		Length in Feet.	Dimensions and Material.	Remarks.
In	Between			
SOUTH BOSTON.				
B st.....	Dorchester ave. and Broadway.....	{ 553.49 292.10 }	5 ft. X 6 ft. 6 in., brick... 3 ft. X 3 ft. 2 in., brick...	{ Day labor
Dexter and Ellery sts.....	Dorchester ave. and Boston st.....	{ 1,007.87	2 ft. 6 in. X 3 ft., brick... 3 ft. 6 in. X 3 ft. 8 in., brick.....	{ Day labor
Dorchester ave....	Dori and Dexter sts.....	{ 1,134.15	5-ft., circular brick.....	{ Contract
H st.....	Tidewater and East Eighth st.....	{ 21.30 278.70 }	5 ft. X 5 ft. 3 in., brick...	{ Rebuilt.
Kemp st.....	Tidewater and Washington ave.....	{ 600.00	10 ft. 3½ in. X 6 ft. 3 in., brick.....	{ Day labor
Q st. outlet.....	Tidewater and Sixth st.....	{ 48.00 14.68 }	30-in. iron pipe..... 2 ft. 6 in., circular brick.	{ Day labor
ROXBURY.				
Hemenway st....	Norway and Boylston sts....	410.83	18 in. X 24 in., brick, sewer.....	Rebuilt.
Passageway.....	Hemenway and Massachusetts ave.....	408.06	10-in. pipe, sewer.....	Rebuilt.
Harrison ave.....	Massachusetts ave., Eustis st.....	284.95	2 ft. 4 in. X 3 ft. 6 in., brick.....	Day labor.
Haskins st.....	Ruggles and Vernon sts.....	425.00	15-in. pipe.....	Day labor.

Hollander st. Notre Dame st. and private land,	Harold and Crawford sts.	150.00	1 ft. 8 in. × 2 ft. 6 in., brick.....	Day labor ; maintenance.
Willow park.....	Columbus ave. and Washing- ton st.....	275.56	4 ft. 3 in. circular brick...	Day labor.
	Shawmut ave. and end of park.....	75.00	10 in. pipe.....	Day labor ; maintenance.
CITY PROPER.				
Cross st.....	Hanover and Endicott sts....	145.00	12 in. × 15 in., brick sewer.....	Rebuilt.....
Cross st.....	Hanover and Endicott sts....	118.00	20-in. bbl. brick sewer	Rebuilt.....
Cross st.....	Hanover and Endicott sts....	300.00	Brick sewer.....	Rebuilt.....
Cross st.....	North and Hanover sts....	87.00	20 in. × 33 in. brick sewer, 2 ft. 9 in. × 3 ft. wood sewer.....	Rebuilt..... Canal st. Relief Sewer.
Cross st.....	Fulton and North sts....	220.00	3 ft. × 3 ft. wood sewer..	Rebuilt.....
Cove st.....	Fulton and North sts....	130.00	2 ft. 5 in. × 3 ft. wood sewer.....	Rebuilt.....
Fulton st.....	Clinton and Cross sts....	140.00	2 ft. 6 in. × 2 ft. 6 in. wood sewer.....	Abandoned.
Kneeland st.....	Federal and South sts....	6.00	18 in. pipe sewer.....	Rebuilt (Canal st. relief).
Kneeland st.....	Federal and South sts....	235.00	4 ft. × 5 ft. wood sewer...	Abandoned.
Passageway.....	St. Botolph st. and N.Y., N.H. & H. R.R.....	624.12	12 in. pipe sewer.....	Rebuilt.
Way st.....	Albany st. and Harrison ave. Washington st. and Shawmut ave.....	360.00	2 ft. × 2 ft. wood sewer...	Rebuilt.
W. Brookline st..		226.16	2 ft. × 2 ft. brick sewer...	Rebuilt.
Federal st. and Railroad yard..	Near Federal st. bridge.....	{ 141.50 132.00 }	{ 3 ft. × 5 ft. brick sewer.. 2 ft. 8 in. × 4 ft. 6 in. brick sewer..... }	{ Intercepting sewer abandoned. }

APPENDIX F.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE STREET CLEANING DIVISION.

921 TREMONT BUILDING,
BOSTON, February 1, 1899.

MR. BENJ. W. WELLS,

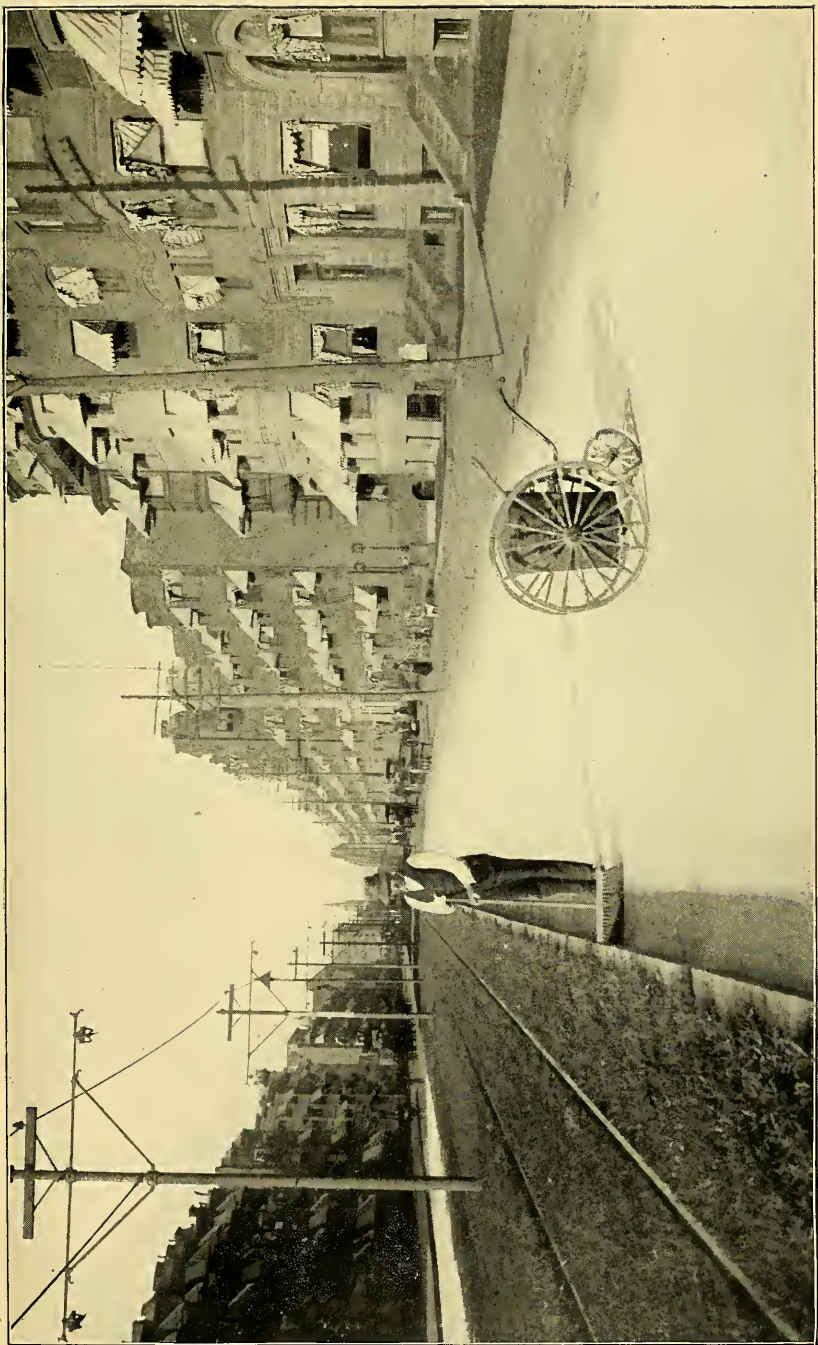
Superintendent of Streets, City Hall, Boston :

SIR, — In submitting the annual report of the Street Cleaning Division of the Street Department for the year ending January 31, 1899, I beg leave to call your attention to some few features of last year's work, which deserve more than a perfunctory notice.

Tabulated statements and even carefully computed totals are not always exhaustively descriptive of work done; a better proof of which cannot be found in this report than in those figures which appear to show the operations of the hand sweeping force in District 10, the West and the North End sections of this city.

Hand sweeping, or what may be called the bag-carrier system, was introduced in this city for the first time about the middle of last September and has been continued with unqualified success up to the present. Its tentative period, if, indeed, it was ever deemed an experiment, has passed; if it was on trial the verdict is in its favor. No figures of cost, nor tables of mileage, can tell its story. The results are clean streets for the first time in that section of the city covered by this force. The streets, which under the old system of machine sweeping were cleaned but three or four times a week, and which it was once declared impossible, even with large forces of men and teams, to keep free from dirt for any length of time, are now being constantly cared for from seven till five o'clock every working day of the year. General, and almost absolute cleanliness, is the result. It is only a question of time and larger appropriations, when hand sweeping will be so extended as to embrace at least the entire business section of the city; and it is simply in recognition of the splendid results of the work of this system that I urgently recommend its extension, and that you ask for more money for this division.

The work of flushing asphalt streets in the Back Bay District was not of sufficient magnitude to warrant an assurance of its success as an economical method of street cleaning in this city; and this is, in a great measure, attributable to the fact that the conditions which make it such in foreign cities, do not exist here. The hydrants, which are a prime factor in this scheme of flushing in continental cities, are so located and constructed as to contribute to the work of the street



PUSH CART PATROL.

cleaners; they are a part of the street cleaning plant; whereas, in our city, they are placed and fashioned for the sole use and purposes of our Fire Department. Under existing conditions, I would not care to recommend flushing on a large scale.

In the matter of recommendations for the future, which I now make agreeably to your request, in addition to that of a large appropriation for the extension of the hand-sweeping system, I respectfully but earnestly remind you of the need of new and more stable room. All our stables are old, some of them dilapidated and none of them in first-class condition. It will cost a few thousand dollars to put them in good repair. Provision should be made towards acquiring new quarters for our South Boston force, as it seems probable that the stables now occupied by us at the corner of Vale and Burnham streets must soon be vacated. It is to be hoped also that the idea of establishing a force in East Boston will be realized. It may be well to mention in connection with this subject, that my stable equipments are as complete as the appropriation would allow. All the street carts have been put in first class condition, and are, for all my purposes, as good as new, — the equal of any lot of carts in any department.

The patrol system force of this division has never had suitable accommodations. Their old station at the foot of Oliver street was unfit, unsanitary and not safe. At the old Public Library building, where I succeeded in locating them towards the close of the year, they have large rooms, plenty of light and air and many of the modern improvements.

I do not like to close this annual report until I have paid my tribute of praise to all the men who have helped to make this a prominent year in the history of this division. My assistants in the office have always and quickly responded to every suggestion; the foremen have worked as a unit and in harmony; the humblest laborer has done his duty; and I have no hesitation in declaring that the Street Cleaning Division force is a well organized and disciplined body.

Respectfully submitted,

JOSHUA ATWOOD, 3D,

Deputy Superintendent.

FINANCIAL STATEMENT.

Appropriation, 1898-99	\$315,000 00
Revenue — Boston Elevated Railway Company	63 99
Transfer from Street Department — Central Office	450 44
Transfer from Bridge Division	538 30
Total amount of appropriation	\$316,052 73
Total amount of expenditures	<u>316,052 73</u>

OBJECTS OF EXPENDITURES.

Superintendence.

Salary of Superintendent	\$3,000 00
Office pay-rolls	4,932 37
Stationery	236 94
Printing	747 18
Board of horses	1,168 06
Telephone service	444 05
	<u>\$10,528 60</u>

CLEANING STREETS.

Including Cost of Sweeping, Loading and Removal of Street Dirt.

District	1.	South Boston	\$14,539 24
Districts	2-3.	East Boston and Charlestown	11,739 57
District	7.	Roxbury	15,110 41
District	8.	South End:	
		Day gang	12,609 92
		Night gang	38,259 52
District	9.	Back Bay	5,758 76
District	10.	West End and North End	30,996 72
Total cost of cleaning streets			<u>\$129,014 14</u>

HAND SWEEPING.

District 10, West End and North End.

Bag carriers and push-carts	\$5,646 10
Piling dirt	490 94
Snow work	1,530 51
Teaming and helpers	1,403 91
Dump	176 83
Patrolling	31 55
Miscellaneous work	68 44
Superintendence	608 17
	<u>\$9,956 45</u>

NOTE.—The district covered by the Hand Sweeping Force represents an area of 188,166 square yards of granite and asphalt pavement. At first glance, it would appear that, in the matter of mileage this year's work suffers in comparison with that of former years, but it must be borne in mind that no mileage is set against the work of the Hand Sweeping Force, for the reason that the streets in this district are being cleaned from morning till evening, every street being cleaned many times a day; whereas, those streets in districts covered by the sweeping machine forces are never swept more than once a day.

CLEANING GUTTERS.

Including Cost of Sweeping, Loading and Removal of Street Dirt.

District	1.	South Boston	\$1,865 14
Districts	2-3.	East Boston and Charlestown	3,526 49
District	7.	Roxbury	3,915 59
District	8.	South End:	
		Day gang	2,861 72
		Night gang	
District	9.	Back Bay	3,549 31
District	10.	West End and North End	417 64
Total cost of cleaning gutters			<u>\$16,135 89</u>

Total length of gutters cleaned, 2,106.47 miles.

Average cost per mile (including dump), \$7.90.

COST OF MAINTAINING DUMPS.

District	1.	South Boston	\$470 32
Districts	2-3.	East Boston and Charlestown	504 89
District	7.	Roxbury	380 76
District	8.	South End:	
		Day gang	484 06
		Night gang	551 17
District	9.	Back Bay	434 29
District	10.	West End and North End	850 94
Total cost of dumps			<u>\$3,676 43</u>



MACHINE SWEEPING.

STREET DEPARTMENT — STREET CLEANING DIVISION. 231

REMOVING SNOW.

Including Labor on Crossings, in Streets, Carting of Snow, etc.

District	1.	South Boston	\$2,351 13
Districts	2-3.	East Boston and Charlestown	2,394 84
District	7.	Roxbury	2,873 21
District	8.	South End:	
		Day gang	1,834 29
		Night gang	14,179 89
District	9.	Back Bay	2,670 18
District	10.	West End and North End	7,915 07
Total cost			<u>\$34,218 61</u>

MISCELLANEOUS WORK.

This shows the cost of such work as may not be characterized the same in all districts.

Including Miscellaneous Work, Sweeping and Carting of Leaves, etc.

District	1.	South Boston	\$4 20
Districts	2-3.	East Boston and Charlestown	559 03
District	7.	Roxbury	173 06
District	8.	South End:	
		Day gang	4 20
		Night gang	265 71
District	9.	Back Bay	274 83
District	10.	West End and North End	70 99
Brighton	.	. . . . .	385 68
Total cost			<u>\$1,737 70</u>

CLEANING CROSSINGS.

Including Cost of Manual and Machine Labor.

Cost of cleaning crossings	\$594 43
Removing snow by patrol	4,489 34
Total cost	<u>\$5,083 77</u>

PATROLLING BY DISTRICTS.

This includes the Cost of Picking up and the Removal of Refuse Papers, etc., from the Streets.

Cost of paper patrol	<u>\$413 27</u>
--------------------------------	-----------------

PUSH-CART-PATROL SYSTEM.

Superintendence, inspection, etc.	\$2,823 96
Push-carts, including labor and teaming	35,010 26
Total cost	<u>\$37,834 22</u>

Recapitulation of Expenses, exclusive of Superintendence, Stable and Yard Expenses, Stock and Miscellaneous Accounts.

DISTRICTS.	Cost of Cleaning Streets.	Cost of Cleaning Gutters.	Cost of Dumps.	Cost of Snow.	Miscellaneous Work.	Cost of Crossings.	Patrolling in Business District.	Hand Sweeping.	Cost of Patrol System.	Total.
1.....	\$14,539 24	\$1,865 14	\$470 32	\$2,351 13	\$4 20					\$19,230 03
2-3.....	11,739 57	3,526 49	504 89	2,394 84	559 03					18,724 82
7.....	15,110 41	3,915 59	380 76	2,873 21	173 06					22,453 03
8, Day gang..	12,609 92	2,861 72	484 06	1,834 29	4 20					17,794 19
8, Night gang,	38,259 52		551 17	14,179 89	265 71					53,256 29
9.....	5,758 76	3,549 31	434 29	2,670 18	274 83					12,687 37
10.....	30,995 72	417 64	850 94	7,915 07 Brighton.	70 99					40,251 36
Hand sweeping,					385 68			\$9,956 45		385 68
Cost of sweep- ing crossings,						\$5,083 77				5,083 77
Patrolling in business dis- tricts.....							\$413 27			413 27
Push-cart pa- trol system..									\$37,834 22	37,834 22
Total	\$129,014 14	\$16,135 89	\$3,676 43	\$34,218 61	\$1,737 70	\$5,083 77	\$413 27	\$9,956 45	\$37,834 22	\$238,070 48

STREET DEPARTMENT — STREET CLEANING DIVISION. 233

STABLE AND YARD EXPENSES.

Including the Cost of the South End, West End, Roxbury, South Boston and Charlestown Stables, as follows :

Superintendence of stables	\$1,395 80
Labor, including the cost of feeders, hostlers, broom-makers, watchmen, yardmen, messenger, etc.	20,579 36
Cart and carriage repairs	5,409 53
Harness repairs	737 76
Horseshoeing	3,006 65
Sweeping machine repairs	2,506 73
Stable and shed repairs	981 75
Street-car tickets and ferry-passes	538 50
Tool repairs	101 96
Veterinary services and medicine	1,017 39
Total	<u>\$36,275 43</u>

STOCK ACCOUNT.

Broom stock purchased	\$5,061 09
Carts and carriages purchased	1,177 50
Harnesses and horse furnishings purchased	677 63
Horses purchased	1,432 50
Tools purchased	717 33
Bag carriers, etc.	723 27
Waste barrels	42 00
Patrol stock and maintenance of same	1,720 81
Total	<u>\$11,552 13</u>

MISCELLANEOUS.

Holidays	\$16,746 51
Scow (cost of disposal at sea of 27,180 loads of street dirt)	4,348 80
Sundries	1,728 45
Royalty on sweeping machines	600 00
Annuity	125 00
Total	<u>\$23,548 76</u>

GENERAL RECAPITULATION OF EXPENSES.

Superintendence	\$10,528 60
Cleaning streets	129,014 14
Hand sweeping	9,956 45
Cleaning gutters	16,135 89
Maintaining dumps	3,676 43
Removal of snow and ice	34,218 61
Miscellaneous work	1,737 70
Cleaning crossings	5,083 77
Paper patrol in business districts	413 27
Patrol system, push-carts	37,834 22
Stable and yard expenses	36,275 43
Stock account	11,552 13
Miscellaneous	23,548 76
Total	<u>\$319,975 40</u>

Of the above amount, the sum of \$3,313.50 was paid by other departments and divisions for work done, etc., making the net expenses of this division — allowing for a decrease in hay and grain stock of \$609.17, on hand at the beginning of the year — as shown in the financial statement, \$316,052.73.

INCOME.

Amount of the bills deposited with the City Collector during the financial year ending January 31, 1899, \$5,880.

Table Showing the Cost per Mile of Cleaning the Streets in Each District, Exclusive of Supervision and Other Expenses.

DISTRICTS.	Miles of Streets Cleaned.	Cost of Cleaning.	Pro Rata Cost of Dump.	Total Cost.	Cost Per Mile.
1.....	1,178.38	\$14,539 24	\$416 84	\$14,956 08	\$12 69
2-3.....	914.59	11,739 57	388 25	12,127 82	13 26
7.....	883.46	15,110 41	302 38	15,412 79	17 44
8 { Day gang.....	1,171.24	12,609 92	394 51	13,004 43	11 10
{ Night gang.....	4,639.23	38,259 52	551 17	38,810 69	8 36
9.....	516.72	5,758 76	268 68	6,027 44	11 66
10.....	2,796.55	30,996 72	839 60	31,836 32	11 38
	12,100.17	\$129,014 14	\$3,161 43	\$132,175 57	

Average cost per mile of cleaning streets in seven districts, exclusive of supervision, \$10.92.

Table Showing the Cost per Mile of Cleaning the Streets in Each District, Including Supervision, Labor, Yard and Stable Expenses.

DISTRICTS.	Miles of Streets Cleaned.	Cost of Cleaning Streets.	55% of the Total Cost of Supervision.	67% of the Total Cost of Yard and Stable Expenses.	Total Expenses.	Total Cost per Mile.
1.....	1,178.38	\$14,956 08	\$655 25	\$2,666 59	\$18,277 92	\$15 51
2-3.....	914.59	12,127 82	531 33	2,162 32	14,821 47	16 20
7.....	883.46	15,412 79	675 26	2,748 02	18,836 07	21 32
8 { Day gang.....	1,171.24	13,004 43	569 74	2,318 62	15,892 79	13 56
{ Night gang.....	4,639.23	38,810 69	1,700 31	6,919 73	47,430 73	10 22
9.....	516.72	6,027 44	264 08	1,074 66	7,366 18	14 25
10.....	2,796.55	31,836 32	1,394 76	5,676 24	38,907 32	13 09
	12,100.17	\$132,175 57	\$5,790 73	\$23,566 18	\$161,532 48	

Average cost per mile of cleaning the streets in seven districts, including supervision, etc., \$13.34.

Table Showing the Number of Loads of Street-dirt Removed.

DISTRICTS.	No. of Loads of Dirt Removed.	Cost per Load of cleaning streets and removing to dumps, including Foreman's superintendence.
1.....	16,953	\$0 96
2-3.....	10,734	1 42
7.....	14,575	1 30
8 { Day gang.....	8,686	1 78
{ Night gang.....	22,450	1 72
9.....	5,867	1 62
10.....	16,848	1 86
	96,113	Barrel and bag loads.
Removed by hand-sweeping gang.....	2,376	28,638
Removed by push-cart, patrol system.....	6,804	96,648
Removed by district push-carts.....	.....	6,424
Removed by paper patrol.....	321	
Totals.....	105,614	131,705

Total number of cart loads removed 105,614
Total number of barrel and bag loads removed 131,705

Twenty-seven thousand one hundred and eighty loads of this dirt (or about 25 per cent.) were delivered at the dumping-scow, the towing of which to sea cost sixteen cents per load.

PUBLIC WASTE-BARRELS.

Total number of waste-barrels emptied 25,982
Total number of barrels emptied in subway 1,166
27,148

FORCE EMPLOYED.

Deputy Superintendent 1
Clerk 1
Messengers 5
Employees in the Division, not including the above 359
Entire force 366
Average force employed during the year 357

APPENDIX G.

REPORT OF THE DEPUTY SUPERINTENDENT OF
THE STREET WATERING DIVISION.

440 AND 441 TREMONT BUILDING,
BOSTON, February 1, 1899.

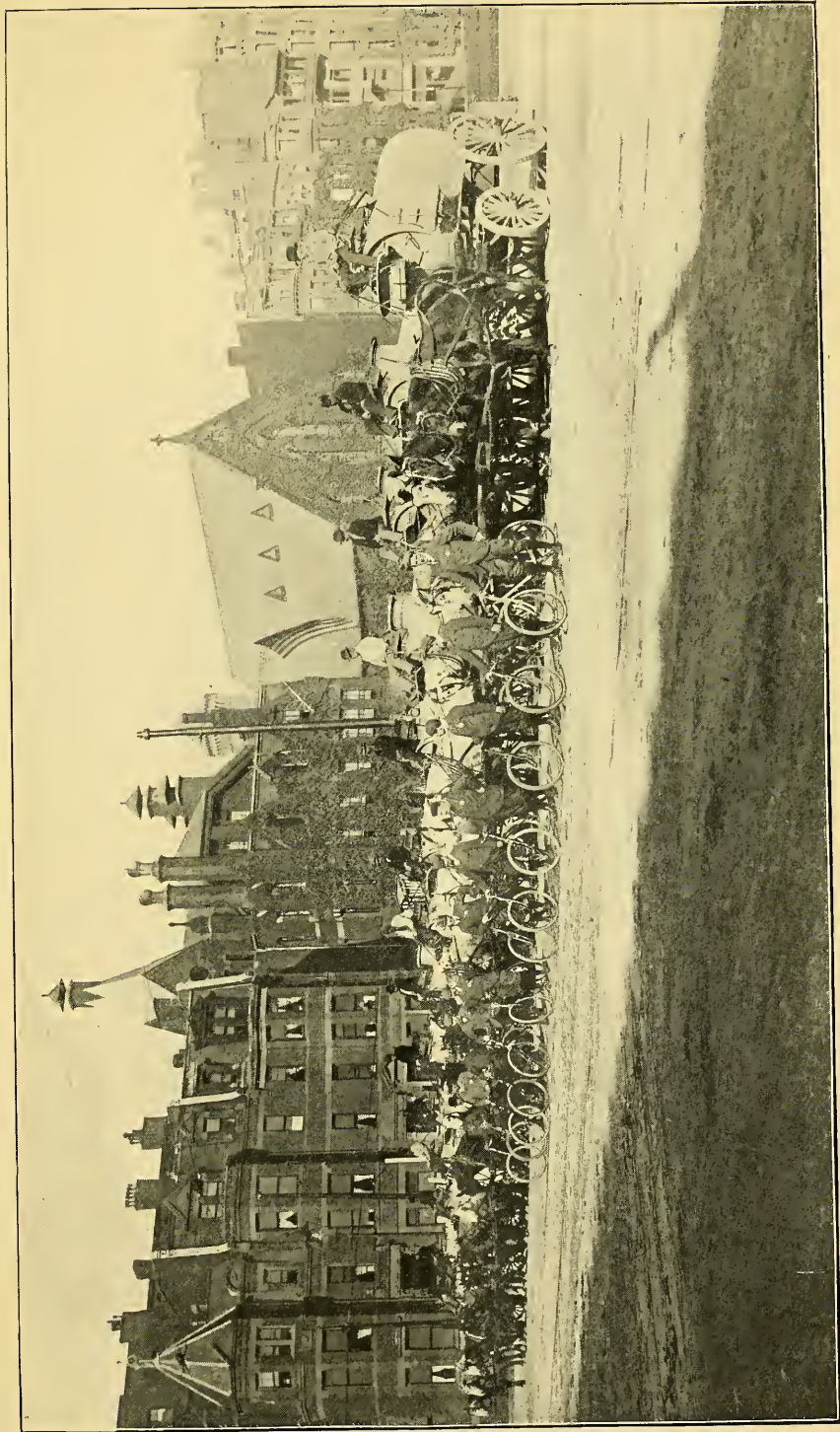
MR. BENJ. W. WELLS, *Superintendent of Streets* :

DEAR SIR, — I herewith respectfully submit the annual report of the expenditures, income and operations of the Street Watering Division for the financial year ending January 31, 1899.

Street watering commenced this season on April 10 and ended November 24, and was carried on in accordance with chapter 419 of the Acts of 1897. The late start was due to the unsettled policy of street watering to be pursued during the year. The season was about the average in weather conditions. Much difficulty was experienced during open weather in December, January and February. The thermometer was usually so low during these months that watering could not safely be attempted. So disagreeable were the conditions during January of this year that carts were used in watering on the 21st, 22d, 23d and 24th on the broad thoroughfares of the city proper. They were operated from 9 A.M. until 3.30 P.M., but it must be understood that the temperature was favorable, registering at least 38°. The purpose of the division in the future will be to provide for such conditions, notwithstanding the inconvenience of turning on and off the water and equipping standpipes.

During the season 409.95 miles of streets were watered by this Division. This is an increase of 103.82 miles of streets over last year, due almost entirely to the assumption of the care of paved streets. The new work entailed much extra labor upon the supervising force in the measuring of routes, locating stand-pipes, and incidental details.

Street watering now extends throughout every section of the city. Practically every accepted street which was accessi-



STREET WATERING — CARTS AND INSPECTORS.

ble and the roadbed in condition was watered. The completeness and thoroughness of the work is unequalled anywhere in this country. Nearly all of the streets within a radius of four miles of City Hall were watered four times daily; and some five and six times; those outside that limit twice, and the main thoroughfares outside three and four times, making a very satisfactory service. The carts used in the work were all of modern manufacture.

THE CAR SPRINKLER.

The car sprinkler proved after trial that it would be a satisfactory addition to our street watering force. The American Car Sprinkler Company furnished the car for the test free of charge, and the only expense incurred was that for labor, freight and insurance. The experiment extended from June 15 to the end of the season. From close observation the following appears to be the utmost daily working capacity of the car:

Macadam or asphalt streets,	3.66 miles	6 sprinklings
Paved streets,	5.49 “	4 “
Water capacity of car,		2,000 gallons
Number of loads required,		42 loads

To do the above work it is assumed that hydrants are conveniently located, that is, about 4,500 feet apart. In treating macadam or asphalt streets, six sprinklings are necessary. A fifty-foot roadway is the extreme width of a street which can be taken care of by the car; anything wider will be left dry near the gutter. The car does its best work on paved streets, and can be worked to the best advantage in the outlying sections. One car does the work of three and one-half ordinary watering carts.

ASSESSMENTS.

As an introduction to the subject of assessments it may be interesting to review briefly the past experience of the department in street watering service.

Previous to this year the expense of watering macadam streets has been paid for from the general tax levy. Paved streets were watered at the expense of the abutter, that is, certain districts in paved street sections of the city were given to responsible street watering contractors, who rendered service upon agreements entered into with the abutters. This method of watering paved streets was

objectionable for two reasons: First — The service was not compulsory. Second — The expense was borne by the abutters while on macadam streets the abutters received street watering free of charge.

The effect of the non-compulsory, subscription method of watering paved streets is apparent when it is noted that only one-half of our paved streets were watered under that system. Many abutters by refusing the service, although their neighbors might be willing, prevented the watering of the street, or if they did not prevent it obtained a service the expense of which they did not share. A great many of the citizens objected to the subscription plan because it did not appear to them equitable that the cost of watering macadam streets should be borne by the city, and the expense of watering paved streets be paid for directly by them.

The necessary extension of the service in the macadam sections has of late years made the question of the annual appropriation a serious one. With the necessary increased demands of the large departments upon the money yearly available for municipal purposes the Street Department has been curtailed, and with its other divisions the Street Watering Division was affected, the appropriation being reduced from \$100,000 to \$70,000. This latter sum was becoming more and more inadequate with the growth of the city, and with the paved street question, it became desirable that the whole matter be considered as a new proposition.

The important question involved in the solution of the problem was, how should money for the expense of first-class service be provided? The sum annually available from general taxation was insufficient for the increasing needs of the macadam streets. No proof was needed to show that the watering of paved streets could not be assumed and the expense paid for by the city out of the general tax levy. It was also recalled that previous to 1891 the expense of watering macadam streets was in the main borne directly by the abutters. It is quite true that the Paving Division prior to 1891 always devoted a part of its appropriation to street watering, but this service was not general and only pretended to care for newly surfaced macadam streets. The Paving Division hardly employed more than one watering cart in each district.

While other cities of the United States have never watered their streets as extensively as Boston, yet what they have done has been generally at the expense of the abutters, on the principle, it is presumed, that street watering is a special benefit to property and should be paid for

by them according as they receive the advantage, and not from general taxation. In other words watering by subscription or assessment has been the rule, and Boston has simply been, in part, an exception. Investigation in other cities has shown that street watering, primarily, has been considered a matter resting with the abutters as to its performance, and the unsatisfactory method of subscriptions to private individuals for the work has wholly or in part prevailed. When municipalities have undertaken the work they have not relieved the abutter of his duty to pay for the service. Their interest at all times has been simply to prevent exorbitant charges to the abutters, and when assuming the work to do it at the least possible cost.

In determining assessments for street watering the division was governed by chapter 419 of the Acts of 1897, an act applying to the watering of streets in the cities of the Commonwealth. Under the authority of this act the Superintendent of Streets by direction of the city government proceeded to water all accepted streets, and assess the expense of the same upon the abutter according to the linear foot of frontage of his estate.

It was deemed proper that the area assessed be limited to that within four miles south, and three miles north of City Hall. The section outside of the limits named was paid for out of the general appropriation, and the service furnished was of necessity not as complete as within the assessed district.

In ascertaining the cost of the assessment the division proceeded upon the basis of first-class service, and the work was outlined with that purpose constantly in mind. The assessment of five cents per linear foot of frontage of estates was found to be the figure at which the work could be done. This figure was sufficient, and abutters upon paved streets have been agreeably surprised at their watering charge for a season — lower in many instances than what they used to pay a month to private contractors. There is no question that the experience of last season shows the wisdom of watering by assessment. The charge was small, and very little burden upon the taxpayers.

The levying of the assessment involved a large amount of detail work, which was performed in connection with the sewer assessment and under the same supervision.

The watering of streets is a matter of much concern to our citizens. It is a necessity involving the health and comfort of the people. It is a great benefit to the residential portions of the city, and a little attention to the subject will show that

even to unimproved property it has its advantage in that the street is kept in condition longer by reason of the service. The relation of a well kept roadbed to the value of abutting property, whether improved or unimproved, is too well known to need comment. And the fact that street watering preserves the surface of streets, the maintenance of which is paid for from the general taxation, necessarily benefits all taxpayers. Hence the objection that unimproved property receives no benefit from street watering is upon examination of the question not sustained.

The legality of the street watering act is about to be tested before the Supreme Court of this State in the case of *Joshua M. Sears vs. Board of Aldermen and the Superintendent of Streets of the City of Boston*, in a writ of *certiorari* to quash alleged illegal assessments. Two questions are involved in the case. (1) The constitutionality of the act as a method of taxation by assessment. (2) The constitutionality of the mode of assessment.

The following sums have been expended for street watering during the past eight (8) years :

1891.....	\$104,263 62	1895.....	\$76,424 70
1892.....	94,507 80	1896.....	71,211 81
1893.....	99,430 16	1897.....	78,736 72
1894.....	87,169 08	1898.....	138,728 57

NOTE. — During the year 1897 the sum of \$76,930.40 was expended for the water used in 1896 and 1897. This expense was not paid in previous years, nor was it paid last year, and for the purpose of comparison it has been omitted from the expenditures of 1897 given above. In 1898 the care of paved streets and the increased frequency of watering macadam streets almost doubled the amount of work and accounts for the increased cost. The paved streets were watered in previous years by the subscription method at the expense of the abutter.

Very respectfully,

THOS. J. FINNERAN,

Deputy Superintendent.

FINANCIAL STATEMENT.

Amount of appropriation	\$10,000 00
Transferred from general revenue,	128,728 57

Total	\$138,728 57
Total amount of expenditures	<u>138,728 57</u>

ASSESSMENTS.

Deposited with the City Collector	\$139,238 49
Abated	1,665 70
Collected	108,972 28
Uncollected January 31, 1899	<u>28,600 51</u>

STREET DEPARTMENT — STREET WATERING DIVISION. 241

INCOME.

The following sums were charged for street watering, and bills for the same deposited with the City Collector during the financial year ending January 31, 1899 :

Metropolitan Water Board	\$200 00
Fairfax and Beaumont streets	75 00
Louisburg square	26 23
Total	\$301 23

OBJECT OF EXPENDITURES.

Salaries and labor	\$13,572 73
Teaming	105,512 50
Water-posts, repairs, etc.	5,415 39
Board of horses	704 51
Shoing	141 50
Veterinary services, medicine	51 55
Harnesses	105 25
Telephones	154 94
Bicycles, repairs, etc.	717 78
Printing	228 30
Stationery	139 73
Carts, repairs, etc.	1,097 25
Horse hire	178 00
Electric car, expense of four months' test	1,448 70
Assessments, expense of levying	8,491 74
General supplies	768 70
Total	\$138,728 57

Objects of Expenditures, classified by Districts, from February 1, 1898, to January 31, 1899.

No.	DISTRICTS.	Teaming.	Labor.	Maintenance.	Totals.
1....	South Boston.....	\$8,997 50	\$792 75	\$2,888 65	\$12,678 90
2....	East Boston	6,280 00	458 50	1,925 77	8,664 27
3....	Charlestown	5,567 50	471 45	1,765 28	7,804 23
4....	Brighton.....	9,052 50	743 75	802 40	10,598 65
5....	West Roxbury.....	11,474 25	855 75	1,283 84	13,613 84
6....	Dorchester	13,635 00	917 00	2,086 25	16,638 25
7....	Roxbury.....	18,488 25	917 00	5,295 86	24,701 11
8....	Back Bay.....	9,346 75	1,051 75	2,407 24	12,805 74
9....	South End.....	9,085 00	855 75	2,567 69	12,508 44
10....	City Proper.....	13,585 75	1,117 37	4,012 02	18,715 14
	Totals.....	\$105,512 50	\$8,181 07	\$25,035 00	\$138,728 57

Distribution of Carts, showing Entire Amount of Work done.

No.	DISTRICT.	Hired Carts.	Number Miles Covered.	Average per Cart.
1....	South Boston.....	18	38.34	2.13
2....	East Boston.....	12	26.87	2.24
3....	Charlestown.....	11	22.29	2.02
4....	Brighton.....	17	33.23	1.95
5....	West Roxbury.....	23	61.76	2.68
6....	Dorchester.....	27	72.90	2.70
7....	Roxbury.....	33	81.12	2.46
8....	Back Bay.....	15	21.44	1.43
9....	South End.....	16	19.56	1.22
10....	City Proper.....	25	32.44	1.30
	Totals.....	197	409.95	2.08

The above summary indicates the completeness of the work done by the division. The number of carts was increased from 116 to 197, and the miles of streets from 306.13 to 409.95, an increase of 81 in the number of carts, and an increase of 103.82 miles of streets. This increase in a great measure was due to the care of paved streets, which in the past have been watered by, and at the election of, the abutters.

Location of Water Posts by Districts.

DISTRICTS.	Year.			Increase over 1897.	Electric Hydrants.
	1891.	1897.	1898.		
South Boston.....	23	28	35	7	
East Boston.....	16	34	41	7	
Charlestown.....	19	20	20		
Brighton.....	25	44	47	3	
West Roxbury.....	50	67	75	8	
Dorchester.....	61	83	88	5	
Roxbury.....	53	68	76	8	
City Proper.....	24	53	69	16	5
Totals.....	271	397	451	54	5

NOTE.— An increase of 180 water-posts since 1891.

The division is indebted to Mr. J. W. Smith, the Local Forecast Official, for daily weather reports.

Our acknowledgments are also due to the Water Department for its uniform assistance in the erection and repair of standpipes.

APPENDIX H.

CITY OF BOSTON, ENGINEERING DEPARTMENT,
50 CITY HALL, February 1, 1899.

MR. BENJ. W. WELLS, *Superintendent of Streets* :

SIR, — I herewith submit the following report of the work done under my direction for the Street Department during the year 1898.

The work covers the same ground as heretofore, namely, the supervision of the construction of assessment streets, boulevards, street paving and consideration and reports upon various questions which arise concerning the work.

The repairs upon asphalt pavement have been supervised, and a table is annexed giving the amount of repairs and the cost in detail on all asphalt pavement upon which the maintenance guaranty has expired. The table showing details of all asphalt streets in the city has been corrected to date.

On Columbus-avenue extension the work has been in progress throughout the year, and the avenue was so far completed as to be in use in December.

Columbia road construction has been in progress during the year. The first section extending from Blue Hill avenue to Stanwood street has been completed, and the prospect is good that the work will be finished to Edward Everett square in the time allowed in the two remaining contracts, on or before July 1, 1899. No work has been done on the bridge at the crossing of the New York, New Haven & Hartford Railroad.

The filling done during the year, other than that done by the Park Department, has been at the foot of Mercer street and along Ninth street. About 21,000 cubic yards of earth have been deposited at the foot of Mercer street under several small contracts, the material having been brought from the hills of South Boston.

On October 25, 1898, a contract was made with Simon J. Donovan for filling that portion of Columbia road between Atlantic and I streets. Under this contract 16,267 cubic yards have been deposited.

On December 28, another contract was made with Mr. Donovan for filling the section of the road between Mercer and Mt. Vernon streets, and building an extension of the culvert under the railroad. A small amount of filling has been done and work begun on the culvert.

On October 10, 1898, a contract was made with Dennis F. O'Connell for building the abutments and pier of the bridge to carry Columbia road over the New York, New Haven & Hartford Railroad, and also over the new Columbia avenue. The foundations and about one-half of the stone masonry have been built and the excavation made for the pier.

IPSWICH STREET.

On account of the laying out of this street across the Fens the following structures were required:

A retaining-wall on the northerly line of the street, which line was also the southerly line of the location of the Boston and Albany Railroad, for a length of 530 feet easterly from the easterly line of the Fens.

A bridge over the Fens waterway and a bridge to carry the park driveway in Charlesgate West over Ipswich street. All the masonry work in these structures was built under a contract with Messrs. Holbrook, Cabot and Daly, dated November 29, 1897, and the work was completed on September 13, 1898, at a total cost of \$40,528.99.

The retaining-wall along the railroad serves to support the street, and has a height above the railroad varying from 1 foot 6 inches to 6 feet and a length of 530 feet. It is a rubble wall with a cut coping 2 feet wide by 1 foot 6 inches high. Owing to the small height of this wall no piles were used, the foundation extending only 4 feet below the grade of the railroad.

The bridge over the waterway, so far as the masonry is concerned, is an extension of the abutments and piers of the bridge on the railroad. The foundation consists of a pile and timber platform extending the full width of the waterway and abutments, the upstream end being protected by a line of 4-inch sheet piling. The platform is at grade -0.5 and the tops of the piers are at grade 12.25. There are two piers each 3 feet wide and three openings for the waterway each 17 feet wide. A supplementary agreement was made with the contractors for the masonry for building the superstructure of this bridge except the railing. The bridge is built of steel beams of depths varying, to conform to the crown of the roadway, from 10 inches in the gutter to

20 inches on the outer lines of the bridge; they are spaced from 2 feet to 3 feet 2 inches apart; the spaces between the beams and above them to within $2\frac{1}{2}$ inches of the surface of the street are filled with Portland cement concrete; sheets of expanded metal are imbedded in the concrete 2 inches above the under surface, this surface being flush with the bottoms of the beams; on top of the concrete an asphalt covering was laid $2\frac{1}{2}$ inches thick. There is a sidewalk 8 feet in width on the southerly side of the bridge, but none on the northerly side, a curb being placed on this side one foot from the outer line. The depth of the bridge is 20 inches on the outside lines, 19 inches at the sidewalk curb and 14 inches in the gutter. The surface of the bridge is 61 feet in length by 50 feet in width.

For building the bridge on Charlesgate West it was necessary to remove a portion of the old retaining wall on the easterly line of the Parkway, and the whole of the wall on the westerly line of the Parkway down to the sub-grade of Ipswich street, excavate the earth within the lines of the new street and the bridge abutment, build a new face on the back of the abutment of the bridge over the railroad and build a new abutment on the southerly line of the new street. The Parkway was originally graded by filling with coarse gravel from the original grade of the flats, which was about grade 2, to grade 34. Borings taken after the required excavation was made, showed that the soft mud underneath the filling, which previous to the filling was 14 feet in depth, had been either compressed or displaced so that the filling extended down to grade -6.

Great difficulty was experienced in driving the piles for the abutment on account of the character of the filling; where the attempt was made to drive all of the piles called for by the plan it is probable that not more than one-half of them reached the natural hard bottom which was at grade -28. The piles were driven in a trench excavated to grade 4 or about 10 feet below the grade of the ground in front of the abutment and about 26 feet below the undisturbed surface in the rear of the abutment. Many of the piles were broken in driving, and some that were drawn up after being driven were found crippled and broomed at the points. A water jet was tried, but the filling was so coarse that the jet had no effect upon it; iron shoes were used on the piles, but still they were crippled; finally only every alternate pile was driven and these seemed to reach hard bottom and to so compact the material that no more piles could be driven. The piles were spaced, according to the plan, 2 feet apart

on centres in each direction, there being 9 piles in each row at right angles to the face of the abutment; 329 piles were driven out of 621 called for by the plan. No settlement has been detected in the masonry. It is probable that the great weight of the filling 38 feet in depth which has rested on the mud for the past 15 years has so consolidated it that it is able to support the masonry with the help of a smaller number of piles than would otherwise be necessary.

The abutment is 106 feet in length at the ground line and has a retaining or wing-wall returned on the westerly line of the Parkway, a distance of 35 feet, for the purpose of preventing the filling on the Parkway from encroaching on the street. The easterly end of the abutment is connected with the old retaining-wall. The foundation is 18 feet wide, projecting at the bottom 6 feet 6 inches in front of the exposed face of the abutment. The piles were cut off 1 foot above the bottom of the trench or at grade 5. The masonry from grade 4 to grade 11 was of American cement concrete composed of 1 part cement, 2 parts of sand and 5 parts of gravel. The concrete had a width on top of 14 feet 8 inches, the front line being 3 feet 2 inches in front of the exposed face of the wall. On this was laid a footing course of granite 2 feet thick and 13 feet wide, projecting 2 feet in front of the wall above it.

The masonry above the footing course is of quarry-faced Rockport granite laid in horizontal courses in American cement mortar with 1-inch joints. The back of the old abutment of the bridge over the railroad was faced with quarry-faced ashlar, by cutting away the backing of the two lower courses sufficiently to allow laying two courses of stretchers above the old foundation; the lower course was bolted to the backing of the same course by two 1 $\frac{1}{4}$ -inch bolts to each stone and this course and the next two above it were clamped to the old work by two $\frac{1}{2}$ -inch wrought iron clamps to each stone. The bridge seat courses of both abutments are of cut stone 2 feet rise and 5 feet wide; these are surmounted by cut stone parapets, the tops of which conform to the shape of the roadway and walks. Ballast of quarry chips was placed in the rear of the abutment.

A temporary wooden bridge was erected to carry the park drive over the street at a cost of \$565.57, and the drive was opened to travel on July 13.

On July 25, 1898, a contract was made with the James Russell Boiler Works Company for building iron fences on each side of Ipswich street across the Fens. On the waterway bridge there is a railing 3 feet 6 inches high of three 2-inch

wrought iron pipes with cast iron posts; the remainder of the fence consists of two rails of $2\frac{1}{2}$ -inch \times $\frac{1}{2}$ -inch wrought iron posts of $2\frac{1}{2}$ -inch \times 1-inch wrought iron set in cast iron bases, and palings of $\frac{3}{4}$ -inch round iron spaced $4\frac{1}{2}$ inches apart; the fence is 6 feet high. The work was completed on November 7, at a cost of \$889.

The table showing lengths and areas of paving on accepted streets and public alleys has been brought up to February 1, 1899.

Street paving has been supervised in all cases where requested. All paving laid on the before-mentioned avenues is included in the quantities given. All granite block paving on concrete base has been laid with pitch and pebble joints *except* 1,702 square yards which on account of unfavorable weather, was laid temporarily with gravel joints.

Granite block pavement on a concrete base, laid with pitch and pebble joints, 39,789 square yards.

Granite block pavement on a gravel base, laid with pitch and pebble joints, 2,676 square yards.

Granite block pavement on a concrete base, laid with gravel joints (temporarily), 1,702 square yards.

Granite block pavement on a gravel base, laid with gravel joints, 37,030 square yards.

Trinidad lake asphalt, with a binder course of asphaltic cement concrete, on an American cement concrete base, 5,166 square yards, at an average cost of about \$3.00 per square yard.

Sicilian rock asphalt on an American cement concrete base, 2,804 square yards, at an average cost of about \$3.00 per square yard.

Asphaltina, on an American Portland cement concrete base, 569 square yards, at a cost of \$2.93 per square yard.

The cost per square yard of asphalt given above does not include the cost of preparing roadbed, except in the case of Asphaltina pavement, the price for which includes all work. All asphalt is laid with a maintenance guaranty for five years, except that Public Alley No. 437 is laid with a guaranty for ten years.

Edgestone set, 85,818 linear feet; gutter paving laid, 23,035 square yards; brick sidewalks laid, 27,883 square yards; crushed stone sidewalks constructed, 25,390 square yards.

Artificial stone sidewalks, 37,310 square feet; flagging crosswalks laid, 5,686 square yards; macadam surface (6 inches), 44,600 square yards; Telford (8 inches) macadam (4 inches), 33,900 square yards.

A List of Streets Paved with Sheet Asphalt, and having a Maintenance Guaranty, February 1, 1899.

TRINIDAD ASPHALT.

City Proper.

NAME.	Limits.	Base.	Length feet.	Length miles.	Area.	Guaranty expires.
Barton st.	Brighton st. to Barton st.	Cobble.	134	.025	186	May 16, 1899
Batterymarch st.	Milk st. to Liberty sq.	Concrete	150	.028	466	Sept. 28, 1901
Beacon st.	150 ft. from west curb line of Gloucester to 68 ft. beyond west line of Gloucester st.	Concrete	218	.041	1,183	June 16, 1903
Bond st.	Hanson st. to Milford st.	Concrete	192	.036	426	July 1, 1900
Boylston st.	Easterly side of Berkeley st. across Clarendon st.	Concrete	656	.124	3,869	Oct. 4, 1902
Brimmer st.	Beacon st. to Pinckney st.	Concrete	1,087	.206	3,300	Aug. 31, 1900
Chambers st.	Green st. across Poplar st.	Cobble.	460	.087	1,061	May 16, 1899
Chambers st.	Brighton st. to Charles st.	Cob. & Conc.	272	.052	604	July 1, 1900
Charter st.	Hanover st. across Unity st.	Cobble.	318	.060	636	May 16, 1899
Columbus ave.	Massachusetts ave. to 301 ft. south of Camden st.	Concrete	903	.171	5,418	Nov. 7, 1901
Cooper st.	Endicott st. to Charlestown st.	Concrete	205	.039	604	Sept. 27, 1902
Corning st.	Washington st. to Shawmut ave.	Concrete	338	.064	734	May 25, 1901
Court sq.	Easterly side	Concrete	333	.063	942	June 14, 1899
Dartmouth st.	Boylston st. to Newbury st.	Concrete	266	.050	2,058	Sept. 8, 1899
Edinboro' st.	Essex st. to Beach st.	Concrete	470	.089	924	Aug. 14, 1900
Harrison ave.	E. Newton st. to E. Springfield st.	Concrete	928	.176	2,681	Aug. 14, 1900
Harrison ave.	E. Springfield st. to Roxbury line.	Concrete	.....	.....	130	Aug. 14, 1900
Kilby st.	State st. to Milk st., including Liberty sq.	Concrete	640	.121	4,059	Sept. 28, 1903
Laconia st.	Washington st. to Harrison ave.	Concrete	330	.063	727	June 18, 1901
La Grange st.	Tremont st. toward Washington st.	Concrete	181	.034	355	Oct. 23, 1902
Lincoln pl.	Worcester st. toward Washington st.	Concrete	217	.041	313	Aug. 17, 1902
North Margin st.	Stillman st. to Thacher st.	Concrete	515	.098	1,154	Sept. 10, 1900
Oxford st.	Beach st. to Essex st.	Macadam	430	.081	735	Nov. 1, 1899
Parkman st.	N. Anderson st. across Blossom st.	Concrete	241	.046	550	Oct. 14, 1903

Pinckney st.	Charles st. across Brimmer st.	Concrete	271	.051	723	Aug. 31, 1900
Pine st.	Washington st. to Harrison ave.	Concrete	419	.079	597	June 18, 1901
Public Alley 437.	Berkeley st. to Arlington st.	Concrete	631	.120	561	Dec. 10, 1908
Spring st.	Poplar st. to Leverett st.	Concrete	447	.085	908	May 20, 1900
Stevens st.	Lincoln pl. toward Shawmut ave.	Concrete	16	.003	22	Aug. 17, 1902
Tileston st.	Salem st. to Unity st.	Concrete	163	.031	124	Aug. 14, 1900
Unity st.	Charter st. to Tileston st.	Concrete	330	.063	500	Oct. 6, 1902
Water st.	Liberty sq. to Broad st.	Concrete	252	.048	682	Oct. 10, 1901
Wiget st.	Salem st. to North Margin st.	Concrete	259	.049	240	Sept. 25, 1902
Totals .....	.....	.....	12,272	2.341	36,472	

Charlestown.

Bunker Hill st.	At Tufts st.	Concrete .....	.....	.....	150	Nov. 3, 1902
Corey st.	Moulton st., 124 ft. toward Medford st.	Concrete	124	.024	276	Nov. 3, 1902
Moulton st.	Easterly side Corey st. to Vine st.	Concrete	81	.015	243	Nov. 3, 1902
Moulton st.	Vine st. to Bunker Hill st.	Concrete	130	.025	390	Nov. 3, 1902
Rutherford ave.	Devens st. toward Chapman st.	Concrete	128	.024	284	Nov. 3, 1902
Tufts st.	Bunker Hill st., northerly.	Concrete	141	.027	415	Nov. 3, 1902
Vine st.	Bunker Hill st. across Moulton st.	Concrete	165	.031	670	Nov. 3, 1902
Totals .....	.....	.....	769	.146	2,428	

Roxbury.

Cabot st.	East side Vernon st. to Linden Park st.	Concrete	484	.091	1,390	Aug. 30, 1902
Columbus ave.	301 ft. south of Camden st. across Terry st.,	Concrete	2,640	.500	15,840	Nov. 7, 1901
Totals .....	.....	.....	3,124	.591	17,230	

SICILIAN ROCK ASPHALT.
City Proper.

NAME.	Limits.	Base.	Length feet.	Length miles.	Area.	Guaranty expires
Acton st.	Washington st. to Bradford st.	Concrete	259	.049	352	Nov. 1, 1901
Albany st.	Easterly side of Stoughton st. across E. Concord st.	Concrete	285	.054	1,710	Nov. 8, 1902
Ash st.	Oak st. across Nassau st.	Cobble	220	.041	391	Oct. 26, 1899
Avery st.	Washington st. to Mason st.	Concrete	360	.068	275	Oct. 18, 1902
Barton st.	Leverett st. to Milton st.	Concrete	427	.081	723	Aug. 14, 1900
Bradford st.	Walham st. to Shawmut ave.	Concrete	600	.114	1,270	Sept. 11, 1902
Charles st.	Front of Eye and Ear Infirmary	Concrete	191	.036	225	Oct. 8, 1899
Cobb st.	Washington st. to Shawmut ave.	Concrete	347	.066	1,041	Sept. 16, 1902
Exeter pl.	Chauncy st. to Harrison ave.	Concrete	170	.032	387	Oct. 20, 1902
Fabin st.	Newland st. to Ivanhoe st.	Concrete	421	.080	615	Sept. 10, 1900
Fay st.	Dover st. to Harrison ave.	Cobble	318	.060	560	July 26, 1899
Hamburg st.	Mystic st. to Harrison ave.	Concrete	383	.073	597	Oct. 1, 1901
Hanover st.	Tilston st. across Charter st.	Concrete	315	.060	934	May 14, 1901
Huntington ave.	B. & A. R. R. Bridge to Cumberland st.	Concrete	1,591	.301	8,840	Oct. 12, 1901
Mason st.	213 ft. south of West st. for a distance of 231 ft. southerly	Block	231	.044	480	May 25, 1899
Massachusetts ave.	Washington st. to Albany st. (southerly roadway)	Concrete	662	.125	4,151	Sept. 17, 1899
Mayo st	Castle st. to Cobb st.	Concrete	251	.048	418	Sept. 11, 1902
Meander st.	E. Dedham st. to Malden st.	Concrete	307	.058	437	Sept. 3, 1901
Mystic st.	Malden st. to E. Dedham st.	Concrete	204	.039	226	Oct. 20, 1901
Mystic st.	E. Dedham st. to E. Canton st.	Concrete	215	.041	335	Oct. 20, 1901
Mystic st.	E. Canton st. to E. Brookline st.	Concrete	216	.041	337	Oct. 20, 1901
North Margm st.	Thacher st. toward Endicott st.	Concrete	205	.039	518	Nov. 19, 1902
Norwich st.	Mystic street to Meander st.	Concrete	221	.043	339	Sept. 24, 1901
Ohio st.	Washington st. to Shawmut ave.	Concrete	343	.065	277	July 30, 1901
Pemberton sq.	Front of Suffolk County Court House	Concrete	323	.061	1,365	May 8, 1899
Prince st.	Hanover st. to Bennet ave.	Concrete	293	.055	654	July 1, 1900

Shawmut ave.	132 ft. south of Castle st. across Cherry st.	Concrete	227	.062	945	Sept. 19, 1903
Taylor st.	Dwight st. to Milford st.	Concrete	196	.037	274	May 29, 1901
Whitmore st.	Kneeland st. to Harvard st.	Concrete	249	.047	445	Aug. 14, 1900
Totals .....	.....	.....	10,130	1.919	29,121	

Charlestown.

Warren st.	Winthrop st. to Soley st.	Concrete	127	.024	365	Sept. 10, 1900
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South Boston.

Athens st.	W. Second st. to A st.	617	.117	916	Oct. 9, 1900
E. Broadway.	Front of Lincoln School.	Concrete	180	.034	1,000	Oct. 7, 1902
K st.	E. Sixth st. to E. Eighth st.	Concrete	566	.107	1,083	May 20, 1901
W. Broadway	N. Y. & N. E. R.R. Bridge to E st. (4 ft. gutters)	Concrete .....	.....	.....	1,487	Oct. 2, 1902
W. Broadway	150 ft. west of F st. to 267 ft. east of F st.	Concrete	448	.085	1,544	Oct. 28, 1902
W. Broadway	267 ft. east of F st. to 44 ft. west of Dorchester st.	Concrete	410	.078	1,818	Dec. 15, 1903
Totals .....	.....	.....	2,221	.421	7,848	

Roxbury.

Columbus ave.	Terry st. to within 61 ft. of Station st.	Concrete	884	.168	5,304	Oct. 23, 1901
Huntington ave.	Easterly side of Cumberland st. to Massachusetts ave.	Concrete	747	.141	4,150	Oct. 12, 1901
Huntington ave.	Massachusetts ave. to Gainsborough st.	Concrete	587	.111	3,372	Oct. 12, 1901
Totals .....	.....	.....	2,218	.420	12,826	

SEYSSEL ASPHALT.

NAME.	Limits.	Base.	Length feet.	Length miles.	Area.	Guaranty expires.
Paul st.	Emerald st. to Village st.	Concrete	133	.025	236	Oct. 23, 1902
Paul st.	Village st. to Tremont st.	Concrete	276	.052	456	Oct. 23, 1902
Pelham st.	Washington st. to Shawmut ave.	Concrete	320	.061	693	Oct. 12, 1902
Waterford st.	Washington st. to Shawmut ave.	Concrete	316	.060	544	Nov. 13, 1902
Totals			1,045	.198	1,929	

ASPHALTINA.

Hayward pl.	Washington st. to Harrison ave.	Concrete	260	.049	578	Nov. 7, 1903
Massachusetts ave.	Columbus ave. to Tremont st. (northerly roadway).	Concrete	267	.050	1,622	Oct. 11, 1902
Totals			527	.099	2,200	

SUMMARY.

Trinidad asphalt.....16,165 feet, or 3,077 miles, or 57,130 square yards.
 Sicilian rock asphalt.....14,569 feet, or 2,760 miles, or 49,795 square yards.
 Seyssel asphalt.....1,045 feet, or 0.198 miles, or 1,929 square yards.
 Asphaltina..... 527 feet, or 0.099 miles, or 2,200 square yards.

Total sheet asphalt under maintenance guaranty, February 1, 1899.....32,306 feet, or 6.135 miles, or 111,054 square yards.

Cost of Asphalt Patching, 1898.

TRINIDAD ASPHALT.

STREET.	Year laid.	Base.	Length miles.	Total yards in street.	Yards resurfaced.	Cost of patching.	Cost per square yard of surface.
Liberty sq., that part east of Kilby st.	1881	Concrete ..	.....	505	.....	.....	.....
Court sq., westerly side	1881	Concrete ..	.064	950	129.92	\$324 79	\$0.342
Doane st., Kilby to Broad st.	1881	Concrete ..	.059	624	24.50	61 25	.098
Congress sq. intersection	1883	Concrete ..	.004	37	2.50	6 25	.169
N. Bennet st., Hanover to Salem st.	1883	Cobble .....	.105	920	83.64	209 10	.227
Albany st., Concord to Springfield st.	1884	Concrete ..	.085	2,700	*81.43	195 73	.072
Endicott st.	1884	Cobble .....	.059	1,005	55.04	137 60	.137
Ash st., Bennet to Nassau st.	1887	Concrete ..	.044	427	28.23	70 58	.165
Bennet st., Washington st. to Harrison ave.	1887	Concrete ..	.034	350	58.99	147 47	.421
Central st., Kilby to Broad st.	1887	Concrete ..	.059	869	22.45	56 13	.065
Cooper st., N. Margin to Endicott st.	1887	Concrete ..	.037	597	3.36	8 40	.014
Exchange pl., Congress to Kilby st.	1887	Concrete ..	.046	678	37.32	93 30	.138
Poplar st., Spring to Charles st.	1887	Cobble .....	.109	1,192	24.71	61 77	.052
Tileston st., Hanover st. across Unity st.	1887	Cobble .....	.350	350	28.71	71 78	.205
Wiggin st., Tileston to N. Bennet st.	1887	Cobble .....	.020	119	1.65	4 12	.035
W. Sixth st., between C and D	1887	.....	.017	343	2.06	5 15	.015
Brattle sq., Brattle to Elm st.	1888	Concrete ..	.053	670	21.91	54 77	.082
D st., Fifth to Gold	1889	.....	.024	448	25.08	62 70	.140
Water st., Congress to Kilby st.	1889	Concrete ..	.048	694	143.06	357 65	.516
Austin st., Charlestown, Seminary pl. to Lawrence st.	1891	Concrete ..	.027	421	.....	.....	.....
<i>Carried forward</i> .....	.....	.....	.942	13,899	769.56	\$1,929 44	\$2.893

* Part surface heater work.

Prices paid, \$2.50 per square yard, entire removal. Average cost, \$0.155 per yard.

Prices paid, \$2.50 per square yard, surface heater work.

Cost of Asphalt Patching, 1898. — Concluded.

TRINIDAD ASPHALT.

STREET.	Year laid.	Base.	Length miles.	Total yards in street.	Yards resurfaced.	Cost of patching.	Cost per square yard of surface.
<i>Brought forward</i>							
Beacon st., Charles, across Arlington st.....	1891	Concrete ..	.942	13,899	769.56	\$1,929 44	\$2.893
Cabot st., Tremont to Ruggles st.....	1891	Concrete ..	.165	3,800	104.42	261 05	.069
Court st., Washington to Court sq.....	1891	Concrete ..	.234	3,571	35.09	87 72	.025
Hollis st., Tremont toward Washington st.....	1891	Concrete ..	.044	642	57.36	143 40	.223
Hudson st., Beach to 90 ft. north of Curve st.....	1891	Block .....	.052	521	31.01	77 53	.149
Moon st., North sq. to Fleet st.....	1891	Concrete ..	.266	3,938	200.70	501 75	.127
Rogers st., Dorchester ave. to Preble st.....	1891	Cobble .....	.034	384			
Sun Court st., Moon st. to North st.....	1891	Cobble .....	.068	480	1.32	3 30	0.015
Warrenton st.....	1891	Cobble .....	.029	218	17.91	44 78	.018
Beacon st., Dartmouth st. to within 150 ft. of Gloucester st.....	1891	Concrete ..	.216	2,497			
Brighton st., Leverett st. to Allen st.....	1892	Concrete ..	.330	9,277	*482.64	1,201 25	.129
Cherry st., Washington st. to Shawmut ave.....	1892	Cobble .....	.160	1,737	87.29	218 22	.126
Clark st., Hanover st. to North st.....	1892	Concrete ..	.063	594	19.53	48 83	.082
Davis st., Washington st. to Harrison ave.....	1892	Concrete ..	.060	614			
Groton st., Washington st. to Shawmut ave.....	1892	Concrete ..	.061	646			
Hanover ave., Hanover st. to North st.....	1892	.....	.063	558			
Malcolm st., Mt. Vernon st. to Chestnut st.....	1892	.....	.058	266			
Massachusetts ave., Columbus ave. to Washington st., southerly roadway.....	1892	.....	.049	290			
Poplar st., Chambers st. to Spring st.....	1892	Concrete ..	.174	5,549	228.74	571 85	.103
Stillman st., Salem st. to Endicott st.....	1892	Cobble .....	.115	1,250	3.36	8 40	.007
Stoddard st., Howard st. to Court st.....	1892	.....	.028	417			
Thacher st., Charlestown st. to Endicott st.....	1892	.....	.026	150	4.70	11 75	.078
	1892	Concrete ..	.038	562	7.84	19 60	.035

	1892	Concrete ..	.137	2,988	6.06	15 15	.005
Cabot st., Ruggles st. to Vernon st.	1892	Concrete ..	.137	2,988	6.06	15 15	.005
E st., W. Third st. to Bolton st.	1892	.....	.021	419			
W. Third st., west of E st., across E st.	1892	.....	.035	769			
Columbus ave., B. & A. R.R. to Massachusetts ave.		Concrete ..	.663	15,000	2,404.20	6,010 50	.401
Harrison ave.		Concrete ..	.144	995	10.06	25 15	.025
Totals.....		.....	4.275	72,031	4,476.79	\$11,178 77	\$5.510

* Part surface heater work.
 Prices paid, \$2.50 per square yard, entire removal. Average cost, \$0.155 per yard.
 Prices paid, \$2.50 per square yard, surface heater work.

SICILIAN ROCK ASPHALT.

STREET.	Year laid.	Base.	Length miles.	Total yards in street.	Yards resurfaced.	Cost of patching.	Cost per square yard of surface.
Broadway, Dorchester ave. to A st.	1892	Concrete ..	.068	2,000	183.80	\$459 50	\$.230
Decatur st., Washington st. to Harrison ave.	1892	Concrete ..	.070	781	18.09	45 22	.058
Motte st., Washington st. to Harrison ave.	1892	Concrete ..	.063	516	4.12	10 30	.020
Athens st., B st. to C st.	1892	Concrete ..	.098	746			
Totals.....		.....	.299	4,043	206.01	\$515 02	\$.308

Price paid, \$2.50 per square yard.
 Average cost, \$0.127 per square yard.

Beacon street, from 98 feet east of the easterly line of Gloucester street to 128 feet west of the easterly line of Gloucester street, was paved with 2 inches of Trinidad lake asphalt, with $1\frac{1}{2}$ inches of bituminous concrete binder, on a 6-inch American cement concrete base, by the Barber Asphalt Paving Company. The old pavement was removed, roadway excavated, edgestones reset and crosswalks laid by the Street Department. Former pavement was Hastings asphalt blocks on a gravel base, laid in 1892.

Brattle street, Court street to Washington street, was repaved with old granite blocks on a gravel base, with pitch and pebble joints. The old blocks were barred out and bed prepared by the Street Department. Roadway was repaved, edgestones reset, brick sidewalks and flagging crosswalks relaid by H. Gore & Co. With the exception of a small portion near Washington street, for which it paid for by agreement, The Boston Elevated Railway Company repaved its track.

Brighton street, Lowell street to Leverett street, including tracks of the Boston Elevated Railway Company, was paved with large granite blocks on a gravel base with pitch and pebble joints. The old pavement was removed and bed prepared by the Street Department. Roadway paving was laid, edgestones reset, brick sidewalks and flagging crosswalks relaid by Dennis J. Kiley. The Boston Elevated Railway Company, by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on gravel bed and gravel joints.

Bunker Hill street, Chelsea street to Elm street, including the tracks of the Boston Elevated Railway Company, was paved with large granite blocks on a gravel base with gravel joints. The old pavement was removed and bed prepared by the Street Department. Roadway paving was laid, edgestones reset, brick sidewalks and flagging crosswalks were relaid by John Turner & Co. The Boston Elevated Railway Company, by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on a gravel base with gravel joints. Eight new catch-basins were built; three of them were Bradlee head pattern and five cast-iron D-frame pattern.

Commercial street, State street to Clinton street, was paved with large granite blocks on a 6-inch American cement concrete base with pitch and pebble joints. The old pavement was removed and roadway excavated by the Street Department, concrete base laid by Perrin & Carter, roadway paving laid, edgestones reset, brick sidewalks and flagging crosswalks laid by H. Gore & Co. Former pavement was old granite blocks on gravel base, with gravel joints.

Hanover street, Court street to Washington street, including tracks of the Boston Elevated Railway Company, was paved with "Philadelphia" size granite blocks on a 6-inch American cement concrete base with pitch and pebble joints. The old pavement was removed and roadway excavated by the Street Department, concrete base laid by Perrin & Carter, roadway

paving laid, edgestones reset, brick sidewalks and flagging crosswalks laid by H. Gore & Co. The Boston Elevated Railway Company, by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on a gravel base, with gravel joints.

Hayward Place, Washington street to Harrison avenue, was paved with $2\frac{1}{2}$ inches of asphaltina (a patented coal tar production) on a 6-inch American Portland cement concrete base by the Boston Paving Company. The old pavement was removed and roadway excavated by the Boston Paving Company. Former pavement was old granite blocks on a gravel bed, with gravel joints. One new catch-basin was built.

Howard street, Bulfinch street to Court street, was paved with large granite blocks on a 6-inch American cement concrete base, with pitch and pebble joints. The old pavement was removed and roadway excavated by the Street Department. Concrete base was laid by Perrin & Carter, roadway paving was laid, edgestones set, brick sidewalks and flagging crosswalks laid by H. Gore & Co. Former pavement was old granite blocks on gravel base, with gravel joints.

Kilby street, State street to Milk street, was paved with $1\frac{1}{2}$ inches Trinidad Lake asphalt, with $1\frac{1}{2}$ inches of bituminous concrete binder on existing concrete base, by the Barber Asphalt Paving Company. The old surface was removed; concrete base was regraded by the Asphalt Company. Former pavement was Trinidad Lake asphalt, originally laid in 1881.

Parkman street, North Anderson street across Blossom street, was paved with $1\frac{1}{2}$ inches of Trinidad Lake asphalt, with $1\frac{1}{2}$ inches of bituminous concrete binder on a 6-inch American cement concrete base, by the Barber Asphalt Paving Company. The roadway was excavated and gutter blocks removed by the Street Department. Former surface was macadam, with granite block gutters.

Shawmut avenue, from southerly side of Cherry street to 108 feet north of Cobb street, between the rails of surface tracks and curbs, was paved with $2\frac{1}{2}$ inches of Sicilian rock asphalt on a 6-inch American cement concrete base, by the Boston Asphalt Company; the spaces between the rails and tracks of the Boston Elevated Railway Company were paved with large granite blocks on a 6-inch American cement concrete base, with pitch and pebble joints, by H. Gore & Co. The old pavement was removed and roadway excavated by the Street Department; edgestones were reset and brick sidewalks and flagging crosswalks relaid by H. Gore & Co. The Boston Elevated Railway Company, by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on gravel base, with gravel joints.

Shawmut avenue, Tremont street to Pleasant street, including the tracks of the Boston Elevated Railway Company, was paved with "Philadelphia" size granite blocks on a 6-inch American cement concrete base, with pitch and pebble joints,

and also temporarily with gravel joints. The old pavement was removed and roadway excavated by the Street Department, concrete base was laid by Perrin & Carter; roadway paving was laid, edgestones reset, brick sidewalks and flagging crosswalks laid by H. Gore & Co. The Boston Elevated Railway Company, by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on a gravel base, with gravel joints.

Tremont street, Boylston street to Pleasant street, including the tracks of the Boston Elevated Railway Company, was paved with "Philadelphia" size blocks on a 6-inch American cement concrete base with pitch and pebble joints. The old pavement was removed and roadway excavated by the Street Department; concrete base was laid by Perrin & Carter, roadway paving was laid, edgestones set, brick sidewalks and flagging crosswalks laid by H. Gore & Co. The Boston Elevated Railway Company by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on a gravel base with gravel joints. Two new catch-basins were built.

Tremont street, Weston street to Hammond street, was paved with large granite blocks on a gravel base with gravel joints. The old pavement was removed and roadway excavated by the Street Department; roadway paving was laid, edgestones set, brick sidewalks and flagging crosswalks laid by James Doherty & Co. Former pavement was old granite blocks on gravel base with gravel joints.

West Broadway, from 257 feet east of the easterly line of F street to near Dorchester street, including the portion of the Boston Elevated Railway tracks in front of the waiting room, was paved with $2\frac{1}{2}$ -inches of Sicilian rock asphalt on a 6-inch American cement concrete base by the Boston Asphalt Company. The old pavement was removed and roadway excavated, edgestones set, brick sidewalks and flagging crosswalks laid by H. Gore & Co. The Boston Elevated Railway Company by agreement, paid for the portion within its tracks. Former pavement was old granite blocks on a gravel base with gravel joints.

NEW STREETS.

The following streets were constructed under chapter 323 of the Acts of 1891, and acts in amendment thereof or in addition thereto:

Belmore terrace, Boylston street to Boylston terrace, is about 301 feet long. The contract for constructing the surface of this street was awarded to Patrick O'Hara & Co. Work under this contract was begun April 27, 1898, and completed August 3, 1898, at a total cost of \$1,993.09. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone, gutter blocks and straight edgestones were furnished by the city and hauled to the site of the work by the contractor. Circular edgestone was furnished on the work by the city; flagging for crosswalks was furnished by the contractors.

Bernard street, Harvard street to Talbot avenue, is about 1,406 feet long. The contract for constructing the surface of the street was awarded to John A. Whittemore's Sons. Work under this contract was begun April 21, 1898, and completed August 9, 1898, at a total cost of \$3,207.98. It is a 6-inch macadam road with crushed stone sidewalks, in part. Crushed stone and edgestones were furnished by the city and hauled to the site of the work by the contractor. Gutter blocks were furnished on the work by the city; flagging for crosswalks was furnished by the contractor. Artificial stone sidewalks (4 feet wide) were laid by W. A. Murtfeldt Company on the easterly side between Park street and Talbot avenue, and on the westerly side from Kerwin street to beyond Helen street, a total length of 806 feet.

Burt street, Washington street to Ashmont street, is about 1,365 feet long. The contract for constructing the surface of this street was awarded to Collins & Ham. Work under this contract was begun August 17, 1898, and suspended December 4, 1898.

Canal street, Haymarket square to Causeway street, is about 1,097 feet long. The contract for constructing the surface of the street was awarded to Jones & Meehan. Work under this contract was begun October 15, 1898, and suspended December 24, 1898.

Carlos street, Lauriat avenue to Chapman avenue, is about 300 feet long. The contract for constructing the surface of the street was awarded to Patrick O'Hara & Co. Work under this contract was begun July 5, 1898, and completed September 1, 1898, at a total cost of \$788.38. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone, gutter blocks and edgestones were furnished by the city and hauled to the site of the work by the contractors. Flagging for crosswalks was furnished by the contractors.

Chamblet street, Hartford street to Magnolia street, is about 446 feet long. The contract for constructing the surface of the street was awarded to John Connors. Work under this contract was begun April 27, 1898, and completed May 23, 1898, at a total cost of \$1,142.13. It is a 6-inch macadam road with artificial stone sidewalks (cost of sidewalks not included in the above cost). Crushed stone, gutter blocks and edgestones were furnished by the city and hauled to the site of the work by the contractor. Flagging for crosswalks was furnished by the contractor. Artificial stone sidewalks were laid by W. A. Murtfeldt Company.

Elizabeth street, Norfolk street to Astoria street, is about 264 feet long. The contract for constructing the surface of the street was awarded to Collins & Ham. Work under this contract was begun June 30, 1898, and completed August 18, 1898, at a total cost of \$649.82. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone and edgestones were furnished by the city and hauled to the site of the work by the contractor. Gutter blocks were furnished on the work by the city, and flagging crosswalks were furnished by the contractor.

Fairmount street, Morton street to Washington street, is about 2,657 feet long. The contract for constructing the surface of the street was awarded to James McGovern. Work under this contract was begun November 16, 1897, and completed October 27, 1898, at a total cost of \$7,084.51. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone and edgestones were furnished by the city and hauled to the site of the work by the contractor; gutter blocks were furnished on the work by the city and flagging crosswalks were furnished by the contractor.

Hamilton street, Bowdoin street to Homes avenue, is about 944 feet long. The contract for constructing the surface of the street was awarded to James McGovern. Work under this contract was begun October 26, 1898, and suspended December 13, 1898.

Harold street, Munroe street to Walnut avenue, is about 748 feet long. A contract for constructing the surface of the street was awarded to Patrick McGovern. Work under this contract was begun November 21, 1898, and suspended December 1, 1898.

Hewins street, Columbia road to Erie street, is about 701 feet long. The contract for constructing the surface of the street was awarded to Philip Doherty. Work under this contract was begun September 13, 1898, and suspended November 30, 1898.

Jersey street, Brookline avenue to Audubon road, is about 1,782 feet long. A contract for filling this street to sub-grade was made with the Boston & Albany Railroad Company on August 24, 1898, at the rate of 51 cents per cubic yard, measured in the bank. Work was begun under this contract September 22, 1898, and completed December 17, 1898. Total amount of filling deposited was 36,897 cubic yards, at 51 cents per cubic yard, equal to \$18,817.47. The contract for constructing the surface of the street has not been let.

Leedsville street, Adams street to Dorchester avenue, is about 564 feet long. The contract for constructing the surface of the street was awarded to Collins & Ham. Work was begun under this contract July 13, 1898, and completed September 2, 1898, at a total cost of \$1,705.19. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractors. Flagging for crosswalks was furnished by the contractors.

Leroy street, Geneva avenue to Ditson street, is about 717 feet long. The contract for constructing the surface of the street was awarded to Philip Doherty. Work was begun under this contract June 22, 1898, and completed August 4, 1898, at a total cost of \$941.39, not including sidewalks. It is a 6-inch macadam road with artificial stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor. Flagging for crosswalks was furnished by the contractor. Artificial stone sidewalks were laid by the Barnes Ruffin Company.

Lonsdale street, Dorchester avenue to Adams street, is about 1,626 feet long. The contract for constructing the surface of this street was awarded to Patrick O'Hara & Co. Work was begun under this contract August 23, 1898, and on September 30, 1898, P. O'Hara & Co. were notified that the city would complete the work on account of the contractors not carrying on the work in a satisfactory manner. A contract was then made with the Barnes Ruffin Company. Work was begun again October 10, 1898, and suspended December 28, 1898.

Malvern street, Brighton avenue to Ashford street, is about 702 feet long. The contract for constructing the surface of this street was awarded to James Doherty & Co. Work under this contract was begun July 8, 1898, and completed September 26, 1898, at a total cost of \$1,691.21. It is a 6-inch macadam road with crushed stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by the contractor.

Maryland street, Savin Hill avenue to Bay street, is about 474 feet long. The contract for constructing the surface of this street was awarded to Philip Doherty. Work under this contract was begun October 18, 1898, and suspended November 30, 1898.

Mellen street, Ocean street to Montague street, is about 759 feet long. The contract for constructing the surface of the street was awarded to Collins & Ham. Work was begun under this contract September 13, 1898, and completed November 28, 1898, at a total cost of \$2,421.59. It is a 6-inch macadam road with artificial stone sidewalks, 4 feet in width and a planting space for grass between the sidewalk and the edgestone. Crushed stone and edgestones were furnished by the city and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by the contractor.

Merlin street, Athelwold street to Park street, is about 465 feet long. The contract for constructing the surface of the street was awarded to Patrick McGovern. Work was begun under this contract September 15, 1898, and completed November 28, 1898, at a total cost of \$1,794.97. It is a 6-inch macadam road with artificial stone sidewalks. Crushed stone and edgestone were furnished by the city and hauled to the site of the work by the contractor, gutter blocks were furnished on the work by the city; flagging for crosswalks was furnished by the contractor.

Nightingale street, Talbot avenue to Bernard street, is about 1,454 feet long. The contract for constructing the surface of this street was awarded to James Doherty & Co. Work was begun under this contract August 29, 1898, and completed December 13, 1898, at a total cost of \$3,679.46, not including cost of artificial stone sidewalks. It is a 6-inch macadam road with crushed stone and artificial stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor. Flagging for

crosswalks was furnished by the contractor. Artificial stone sidewalks were laid by Simpson Brothers' Corporation.

North Harvard street, Western avenue to Charles river, is about 2,573 feet long. The contract for constructing this street was awarded to Geo. H. Wentworth & Co. Work was begun under this contract October 4, 1898, and suspended December 24, 1898.

Oakley street, Bowdoin street to Geneva avenue, is about 825 feet long. The contract for constructing the surface of this street was awarded to John Connors. Work was begun under this contract July 11, 1898, and completed August 23, 1898, at a total cost of \$1,327.01, not including the cost of artificial stone sidewalks. It is a six-inch macadam road with artificial stone sidewalks. Crushed stone, edgestone and gutter blocks were furnished by the city, and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by contractor; artificial stone sidewalks were laid by John C. Newborg.

Peverell street, Sawyer avenue to Salcombe street, is about 486 feet long. The contract for constructing the surface of this street was awarded to Collins & Ham. Work was begun under this contract August 25, 1898, and suspended December 20, 1898.

Rosseter street, Bullard street to Bowdoin avenue, is about 849 feet long. A contract for constructing the surface of this street was awarded to Patrick O'Hara & Co. Work was begun under this contract June 14, 1898, and completed August 23, 1898, at a total cost of \$1,917.80. It is a six-inch macadam road with crushed stone sidewalks. Crushed stone, straight edgestone and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; circular edgestone were furnished by the city on the work; flagging for crosswalks was furnished by the contractor. A contract for building retaining walls at estates of T. H. Badlam and F. E. Brown was awarded to R. L. Barrett for the sum of \$1,275. Work was begun under this contract October 25, 1898, and suspended December 1, 1898.

Ruggles street, Parker street to Back Bay Fens, is about 945 feet long. A contract for constructing the surface of this street was awarded to Doherty & Connors. Work was begun under this contract December 2, 1897, and completed August 6, 1898, at a total cost of \$5,420.99. It is a Telford macadam road (8 inches and 4 inches respectively) with crushed stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by the contractor.

St. Stephen street, St. Stephen street to Bryant street, is about 803 feet long. A contract for filling this street to sub-grade was awarded to James T. Gilligan; 5,381 cubic yards were deposited at 20 cents per cubic yard, equal to \$1,076.20. The contract for constructing the surface of the street has not been et.

Spencer street, Wheatland avenue to Talbot avenue, is about 625 feet long. A contract for constructing the surface of the street was awarded to James McGovern. Work under this contract was begun November 20, 1898, and suspended December 14, 1898.

Stuart street, Trinity place to Dartmouth street, is about 260 feet long. A contract for constructing the surface of this street was awarded to Collins & Ham. Work was begun under this contract October 7, 1898, and completed October 31, 1898, at a total cost of \$767.02. It is a six-inch macadam road with brick sidewalks. Crushed stone, edgestone and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; bricks for sidewalks were furnished on the work by the city; flagging for crosswalks was furnished by the contractor.

Telford street, Western avenue to Metropolitan Park Reservation, is about 349 feet long. A contract for constructing the surface of this street was awarded to James Doherty & Co. Work was begun under this contract August 9, 1898, and completed August 29, 1898, at a total cost of \$568.95. It is a six-inch macadam road with crushed stone sidewalks. Crushed stone, edgestone and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by the contractor.

Tonawanda street, Geneva avenue to Greenbrier street, is about 1,700 feet long. A contract for constructing the surface of this street was awarded to Philip Doherty. Work was begun under this contract October 11, 1897, and completed June 18, 1898, at a total cost of \$5,294.52. It is a six-inch macadam road with brick sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; bricks for sidewalks were furnished on the work by the city, flagging for crosswalks was furnished by the contractor.

Vancouver street, Huntington avenue to Ruggles street, is about 254 feet long. A contract for constructing the surface of this street was awarded to Doherty & Connors. Work was begun under this contract December 2, 1897, and completed August 6, 1898, at a total cost of \$1,646.84. It is a Telford macadam road (8 and 4 inches respectively) with crushed stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the site of the work by the contractor; flagging for crosswalks was furnished by the contractor.

Waterlow street, Harvard to Harvard street, is about 518 feet long. A contract for constructing the surface of the street was awarded to James Doherty & Co. Work was begun under this contract October 4, 1898, and completed November 28, 1898, at a total cost of \$1,200.46, not including the cost of artificial stone sidewalks. It is a six-inch macadam road with crushed stone and artificial stone sidewalks. Crushed stone, edgestones and gutter blocks were furnished by the city and hauled to the

site of the work by the contractor; flagging for crosswalks was furnished by the contractor. The artificial stone sidewalks have not been laid.

Public alley, No. 437, Arlington street to Berkeley street, between Commonwealth avenue and Newbury street, is about 596 feet long. A contract for constructing the surface of this alley was awarded to the Barber Asphalt Paving Company. Work under this contract was begun October 24, 1898, and completed December 16, 1898, at a total cost of \$2,063.89. The roadway is paved with Trinidad lake asphalt $1\frac{1}{2}$ inches thick, with a bituminous concrete binder $1\frac{1}{2}$ inches thick, on a 6-inch American cement concrete base. The existing pavement (old cobble stone) was removed and roadway excavated, edgestones reset and brick sidewalks laid by the contractor. All new bricks and edgestones required were furnished by the city.

Contracts were awarded on the following streets, but at the end of the season no work had been done:

Angell street, Blue Hill avenue to Canterbury street.

Astor street, Massachusetts avenue to Parker street, now Hemenway street.

Fowler street, Greenwood street to Glenway street.

Francis street, Huntington avenue to Brookline avenue.

Middleton street, Norfolk street northerly.

Wensley street, Heath street westerly.

Plans have been prepared of the following "new streets" on which the work of construction has not been commenced:

Alexander street, Alexander street to Oleander street.

Amory street, School street to Bragdon street.

Atherstone street, Fuller street to Bailey street.

Belvidere street, Dalton street to West Newton street.

Bragdon street, Columbus avenue to Amory street.

Chiswick road, Englewood avenue to Chestnut Hill avenue.

Devon street, Blue Hill avenue to Columbia road.

Forest Hill street, Washington street to Glen road.

Homes avenue, Bowdoin street to Topliff street.

Idaho street, from River street.

Ipswich street, Boylston road to Boylston street.

Leeds street, Woodward street to Dorchester avenue.

Millet street, Park street to Athelwold street.

Newburg street, Beech street to Belgrade avenue.

Orkney road, Strathmore road to Sunderland road.

Peterborough street, Boylston road to Audubon road.

Queensberry street, Audubon road to Audubon road.

St. Stephen street, St. Stephen street to Bryant street.

Shirley street, Norfolk avenue to Massachusetts avenue.

Spencer street, Wheatland avenue to Talbot avenue.

Spring street, Centre street to Gardner street.

Stanley street, Quincy street to Bellevue street.

Thane street, Park street to Athelwold street.

Van Winkle street, Dorchester avenue to Shawmut branch railroad.

West Selden street, from Morton street.

Woodlawn street, Hyde Park avenue to Forest Hills cemetery.

GRADING STREET RAILWAY TRACKS.

The grades for tracks in the following streets have been determined. On streets marked ** the surveys were made and levels taken by the companies :

(Boston Elevated Railway Company.)

Alford street, Main street to Malden bridge.

Atlantic avenue, Summer street to Kneeland street.

Brattle street, Court street to Washington street.

Brighton street, Lowell street to Leverett street.

Bunker Hill street, Chelsea street to Sackville street.

Canal street, Haymarket square to Causeway street.

Columbus avenue, at Centre street.

Dorchester avenue, Summer street to Fort Point channel.

Hanover street, Court street to Washington street.

Main street, Mead street to Mystic branch railroad.

Neponset avenue, Minot street to Taylor street.

Shawmut avenue, Cherry street to near Castle street.

Shawmut avenue, Tremont street to Pleasant street.

Summer street, Atlantic avenue to Dorchester avenue.

Washington street, at Columbia road.

(West Roxbury and Roslindale Street Railway Company.)

Spring street, Centre street to Gardner street.

(Newtonville and Watertown Street Railway Company.)

** **North Beacon street**, Union square to Charles river.

Total length of single track grades 6.9 miles.

Surveys and plans were made for work upon the following streets and grades and lines given. The work of construction was supervised by the Street Department :

Adams street, Park street to Parkman street.

Alford street, Main street to Malden bridge.

Commonwealth avenue, at Essex street.

Commonwealth avenue, Warren street to Chestnut Hill avenue.

Covington street, East Eighth street to foot of steps.

Neponset avenue, Minot street to Neponset river.

Washington street, West Walnut park to School street.

DUMPING WHARVES FOR THE SANITARY DIVISION.

Plans and specifications were made for widening and dredging the dock at Fort Hill Wharf and a contract for doing the work was made June 15, 1898, with W. H. Ellis.

The total cost was \$3,376, and the work was completed early in September.

Plans and specifications were made for building a high platform over this dock for the purpose of dumping garbage into scows below. The work was done by W. H. Ellis, for the sum of \$2,843.33, and was completed in October.

Plans and specifications were made for building a platform and incline runway at the Sanitary Wharf on Albany street and the contract for doing the work was awarded to Thomas E. Ruggles on November 30, for the sum of \$5,470. The platform is over the dock, and is to be used for similar purposes to the one at Fort Hill Wharf; this work is not yet completed. Previous to the building of this platform the dock and its entrance were dredged by the Eastern Dredging Company to grade—7.0 feet city base; the contract price for doing this work was \$1,260.

EAST BOSTON FERRIES.

New drops and tanks. — Plans and specifications were made for building two new drops, and a contract was made September 3, 1893, with John M. Brooks for doing the work for the sum of \$5,775 for each drop. Plans and specifications were also made for building two new tanks for supporting the drop and a contract for doing the work was made with Mr. Brooks for the sum of \$1,875 for each tank. One drop replaced the old northerly drop at the Boston landing of the North Ferry and was open to travel January 14, 1899; the other drop is to replace the old northerly drop at the East Boston landing of the South Ferry and will be thrown open for travel early in February.

BROADWAY BRIDGE OVER FORT POINT CHANNEL.

Plans were made for strengthening portions of the draw fender pier of this bridge; the work was done by the Street Department.

COTTAGE FARM BRIDGE OVER BOSTON & ALBANY RAILROAD.

A granolithic sidewalk has been built on the northerly side of this bridge, the concrete foundation of which was furnished by the Metropolitan Construction Company, and the granolithic surface was laid by Simpson Brothers. Iron fences, furnished and set by P. J. Dinn & Co., have been placed on the main girders of the bridge.

HARVARD-STREET BRIDGE OVER NEW ENGLAND
RAILROAD.

Plans were prepared for building an 8-foot sidewalk for this bridge, and the work was done by the Street Department.

NORTH END PAVING WHARF.

A plan was made for an extension of this wharf to the harbor line; this work has not yet been done.

WARREN BRIDGE.

Plans were made for a temporary platform to be used for dumping snow; it has not been built.

Respectfully submitted,

WILLIAM JACKSON,
City Engineer.

APPENDIX I.

REPORT OF THE CHIEF SMOKE INSPECTOR.

64 PEMBERTON SQUARE, BOSTON, February 1, 1899.

BENJ. W. WELLS, ESQ., *Superintendent of Streets* :

DEAR SIR, — I herewith submit a report of the work performed under chapter 389, Acts of 1895, chapter 175, Acts of 1897, and section 99, chapter 47, Revised Ordinances 1898, relative to the smoke nuisance in this city.

During the past year the coal market has been in a somewhat unsettled condition, due to various causes, and notwithstanding the fact that large quantities of low grade bituminous coals were used from time to time, considerable success was met with in the abatement of the smoke nuisance under the present statute law.

This has been accomplished, not alone by the rigid enforcement of the ordinance relating to the equipment of new boilers, but by the activity on the part of the observers in reporting chimneys emitting smoke from time to time, not always in violation of the law, but sufficient to warrant the owner's attention being called to it. These reports or complaints when investigated were found in many cases to be due to the coal, while others were due to carelessness on the part of those in charge. While we have been obliged at times to treat owners of steam plants with considerable leniency, they have always shown a willingness to co-operate with the department in the abatement of the nuisance.

The result of these complaints from the observers also show that the smoke nuisance to-day is enlisting the attention of steam users to such an extent that many of them keep better informed of the condition of their chimney, as from time to time I found the object of my visit already occupying their attention.

Since August, 1894, the department in co-operation with the Building Department has been enforcing section 99, chapter 3, Revised Ordinances 1892 (section 99, chapter 47, Revised Ordinances 1898), whereby all boilers using

bituminous coal for the purpose of generating steam must be provided with a smoke consuming device. The legality of the ordinance was tested before the Board of Appeal in September, 1897, since which time it has been embodied in the application for a permit. During the past year there have been received from the office of the Building Commissioner, 385 notices of applications, 330 agreeing to burn hard coal and 33 adopting the use of smoke consuming devices. A record is made of every application, giving street and number, and kind of fuel or device used. At the close of this year 1,352 applications have been acted upon, and 1,134 applicants have signed to burn smokeless fuel.

Previous to August, 1894, boilers had been installed in buildings for heating purposes, equipped with grates to burn hard coal, but after a time bituminous coal was adopted, thus creating a smoke nuisance. Since the enforcement of this ordinance these conditions have been changed, so that to-day they do not practically exist, as frequent visits are made to plants where it is possible to burn soft coal. Since October, 136 boiler plants which are operated only during the cold weather were visited, and several cases were found violating the conditions of their permit, but their attention being called to it, they immediately complied with the requirements of the ordinance.

As the majority of these boilers are so constructed that they cannot be equipped with the smoke consuming devices at present in use in this city, they will be obliged to continue the use of smokeless fuels, which will provide against any future smoke nuisances from this class of boilers.

Sixteen complaints were received and satisfactorily adjusted, as shown in reports on file.

One hundred and seventy-one short observations of one and two firings, and thirty-five long observations lasting from two to nine hours were taken on various chimneys throughout the city; eleven of these latter observations were made at the request of owners of steam plants, who having equipped their boiler or boilers with a smoke consuming device desired the city to inform them if the same was acceptable and complying with the law; these tests take from five to seven days to complete, reports of which are on file.

The importations of Nova Scotia coal recorded at the port of Boston for the year ending January 31, 1899, shows 20,247 tons as against 41,730 tons for the year ending January 31, 1898, very little, if any, of which was used within the city limits.

A weekly weather record of the temperature, humidity,

character of the day, direction and miles per hour of the wind, and also the general precipitation, showing the nature of the same, when it began and ended, is compiled at this office, and a copy of the same is filed at the Central Office.

COAL IMPORTATIONS.

The following table shows the number of tons and value of importations of Nova Scotia coal by months, recorded at the port of Boston for the year ending January 31, 1899 :

MONTH.	Tons.	Value.
February.....	365	\$365
March.....	1,178	1,178
April.....	2,316	2,316
May.....	1,150	1,150
June.....	1,004	1,004
July.....	2,412	2,412
August.....	—	—
September.....	2,470	2,470
October.....	—	—
November.....	2,339	2,339
December.....	1,113	1,113
January, 1899.....	5,900	8,863
Total.....	20,247	\$23,210

BOILER APPLICATIONS.

During the past year 385 applications for permits were received from the Building Department, and disposed of as follows :

Signed to use hard coal	330
Adopted smoke devices	33
Gas engines	9
Duplicates	6
Applications withdrawn	3
Soft coal and screenings	2
Soft coal and shavings	1
Dynamo	1

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SPECIAL REPORTS.

March 4. Report with observations on chimney connected with the boiler plant of the Converse Building, 101 Milk street.

March 12. Report on complaint against the chimneys connected with the boiler plant of the Shoe and Leather Building and the Church Green Electric Lighting Company, 114 and 140 Bedford street, respectively.

March 15. Report on complaint against chimney connected with the boiler plant of the estate of Mr. N. P. Hamlen, 187-191 Huntington avenue.

March 15. Report on complaint against chimney connected with the boiler plant of the estate, 77 Milk street.

March 21. Report with observations on chimney connected with the boiler plant of the Saranac Building, 607-627 Columbus avenue.

March 21. Report with observations on chimney connected with the boiler plant of the Puritan Brewery, Roland street, Charlestown.

March 22. Report on complaint against chimney connected with the boiler plant of the Church Green Electric Lighting Company, Sullivan place.

March 25. Report on violation of an agreement made by the Block Plant Electric Light Company, relative to operation of boiler at 28 School street.

March 31. Report on complaint of Mrs. M. E. Whitton, 5 Boylston place.

April 25. Report on complaint of tenants of the Smith Building, Court square.

May 5. Report with observations on chimney connected with the boiler plant of the Wentworth Building, Atlantic avenue, Summer and Purchase streets.

June 1. Report on Block Plant Electric Light Company, 28 School street.

June 21. Report on communication of Councilman Louis T. Howard, relative to a smoke nuisance at power house of the Boston Elevated Railway, Freeport street, Dorchester.

July 12. Report on complaint against chimney connected with the boiler plant of the Boston Elevated Railway, Freeport street, Dorchester.

July 12. Report on complaint against chimney connected with the boiler plant of the Jefferson Building, 564 Washington street.

August 24. Report with observations on chimney connected with the boiler plant of the Superior Fast Black and Chemical Company, Roland street, Charlestown.

August 24. Report on complaint against chimney connected with restaurant, 659 Washington street.

August 25. Report on complaint against chimney connected with the boiler plant of the Continental Clothing Company, 651 Washington st.

September 22. Report on complaint against the chimneys connected with the boiler plants of D. S. McDonald Company, and Shepard, Norwell & Co., Winter street.

September 22. Report on complaint against chimney connected with the boiler plant of A. Mudge & Son, 24 Franklin street.

September 23. Report on complaint against chimneys connected with the bake ovens of Mr. Joseph Merello, 1260 Washington street.

September 23. Report on request of Mr. J. N. Pratt of the Jarvis Engineering Company.

October 14. Report on complaint against chimney connected with the boiler plant of the Continental Clothing Company, 651 Washington street.

October 20. Report on complaint against chimney connected with the boiler plant of the Moses Williams estate, 1 Bath street.

November 17. Report on complaint against chimney connected with the boiler plant of the estate of Mr. N. P. Hamlen, 187-191 Huntington avenue.

Jan. 10, 1899. Report with observations on chimney connected with the boiler plant of the Edison Electric Illuminating Company, Head place.

SUMMARY.

The following is a brief summary of the work for the year ending January 31, 1899 :

Number of boiler permits acted upon	385
Number of short observations taken	171
Number of observations lasting from two to nine hours	35
Number of special reports made	26
Number of complaints received	16
Number of special requests for observations	11

Respectfully submitted,

THOMAS F. KELLEY,

Chief Inspector.

APPENDIX J.

REPORT OF THE CIVIL SERVICE CLERK.

BOSTON, February 1, 1899.

MR. BENJ. W. WELLS,

Superintendent of Streets :

DEAR SIR, — I herewith respectfully submit a report of the work performed by me in connection with the Civil Service Commission of Massachusetts, together with a statement of the force employed and eligible for employment for the year ending January 28, 1899.

During the year 82 applications were made upon the State Commission for 222 men of various grades and occupations ; of this number 11 were for promotions and 4 were for the reinstatement of 4 men. 336 names were submitted, of which number 239 were selected and appointed, of whom 5 were chosen under the Veteran's Preference Act of 1896, and 42 provisional appointments were made under Civil Service Rule No. 36. Of the 11 applications made for promotions 10 were granted, 1 failing to pass the examination, and on the 4 requests for the reinstatement of 4 employees, 3 were granted and 1 rejected.

During the year 101 transfers were made, which the Commission approved, of which number 30 were from Transit, 8 from Water, 9 from Public Grounds, 28 from Park, 1 from Improved Sewerage, 23 from Public Buildings, Repairs Division, 1 from City Engineer, and 1 from Metropolitan Water Board.

Notices of 203 discharges from the Department rolls were forwarded to the Commission.

The Department records show that there are now 3,473 persons eligible for employment in the several divisions and of that number 3,208 were upon the January, 1899, pay rolls.

Grade and Number of Employees.

TITLE.	DIVISIONS.							Total.	
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.		Street Watering.
Superintendent.....	1								1
Deputies.....		1	1	1	1	1	1	1	7
Purchasing Agent.....	1								1
Clerks.....	1	5	25	5	1	3	2		42
Messengers.....	1	12	7	7	5	2	6	1	41
Civil Engineers.....		2	17						19
Draughtsmen.....			22						22
Instrumentmen.....		11	16						27
Rodmen.....		13	57						70
Aids or tallymen.....		3		4	1			19	29
Inspectors ..		27	57	18				1	103
Foremen.....		10	10	6	8	1	1		36
Sub-Foremen.....		24	10	10	14	1	2		61
Superintendent of Inspectors.....		1	1						2
Blacksmiths and assistants.....		19	3	6	5	2			35
Boiler-makers.....						1			1
Bracers and assistants.....			28						28
Boys.....	1	17	42		10	1	6	1	78
Broom-makers.....		1			3				4
Brick-slinger.....			1						1
Bridge-cleaners.....							1		1
Captains.....				1		11			12
Carpenters and assistants.....		26	9		2	4	11		52
Caulkers.....							1		1
Concrete-washer.....			1						1
Coal-passers.....			4						4
Chief of draws and bridges.....							1		1
Cooper.....					1				1
Chief drawtender.....							1		1
Drawtenders.....							17		17
Assistant drawtenders.....							39		39
Deck hands.....						22			22
<i>Carried forward.....</i>	5	174	311	58	51	49	89	23	760

Grade and Number of Employees. — *Continued.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	5	174	311	58	51	49	89	23	760
Dumpers.....				24	8				32
Chief engineer (steam).....			1			1			2
Engineer and assistants.....		22	35			12	15		84
Farmer.....		1							1
Feeders.....				4	2				6
Firemen.....			7			18			25
Gatemen.....			4			12			16
Harness makers and assistants.....		3	1	4	1				9
Horseshoers.....				7					7
Hostlers.....			3				2		5
Iron-workers.....			1						1
Janitors.....			1			9			10
Janitresses.....						5			5
Joiners.....						4			4
Laborers and helpers.....		514	537	208	233	8			1,500
Lamplighters.....						2			2
Ledgemen.....		1	85						86
Machinists.....			3			3			6
Mariner.....		1							1
Masons (stone and brick).....			51						51
“ tenders.....			11						11
Mate.....			1						1
Measurers.....		2					1		3
Oilers.....			9			2			11
Pavers and assistants.....		33							33
Painters.....				8		1	10		19
Pilots.....			1			10			11
Pipe-layers.....			6						6
Powdermen.....		4							4
Riggers.....			1						1
Sailors.....			2						2
Scowmen.....									
Stone-pointer.....			1						1
<i>Carried forward</i>	5	755	1,072	313	295	136	117	23	2,716

Grade and Number of Employees. — *Concluded.*

TITLE.	DIVISIONS.								Total.
	Central Office.	Paving.	Sewer.	Sanitary.	Street Cleaning.	Ferry.	Bridge.	Street Watering.	
<i>Brought forward</i>	5	755	1,072	313	295	136	117	23	2,716
Steam drillers.....		8							8
Stenographers.....	1	1							2
Stonecutters.....		24	2						26
Store-keepers.....			1			1			2
Stablemen.....		13	2	10	4				29
Teamsters.....		81	8	175	58		2		324
Tollmen.....						11			11
Watchmen.....		19	12	7	1	7	3		49
Weighers.....		6	2						8
Wharfingers and assistants.....		4	1						5
Wheelwrights.....				5					5
Yardmen.....		8	2	10	3				23
Total.....	6	919	1,102	520	361	155	122	23	3,208

Table showing Transfers made from various City Departments to the Several Divisions.

DIVISIONS.	DEPARTMENTS.								Total.
	Transit.	Water.	Public Grounds.	Park.	Improved Sewerage.	Public Buildings, Repairs Division.	City Engineer.	Metropolitan Water Board.	
Paving.....		2		4		1			7
Sewer.....	28	6	6	17	1	15	1	1	75
Sanitary.....				3		4			7
Street Cleaning.....	1		3	3		3			10
Ferry.....									
Bridge.....	1			1					2
Street Watering.....									
Central Office.....									
Total.....	30	8	9	28	1	23	1	1	101

Table showing the number of Applications for Various Grades of men made upon the Civil Service Commission for the Year ending January 31, 1898.

DIVISIONS.	Applications.	Number applied for.	Number submitted by C. S. C.	Number appointed.	Provisional appointment included in four previous columns.	Reinstatements included in four previous columns.	Veterans appointed included in four previous columns.
Paving	12	37	46	37	4	2	.....
Sewer	42	125	190	139	38	2	2
Sanitary	12	19	37	15	.....	.....	.....
Street Cleaning,	8	12	20	13	.....	.....	1
Ferry	1	15	16	15	.....	.....	.....
Bridge	4	4	7	4	.....	.....	2
Street Watering,	3	10	20	16	.....	.....	.....
Central Office ..	.....	.....	.....	.....	.....	.....	.....
Total	82	222	336	239	42	4	5

Applications included eleven, who were promoted. One applicant for promotion failed. Twenty-nine requisitions cancelled not included in above, four of which were for transfers from other city departments.

Four applications for reinstatement; of four men, one refused by Civil Service Commission.

Five veterans were appointed: one foreman, three mechanics and laborers, one assistant draw-tender.

Respectfully submitted,

M. J. MURRAY,

Civil Service Clerk.

APPENDIX K.

FORMER SUPERINTENDENTS AND DOCUMENT
NUMBERS OF ANNUAL REPORTS.

Bridge Department before 1891.

Previous to 1886, under charge of City Engineer.

NAME.	Year.
Bartholomew M. Young	1886 to 1889
James H. Nugent	1889 to 1891

Bridge Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1886	1887	29
" "	1887	1888	26
" "	1888	1889	29
" "	1889	1890	22
" "	1890	1891	*

*Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Paving Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent Streets and Drains .	1827 to 1831
Zephaniah Sampson, " " " "	1831 to 1846
Thomas Hunting, Superintendent	1846 to 1853
Alfred T. Turner, "	1853 to 1864
Charles Harris, "	1864 to 1883
Nehemiah T. Merritt "	1883
James J. Flynn, "	1883
Charles Harris, "	1884
Michael Meehan, "	1884 to 1886
John W. McDonald, "	1886 to 1889
J. Edwin Jones, "	1889 to 1891

Paving Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Quarterly report		1851	6
“ “		1851	29
Annual report	1851	1852	2
“ “	1852	1853	6
“ “	1853	1854	6
“ “	1854	1855	5
“ “	1855	1856	3
“ “	1856	1857	3
“ “	1857	1858	3
“ “	1858	1859	5
“ “	1859	1860	6
“ “	1860	1861	5
“ “	1861	1862	4
“ “	1862	1863	3
“ “	1863	1864	3
“ “	1864	1865	7
“ “	1865	1866	3
“ “	1866	1867	6
“ “	1867	1868	9
“ “	1868	1869	14
“ “	1869	1870	13
“ “	1870	1871	12
“ “	1871	1872	16
“ “	1872	1873	21
“ “	1873	1874	25
“ “	1874	1875	27
“ “	1875	1876	30
“ “	1876	1877	38
“ “	1877	1878	29
“ “	1878	1879	24
“ “	1879	1880	24
“ “	1880	1881	48
“ “	1881	1882	51
“ “	1882	1883	47
“ “	1883	1884	46
“ “	1884	1885	97
“ “	1885	1886	30
“ “	1886	1887	16
“ “	1887	1888	23
“ “	1888	1889	30
“ “	1889	1890	19
“ “	1890	1891	*

*Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Sewer Department before 1891.

NAME.	Year.
Enoch Patterson, Superintendent	1827 to 1831
Zephaniah Sampson, "	1831 to 1837
Charles B. Wells, "	1837 to 1856
Simeon B. Smith, "	1856 to 1863
William H. Bradley, "	1863 to 1883
Horace A. Moses, "	1883 to 1885
Thomas J. Young, "	1885 to 1887
Seth Perkins, "	1887 to 1889
Charles Morton, "	1889 to 1891

Sewer Department before 1891.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. Doc.
Annual report	1859	1861	11
" "	1860	1861	12
" "	1861	1862	12
" "	1862	1863	13
" "	1863	1864	11
" "	1864	1865	5
" "	1865	1866	6
" "	1866	1867	8
" "	1867	1868	13
" "	1868	1869	11
" "	1869	1870	3
" "	1870	1871	11
" "	1871	1872	10
" "	1872	1873	13
" "	1873	1874	12
" "	1874	1875	17
" "	1875	1876	11
" "	1876	1877	13
" "	1877	1878	15
" "	1878	1879	11
" "	1879	1880	16
" "	1880	1881	19
" "	1881	1882	18
" "	1882	1883	16
" "	1883	1884	43
" "	1884	1885	
" "	1885	1886	58
" "	1886	1887	69
" "	1887	1888	81
" "	1888	1889	129
" "	1889	1890	14
" "	1890	1891	*

* Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Health Department before 1891.

Sanitary.

NAME.	Year.
Ezra Forristall, Superintendent	1853 to 1854
Joseph W. Coburn, "	1854 to 1855
Ezra Forristall, "	1855 to 1869
George W. Forristall, "	1869 to 1890

Health Department before 1891.

Sanitary.

NAME OF DOCUMENT.	Year.	Pub. Year.	No. of Doc.
Annual report	1853	1854	7
" "	1854	1855	6
" "	1855	1856	4
" "	1856	1857	4
" "	1857	1858	4
" "	1858	1859	4
" "	1859	1860	5
" "	1860	1861	6
" "	1861	1862	5
" "	1862	1863	5
" "	1863	1864	4
" "	1864	1865	4
" "	1865	1866	8
" "	1866	1867	7
" "	1867	1868	8
" "	1868	1869	12
" "	1869	1870	4
" "	1870	1871	10
" "	1871	1872	17
" "	1872	1873	40
Annual report from 1873 to 1884, inclusive; the Superintendent's report was embodied in the report of the Board of Health	1885	1886	45
Annual report	1886	1887	22
" "	1887	1888	16
" "	1888	1889	23
" "	1889	1890	21
" "	1890	1891	*

* Published in annual report, Executive Department, Part II., City Document No. 1, 1891.

Commissioners of Cambridge Bridges before 1891.

(West Boston, Canal and Prison Point.)

NAME.	Year.
Frederick W. Lincoln, Commissioner for Boston,	{ May 22, 1871, to March, 1891. { June 14, 1871, to Jan. 31, 1883. { March 28, 1883, to present time.
Ezra Parmenter, Commissioner for Cambridge .	
William J. Marvin, Commissioner for Cambridge,	

NOTE.—Harvard bridge added in 1892. Essex street, Cambridge street, North Harvard street and Western avenue bridges to Cambridge were transferred from Street Department July 1, 1898.

Commissioners of Cambridge Bridges before 1891.

(West Boston, Canal and Prison Point.)

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1871	1872	19
“ “	1872	1873	12
“ “	1873	1874	16
“ “	1874	1875	23
“ “	1875	1876	20
“ “	1876	1877	12
“ “	1877	1878	10
“ “	1878	1879	8
“ “	1879	1880	12
“ “	1880	1881	8
“ “	1881	1882	15
“ “	1882	1883	15
“ “	1883	1884	19
“ “	1884	1885	8
“ “	1885	1886	12
“ “	1886	1887	19
“ “	1887	1888	25
“ “	1888	1889	22
“ “	1889	1890	20
“ “	1890	1891	*

*Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Ferry Department before 1895.

NAME.	Year.	
	1870	1891
Board of Ferry Directors	1870	1891
William J. Burke, Superintendent	1891	May 1, 1895.
Thomas Kellough	May 1, 1895.	July 1, 1895.

Ferry Department before 1895.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report	1870	1871	41
" "	1871	1872	55
" "	1872	1873	81
" "	1873	1874	42
" "	1874	1875	65
" "	1875	1876	51
" "	1876	1877	53
" "	1877	1878	49
" "	1878	1879	60
" "	1879	1880	74
" "	1880	1881	77
" "	1881	1882	72
" "	1882	1883	93
" "	1883	1884	76
" "	1884	1885	72
" "	1885	1886	28
" "	1886	1887	12
" "	1887	1888	10
" "	1888	1889	3
" "	1889	1890	4
" "	1890	1891	*
" "	1891	1892	12
" "	1892	1893	11
" "	1893	1894	11
" "	1894	1895	11

*Published in annual report, Executive Department, Part I., City Document No. 1, 1891.

Street Department since 1891.

Superintendent.

Henry H. Carter, Member of American Society Civil Engineers.
Resigned December 8, 1894.

Charles R. Cutter, *Acting Superintendent from December 8, 1894, to January 14, 1895.*
Member of the Boston Society Civil Engineers.

Bertrand T. Wheeler, *Superintendent from January 14, 1895, to February 4, 1896.*
Member of the Boston Society Civil Engineers.

Benjamin W. Wells, *Superintendent from February 4, 1896, to the present time.*

BRIDGE DIVISION.—John A. McLaughlin, *Deputy Superintendent until June 1, 1895.*

BRIDGE DIVISION.—John P. Wise, *Deputy Superintendent from June 1, 1895, to February 14, 1896.*

BRIDGE DIVISION.—William H. Carberry, *Deputy Superintendent from February 14, 1896, to the present time.*

FERRY DIVISION.—Thomas Kellough, *Deputy Superintendent from July 1, 1895, to February 14, 1896.*

FERRY DIVISION.—William F. McClellan, *Deputy Superintendent from February 14, 1896, to the present time.*

PAVING DIVISION.—Charles R. Cutter, *Deputy Superintendent until January 24, 1895.*

PAVING DIVISION.—Darius N. Payson, *Deputy Superintendent from January 24, 1895, to March 1, 1896.*

PAVING DIVISION.—John L. Kelly, *Deputy Superintendent from March 1, 1896, to the present time.*

SANITARY DIVISION.—George W. Forristall,¹ *Deputy Superintendent.*

SANITARY DIVISION.—Phillip A. Jackson, *Acting Deputy Superintendent from January 16, 1894, to February 1, 1895.*

SANITARY DIVISION.—Charles A. Young, *Deputy Superintendent from February, 1895, to March 1, 1896.*

SANITARY DIVISION.—Patrick O'Shea, *Deputy Superintendent from March 1, 1896, to the present time.*

SEWER DIVISION.—Henry W. Sanborn, *Deputy Superintendent until July 10, 1896.*
Member Philadelphia Society Civil Engineers.

SEWER DIVISION.—Charles R. Cutter, *Deputy Superintendent from July 10, 1896, to the present time.*

Member of the Boston Society of Civil Engineers.

STREET CLEANING DIVISION.—Phillip A. Jackson, *Deputy Superintendent until March 22, 1895.*

STREET CLEANING DIVISION.—Benjamin M. Cram, *Deputy Superintendent from March 22, 1895, to March 1, 1896.*

STREET CLEANING DIVISION.—Joshua Atwood, 3d, *Deputy Superintendent from March 1, 1896, to the present time.*

Member of the Boston Society of Civil Engineers.

STREET WATERING DIVISION.—M. Edwin Libby, *Deputy Superintendent from March 6, 1895, to March 1, 1896.*

STREET WATERING DIVISION.—Thomas J. Finneran, *Deputy Superintendent from March 1, 1896, to the present time.*

BOSTON AND CAMBRIDGE BRIDGES.—Henry H. Carter, *ex officio, Commissioner for Boston, until December 8, 1894.*

Charles R. Cutter, *Acting from December 8, 1894, to January 14, 1895.*

Bertrand T. Wheeler, *from January 14, 1895, to February 4, 1896.*

Benjamin W. Wells, *from February 14, 1896, to the present time.*

William J. Marvin, *Commissioner for Cambridge.*

¹ Died January 12, 1894.

Street Department.

NAME OF DOCUMENT.	For Year.	Pub. Year.	No. of Doc.
Annual report, Executive Dept. Part II..	1891	1892	36
“ “ “ “ “ ..	1892	1893	34
“ “ “ “ “ ..	1893	1894	34
“ “ “ “ “ ..	1894	1895	34
“ “ “ “ “ ..	1895	1896	29
“ “ “ “ “ ..	1896	1897	29
“ “ “ “ “ ..	1897	1898	34
“ “ “ “ “ ..	1898	1899	35

