

# THE CITY RECORD.

## OFFICIAL JOURNAL.

VOL. XV.

NEW YORK, FRIDAY, FEBRUARY 11, 1887.

NUMBER 4,176



### DEPARTMENT OF PUBLIC WORKS.

Report for the Quarter and Year ending December 31, 1886.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE, NO. 31 CHAMBERS STREET,  
NEW YORK, January 7, 1887.

Hon. ABRAM S. HEWITT, Mayor :

SIR—In compliance with section 49 of the New York City Consolidation Act of 1882, I have the honor to present herewith a report of the transactions of the Department of Public Works for the quarter ending December 31, 1886, and a review of its operations for the past year :

#### SUMMARY OF EXPENDITURES FOR THE QUARTER.

(Being amount of requisitions drawn on the Comptroller.)

On account of appropriations raised by taxation.....	\$894,309 05
On account of Local Improvements.....	203,176 34
On account of Funded Debt, for improvement and extension of water supply.....	47,071 25
On account of Revenue Bonds, in anticipation of collection of charges for water-meters..	71 43
On account of Special Fund, for restoring pavements over street openings.....	9,205 50
Total.....	\$1,153,833 57

#### SUMMARY STATEMENT OF CONTRACTS.

(Contracts entered into during the Quarter.)

23 sewer contracts, estimated cost.....	\$157,322 85
26 regulating and grading contracts, estimated cost.....	317,337 78
23 paving contracts, estimated cost.....	158,765 13
1 water-pipe contract, estimated cost.....	7,748 00
2 gas contracts, estimated cost.....	32,150 00
18 miscellaneous contracts, estimated cost.....	17,991 40

Total, 93 contracts, estimated cost.....\$691,315 16

(Contracts completed during the Quarter.)

8 sewer contracts, cost.....	\$77,961 53
8 regulating and grading contracts, cost.....	184,149 41
9 paving contracts, cost.....	84,244 99
1 water-pipe contract, cost.....	8,147 25
18 miscellaneous contracts, cost.....	20,164 40

Total, 44 contracts, cost.....\$374,667 58

#### BUREAU OF CHIEF ENGINEER OF THE CROTON AQUEDUCT.

At the beginning of the quarter the natural flow of the Croton river was far below the volume of water required for the City's supply, but it gradually increased, and on October 29 had risen sufficiently to fill the Aqueduct. Since that time there has been a surplus of flow, and the storage reservoirs and lakes, which had been drawn down very largely during the summer and autumn, have been gradually refilled. From October 1 to October 29, 1,560,000,000 gallons of water were drawn from the two storage reservoirs, and 410,000,000 gallons were drawn from Lakes Mahopac and Gilead.

The deficiency in the flow of the Bronx river continued much longer, and it was necessary to draw upon the water stored in the Kensico and Rye Ponds Reservoirs until December 18 ; the total quantity drawn during the quarter is 1,150,000,000 gallons.

The following table shows the rain-fall for the quarter at the several stations where rain gauges are kept by the Department :

LOCATIONS.	OCTOBER. INCHES.	NOVEMBER. INCHES.	DECEMBER. INCHES.	TOTAL. INCHES.
Boyd's Corners Reservoir.....	2.28	5.57	4.29	12.14
South East Reservoir.....	1.95	5.09	3.97	11.01
Croton Dam.....	1.85	5.71	3.99	11.56
Kensico Reservoir.....	2.41	4.07	3.33	9.81
Central Park Reservoir.....	3.46	4.38	3.03	10.87

The Croton Aqueduct has delivered water to its full capacity, without interruption, during the past three months, and in November the volume passed through the conduit was increased one inch in depth, in order to meet to some extent the increased consumption of water caused by waste during cold weather.

The following work was done during the quarter in reinforcing and improving the Aqueduct :

- 1,012 cubic yards earth excavated.
- 975 cubic yards building stone quarried.
- 1,741 cubic yards dry masonry built.
- 490 lineal feet of additional brick arch built.
- 168 cubic yards stone and brick masonry built.
- 1,142 cubic yards filling placed in embankments.
- 10,349 lineal feet fences built.

An average of 13,500,000 gallons of water per day was pumped by the high service pumping works at High Bridge and at Ninety-eighth street, and distributed through the high service district.

In extending the water service in 34 separate streets and avenues, 14,500 lineal feet of 12-inch pipe and 13,685 lineal feet of 6-inch pipe was laid, making a total of 28,185 lineal feet, or 5 3/4-100 miles. With these pipes 55 stop-cocks and 77 fire-hydrants were placed.

252 additional water-meters were placed during the quarter, making 14,582 meters in use on December 31, 1886.

With the advent of cold weather, the people have resumed the pernicious practice of wasting water in immense quantities by letting the water run from faucets day and night to prevent freezing in their service-pipes. I shall speak more fully of the causes and effects of this waste in the review of the operations of the Department for the year 1886, which is embodied in this report.

#### BUREAU OF WATER PURVEYOR.

##### Pavements.

The following repavement works were finished during the quarter :

- Eighteenth street, between First avenue and East river and between Eighth and Tenth avenues.
- Fifteenth street, between First and Second avenues.
- Nineteenth street, between First and Second avenues.
- Twenty-fifth street, between First avenue and East river.
- Pine street, between William and Pearl streets.
- Chambers street, between Broadway and Centre street.
- Eighth street, between Fourth avenue and Broadway.
- Ninth street, between Third and Fourth avenues.
- Eighteenth street, between Fourth avenue and Broadway.
- The area of streets repaved is 24,896 square yards, exclusive of the Fifth avenue pavement.
- On Fifth avenue, 18,571 square yards of pavement were laid during the quarter.
- The laying of pavement is suspended during the severe cold weather, but paving-blocks continue to be delivered and inspected on the line of the work.
- The following new pavements, payable by assessment, were laid :
- Sixty-fourth street, between First and Second avenues.
- Ninety-third street, between Eighth and Ninth avenues.
- One Hundred and Third street, between First and Second avenues.
- One Hundred and Ninth street, between Madison and Fourth avenues, covering 8,515 square yards.

In the repairs of pavements an average force of 624 pavers, rammers and laborers, 124 carts and 2 teams was employed until severe cold weather compelled a suspension of the work. The repairs made by this force cover an area of 118,604 square yards. A small force of 59 men and 8 carts is retained during the winter season to repair dangerous places which demand immediate attention. Pavement repairs, covering an area of 2,902 square yards were made by contract, in addition to the work done by the repair force. Eighteen permits were issued to parties to repair pavements at their own expense.

##### Repairs of Water-pipes, Stop-cocks and Hydrants.

The average force employed under the direction of the Water Purveyor in the repairs of pipes, stop-cocks and hydrants was 79 mechanics and laborers and 11 carts. The following are the principal items of work done by this force :

- 397 defects in pipes and stop-cocks repaired.
- 186 water connections shut off on account of leaks in service-pipes.
- 1,054 repairs made to fire-hydrants.
- 96 old fire-hydrants replaced by new ones.
- 5 additional fire-hydrants placed.
- 272 repairs of defective pavements made.
- 1 new public drinking-hydrant was placed and 42 drinking-hydrants were repaired.

#### BUREAU OF SEWERS.

During the quarter 9 contracts for new sewers and 9 contracts for receiving-basins were completed, and 29 sewer works were in progress at the close of the quarter. New contracts were made for 5 sewers and 6 receiving-basins, upon which work has not yet been begun. The aggregate quantities of work done under the several contracts are :

- 5,609 lineal feet of sewers built.
- 411 lineal feet culverts built.
- 9 receiving-basins built.
- The following are the principal items in repairing and cleaning sewers and receiving-basins :
- 250 lineal feet sewers rebuilt.
- 157 lineal feet sewers repaired.
- 107 lineal feet culverts rebuilt.
- 90 lineal feet spur-pipe laid.
- 2 new receiving-basins built.
- 2 receiving basins rebuilt.
- 51 receiving-basins repaired.
- 2 new manholes built.
- 107 manholes repaired.
- 52 new manhole covers and 33 manhole heads placed.
- 12 new granite basin heads placed.
- 24 new basin covers placed.
- 1,600 cubic yards earth excavated and refilled.
- 412 square yards pavement relaid.

#### BUREAU OF STREET IMPROVEMENTS.

During the three months work was in progress under twenty-one regulating and grading contracts, of which the following have been completed and accepted by the Department :

- West End avenue, from Seventy-second street to the Boulevard.
- William street, from Duane to North William street.
- Ninety-third street, from West End avenue to Riverside Drive.
- One Hundred and Thirtieth street, from Old Broadway to the Boulevard.
- One Hundred and Fifty-fifth street, from Eighth avenue to New avenue.
- One Hundred and Fifty-fifth street, from Eighth avenue to McComb's Dam lane.



Four flagging contracts and six contracts for fencing vacant lots were also completed. The aggregate quantities of work done under the several contracts are :

33,168 cubic yards earth excavated.  
34,635 cubic yards rock excavated.  
84,023 cubic yards filling placed in embankments.  
7,128 lineal feet curb stone set.  
63,383 square feet flagging laid.  
1,163 lineal feet picket fence built.

In the care and repair of sidewalks in front of City property, the following work was done, under the appropriation for that purpose :

1,441 square feet flagging laid.  
600 square feet flagging relaid.  
232 lineal feet curb stone set.  
125 lineal feet curb stone reset.  
318 square feet flagging relaid.  
579 receiving basins cleaned.  
13,788 lineal feet of sewers cleaned.  
1,917 cartloads of sewer deposits removed.

#### BUREAU OF STREETS AND ROADS.

In addition to the ordinary labor of maintaining and cleaning the macadam roadways under the charge of this Bureau, special repairs were made on the following roads :

Western Boulevard, between Fifty-ninth and One Hundred and Fifty-fifth streets.  
Seventy-second street, between Ninth avenue and Riverside Drive.  
Seventy-second street, between Avenue A and Fifth avenue.  
Fifth avenue, between One Hundred and Tenth and One Hundred and Twentieth streets.  
First avenue, between One Hundred and Ninth and One Hundred and Sixteenth streets.  
Avenue A, between Fifty-seventh and Eighty-sixth streets.  
One Hundred and Tenth street, between First and Fifth avenues.  
Seventh avenue, between One Hundred and Tenth and One Hundred and Fifty-fourth streets.  
Sixth avenue, between One Hundred and Tenth and One Hundred and Forty-sixth streets.  
One Hundred and Sixteenth street, between Pleasant and Seventh avenues.  
Mount Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets.

Fifth avenue, between One Hundred and Twenty-fourth and One Hundred and Thirtieth streets.  
Avenue St. Nicholas, between One Hundred and Tenth and One Hundred and Twenty-fifth streets.

In the cleaning of the roadways, 2,950 truck-loads of dirt and other refuse materials were removed, and 570 truck loads of deposits were removed from sewer basins along the road. All of these roadways are sprinkled when necessary for their maintenance, and to prevent excessive dust. Over 5,900,000 gallons of water was used in such sprinkling.

In the maintenance of the unpaved streets and roads under the charge of the Bureau, repairs were made on over 30 different streets and avenues.

#### BUREAU OF LAMPS AND GAS.

On September 30, 1886, the following public lamps were in use on the streets, avenues, parks, bridges and docks of the city, viz. :

23,908 gas-lamps.  
711 electric-lights.  
120 naphtha-lamps.  
24,739 public lamps.

During the quarter 260 additional gas-lamps were erected and lighted ; 98 old gas-lamps were relighted, and 72 gas-lamps were discontinued, being a net increase of 286 lamps, and making a total of 25,025 public lamps in use at the close of the quarter.

For the year 1886, the Department paid for gas supplied to public buildings and offices under contracts with the gas companies, at the rate of \$1.50 per 1,000 cubic feet to the Consolidated Gas Company and \$1.40 per 1,000 cubic feet to the Equitable Gas Company. Under the contracts made in December for the year 1887, the price of gas supplied to all public buildings and offices is \$1.25 per 1,000 cubic feet.

#### BUREAU OF REPAIRS AND SUPPLIES.

The principal items of work done in the care and repair of public buildings are as follows :

##### *New Court-house.*

Placing 20 new doors and locks on closets in the County Clerk's Office ; placing new steam radiators and fixtures in the searchers' room ; furnishing new window shades in new court-rooms ; repairing the passenger elevator.

##### *The City Hall.*

Repairing the roof, chimney-tops and flues ; draping the main entrance of the building and the chamber of the Board of Aldermen on the occasion of the funeral obsequies of the late President Arthur ; placing electric connections in several rooms of the District Attorney's Office ; repairing the plastering in the Grand Jury Room and the General Sessions Court-room ; repairing the gas-fixtures and heating apparatus in the offices of the Receiver of Taxes.

##### *No. 31 Chambers Street.*

Building new closets for books and documents, and placing new ventilators in the office of the Engineer in Charge of Sewers.

##### *Offices of the Finance Department.*

Furnishing a new safe for the Auditor's Office ; placing new ventilators in the City Paymaster's Office ; placing new gas-fixtures in several other rooms, Civil and Police Courts ; repairing furnaces and heating apparatus in the Third and Fifth District Police Courts ; repairing plumbing work in Sixth District Police Court ; repairing roof, gutters and leaders in First District Civil Court.

##### *Markets.*

Altering the stairways and sky-lights in Washington Markets ; repairing Vesey Street Pier in Washington Market ; repairing and glazing the windows in Catharine Market ; repairing the roof, drain pipes and plumbing work in Tompkins Market, and placing two new iron smoke pipes ; making extensive repairs on roof, walls, flooring and windows of Clinton Market.

##### *Armories.*

Miscellaneous repairs to plumbing work, gas-fixtures, heating apparatus, etc., were made in the armories of the Seventh, Eleventh and Sixty-ninth Regiments.

#### BUREAU OF INCUMBRANCES.

The work of this Bureau for the quarter is summarized as follows :

205 complaints of obstructions received and attended to.  
446 seizures and removals of obstructions made.  
1,353 cart-loads of dirt, stone and other refuse material removed from the streets.  
88 decayed or dangerous shade trees removed.  
1,340 permits issued to place building material on streets.  
17 permits issued to cut down shade trees.  
173 miscellaneous permits issued.

#### BUREAU OF WATER REGISTER.

The following is a statement of the revenue from the water service collected and paid into the City Treasury during the quarter :

For water rents.....	\$315,394 39
For penalties on water rents .....	7,707 60
For permits to tap water-pipes .....	4,100 00
Total .....	\$327,201 99

#### MISCELLANEOUS REVENUE.

The following amounts were collected from various sources and paid into the City Treasury :

For vault permits.....	\$13,138 68
For sewer permits .....	8,200 44
For redemption of articles seized as obstructions.....	496 58
For articles sold at auction.....	109 94
For rent of steam rollers.....	51 00
For work and materials furnished to citizens .....	177 23
Total .....	\$22,173 87

#### REVIEW OF THE OPERATIONS OF THE DEPARTMENT FOR THE YEAR 1886.

##### SUMMARY OF EXPENDITURES.

On Appropriation Account for 1886.....	\$2,175,144 57
On Fund for Local Improvements.....	591,409 77
On Croton Water Fund .....	243,488 11
On Revenue Bonds for Water-meters.....	7,670 71
On Special Fund for Restoring Pavements over Street Openings .....	32,658 22
Estimated liabilities, including all outstanding accounts against appropriations for 1884.....	464,543 93
Total .....	\$3,514,915 31

Of the above liabilities \$244,158.32 is on the unfinished contract for repaving Fifth avenue, and the remainder on other unpaid and unfinished contracts and orders.

##### *Expenditures for the Past Sixteen Years.*

For the year 1871 .....	\$8,727,085 97
" 1872 .....	5,826,113 67
" 1873 .....	7,754,454 88
" 1874 .....	7,534,590 22
" 1875 .....	5,929,814 49
" 1876 .....	4,374,860 73
" 1877 .....	3,113,789 43
" 1878 .....	2,835,086 23
" 1879 .....	2,347,577 64
" 1880 .....	3,028,848 39
" 1881 .....	3,647,947 11
" 1882 .....	5,014,999 91
" 1883 .....	4,725,143 90
" 1884 .....	4,643,546 29
" 1885 .....	3,791,288 10
" 1886 .....	3,514,915 31

#### SUMMARY STATEMENT OF CONTRACTS FOR THE YEAR 1886.

##### *Contracts Entered Into.*

49 sewer contracts, estimated cost.....	\$363,026 39
41 regulating and grading contracts, estimated cost.....	477,114 14
51 paving contracts, estimated cost.....	757,306 00
6 water-pipe contracts, estimated cost.....	110,559 20
2 gas contracts, estimated cost.....	32,150 00
47 miscellaneous contracts, estimated cost.....	86,225 76
196 contracts, estimated cost.....	\$1,826,381 49

##### *Contracts Completed.*

18 sewer contracts, actual cost.....	\$157,693 28
16 regulating and grading contracts, actual cost.....	829,603 49
22 paving contracts, actual cost.....	205,328 05
3 water-pipe contracts, actual cost.....	25,462 52
32 miscellaneous contracts, actual cost.....	95,295 00
91 contracts, actual cost .....	\$1,313,382 34

#### THE WATER SUPPLY.

##### *The Croton Water-shed.*

The average rain-fall in the Croton water-shed for the year 1886, as shown by the records kept at the Boyd's Corner Reservoir, and at the Croton Dam, was 49.88 inches. Records of rain-fall have been kept by the Department, and its predecessor, the Croton Aqueduct Department, at the Boyd's Corner Reservoir since 1866, as shown by a table in the report of the Chief Engineer of the Croton Aqueduct, Document D, hereto annexed. From this it appears that the average rain-fall for the twenty-one years was 46.80-100 inches per annum, the lowest being 38.52 inches in 1880, and the highest 52.20 in 1882. Though, as thus shown, the rain-fall for 1886 was 3.08 inches above the average, there were days when the natural flow of the Croton river was below the volume required to be constantly supplied and passed through the Aqueduct, and had to be supplemented by drafts upon the two storage reservoirs, and upon five of the natural lakes which are tributary to the City's water supply. The total quantity of stored water drawn is 5,270,000,000 gallons, of which the two storage reservoirs supplied 4,090,000,000 gallons, and the natural lakes 1,180,000,000 gallons.

##### *Bronx River Water-shed.*

The Department keeps a rain gauge in this water-shed at the Kensico Reservoir, which shows a rain-fall of 43.84 inches in 1886. The water-shed of the Bronx river, above the point where the water is drawn off for the City's supply, is 13 1/2 square miles. The average daily supply received in the City from the Bronx river during 1886 is 14,274,000 gallons, or more than 107,000 gallons per square mile of water-shed. The City now receives from the Croton river, through the present



Aqueduct, about 30,000 gallons per day for each square mile of water-shed. All that is necessary to obtain from the Croton river the same proportion of supply as from the Bronx, which would be 362,000,000 gallons per day, is to increase the storage capacity and the conduit capacity to the required proportions. The latter will be had when the New Aqueduct is finished. The storage capacity of the Rye Ponds Reservoir and the Kensico Reservoir on the Bronx river is 2,670,000,000 gallons, for  $13\frac{1}{2}$  square miles of water-shed, while the present storage capacity in the 338 square miles of the Croton water-shed is 9,000,000,000, including all the natural lakes and ponds which are available.

The amount expended on the Bronx river system during the past year for labor, materials, lands, water rights, etc., is \$159,847.73.

The total cost of the structures and property connected with the system to date is:

Construction work.....	\$2,402,959 98
Lands, water rights, damages, etc.....	642,212 81
Engineering and inspection.....	252,466 00
Total .....	\$3,297,638 79

The legal proceedings to determine the damages to be paid to owners of water rights below Bronxville are not yet concluded.

The work on the construction of the receiving and distributing reservoirs at Williamsbridge has been suspended for the winter season.

#### The Croton Aqueduct.

The condition of the structure has been improved during the past year by completing the reinforcement of the retaining walls and the top arch on all the embankments north of Yonkers, but a large amount of work remains to be done from that point southward to render the Aqueduct secure against leaks and breaks. On July 11, 1886, a large break in the structure occurred one mile below South Yonkers. It was above the spring-line of the arch, so that in making the repairs it was not necessary to close the Aqueduct, but only to reduce the depth of water to six inches below the spring-line. The repairs were completed on July 14, and the Aqueduct was again operated to its full capacity.

The stone work for the stairway leading from the low ground, on the north shore of Harlem river to the top of the bluff at High Bridge, has been finished.

#### Distribution and Consumption of Water.

During the year the water service was extended by laying 24.52 miles of twelve-inch and six-inch pipes in 114 different streets or locations. With these pipes 185 stop-cocks and 252 fire-hydrants were placed. The distributing system now comprises 604.42 miles of pipes, with 6,284 stop-cocks and 7,833 fire-hydrants.

The constant and rapid growth of the population and business of the city causes a corresponding increase in the legitimate and necessary consumption of water, aside from the waste through leaks in mains, service-pipes and house plumbing, and through lavish use of water. This naturally produces a corresponding decrease of the pressures in the distribution of the water through the mains, and the people have to submit to the inconvenience and discomfort thus caused.

The portions of the city most seriously affected by this are the high service district and the high grounds contiguous to it, and the lower or commercial part of the city. In the latter the loss of pressure is not so severely felt, because nearly every building is supplied with mechanical appliances to pump and raise the water to the desired elevation. Most of the innumerable complaints received by the Department comes from dwellings and tenements where the decrease of pressures causes the diminution of domestic conveniences and comforts, which in many cases might safely be termed luxuries. It would, indeed, be well if the City were able to continue or resume the supply of these comforts and luxuries, not only for the gratification of individuals, but because an abundant supply and pressure of water is one of the most effective agents for the protection of the public health, and the safety of life and property from fire. Further decrease of pressure in the delivery of the water during the years which will intervene before an additional supply is received through the New Aqueduct is unavoidable.

In the meantime it is the duty of this Department, and of the authorities to whom it has to look for authority and means, to provide and use every practical measure to suppress waste of water, and it is equally the duty of every citizen and resident of the city to use the water with proper care and economy.

The greatest difficulty which the Department has to deal with, in the management and distribution of the water supply, is the persistent and pernicious habit indulged in by consumers in each recurring winter season of allowing the water to run through the faucets in house day and night, to prevent freezing in the service-pipes, instead of using other proper means, at their own expense, to protect their service-pipes from frost. This practice is unjust and dishonest to the public at large, and especially to the consumers who are sufficiently conscientious and careful in the use of water to refrain from unnecessary waste. If this waste should continue to the same or even a lesser extent, the pressures in the delivery of water through the mains will soon be so much reduced that in a large portion of the city it will be impossible to deliver the water even in the basements or cellars of houses. The danger and injury to the health and convenience of the public, to business interests and to the safety of life and property from fire, which would result in such case, are beyond estimate.

During the year 902 additional water-meters were placed, making 14,582 meters in use at the close of the year.

The meters and the consumption of water through them are distributed as follows, exclusive of 482 meters on which no readings have yet been recorded:

	No. of Meters.	Gallons per Diem.
Hotels.....	353	1,692,600
Breweries, etc.....	336	1,694,700
Charitable institutions.....	103	408,000
Office buildings.....	1,860	1,810,000
Factories.....	840	2,303,000
Gas-works.....	43	800,700
Railroads.....	206	1,342,000
Stables.....	1,706	1,141,000
Apartment-houses.....	154	323,000
Docks.....	131	1,444,800
Miscellaneous.....	8,368	10,146,300
Totals.....	14,100	23,106,100

In consequence of the rapid growth in the number of buildings and in the population of the high service district, it has become necessary to increase the quantity of water pumped and distributed from 12,400,000 gallons per day in 1885 to 13,500,000 gallons per day in 1886. Neither the condition of the water supply, nor the capacity of the pumping engines, warrant any further increase. Since 1881 the number of buildings supplied through the high service has increased from 8,607 to 12,249, but there is no doubt that the ratio of increase in population is still greater, because a large proportion of the new buildings are large apartment-houses, some of which contain more population than an entire block of ordinary dwellings. Many large stables have also been built here within the past few years. The average pressures in the high service supply are now no higher than in other portions of the city, and on the highest ground the water cannot be delivered above the cellars or basements. Under these circumstances it is impossible to further extend the high service; yet

some applicants for this service, who live on the borders of the district, think it a hardship or injustice to have their applications denied.

#### Surveys for the New Aqueduct.

The following surveys, maps, plans and specifications have been furnished to the Aqueduct Commissioners by this Department during the year 1886:

Surveys, maps, plans and specifications for the double Reservoir I in the Town of South East, Putnam County.

Maps of lands required south of One Hundred and Thirty-fifth street, and plans and estimates for gate-house at One Hundred and Thirty-fifth street.

Maps, plans, specifications and estimates for conduit pipes and gate-house, from One Hundred and Thirty-fifth street to the Central Park Reservoir.

Maps, plans, etc., for additional land required south of Harlem river, and for connections with high service works at High Bridge.

Maps of lands for additional shafts in Westchester County.

Surveys and maps of lands taken for Aqueduct purposes in Westchester County.

#### STREET PAVEMENTS.

##### Repavement of Streets.

During the year 42,507 square yards of granite block pavements, 31,988 square yards of trap-block pavement and 2,261 square yards of asphalt pavement were laid in 26 different streets, the aggregate length of the new pavements being 4.95 miles. This is exclusive of the Fifth avenue repavement.

On Fifth avenue 54,069 square yards of pavement was laid. The new pavement is completed between Twenty-fifth and Thirty-second streets, between Thirty-seventh and Sixty-first streets, and between Seventy-fifth and Ninetieth streets, a total of 46 blocks of the 78 blocks to be laid. As stated in a previous part of this report, the actual work of laying pavement is suspended during the cold weather, but stone-blocks continue to be received and inspected on the line of the work.

#### New Pavements to be Paid for by Assessments.

New pavements were laid on 9 different streets. The aggregate length of the roadways so paved is 1.29 miles, and the area 22.486 square yards.

Twenty-four contracts for new pavements to be paid for by assessments have been made, but the works are postponed until the close of the winter season.

#### Repairs of Pavements.

The force employed by the Department in pavement repairs relaid 234,249 square yards of pavement and 714 crosswalks. The repairs also include the laying of 29 new crosswalks.

The report of the Water Purveyor, Document "E," enumerates 7 streets in which entire blocks of pavement were relaid from curb to curb, and 281 other streets and locations in which repairs of lesser extent were made. Eighty-one permits were issued to citizens to repair pavements at their own expense.

The following is the length of paved streets in the city south of Harlem river:

Granite-block pavement.....	73.40 miles.
Trap-block pavement.....	236.25 "
Cobble-stone pavement.....	26.29 "
Macadam pavement.....	27.77 "
Asphalt pavement.....	.78 "
Total .....	364.49 miles.

#### SEWERAGE AND DRAINAGE.

During the year 18 sewer contracts were completed and 4,889½ lineal feet of sewers were built by property-owners at their own expense, under permits from this Department. The total length of sewer thus added to the sewerage system is 3¾ miles, with 789 lineal feet of culverts and 42 receiving-basins. Contracts for 4.6 miles of sewers are uncompleted.

The most important works finished in 1886 are the outlet sewers in Eighth avenue, between One Hundred and Fifty-third street and Harlem river, draining about 25 acres; sewer in Eighth avenue, between One Hundred and Fifth and One Hundred and Fourteenth streets, and sewers in Tenth avenue, between One Hundred and Sixty-second and One Hundred and Fifty-third streets. The latter sewer is a very important one, draining about 80 acres of land recently opened to improvements by the construction of the cable road on Tenth avenue. No outlet for this sewer to the Harlem river can be built until the Department receives authority from the Legislature to acquire private property through which to build the outlet. Two important outlets, one at the foot of Rector street, North river, and the other at the foot of Roosevelt street, East river, have, after long delays, been put under contract, and the work upon them will be prosecuted as rapidly as practicable.

The sewerage system of Manhattan Island now includes 414.1 miles of sewers of all sizes. Of these about 50 miles are outlets and collective sewers, and the remainder are branch or lateral sewers. The total number of receiving-basins is 5,077.

For all that portion of the city south of One Hundred and Fifty-eighth street the plans for a permanent sewerage system are established, and the principal work remaining to be done is the building of branch sewers for local drainage. The area of Manhattan Island, taking the new bulk-head lines as the boundary, is 12,500 acres, or about  $19\frac{1}{2}$  square miles, of which 9,500 acres are provided with sewerage. The present sewerage system has 154 outlets discharging into the adjacent waters. Nearly all these outlets discharge at low-water line, at or near the bulkhead, where the water is stagnant, and the large volumes of sewage settle and pollute the water and the atmosphere. For this reason the principal improvement required in the City's sewerage system is a chain of collective sewers along the water-front, with fewer outlets, which are to be extended to the pier lines into the tidal currents, where the sewage will be carried off and diffused so as to become harmless. The cost of carrying out this plan along the entire water-front will be very great, but will be amply repaid by the sanitary and other advantages which will be derived from it. The locations where collective sewers are most urgently needed are on South street, along the East river, between Pike and Perry streets, and along the North river on West street, from Battery place to Liberty street, and on Twelfth avenue, between Fifty-third and Sixty-second streets.

No sewerage plans have yet been made for that part of Manhattan Island, north of One Hundred and Fifty-eighth street. As this section of the city will probably soon become improved and populated, it will be the duty of this Department to make the necessary surveys and plans for sewerage.

The greater portion of the work of repairing and cleaning sewers is done by a trained and experienced force of mechanics and laborers, with the necessary number of carts, employed by the Department. A large amount of work, however, was done last year under contracts or on orders given to contractors.

During the year 76,919 lineal feet of sewers were cleaned ( $14\frac{1}{2}$  miles), and 2,441 receiving-basins were cleaned. The work of cleaning sewers, from its very nature, is expensive as compared with the length of sewers cleaned and the quantity of material removed. In cleaning brick sewers the deposit must be removed and carried long distances underground by hand and small buckets, then hoisted to the surface and carted to dumping scows along the water-front.



The following are the principal items of work done in cleaning and repairing sewers :

- 422 lineal feet sewers rebuilt.
- 3,473 lineal feet sewers repaired.
- 429 lineal feet culverts rebuilt.
- 406 lineal feet spur pipe laid.
- 190 lineal feet of box-sewers built.
- 2 new receiving-basins built.
- 5 receiving-basins rebuilt.
- 206 receiving-basins repaired.
- 8 new manholes built.
- 463 manholes repaired.
- 63 new granite basin heads set.
- 139 new basin covers placed.
- 202 new manhole heads and 520 covers placed.
- 1,976 square yards of pavement relaid.
- 1,684 square feet flagging relaid.
- 6,488 cubic yards of earth excavated and refilled.
- 2,441 receiving-basins and culverts cleaned.
- 76,919 lineal feet of sewers cleaned.
- 8,153 cart-loads of sewer deposits removed.

#### REGULATING AND GRADING STREETS.

During the year 14 contracts for regulating streets, 9 contracts for flagging sidewalks and 6 contracts for fencing vacant lots were completed. The aggregate cost of these contracts was \$835,524.98.

The most important works which have been finished are :

- Morningside avenue, from One Hundred and Tenth street to Tenth avenue.
- Kingsbridge road, between One Hundred and Fifty-fifth and One Hundred and Ninetieth streets.
- West End avenue, from Seventy-second street to the Boulevard.
- Eleventh avenue, from Kingsbridge road to Dyckman street.
- Ninety-third street, from West End avenue to Riverside Drive.

At the close of the year work was in progress on 21 grading contracts and 13 contracts were suspended for the winter season. The aggregate quantities of work done on the several contracts for the year are as follows :

- 67,388 cubic yards earth excavated.
- 141,455 cubic yards rock excavated.
- 154,085 cubic yards filling, placed in embankments.
- 31,395 lineal feet curb-stone set.
- 159,799 square feet flagging laid.
- 2,877 lineal feet culverts built.
- 2,375 cubic yards stone masonry built.
- 1,153 lineal feet picket-fence built.

#### MACADAM ROADWAYS.

The macadam roadways in the upper part of the city under the charge of this Department are 27 $\frac{3}{4}$  miles in length, and cover an area of 958,638 square yards. At least four-fifths of these roads were built from ten to fifteen years ago. They were originally intended for light, pleasure and suburban traffic, but of late years they have been subject to heavy business traffic as other stone paved streets. They are in nowise adapted for this business traffic, which is increasing rapidly with the growth of population and business in the upper part of the city. I am informed that the condition of these roadways at the close of last year compares favorably with their condition in some years past, but from personal observation I find that they are too much worn down, especially in the centre, so that surface drainage is impossible, and rain water accumulates and stagnates. When these roads are not kept in good order they become a nuisance and annoyance to the people who travel over them as well as to those who are living in their vicinity. The portion of the city in which they are located is no longer a suburban district, being rapidly filled up with buildings and population. With the growth of population and business, the necessity for prompt and substantial repairs increases. It shall be the endeavor of the Department in the ensuing year to apply the means appropriated for the repairs and maintenance of these roads to the best possible advantage and purpose.

#### PUBLIC LAMPS.

At the close of the year there were 24,194 gas lamps, 711 electric lights and 120 naphtha lamps in use on the streets, parks, docks and bridges of the city. Of these, 650 new gas lamps, 3 electric lights and 70 naphtha lamps were placed in the course of the year. The streets to which public lamps have been extended during the year are 1 $\frac{1}{2}$  miles in length. The total length of streets lighted by public lamps is 464 miles, and the area of parks and public places lighted is 42 acres. The several gas companies laid 36.65 miles of gas-mains, and the present total extent of gas-mains in the city is 927 $\frac{1}{2}$  miles. In the report of the Superintendent of Lamps and Gas, Document I, will be found a list of streets or parts of streets and public places in which an extension of electric lights is requested by resolutions of the Common Council, with the estimated number of lights required, the cost of the same, the number of gas lamps which would be displaced by the same, and the excess of cost of such electric lights over that of gas lamps. This excess of cost amounts to \$446,299 per annum. The authority to extend the electric light to additional streets is vested in the Gas Commission.

#### PUBLIC BUILDINGS.

The following buildings, owned by the City, are under the care of this Department :

##### Court and Municipal Buildings.

- The City Hall.
- The New Court-house.
- The Brown-stone Court-house.
- The Hall of Records.
- The Third District Court-house (Jefferson Market).
- The Seventh District Court-house, Fifty-seventh street, near Third avenue.
- The Fifth District Court-house, No. 154 Clinton street.
- The Third District Police Court-house, No. 69 Essex street.
- The City Arsenal, at White and Elm streets.
- The County Jail, in Ludlow street.

##### Market Buildings.

- Washington Market.
- Fulton Market.
- Jefferson Market.
- Clinton Market.
- Tomplins Market.
- West Washington Market.
- Catharine Market.
- Centre Market.
- Essex Market.
- Union Market.

#### Miscellaneous Buildings.

- Franklin Market, rented for business purposes.
- No. 49 Beekman street, occupied by the Corporation Attorney.
- No. 5 Duane street, used for storage by Public Administrator.
- Nos. 61 and 63 Chatham street or Park Row, rented for business purposes.
- The Dog Pound, foot of East Sixteenth street.

In addition to the above the Department has the care of twenty-two buildings or parts of buildings, which are rented by the City for Civil and Police Courts, for armories of the State militia, and for various public offices.

Some of the buildings, such as the Hall of Records, Clinton Market, and the old Franklin Market building, are so dilapidated that if they were private property the owners would undoubtedly find it to their interest and, by the erection of new buildings, make better use of the valuable ground which they occupy.

The cost of repairs to keep such old buildings in tenantable condition is very great. All the other buildings, of which only a few are of recent construction, require frequent repairs. The details of this work for the year will be found in the several quarterly reports.

It is to be hoped that the contemplated construction of market buildings on the Fort Gansevoort property, under the authority of the Sinking Fund Commissioners, will soon be begun and carried out, that the business now done in West Washington Market may be transferred there, and the valuable space and water-front now occupied by that market be made available for commerce.

#### STREET OBSTRUCTIONS.

Section 324 of the New York City Consolidation Act of 1882 says :

"It shall be the duty of the Commissioner of Public Works to remove all obstructions now existing, or which may hereafter be placed upon any street or sidewalk, or public ground not inclosed in any public park."

This is a difficult duty under any circumstances with the inadequate appropriation for that purpose ; the conflict of authority between the legislative and executive branches of the City government on the subject of certain obstructions and incumbrances ; the absence of proper penalties for violations of the law and ordinances, and the indifference of the Police Force in respect to such violations, it can only be very imperfectly and partially performed.

The obstructions which are most frequently complained of are unused vehicles left standing in the streets, and building materials placed in front of buildings in course of construction.

In many, probably in a majority of cases, where vehicles are removed by their owners on notice from the Department, they are returned to their old places after the Inspector has made his visit and report.

The temporary deposit of building materials in front of buildings in course of erection is specially allowed by the City ordinance, under which this Department issues yearly from 7,000 to 9,000 permits to builders. The space allowed by these permits for the placing of material is 7 feet from the curb outward on the front of the building, but the cases in which these limits are observed by the holders of the permits are probably less than 10 per cent. of the whole number. It is evident that with the three or four Inspectors of Incumbrances which the appropriation allows the Department to employ to look after all kinds of obstructions in over 400 miles of streets, the Department is powerless to prevent these evils.

Very little improvement can be effected in the matter of street obstructions, until the law or ordinance shall prescribe in detail and with precision, what constitutes an obstruction, so that there may be no room for difference of opinion on the subject ; and until fines or penalties are established, with power to enforce them by immediate and summary measures.

The following is a summary of the operations of the Bureau of Incumbrances for the year :

- 947 complaints received and attended to.
- 1,459 seizures and removals of obstructions made.
- 1,683 cart loads of stone and other refuse removed.
- 267 dangerous shade trees removed.
- 7,014 permits issued to place building material on streets.
- 46 permits issued to cut down shade trees.
- 858 miscellaneous permits issued.
- 68 notices issued to repair defective sidewalks.
- 11 notices issued to repair defective vault covers.

#### CITY REVENUE.

The following is the amount of revenue from the water service collected by the Department, and paid into the City Treasury during the year :

For water rents .....	\$2,328,303 46
For penalties on water rents .....	15,489 15
For permits to tap water pipes .....	14,328 50
Total .....	\$2,358,121 11

This is an increase of \$223,445.28 over the amount collected in 1885.

The Department also collected from various sources, and paid into the City Treasury, the following amounts :

For vault permits .....	\$70,349 55
For sewer permits .....	34,427 61
For redemption of articles seized as obstructions .....	1,806 53
For articles sold at auction .....	639 88
For rent of steam rollers .....	228 75
For work and materials furnished citizens .....	365 62
For use of sprinkling wagons .....	107 00
Total .....	\$107,924 94

The following documents, appended to this report, contain further detailed information of the transactions of the Department :

- Document A—Statement of appropriations and expenditures.
- Document B—Detailed statement of expenditures.
- Document C—Statement of contracts made and contracts completed.
- Document D—Report of Chief Engineer of the Croton Aqueduct.
- Document E—Report of the Water Purveyor.
- Document F—Report of the Engineer in Charge of Sewers.
- Document G—Report of Superintendent of Street Improvements.
- Document H—Report of Superintendent of Streets and Roads.
- Document I—Report of Superintendent of Lamps and Gas.
- Document K—Report of Superintendent of Repairs and Supplies.
- Document L—Report of Superintendent of Incumbrances.
- Document M—Report of Water Register.

Very respectfully,

JOHN NEWTON, Commissioner of Public Works.



## Document "A."

Showing Titles of Appropriations; Balances of 1885 on October 1, 1886; Requisitions on 1885 in Fourth Quarter of 1886, together with Transfers; Balances of 1885 on December 31, 1886; Appropriations, including Transfers of 1886; Requisitions, First Nine Months of 1886; Requisitions, Fourth Quarter, 1886; Total Requisitions of 1886; Balances on December 31, 1886; and the Titles and Conditions of the Trust and Special Accounts.

TITLES OF APPROPRIATIONS.	Balances of 1885 on October 1, 1886.	Transfers and Requisitions on 1885, Fourth Quarter, 1886.	Balances of 1885 on December 31, 1886.	Appropriations, including Transfers of 1886.	Requisitions, First Nine Months, 1886.	Requisitions, Fourth Quarter of 1886.	Total Requisitions for 1886.	Balances on December 31, 1886, Crediting Vouchers Returned.
Aqueduct—Repairs, Maintenance and Strengthening.....	\$445 38	\$445 38	.....	\$225,000 00	\$121,321 57	\$55,144 79	\$176,466 36	\$48,533 64
Aqueduct—Repairs, Maintenance and Strengthening—Salaries.....	10	10	.....	25,000 00	16,877 56	7,033 41	23,910 77	1,089 23
Boring Examinations for Grading and Sewer Contracts.....	.....	.....	.....	10,000 00	1,705 12	2,091 04	3,797 16	6,202 84
Boulevards, Roads and Avenues, Maintenance of.....	892 81	802 81	\$90 00	80,000 00	52,850 72	22,812 61	75,663 33	4,336 67
Boulevards, Roads and Avenues, Maintenance of—Salaries.....	5 00	5 00	.....	.....	.....	.....	.....	.....
Bronx River Works—Maintenance and Repairs.....	216 54	216 54	.....	17,990 00	9,423 80	5,920 93	15,344 73	2,645 27
Bronx River Works—Maintenance and Repairs—Salaries.....	100 00	100 00	.....	3,050 00	2,200 00	1,750 00	3,450 00	200 00
Contingencies—Department of Public Works.....	215 60	214 99	70	4,000 00	1,930 24	1,110 02	3,040 26	959 74
Flagging Sidewalks and Fencing Vacant Lots, etc.....	3 12	3 12	.....	1,000 00	113 62	668 97	782 59	211 41
For an Iron Awning around Jefferson Market Building.....	43 00	43 00	.....	.....	.....	.....	.....	.....
For Additions to the Brown-stone Building.....	.....	.....	.....	35,000 00	425 00	.....	425 00	34,575 00
For Repairs and Alterations on Essex Market Court-house.....	150 07	150 07	.....	.....	.....	.....	.....	.....
For Repairs on Essex Market Building.....	86 64	86 64	.....	.....	.....	.....	.....	.....
For Repairs to Seventh Regiment Armory Building.....	.....	.....	.....	3,000 00	1,254 83	929 00	2,183 83	816 17
For Street Signs on Buildings and Public Lamps.....	.....	.....	.....	5,000 00	1,045 00	929 50	1,974 50	3,025 50
Free Floating Baths.....	1 58	1 58	.....	15,000 00	11,953 39	2,409 91	14,363 30	636 70
Free Floating Baths—Salaries.....	1 00	1 00	.....	20,000 00	17,198 00	6,437 50	18,635 50	1,364 50
Lamps and Gas and Electric Lighting.....	28 79	28 79	.....	714,300 00	416,956 53	236,041 96	652,998 49	61,301 51
Lamps and Gas and Electric Lighting—Salaries.....	316 72	316 72	.....	5,400 00	3,516 63	1,515 12	5,031 75	368 25
Laying Croton Pipes.....	8,106 23	6,385 19	1,721 04	180,000 00	78,269 58	77,402 34	155,671 92	30,328 08
Laying Croton Pipes—Salaries.....	2 84	2 84	.....	16,500 00	10,451 47	5,437 40	15,888 87	611 13
Public Buildings—Construction and Repairs.....	168 32	18 32	150 00	68,100 00	45,273 53	11,501 63	56,775 16	11,324 84
Public Drinking-hydrants.....	57 20	57 20	.....	5,000 00	1,954 02	772 91	2,726 93	2,273 07
Public Drinking-hydrants—Salaries.....	.....	.....	.....	1,000 00	631 60	333 32	965 01	34 99
Removing Obstructions in Streets and Avenues.....	08	08	.....	6,884 00	2,414 77	2,080 77	4,504 54	2,379 46
Removing Obstructions in Streets and Avenues—Salaries.....	77 02	77 02	.....	3,116 00	1,784 09	1,166 88	2,950 97	105 03
Repairing and Renewal of Pipes, Stop-cocks, etc.....	4 40	4 40	.....	139,500 00	98,391 14	31,534 87	129,926 01	9,573 99
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries.....	82 25	82 25	.....	43,100 00	28,228 54	14,868 54	43,097 48	2 52
Repairs and Renewal of Pavements and Regrading.....	113 01	113 01	.....	219,500 00	90,748 57	104,277 49	195,026 06	24,473 94
Repairs and Renewal of Pavements and Regrading—Salaries.....	150,000 00	* 150,000 00	.....	11,300 00	6,039 50	3,111 00	9,150 50	2,149 50
Repaving Fifth Avenue.....	1,319 37	539 80	779 57	294,000 00	1,873 53	38,517 18	* 40,390 71	253,609 29
Repaving Streets and Avenues.....	2,010 00	2,010 00	.....	204,500 00	50,764 55	66,431 09	117,195 64	47,304 36
Repaving Streets and Avenues—Salaries.....	68 39	68 39	.....	6,600 00	1,308 00	1,116 00	2,424 00	4,176 00
Roads, Streets and Avenues Unpaved, Maintenance and Sprinkling.....	26 56	26 56	.....	25,000 00	17,609 01	6,889 50	24,518 51	481 49
Salaries—Department of Public Works.....	13 54	13 54	.....	85,000 00	61,029 15	23,909 08	84,938 23	63 77
Sewers—Repairing and Cleaning.....	1 52	1 52	.....	110,000 00	69,269 83	19,973 84	89,243 67	20,756 33
Sewers—Repairing and Cleaning—Salaries.....	46	46	.....	9,000 00	5,564 00	2,625 35	8,189 35	810 65
Sewerage System—Salaries.....	910 00	130 00	780 00	15,000 00	8,511 68	3,564 97	12,076 65	2,023 35
Street Improvements—For Surveying, Monumenting, etc.....	1,230 44	371 09	859 35	3,000 00	1,161 60	406 50	1,568 10	1,431 90
Supplies for and Cleaning Public Offices.....	19 58	19 58	.....	100,800 00	63,019 19	28,213 49	91,232 68	9,567 32
Surveys, Maps, etc., for Street Openings and New Streets.....	50	50	.....	25,000 00	16,318 76	7,764 75	24,083 51	916 49
Supplying Water to Shipping, etc.—Salaries.....	663 92	663 92	.....	14,200 00	5,021 06	1,300 00	6,321 06	7,878 94
Water Supply for the Twenty-fourth Ward.....	.....	.....	.....	9,000 00	5,535 46	2,988 96	8,524 42	475 58
Water Supply for the Twenty-fourth Ward—Salaries.....	224 25	224 25	.....	5,000 00	2,891 06	1,187 46	4,078 52	921 48
Wells and Pumps—Repairing and Cleaning.....	.....	.....	.....	1,000 00	615 00	309 00	924 00	76 00
Gansevoort Market Building Fund.....	.....	.....	.....	250 00	.....	.....	.....	250 00
Totals.....	\$167,615 38	\$163,234 72	\$4,380 66	\$2,776,370 50	\$1,368,476 19	\$806,668 38	\$2,175,144 57	\$601,225 93

Amount drawn on Street Improvements for Surveying, etc., of 1884, \$800; same year, on Iron Bridge over Fourth avenue, at Eighty-sixth street, \$5,349.23.  
\* Adjustment of Repaving Fifth Avenue Account as to charges between the years 1885 and 1886.

TITLES OF TRUST ACCOUNTS.	Balances from 1885, and Receipts, First Nine Months, 1886.	Receipts, Fourth Quarter, 1886.	Total Balances of 1885 and Receipts for 1886.	Requisitions, First Nine Months, 1886.	Requisitions, Fourth Quarter, 1886.	Total Requisitions for 1886.	Balances, December 31, 1886.
Croton Water Fund.....	.....	.....	.....	\$196,416 86	\$47,071 25	\$243,488 11	.....
Fund for Local Improvements.....	.....	.....	.....	388,233 43	203,176 34	591,409 77	.....
Restoring and Repaving—Special Fund—Department of Public Works.....	\$34,977 86	\$8,839 50	\$42,817 36	23,452 72	9,205 50	32,658 22	\$10,159 14
Water Meter Fund, No. 2.....	32,957 20	541 28	33,498 48	7,599 28	71 43	7,670 71	25,827 77

Statement of General Bookkeeper, Department of Public Works, showing all Revenues of the City received through the Department of Public Works during the First Nine Months of 1886 during Fourth Quarter of 1886, and the Total for the Year.

SOURCE OF REVENUE.	FIRST NINE MONTHS, 1886.	FOURTH QUARTER, 1886.	TOTAL FOR 1886.	SOURCE OF REVENUE.	FIRST NINE MONTHS, 1886.	FOURTH QUARTER, 1886.	TOTAL FOR 1886.
Water rents.....	\$2,012,909 07	\$315,394 39	\$2,328,303 46	MEM.—Receipts from Old Account during Third Quarter, 1886.	.....	.....	.....
Water penalties.....	7,781 55	7,707 60	15,489 15	Water Meter Fund, No. 1.....	.....	.....	\$68 84
Vault permits.....	10,228 50	4,100 00	14,328 50	Returns of Water Rents, etc., in Arrears.	.....	.....	.....
Vault permits.....	57,210 87	13,138 68	70,349 55	Regular Croton-water rents.....	.....	\$79,394 95	.....
Sewer permits.....	26,227 17	8,200 44	34,427 61	Water by meter measurement.....	.....	46,646 12	.....
Redemption of articles seized as obstructions.....	1,309 95	496 58	1,806 53	Meters and meter-setting.....	.....	2,938 12	.....
Sales at auction.....	529 94	109 94	639 88				
Rent of steam rollers.....	177 75	51 00	228 75				
Work and material furnished citizens.....	188 39	177 23	365 62				
Use of sprinkling wagons.....	107 00	.....	107 00				
Total.....	\$2,116,670 19	\$349,375 86	\$2,466,046 05				\$119,979 19

C. T. McCLENACHAN, General Bookkeeper, D. P. W.

## Document "B."

A Detailed Statement of Expenditures for which Requisitions were drawn on the Comptroller by the Commissioner of Public Works, during the Quarter ending December 31, 1886.

## APPROPRIATIONS.

Aqueduct—Repairs, Maintenance and Strengthening.—	
Brick.....	\$447 50
Blacksmithing.....	421 74
Carting stone.....	90 00
Cement.....	955 00
Coal.....	3,983 37
Cylinder oil.....	99 50
Fence posts.....	115 00
Fire-brick and mortar.....	46 25
Gas.....	14 00
Horse-feed.....	73 48
Ice.....	23 89
Lumber.....	198 95
Manure.....	43 75
Oil.....	8 78
Paint.....	216 60
Pay-rolls.....	42,250 15
Pipe.....	22 50
Pump.....	8 23
Putting up stoves.....	15 15
Powder and fuse.....	19 50
Rent of offices.....	106 25
Repairing engine.....	705 83
Rope.....	62 78
Sand.....	590 00
Sawdust.....	50 00
Stone.....	3,298 00
Supplies.....	330 97
Taxes.....	755 15
Traveling expenses.....	150 47
Wood.....	42 00
Total.....	\$55,144 79

Aqueduct—Repairs, Maintenance and Strengthening, 1885—	
Waste-weir at Yonkers.....	\$378 57
Boring Examinations for Grading and Sewer Contracts—	
Pay-rolls.....	\$1,291 00
Sounding-rods.....	35 34
One Hundred and Fifty-fifth street, between Eighth avenue and McComb's Dam Lane.....	764 70
Total.....	\$2,091 04
Boulevards, Roads and Avenues, Maintenance of—	
Horse-hire.....	\$180 00
Lumber.....	12 88
Paint.....	36 55
Pay-rolls.....	18,448 01
Powder and fuse.....	4 10
Repairing sprinklers.....	38 34
Rolling pavement.....	312 56
Sand.....	107 64
Stone and screenings.....	3,471 84
Supplies.....	200 69
Total.....	\$22,812 61
Bronx River Works—Maintenance and Repairing—	
Building road.....	\$737 50
Lumber.....	164 36
Pay-rolls.....	4,755 00
Taxes.....	264 07
Total.....	\$5,920 93
Contingencies—Department of Public Works—	
Horse-hire.....	\$300 00
Incidental expenses.....	315 00
Postage.....	266 00
Traveling expenses.....	229 02
Total.....	\$1,110 02



## Flagging Sidewalks and Fencing Vacant Lots—

Flagging Catharine Market.....	\$559 41
County Jail.....	34 56
Rivington street, between Goerck and Mangin streets.....	75 00
<b>Total.....</b>	<b>\$658 97</b>

## Free Floating Baths—

Horse-hire.....	\$100 00
Ice.....	66 00
Mooring baths.....	110 00
Putting up stoves.....	20 03
Repairing pumps.....	18 63
" railings.....	92 56
Removing platforms.....	31 50
Supplies.....	11 85
Storing baths.....	547 00
Towing baths.....	619 00
Wharfage.....	793 34
<b>Total.....</b>	<b>\$2,409 91</b>

## Lamps and Gas and Electric Lighting—

Gas examinations.....	\$479 00
Lamp-globes.....	1,150 00
Lamp-posts.....	2,077 86
Lamps.....	2,122 75
" repairing.....	105 00
Lamp-posts, repairing.....	20 50
Lettering globes.....	99 00
Pay-rolls.....	709 00
Repairing pressure register clock.....	98 00
Rent of offices.....	240 00
Lighting Armory, First Battery.....	44 94
" Second Battery.....	94 64
" Seventh Regiment.....	737 43
" Eighth ".....	196 02
" Ninth ".....	249 13
" Eleventh ".....	87 50
" Twelfth ".....	213 08
" Twenty-second Regiment.....	592 48
" Sixty-ninth ".....	191 80
" Seventy-first ".....	170 52
Bath, Battery.....	20 10
" Gouverneur Slip.....	17 10
" Duane street.....	4 95
" Horatio street.....	15 15
" Fifth street.....	13 20
" Nineteenth street.....	11 55
" Twenty-seventh street.....	21 60
" Thirty-seventh street.....	18 90
" Fifty-first street.....	12 90
" One Hundred and Twelfth street.....	13 50
" One Hundred and Thirty-eighth street.....	18 50
Brown-stone Building.....	120 15
City Hall.....	380 45
CITY RECORD Book Bindery.....	1 28
County Jail.....	285 74
Court, Civil, First District.....	2 07
" Second ".....	21 80
" Fourth ".....	12 18
" Fifth ".....	37 38
" Sixth ".....	4 06
" Eighth ".....	10 55
" Ninth ".....	10 40
" Tenth ".....	13
Court, Police, First.....	267 62
" Second ".....	94 78
" Third ".....	36 12
" Fourth ".....	120 82
" Fifth ".....	18 28
Court, Special Sessions.....	5 85
Court-house, Third District.....	133 56
" County.....	1,046 32
Department of Taxes and Assessments.....	9 73
" Public Works.....	221 22
Engine-house, High Bridge.....	72 85
" Ninety-eighth street.....	141 85
Market, Catharine.....	40 70
" Centre.....	29 87
" Clinton.....	170 03
" Essex.....	29 12
" Fulton.....	958 50
" Jefferson.....	219 24
" Tompkins.....	134 82
" Union.....	9 70
" Washington.....	658 30
Office Corporation Attorney.....	64 97
" Corporation Counsel.....	23 98
" Photometrical.....	5 28
" Receiver of Taxes.....	361 40
Rivington Street Yard.....	1 63
Twenty-fourth Street Yard.....	2 12
Repair Shop, Thirtieth street.....	9 40
" Eighty-third street.....	5 23
" One Hundred and Twenty-ninth street.....	15 32
South Gate-house.....	70 75
Streets, Brush Electric Illuminating Co.....	29,379 00
" United States Illuminating Co.....	30,790 20
" Central Gas-light Co.....	22,634 64
" Consolidated Gas Co.....	107,585 48
" Equitable Gas-light Co.....	6,851 68
" New York Mutual Gas-light Co.....	1,227 82
" New York and New Jersey Globe Gas-light Co.....	991 94
" Northern Gas-light Co.....	17,491 55
" Yonkers.....	3,378 00
<b>Total.....</b>	<b>\$236,041 96</b>

## Laying Croton Pipes—

Cast-iron pipe.....	\$32,222 07
Horse-hire, etc.....	511 27
Hydrants, stop-cocks, etc.....	11,473 45
Removing and relaying gas-mains.....	669 29
Pay-rolls.....	3,628 75
Bailey avenue, between Riverdale avenue and six hundred and thirty feet north.....	346 30
Brook avenue, between One Hundred and Thirty-third street and Harlem river.....	393 85
Brown place, between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth streets.....	120 91
Edgecomb avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets.....	132 00
Mulberry street and Bowery.....	6,345 00
Avenue A, east side, between Seventy-ninth and Eightieth streets.....	431 84
Sixth avenue, east side, between One Hundred and Fortieth and One Hundred and Forty-first streets.....	144 10
Tenth avenue, between Eightieth and Eighty-first streets.....	165 15
Tenth avenue, between Eighty-seventh and Eighty-eighth streets.....	286 95
Eleventh avenue, between Seventieth and Seventy-second streets.....	363 20
West End avenue, between Seventy-second and Seventy-third streets.....	150 60
West End avenue, between Seventy-fifth and Seventy-seventh streets.....	261 85

## Laying Croton Pipes—

West End avenue, between Seventy-seventh and Seventy-ninth streets.....	\$140 25
Fifty-fifth street, between Avenue A and two hundred and fifty-five feet east.....	179 30
Sixty-fifth street, between Boulevard and Tenth avenue.....	380 25
Sixty-seventh street, between Second and Third avenues.....	398 50
Sixty-eighth street, between Ninth avenue and Boulevard.....	243 20
Seventy-second street, between Eighth and Ninth avenues.....	962 50
Seventy-third street, between Avenue A and First avenue.....	396 45
Seventy-eighth street, between Eleventh avenue and Riverside Drive.....	283 55
Eighty-first street, between Avenues A and B.....	427 85
Ninety-fifth street, between Eighth and Ninth avenues.....	445 85
Ninety-sixth street, between Third and Lexington avenues.....	267 70
Ninety-fifth and One Hundred and Eighty-third streets, Sixth and Eleventh avenues, etc.....	11,829 81
Ninety-ninth street, between First avenue and East river.....	254 25
One Hundredth street, between Second and Third avenues.....	396 90
One Hundred and Fifteenth street, between Seventh and Eighth avenues.....	420 60
One Hundred and Twentieth street, between Fifth and Sixth avenues.....	950 00
One Hundred and Twentieth street, between Sixth and Seventh avenues.....	421 70
One Hundred and Thirty-fifth street, between Seventh and Eighth avenues.....	388 20
One Hundred and Thirty-seventh street, between Eighth and St. Nicholas avenues.....	236 50
One Hundred and Thirty-seventh street, between Willis avenue and Brown place.....	542 20
One Hundred and Seventy-fifth street, between Vanderbilt and Webster avenues.....	190 20
<b>Total.....</b>	<b>\$77,402 34</b>

## Laying Croton Pipes, 1885—

Tiebout, Girard, Hull avenues, etc.....	\$541 07
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## Public Buildings—Construction and Repairs—

Armory, Sixty-ninth Regiment.....	\$281 83
Brown-stone Building.....	656 35
Bureau Repairs and Supplies.....	1,045 87
City Hall.....	304 25
" Prison.....	128 03
Court, Civil, First District.....	6 84
" Second ".....	6 72
" Fifth ".....	9 45
" Ninth ".....	9 50
" Police, Third District.....	54 59
" Fifth ".....	10 13
Court-house, County.....	947 53
County Jail.....	416 72
Dog Pound.....	25 90
Hall of Records.....	58 34
Market, Catharine.....	25 00
" Centre.....	197 42
" Clinton.....	2,057 00
" Washington.....	4,347 35
No. 31 Chambers street.....	161 71
No. 49 Beekman street.....	36 00
Stewart Building.....	37 75
Twenty-fourth Street Yard.....	76 60
Pay-rolls.....	750 75
<b>Total.....</b>	<b>\$11,651 63</b>
Deduct duplicate voucher for C. M. Horton, agent.....	150 00
<b>Total.....</b>	<b>\$11,501 63</b>

## Public Drinking-hydrants—

Repairing hydrants.....	\$772 91
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## Removing Obstructions in Streets and Avenues—

Removing obstructions.....	\$1,720 97
" trees.....	322 00
Traveling expenses.....	46 80
<b>Total.....</b>	<b>\$2,089 77</b>

## Repairing and Renewal of Pipes, Stop-cocks, etc.—

Altering tap and service pipes.....	\$821 71
Cement.....	25 00
Coal.....	185 55
Hydrants.....	873 50
Hydrant boxes.....	610 00
Laying pipe.....	778 30
Lumber.....	110 70
Meters.....	176 66
Nozzle-caps and chains.....	90 00
Pay-rolls.....	25,108 66
Paint.....	38 55
Pumps.....	11 70
Repairing hydrants.....	714 61
Resetting.....	473 00
Salt.....	40 00
Stone.....	35 85
Stop-cock boxes and covers.....	510 00
Supplies.....	397 13
Telephone service.....	170 40
Traveling expenses.....	63 55
Valves.....	300 00
<b>Total.....</b>	<b>\$31,534 87</b>

## Repairs and Renewal of Pavements and Regrading—

Bridge-stone.....	\$2,520 00
Curb-stone.....	6 00
Horse-hire.....	151 50
Pay-rolls.....	90,218 86
Red globes.....	48 25
Rent of yard.....	1,800 00
Repairing pavement.....	1,414 25
" roof.....	50 10
" tools.....	528 25
" tool-carts.....	21 75
" wagon.....	28 00
Rollers.....	20 00
Sand.....	6,391 55
Signal oil.....	95 05
Supplies.....	671 88
Tool-carts.....	220 00
Traveling expenses.....	92 05
<b>Total.....</b>	<b>\$104,277 49</b>

## Repairs to Seventh Regiment Armory Building—

Repairing, etc., roof.....	\$929 00
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## Repaving Fifth Avenue—

Pay-rolls.....	\$3,116 00
Work on contract.....	35,401 18
<b>Total.....</b>	<b>\$38,517 18</b>

## Repaving Fifth Avenue, 1885—

Work on contract.....	\$79,720 00
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Repaving Streets and Avenues—	
Cannon street, between Houston and Grand streets	\$8,130 58
Pine street, between William and Pearl streets, Ninth, Eighth and Eighteenth streets	10,859 52
Fifteenth and Nineteenth streets, between First and Second avenues, and Twenty-fifth street	16,160 00
Eighteenth street, between First avenue and East river	16,420 51
Eighteenth street, between Eighth and Tenth avenues	13,018 82
Surveying	1,841 66
Total	\$66,431 09

Repaving Streets and Avenues, 1885—	
Twenty-sixth street, between Eighth and Tenth avenues	\$539 80

Roads, Streets and Avenues, Unpaved, etc.—	
Horse-hire	\$180 00
Pay-rolls	6,193 25
Screenings	516 25
Total	\$6,889 50

Sewers—Repairing and Cleaning—	
Basin-heads	\$140 00
Boots, hose and aprons	95 58
Brick, sand and cement	101 25
Cleaning and repairing sewer	6,489 87
Correcting insurance maps	120 00
Horse-hire	270 00
Lumber	115 60
Pay-rolls	12,135 87
Pipe	115 00
Removing basin-heads	10 00
Repairing carriage	125 00
“ tools	23 45
Rod and target	14 40
Building basin, etc	153 02
Stone	64 80
Total	\$19,973 84

Supplies for and Cleaning Public Offices, etc.—	
Armory, Twenty-second Regiment	\$11 00
“ Seventy-first Regiment	11 00
Brown-stone Building	438 32
Bureau Repairs and Supplies	2,053 60
City Hall	989 89
City Prison	20 50
Court, Civil, First District	5 50
“ Fifth “	40 86
“ Ninth “	48 20
“ Tenth “	11 00
“ Eleventh District	6 50
“ Police, Third District	25 00
“ Special Sessions	49 00
“ General Sessions	385 40
“ Common Pleas	155 00
“ Superior	169 76
“ Supreme	173 95
Court-house, County	167 25
“ Third	22 50
Department of Finance	489 80
“ Public Works	508 71
“ Taxes and Assessments	15 50
Rivington Street Yard	6 00
Hall of Records	86 38
Market, Clinton	35 00
“ Fulton	60 00
“ Washington	60 00
Office, County Clerk	74 65
“ Mayor	4 50
“ Surrogate	96 40
“ Recorder	91 10
“ Sheriff	9 00
“ Commissioners of Accounts	1 50
“ Civil Service Board	15 00
“ District Attorney	16 20
Coal	1,616 22
Total	\$28,213 49

Street Improvements—For Surveying, Monumenting, etc.—	
Pay-rolls	\$366 50
Setting monuments	40 00
Total	\$406 50

Street Improvements—For Surveying, Monumenting, etc., 1884—	
Setting monuments	\$800 00

Street Signs on Buildings and Public Lamps—	
Glass street signs	\$929 50

Surveys, Maps, etc., for Street Openings, etc.—	
Pay-rolls	\$1,300 00

Water Supply for the Twenty-fourth Ward—	
Supply of water	\$1,170 63
Traveling expenses	16 83
Total	\$1,187 46

Iron Bridge—Over Fourth Avenue at Ninety-eighth Street, 1884—	
Building bridge	\$4,337 48
Pay-rolls	1,011 75
Total	\$5,349 23

## RECAPITULATION OF APPROPRIATIONS.

Aqueduct—Repairs, Maintenance and Strengthening	\$55,144 79
Aqueduct—Repairs, Maintenance and Strengthening, 1885	378 57
Aqueduct—Repairs, Maintenance and Strengthening—Salaries	7,033 21
Boring Examinations for Grading and Sewer Contracts	2,091 04
Boulevards, Roads and Avenues, Maintenance of	22,812 61
Bronx River Works—Maintenance and Repairing	5,920 93
Bronx River Works—Maintenance and Repairing—Salaries	1,250 00
Contingencies—Department of Public Works	1,110 02
Flagging Sidewalks and Fencing, etc	668 97
Free Floating Baths	2,409 91
Free Floating Baths—Salaries	6,437 50
For Street Signs on Buildings and Public Lamps	929 50
For Repairs to Seventh Regiment Armory Building	929 00
For an Iron Bridge over Fourth Avenue at Ninety-eighth Street, 1884	5,349 23
Lamps and Gas and Electric Lighting	236,041 96
Lamps and Gas and Electric Lighting—Salaries	1,515 12

Laying Croton Pipes	\$77,402 34
Laying Croton Pipes, 1885	541 07
Laying Croton Pipes—Salaries	5,437 40
Public Buildings—Construction and Repairs	11,651 63
Public Drinking-hydrants	772 91
Public Drinking-hydrants—Salaries	333 32
Removing Obstructions in Streets and Avenues	2,089 77
Removing Obstructions in Streets and Avenues—Salaries	1,166 88
Repairing and Renewal of Pipes, Stop-cocks, etc.	31,534 87
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries	14,868 54
Repairs and Renewal of Pavements and Regrading	104,277 49
Repairs and Renewal of Pavements and Regrading—Salaries	3,111 00
Repaving Fifth Avenue	38,517 18
Repaving Fifth avenue, 1885	79,720 00
Repaving Streets and Avenues	66,431 09
Repaving Streets and Avenues, 1885	539 80
Repaving Streets and Avenues—Salaries	1,116 00
Roads, Streets and Avenues, Unpaved, etc	6,889 50
Salaries—Department of Public Works	23,909 08
Sewers—Repairing and Cleaning	19,973 84
Sewers—Repairing and Cleaning—Salaries	2,625 35
Sewerage System—Salaries	3,564 97
Street Improvements—For Surveying, Monumenting, etc	406 50
Street Improvements—For Surveying, Monumenting, etc., 1884	800 00
Supplies for and Cleaning Public Offices, etc.	28,213 49
Supplies for and Cleaning Public Offices, etc., 1885	162 00
Supplies for and Cleaning Public Offices, etc.—Salaries	7,764 75
Surveys, Maps, etc., for Street Openings, etc.	1,300 00
Supplying Water to Shipping, etc.—Salaries	2,988 96
Water Supply for the Twenty-fourth Ward	1,187 46
Water Supply for the Twenty-fourth Ward—Salaries	309 00
Total	\$889,628 55

## TRUST ACCOUNTS.

## CROTON WATER FUND.

Altering pipe	\$102 47
Binding maps	153 10
Clerical services	503 05
Coal and wood	178 50
Drawing materials	157 08
Horse-hire, etc	420 00
Legal services, etc	2,091 81
Lumber	129 71
Oak Pegs	40 00
Pay-rolls	19,955 10
Printing testimony	205 26
Rent of offices	422 00
Rent of mill seat	300 00
Reservoir at Williamsbridge	21,348 00
Self-registering gauge	105 00
Traveling expenses	960 17
Total	\$47,071 25

## FUND FOR LOCAL IMPROVEMENTS.

Regulating, grading, etc.—	
One Hundred and Fourteenth street, between Fourth and Eighth avenues	\$5,617 50
One Hundred and Fifty-fifth street, between Eighth and first new avenue west of Eighth avenue	10,171 72
William street, between Duane and North William streets	2,852 30
Removing and relaying gas-mains	694 65
Surveying	194 37
Pay-rolls	741 00
	\$20,271 54
Sewers—	
Sixty-seventh, Sixty-eighth and Sixty-ninth streets, between West End avenue and lands of N. Y. C. and H. R. R.'s Co	2,919 00
Eighty-seventh street, between Tenth avenue and Riverside Drive	1,603 35
Ninety-fourth street, between Eighth and Ninth avenues	1,234 80
Ninety-fifth street, between Ninth and Tenth avenues	3,010 74
Lexington avenue, between Eighty-third and Eighty-fifth streets	1,232 75
Pay-rolls	2,083 62
	12,084 26
	\$32,355 80

## LOCAL IMPROVEMENT FUND.

Regulating, Grading, etc.—	
Ninety-third street, between West End avenue and Riverside Drive	\$11,889 11
Ninety-third street, between Boulevard and West End avenue	87 25
Ninety-fourth street, between Boulevard and Riverside Drive	5,005 00
Ninety-eighth street, between Second and Third avenues	162 50
One Hundred and Twelfth street, between Seventh and Eighth avenues	208 75
One Hundred and Fifty-third street, between sixty feet east of Seventh avenue and New avenue	294 00
West End avenue, between Seventy-second street and Boulevard	32,697 38
Morningside avenue, between One Hundred and Tenth street and Tenth avenue	1,749 50
Fort Washington Ridge road between Eleventh avenue and Kingsbridge road	6,440 00
Surveying	2,181 50
Pay-rolls	1,140 00
	\$61,854 99

Sewers—	
One Hundred and Forty-first street, between St. Nicholas and Tenth avenues	\$285 60
Tenth avenue, east side, between One Hundred and Sixty-second and One Hundred and Seventieth streets, and west side, etc.	9,834 53
Removing and relaying gas-mains	1,249 62
Repairing pavement	37 50
	11,407 25
	73,262 24

## STREET IMPROVEMENT FUND.

Fencing—	
Northeast corner of Fourth avenue and One Hundred and Twenty-seventh street	\$156 84
First and Second avenues and Eighty-second and Eighty-third streets	222 81
Fifty-seventh street, north side, east of Broadway	59 12
Seventy-seventh street, south side, between Madison and Fourth avenues	66 81
Madison avenue, east side, between One Hundred and Tenth and One Hundred and Eleventh streets	51 79
Surveying	72 53
	\$629 90
Flagging—	
Southeast corner of Lexington avenue and One Hundred and Twenty-third street	\$128 96
Leroy street, south side, between Greenwich and West streets	891 99
Seventh avenue, between One Hundred and Twenty-eighth and One Hundred and Forty-fifth streets	4,735 81
Grand Boulevard, west side, between Sixty-first and Sixty-third streets	527 42
Surveying	643 46
	6,927 64



Paving—	
Sixty-fourth street, between First and Second avenues.....	\$6,395 57
Ninety-third street, between Eighth and Ninth avenues.....	6,404 79
One Hundred and Third street, between First and Second avenues....	6,136 60
One Hundred and Seventh street, between Third and Lexington avenues.....	3,115 35
Surveying.....	1,477 55
Pay-rolls.....	2,317 00
	\$25,846 86

Regulating grading, etc.—	
Sixty-ninth street, between Eighth and Ninth avenues.....	\$2,100 00
Eighty-second street, between Boulevard and Riverside Drive.....	3,696 00
Eighty-ninth street, between Boulevard and Riverside Drive.....	1,324 00
Ninety-first street, between Tenth avenue and Riverside Drive.....	4,423 30
One Hundred and Second street, between Ninth avenue and Riverside Drive.....	1,050 00
One Hundred and Fourteenth street, between Tenth avenue and Riverside Drive.....	4,844 00
One Hundred and Thirtieth street, between Old Broadway and Boulevard.....	1,301 81
One Hundred and Forty-ninth street, between Seventh and Eighth avenues.....	2,551 50
First new avenue west of Eighth avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.....	1,316 00
Claremont avenue, between One Hundred and Sixteenth and One Hundred and Twenty-second streets.....	1,277 50
Edgecomb avenue, between One Hundred and Thirty-seventh and One Hundred and Fortieth streets.....	2,793 00
Fort George avenue, Tenth and Eleventh avenues.....	1,087 10
Surveying.....	450 70
Pay-rolls.....	4,711 00
	33,925 91

Sewers—	
Sixty-second street, between Tenth and Eleventh avenues.....	\$1,268 40
Seventy-fourth street, between Ninth and Tenth avenues.....	1,074 50
Seventy-sixth street, between Avenue A and East river.....	1,191 12
One Hundred and Third street, between Ninth and Tenth avenues....	2,389 80
One Hundred and Fifth street, between First avenue and Harlem river	2,892 75
One Hundred and Fifteenth street, between Seventh and Eighth avenues.....	2,736 72
One Hundred and Forty-third street, between Boulevard and Hamilton place.....	1,143 10
One Hundred and Fifty-first street, between St. Nicholas and Tenth avenues.....	5,022 08
Eighth avenue, between One Hundred and Fifth and One Hundred and Fourteenth streets.....	1,144 29
West End avenue, between Sixty-fourth and Sixty-fifth streets.....	1,087 87
Hudson street, between Christopher and Grove streets.....	844 00

Basins—	
One Hundred and Twenty-ninth street, north side, at Manhattan avenue.....	726 65
West End avenue, northwest corners of Seventy-second, Seventy-third and Seventy-fourth streets.....	265 62
Southeast corner of Eighty-first street and Avenue A.....	299 80
Northwest corner of One Hundred and Seventh street and First avenue.....	226 69
Southeast corner of One Hundred and Ninth street and Fourth avenue.....	308 15
Northwest corner of One Hundred and Twenty-first street and Fourth avenue.....	390 00
Northeast corner of One Hundred and Seventh street and First avenue.....	249 30
Removing and relaying gas-mains.....	35 64
Pay-rolls.....	6,931 51
	30,227 99

Total.....\$97,558 30

#### RESTORING AND REPAVING—SPECIAL FUND.

Restoring pavements, etc.....	\$7,549 00
Pay-rolls.....	1,656 50
	\$9,205 50

#### WATER-METER FUND, NO. 2.

Setting meters.....	\$71 43
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#### GANSEVOORT MARKET BUILDING FUND.

Preliminary plans and estimates.....	\$4,680 50
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#### RECAPITULATION OF FUNDS.

Croton Water Fund.....	\$47,071 25
Fund for Local Improvements.....	32,355 80
Local Improvement Fund.....	73,262 24
Street Improvement Fund.....	97,558 30
Gansevoort Market Building Fund.....	4,680 50
Restoring and Repaving—Special Fund.....	9,205 50
Water-meter Fund, No. 2.....	71 43
	\$264,205 02

#### GENERAL SUMMARY.

Appropriations.....	\$889,628 55
Funds.....	264,205 02
	\$1,153,833 57

#### Document "C."

Contracts Made during the Three Months ending December 31, 1886.

Date of Contract.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
1886.				
Oct. 6	Sewer Contracts.			
	Completing unfinished sewer in One Hundred and Fifty-first street, between Avenue St. Nicholas and Tenth avenue, and in Tenth avenue, east side, between One Hundred and Fiftieth and One Hundred and Fifty-first streets.....	John McKim, 326 East 58th street.	Patrick Reilly, 39 Sutton place..... Louis Johnson, 796 Lexington avenue.....	\$6,864 40
" 9	Outlet sewer in Eighth avenue, between One Hundred and Fifty-third street and Harlem river....	Verdine E. Horton, 111 West 128th street.	William E. Dean, 68 West 127th street. Jacob Ebling, 2362 Third avenue....	14,398 00
" 13	Sewer in One Hundred and Thirty-first street, between Broadway and Tenth avenue.....	Patrick Guilfoyle, 114th street and Western Boulevard.	John Fleming, 211 East 83d street.. Thomas Regan, 719 Lexington avenue.....	2,053 00
" 19	Alteration and improvement to sewers in Eleventh avenue, between Fourteenth and Seventeenth streets, and in Fourteenth street, between Tenth and Thirteenth avenues, and sewers in Eleventh avenue, between Fifteenth and Sixteenth streets, and in Fifteenth street, between Tenth and Eleventh avenues.....	Verdine E. Horton, 111 West 128th street.	William E. Dean, 68 West 127th street. Jacob Ebling, 2362 Third avenue....	24,515 50

Date of Contract.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
1886.				
Oct. 21	Alterations and improvements to receiving-basins on the southeast and southwest corners of Ninety-second, Ninety-fourth and Ninety-sixth streets, on southwest corner of Ninety-third street, on northeast and northwest corners of Ninety-sixth and Ninety-eighth streets, and on northwest corners of Ninety-ninth, One Hundredth, One Hundred and First, and One Hundred and Second streets and West End avenue.....	Thomas O'Maley, 162d street and 10th avenue.....	Robert B. Saul, 162d st. and 10th ave. Patrick Larney, 325 East 38th street..	\$1,475 00
" 26	Sewer in One Hundred and Nineteenth street, between Seventh avenue and Avenue St. Nicholas.	J. W. Phelan, 205 West 124th street.	Terance Kane, 140th street, bet. 5th and 6th avenues... Nathan Mordough, 437 West 57th street. John Davidson, 792 Fourth avenue.. P. H. Slattery, 681 East 135th street. George H. Toop, 421 East 88th street.. John McLaughlin, 346 East 81st street.. George H. Toop, 421 East 88th street.. John McLaughlin, 316 East 81st street.. John Becker, 10th ave., bet. Manhattan and Lawrence streets.....	1,429 50
" 29	Sewer in One Hundred and Thirtieth street, between Boulevard and Riverside avenue.....	John Slattery, 788 Fourth avenue....	Isaac A. Hopper, Seventh avenue and 122d street.....	4,733 00
Nov. 4	Sewer in One Hundred and Thirty-third street, between Eighth avenue and Avenue St. Nicholas....	Joseph Moore, 180 East 88th street.	James D. Leary, 73 William street... Joseph Cummings, 45 Duane street.....	1,084 00
" 4	Sewer in Avenue St. Nicholas, east side, between One Hundred and Forty-first and One Hundred and Forty-fifth streets.	Joseph Moore, 180 East 88th street.	John Becker, 10th ave., bet. Manhattan and Lawrence streets.....	8,760 00
" 5	Sewer in One Hundred and Eighteenth street, between Fifth and Sixth avenues.....	Thomas Murray, 130th street and Tenth avenue.....	Isaac A. Hopper, Seventh avenue and 122d street.....	4,414 50
" 12	Extension of sewer at foot of Rector street, Hudson river, with alterations and improvements to existing sewer.....	John D. Walsh, 396 Wythe avenue, Brooklyn, N. Y....	James D. Leary, 73 William street... Joseph Cummings, 45 Duane street.....	6,921 40
" 12	Outlet sewer through Pier 29, East river, with alterations and improvements to existing sewer at foot of Roosevelt street.....	John D. Walsh, 396 Wythe avenue, Brooklyn, N. Y....	John Ryan, 129th street, bet. 11th and 12th avenues. John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	5,969 50
" 30	Sewer in Madison avenue, between One Hundred and Seventeenth and One Hundred and Nineteenth streets.....	Thomas Murray, 130th street and 10th avenue.....	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	8,560 50
" 30	Sewer in Ninety-first street, between Eighth and Ninth avenues.....	John McKim & Son, 326 East 58th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	7,538 05
" 30	Sewer in Ninety-seventh street, between Ninth avenue and summit west of Ninth avenue.....	Joseph Moore, 180 East 88th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	4,730 00
Dec. 6	Sewers in Lexington avenue, between Eighty-ninth and Ninety-first streets, and between Ninety-third and Ninety-fourth streets.....	James J. Jones, 430 East 89th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	5,900 00
Nov. 29	Sewer in Sixty-fourth street, between Avenue A and First avenue.....	Terence A. Smith, 218 East 36th street..	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	7,365 00
Dec. 11	Sewer in One Hundred and Forty-third street, between Seventh and Eighth avenues.....	John Skelly, 313 East 38th street..	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	3,912 50
" 20	Sewer in One Hundred and Forty-second street, between Seventh and Eighth avenues.....	Patrick Sheehy, 146 East 87th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	3,717 50
" 27	Sewer in One Hundred and Fortieth street, between Seventh and Eighth avenues.....	Joseph A. Devlin, 66 West 119th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	2,312 00
" 27	Sewer in Ninth avenue, east side, between One Hundred and Fifth and One Hundred and Sixth streets.....	Joseph A. Devlin, 66 West 119th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	1,359 75
" 27	Sewer in One Hundred and Forty-eighth street, between Seventh and Eighth avenues.....	Joseph A. Devlin, 66 West 119th street.	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	2,690 25
" 28	Sewers in Seventy-second street, between Hudson river and Eleventh avenue, with branch in Riverside avenue, between Seventy-second and Seventy-sixth streets.....	John Slattery, 788 Fourth avenue....	John Becker, Tenth avenue and Manhattan street. Patrick Reilly, 39 Sutton place..... Thomas E. Crimmins, 1043 Third avenue.. George H. Toop, 421 East 88th street.. John McQuade, 1338 Lexington ave.. Charles Jones, 257 Alexander ave.. George H. Toop, 421 East 88th street.. Joseph C. Biglin, 212 East 31st street.. Thomas Bartley, 544 Third avenue.. Patrick Larney, 325 East 38th street.. James F. Boyle, 676 Second avenue.. Thomas Regan, 719 Lexington avenue.. Michael Regan, 1227 Lexington avenue.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. James McBride, 155 East 124th street.. George H. Toop, 421 East 88th street.. John Davidson, 868 Fourth avenue.. Denis McGrath, 35 East 104th street..	26,637 50
				\$257,322 85
Oct. 6	Regulating and grading Edgecombe avenue, from One Hundred and Thirty-ninth to One Hundred and Fortieth street, and setting curb-stones and flagging sidewalks therein.....	William Guilfoyle, 144th street and 10th avenue.....	William Bostelmann, 102 West street.... Isaac A. Hopper, 163 West 122d street.	\$11,534 40
" 8	Regulating and grading One Hundred and Thirty-seventh street, from Eighth to St. Nicholas avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas Murray, 130th street and 10th avenue.....	Thomas Hueston, Broadway and Lawrence street..... John Becker, 10th avenue and Manhattan street.. Thomas Hueston, Broadway and Lawrence street..... John Becker, 10th avenue and Manhattan street..	2,261 51
" 8	Regulating and grading One Hundred and Thirtieth street, from Old Broadway to Boulevard, and setting curb-stones and flagging sidewalks therein.....	Thomas Murray, 130th street and 10th avenue.....	John Becker, 10th avenue and Manhattan street..	1,275 50
" 8	Regulating and grading Edgecombe avenue (the first avenue east of and generally parallel with Ninth avenue or St. Nicholas place), from One Hundred and Forty-fifth street to St. Nicholas place, and setting curb-stones and flagging sidewalks therein.....	John F. Dawson, 174 Alexander ave..	Thomas Patten, 113 East 57th street.. S. F. Knapp, 158th street, Audubon Park.....	86,826 06
" 12	Regulating and grading One Hundred and Second street, from Ninth avenue to Riverside Drive, and setting curb-stones and flagging sidewalks therein.....	James H. Sullivan, 2145 Sixth avenue...	John Claffy, 48 Dey street..... Henry Mayer, 16 Greenwich street.	28,127 55
" 12	Regulating and grading One Hundred and Sixty-fifth street, from Edgecombe road to Tenth avenue, and setting curb-stones and flagging sidewalks therein.....	James H. Sullivan, 2145 Sixth avenue...	John Claffy, 48 Dey street..... Henry Mayer, 16 Greenwich street.	3,851 80
" 14	Regulating and grading Sixty-ninth street, from Eighth to Ninth avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas E. Crimmins, 951 Madison avenue.	Thomas Crimmins, 1225 Park avenue.. James R. Breen, 157 East 71st street..	8,994 92
" 14	Regulating and grading One Hundred and Thirtieth street, from Eighth to New avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas E. Crimmins, 951 Madison avenue.	Thomas Crimmins, 1225 Park avenue.. James R. Breen, 157 East 71st street..	4,790 45
" 14	Regulating and grading One Hundred and Twelfth street, from Eighth to New avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas E. Crimmins, 951 Madison avenue.	Thomas Crimmins, 1225 Park avenue.. James R. Breen, 157 East 71st street..	5,130 22
" 14	Regulating and grading One Hundred and Seventh street, from Eighth to Ninth avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas E. Crimmins, 951 Madison avenue.	Thomas Crimmins, 1225 Park avenue.. James R. Breen, 157 East 71st street..	10,753 00
" 14	Regulating and grading One Hundred and First street, from Eighth to Manhattan avenue, and setting curb-stones and flagging sidewalks therein.....	Thomas E. Crimmins, 951 Madison avenue.	Thomas Crimmins, 1225 Park avenue.. James R. Breen, 157 East 71st street..	2,186 80
" 14	Regulating and grading Sixty-fifth street, from Tenth to Eleventh avenue, and setting curb-stones and flagging sidewalks therein.....	D. W. Moran, 349 East 72d street..	James J. Jones, 430 East 89th street.. Peter McGinness, 1546 Park avenue...	2,866 26



Date of Contract.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.	Date of Contract.	NATURE AND LOCATION OF WORK.	CONTRACTOR.	SURETIES.	ESTIMATED COST.
1886, Oct. 26	Regulating and grading Eighty-first street, from Avenue A to Avenue B, and setting curb-stones and flagging sidewalks therein.....	Patrick McInerney, 214 East 85th street..	Charles McGinnis, 127 Broome street... John Fleming, 211 East 83d street..	\$2,736 48	1886, Nov. 20	Laying crosswalks on east and west sides of Tenth avenue at One Hundred and Fifty-sixth, One Hundred and Fifty-seventh, One Hundred and Fifty-eighth, One Hundred and Fifty-ninth, One Hundred and Sixtieth, One Hundred and Sixty-fourth and One Hundred and Sixty-fifth streets; also west side of Tenth avenue at One Hundred and Sixty-first street, etc.....	Thomas Murray, 130th st. and 10th ave.	John Lynch, 2191 Third avenue.. John Ryan, 129th st. and 12th ave.	\$1,923 05
" 26	Regulating and grading Ninety-fifth street, from Eighth to Ninth avenue, and setting curb-stones and flagging sidewalks therein.....	Patrick McInerney, 214 East 85th street..	Charles McGinnis, 127 Broome street... John Fleming, 211 East 83d street..	2,456 48	" 23	Paving with granite-block pavement, One Hundred and Thirty-fifth street, from Eighth to St. Nicholas avenue.....	John G. Smith, 329 West 48th street.	James Slattery, 218 West 57th street. Henry A. Childs, 113 West 34th street. James Slattery, 218 West 57th street. John F. Moore, 514 West 105th street	7,023 20 6,951 04
" 21	Regulating and grading first new avenue west of Eighth avenue, from One Hundred and Forty-fifth to One Hundred and Fifty-fifth street, and setting curb-stones and flagging sidewalks therein.....	William J. Kelly, Pelhamville, Westchester Co., N. Y.	Charles F. Mattlage, 276 Greenwich street Mary Ann Pettit, 444 West 34th street.	55,120 00	Dec. 15	Paving with granite-block pavement, One Hundred and Twenty-first street, Sixth to Seventh avenue..	John G. Smith, 329 West 48th street.		\$137,011 25
" 30	Regulating and grading Edgecombe avenue, from One Hundred and Forty-first to One Hundred and Forty-fifth street, and setting curb-stones and flagging sidewalks therein.....	Bernard Mahon, 2261 Seventh avenue	Thomas O'Maley, 162d street and 10th avenue..... William Kelly, 460 West 51st street.	18,196 60	Nov. 20	Paving Contracts (under Section 194, New York Consolidation Act of 1882).			
Nov. 9	Regulating and grading One Hundred and Eighth street, from Tenth avenue to Boulevard, and setting curb-stones and flagging sidewalks therein.....	James H. Sullivan, 2145 Sixth avenue....	John D. Hall, 337 West 29th street. John Claffy, 48 Dey street.....	1,080 90	Nov. 20	Paving with granite-block pavement, Sixth street, from Bowery to Avenue B.....	Terence A. Smith, 218 East 36th street..	Matthew Baird, 807 Lexington ave.. James Baird, 310 East 57th street.	\$21,753 88
" 9	Setting curb-stones and flagging sidewalks in Manhattan avenue, from One Hundred and Sixteenth to One Hundred and Twentieth street.....	D. W. Moran, 349 East 72d street..	John McQuade, 1338 Lexington avenue..... Peter McGinness, 1546 Park avenue...	2,363 10	Nov. 9	Laying water-mains in Broadway and Tenth, Ninth, Eighth, Sixth, Fourth and Riverside avenues, and in Eighty-eighth street.....	Borstman & Cornwell, 304 East 116th street.	P. M. Wilson, 86 Bank street..... James Kay, 150 Washington Market.....	\$7,748 00
Dec. 1	Regulating and grading One Hundred and Forty-eighth street, from Seventh to Eighth avenue, and setting curb stones and flagging sidewalks therein.....	William Kelly, 460 West 51st street.	James Fitzpatrick, 529 West 42d street. Henry Kelly, 422 West 42d street.	9,874 68	Dec. 2	Furnishing cast-iron water-pipes, branch pipes and special castings.)	Warren Foundry and Machine Co., Phillipsburg, N. J...	Joseph Richardson, 119 Liberty street... William E. Stiger, 140 West 73d street..	\$12,850 00
" 4	Regulating and grading One Hundred and Forty-third street, from Seventh to Eighth avenue, and setting curb-stones and flagging sidewalks therein.....	John J. Farley, 1990 Madison avenue.	Thomas McMahon, 5 Sutton place. Patrick Farley, 1990 Madison avenue.	5,509 81	" 27	Furnishing illuminating gas for lighting the public markets, armories, buildings and offices of the City of New York for the period from January 1, 1887, to December 31, 1887, both days inclusive.....	The Equitable Gas-light Co. of New York, 340 Third avenue....	John Fox, 117th street and Pleasant avenue.. Elias C. Benedict, 10 West 51st street..	\$9,500 00
" 4	Regulating and grading the first new avenue west of Eighth avenue, from One Hundred and Forty-second to One Hundred and Forty-fifth street, and setting curb-stones and flagging sidewalks therein.....	Bernard Mahon, 2261 Seventh avenue.	A. Bigelow Kellogg, 285 Broadway. James D. Leary, 73 William street.	17,414 96	" 27	Furnishing illuminating gas for lighting the public markets, armories, buildings and offices of the City of New York for the period from January 1, 1887, to December 31, 1887, both days inclusive.....	The Consolidated Gas Co. of New York, 4 Irving place.....	Percy R. Pyne, 25 East 22d street... Thomas Rutter, 814 Fifth avenue....	22,650 00 \$32,150 00
Nov. 29	Regulating and grading Sixty-fifth street, from First avenue to Avenue A, and setting curb-stones and flagging sidewalks therein.....	Terence A. Smith, 218 East 36th street	Joseph C. Biglin, 157 East 37th street. John McGuire, 326 East 38th street.	12,212 91	Oct. 18	Flagging south side of Leroy street, from Greenwich to West street..	Patrick Larney, 325 East 38th street..		\$913 00
Dec. 18	Regulating and grading Ninetieth street, from the Boulevard to Riverside Drive, and setting curb-stones and flagging sidewalks therein.....	Thomas O'Maley, 162d street and Tenth avenue.....	Robert B. Saul, 162d street and 10th avenue..... William Bostelmann, 102 West street.....	7,737 80	" 18	Flagging four feet in width on the west side of the Grand Boulevard, from Sixty-first to Sixty-third street.....	Patrick Larney, 325 East 38th street..		528 90
" 20	Regulating and grading One Hundred and Eighth street, from Eighth to Manhattan avenue, and setting curb-stones and flagging sidewalks therein.....	John Cox & Co., 229 Broadway.....	John Regan, 153 Franklin street.. E. J. Cassidy, 1119 Madison avenue	6,155 60	" 18	Fencing vacant lots on south side of Seventy-seventh street, between Madison and Fourth avenues; on the west side of Fourth avenue, between Seventy-sixth and Seventy-seventh streets, and on the north side of Seventy-sixth street, between Madison and Fourth avenues.....	Patrick Larney, 325 East 38th street..		66 24
" 22	Regulating and grading One Hundred and Thirty-seventh street, from Tenth to Convent avenue, and setting curb-stones and flagging sidewalks therein.....	John Slattery, 788 Fourth avenue..	John Davidson, 868 Fourth avenue, P. H. Slattery, 681 East 135th street.	2,991 81	Nov. 23	Fencing vacant lots on the east side of Madison avenue, from One Hundred and Tenth to One Hundred and Eleventh street.....	Patrick Larney, 325 East 38th street..		47 43
" 27	Regulating and grading One Hundred and Thirty-seventh street, from Seventh to Eighth avenue, and setting curb-stones and flagging sidewalks therein.....	John J. Farley, 1990 Madison avenue	Patrick Farley, 1990 Madison avenue Thomas McMahon, 5 Sutton Place.....	4,888 18	" 23	Fencing vacant lots at the southeast corner of Seventh avenue and One Hundred and Twenty-second street.....	Bernard A. Roth, 402 East 122d street.		90 41
				\$317,337 78	Dec. 9	Paving with trap-block pavement West Fifty-fifth street, from present pavement to the North river.	P. H. Fitzgerald, 428 West 35th street.	John White, 536 West 40th street.	257 50
	Paving Contracts.				" 10	Receiving-basins on the southwest corners of Eightieth and Eighty-first streets and Avenue A.....	R. A. Cunningham, 343 East 16th street..	William H. Taylor, 343 East 16th street.	560 00
Oct. 12	Regulating and grading, building retaining walls, and paving with granite-block pavement, with a foundation of broken stone thoroughly rolled, One Hundred and Fifty-fifth street, from Avenue St. Nicholas to St. Nicholas place....	George F. Doak, Broadway, n. 129th st.	Ransom Parker, Jr., 224 W. 11th street.. Daniel D. Wylie, 697 Madison avenue.	\$10,376 62	" 10	Receiving-basin on southeast corner of Twenty-first street and Thirtieth avenue.....	R. A. Cunningham, 343 East 16th street.	William H. Taylor, 343 East 16th street.	207 00
" 23	Paving with trap-block pavement, Ninety-sixth street, from Third to Lexington avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	7,486 13	" 10	Receiving-basin on southeast corner of One Hundred and Twenty-third street and Manhattan avenue	R. A. Cunningham, 343 East 16th street.	William H. Taylor, 343 East 16th street.	250 00
" 23	Paving with trap-block pavement, Ninety-third street, from Eighth to Ninth avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	6,835 92	" 10	Receiving-basin on southwest corner of Sixty-second street and Avenue A.....	R. A. Cunningham, 343 East 16th street.	William H. Taylor, 343 East 16th street.	244 00
" 23	Paving with trap-block pavement, Seventy-fourth street, from Boulevard to Eleventh avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	4,608 61	" 10	Receiving-basins on the northeast and southeast corners of One Hundred and Eighth street and Lexington avenue.....	R. A. Cunningham, 343 East 16th street.	William H. Taylor, 343 East 16th street.	403 00
" 23	Paving with trap-block pavement, Sixty-seventh street, from Second to Third avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	6,209 00	" 10	Receiving-basins on northeast and northwest corners of One Hundred and Twenty-third street and Manhattan avenue.....	R. A. Cunningham, 343 East 16th street.	William H. Taylor, 343 East 16th street.	448 00
" 23	Paving with trap-block pavement, Sixty-sixth street, from Boulevard to Tenth avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	4,998 50	" 10	Laying crosswalks across One Hundred and Twenty-sixth street at the westerly side of St. Nicholas avenue.....	D. W. Moran, 349 East 72d street..	Peter McGinness, 1546 Park avenue.	123 08
" 23	Paving with trap-block pavement One Hundred and Thirty-first street, from Sixth to Seventh avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	7,762 67	" 10	Laying crosswalks across Pleasant avenue at the southerly and northerly intersections of One Hundred and Fifteenth street.....	D. W. Moran, 349 East 72d street..	Peter McGinness, 1546 Park avenue.	302 98
" 23	Paving with granite-block pavement, Ninety-third street, from Ninth to Tenth avenue.....	Charles Guidet, 237 Broadway.....	James Everard, Worth House..... Martin B. Brown, 931 Madison avenue.	2,554 10	" 18	Fencing vacant lots on block bounded by One Hundred and Ninth and One Hundred and Tenth streets, Madison and Fifth avenues.....	Bernard A. Roth, 402 East 122d street.		390 83
" 23	Paving with granite-block pavement, Washington street, from Little West Twelfth to Fourteenth street	Charles Guidet, 237 Broadway.....	Martin B. Brown, 931 Madison avenue. P. H. McCullagh, 240 East 122d street..	5,754 75	" 28	Fencing vacant lots on northwest corner of One Hundred and Ninth street and Fourth avenue.....	Bernard A. Roth, 402 East 122d street.		79 19
" 23	Paving with trap-block pavement, Seventie h street, from Avenue A to First avenue.....	Thomas Gearty, 135 East 83d street..	Thomas Regan, 719 Lexington ave.. Ransom Parker, Jr., 224 West 11th street	7,659 00	" 28	Fencing vacant lots on south side of Ninety-sixth street, between Second and Third avenues.....	Bernard A. Roth, 402 East 122d street.		229 84
Nov. 4	Paving with granite-block pavement, Eighty-fifth street, from Eighth to Ninth avenue.....	George F. Doak, Broadway, n. 129th st.	Louis D. Beck, 58 Cedar street..... Julius A. Candee, 26th street, E. R....	8,243 48					\$5,141 40
" 12	Paving with trap-block pavement, One Hundred and Ninth street, from Madison to Fourth avenue.....	William A. Cumming, 5 Dey street.....	James Mulry, 30 East 81st street .. Julius A. Candee, 26th street, E. R....	2,922 12					
" 12	Paving with trap-block pavement, One Hundred and First street, from Second to Third avenue.....	William A. Cumming, 5 Dey street.....	James Mulry, 30 East 81st street.. Charles Guidet, 237 Broadway .....	4,446 46					
" 20	Paving with trap-block pavement, Ninety-seventh street, from Ninth to Tenth avenue.....	P. H. Fitzgerald, 428 West 35th street.	Samuel Booth, 545 West 35th street. Charles Guidet, 237 Broadway .....	7,183 47					
" 20	Paving with trap-block pavement, Seventy-first street, from Eastern Boulevard to East river.....	P. H. Fitzgerald, 428 West 35th street.	Samuel Booth, 545 West 35th street. James Fitzpatrick, 529 West 42d street.	6,306 60					
" 20	Paving with granite-block pavement, Ninety-first street, from Fourth to Fifth avenue.....	William Kelly, 460 West 51st street.	Henry Kelly, 422 West 42d street. Matthew Baird, 807 Lexington ave.. James Baird, 310 East 57th street.	8,684 10					
" 20	Paving with granite-block pavement, One Hundred and Fifth street, from First avenue to bulkhead line on the East or Harlem river.	William J. Clark, 339 East 63d street..		7,989 46					
" 20	Laying crosswalks on both sides of Sixth avenue, across the intersecting streets, from One Hundred and Twenty-fifth to One Hundred and Forty-fifth street, where not already laid	Thomas Murray, 130th st. and 10th ave.	John Lynch, 2191 Third avenue.. John Ry n, 129th st. and 12th ave.	3,195 50					



DATE.	NATURE.	LOCATION OF WORK.	TOTAL COST.
Oct. 4	Fencing vacant lots	On block bounded by First and Second avenues, Eighty-second and Eighty-third streets.	\$253 25
" 4	"	On the northwest corner of Seventh avenue and One Hundred and Twenty-sixth street.	124 81
" 6	Sewers.	In Tenth avenue, east side, between One Hundred and Sixty-second and One Hundred and Seventieth streets, and west side, between Kingsbridge road and One Hundred and Seventy-third street.	47,392 83
" 6	Fencing vacant lots	On the northeast corner of Fourth avenue and One Hundred and Twenty-seventh street.	51 42
" 6	"	On north side of Fifty-seventh street, one hundred feet east of Broadway, and running east about one hundred and fifty feet.	66 56
" 16	Flagging four feet wide.	On south side of Lexington avenue and One Hundred and Twenty-third street.	136 00
" 16	Paving.	Sixty-fourth street, from First to Second avenue.	6,857 44
" 16	Sewer.	In Ninety-fourth street, between Eighth and Ninth avenues.	5,536 84
" 22	Regulating and grading.	William street, from Duane street to intersection of North William street.	3,865 19
" 30	Sewer.	In Lexington avenue, between Eighty-third and Eighty-fifth streets.	5,005 22
Nov. 5	Alterations and improvements to receiving-basins.	On northeast and northwest corners of Seventy-second, Seventy-third and Seventy-fourth streets and West End avenue.	357 38
" 5	Fencing vacant lots.	On south side of Seventy-seventh street, between Madison and Fourth avenues, on west side of Fourth avenue, between Seventy-sixth and Seventy-seventh streets, and on north side of Seventy-sixth street, between Madison and Fourth avenues.	75 15
" 15	Flagging sidewalks.	On south side of Leroy street, from Greenwich to West street.	932 24
" 15	Regulating and grading.	West End avenue, from Seventy-second street to its junction with the Boulevard.	107,315 23
" 23	"	One Hundred and Fifty-fifth street, from Eighth avenue to McComb's Dam lane.	14,513 27
" 19	Flagging.	West side of Grand Boulevard, from Sixty-first to Sixty-third street.	579 07
" 23	Receiving-basins.	On north side of One Hundred and Twenty-ninth street, at junction of Manhattan street, and south side at east and west corners of Manhattan street.	891 57
" 20	Flagging, etc., sidewalks.	Seventh avenue, from One Hundred and Twenty-eighth to One Hundred and Forty-fifth street.	6,258 16
" 27	Receiving-basin.	On northwest corner of One Hundred and Seventh street and First avenue.	269 42
" 27	"	On southeast corner of Eighty-first street and Avenue A.	368 00
" 26	Sewer.	In Ninety-fifth street, between Ninth and Tenth avenues.	7,609 28
" 29	Receiving-basin.	On northwest corner of One Hundred and Twenty-first street and Fourth avenue.	469 65
Dec. 4	Fencing vacant lots.	On east side of Madison avenue, from One Hundred and Tenth to One Hundred and Eleventh street.	58 71
" 4	Receiving-basin.	On southeast corner of One Hundred and Ninth street and Fourth avenue.	352 44
" 13	"	On northeast corner of One Hundred and Seventh street and First avenue.	298 97
" 13	Sewer.	In One Hundred and Fifteenth street, between Seventh and Eighth avenues.	3,381 30
" 13	"	In One Hundred and Fifth street, between First avenue and Harlem river.	3,584 69
" 15	Paving.	Ninety-third street, from Eighth to Ninth avenue.	6,945 83
" 15	"	One Hundred and Third street, from First to Second avenue.	6,700 49
" 18	Regulating and grading.	One Hundred and Thirtieth street, from Old Broadway to the Boulevard.	1,564 73
" 27	Extension of sewer.	At foot of Ninety-sixth street, Hudson river.	3,843 35
" 31	Paving.	One Hundred and Ninth street, from Madison to Fourth avenue.	3,056 40
" 31	Regulating and grading.	One Hundred and Fifty-fifth street, from Eighth avenue to first new avenue west of Eighth avenue.	8,385 39
" 31	Receiving-basins.	On the northwest and southwest corners of One Hundred and First street and Third avenue, and on northeast and northwest and southeast and southwest corners of One Hundred and Sixth street and Fourth avenue.	1,291 21
Oct. 12	Paving.	Eighteenth street, from Eighth to Tenth avenue.	13,559 02
" 26	Repairs to sewer.	In One Hundred and First street, between First and Second avenues.	1,608 02
Nov. 5	Paving.	Eighteenth street, from First avenue to East river.	17,078 81
" 24	Furnishing and delivering stop-cocks, stop-cock boxes and covers and hydrants.		13,834 00
" 24	Paving.	Fifteenth street, from First to Second avenue.	16,802 00
Dec. 31	Laying water-mains.	In Mulberry street and Bowery.	8,147 25
" 31	Paving with Trinidad asphalt pavement.	Chambers street, from Broadway to Centre street.	9,812 66

## RECAPITULATION.

8 Sewer Contracts	\$77,961 53
8 Regulating and Grading Contracts	184,149 41
9 Paving Contracts	84,244 99
1 Laying Water-main Contract	8,147 25
1 Miscellaneous Contract	13,894 00
17 Special Contracts	6,270 40
44 Contracts	\$374,667 58

## Document "D."

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF CHIEF ENGINEER, NO. 31 CHAMBERS STREET, ROOM 10,  
NEW YORK, January 6, 1887.

GEN. JOHN NEWTON, Commissioner of Public Works:

DEAR SIR—I herewith submit report for the quarter ending December 31, 1886, and a summary for the year 1886.

## EXPENDITURES FOR THE QUARTER ENDING DECEMBER 31, 1886.

Aqueduct—Repairs, Maintenance and Strengthening	\$41,308 25
Aqueduct—Repairs, Maintenance and Strengthening—Salaries	5,100 92
Bronx River Works—Maintenance and Repairs	4,765 93
Bronx River Works—Maintenance and Repairs—Salaries	975 00
Croton Water Fund	41,637 52
Contingencies—Department of Public Works	95 00
Iron Bridge over Fourth avenue, at Ninety-eighth street	5,069 23
Laying Croton Pipes	77,341 41
Laying Croton Pipes—Salaries	4,027 24
Repairing and Renewal of Pipes, Stop-cocks, etc.	6,255 81
Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries	6,135 30
Shipping and Building—Salaries	1,462 98
Water Supply, Twenty-fourth Ward	1,187 46
Water Supply, Twenty-fourth Ward—Salaries	150 00
Water Meter Fund, No. 2	71 43
Total	\$195,583 48

## SUMMARY OF EXPENDITURES FOR THE YEAR 1886.

Aqueduct—Repairs, Maintenance and Strengthening	\$183,022 95
Aqueduct—Repairs, Maintenance and Strengthening—Salaries	23,910 77
Bronx River Works—Maintenance and Repairs	16,275 86
Bronx River Works—Maintenance and Repairs—Salaries	3,450 00
Croton Water Fund	243,190 42
Contingencies—Department of Public Works	870 84
Iron Bridge over Fourth Avenue, at Ninety-eighth Street	14,899 95
Laying Croton Pipes	228,397 06
Laying Croton Pipes—Salaries	15,888 87
Repairing and Renewal of Pipes, Stop-cocks, etc.	28,219 17

Repairing and Renewal of Pipes, Stop-cocks, etc.—Salaries	\$29,375 75
Shipping and Building—Salaries	7,806 43
Water Supply, Twenty-fourth Ward	4,522 07
Water Supply, Twenty-fourth Ward—Salaries	843 00
Water Meter Fund, No. 2	7,670 71
Total	\$808,343 85

## Contracts Made, Completed and Unfinished in 1886.

WORK.	CONTRACTOR.	DATE OF CONTRACT.	COST ESTIMATED.	DATE OF FINAL ESTIMATE.	AMOUNT OF FINAL ESTIMATE.	AMOUNT PAID 1886.
Building reservoir at Williams-bridge	Sullivan & Moore	June 6, 1884	\$457,775 00	1886		\$94,860 00
Laying mains in Kingsbridge road	Allen & O'Malley	July 21, 1885	11,348 00	Jan. 8, 1886	\$10,418 17	2,198 88
Furnishing lumber	James V. Lawrence	Sept. 16	4,358 00	" 11	4,158 62	4,158 62
Laying mains in Fordham avenue, etc.	John Cornwell, Jr.	Oct. 1	20,498 00	May 24	17,105 60	10,148 57
Furnishing cast-iron pipe, etc.	Theo. Sturges	" 12	37,775 00	July 31	44,499 23	44,499 23
Furnishing and delivering stop-cocks, hydrants, etc.	Charles C. Field	" 12	6,660 00	Jan. 4	6,660 00	6,660 00
Laying mains in One Hundred and Thirty-fourth street, etc.	Thomas Hayden & Louis Berkowitz	Nov. 7	7,706 00	Sept. 8	6,897 10	6,550 25
Building foot-bridges and retaining-wall Fourth avenue and Ninety-eighth street	Peter J. Masterson	" 24	18,362 92			13,392 20
Furnishing coal at Ninety-eighth street and High-bridge	George W. Winant	March 11, 1886	11,850 00			7,719 88
Laying mains in Ninth avenue, etc.	George Horstman & J. Cornwell	" 17	12,935 00	Sept. 22	11,810 46	11,219 94
Furnishing stop-cocks, hydrants, etc.	William H. Browne	" 26	6,807 75	Aug. 9	6,807 75	6,807 75
Laying mains in Fairmount avenue, etc.	John Cornwell, Jr.	April 22	8,469 00	" 20	10,210 57	9,709 04
Laying mains in Mulberry street and Bowery	F. Thilemann, Jr.	May 27	10,355 00	Dec. 27	8,147 25	7,739 89
Furnishing cast-iron water-pipes, etc.	Warren Foundry and Machine Co.	June 1	53,144 20	" 23	58,443 56	58,443 56
Laying water-mains in Ninety-fifth street, etc.	John Cornwell, Jr.	July 2	17,908 00			15,546 94
Furnishing stop-cocks, hydrants, etc.	James M. Motley	" 14	13,894 00	Nov. 20	13,894 00	13,894 00
Laying water-mains in Broadway, etc.	Borstman & Cornwell	Nov. 9	7,748 00			
Furnishing cast-iron water-pipe, etc.	Warren Foundry and Machine Co.	Dec. 2	12,850 00			

## STORAGE RESERVOIRS.

Water was drawn from the storage reservoirs in the Croton Basin from October 1 to October 29, since which time they have been gradually filling.

Water was drawn from the storage reservoirs in the Bronx water shed until December 18, 1886.

## Storage Drawn.

	GALLONS, OCT. 1 TO DEC. 31.	GALLONS, TOTAL FOR YEAR.
Boyd's Corner Reservoir	610,000,000	1,790,000,000
South East Reservoir	950,000,000	2,300,000,000
Kirk Lake		510,000,000
Lake Mahopac	280,000,000	280,000,000
Lake Glencida		90,000,000
Lake Gilead	130,000,000	130,000,000
Barrett Pond		170,000,000
Kensico Reservoir	550,000,000	1,050,000,000
Rye Ponds Reservoir	600,000,000	1,100,000,000
Total gallons	3,120,000,000	7,420,000,000

## Rain-fall—Inches.

	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL FOR QUARTER.	TOTAL FOR YEAR.
Boyd's Corners Reservoir	2.28	5.57	4.29	12.14	47.59
South East Reservoir	1.95	5.09	3.97	11.01	46.24
Kensico Reservoir	2.41	4.07	3.33	9.81	43.84
Croton Dam	1.86	5.71	3.99	11.56	55.81
Central Park Reservoirs	3.46	4.38	3.03	10.87	45.00

## Rain-fall at Storage Reservoir, Boyd's Corners, Putnam County, N. Y., including Melted Snow.

MONTH.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
January	3.33	2.11	2.90	3.79	4.51	3.80	1.44	5.66	6.96	2.74	1.42
February	3.60	3.00	1.38	3.64	6.40	3.81	1.22	3.09	2.78	3.47	4.91
March	3.33	1.49	2.55	5.48	3.80	4.27	2.59	3.08	1.57	4.99	6.33
April	3.79	3.74	3.87	2.11	5.45	3.01	3.04	3.77	6.31	3.04	4.43
May	5.62	6.86	8.79	4.52	2.30	3.45	3.69	2.91	1.99	1.08	3.99
June	4.45	5.28	4.53	3.59	2.06	5.73	4.00	0.71	3.57	3.02	2.52
July	4.01	5.25	2.13	2.26	3.43	5.07	4.34	2.21	5.98	3.10	3.42
August	6.56	10.04	6.98	1.92	5.10	5.24	5.99	5.73	2.75	10.33	1.20
September	4.92	3.62	9.33	3.20	2.85	1.44	3.69	3.73	3.56	2.11	5.21
October	5.09	3.66	0.87	9.46	4.73	6.18	2.15	5.13	2.40	3.61	1.50
November	3.80	3.10	4.65	2.43	2.51	4.35	4.91	3.72	2.72	4.61	3.40
December	3.27	2.62	2.35	5.96	1.49	2.59	3.68	4.13	1.78	1.56	2.35
Total	51.77	50.77	50.33	48.36	44.63	48.94	40.74	43.87	42.37	43.66	40.68



Rain-fall at Storage Reservoir, etc.—(Continued).

MONTH.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.
January .....	2.68	4.49	2.52	4.00	4.19	4.41	2.80	5.07	5.59	5.24
February .....	0.80	3.65	2.85	2.92	5.28	5.96	5.21	6.31	4.66	5.20
March .....	7.66	3.10	4.96	4.51	6.14	4.58	1.67	4.82	1.29	3.86
April .....	2.35	2.85	5.10	3.99	1.67	1.36	3.94	2.95	2.09	3.61
May .....	0.85	4.97	2.45	1.17	3.74	6.30	2.86	4.33	2.44	4.54
June .....	4.95	4.65	5.29	1.28	5.72	3.04	5.64	2.04	1.19	3.09
July .....	4.65	4.28	5.95	5.65	2.45	3.63	4.26	6.54	5.27	4.40
August .....	2.54	2.66	5.83	3.60	1.71	3.92	2.09	4.50	7.35	3.21
September .....	1.49	6.61	3.43	2.69	0.75	14.33	2.45	1.69	1.09	2.30
October .....	8.38	3.78	0.95	3.25	3.65	3.33	6.99	3.74	5.19	2.28
November .....	8.16	4.36	2.49	2.97	4.50	1.66	1.79	4.37	5.99	5.57
December .....	1.52	8.74	4.26	2.49	6.53	2.68	3.45	7.34	3.84	4.29
Total .....	46.03	54.14	46.08	38.52	46.33	55.20	43.15	53.71	45.99	47.59

## BRONX RIVER SUPPLY.

The commissioners appointed to appraise damages along the Bronx river, between White Plains and Bronxville, for the diversion of the water, have held regular meetings, and soon will be ready to report to the Supreme Court.

The searches, maps, etc., necessary for the appointing of commissioners for the appraisal of damages along the Bronx river, between Bronxville and Woodlawn, are now being completed.

The work on the Williamsbridge reservoir has been suspended for the winter.

The regular force has been employed cleaning ditches, repairing roads, widening and fencing roads, and cleaning around, and in reservoirs.

1,195,000,000 gallons have been supplied to the City during the quarter.

5,210,000,000 gallons have been supplied from the Bronx river during the year 1886.

## Lands Acquired and Damages Paid in 1886.

PARCEL No.	NAME OF OWNER.	DAMAGES.	AMOUNT PAID.	REMARKS.
35	Bridget Marran and others .....	For diversion of water .....	\$157 00	By Commission.
1	Charles Dickinson and others .....	For land and damages .....	3,107 00	"
2	Amanda Bussing and others .....	" .....	1,000 00	"
3	Susan Ann Tier .....	" .....	500 00	"
30	Thomas N. Cooke and A. O'Brien .....	For diversion of water .....	126 00	"

## Amount Expended to December 31, 1886.

	TO DECEMBER 31, 1886.	IN 1886.	TOTALS.
Labor and material .....	\$2,289,989 99	\$112,969 99	\$2,402,959 98
Land damages and expenses .....	619,601 07	22,611 74	642,212 81
Engineering and inspection .....	228,200 00	24,266 00	252,466 00
Totals to date .....	\$3,137,791 06	\$159,847 73	\$3,297,638 79

## SURVEYS, ETC., FOR THE NEW AQUEDUCT.

During the year 1886, surveys, maps and plans and specifications for the Double Reservoir I, in South East, Putnam County, New York, have been submitted to the Aqueduct Commissioners.

Maps of lands required south of One Hundred and Thirty-fifth street, and plans and estimates of gate-house at One Hundred and Thirty-fifth street and Convent avenue, have been submitted to the Aqueduct Commissioners.

Maps, plans, specifications and estimates for conduit-pipes, gate-house, etc., between One Hundred and Thirty-fifth street and Central Park Reservoir, have been submitted to the Aqueduct Commissioners.

Maps, plans, etc., for additional lands south of Harlem river, and for connection to engine-house at High Bridge, have been submitted to the Aqueduct Commissioners.

Maps of lands required for additional shafts in Westchester County have been submitted to the Aqueduct Commissioners.

Surveys and maps of lands for Reservoir purposes on the Croton river, between Croton Dam and Croton Falls, have been continued with a reduced force during the year.

The necessary surveys, maps, etc., for the use of the Land Commissioners appointed to appraise the lands taken for the New Aqueduct in Westchester County have been made and furnished as called for under instructions of the Corporation Counsel.

## AQUEDUCT REPAIRS, MAINTENANCE AND STRENGTHENING.

The Aqueduct during the quarter has steadily carried the full flow of water, and in November another inch in depth of water was run in same, which is all that can be carried with any degree of safety until thorough repairs can be done in the inside of the Aqueduct.

## Work Done during the Quarter ending December 31, 1886.

DIVISION.	Earth Excavation.	Stone Quarried.	Dry Masonry.	FENCE.		Arch. Aqueduct.	Filling, etc.	Stone Masonry.	Cut-stone Masonry.	Brick Masonry.	Paving.	Stone Broken for Concrete.
	Cu. yds.	Cu. yds.	Cu. yds.	Repaired.	Built.	Lin. feet.	Cu. yds.	Cu. yds.	Cu. feet.	Cu. yds.	Sq. yds.	Cu. feet.
First .....	....	....	....	....	380	....	....	....	....	....	....	....
Second .....	....	50	300	....	2,900	....	....	....	....	....	....	....
Third .....	....	300	248	....	3,439	....	....	....	....	....	....	....
Fourth .....	22	....	339	650	230	....	775	....	....	....	....	....
Fifth .....	570	....	254	1,400	1,000	....	50	200	....	....	120	....
Sixth .....	345	625	600	1,500	2,400	490	245	272	....	109	....	....
Seventh .....	75	....	....	....	....	....	72	1,103	....	....	....	1,931
Eighth .....	....	....	....	1,486	....	....	....	....	....	....	....	....
Total .....	1,012	975	1,741	5,036	10,349	490	1,142	472	1,103	109	120	1,931

Croton Aqueduct—Repairs, Maintenance and Strengthening for the Year 1886.

DIVISION.	Earth Excavation.	Stone Quarried.	Dry Masonry.	FENCE.		Arch. Aqueduct.	Filling and Grading.	Sodding and Seeding.	Stone Masonry.	Cut-stone Masonry.	Brick Masonry.	Paving.	Tile Pipe.	Planking Dock.	Flagging Laid.	Stone Broken for Concrete.
	Cu. yds.	Cu. yds.	Cu. yds.	Repaired.	Built.	Lin. feet.	Cu. yds.	Sq. yds.	Cu. yds.	Cu. feet.	Cu. feet.	Sq. yds.	Lin. feet.	Feet B. M.	Sq. feet.	Cu. feet.
First .....	....	....	....	....	380	....	....	....	....	....	....	....	....	....	....	....
Second .....	250	125	1,084	....	6,820	....	....	....	....	....	....	....	....	....	136	....
Third .....	1,131	460	859	1,771	7,290	....	....	....	....	....	....	....	100	....	....	....
Fourth .....	1,342	....	691	2,250	280	433	775	320	307	....	63	....	....	....	....	....
Fifth .....	1,127	....	433	3,400	2,700	....	640	2,359	624	....	....	722	....	....	....	....
Sixth .....	1,359	2,333	1,839	1,500	2,910	1,098	1,003	450	609	....	244	....	....	....	....	....
Seventh .....	105	....	3	....	510	....	72	....	27	2,440	....	....	....	18,180	....	1,931
Eighth .....	148	....	....	2,996	3,405	....	....	....	23	....	12	....	....	....	....	....
Total .....	5,462	3,213	4,914	11,917	24,295	1,531	2,490	3,129	1,590	2,440	319	722	100	18,180	136	1,931

The general work of keeping the Aqueduct property in good condition, cutting grass, repairing fences, cleaning gates, stop-cocks, etc., has been steadily carried on.

The condition of the Aqueduct is better than a year ago. Three bad embankments on the Sixth Division have been re-arched and re-enforced by retaining-walls, and the leaks at these places—very troublesome last winter—are now easily controlled. The Jaffrey bank, on the Fourth Division, has also been re-arched. This concludes the re-arching of embankments north of Yonkers, all the bad and dangerous banks having now been repaired down to that point. Much and very important work remains to be done, however, on the Sixth Division.

The condition of this part of the Aqueduct is such as to cause much apprehension and to require the closest attention and care.

Little has been attempted on the First Division except the general repairs and maintenance. It became necessary last January to establish a police supervision of our works at Croton Dam, on account of the lawlessness of the men at work on the New Aqueduct.

On the Second Division the year has been chiefly spent on the high retaining-wall at Quaker Bridge.

On the Third Division a great deal of attention has been given to rebuilding retaining-walls, walls having been built at Croton avenue, Tarrytown, Daniels' bank, Morrell's bank, Buttman's bank and Sampson's bank. The Aspinwall leak continues to require close attention and constant doctoring.

On the Fourth Division, Jaffrey's bank has been re-arched. A new retaining-wall at Minturn's, and a small wall in Dobbs' Ferry, have been built.

The thorough repairs made at the Dobbs' Ferry leak in 1885 have been proved, inasmuch as the leak continues dry.

On the Fifth Division the whole year has been occupied in the effort to put the "Glen" at Yonkers in proper shape, and enough has been done to indicate a completion of what is necessary to that end during the present year, 1887. Additional land should be acquired here, as has been often recommended heretofore.

More work has been done on the Sixth Division than anywhere else. About 1,100 feet of arching has been done and much energy and skill have been shown by the Keeper in caring for his numerous leaks and conducting the work of repairs and strengthening.

On Sunday, July 11, 1886, a bad break occurred on the Sixth Division, one mile below South Yonkers. It was on the side of the Aqueduct, above the spring-line of the arch, and it was not necessary, therefore, to lower the water more than about six inches below the spring-line to make the necessary repairs. The repairs were complete and the water running as usual July 14.

On the Seventh Division the stone work on the High Bridge steps is now complete, and there remains the platform and grading to finish the work.

Work has been commenced on the excavation for wall about the high-service reservoir, at Tenth avenue, but at this date but little has been accomplished. On the Eighth Division the work has been little else but general repairs and maintenance.

## HIGH BRIDGE, 1886.

## Performance of High Service Pumping Engines at High Bridge.

NUMBER OF DAYS PUMPING.	NUMBER OF STROKES.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
365	26,632,667	100	1,996,950,036	3,520,795	568	374
Average per month ..	2,219,389	100	166,454,169	293,400	....	....

Average duty, 47,305,600 pounds raised 1 foot with 100 pounds of coal.  
Average amount pumped daily, 5,472,466 gallons.  
Average cost of pumping 1,000,000 gallons 100 feet high, \$8.09.

## NINETY-EIGHTH STREET, 1886.

## Performance of High Service Pumping Engines at Ninety-eighth Street Engine-house.

NUMBER OF DAYS PUMPING.	NUMBER OF STROKES.	HEIGHT PUMPED, FEET.	NUMBER OF GALLONS PUMPED.	POUNDS OF COAL CONSUMED.	GALLONS OF OIL EXPENDED.	POUNDS OF WASTE EXPENDED.
365	27,045,980	70	2,948,011,820	3,418,418	412	182
Average per month ..	2,253,791	70	245,667,651	287,368	....	....

Average duty, 49,915,300 pounds raised 1 foot with 100 pounds of coal.  
Average amount pumped daily, 8,076,744 gallons.  
Average cost of pumping 1,000,000 gallons 70 feet high, \$5.04.

## HIGH SERVICE DISTRICT.

Being that portion of the City furnished water from the Pumping Stations at High Bridge and Ninety-eighth street.

YEAR.	AMOUNT PUMPED DURING YEAR.	AVERAGE PER DAY.	YEAR.	AMOUNT PUMPED DURING YEAR.	AVERAGE PER DAY.
	Gallons.	Gallons.		Gallons.	Gallons.
1881 .....	4,236,054,274	11,600,000	1884 .....	4,467,054,774	12,300,000
1882 .....	4,340,846,520	11,500,000	1885 .....	4,525,694,527	12,400,000
1883 .....	4,445,526,368	12,200,000	1886 .....	4,944,961,856	13,500,000

## SUPPLYING.

	1881.	1886.
Dwellings, flats and tenements .....	7,492	9,104
Factories, breweries, depots, etc. ....	444	145
Stores and stables .....	83	2,823
Schools, churches, asylums, etc. ....	588	177
Total .....	8,607	12,249

The largest flats and stables are in this district.



There are in the city 96,581 taps from three-eighths to one inch in size, and 266 four-inch connections with the water-mains, equal to an area of 210 square feet.  
Area of the Aqueduct, 53.34 square feet; area of Bronx River conduit, 12.57 square feet.

#### Laying Croton Pipes.

Contracts have been completed for laying mains in—  
Sixty-seventh street, between Second and Third avenues.  
Sixty-eighth street, between Ninth avenue and Boulevard.  
Seventy-third street, between Avenue A and First avenue.  
Seventy-eighth street, between Eleventh avenue and Riverside Drive.  
Eighty-first street, between Avenues A and B.  
Ninety-fifth street, between Fifth and Lexington avenues.  
Ninety-fifth street, between Eighth and Ninth avenues.  
Ninety-sixth street, between Third and Lexington avenues.  
Ninety-ninth street, between Eleventh avenue and East river.  
One Hundredth street, between Second and Third avenues.  
One Hundred and Fifteenth street, between Seventh and Eighth avenues.  
One Hundred and Twentieth street, between Sixth and Seventh avenues.  
One Hundred and Thirty-fifth street, between Seventh and Eighth avenues.  
One Hundred and Thirty-seventh street, between Edgecombe and Eighth avenues.  
Mulberry street, between Bleeker street and Chatham Square.  
Bowery, west side, between Bleeker and Catharine streets.  
Avenue A, east side, between Seventy-ninth and Eightieth streets.  
Edgecombe avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets.  
Lexington avenue, between Ninety-fifth and Ninety-seventh streets.  
Sixth avenue, west side, between One Hundred and Thirty-third and One Hundred and Thirty-sixth streets.  
Sixth avenue, between One Hundred and Fortieth and One Hundred and Forty-first streets.  
Tenth avenue, between Eightieth and Eighty-first streets.  
Tenth avenue, between Eighty-seventh and Eighty-eighth streets.  
Eleventh avenue and Boulevard, between One Hundred and Thirty-eighth and One Hundred and Seventy-third streets.  
One Hundred and Seventy-fifth street, between Vanderbilt and Webster avenues.  
One Hundred and Eighty-third street, between Morris and Creston avenues.  
Brown Place, between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth streets.  
Highbridge road, between Jerome and Creston avenues.  
Southern Boulevard, between One Hundred and Forty-fifth and One Hundred and Forty-ninth streets.  
Brook avenue, between One Hundred and Thirty-third street and Harlem river.  
Creston avenue, between One Hundred and Eighty-third and One Hundred and Eighty-fourth streets.  
Morris avenue, between High Bridge road and One Hundred and Eighty-third street.  
Sedgwick avenue, between Morris Dock and Kingsbridge road.  
Vanderbilt avenue (west side), between One Hundred and Seventy-seventh street and four hundred and fifty feet south of One Hundred and Seventy-fifth street.  
One contract for furnishing pipe and one contract for laying pipe have been entered into.  
One contract for furnishing pipe, one contract for furnishing stop-cocks, hydrants, etc., and two contracts for laying pipe have been completed.

#### Amount of Pipe Laid.

	During Quarter.	During Year.
12-inch .....	14,500 lineal feet.	51,078 lineal feet.
6-inch .....	13,685 "	78,400 "
Totals .....	28,185 lineal feet=5.34 miles.	129,478 lineal feet=24.68 miles.

#### Stop-cocks Set.

	During Quarter.	During Year.
12-inch .....	17	41
6-inch .....	38	144
Total .....	55	185

#### Hydrants Placed.

	During Quarter.	During Year.
"A" .....	41	181
"B" .....	36	47
No. 1 .....	0	24
Total .....	77	252

#### Summary, 1886.

Diameter of Pipes.	PIPES.			STOP-COCKS.			HYDRANTS.			
	Pipes Laid to Dec. 31, 1885, feet.	Pipes Laid Dec. 31, 1885, to Dec. 31, 1886, feet.	Total Pipes Laid to Dec. 31, 1886, feet.	Stop-cock Set to Dec. 31, 1885.	Stop-cocks Set in 1886.	Total Stop-cocks Set Dec. 31, 1886.	Pattern.	Hydrants Placed to Dec. 31, 1885.	Hydrants Placed in 1886.	Total Hydrants Placed to Dec. 31, 1886.
48-inch.....	65,654	.....	65,654	16	....	16	Nos. 1, 2 and 3	3,443	24	3,467
36-inch.....	94,573	.....	94,573	40	....	40	Victor.....	139	....	139
30-inch.....	41,773	.....	41,773	29	....	29	"A" hydrants	2,336	181	2,517
24-inch.....	11,542	.....	11,542	13	....	13	"B" hydrants	1,663	47	1,710
20-inch.....	193,047	.....	193,047	180	....	180	Totals.....	7,581	252	7,833
16-inch.....	17,130	.....	17,130	22	....	22				
12-inch.....	728,621	51,098	779,719	1,440	41	1,481				
10-inch.....	6,629	.....	6,629	15	....	15				
6-inch.....	1,870,231	78,400	1,948,631	4,225	144	4,369				
4-inch.....	32,867	.....	32,867	119	....	119				
Total feet.	3,062,067	129,498	3,191,565	6,099	185	6,284				
Miles ....	579.93	.....	604.46							

#### STREETS AND AVENUES IN WHICH WATER-MAINS HAVE BEEN LAID IN 1886.

##### Twelve-inch Pipe.

Boulevard, east side, from One Hundred and Thirty-seventh street to Kingsbridge road.  
Eleventh avenue, between Sixty-fourth and Sixty-seventh streets.  
Sixth avenue, west side, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.  
Kingsbridge road, between McComb's Dam road and Bailey avenue.  
Bailey avenue, between Kingsbridge road and Riverdale avenue.  
Riverdale avenue, between Bailey avenue and Broadway.  
Riverdale avenue, between Church street and Kingsbridge road.  
Broadway, from Riverdale avenue to Church street.  
Fourth avenue, west side, from One Hundred and Twentieth to One Hundred and Twenty-first street.  
Seventieth street, between Tenth and Eleventh avenues.  
Ninth avenue, between Sixty-fifth and Sixty-eighth streets.  
Ninth avenue, between Seventy-third and Seventy-seventh streets.  
Ninth avenue, between Eighty-seventh and One Hundredth streets.  
St. Nicholas avenue, east side, from One Hundred and Twenty-eighth to One Hundred and Forty-fifth street.

Sixth avenue, west side, from One Hundred and Nineteenth to One Hundred and Twenty-first street.  
Sixth avenue, west side, from One Hundred and Thirty-third to One Hundred and Thirty-sixth street.  
Tremont avenue, between Third and Boston avenues.  
Lexington avenue, between One Hundred and Nineteenth and One Hundred and Twentieth streets.  
Eighth avenue, between Sixty-sixth and Eighty-first streets.  
Worth street, between Broadway and Baxter street.  
Madison avenue, between One Hundred and Fifteenth and One Hundred and Sixteenth streets.  
Madison avenue, between Ninety-first and Ninety-second streets.  
Eleventh avenue, between Seventieth and Seventy-second streets.  
Eleventh avenue, between Kingsbridge road and One Hundred and Seventy-third street.  
Bowery, west side, between Bleeker street and Chatham square.  
Mulberry street, from Bleeker street to Park row.  
Southern Boulevard, between One Hundred and Forty-fifth and One Hundred and Forty-ninth streets.

##### Six-inch Pipe.

One Hundred and Sixth street, between Eighth and Ninth avenues.  
Eagle avenue, between One Hundred and Forty-ninth street and Westchester avenue.  
Tenth avenue, between One Hundred and Fourth and One Hundred and Fifth streets.  
Tenth avenue, between Ninety-fourth and Ninety-fifth streets.  
Tenth avenue, between Eighty-third and Ninetieth streets.  
Tenth avenue, between Eightieth and Eighty-first streets.  
Tenth avenue, between Seventy-ninth and Eightieth streets.  
One Hundred and Twenty-first street, between Sixth and Seventh avenues.  
One Hundred and Twenty-first street, between Seventh and Eighth avenues.  
One Hundred and Twenty-ninth street, between Eighth and St. Nicholas avenues.  
Troy street, from Sidney street, south.  
Ninetieth street, between Eighth and Ninth avenues.  
One Hundred and Third street, between Fourth and Fifth avenues.  
One Hundred and Third street, between Ninth and Tenth avenues.  
Thirty-first street, between First and Second avenues.  
Eighty-first street, between Eighth and Ninth avenues.  
Eighty-first street, between Avenues A and B.  
One Hundred and Forty-sixth street, between Third and College avenues.  
Ninety-fourth street, between Fourth and Fifth avenues.  
One Hundred and First street, between Second and Third avenues.  
Avenue A, between Fifty-fourth and Fifty-fifth streets.  
Avenue A, east side, between Seventy-ninth and Eightieth streets.  
Monroe avenue, between One Hundred and Seventy-seventh street and Washington place.  
Monroe avenue, between One Hundred and Seventy-sixth and Gray streets.  
Gray street, between Monroe avenue and Clinton street.  
Clinton street, between Gray and Spring streets.  
Kingsbridge road, between Riverdale avenue and Johnson's foundry.  
Columbia avenue, between Kingsbridge road and Monroe avenue.  
One Hundred and Forty-fifth street, both sides, between Eighth and St. Nicholas avenues.  
Seventy-second street, both sides, between Eighth and Ninth avenues.  
Seventy-second street, north side, between Boulevard and Eleventh avenue.  
Anthony avenue, between One Hundred and Seventy-seventh and Ash streets.  
Ash street, from Anthony avenue, 400 feet west.  
One Hundred and Fifteenth street, from Avenue A, 250 feet east.  
One Hundred and Fifteenth street, between Seventh and Eighth avenues.  
New avenue, between One Hundred and Sixteenth and One Hundred and Twenty-fifth streets.  
Ninety-seventh street, between Ninth and Tenth avenues.  
Eighty-seventh street, between Eighth and Ninth avenues.  
Fairmount avenue, between Third avenue and Vineyard place.  
Prospect avenue, between Fairmount and Tremont avenues.  
One Hundred and Nineteenth street, between Fifth and Madison avenues.  
One Hundred and Nineteenth street, between Sixth and Seventh avenues.  
Broadway, between Manhattan and One Hundred and Twenty-ninth streets.  
One Hundred and Fifty-sixth street, between Courtland and Elton avenues.  
Eightieth street, between Ninth and Tenth avenues.  
Eleventh avenue, between One Hundred and First and One Hundred and Second streets.  
Eleventh avenue, between Seventy-eighth and Seventy-ninth streets.  
Eleventh avenue, between Seventy-seventh and Seventy-eighth streets.  
Eleventh avenue, between Seventy-fifth and Seventy-seventh streets.  
Eleventh avenue, between Seventy-second and Seventy-third streets.  
Eighty-fifth street, between Eighth and Ninth avenues.  
One Hundred and Fifty-third street, between Tenth avenue and Boulevard.  
Ninety-eighth street, between Ninth and Tenth avenues.  
One Hundred and Thirty-sixth street, between Eighth and St. Nicholas avenues.  
Creston avenue, between One Hundred and Eighty-third and One Hundred and Eighty-fourth streets.

One Hundred and Eighty-third street, between Creston and Morris avenues.  
Morris avenue, between One Hundred and Eighty-third street and High Bridge road.  
Sixty-fifth street, between Boulevard and Tenth avenue.  
Highbridge road, between Creston and Jerome avenues.  
One Hundred and Twentieth street, between Fifth and Sixth avenues.  
One Hundred and Twentieth street, between Sixth and Seventh avenues.  
One Hundred and Sixteenth street, both sides, between Madison and Fourth avenues.  
One Hundred and Sixty-fourth street, between Morris and Sheridan avenues.  
One Hundred and Sixty-fifth street, between Sheridan and Gerard avenues.  
Sedgwick avenue, between Morris Dock and Kingsbridge road.  
One Hundred and Thirty-seventh street, between Willis avenue and Brown place.  
One Hundred and Thirty-seventh street, between Eighth and Edgecombe avenue.  
Fifth-fifth street, from Avenue A to 250 feet east.  
Bailey and Albany avenues, between Riverdale avenue and Montgomery place.  
Lexington avenue, between Ninety-fifth and Ninety-seventh streets.  
Vanderbilt avenue, between One Hundred and Seventy-fifth and One Hundred and Seventy-seventh streets.

Sixty-eighth street, between Ninth avenue and Boulevard.  
One Hundred and Thirty-fifth street, between Seventh and Eighth avenues.  
Edgecombe avenue, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets.  
Ninety-fifth street, between Eighth and Ninth avenues.  
One Hundredth street, between Second and Third avenues.  
Seventy-third street, between Avenue A and First avenue.  
Sixty-seventh street, between Second and Third avenues.  
Ninety-ninth street, between First avenue and East river.  
Brook avenue, between One Hundred and Thirty-third street and Harlem river.  
Seventy-eighth street, between Eleventh avenue and Riverside Drive.  
Ninety-sixth street, between Third and Lexington avenues.  
One Hundred and Seventy-fifth street, between Vanderbilt and Webster avenues.  
Eighty-eighth street, between Tenth avenue and Boulevard.  
Sixth avenue, east side, between One Hundred and Fortieth and One Hundred and Forty-first streets.

Brown place, between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth streets.  
Sheridan avenue, between One Hundred and Sixty-fourth and One Hundred and Sixty-fifth streets.

##### "B" Hydrants Set in 1886.

South side Worth street, between Broadway and Elm street..... 2  
South side Worth street, between Elm and Centre streets..... 1  
Northwest corner Worth and Centre streets..... 1  
South side Worth street, between Centre street and Mission place..... 1  
North side Worth street, between Mission place and Baxter street..... 2  
West side Bowery, between Pell and Doyer streets..... 1  
West side Bowery, between Pell and Bayard streets..... 1  
West side Bowery, between Bayard and Canal streets..... 2  
West side Bowery, between Canal and Hester streets..... 2  
West side Bowery, between Hester and Grand streets..... 2  
West side Bowery, between Grand and Broome streets..... 2  
West side Bowery, between Broome and Spring streets..... 2  
West side Bowery, between Spring and Prince streets..... 2  
West side Bowery, between Prince and Houston streets..... 2  
West side Bowery, between Houston and Bleeker streets..... 2  
Northeast corner Mulberry street and Park Row..... 1  
East side Mulberry street, between Park Row and Worth street..... 1  
Northwest corner Mulberry and Worth streets..... 1



"A" Hydrants Set in 1886.

"No. 1" Hydrants Set in 1886.

PERMITS TO OPEN STREETS ISSUED IN 1886.

Broadway, between Forty-ninth and Fifty-eighth streets.  
Fifty-eighth street, between Broadway and Eleventh avenue.  
Eighth avenue, between Greenwich avenue and Bank street.  
Hudson street, between Bank and Canal streets.  
Third street, between Second avenue and Avenue C.  
Canal street, between Hudson street and Bowery.  
Pitt street, between Grand and Houston streets.  
Avenue C, between Houston and Seventeenth streets.  
Seventeenth street, between Avenues A and C.  
Tenth avenue, between Fifty-eighth and Thirty-first streets.  
Thirty-first street, between Seventh and Tenth avenues.  
Ninth avenue, between Fourteenth and Thirty-first streets.  
Hudson street, between Fourteenth and Bank streets.  
Seventeenth street, between Eighth and Ninth avenues.  
Forty-second street, between Eighth and Tenth avenues.  
Fourth avenue, between Eighth and Fourteenth streets.  
Eighteenth street, between Broadway and Sixth avenue.  
Bleecker street, between Carmine and Hudson streets.  
Bank street, between West street and Greenwich avenue.  
Eleventh street, between West street and Greenwich avenue.  
Perry street, between West street and Greenwich avenue.  
Charles street, between West street and Greenwich avenue.  
Tenth street, between West street and Greenwich avenue.  
Christopher street, between West street and Greenwich avenue.  
South Fifth avenue, between Third and Canal streets.  
Mercer street, between Third and Canal streets.  
Wooster street, between Third and Canal streets.  
Seventh street, between Third avenue and Avenue C.  
Crosby street, between Grand and Bleecker streets.  
Tenth street, between Third avenue and Avenue C.  
Thirty-third street, between Second and Third avenues.  
Grand street, between Pitt street and Bowery.  
Houston street, between Hudson street and Bowery.  
Fifty-fifth street, between Sixth and Eighth avenues.  
Fifty-eighth street, between Eighth and Tenth avenues.  
Eighth avenue, between Fifty-seventh and Fifty-eighth streets.  
Twentieth street, between First and Second avenues.  
Eighth avenue, between Thirteenth and Fourteenth streets.  
Twenty-third street, between First and Third avenues.  
Second avenue, between Twenty-third and Thirty-first streets.  
First avenue, between Fifty-sixth and Fifty-seventh streets.  
Avenue B, between Houston and Seventeenth streets.  
Houston street, between Pitt street and Avenue A.  
Thirty-eighth street, between First and Third avenues.  
Seventh street, between Second avenue and Avenue C.  
Eighth street, between Second avenue and Avenue C.  
Tenth street, between Second avenue and Avenue C.  
Sixteenth street, between Irving and Rutherford places.  
Forty-seventh street, between First and Third avenues.  
Fifteenth street, between Broadway and Sixth avenue.  
Thirteenth street, between Second avenue and Avenue C.  
Thirty-fourth street, between First and Lexington avenues.  
Fourth street, between Bowery and Sixth avenue.  
Sixteenth street, between First avenue and Avenue C.  
Fifth street, between Bowery and Avenue C.  
First avenue, between Seventeenth and Twenty-third streets.  
Sixth street, between Bowery and Avenue C.  
Fifteenth street, between Sixth and Eighth avenues.  
Allen street, between Canal and Houston streets.  
Fortieth street, between Sixth and Eighth avenues.  
Fortieth street, between First avenue and East river.  
Forty-second street, between First avenue and East river.  
Forty-third street, between First and Lexington avenues.  
First avenue, between Thirty-second and Sixty-fifth streets.



Second avenue, between Fifty-seventh and Seventy-fourth streets.  
 Eighth avenue, between Fifty-seventh and Fifty-ninth streets.  
 Bowery, between Canal and Division streets.  
 Fifth avenue, between Twenty-fifth and Twenty-seventh streets.  
 Twenty-sixth street, between Broadway and Fifth avenue.  
 Fourth street, between Second avenue and Avenue C.  
 Eleventh street, between Second avenue and Avenue C.  
 First avenue, between Fourteenth and Sixty-fifth streets.  
 First avenue, between Sixty-fifth and Seventy-fourth streets.  
 Division street, between Bowery and Essex street.  
 Forty-seventh street, between Ninth and Tenth avenues.  
 Tenth avenue, between Thirty-eighth and Fifty-eighth streets.  
 Chrystie street, between Canal and Division streets.  
 Elizabeth street, between Bayard and Canal streets.  
 Bayard street, between Elizabeth street and Bowery.  
 Twenty-fourth street, between Sixth and Tenth avenues.  
 Twenty-fifth street, between Sixth and Tenth avenues.  
 Twenty-sixth street, between Sixth and Tenth avenues.  
 Twenty-seventh street, between Sixth and Tenth avenues.  
 Twenty-eighth street, between Sixth and Tenth avenues.  
 Twenty-ninth street, between Sixth and Tenth avenues.  
 Thirtieth street, between Sixth and Tenth avenues.  
 Thirty-second street, between Sixth and Tenth avenues.  
 Thirty-third street, between Sixth and Tenth avenues.  
 Forty-ninth street, between Sixth and Tenth avenues.  
 Sixtieth street, between First and Third avenues.  
 Eighteenth street, between Ninth and Tenth avenues.  
 Forty-eighth street, between First and Third avenues.  
 Bowery, between Great Jones and Sixth streets.  
 Forty-first street, between Broadway and Tenth avenue.  
 Fourth avenue, between Sixth and Eighth streets.  
 Twenty-fifth street, between Second and Lexington avenues.  
 Forty-eighth street, between Broadway and Eighth avenue.  
 Sixteenth street, between Broadway and Ninth avenue.  
 Thirty-eighth street, between Sixth and Tenth avenues.  
 Fifty-second street, between Broadway and Tenth avenue.  
 Sixty-third street, between First and Third avenues.  
 Sixty-fourth street, between First and Third avenues.  
 Eleventh street, between Second and Fourth avenues.  
 Fifty-fifth street, between First and Third avenues.  
 First street, between First avenue and Avenue B.  
 Twentieth street, between Broadway and Fourth avenue.  
 Forty-third street, between First avenue and East river.  
 Forty-fourth street, between First avenue and East river.  
 Forty-fifth street, between First avenue and East river.  
 Forty-sixth street, between First avenue and East river.  
 Forty-seventh street, between First avenue and East river.  
 Eleventh avenue, between Fifty-seventh and Fifty-eighth streets.  
 Fifty-eighth street, between Tenth and Eleventh avenues.

#### Manhattan Railway Company.

Sixth avenue, between Fifty-seventh and Fifty-eighth streets.  
 Second avenue, between One Hundred and Twenty-seventh and One Hundred and Twenty-ninth streets.  
 Eighth avenue, between One Hundred and Forty-fourth and One Hundred and Forty-fifth streets.  
 Chatham street, in front of bridge.  
 Third avenue, between One Hundred and Twenty-ninth street and Harlem river.  
 Sixth avenue, between Seventeenth and Nineteenth streets.  
 Sixth avenue, between Twenty-seventh and Twenty-ninth streets.  
 Eighth avenue, between One Hundred and Fifty-fourth and One Hundred and Fifty-sixth streets.

#### Consolidated Gas-light Company.

Sixty-fifth street, between Tenth and Twelfth avenues.  
 One Hundred and Twenty-third street, between St. Nicholas and Ninth avenues.  
 Eleventh avenue, between Forty-third and Forty-fifth streets.  
 Fourth avenue, between One Hundred and Twentieth and One Hundred and Twenty-first streets.  
 Ninety-ninth street, between Boulevard and Riverside Drive.  
 St. Nicholas Avenue, between One Hundred and Twenty-seventh and One Hundred and Thirty-second streets.  
 One Hundred and Twenty-ninth street, between Eighth and St. Nicholas avenues.  
 Houston street, between Mulberry and Clinton streets.  
 Goerck street, between Houston and Grand streets.  
 Tenth avenue, between Thirty-fourth and Forty-second streets.  
 Twentieth street, between Avenues A and B.  
 Avenue A, between Twentieth and Twenty-first streets.  
 Avenue B, between Seventeenth and Twenty-first streets.  
 One Hundred and Twenty-second street, between Madison and Fourth avenues.  
 Tenth avenue, between One Hundred and Sixty-second and One Hundred and Sixty-fifth streets.  
 Manhattan street, between Ninth and Eleventh avenues.  
 Seventeenth street, between Avenues B and C.  
 One Hundred and Forty-fifth street, between Seventh and Eleventh avenues.  
 One Hundred and Twenty-first street, between Seventh and Mount Morris avenues.  
 First avenue, between Eighty-ninth and Ninety-eighth streets.  
 First avenue, between Fifty-sixth and Fifty-seventh streets.  
 Avenue B, between Eighty-fourth and Eighty-fifth streets.  
 St. Nicholas avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-fifth streets.  
 Tenth avenue, between Ninety-second and Ninety-ninth streets.  
 Ninth avenue, between Ninety-ninth and One Hundred and Tenth streets.  
 Manhattan avenue, between One Hundred and Sixteenth and Manhattan streets.  
 Eighty-fifth street, between Eighth avenue and Boulevard.  
 Ninety-fourth street, between Ninth avenue and Boulevard.  
 Ninety-fifth street, between Eighth and Ninth avenues.  
 Ninety-seventh street, between Ninth and Tenth avenues.  
 Kingsbridge road, between One Hundred and Sixty-second and One Hundred and Seventy-eighth streets.  
 Avenue A, between Fifty-fourth and Fifty-fifth streets.  
 Fifty-fifth street, between Avenue A and East river.  
 One Hundred and Fiftieth street, between Tenth and St. Nicholas avenues.  
 One Hundred and Forty-first street, between Tenth avenue and Hamilton place.  
 Park avenue, between Thirty-ninth and Forty-second streets.  
 Fortieth street, between Park and Madison avenues.  
 Madison avenue, between One Hundred and Sixtieth and One Hundred and Twentieth streets.  
 One Hundred and Nineteenth street, between Sixth and Seventh avenues.  
 Sixty-seventh street, between First and Second avenues.  
 Ninety-sixth street, between Third and Fifth avenues.  
 Eighth avenue, between One Hundred and Tenth and One Hundred and Sixteenth streets.  
 One Hundred and Thirty-sixth street, between Eighth and St. Nicholas avenues.  
 One Hundred and Eleventh street, between Madison and Fifth avenues.  
 One Hundred and Fifteenth street, between Fourth and Fifth avenues.  
 Washington street, between Twelfth and Fourteenth streets.  
 Jersey street, between Crosby and Mulberry streets.  
 One Hundred and Forty-fifth street, between Eighth and St. Nicholas avenues.  
 First avenue, between Sixty-first and Sixty-second streets.  
 Thirty-sixth street, between Eleventh and Twelfth avenues.  
 Seventieth street, between Avenue A and East river.  
 One Hundred and Third street, between Tenth and Riverside avenues.  
 One Hundred and Thirty-fifth street, between Sixth and Eighth avenues.  
 One Hundred and Sixty-sixth street, between Fourth and Madison avenues.  
 Ninety-seventh street, between Fourth and Lexington avenues.  
 Eighty-third street, between Boulevard and Riverside avenue.  
 Madison avenue, between Ninetieth and One Hundred and Ninth street.  
 Tenth avenue, between One Hundred and Seventy-fifth and One Hundred and Ninetieth streets.  
 Ninth avenue, between Eighty-first and Eighty-fourth streets.  
 Tenth avenue, between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.  
 Lexington avenue, between Sixty-fifth and Sixty-sixth streets.

Second avenue, between Sixty-fifth and Sixty-sixth streets.  
 Second avenue, between Seventy-first and Seventy-third streets.  
 Tenth avenue, between Forty-fourth and Forty-fifth streets.  
 One Hundred and Fifty-first street, between Tenth and St. Nicholas avenues.  
 West End avenue, between Seventy-second and Seventy-ninth streets.

#### Third Avenue Railroad Company.

One Hundred and Twenty-fifth street, between Ninth avenue and Harlem river.

#### Standard Gas-light Company.

One Hundred and Sixteenth street, between Eighth avenue and East river.  
 Eighth avenue, between One Hundred and Sixteenth street and St. Nicholas avenue.  
 St. Nicholas avenue, between Eighth avenue and Manhattan street.  
 Manhattan street, between St. Nicholas avenue and North river.  
 Fifty-seventh street, between Second and Madison avenues.  
 Fifty-eighth street, between Second and Madison avenues.  
 Fifty-ninth street, between Second and Madison avenues.  
 Sixty-seventh street, between Second and Madison avenues.  
 Second avenue, between Fifty-seventh and One Hundred and Sixteenth streets.

#### New York Steam Company.

Water street, between Pine and Wall streets.  
 Nassau street, between Fulton and John streets.  
 Fifth avenue, between Fortieth and Forty-second streets.  
 Fifty-eighth street, between Madison and Fifth avenues.  
 Fifty-seventh street, between Madison and Fifth avenues.  
 Madison avenue, between Fifty-second and Sixty-second streets.  
 Fifth avenue, between Fifty-third and Fifty-eighth streets.  
 Fifty-seventh street, between Fifth and Sixth avenues.  
 Fifty-fourth street, between Madison and Sixth avenues.  
 Fifty-eighth street, between Fifth and Sixth avenues.  
 Dutch street, between John and Fulton streets.  
 Fifth avenue, between Sixty-second and Sixty-third streets.  
 Fifty-eighth street, between Fourth and Fifth avenues.  
 Sixty-first street, between Fifth and Madison avenues.  
 Sixty-second street, between Fifth and Madison avenues.  
 Sixty-third street, between Fifth and Madison avenues.  
 Pine street, between William and Nassau streets.  
 Madison avenue, between Sixty-second and Seventy-second streets.  
 Sixty-sixth street, between Madison and Fifth avenues.  
 Sixty-seventh street, between Madison and Fifth avenues.  
 Bishop's lane, between Warren and Chambers streets.  
 Fulton street, between Nassau and Pearl streets.  
 Fifty-sixth street, between Madison and Sixth avenues.  
 Maiden lane, between Liberty and Pearl streets.  
 Gold street, between Maiden lane and Fulton street.  
 Fifty-third street, between east side of Fifth avenue and Sixth avenue.

#### Frederick Opperman, Jr.

Forty-fourth street, between Second avenue and East river.

#### Aqueduct Commissioners.

Tenth avenue, between One Hundred and Thirty-fifth and One Hundred and Seventy-sixth streets.

#### Fire Department.

Sixty-eighth street, between Fifth avenue and East river.  
 Fourth avenue, between Fifty-eighth and Sixty-eighth streets.  
 Eighth avenue, between Fifty-eighth and Fifty-ninth streets.  
 Sixty-fifth street, between Fifth and Lexington avenues.  
 Lexington avenue, between Sixty-fifth and Sixty-eighth streets.

#### Commissioners of Electrical Subways.

Sixth avenue, between Carmine and Fifty-ninth streets.  
 West street, between Cortlandt and Liberty streets.  
 One Hundred and Twenty-eighth street, between Third and Fourth avenues.  
 Fourth avenue, between One Hundred and Twenty-eighth street and Harlem river.  
 Fifty-eighth street, between Sixth avenue and East river.  
 Spring street, between Broadway and West street.

#### Edison Electric Illuminating Company.

Fiftieth street, between Madison and Fifth avenues.

#### METERS.

Meters placed during the quarter ending December 31, 1886, ..... 252  
 Meters placed during the year ending December 31, 1886, ..... 902  
 Number of meters now in use ..... 14,582

#### Water-meters in Use December 31, 1886.

WHERE PLACED.	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	TOTAL.
Hotels .....	12	63	134	70	49	20	5	....	353
Breweries, bottlers, etc. ....	11	85	103	50	69	16	2	....	336
Charitable institutions. ....	....	5	20	35	37	4	2	....	103
Offices .....	27	741	701	278	78	24	11	....	1,860
Manufacturing establishments. ....	58	189	253	223	123	9	4	....	859
Gas-works .....	....	....	10	3	3	12	15	....	43
Railroads .....	8	88	52	6	10	18	23	1	206
Stables .....	237	954	436	64	25	7	1	....	1,724
Apartment houses .....	1	10	36	47	51	5	4	....	154
Docks .....	5	7	14	5	26	42	32	....	131
Riverdale .....	26	33	11	1	....	1	2	....	74
Miscellaneous .....	2,666	2,807	2,252	635	302	69	6	2	8,739
Total .....	3,051	4,982	4,022	1,417	773	227	107	3	14,582

STYLE OF METER.	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	TOTAL.
Gem .....	....	....	2	....	4	16	6	....	28
Crown .....	2,717	2,558	1,685	187	80	16	16	3	7,262
Worthington .....	334	2,424	2,335	1,230	689	195	85	....	7,292
Total .....	3,051	4,982	4,022	1,417	773	227	107	3	14,582



## Average Number of Gallons used Per Day through Meters.

NUMBER OF METERS.	WHERE USED.	GALLONS.	NUMBER OF METERS.	WHERE USED.	GALLONS.
353	Hotels.....	1,692,600	1,706	Stables.....	1,141,900
336	Breweries, bottlers, etc.....	1,694,700	154	Apartment houses.....	323,000
103	Charitable institutions.....	408,000	131	Docks.....	1,444,800
1,860	Offices.....	1,810,000	74	Riverdale.....	64,300
840	Manufacturing establishments....	2,303,000	8,294	Miscellaneous.....	10,082,000
43	Gas-works.....	800,700			
206	Railroads.....	1,342,000	14,100	Total.....	23,106,100

## IMPROVEMENT OF FOURTH AVENUE AT NINETY-EIGHTH STREET.

This work is completed except the bridge and railings, which are now being put in place.

## WATER SUPPLY OF THE TWENTY-FOURTH WARD.

A new agreement for the two years ending December 31, 1888, at the rate of 13 cents per hundred cubic feet, has been entered into for the supply of the water to this district from Yonkers.

## WASTE AND USE OF WATER.

The large number of new buildings and the increased use of water in factories and other business places has reduced the pressures of water throughout the city. It has especially affected the High-Service District, which district has, until the past two years, enjoyed a fair head of water at the expense, to a great extent, of the lower portions of the city.

The number of buildings in the High-Service District have so increased that the capacity of the pumps have been exceeded by the draft of water during the day, every one wanting the water at the same time, aided by pumps in many houses.

As the supply of water is limited and cannot be increased until the completion of the New Aqueduct and of the necessary storage reservoirs, some means will have to be adopted to induce consumers to do the pumping at night and equalize the use of water as between night and day, the large number and area of service pipes in use destroying the head or pressure of water when all used together during the day.

During the month of December, the reservoirs in the city have lost twenty-two inches of water, showing the large waste in houses from freezing. This extra use, in connection with the limited supply, brings forth at each recurring cold spell a large number of complaints from different parts of the city.

On January 3 and 4, 1887, the reservoirs in Central Park were lowered six inches and the Forty-second Street Reservoir four feet, showing an increase of water used of 8,000,000 gallons per day.

With an increasing demand for water and no possibility of increase in supply, it is necessary for all to be economical in the use of water, for a supply of 107,000,000 gallons per day should be ample if properly used.

Respectfully submitted,

G. W. BIRDSALL, Chief Engineer Croton Aqueduct.

## Document "E."

DEPARTMENT OF PUBLIC WORKS,  
WATER PURVEYOR'S OFFICE, NO. 31 CHAMBERS STREET, ROOM 1,  
NEW YORK, January 7, 1887.

Gen. JOHN NEWTON, Commissioner of Public Works:

SIR—In compliance with your instructions, I beg leave to submit the following report of the transactions of this Bureau for the quarter ending December 31, 1886, together with a summary of the work done during the year 1886.

## REPAIRS AND RENEWAL OF PAVEMENTS AND REGRADING.

The average force employed on repairs to pavements during the quarter was as follows:

In October, 595 men, 114 carts and 2 teams.

In November, 649 men, 129 carts and 2 teams.

In December, 649 men, 129 carts and 2 teams.

118,604 square yards of pavement were repaired.

In consequence of the cold weather, the repair gangs were disbanded on the 4th day of December, 59 men and 8 carts being retained to attend to dangerous places in the pavements.

In addition to the above, 2,902 square yards were repaired, including 49 square yards of asphalt pavement, on "orders," the expense in each case being less than \$1,000.

18 permits were issued to citizens to repair pavements at their own expense.

## REPAVING STREETS AND AVENUES (CHAPTER 476, LAWS OF 1875).

Contracts for repaving the following-named streets were completed during the quarter, viz.:

Eighteenth street, from First avenue to East river.

Eighteenth street, from Eighth to Tenth avenue.

Fifteenth street, from First to Second avenue.

Nineteenth street, from First to Second avenue.

Twenty-fifth street, from First avenue to East river.

Pine street, from William to Pearl street.

Ninth street, from Third to Fourth avenue.

Eighth street, from Fourth avenue to Broadway.

Eighteenth street, from Fourth avenue to Broadway.

Chambers street, from Broadway to Centre street.

24,896 square yards were repaved during the quarter.

## Repaving Fifth Avenue, between Ninth and Ninetieth Streets.

This contract is in progress.

18,571 square yards were repaved during the quarter.

## New Pavements Under Assessment.

Contracts for laying new pavements in the following-named streets were completed during the quarter, viz.:

Sixty-fourth street, from First to Second avenue.

Ninety-third street, from Eighth to Ninth avenue.

One Hundred and Third street, from First to Second avenue.

One Hundred and Ninth street, from Madison to Fourth avenue.

8,515 square yards of new pavements were laid.

## REPAIRING AND RENEWAL OF PIPES, STOP-COCKS, ETC.

The average force employed in repairing pipes, stop-cocks, fire-hydrants, etc., under the direction of this Bureau, during the quarter, was as follows:

In October, 71 men and 10 carts.

In November, 81 men and 11 carts.

In December, 84 men and 11 carts.

397 defects in pipes and stop-cocks were repaired.

186 taps were shut off on account of leaks in service-pipes.

1,054 repairs were made to fire-hydrants.

96 new fire-hydrants were substituted for old ones.

5 new fire-hydrants were erected.

272 defects in pavements were repaired.

## PUBLIC DRINKING-HYDRANTS.

42 drinking-hydrants were repaired.

1 new drinking-hydrant was erected.

## WELLS AND PUMPS.

2 pumps were repaired.

## VAULTS.

48 permits were issued to construct vaults.

The amount received for the same is \$13,138.68.

33 permits were issued to repair vaults.

## EXPENDITURES.

123 vouchers were transmitted during the quarter and charged to the following accounts, viz.:

Public Drinking-hydrants.....	\$772 91
Public Drinking-hydrants—Salaries.....	249 99
Repaving Streets and Avenues, 1885.....	539 80
Repaving Streets and Avenues, 1886.....	77,797 75
Repaving Streets and Avenues—Salaries.....	801 00
Repaving Fifth Avenue.....	116,737 18
Repairs and Renewal of Pavements and Regrading.....	106,046 64
Repairs and Renewal of Pavements and Regrading—Salaries.....	2,362 00
Repairing and Renewal of Pipes, Stop-cocks, etc.....	16,787 56
Contingencies—Department of Public Works.....	20 00
Restoring and Repaving—Special Fund, Department of Public Works.....	8,461 00
Street Improvement Fund.....	\$25,046 34
Total.....	\$355,622 17

## SUMMARY OF WORK DONE DURING THE YEAR.

## Repairs and Renewal of Pavements and Regrading.

The amount of work done by the repair gangs during the year is as follows:

234,249 square yards of pavement repaired.

714 old crosswalks repaired.

28 new crosswalks laid.

1,633 bad holes repaired.

The following is a list of streets in which repairs were made, viz.:

## Blocks Repaired from Curb to Curb.

Duane street, from Hudson to Staple street.

Forty-ninth street, from Fourth to Madison avenue.

Forty-ninth street, from Fifth to Sixth avenue.

Sixtieth street, from Ninth avenue to Boulevard.

Sixty-first street, from Fourth to Madison avenue.

Sixty-fifth street, from Fourth to Madison avenue.

Eighty-first street, from Fifth to Madison avenue.

## Half Blocks Repaired from Curb to Curb.

Gouverneur Slip, between Water and Front street.

Second avenue, between Seventy-third and Seventy-fourth streets.

Madison avenue, between Fifty-eighth and Fifty-ninth streets.

Fifty-ninth street, between Fifth and Sixth avenues.

Fifty-ninth street, between Seventh avenue and Broadway.

Sixty-ninth street, between Fourth and Madison avenues.

Seventy-fifth street, between Fourth and Madison avenues.

One Hundred and Twenty-first street, between Fourth and Lexington avenues.

## Avenues Repaired.

First avenue, from Sixteenth to Seventeenth, Nineteenth to Twenty-third, Fifty-first to Sixty-first, Eighty-seventh to Eighty-ninth, and Ninety-first to Ninety-second street.

Second avenue, from Houston to Second, Thirteenth to Fourteenth, Sixtieth to Sixty-first, Seventy-second to Seventy-fourth, Seventy-fifth to Seventy-sixth, Ninety-fifth to Ninety-sixth, One Hundred and Sixth to One Hundred and Seventh, and One Hundred and Twenty-fourth to One Hundred and Twenty-eighth street.

Third avenue, from Tenth to Thirty-third, Fifty-ninth to Sixty-third, Sixty-seventh to Sixty-eighth, Seventieth to Seventy-first, Seventy-sixth to Seventy-seventh, Eighty-ninth to Ninetieth, Ninety-eighth to One Hundred and First, One Hundred and Twelfth to One Hundred and Thirtieth, and One Hundred and Twenty-fourth to One Hundred and Thirtieth street.

Fourth avenue, from Fourteenth to Thirty-second street.

Fifth avenue, from Fifth-first to Fifty-second street.

Sixth avenue, from Greenwich avenue to Ninth street, Thirtieth to Forty-second, Fifty-third to Fifty-fifth, and Fifty-sixth to Fifty-ninth streets.

Seventh avenue, from Fourteenth to Seventeenth, Forty-fifth to Fifty-fourth, Fifty-fifth to Fifty-sixth, and Fifty-seventh to Fifty-ninth street.

Eighth avenue, from Bleeker to Twenty-seventh, Forty-second to Forty-third, Fifty-sixth to Fifty-ninth, and One Hundred and Tenth to One Hundred and Twenty-fourth street.

Ninth avenue, from Gansevoort to Twenty-third, Thirty-seventh to Thirty-eighth, Forty-sixth to Forty-seventh, and Seventy-fourth to Seventy-seventh street.

Tenth avenue, from Bloomfield to Twenty-third, Forty-fourth to Forty-ninth, Sixty-fifth to Sixty-ninth, and Seventy-second to Seventy-fourth street.

Eleventh avenue, from Twenty-eighth to Thirty-first street.

Thirteenth avenue, from Bank to Bethune, and Fourteenth to Sixteenth street.

Avenue A, from Ninetieth to Ninety-second street.

Avenue B, from Sixth to Seventh street.

Avenue C, from Sixteenth to Seventeenth street.

South Fifth avenue, from Third to Fourth street.

Vanderbilt avenue, from Forty-second to Forty-fifth street.

Lexington avenue, from Thirtieth to Thirty-sixth, Fifty-third to Fifty-fourth, Sixty-fourth to Sixty-fifth, Seventy-fifth to Seventy-sixth, Seventy-seventh to Seventy-eighth, Eightieth to Eighty-second, Eighty-eighth to Eighty-ninth, Ninety-first to Ninety-second, One Hundred and Sixth to One Hundred and Seventh, and One Hundred and Eighth to One Hundred and Ninth streets.

Madison avenue, from Fifty-seventh to Fifty-eighth, Sixty-second to Sixty-third, Sixty-fifth to Sixty-sixth, Sixty-eighth to Sixty-ninth, Sixty-ninth to Seventieth, Seventy-third to Seventy-fourth, Seventy-fifth to Seventy-sixth, Eighty-first to Eighty-second, and Eighty-third to Eighty-fourth streets.

Park avenue, from Thirty-fourth to Thirty-fifth, Thirty-sixth to Thirty-eighth, and Fifty-sixth to Sixty-fourth street.

## Streets Repaired.

Albany street, from Washington to West street.

Attorney street, from Rivington to Stanton street.

Astor place, from Broadway to Fourth avenue.

Beaver street, from Broadway to Pearl street.

Broadway, from Leonard to Worth street.

Broadway, from Twenty-fourth to Twenty-fifth, Thirty-sixth to Thirty-seventh, and Forty-fifth to Forty-eighth street.

Broad street, from Pearl to Wall street.

Battery place, from Greenwich to West street.

Burling Slip, from South to Pearl street.

Bank street, from Hudson street to Thirteenth avenue.

Bowery, from Grand to Houston street.

Bleeker street, from Greene to Downing street.

Bedford street, from Downing to Morton street.

Beekman street, from Park row to South street.

Bethune street, from West to Washington street.

Canal street, from West street to Broadway.

Columbia street, from Broome to Houston street.

Carlisle street, from West to Washington street.

Church street, from Vesey to Fulton street.

Coenties Slip, from Front to South street.

Crosby street, from Bleeker to Spring street.

Cortlandt street, from Broadway to Church street.

Clinton place, from Macdougall street to Sixth avenue.

Cherry street, from Catharine to Pike street.

Cherry street, from Jefferson to Clinton street.

Chrystie street, from Rivington to Stanton street.

Charlton street, from Varick to Sullivan street.

Desbrosses street, from West to Hudson street.

Division street, from Bowery to Canal street.

Dover street, from Cherry to Water street.

Dry Dock street, from Tenth to Twelfth street.

Dutch street, from John to Fulton street.

Exchange place, from William to Hanover street.

Essex street, from Grand to Broome street.

Front street, from Whitehall to Roosevelt street.

Fulton street, from Broadway to William street.



Frankfort street, from Park Row to Franklin Square.  
 Ferry street, from Gold to Jacob street.  
 Franklin street, from West Broadway to Church street.  
 Greenwich street, from Battery place to Canal street.  
 Greenwich street, from Houston to Clarkson street.  
 Gouverneur lane, from South to Water street.  
 Great Jones street, from Bowery to Lafayette place.  
 Grove street, from Hudson to Bedford street.  
 Goerck street, from Grand to Stanton street.  
 Gold street, from Frankfort street to Maiden lane.  
 Grand street, from Broadway to Mott street.  
 Hester street, from Bowery to Clinton street.  
 Howard street, from Mercer street to Broadway.  
 Hamilton street, from Catharine to Market street.  
 Hague street, from Pearl to Frankfort street.  
 Hudson street, from Duane to Thomas street.  
 Hudson street, from Canal to Spring street.  
 Jay street, from Washington to Greenwich street.  
 Jackson street, from South to Grand street.  
 John street, from Broadway to Pearl street.  
 Jacob street, from Frankfort to Ferry street.  
 Lispenard street, from Broadway to West Broadway.  
 Lewis street, from Broome to Grand street.  
 Little West Twelfth street, from Ninth to Tenth avenue.  
 Ludlow street, from Rivington to Stanton street.  
 Liberty street, from Broadway to Maiden Lane.  
 Lawrence street, from One Hundred and Twenty-sixth street to Tenth avenue.  
 Mott street, from Prince to Bleeker street.  
 Mercer street, from Canal to Fourth street.  
 Maiden Lane, from Broadway to South street.  
 Montgomery street, from Grand to South street.  
 Monroe street, from Gouverneur to Scammel street.  
 Nassau street, from Wall street to Park Row.  
 North Moore street, from West to Washington street.  
 New Chambers street, from Park Row to South street.  
 Old Slip, from South to Water street.  
 Orchard street, from Hester to Houston street.  
 Park street, from Pearl to Baxter street.  
 Perry street, from West to Washington street.  
 Pitt street, from Grand to Stanton street.  
 Pine street, from Nassau to William street.  
 Roosevelt street, from Batavia to Cherry street.  
 Roosevelt street, from South to Front street.  
 Rutgers Slip, from Water to Cherry street.  
 Ridge street, from Stanton to Houston street.  
 South street, from Whitehall to Montgomery street.  
 Stanton street, from Bowery to Eldridge street.  
 Stanton street, from Essex to Clinton street.  
 State street, from Whitehall street to Battery place.  
 Spring street, from Clark to Varick street.  
 Suffolk street, from Stanton to Delancey street.  
 Scammel street, from Grand to Front street.  
 Staple street, from Jay to Harrison street.  
 Theatre Alley, from Beekman to Ann street.  
 Tompkins street, from Stanton and Rivington street.  
 Varick street, from Franklin to North Moore street.  
 Vandam street, from Macdougall to Varick street.  
 West street, from Battery place to Canal street.  
 West street, from Houston to Christopher street.  
 Whitehall street, from Beaver to South street.  
 West Washington Market, Country Row, Broad, Fulton and Devoe avenues.  
 West Broadway, from Duane to Franklin street.  
 Water street, from Whitehall to Beekman street.  
 William street, from Hanover Square to Park Row.  
 Wooster street, from Canal to Houston street.  
 Weehawken street, from Christopher to West Tenth street.  
 Worth street, from Park street to Chatham Square.  
 Washington street, from Little West Twelfth to Bethune street.  
 Warren street, from Church street to West Broadway.  
 York street, from West Broadway to St. John's lane.  
 First street, from Bowery to Avenue A.  
 Second street, from Avenue A to Avenue B.  
 Third street, from Bowery to Avenue B.  
 Third street, from Broadway to Sixth avenue.  
 Fourth street, from Bowery to Lafayette place.  
 Sixth street, from Second to Third avenue.  
 Sixth street, from Avenue A to Avenue B.  
 Ninth street, from Broadway to University place.  
 Ninth street, from Avenue D to East river.  
 Tenth street, from Hudson to West street.  
 Tenth street, from Broadway to Fourth avenue.  
 Eleventh street, from Fifth to Sixth avenue.  
 Eleventh street, from Thirteenth avenue to West street.  
 Thirteenth street, from First to Second avenue.  
 Fourteenth street, from Second to Third avenue.  
 Fifteenth street, from Avenue A to Avenue C.  
 Sixteenth street, from Sixth to Ninth avenue.  
 Seventeenth street, from Second to Third avenue.  
 Seventeenth street, from Avenue A to Avenue C.  
 Eighteenth street, from Fifth to Sixth avenue.  
 Nineteenth street, from Avenue A to Avenue B.  
 Twentieth street, from Sixth to Seventh avenue.  
 Twenty-third street, from Fourth to Madison avenue.  
 Twenty-third street, from Sixth to Seventh avenue.  
 Twenty-fourth street, from Fourth to Lexington avenue.  
 Twenty-fourth street, from Broadway to Sixth avenue.  
 Twenty-sixth street, from Fifth to Sixth avenue.  
 Twenty-sixth street, from Tenth to Eleventh avenue.  
 Twenty-seventh street, from Ninth to Eleventh avenue.  
 Twenty-eighth street, from Ninth to Tenth avenue.  
 Twenty-eighth street, from Second to Third avenue.  
 Twenty-eighth street, from First avenue to East river.  
 Twenty-ninth street, from Ninth to Tenth avenue.  
 Twenty-ninth street, from Eleventh avenue to North river.  
 Thirtieth street, from Second to Third avenue.  
 Thirtieth street, from Eleventh avenue to North river.  
 Thirty-second street, from Fifth to Seventh avenue.  
 Thirty-second street, from Lexington to Third avenue.  
 Thirty-second street, from First to Second avenue.  
 Thirty-fourth street, from Fifth to Sixth avenue.  
 Thirty-sixth street, from Fifth to Sixth avenue.  
 Thirty-sixth street, from Park to Madison avenue.  
 Thirty-seventh street, from Tenth to Eleventh avenue.  
 Thirty-seventh street, from First to Third avenue.  
 Thirty-eighth street, from Madison to Fifth avenue.  
 Thirty-eighth street, from Broadway to Sixth avenue.  
 Thirty-eighth street, from Ninth to Tenth avenue.  
 Thirty-eighth street, from Eleventh avenue to North river.  
 Thirty-ninth street, from Second to Third avenue.  
 Thirty-ninth street, from Fifth to Sixth avenue.  
 Thirty-ninth street, from Eleventh avenue to North river.  
 Fortieth street, from First to Second avenue.  
 Fortieth street, from Tenth avenue to North river.  
 Forty-first street, from Fifth to Madison avenue.  
 Forty-first street, from Broadway to Sixth avenue.  
 Forty-first street, from Seventh to Eighth avenue.  
 Forty-third street, from Fifth to Sixth avenue.  
 Forty-fourth street, from Fifth to Madison avenue.  
 Forty-fourth street, from Eighth to Ninth avenue.  
 Forty-fifth street, from Fifth to Madison avenue.  
 Forty-sixth street, from Fifth to Sixth avenue.

Forty-sixth street, from Ninth to Tenth avenue.  
 Forty-seventh street, from Broadway to Sixth avenue.  
 Forty-eighth street, from First to Second avenue.  
 Forty-ninth street, from Fourth to Madison avenue.  
 Forty-ninth street, from Fifth to Sixth avenue.  
 Forty-ninth street, from Ninth to Tenth avenue.  
 Fiftieth street, from Fifth to Seventh avenue.  
 Fiftieth street, from Ninth to Tenth avenue.  
 Fifty-first street, from Lexington to Fourth avenue.  
 Fifty-first street, from Seventh to Tenth avenue.  
 Fifty-second street, from Sixth avenue to Broadway.  
 Fifty-second street, from Eleventh avenue to North river.  
 Fifty-third street, from Sixth to Seventh avenue.  
 Fifty-third street, from Eighth to Tenth avenue.  
 Fifty-fourth street, from Madison to Fourth avenue.  
 Fifty-fourth street, from Sixth to Seventh avenue.  
 Fifty-fifth street, from Fifth to Madison avenue.  
 Fifty-fifth street, from Broadway to Seventh avenue.  
 Fifty-fifth street, from Tenth to Eleventh avenue.  
 Fifty-seventh street, from First avenue to Avenue A.  
 Fifty-seventh street, from Broadway to Sixth avenue.  
 Fifty-seventh street, from Ninth to Tenth avenue.  
 Fifty-eighth street, from Madison to Seventh avenue.  
 Fifty-ninth street, from First avenue to Avenue A.  
 Sixtieth street, from Fourth to Lexington avenue.  
 Sixty-first street, from Fourth to Madison avenue.  
 Sixty-second street, from Avenue A to Second avenue.  
 Sixty-second street, from Lexington to Madison avenue.  
 Sixty-fourth street, from Second to Third avenue.  
 Sixty-fifth street, from Fifth to Madison avenue.  
 Sixty-sixth street, from Lexington to Park avenue.  
 Sixty-seventh street, from Lexington to Third avenue.  
 Sixty-eighth street, from Lexington to Third avenue.  
 Sixty-ninth street, from First to Second avenue.  
 Sixty-ninth street, from Fifth to Madison avenue.  
 Sixty-ninth street, from Tenth to Eleventh avenue.  
 Seventieth street, from Second to Third avenue.  
 Seventieth street, from Ninth avenue to Boulevard.  
 Seventy-first street, from Lexington to Third avenue.  
 Seventy-third street, from Madison to Fourth avenue.  
 Seventy-fifth street, from First to Second avenue.  
 Seventy-fifth street, from Madison to Fourth avenue.  
 Seventy-sixth street, from Lexington to Fifth avenue.  
 Seventy-eighth street, from First to Second avenue.  
 Seventy-eighth street, from Third to Lexington avenue.  
 Seventy-eighth street, from Ninth to Tenth avenue.  
 Seventy-ninth street, from Eleventh avenue to Boulevard.  
 Eightieth street, from Fifth to Madison avenue.  
 Eighty-first street, from Second to Lexington avenue.  
 Eighty-first street, from Fifth to Madison avenue.  
 Eighty-second street, from Ninth to Tenth avenue.  
 Eighty-third street, from Second to Third avenue.  
 Eighty-third street, from Fourth to Fifth avenue.  
 Eighty-third street, from Eighth to Ninth avenue.  
 Eighty-fourth street, from Ninth to Tenth avenue.  
 Eighty-fourth street, from Boulevard to Eleventh avenue.  
 Eighty-seventh street, from First avenue to Avenue A.  
 Eighty-eighth street, from First avenue to Avenue A.  
 Ninetieth street, from Third to Fourth avenue.  
 Ninety-second street, from First to Second avenue.  
 Ninety-third street, from Third to Fourth avenue.  
 Ninety-fifth street, from First to Second avenue.  
 Ninety-sixth street, from Boulevard to Eleventh avenue.  
 One Hundredth street, from Eighth to Ninth avenue.  
 One Hundred and Sixth street, from Lexington to Third avenue.  
 One Hundred and Twelfth street, from Second to Fourth avenue.  
 One Hundred and Fourteenth street, from Third to Fourth avenue.  
 One Hundred and Fifteenth street, from Lexington to Third avenue.  
 One Hundred and Eighteenth street, from Avenue A to Harlem river.  
 One Hundred and Nineteenth street, from First to Pleasant avenue.  
 One Hundred and Nineteenth street, from Third to Fourth avenue.  
 One Hundred and Twenty-first street, from Madison to Fourth avenue.  
 One Hundred and Twenty-second street, from Sixth to Seventh avenue.  
 One Hundred and Twenty-fourth street, from Seventh to Eighth avenue.  
 In addition to the above the following work was done on "orders," the expense in each case being less than \$1,000.  
 3,589 square yards of pavement were repaired, including 736 square yards of asphalt pavement.  
 The following is a list of the streets in which the repairs were made, viz.:  
 Twenty-fourth street, between Lexington and Fourth avenues.  
 Seventy-sixth street, between Lexington and Fourth avenues.  
 Eighty-second street, between Lexington and Third avenues.

#### Asphalt Pavements Repaired.

Fifth avenue, between Waverly place and Ninth street.  
 Fifth avenue, between Twenty-fourth and Twenty-fifth streets.  
 Fifth avenue, between Twenty-sixth and Twenty-seventh streets.  
 Fifteenth street, between Fifth and Sixth avenues.  
 Twenty-eighth street, between Fifth avenue and Broadway.  
 Thirty-eighth street, between Fifth and Madison avenues.  
 Pine street, between Broadway and Nassau street.  
 Pine street, between Nassau and William streets.  
 Eighty-nine permits were issued during the year to citizens to repair pavements at their own expense.

#### Street Openings.

The following is a summary of the work done during the year under the supervision of the General Inspector of Street Openings, viz.:  
 16,701 openings to repair mains and for gas, water and sewer service connections.  
 4,105 notices sent to corporations and others to repair bad pavement over their openings.  
 3,832 bad places repaired by the various parties who had opened the streets, in compliance with notices sent from this office.  
 34,100 miles of gas, steam and salt water-mains laid.  
 1,100 miles of double track horse railway constructed.  
 1,100 miles of double track cable railway constructed.  
 9,780 feet of underground electrical subway constructed.  
 24,833 feet of trench opened for underground cable laid by the Commercial Cable Company and the Fire Department.  
 37,800 feet of electric-light wires suspended in place of old wires taken down.

#### Repairing Streets and Avenues—Chapter 476, Laws of 1875.

Contracts for repaving the following named streets and avenues were completed during the year, viz.:

STREET OR AVENUE.	FROM.	SQUARE YARDS.	LENGTH IN FEET.
<i>Granite-blocks.</i>			
Pine street.....	William to Pearl street.....	4,410	508
Ninth street.....	Third to Fourth avenue.....		258
Eighth street.....	Fourth avenue to Broadway.....		456
Eighteenth street.....	Fourth avenue to Broadway.....		417
Grand street.....	Broadway to Varick street.....	5,675	1,528
Washington place.....	Macdougall street to Sixth avenue.....		397
Avenue B.....	Fourteenth to Nineteenth street.....	4,088	1,234
Monroe street.....	Clinton to Gouverneur street.....	2,551	811
Greene street.....	Canal to Bleeker street.....	7,380	2,718
Fifteenth street.....	First to Second avenue.....	6,420	674
Nineteenth street.....	First to Second avenue.....		672
Twenty-fifth street.....	First avenue to East river.....	6,583	620
Eighteenth street.....	First avenue to East river.....		2,049
Eighteenth street.....	Eighth to Tenth avenue.....	5,402	1,630
Total.....		42,507	13,972



STREET OR AVENUE.	FROM.	SQUARE YARDS.	LENGTH IN FEET.
<i>Trap-blocks.</i>			
Twenty-sixth street.....	Eighth to Tenth avenue.....	5,398	1,632
Cannon street.....	Houston to Grand street.....	7,811	1,983
Jackson street.....	Water to Grand street.....		885
Sheriff street.....	Delancey to Stanton street.....	3,254	814
Centre Market place.....	Grand to Broome street.....	4,571	408
Ridge street.....	Stanton to Division street.....	4,579	1,654
Suffolk street.....	Rivington to Division street.....	3,290	1,675
Jones street.....	Fourth to Bleeker street.....	3,085	468
Leroy street.....	Hudson to Washington street.....		564
Cornelia street.....	Fourth to Bleeker street.....		509
Downing street.....	Bleeker to Varick street.....		900
Total.....		31,988	11,492
<i>Asphalt Pavement.</i>			
Chambers street.....	Broadway to Centre street.....	2,261	675
RECAPITULATION.			
Granite-blocks.....		42,507	13,972
Trap-blocks.....		31,988	11,492
Asphalt.....		2,261	675
Total.....		76,756	26,139

Total length repaved as above  $4\frac{3}{100}$  miles.

#### Repaving Fifth Avenue—Chapter 371, Laws of 1885.

The contract is in progress. The portion of the avenue completed during the year is as follows:

STREET OR AVENUE.	FROM.	SQUARE YARDS.	LENGTH IN FEET.
Fifth avenue.....	Twenty-fifth to Thirty-second street.....	54,069	1,803
Fifth avenue.....	Thirty-seventh to Sixty-first street.....		6,283
Fifth avenue.....	Seventy-fifth to Ninetieth street.....		4,933
Total.....		54,069	12,119

Total length of Fifth avenue repaved  $2\frac{3}{100}$  miles.

#### New Pavements under Assessment.

Contracts for laying new pavements in the following-named streets were completed during the year, viz.:

STREET.	FROM.	SQUARE YARDS.	LENGTH IN FEET.
<i>Granite-blocks.</i>			
Eighty-second street.....	Avenue A to B.....	2,216	678
One Hundred and Thirty-third street.....	Seventh to Eighth avenue.....	2,681	817
One Hundred and Third street.....	First to Second avenue.....	2,223	666
Total.....		7,117	2,161
<i>Trap-blocks.</i>			
Sixty-fourth street.....	First to Second avenue.....	2,213	669
Ninety-first street.....	Second to Fourth avenue.....	4,950	1,489
Ninety-third street.....	Eighth to Ninth avenue.....	2,713	827
One Hundred and Seventh street.....	Third to Lexington avenue.....	1,449	436
One Hundred and Ninth street.....	Madison to Fourth avenue.....	1,369	411
One Hundred and Thirty-second street.....	Seventh to Eighth avenue.....	2,669	816
Total.....		15,369	4,648
RECAPITULATION.			
Granite-blocks.....		7,117	2,161
Trap-blocks.....		15,369	4,648
Total.....		22,486	6,809

Total length of new pavements laid  $1\frac{3}{100}$  miles.

The following is a list of streets and avenues under contract to be paved, which, on account of the cold weather could not be completed this year. These works will be progressed as early in the spring as practicable.

#### Repaving.

Fifth avenue, from Ninth to Ninetieth street.  
Sixth street, from Bowery to Avenue B.  
William street, from Duane to North William street.

#### New Pavements.

Ninth avenue, from Seventy-seventh to One Hundred and Tenth street.  
Tenth avenue, from Seventy-fourth to One Hundred and Tenth street.  
Fifty-fifth street, from present pavement to North river.  
Sixty-sixth street, from Boulevard to Tenth avenue.  
Sixty-seventh street, from Second to Third avenue.  
Seventieth street, from Avenue A to First avenue.  
Seventy-first street, from Eastern Boulevard to East river.  
Seventy-fourth street, from Boulevard to Eleventh avenue.  
Seventy-fifth street, from Tenth avenue to Boulevard.  
Eighty-third street, from Boulevard to Riverside Drive.  
Eighty-fifth street, from Eighth to Ninth avenue.  
Eighty-eighth street, from First to Second avenue.  
Ninety-first street, from Fourth to Fifth avenue.  
Ninety-third street, from Ninth to Tenth avenue.  
Ninety-sixth street, from Third to Lexington avenue.  
Ninety-seventh street, from Ninth to Tenth avenue.  
One Hundred and Second Street, from Lexington to Fifth avenue.  
One Hundred and First street, from Second to Third avenue.  
One Hundred and Fifth street, from First avenue to Harlem river.  
One Hundred and Twenty-first street, from Sixth to Seventh avenue.  
One Hundred and Thirty-first street, from Sixth to Seventh avenue.  
One Hundred and Thirty-fifth street, from Eighth to St. Nicholas avenue.  
One Hundred and Fifty-fifth street, from Avenue St. Nicholas to St. Nicholas place.  
Washington street, from Little West Twelfth to Fourteenth street.

#### Crosswalks.

Both sides of Sixth avenue, between One Hundred and Twenty-fifth and One Hundred and Forty-fifth streets.  
Tenth avenue, between One Hundred and Fifty-fifth and One Hundred and Sixty-fifth streets.  
Across One Hundred and Twenty-sixth street, on west side of Avenue St. Nicholas.  
Across Pleasant avenue, at One Hundred and Fifteenth street.

#### Repairing and Renewal of Pipes, Stop-cocks, etc.

The amount of work done by the repair force, under the direction of this Bureau, during the year, is as follows:

1,500 defects in pipes and stop-cocks were repaired.  
693 taps were shut off on account of leaks in service pipes.  
3,584 repairs were made to fire-hydrants.  
462 new fire-hydrants were substituted for old ones.  
14 new fire hydrants were erected.  
1,625 defects in pavements were repaired.

#### Wells and Pumps.

2 pumps were repaired.

#### Public Drinking-hydrants.

209 drinking-hydrants were repaired.  
16 new drinking-hydrants were erected at the following-named locations, viz.:  
No. 225 Centre street.  
Northwest corner of One Hundred and Third street and Third avenue.  
Northeast corner of Courtland avenue and One Hundred and Fifty-fourth street.  
No. 6 Coenties Slip.  
No. 785 First avenue.  
No. 293 Avenue C.  
Northwest corner of One Hundred and Sixty-seventh street and Third avenue.  
Southwest corner of One Hundred and Thirty-eighth street and Third avenue.  
Aqueduct avenue, near High Bridge.  
Aqueduct avenue, 200 feet north of High Bridge.  
Northeast corner of One Hundred and Sixty-fifth street and Kingsbridge road.  
Southeast corner of One Hundred and Seventh street and First avenue.  
Northwest corner of One Hundred and Eighty-fifth street and Tenth avenue.  
No. 375 Cherry street.  
South side of Gansevoort street, corner of West street.  
South side of Ninety-ninth street, 350 feet west of Eighth avenue.

#### Vaults.

215 permits were issued to construct vaults.  
The amount received for the same is \$70,350.17.  
114 permits were issued to repair vaults.

Statement showing the amounts on vouchers drawn, together with the estimated liabilities and balances on the appropriations for the year, which are under the charge of this Bureau:

ON WHAT ACCOUNT	APPROPRIATIONS AND TRANSFERS.	VOUCHERS DRAWN.	ESTIMATED LIABILITIES.	ESTIMATED BALANCES.
Public Drinking-hydrants.....	\$5,000 00	\$2,726 93	\$2,164 21	\$108 86
Public Drinking-hydrants—Salaries.....	1,000 00	965 01	.....	34 99
Repaving Streets and Avenues.....	204,500 00	168,562 30	30,031 78	5,905 92
Repaving Streets and Avenues—Salaries.....	6,600 00	2,424 00	.....	4,176 00
Repaving Fifth avenue.....	444,000 00	188,890 71	255,109 29	.....
Repairs and Renewal of Pavements, etc.....	219,500 00	196,987 54	12,374 99	10,137 47
Repairs and Renewal of Pavements, etc.—Salaries.....	11,300 00	9,150 50	.....	2,149 50
Wells and Pumps—Repairing and Cleaning.....	250 00	.....	22 90	227 10
Repairing and Renewal of Pipes, Stop-cocks, etc.....	.....	66,597 50	3,123 09	.....
Contingencies—Department of Public Works.....	.....	20 00	.....	.....
Restoring and Repaving—Special Fund—Department of Public Works.....	.....	31,622 97	.....	.....
Fund for Local Improvements and Street Improvement Fund.....	.....	55,701 50	.....	.....

The number of miles of paved streets in the City is as follows:

Macadam.....	27.77 miles.
Asphalt.....	.78 "
Granite-blocks.....	73.40 "
Trap-blocks.....	236.25 "
Cobble-stones.....	26.29 "
Total.....	364.49 miles.

Respectfully submitted,

A. CULVER, Water Purveyor.

#### Document "F."

DEPARTMENT OF PUBLIC WORKS,  
OFFICE OF ENGINEER IN CHARGE OF SEWERS,  
NO. 31 CHAMBERS STREET, ROOM 9,  
NEW YORK, January 4, 1887.

GEO. JOHN NEWTON, Commissioner of Public Works:

SIR—Herewith I hand you my report of the transactions of this office, for the quarter ending December 31, 1886, showing the present total length of sewerage in the city to be 2,186,980 lineal feet ( $414\frac{2}{100}$  miles), with 5,063 receiving basins.

During the past quarter 9 contracts for sewers and 9 contracts for basins have been completed, and there are now in progress of construction 29 contracts for sewers and 2 contracts for basins. Contracts have been executed for 5 other sewers and 6 other basins, but no work has been commenced on them.

In a few days I will hand you my annual report, when I will refer in detail to these matters. This report shows a balance to the credit of "Sewers, Repairing and Cleaning," of \$16,069.75, against which there are outstanding liabilities estimated at \$10,848.

If we could have obtained from the Corporation Counsel his approval of the specifications of the contract for repairing and cleaning sewer in First avenue, between Ninety-fifth and One Hundred and Sixth streets, so that it could have been made in December, 1886, this balance would have been very small.

Respectfully,

HORACE LOOMIS, Engineer in Charge of Sewers.

REPORT OF THE TRANSACTIONS OF THE OFFICE OF THE ENGINEER IN CHARGE OF SEWERS FOR THE QUARTER ENDING DECEMBER 31, 1886.

Credits to General Fund—	
Amount received for 337 permits for sewer connections.....	\$8,200 44
Engineers' Fees—	
Amount of Engineers' and Surveyors' fees assessed on property benefited and credited to—	
Fund for Local Improvements.....	\$1,008 18
Street Improvement Fund.....	2,241 55
	\$3,249 73
Sewers—Repairing and Cleaning—	
Balance on hand September 30, 1886.....	\$36,599 42
Vouchers transmitted to the Commissioner of Public Works—	
Pay-rolls of Laborers, etc.....	\$12,472 62
Special repairs, etc.....	6,740 91
Materials and sundries.....	1,316 14
Balance on hand December 31, 1886.....	16,069 75
	36,599 42
Salaries—Sewers—Repairing and Cleaning—	
Balance on hand September 30, 1886.....	\$2,849 00
Vouchers transmitted to the Commissioner of Public Works—	
Pay-rolls of Inspectors, etc.....	\$2,038 35
Balance on hand December 31, 1886.....	810 65
	2,849 00
Salaries—Sewerage System—	
Balance on hand September 30, 1886.....	\$5,585 21
Vouchers transmitted to the Commissioner of Public Works—	
Pay-rolls of Engineers, etc.....	\$2,661 86
Balance on hand December 31, 1886.....	2,923 35
	5,585 21



## Surveys, Maps, etc., for Street Openings and New Streets—

Balance on hand September 30, 1886	\$9,653 94
Vouchers transmitted to the Commissioner of Public Works—	
Pay-rolls of Draughtsmen, etc.	\$975 00
Balance on hand December 31, 1886	8,678 94
	9,653 94

## Restoring and Repaving—Special Fund—

Amount received for 408 permits for street openings	\$5,088 50
---	------------

## Local Improvement Fund—

Vouchers transmitted to the Commissioner of Public Works	\$11,407 25
On contracts for sewers	\$11,407 25
	11,407 25

## Fund for Local Improvements—

Vouchers transmitted to the Commissioner of Public Works	\$11,604 17
Pay-rolls of Engineers, etc.	\$1,603 53
On contracts for sewers	10,000 64
	11,604 17

## Street Improvement Fund—

Vouchers transmitted to the Commissioner of Public Works	\$31,986 39
Pay-rolls of Engineers, etc.	\$8,689 91
On contract for sewers	23,296 48
	31,986 39

## Contingencies—Department of Public Works—

Vouchers transmitted to the Commissioner of Public Works	\$229 02
Transportation of Engineers and Inspectors for July, August and September, 1886	\$229 02
	229 02

## Boring Examinations for Grading and Sewer Contracts—

Vouchers transmitted to the Commissioner of Public Works	\$1,356 74
Pay-rolls of Engineers, etc.	\$1,313 00
Materials	43 74
	1,356 74

## Work done by Mechanics and Laborers—

579 receiving-basins cleaned.
13,788 lineal feet of sewer cleaned.
250 lineal feet of sewer rebuilt.
157 lineal feet of sewer repaired.
107 lineal feet of culvert rebuilt.
90 lineal feet of spur pipe laid.
12 lineal feet of new curb set.
10 lineal feet of curb reset.
2 new receiving-basins built.
2 receiving-basins rebuilt.
12 new basin-heads and covers put on.
2 basin-heads reset.
51 basins repaired.
12 new basin covers put on.
2 new manholes built.
107 manholes repaired.
34 new manhole-heads and covers put on.
76 manhole-heads reset.
22 new manhole covers put on.
412 square yards of pavement relaid.
318 square feet of flagging relaid.
1,600 cubic yards of earth excavated and refilled.
40 cart loads of earth filled in.
1,917 cart loads of dirt removed.

## Work done by contract—

5,609 lineal feet of sewer built.
411 lineal feet of culvert built.
9 receiving-basins built.

Making the present total length of sewerage in the city 2,186,980 lineal feet (414<sup>20</sup>/<sub>100</sub> miles), with 5,063 receiving-basins.

DEPARTMENT OF PUBLIC WORKS.  
OFFICE OF ENGINEER IN CHARGE OF SEWERS,  
NEW YORK, January 7, 1887.

## GEN. JOHN NEWTON, Commissioner of Public Works:

DEAR SIR—Agreeable to your instructions, I hand you herewith my report of the operations of this office during the year ending December 31, 1886. During this period there have been added to the sewerage system about 334 miles of sewer, 789 lineal feet of culvert, together with 42 receiving-basins, costing \$135,276.11.

Schedule "A" shows the location, size, etc., of the sewers completed during the year.

There have also been put under contract a large number of other sewers which are still incomplete, amounting to 4<sup>30</sup>/<sub>100</sub> miles, and estimated to cost \$306,785.19.

Schedule "B" shows their location, etc. Most of the work done thus far consists of building branch-sewers—a filling in, so to speak, of the general system.

The most important works are the outlet sewers in Eighth avenue, between One Hundred and Fifty-third street and Harlem river, draining about 25 acres; sewer in Eighth avenue, between One Hundred and Fifth and One Hundred and Fourteenth streets, connecting with the One Hundred and Tenth street sewer; sewers in Tenth avenue, between One Hundred and Sixty-second and One Hundred and Seventy-third streets. This sewer in Tenth avenue, between One Hundred and Sixty-second and One Hundred and Seventy-third streets, forms an important part of the sewerage system, draining as it does about 80 acres of a region recently thrown open to public improvement by the building of the Cable Road. Unfortunately legal difficulties have appeared in the way of an outlet for it through One Hundred and Sixty-seventh street and across the so-called High Bridge Park to Harlem river. In an opinion dated October 4, 1886, the Corporation Counsel stated his belief that legislation was needed to enable the City to acquire the right of way across private property. I should therefore recommend that he be requested to draft a proper bill to be presented to the Legislature, thereby securing this much needed relief.

The two outlet-sewers under pier at foot of Rector street, North river, and at the foot of Roosevelt street, East river, having finally been put under contract, after many tedious delays, will prove a great advantage to the region drained by them, by carrying the sewerage out to deep water at the end of the piers. They will also form a part of the system of marginal sewers long contemplated, of which I shall speak more fully hereafter.

At the beginning of the present year the extension of the sewerage system was brought almost to a standstill from the lack of funds. The prospect of being able to keep up with the demand for new sewers was so unfavorable that many owners petitioned to be allowed to build, at their own expense, such sewers as were needed to drain their property; all told, 4,889<sup>1</sup>/<sub>2</sub> lineal feet of such sewers were built. For their location and other data you are referred to Schedule "C."

South of One Hundred and Fifty-eighth street the sewerage system, in its main features, is fixed. It has been the growth of years, and while it has many imperfections, as stated in the last annual report of my predecessor, still it accomplishes the purpose quite satisfactorily. In this portion of the city the main business will be the building of branch sewers, covering at most a few blocks, and the improvement of the old sewers. The area of Manhattan Island, taken to the new bulkhead lines, is now 12,500 acres, or about 19<sup>1</sup>/<sub>2</sub> square miles; of this area there are now provided with sewers about 9,500 acres, leaving 3,000 acres yet to be cared for. At present the sewage of the whole city is discharged into the North, East and Harlem rivers by 154 outlet sewers, covering the whole river front from One Hundred and Fifty-eighth street, North river, to One Hundred and Forty-seventh street, Harlem river, and measuring about 50 miles. There are also 364<sup>1</sup>/<sub>10</sub> miles of branch or lateral sewers, making the total length of the sewers of the city, exclusive of the Twenty-third and Twenty-fourth Wards, 414<sup>20</sup>/<sub>100</sub> miles of all sizes, together with 5,077 receiving-basins, the smallest being of 12-inch pipe, and the largest being the Canal street outlet, which is 8 by 16 feet, between Washington street and North river, and 7 by 10 feet between Washington street and Broadway, the next largest being the One Hundred and Tenth street outlet, which is 8 by 12 feet, extending from Fifth avenue to East river. Most of them discharge at low water mark, near the shore line; the solids are therefore left at 154 different places, causing an impediment to the use of the bulkheads, a nuisance to the neighborhood and a menace to public health. A table is now in process of preparation and will be submitted later, showing the number and location of these and various other data in reference thereto. It appears that the views which prevailed at different times as to the proper dimensions for such work caused the building of many sewers much out of proportion to the requirements of the case.

The following table will illustrate:

LOCATION OF OUTLET SEWERS.	ACRES DRAINED.	DIMENSIONS.	DIAMETER OF CIRCULAR SEWERS, CAPABLE OF DRAINING SAME AREA, OTHER THINGS BEING EQUAL, AS CALCULATED BY ACCEPTED FORMULAS.
Forty-ninth street	530	9' x 8' 6"	4' 8"
Clarkson street	458	6' x 8'	5'
Canal street	326	7' 10" x 15' 9"	4' 3"
Broome street	48.5	4' x 2' 8"	2' 3"

Some of the old sewers in the near future could be rebuilt with advantage to the region drained; intercepting sewers, however, covering the river front, ought to be built in order that sewage may be collected and discharged at a less number of points, and at the pier head line where the tidal currents have sufficient power to remove to deep water the large volume of such discharge. These works will cost a large amount of money, but will amply repay all outlay by the cleanliness of the water of the harbor, the convenience of business being done along the docks, and the improvement of the sanitary condition of the immediate vicinity.

I might mention in this connection as those to be first built: intercepting sewer on South street, between Pike and Ferry streets; on West street, between Battery place and Liberty street, and on Twelfth avenue, between Fifty-third and Sixty-second streets.

That portion of the city, between One Hundred and Fifty-eighth street and Harlem river, now covering nearly 1,400 acres, has no sewerage system. This region, however, is beginning to improve. New streets are being opened and various schemes are on foot which will tend to bring this section into notice. Its location on the high ridge which forms the backbone of the island renders it attractive to investors, and means of rapid communication now in operation and proposed must necessarily bring a large population.

The proper drainage and sewerage of this region is a subject which will require thoughtful consideration. Land-owners desirous of improving their property in various parts of this region are urgent in their requests for sewerage.

During the coming season much attention must be bestowed upon the designs and constructions of work for their relief.

## REPAIRS AND CLEANING.

The work of maintaining the sewer system has been performed by a force of 10 Foremen and Timekeepers, 4 Mechanics, 32 Laborers, and 16 horses and carts, at a cost of about \$4,100 per month. In addition to which a large amount of work has been done under orders to private parties. The total expense chargeable to this fund, including all labor, materials and supplies, was \$104,944.34, leaving a balance of \$5,055.66. The appropriation of \$110,000 was, in my view of the case, to be used, first, for all necessary cleaning of sewers and street-basins, and for ordinary repairs, and second, for such extraordinary repairs as might be called for on short notice. There are many cases of permanent repairs, or, more properly speaking, rebuilding, which in my judgment the fund was too small to attempt, if the ordinary calls upon it were responded to, and until the season was so far advanced that we could be assured that our regular laboring force could accomplish what was required during the rest of the season.

During the past autumn I proposed the rebuilding of the sewer in First avenue, between Ninety-fifth and One Hundred and Tenth street, with the fund which I then found would be available. There have been so many delays, however, in getting the form of contract printed and approved, that it has not been possible to put this work under contract. This is a work of much importance, being the outlet sewer for a large district, and the worst district in the city to keep clean and in repair, being that bounded by Third avenue on the west, One Hundred and Tenth street on the north, Harlem river on the east, and Ninety-fifth street on the south. During the year there have been 76,919 lineal feet of sewer cleaned, of which 55,819 lineal feet were brick and 21,100 were pipe, or a total of 147<sup>1</sup>/<sub>2</sub> miles, or about <sup>31</sup>/<sub>100</sub> of the total mileage, and 2,441 receiving-basins. The cost for cleaning brick sewer per foot was thirty-nine cents, for pipe sewer was seven cents per foot. While pipe sewers cost much less to clean and maintain than brick, it must be remembered that they are mostly small branch sewers, and the only method of cleaning is flushing from one into another, whereas the cleaning of a brick sewer is a very slow and tedious process. All the material must be carried by hand long distances under ground, and hoisted through a manhole to the street in small buckets and carted thence to a dump on the river front. The cost of this work when figured in cubic yards is very large, amounting sometimes to over \$3 per yard; under the competitive plan recently introduced it has cost on an average twenty-nine cents per foot for cleaning brick sewers. A plan for cleaning sewers by other means than hand power would be a desideratum. I hope to be able to devise something which will cheapen the cost of this work. The length of sewers cleaned during the past year does not, of course, include all the dirty sewers in the system, but it did include all those where there was ground for complaint, and on January 1 there was no complaint from citizens on the books. Some of the large sewers will operate for years before the necessity for cleaning arises, but the basin cleaning must be done continually and repeatedly in order that the drainage from the street may reach the sewer; the variety of articles which find their way into them and prevent their operations is astonishing.

The most important works of cleaning were:

- Second avenue, between Sixty-ninth and Seventy-second streets.
- Eighth avenue, from One Hundred and Forty-third to One Hundred and Forty-seventh street, and in One Hundred and Forty-seventh street, from Eighth avenue to East river.
- One Hundred and Twenty-seventh street, between Second and Third avenues.
- Eleventh avenue, between Seventy-fourth and Seventy-sixth streets.
- One Hundred and Eleventh street, between First avenue and East river.
- Eighth avenue, between One Hundred and Twenty-seventh and One Hundred and Thirty-third streets.
- Eighty-first street, between First avenue and Avenue A.
- Ninety-third street, between First avenue and Second avenue, and First avenue, between Ninety-third and Ninety-fifth streets.
- Second avenue, between One Hundred and First and One Hundred and Sixth streets.
- Fourth avenue, between One Hundred and Second and One Hundred and Sixth streets.
- Ninety-fifth street, between First and Second avenues, and Second avenue, between Ninety-fifth and Ninety-sixth streets.
- Second avenue, between Eighteenth and Twenty-third streets.
- One Hundred and Twenty-fourth street from First to Pleasant avenue, and Third avenue, from One Hundred and Eighteenth to One Hundred and Twentieth street.

The most important work of repairing was:

- Thirty-seventh street, from Madison to Fifth avenue.
  - Twenty-fifth street, from Sixth avenue to Broadway.
  - Ninth street, from Fifth to Sixth avenue.
  - Thirteenth street, from Fifth to Sixth avenue.
  - Twelfth street, from Fifth to Sixth avenue.
  - Eleventh street, from Fifth to Sixth avenue.
  - Twenty-fourth street, from Madison to Fourth avenue.
  - First avenue, from Fourteenth to Fifteenth street.
  - One Hundred and First street, from Second to Third avenue.
  - Sixth avenue between Eighteenth and Twentieth streets.
  - Fourth-fourth street, from Eleventh avenue to North river.
  - Ninth avenue, between Eighty-third and Eighty-fourth streets.
  - First avenue, between One Hundred and First and One Hundred and Second streets.
  - Lexington avenue, between Sixty-fourth and Sixty-fifth streets.
  - Thirteenth street, between Second and Third avenues.
  - Avenue A, between Fifty-fourth and Fifty-fifth streets.
  - Beekman street, between Gold and William streets.
- Schedule "D" shows all the work done under this appropriation.
- I propose during the coming year to make some extensive and much needed repairs, among which I might mention the laying of tile inverts in certain of the larger sewers, a plan adopted by my predecessor to increase the efficiency of the same, and the rebuilding of sewers in:
- Sixth avenue, between Fourteenth and Sixteenth streets.
  - Sixth avenue, between Clinton place and West Washington Square.
  - First avenue, between One Hundred and Fourth and Ninety-fifth streets.
  - Eleventh street, between Second and Third avenues.
  - Tile work in Ninth, Eleventh, Twelfth, Thirteenth and Twenty-fifth streets, west side of city, and Ninth street, between Avenues B and C.
  - Pipe sewer in Ninth avenue, between Ninety-second and Ninety-sixth streets.
  - Box sewer in Fulton street, at North and East rivers.
  - Thirteenth street, between Third and Fourth avenues.

## STREET OPENINGS.

The duty of preparing maps and plans for the use of the Board of Street Openings has by law been imposed upon this Department. The necessity of investigating all matters of proposed opening of new streets in order to lay such information before the Board as will guide them in deciding as to the advisability of accepting or rejecting such propositions is a work of considerable magnitude.



and takes much of my time. The following list shows the streets for which certain maps have been furnished during the year.

Widening of Gansevoort street and West Thirteenth street, between Washington street and Eighth avenue.

A public place in the Twenty-second Ward of the City of New York.

Extension of Manhattan street, between Twelfth avenue and Hudson river.

One Hundred and Sixty-seventh street, between Tenth avenue and Edgecombe road.

Dyckman street, between Kingsbridge road and Harlem river.

Lexington avenue, between Ninety-seventh and One Hundred and Second streets.

One Hundred and Fiftieth street, between Tenth avenue and Avenue St. Nicholas.

Edgecombe road, between One Hundred and Fifty-fifth and One Hundred and Seventy-fifth sts.

One Hundred and Seventy-third street, between Tenth avenue and Kingsbridge road.

One Hundred and Thirty-eighth street and Hamlin avenue, between Avenue St. Nicholas and Tenth avenue.

New or Convent avenue, between One Hundred and Thirty-fifth and One Hundred and Forty-fifth streets.

One Hundred and Twelfth street, between Tenth avenue and Boulevard.

One Hundred and Twenty-first street, between Eighth and Ninth avenues.

One Hundred and Nineteenth street, between Eighth and Ninth avenues.

One Hundred and Fifty-fourth street, between Eighth avenue and Harlem river.

One Hundred and Fiftieth street, between St. Nicholas place and Hudson river.

One Hundred and Fortieth street, between Avenue St. Nicholas and New or Convent avenue.

Land to be taken for drainage purposes, One Hundred and Sixty-seventh street to Harlem river.

One Hundred and Seventeenth street, between Eighth and Ninth avenues.

One Hundred and Eighteenth street, between Eighth and Ninth avenues.

One Hundred and Thirtieth street, between Eighth avenue and Avenue St. Nicholas.

Ninety-ninth street, between Third and Fourth avenues.

One Hundred and Eighty-second street, between Kingsbridge road and Tenth avenue.

One Hundred and Fortieth street, between Eighth avenue and Edgecombe road.

Land to be taken for approval to Central Park at One Hundred and Tenth street and Fifth ave.

The following is a list of streets upon which certain maps and plans have been ordered and are now under way:

One Hundred and Twenty-seventh street, between Second avenue and Harlem river.

Fifty-fourth street, between Tenth avenue and Hudson river.

Fifty-second street, between Tenth avenue and Hudson river.

Fifty-third street, between Eleventh avenue and Hudson river.

One Hundred and Eighty-first street, between Tenth and Eleventh avenues.

Streets and avenues between Avenue St. Nicholas and New avenue, west of same, and between One Hundred and Fortieth and One Hundred and Forty-fifth streets.

#### Hamilton Grange.

One Hundred and Thirty-fourth street, between Boulevard and Twelfth avenue.

One Hundred and Eighty-first street, between Eleventh avenue and Western Boulevard.

One Hundred and Twenty-fifth street, Clarmount avenue and One Hundred and Twenty-third street, between Boulevard and Riverside avenue.

One Hundred and Seventieth street, between Tenth avenue and Kingsbridge road.

One Hundred and Forty-eighth street, between Eighth avenue and Hudson river.

One Hundred and Forty-ninth street, between Eighth avenue and Hudson river.

Ninety-fourth street, between First and Second avenues.

Aububon avenue, between One Hundred and Sixty-fifth and One Hundred and Seventy-fifth sts.

One Hundred and Sixty-sixth street, between Tenth and Eleventh avenues.

One Hundred and Seventieth street, between Kingsbridge and Fort Washington Ridge roads.

One Hundred and Thirty-second street, between Eighth avenue and Avenue St. Nicholas.

One Hundred and Thirty-ninth street, between Tenth avenue and Boulevard.

Closing Bogart street, between West street and Thirteenth avenue.

One Hundred and Sixty-third street, between Tenth avenue and Kingsbridge road.

#### PERMITS.

There were issued 2,647 permits to plumbers to connect and repair house connections with public sewers for which was received \$34,428.41. For restoration of paving over above \$22,313, making a total of \$56,741.41.

#### BORING FOR ROCK.

In making estimates for new work the amount of rock to be removed is an important item. To obtain beforehand this information a party has been engaged under the direction of an assistant engineer in boring streets and avenues to the depth of proposed sewers. In case of finding rock, boring every ten feet is required. Thirty streets or avenues with a length of 20,642 linear feet have been thus examined.

There have also been received during the year and are now on file in this office twenty-five applications for sewers in streets, all of which have been opened according to law, with the exception of four, amounting to about 10,890 linear feet or 2.06 miles, which can be constructed in the coming year. There have also been executed five sewer contracts and six contracts for basins, upon which no work has been done on account of the inclemency of the season. The locations, etc., appears in the latter part of Schedule "B."

Very respectfully submitted,  
HORACE LOOMIS, Engineer in Charge of Sewers.

#### SCHEDULE "A."

Sewers Completed during the Year 1886.

LOCATION OF WORK.	SIZE OF SEWER.	LINEAR FEET.	CULVERT, LINEAR FEET.	BASINS.	TOTAL COST, INCLUDING ENGINEERING AND INSPECTOR'S FEES.
<i>Sewers.</i>					
Attorney street, between Stanton and Rivington streets.....	3' 9" x 2'	355	....	....	\$2,374 07
Fourth avenue, east side, between Fifty-fourth and Fifty-fifth streets.....	3' x 2'	166	....	....	1,399 09
Lexington avenue, between Ninety-fifth and Ninety-seventh streets, etc.....	3' 6" x 2'	1,414	81	3	14,132 23
One Hundred and Sixth street, between Boulevard and summit east.....	3' x 2'	358	....	....	3,685 56
Ninety-seventh street, between Boulevard and Riverside avenue.....	3' 6" x 2'	553	....	....	5,899 08
Forsyth street, between Stanton and Houston streets, etc.....	3' 6" x 2'	233	....	....	1,732 86
One Hundred and Fourteenth street, between Fourth and Sixth avenues.....	3' 6" x 2'	1,565	....	....	6,313 17
One Hundred and Sixth street, between summits east and west of Tenth avenue.....	3' x 2'	568	33	4	6,176 14
Hudson street, between Christopher and Grove streets.....	3' 6" x 2'	165	....	....	985 76
Tenth avenue, east side, between One Hundred and Sixty-second and One Hundred and Seventieth streets, etc.....	3' 6" x 2'	4,743	163	17	47,392 83
Ninety-fourth street, between Eighth and Ninth avenues.....	3' 6" x 2'	722	....	....	5,536 84
Lexington avenue, between Eighty-third and Eighty-fifth streets.....	3' 6" x 2'	420	....	....	5,905 22
Ninety-fifth street, between Ninth and Tenth avenues.....	3' 6" x 2'	756	8	1	7,610 28
One Hundred and Fifth street, between First avenue and Harlem river.....	3' 6" x 2'	721	....	....	3,584 69
One Hundred and Fifteenth street, between Seventh and Eighth avenues.....	3' 6" x 2'	676	....	....	3,381 30
Ninety-sixth street, extension of sewer (wooden-box).....	5' x 6'	162	....	....	3,843 35
One Hundred and Fifty-first street, completing unfinished sewer between Avenue St. Nicholas and Tenth avenue, etc.	3' 6" x 2'	838	....	....	9,062 59
One Hundred and Thirty-third street, between Eighth avenue and Avenue St. Nicholas.....	3' 6" x 2'	255	....	....	1,175 75
<i>Basins.</i>					
Alteration and improvement to basins, northeast and northwest corners of Seventy-second, Seventy-third and Seventy-fourth streets, and West End avenue.....	....	....	25	....	357 38
Alteration and improvement to basins, southeast corner of Seventy-ninth and Eightieth streets and West End avenue.....	....	....	140	....	1,710 30
Basin, southeast corner of Eighty-first street and Avenue A.....	....	....	29	1	368 00
Basin, northwest corner of One Hundred and Seventh street and First avenue.....	....	....	16	1	269 42
Basins, One Hundred and Twenty-ninth street, at junction of Manhattan street.....	....	....	57	3	855 93
Basins, northwest corner of One Hundred and Twenty-first street and Fourth avenue.....	....	....	20	1	481 65
Basins, southeast corner of One Hundred and Ninth street and Fourth avenue.....	....	....	20	1	352 44
Basins, northeast corner of One Hundred and Seventh street and First avenue.....	....	....	29	1	298 97
Basins, northeast and southwest corners of One Hundred and First street and Third avenue, etc.....	....	....	83	6	1,291 21
Total.....	....	14,670	704	39	\$135,276 11

#### SCHEDULE "B."

Sewers now under Contract and in Progress.

LOCATION OF WORK.	SIZE OF SEWER.	ESTIMATED LINEAR FEET.	CULVERT, ESTIMATED LINEAR FEET.	BASINS.	ESTIMATED COST.
<i>Sewers.</i>					
One Hundred and Seventeenth street, between Fifth and Sixth avenues, etc.....	3' 6" x 2'	1,755	20	1	\$10,489 87
Eighty-fourth street, between One Hundred and Fifth and One Hundred and Fourteenth streets, etc.....	3' 6" x 2' 4"	2,410	1,235	8	53,047 88
Eighty-fourth street, between One Hundred and Fifty-third street and Harlem river.....	4' x 2' 8"	1,605	42	2	16,365 80
Eleventh avenue, between Fourteenth and Seventeenth streets, etc.....	4' x 2' 8"	2,270	130	1	28,067 00
West End avenue, between Sixty-fourth and Sixty-fifth streets, etc.....	3' 6" x 2'	1,015	30	2	24,299 82
Sixty-second street, between Tenth and Eleventh avenues.....	3' 6" x 2'	717	35	2	9,513 02
Seventy-sixth street, between Avenue A and East river.....	3' 6" x 2'	690	....	..	11,320 10
Ninety-second street, between Ninth avenue and Boulevard, etc.....	3' 6" x 2'	1,380	20	1	16,380 10
One Hundred and Third street, between Ninth and Tenth avenues.....	3' 6" x 2'	670	25	2	7,130 20
One Hundred and Forty-third street, between Boulevard and Ninth avenue, etc.....	3' 6" x 2'	1,180	60	2	11,378 40
Sixty-fourth street, between Avenue A and First avenue.....	3' 6" x 2'	670	....	..	8,761 50
Seventy-fourth street, between Ninth and Tenth avenues.....	3' 6" x 2'	756	....	..	10,346 82
One Hundred and Thirteenth street, between Boulevard and Riverside avenue.....	3' 6" x 2'	420	....	..	5,734 30
St. Nicholas avenue, east side, between One Hundred and Forty-first and One Hundred and Forty-fifth streets.....	3' 6" x 2'	945	....	..	10,164 00
One Hundred and Eighteenth street, between Fifth and Sixth avenues.....	3' 6" x 2'	904	....	..	5,295 95
One Hundred and Thirty-first street, between Broadway and Tenth avenue.....	3' 6" x 2'	420	....	..	2,478 30
One Hundred and Nineteenth street, between Seventh avenue and Avenue St. Nicholas.....	3' 6" x 2'	366	....	..	1,748 45
Rector street (outlet sewer).....	3' Cir.	680	....	..	8,053 54
Outlet sewer through Pier 29, East river, etc.....	4' "	550	....	..	7,006 45
One Hundred and Forty-third street, between Seventh and Eighth avenues.....	3' 6" x 2'	715	....	..	4,743 75
Madison avenue, between One Hundred and Seventeenth and One Hundred and Nineteenth streets.....	3' 6" x 2'	465	....	..	10,405 55
Ninety-seventh street, between Ninth avenue and summit west.....	3' 6" x 2'	370	....	..	5,599 00
Ninety-first street, between Eighth and Ninth avenues.....	3' 6" x 2'	845	....	..	9,171 85
Lexington avenue, between Eighty-ninth and Ninety-first streets, and between Ninety-third and Ninety-fourth streets.....	3' 6" x 2'	500	25	1	7,062 00
Sixty-seventh, Sixty-eighth and Sixty-ninth streets, between West End avenue, etc., etc.....	15" iron pipe.	1,005	12	6	9,520 22
Eighty-seventh street, between Tenth and Riverside avenues.....	3' 6" x 2'	1,176	....	..	11,475 20
<i>Basins.</i>					
Alteration and improvement to basins southeast and southwest corners of Ninety-second, Ninety-fourth and Ninety-sixth streets, etc., etc., and West End avenue.....	....	....	90	..	1,225 12
		24,473	1,724	28	\$306,786 19
The following 5 contracts for sewers have been executed but not commenced:					
One Hundred and Forty-second street, between Seventh and Eighth avenues.....	3' 6" x 2'	700	....	..	\$4,485 25
Ninth avenue, east side, between One Hundred and Fifth and One Hundred and Sixth streets.....	15" pipe.	205	....	..	1,759 72
One Hundred and Fortieth street, between Seventh and Eighth avenues.....	3' 6" x 2'	710	....	..	2,873 20
One Hundred and Forty-eighth street, between Seventh and Eighth avenues.....	3' 6" x 2'	720	....	..	3,223 27
Seventy-second street, between Hudson river and Eleventh avenue, etc.....	4 Cir. 3' 6" x 2' 8" 3' 6" x 2' 0"	1,905	70	5	31,685 50
		4,240	70	5	\$44,026 94
And 6 contracts for 9 receiving-basins.....	....	....	209	9	2,392 50

#### SCHEDULE "C."

Sewers Built by Permits during the Year 1886.

LOCATION OF WORK.	SIZE OF SEWER.	LINEAR FEET.	CULVERT LINEAR FEET.	BASINS.
One Hundred and Fiftieth street, between Tenth avenue and Avenue St. Nicholas.....	3' 6" x 2'	640	....	....
Eighty-eighth street, between Boulevard and Tenth avenue.....	3' 6" x 2'	290 1/2	....	....
Ninety-seventh street, between Eighth and Ninth avenues.....	3' 6" x 2'	719	....	....
St. Nicholas avenue, between One Hundred and Forty-seventh and One Hundred and Forty-eighth streets.....	3' x 2'	170	....	....
One Hundred and Twenty-third streets, between Eighth and St. Nicholas avenues.....	12" pipe	174	....	....
Ninety-seventh street, between Ninth and Tenth avenues.....	3' 6" x 2'	485	....	....
One Hundred and Thirty-sixth street, between Eighth and New avenues.....	3' 6" x 2'	352	....	....
Edgecombe road, between One Hundred and Thirty-sixth and One Hundred and Thirty-seventh streets.....	12" pipe	198	....	....
One Hundred and Fifth street, between Tenth avenue and two hundred and fifty feet east.....	3' 6" x 2'	280	45	1
Kingsbridge road, between One Hundred and Fifty-sixth and One Hundred and Fifty-seventh streets.....	3' 6" x 2'	250	....	....
Kingsbridge road, between One Hundred and Fifty-seventh and One Hundred and Fifty-eighth streets.....	3' 6" x 2' 4"	290	....	....
One Hundred and Forty-seventh street, between Tenth avenue and Avenue St. Nicholas.....	3' 6" x 2'	734	40	2
Seventy-ninth street, between Ninth avenue and summit west.....	3' 6" x 2'	307	....	....
		4,889 3/4	85	3

#### SCHEDULE "D."

Report of the Transactions of the Office of the Engineer in Charge of Sewers for the year ending December 31, 1886.

Work done by Mechanics and Laborers—  
2,441 receiving-basins and culverts cleaned.  
76,919 linear feet of sewer cleaned.  
422 linear feet of sewer rebuilt.  
3,473 linear feet of sewer repaired.  
429 linear feet of culvert rebuilt.  
406 linear feet of spur pipe laid.  
65 linear feet of new curb set.  
27 linear feet of curb reset.  
190 linear feet of box sewer built.  
2 new receiving-basins built.  
5 receiving-basins rebuilt.  
206 receiving-basins repaired.  
63 new basin-heads and covers put on.  
16 basin-heads reset.  
76 new basin covers put on.  
8 new manholes built.  
463 manholes repaired.



Work done by Mechanics and Laborers—  
 262 manhole heads reset.  
 202 new manhole heads and covers put on.  
 318 new manhole covers put on.  
 21 house connections repaired.  
 1 new bulkhead built.  
 12 square feet of crosswalk laid.  
 1,684 square feet of flagging relaid.  
 1,976 square yards of pavement relaid.  
 6,488 cubic yards of earth excavated and refilled.  
 142 loads of earth filled in.  
 8,153 cart loads of dirt removed.

Work done by Contract and by Property-owners  
 By Contract—  
 14,793 lineal feet of sewer built.  
 658 lineal feet of culvert built.  
 39 receiving-basins.  
 By Property-owners—  
 4,889½ lineal feet of sewer built.  
 3 receiving-basins.

## Document "G."

DEPARTMENT OF PUBLIC WORKS,  
 BUREAU OF STREET IMPROVEMENTS, ROOM 5, NO. 31 CHAMBERS STREET,  
 NEW YORK, January 7, 1887.

GEN. JOHN NEWTON, *Commissioner of Public Works*:

SIR—In compliance with your instructions I have the honor to submit herewith my report of the operations of the Bureau of Street Improvements for the quarter ending December 31, 1886. During the year twenty-nine contracts have been completed at a cost of \$835,524.98, and for which assessment lists have been transmitted to the Chief Clerk's office. The most important of these completed contracts are as follows:  
 Morningside avenue, from One Hundred and Tenth street to Tenth avenue.  
 Kingsbridge road, from One Hundred and Fifth-fifth to One Hundred and Ninetieth street.  
 West End avenue, from Seventy-second street to Boulevard.  
 Eleventh avenue, from Kingsbridge road to Dyckman street.  
 Ninety-third street, from West End avenue to Riverside Drive.  
 One Hundred and Eighteenth street, from Fourth to Eighth avenue.  
 One Hundred and Fifty-third street, from sixty feet east of Seventh avenue to New avenue.  
 One Hundred and Fifty-fifth street, from Eighth avenue to McComb's Dam lane.  
 One Hundred and Eighty-fifth street, from Tenth avenue to Kingsbridge road.

## WORKS UNDER CONTRACT.

One Hundred and Fourteenth street, from Fourth to Eighth avenue—  
 This contract has been prosecuted with energy by the contractor, and will in all probability be completed during June next.

Fort Washington Ridge road—  
 This is a large contract, and over 100,000 cubic yards of rock excavation has been done during the last year. It is expected to be finished during the fall of this year.

Ninety-fourth street, from Boulevard to Riverside Drive—  
 Most of the rock excavation has been performed on this work and the completion is looked for in the spring of this year.

One Hundred and Thirty-second street, from Tenth avenue to Broadway—  
 The work on this contract has been suspended on account of the weather. It will in all probability be completed in May or June next.

Edgecombe avenue, from One Hundred and Thirty-seventh to One Hundred and Fortieth street—  
 This work is actively progressed with and will be completed in the fall of the year.

Edgecombe avenue, from One Hundred and Forty-first to One Hundred and Forty-fifth street.  
 The work on this avenue is progressing well and will be finished during the year.

Edgecombe avenue, from One Hundred and Forty-fifth street to St. Nicholas place—  
 This is a very large contract, including earth and rock excavation and masonry, and will require a year to complete it.

First New avenue, west of Eighth avenue, from One Hundred and Forty-fifth to One Hundred and Fifty-fifth street—  
 The work on this contract consists mainly of filling (about 100,000 yards), is now in active progress, and will require about eighteen months to complete it.

Claremont avenue, from One Hundred and Sixteenth to One Hundred and Twenty-second street—  
 Work on this avenue is proceeding satisfactory, and the completion of it may be expected in the fall of this year.

Fort George avenue, from Tenth to Eleventh avenue—  
 This is a heavy rock cutting, and will require about one year to complete.

Sixty-fifth street, from First avenue to Avenue A—  
 This contract has just been signed and work is about commencing. It will be completed in the fall of this year.

Sixty-ninth street, from Eighth to Ninth avenue—  
 Work is progressing on this street, and the same will be finished during this summer.

Eighty-ninth street, from Boulevard to Riverside Drive—  
 Work on this street has been active, and may be expected to be completed during the summer.

Ninety-first street, from Tenth avenue to Riverside Drive—  
 This contract has made such progress that it can be finished during the summer.

One Hundred and First street, from Eighth to Manhattan avenue—  
 This work, being altogether of an embankment, has made such active progress that it can readily be finished during the coming summer.

One Hundred and Second street, from Ninth avenue to Riverside Drive—  
 This is mainly a work of excavation and will be probably completed during the year.

One Hundred and Eighth street, from Eighth to Manhattan avenue—  
 This contract has been signed last month, and work is about commencing. It will take about one year to complete it.

One Hundred and Eighth street, from Tenth avenue to Boulevard—  
 This work will be completed during this month.

One Hundred and Twelfth street, from Eighth to New avenue—  
 This work is in active progress and will be completed during the summer.

One Hundred and Fourteenth street, from Tenth avenue to Riverside Drive—  
 This work is now in a fair state of forwardness, and its completion may be looked for in May next.

One Hundred and Thirty-seventh street, from Tenth to Convent avenue—  
 The contract for this work has just been signed. Work will commence soon.

Work on the following streets has been suspended during the frosty season; their completion may be expected during the year:  
 First New Avenue, west of Eighth avenue, from One Hundred and Forty-second to One Hundred and Forty-fifth street.  
 Sixty-fifth street, from Tenth to Eleventh avenue.  
 Eighty-first street, from Avenue A to Avenue B.  
 Eighty-second street, from Boulevard to Riverside Drive.  
 Ninetieth street, from Boulevard to Riverside Drive.  
 One Hundred and Seventh street, from Boulevard to Tenth avenue.  
 One Hundred and Seventh street, from Eighth to Ninth avenue.  
 One Hundred and Thirteenth street, from Eighth to Ninth avenue.  
 One Hundred and Thirty-seventh street, from Eighth to St. Nicholas avenue.  
 One Hundred and Thirty-seventh street, from Seventh to Eighth avenue.  
 One Hundred and Forty-third street, from Seventh to Eighth avenue.  
 One Hundred and Forty-eighth street, from Seventh to Eighth avenue.  
 One Hundred and Sixty-fifth street, from Tenth to Edgecombe avenue.

## APPROPRIATIONS.

*Street Improvements—For Surveying, Monumenting and Numbering of Streets.*

The appropriation for this purpose amounted to \$3,000, of which sum about \$1,108.10 has been expended for numbering and renumbering of streets; \$1,140 for setting and resetting monument stones, leaving a balance of \$751.90 unexpended.

*Flagging Sidewalks and Fencing Vacant Lots in front of City Property.*

The amount appropriated for this purpose was \$1,000; \$788.59 has been expended in necessary repairs, and balance on hand is \$211.41.

Necessary repairs have been made to the sidewalks around Catharine Market, Ludlow Street Jail and Essex Market place.

A board fence has been built in Rivington street in front of Corporation Yard.  
 Picket fences have been erected on Fifty-eighth and Fifty-ninth streets and East river, to prevent accidents.  
 Also a picket fence has been built in front of City property, corner Lexington avenue and Sixty-seventh street.  
 Since the transfer to this Bureau of the care of sidewalks from the Bureau of Incumbrances last April 1, 1897 notices have been served on property-owners to make the necessary repairs.

Respectfully submitted,

W. M. DEAN, Superintendent of Street Improvements.

## STATEMENT OF THE AMOUNT OF WORK DONE DURING THE QUARTER ENDING DECEMBER 31, 1886.

Earth excavated, cubic yards.....	33,168
Rock excavated, cubic yards.....	34,635
Filling furnished, cubic yards.....	84,023
Curb-stones set, linear feet.....	7,128 $\frac{2}{12}$
Curb-stones reset, linear feet.....	347 $\frac{10}{12}$
Flagging laid, square feet.....	63,383 $\frac{3}{12}$
Flagging relaid, square feet.....	577
Dry stone box culvert, linear feet.....	
Picket fence built.....	1,163 $\frac{51}{100}$

## WORK DONE IN FRONT OF CITY PROPERTY.

Curb-stones set, linear feet.....	232
Curb-stones reset, linear feet.....	125
Flagging laid, square feet.....	1,441
Flagging relaid, square feet.....	600
Board fence with gates built, linear feet.....	79 $\frac{5}{12}$

## WORK DONE ON ACCOUNT OF THE CITY.

40 Monument-stones set and reset on Kingsbridge road and Eleventh avenue.  
 2 Monument-stones set and reset on One Hundred and Eighty-fifth street.  
 —  
 42 Monument-stones set and reset.  
 —

## AMOUNT OF VOUCHERS DRAWN.

On account of—	
Fund for Local Improvements.....	\$23,898 06
Local Improvement Fund.....	61,611 92
Street Improvement Fund.....	40,744 90
Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1886.....	388 50
Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1884.....	800 00
Flagging Sidewalks and Fencing Vacant Lots in front of City Property.....	668 97
Contingencies of Department of Public Works.....	225 00
Boring Examinations for Grading and Sewer Contracts.....	764 70
Total.....	\$129,102 05

## APPROPRIATIONS.

Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1884.....	\$3,000 00
Amount of vouchers drawn during 1884.....	\$916 60
Amount of vouchers drawn during 1886.....	800 00
Balance.....	1,284 00
	3,000 00
Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1886.....	\$3,000 00
Amount of vouchers drawn during first quarter.....	\$259 60
Amount of vouchers drawn during second quarter.....	286 00
Amount of vouchers drawn during third quarter.....	694 00
Amount of vouchers drawn during fourth quarter.....	388 50
Outstanding liabilities.....	620 00
Balance, estimated.....	751 90
	3,000 00
Flagging sidewalks and Fencing Vacant Lots in front of City Property, 1886.....	\$1,000 00
Amount of vouchers drawn—	
During first quarter.....	\$112 22
During second quarter.....	7 40
During fourth quarter.....	668 97
Balance.....	211 41
	1,000 00
Contingencies of Department of Public Works—	
Amount of vouchers drawn—	
During the first quarter.....	\$106 00
During the second quarter.....	194 50
During the third quarter.....	225 00
During the fourth quarter.....	225 00
	\$750 50
Boring Examinations for Grading and Sewer Contracts—	
Amount of voucher drawn.....	\$764 70

## WORKS COMPLETED DURING THE QUARTER.

Regulating, grading, etc.—	
West End avenue, from Seventy-second street to Boulevard.....	\$107,315 23
William street, from Duane to North William street.....	3,865 19
Ninety-third street, from West End avenue to Riverside Drive.....	40,956 23
One Hundred and Thirtieth street, from Old Broadway to Boulevard.....	1,564 73
One Hundred and Fifty-fifth street, from Eighth avenue to New avenue.....	8,385 39
One Hundred and Fifty-fifth street, from Eighth avenue to McComb's Dam lane.....	14,513 27
	\$176,600 04
Flagging—	
West side Grand Boulevard, from Sixty-first to Sixty-third street... ..	\$579 07
Southeast corner Lexington avenue and One Hundred and Twenty-third street.....	128 96
Seventh avenue, from One Hundred and Twenty-eighth to One Hundred and Forty-fifth street.....	6,258 16
South side Leroy street, from Greenwich to West street.....	932 24
	\$7,898 43
Fencing Vacant Lots—	
Block bounded by First and Second avenues and Eighty-second and Eighty-third streets.....	\$253 25
East side Madison avenue, from One Hundred and Tenth to One Hundred and Eleventh street.....	58 71
Northeast corner Fourth avenue and One Hundred and Twenty-seventh street.....	51 42
Northwest corner Seventh avenue and One Hundred and Twenty-sixth street.....	124 81
North side Fifty-seventh street, commencing one hundred feet east of Broadway, etc.....	66 56
South side Seventy-seventh street, from Madison to Fourth avenue, etc.....	75 15
	\$629 90
Total.....	\$185,128 37
Permits issued for regulating, grading, etc.....	3
Notices issued for repaving sidewalks.....	462



## AMOUNT OF WORK DONE DURING THE YEAR 1886.

NATURE OF WORK.	JANUARY 1 TO MARCH 31.	APRIL 1 TO JUNE 30.	JULY 1 TO SEPTEMBER 30.	OCTOBER 1 TO DECEMBER 31.	TOTAL.
Earth excavated, cubic yards.....	15,502	15,935	3,783	33,163	67,388
Rock excavated, cubic yards.....	50,996	35,743	20,181	34,635	141,455
Filling furnished, cubic yards.....	.....	47,751	22,311	84,023	154,085
Curb-stones set, linear feet.....	4,700	4,619 <sup>1</sup> / <sub>2</sub>	14,948 <sup>2</sup> / <sub>3</sub>	7,128 <sup>1</sup> / <sub>2</sub>	31,395 <sup>20</sup> / <sub>19</sub>
Curb-stones reset, linear feet.....	.....	.....	.....	347 <sup>1</sup> / <sub>2</sub>	347 <sup>1</sup> / <sub>2</sub>
Flagging laid, square feet.....	29,671	18,650 <sup>1</sup> / <sub>2</sub>	48,095 <sup>1</sup> / <sub>2</sub>	63,383 <sup>1</sup> / <sub>2</sub>	159,799 <sup>1</sup> / <sub>2</sub>
Flagging relaid, square feet.....	.....	.....	.....	377	577
Dry stone box culvert built, linear feet	2,050	827	.....	.....	2,877
Picket fence built, linear feet.....	.....	.....	.....	1,613 <sup>1</sup> / <sub>2</sub>	1,153 <sup>1</sup> / <sub>2</sub>
Stone masonry built, cubic yards.....	1,222	1,153	.....	.....	2,375
Cast-iron inlet frames.....	10	.....	.....	.....	10

## Monument Stones Set and Reset.

On Tenth avenue, north of One Hundred and Fifty-fifth street.....	.....	.....	22	.....	.....
On Seventh avenue, north of One Hundred and Twenty-eighth street.....	.....	.....	1	.....	23
On One Hundred and Eighty-fifth street.....	.....	.....	.....	2	.....
On Kingsbridge road and Tenth avenue.....	.....	.....	.....	40	42

## Permits and Notices Issued.

Permits for regulating, grading, etc.....	.....	12	4	3	19
Notices to repair sidewalks.....	.....	1,089	446	462	1,997

## Work Done in front of City Property.

NATURE OF WORK.	JANUARY 1 TO MARCH 31.	APRIL 1 TO JUNE 30.	JULY 1 TO SEPTEMBER 30.	OCTOBER 1 TO DECEMBER 31.	TOTAL.
Curb-stones set, linear feet.....	4 <sup>1</sup> / <sub>2</sub>	.....	.....	232	236 <sup>1</sup> / <sub>2</sub>
Curb-stones reset, linear feet.....	.....	.....	.....	125	125
Flagging laid, square feet.....	57	.....	.....	1,441	1,498
Flagging relaid, square feet.....	8	.....	.....	600	608
Picket fence built, linear feet.....	123 <sup>1</sup> / <sub>2</sub>	74	.....	.....	197 <sup>1</sup> / <sub>2</sub>
Board fence built, linear feet.....	.....	.....	.....	79 <sup>1</sup> / <sub>2</sub>	79 <sup>1</sup> / <sub>2</sub>

## AMOUNT OF VOUCHERS DRAWN.

ON ACCOUNT OF—	JANUARY 1 TO MARCH 31.	APRIL 1 TO JUNE 30.	JULY 1 TO SEPTEMBER 30.	OCTOBER 1 TO DECEMBER 31.	TOTAL.
Fund for Local Improvements.....	\$59,506 33	\$150,388 50	\$9,499 20	\$23,898 06	\$243,292 09
Local Improvement Fund.....	.....	.....	65,325 67	61,611 92	126,937 59
Street Improvement Fund.....	.....	.....	1,988 81	40,744 90	42,733 71
Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1886.....	259 60	286 00	694 00	388 50	1,628 10
Street Improvements—For Surveying, Monumenting and Numbering of Streets, 1884.....	.....	.....	.....	800 00	800 00
Flagging Sidewalks and Fencing Vacant Lots in front of City Property.....	112 22	7 40	.....	668 97	788 59
Contingencies—Department of Public Works.....	106 00	194 50	225 00	225 00	750 50
Boring Examinations for Grading and Sewer Contracts.....	.....	.....	.....	764 70	764 70
Total.....	\$59,984 15	\$150,876 40	\$77,732 68	\$129,102 05	\$417,695 28

## Statement showing Works under Contract in Bureau of Street Improvements on the 31st day of December, 1886.

LOCATION OF WORK.	CONTRACTOR.	SURVEYOR.	INSPECTOR.	CONTRACT TIME.	ESTIMATED COST.	AMOUNT EARNED.	AMOUNT RETAINED.	AMOUNT PAID.	REMARKS.
<i>Regulating, Grading, Curbing and Flagging.</i>									
Fund for Local Improvements—									
One Hundred and Fourteenth street, Fourth to Eighth avenue.....	James Slattery.....	J. McIntyre Smith	Mark Neary.....	350 days.	\$23,443 44	\$8,025 00	\$2,407 50	\$5,617 50	
Local Improvement Fund—									
Fort Washington Ridge road.....	Allen & O'Maley.....	J. McIntyre Smith	James R. Mount.....	400 "	130,161 70	122,094 00	36,628 20	85,465 80	{ Work completed, but not yet accepted.
Fourth avenue, Ninety-seventh to One Hundred and Second street.....	Michael Egan.....	J. McIntyre Smith	.....	30 "	3,354 50	.....	.....	.....	
Ninety-fourth street, Boulevard to Riverside Drive.....	Thomas O'Maley.....	R. L. Waters.....	Edward C. Brady.....	150 "	33,311 60	28,551 00	8,565 30	19,985 70	
One Hundred and Thirty-second street, Tenth avenue to Broadway.....	F. Thiemann, Jr.....	R. L. Waters.....	.....	200 "	9,468 56	3,220 00	966 00	2,254 00	Work suspended.
Street Improvement Fund—									
Edgcombe avenue, One Hundred and Thirty-seventh to One Hundred and Forty-fifth street.....	William Guilfoyle.....	J. McIntyre Smith	Sylvester Bennett.....	75 "	11,534 40	3,990 00	1,197 00	2,793 00	
Edgcombe avenue, One Hundred and Forty-first to One Hundred and Forty-fifth street.....	Bernard Mahon.....	J. McIntyre Smith	John McCue.....	275 "	18,196 60	.....	.....	.....	
Edgcombe avenue, One Hundred and Forty-fifth street to St. Nicholas place.....	John F. Dawson.....	J. McIntyre Smith	Leander Buck.....	300 "	86,826 06	.....	.....	.....	
First new avenue, One Hundred and Forty-second to One Hundred and Forty-fifth street.....	Bernard Mahon.....	R. L. Waters.....	.....	275 "	17,414 96	.....	.....	.....	Work not yet commenced.
First new avenue, One Hundred and Forty-fifth to One Hundred and Fifty-fifth street.....	William J. Kelly.....	J. McIntyre Smith	J. Brady & C. Myres.....	500 "	55,120 00	1,880 00	564 00	1,316 00	
Claremont avenue, One Hundred and Sixteenth to One Hundred and Twenty-second street.....	John Cox & Co.....	J. McIntyre Smith	Benjamin V. Fraser.....	200 "	17,128 95	1,825 00	547 50	1,277 50	
Manhattan avenue, One Hundred and Sixteenth to One Hundred and Twentieth street.....	D. W. Moran.....	Frank E. Towle.....	.....	20 "	2,363 10	.....	.....	.....	Work not yet commenced.
Fort George avenue, Tenth to Eleventh avenue.....	James H. Sullivan.....	J. McIntyre Smith	John W. Keogh.....	350 "	23,119 40	1,553 00	465 90	1,087 10	
Sixty-fifth street, First avenue to Avenue A.....	Terence A. Smith.....	R. L. Waters.....	Isaac Smith.....	175 "	12,212 91	.....	.....	.....	
Sixty-fifth street, Tenth to Eleventh avenue.....	D. W. Moran.....	R. L. Waters.....	.....	35 "	2,866 26	.....	.....	.....	Work suspended.
Sixty-ninth street, Eighth to Ninth avenue.....	Thomas E. Crimmins.....	J. McIntyre Smith	John S. Terriberry.....	75 "	8,994 92	3,000 00	900 00	2,100 00	
Eighty-first street, Avenue A to Avenue B.....	Patrick McInerney.....	J. McIntyre Smith	.....	30 "	2,736 48	.....	.....	.....	Work suspended.
Eighty-second street, Boulevard to Riverside Drive.....	F. C. Hopkins.....	J. McIntyre Smith	.....	80 "	8,034 36	5,280 00	1,584 00	3,696 00	Work suspended.
Eighty-ninth street, Boulevard to Riverside Drive.....	J. C. Hopkins.....	J. McIntyre Smith	Joseph McGowan.....	100 "	10,379 20	3,320 00	996 00	2,324 00	
Ninety-first street, Boulevard to Riverside Drive.....	Thomas O'Maley.....	J. McIntyre Smith	.....	100 "	8,096 44	.....	.....	.....	Work not yet commenced.
Ninety-first street, Tenth avenue to Riverside Drive.....	J. W. Phelan.....	J. McIntyre Smith	David Simmons.....	200 "	14,363 75	6,319 00	1,895 70	4,423 30	
Ninety-ninth street, Eleventh avenue to Riverside Drive.....	V. Del Genovese.....	Herman K. Viele.....	.....	100 "	8,964 90	8,967 00	2,690 10	6,276 90	{ Work completed, but not yet accepted.
One Hundred and First street, Eighth to Manhattan avenue.....	Thomas E. Crimmins.....	R. L. Waters.....	John Lawrence.....	175 "	2,186 80	.....	.....	.....	
One Hundred and Second street, Ninth avenue to Riverside Drive.....	James H. Sullivan.....	J. McIntyre Smith	Nathan Frank.....	365 "	28,127 55	1,500 00	450 00	1,050 00	
One Hundred and Seventh street, Boulevard to Tenth avenue.....	John Slattery.....	J. McIntyre Smith	.....	30 "	2,843 51	.....	.....	.....	Work suspended.
One Hundred and Seventh street, Eighth to Ninth avenue.....	Thomas E. Crimmins.....	R. J. Dodge.....	.....	350 "	10,753 00	.....	.....	.....	Work not yet commenced.
One Hundred and Eighth street, Eighth to Manhattan avenue.....	John Cox & Co.....	M. A. Lacy.....	B. F. Crane.....	300 "	6,155 60	.....	.....	.....	
One Hundred and Eighth street, Tenth avenue to Boulevard.....	James H. Sullivan.....	R. L. Waters.....	Alexander Kyle.....	60 "	1,080 90	.....	.....	.....	
One Hundred and Twelfth street, Eighth to New avenue.....	Thomas E. Crimmins.....	R. L. Waters.....	Henry Marshall.....	220 "	5,130 22	.....	.....	.....	Work not yet commenced.
One Hundred and Thirteenth street, Eighth to New avenue.....	Thomas E. Crimmins.....	R. L. Waters.....	.....	200 "	4,790 45	.....	.....	.....	
One Hundred and Fourteenth street, Tenth avenue to Riverside Drive.....	George E. Clark.....	J. McIntyre Smith	William F. Gannon.....	150 "	16,202 60	6,920 00	2,077 00	4,844 00	
One Hundred and Thirty-seventh street, Tenth to Convent avenue.....	John Slattery.....	J. McIntyre Smith	.....	150 "	2,991 81	.....	.....	.....	Work not yet commenced.
One Hundred and Thirty-seventh street, Eighth to St. Nicholas avenue.....	Thomas Murray.....	R. L. Waters.....	.....	35 "	2,261 51	.....	.....	.....	Work suspended commenced
One Hundred and Thirty-seventh street, Seventh to Eighth avenue.....	John J. Farley.....	J. McIntyre Smith	.....	65 "	4,888 18	.....	.....	.....	Work not yet commenced.
One Hundred and Forty-third street, Seventh to Eighth avenue.....	John J. Farley.....	J. McIntyre Smith	.....	60 "	5,509 81	.....	.....	.....	{ Work suspended on account of sewer.
One Hundred and Forty-eighth street, Seventh to Eighth avenue.....	William Kelly.....	J. McIntyre Smith	.....	125 "	9,874 68	.....	.....	.....	{ Work suspended on account of sewer.
One Hundred and Forty-ninth street, Seventh to Eighth avenue.....	Michael Fay.....	J. McIntyre Smith	Theophilus Pratt.....	200 "	8,732 64	3,645 00	1,093 50	2,551 50	
One Hundred and Sixty-fifth street, Tenth to Edgcombe avenue.....	James H. Sullivan.....	J. McIntyre Smith	Edward T. Bennett.....	90 "	3,851 80	.....	.....	.....	
<i>Special Contracts (under \$1,000) Fencing Vacant Lots.</i>									
Southwest corner Seventh avenue and One Hundred and Twenty-second street.....	Bernard A. Roth.....	F. E. Towle.....	.....	.....	90 41	.....	.....	.....	{ Work completed, but not yet accepted.
Northeast corner One Hundred and Ninth and Fourth avenue.....	Bernard A. Roth.....	M. A. Lacy.....	.....	.....	79 19	.....	.....	.....	
South side Ninety-sixth street, Second to Third avenue.....	Bernard A. Roth.....	J. R. Wardlaw.....	.....	.....	229 84	.....	.....	.....	
Block bounded by One Hundred and Ninth and One Hundred and Tenth streets to Madison and Fifth avenues.....	Bernard A. Roth.....	M. A. Lacy.....	.....	.....	390 83	.....	.....	.....	{ Work completed, but not yet accepted.
Total.....					\$624,263 82	\$210,089 00	\$63,026 70	\$147,062 30	

## WORKS COMPLETED DURING THE YEAR 1886.

Regulating, grading, etc.—	
Morningside avenue, from One Hundred and Tenth street to Tenth avenue.....	\$323,906 60
Kingsbridge road, from One Hundred and Fifty-fifth to One Hundred and Ninetieth street.....	106,093 40
West End avenue, from Seventy-second street to Boulevard.....	107,315 23
Eleventh avenue, from Kingsbridge road to Dyckman street.....	126,607 28
William street, from Duane to North William street.....	3,865 19
Washington street, from Twelfth to Fourteenth street.....	3,861 09
Ninety-third street, from West End avenue to Riverside Drive.....	40,956 23
One Hundred and Eighteenth street, from Fourth to Eighth avenue.....	31,896 70
One Hundred and Thirtieth street, from Old Broadway to Boulevard.....	1,564 73
One Hundred and Thirty-third street, from Eighth to St. Nicholas avenue.....	1,342 84
One Hundred and Fifty-third street, from sixty feet east of Seventh to New avenue.....	28,216 94
One Hundred and Fifty-fifth street, from Eighth avenue to McComb's Dam lane.....	14,513 27

## Regulating, grading, etc.—

One Hundred and Fifty-fifth street, from Eighth to New avenue.....	\$8,385 39
One Hundred and Fifty-fifth street, from Tenth avenue to Kingsbridge road.....	26,819 66
Total.....	\$825,344 55
Flagging—	
West side Grand Boulevard, from Sixty-first to Sixty-third street.....	\$579 07
Southeast corner Lexington avenue and One Hundred and Twenty-third street.....	128 96
Seventh avenue, from One Hundred and Twenty-eighth to One Hundred and Forty-fifth street.....	6,258 16
South side Leroy street, from Greenwich to West street.....	932 24
South side Fifty-ninth street, commencing at Fourth avenue and running east.....	110 02
South side Sixty-second street, from First to Second avenue.....	288 44
North side Seventy-ninth street, from Ninth to Tenth avenue.....	842 89
North side Eighty-third street, from First to Second avenue.....	292 09
South side One Hundred and Twenty-first street, from Lexington to Fourth avenue.....	118 66
Total.....	9,550 53



## Fencing vacant lots—

Block bounded by First and Second avenue and Eighty-second and Eighty-third streets .....	\$253 25
East side Madison avenue, from One Hundred and Tenth to One Hundred and Eleventh street.....	58 71
Northeast corner Fourth avenue and One Hundred and Twenty-seventh street.....	51 42
Northwest corner Seventh avenue and One Hundred and Twenty-sixth street.....	124 81
North side Fifty-seventh street, commencing one hundred feet east of Broadway, etc.....	66 56
South side Seventy-seventh street, from Madison to Fourth avenue, etc.....	75 15
Total .....	\$629 90
Total .....	\$835,524 98

## RECAPITULATION.

14 contracts for regulating, grading, etc.....	\$825,344 55
9 contracts for flagging.....	9,550 53
6 contracts for fencing vacant lots .....	629 90
29 contracts. Total .....	\$835,524 98

## Document "H."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF STREETS AND ROADS, No. 31 CHAMBERS STREET,  
NEW YORK, January 7, 1887.

GEN. JOHN NEWTON, *Commissioner of Public Works:*

SIR—In compliance with your instructions, I have the honor to submit the following report of work done and material used; also the amounts expended from the various appropriations under the charge of this Bureau for the quarter ending December 31, 1886. Also statement showing the work done on boulevards, roads and avenues and unpaved streets and roads for the year ending December 31, 1886.

Respectfully,

GEO. E. BABCOCK, Superintendent of Streets.

The following macadamized streets and avenues have been repaired during the quarter ending December 31, 1886:

- Western Boulevard, between the Circle at Fifty-ninth and One Hundred and Fifty-fifth streets—  
Roadway and gutters cleaned, between Fifty-ninth and Eighty-sixth streets.  
Gutters cleaned, between One Hundred and Ninth and One Hundred and Fifty-fifth streets.  
Sand spread, between One Hundred and Thirty-seventh, One Hundred and Forty-fifth, One Hundred and Fiftieth and One Hundred and Fifty-fifth streets.  
Limestone screenings spread, between One Hundred and Eighteenth and One Hundred and Twenty-third streets, east side.
- St. Nicholas avenue, between One Hundred and Twenty-fifth and One Hundred and Fifty-fifth streets—  
Gutters cleaned, between One Hundred and Twenty-fifth and One Hundred and Fifty-fifth streets.
- Seventy-second street, between Ninth avenue and Riverside Drive—  
Roadway and gutters cleaned, between Ninth avenue and Riverside Drive.  
Macadam pavement repaired, intersection of Ninth and Tenth avenues.
- St. Nicholas place, between One Hundred and Forty-ninth and One Hundred and Fifty-fifth streets.  
Gutters cleaned entire length.
- Seventy-second street, between Avenue A and Fifth avenue—  
Roadway and gutters cleaned entire length.  
Macadam repaired.
- One Hundred and Forty-fifth street, between Eighth avenue and Boulevard—  
Gutters cleaned entire length.
- Fifth avenue, between One Hundred and Tenth and One Hundred and Twentieth streets—  
Gutters cleaned entire length.  
Macadam repaired.
- First avenue, between One Hundred and Ninth and One Hundred and Sixteenth streets—  
Roadway and gutters cleaned entire length.  
Macadam repaired.
- Avenue A, between Fifty-seventh and Eighty-sixth streets—  
Roadway and gutters cleaned entire length.  
Macadam repaired.
- One Hundred and Tenth street, between First and Fifth avenues—  
Roadway and gutters cleaned entire length.  
Macadam repaired.
- Seventh avenue, between One Hundred and Tenth and One Hundred and Fifty-fourth streets—  
Gutters cleaned between One Hundred and Tenth and One Hundred and Thirty-eighth streets.  
Clay removed from roadway between One Hundred and Twenty-eighth and One Hundred and Thirty-first streets.  
Macadam repaired.
- Sixth avenue, between One Hundred and Tenth and One Hundred and Forty-sixth streets—  
Gutters cleaned between One Hundred and Tenth and One Hundred and Thirty-sixth streets.  
Macadam repaired.
- One Hundred and Tenth street, between Fifth and Eighth avenues—  
Gutters cleaned entire length.
- One Hundred and Sixteenth street, between Pleasant and Seventh avenues—  
Roadway and gutters cleaned between Third and Pleasant avenues.  
Gutters cleaned between Seventh and Lexington avenues.  
Macadam repaired between Lexington and Pleasant avenues.
- Pleasant avenue, between One Hundred and Nineteenth and One Hundred and Twenty-fourth streets—  
Roadway and gutters cleaned entire length.
- Mt. Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets—  
Roadway and gutters cleaned entire length.  
Gravel-bank screenings spread entire length.  
Macadam repaired.
- One Hundred and Twentieth street, between Fifth and Mt. Morris avenues—  
Roadway and gutters cleaned entire length.
- One Hundred and Twenty-fourth street, between Pleasant and Fifth and Sixth and Seventh avenues—  
Roadway and gutters cleaned entire length.  
Macadam repaired between Pleasant and Second avenues.
- One Hundred and Twenty-third street, between Mt. Morris and Eighth avenues—  
Gutters cleaned entire length.  
Macadam repaired.
- Fifth avenue, between One Hundred and Twenty-fourth and One Hundred and Thirtieth streets—  
Roadway and gutters cleaned entire length.  
Gravel bank screenings spread between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.
- St. Nicholas avenue, between One Hundred and Tenth and One Hundred and Twenty-fifth streets—  
Roadway and gutters cleaned entire length.  
Roadway repaired with gravel.
- One Hundred and Forty-fifth street, between Sixth and Eighth avenues—  
Roadway and gutters cleaned entire length.  
Flagging relaid.

## Morningside avenue, between One Hundred and Tenth and Manhattan streets—

Block pavement repaired at One Hundred and Fourteenth street.  
Flagging relaid at One Hundred and Fourteenth street.

One Hundred and Thirty-eighth street, Boulevard to Twelfth avenue—  
Block pavement, special; covered with sand.

The following amount of material was used in repairing the above streets:

- 190 truck-loads Roa Hook gravel.
- 131 truck-loads gravel bank screenings.
- 180 truck-loads sand.
- 130 truck-loads trap-rock.
- 163 truck-loads limestone screenings.
- 107 truck-loads traprock.
- 97 truck-loads broken stone of gneiss rock.
- 22 truck-loads dirt.
- 3 truck-loads paving blocks (300).
- 2 truck-loads Telford stone.

The following amount of material was removed from the macadamized roadways:

- 2,714 truck-loads dirt.
- 570 truck-loads dirt from basins.
- 27 truck-loads building stone.
- 15 truck-loads sand.
- 6 truck-loads Telford stone.
- 188 truck-loads clay.

## MISCELLANEOUS WORK.

Sixth, Seventh and St. Nicholas avenues—

Roadways scraped with horse-scraper.

New bridge stones laid, south side One Hundred and Thirtieth street, at Sixth and Seventh avenues.

Weeds cut from sidewalks of Sixth and Seventh avenues.

The following sewer and water connections have been repaired during the quarter:

- Sewer connections, south side One Hundred and Twenty-third street, 113 feet west of Seventh avenue; two openings.
- Sewer connections, south side One Hundred and Twenty-fourth street, 100 feet east of First avenue.
- Sewer connections, south side One Hundred and Tenth street, 145 feet east of Third avenue.
- Sewer connections, south side One Hundred and Twenty-third street, 80 feet west of Seventh avenue.
- Sewer connections, south side One Hundred and Twenty-third street, 425 feet east of Eighth avenue.
- Sewer connections, southeast corner Avenue A and One Hundred and Twenty-first street.
- Sewer connections, Avenue A, northwest corner One Hundred and Nineteenth street.
- Sewer connections, southwest corner Lexington avenue and One Hundred and Twenty-fourth street; Beyond sewer.
- Sewer connections, north side Seventy-second street, 77 feet east of First avenue.
- Sewer connections, north side Seventy-second street, 238 feet east of First avenue.
- Sewer connections, No. 205 East Seventy-second street.
- Water-tap repairs, east side Tenth avenue, 50 feet north of One Hundred and Fifty-seventh street.

- Water-tap repairs, west side Avenue A, 35 feet south of Seventy-second street.
- Water-tap repairs, One Hundred and Twenty-fourth street, 140 feet east of Second avenue.
- Water-tap repairs, No. 58 East One Hundred and Tenth street.
- Water-tap, northeast corner Tenth avenue and One Hundred and Fifty-fourth street.
- Water-tap, southwest corner Sixth avenue and One Hundred and Twenty-third street.
- Water-tap, No. 227 West One Hundred and Twenty-third street.
- Water-tap, No. 2063 Fifth avenue.
- Water-tap, No. 425 Pleasant avenue.
- Water-tap, west side Tenth avenue, 200 feet north of One Hundred and Sixty-second street.

The following amount of material was used in paving the above openings—

- 31 truck-loads broken stone.
- 2 truck-loads sand.
- 3 truck-loads dirt removed.
- 60 truck-loads Tilford stone.
- 2 truck-loads gravel.

The following streets have been sprinkled—

- Western Boulevard, between Fifty-ninth and Eighty-sixth streets, and Manhattan and One Hundred and Forty-fifth streets.
- One Hundred and Twenty-second street, between Boulevard and Riverside Drive.
- One Hundred and Fifty-second street, between St. Nicholas Avenue and summit west of Boulevard.
- One Hundred and Forty-fifth street, between Eighth and Tenth avenues.
- St. Nicholas avenue, between One Hundred and Tenth and One Hundred and Fifty-fifth streets.
- Sixth avenue, between One Hundred and Tenth and One Hundred and Thirty-seventh streets.
- Seventh avenue, between One Hundred and Tenth and One Hundred and Fifty-fourth streets.
- One Hundred and Twenty-fourth street, between Sixth and Seventh and Fifth and Pleasant avenues.
- One Hundred and Twenty-third street, between Eighth and Mt. Morris avenues.
- Fifth avenue, between One Hundred and Tenth and One Hundred and Twentieth streets and One Hundred and Twenty-fourth and One Hundred and Thirtieth streets.
- One Hundred and Twentieth street, between Fifth and Mt. Morris avenues.
- Mt. Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets.
- One Hundred and Sixteenth street, between Seventh and Pleasant avenues.
- Pleasant avenue, between One Hundred and Nineteenth and One Hundred and Twentieth streets.
- One Hundred and Tenth street, between Sixth and First avenues.
- Avenue A, between Fifty-seventh and Eighty-sixth streets.
- Seventy-second street, between Fifth avenue and Avenue A.

There has been used in sprinkling the above streets and avenues, 9,751 barrels, equivalent to 5,926,367 gallons of water.

The following is an account of repairs made to monitors, sprinklers, hand-carts; also tools sharpened and repaired, with the amount of material used:

- Monitor No. 1.—Painted, new seat spring, 4 new bolts.
- Monitor No. 3.—Painted inside and outside.
- Monitor No. 4.—Painted inside and outside, new pole made and painted.
- Monitor No. 5.—Generally overhauled.
- Monitor No. 9.—Repaired sprinkler frame.
- Monitor No. 13.—Renewed hose connecting barrel with sprinkler, generally overhauled.
- Monitor No. 12.—Repaired spring and iron, 2 new fifth-wheel blocks, 18 new bolts, 2 new crossbars, 1 new futchel, repaired sprinkler frame, painted inside and outside.
- Monitor No. 14.—Painted inside and outside, lashed sprinkler to frame, new crossbars, new plates, 15 new bolts, new foot board, new wrench box, new side box.
- Monitor No. 17.—Generally overhauled, wood and iron work, painted inside and outside.
- Sprinkler No. 19.—Painted inside and outside.
- Sprinkler No. 18.—New leather on valves.
- Sprinkler No. 21.—Tires reset, new bolts, new kingbolt, painted inside and outside.
- Sprinkler No. 22.—2 new tires made and set, boxed 4 wheels, 4 new rims on wheels, 3 new spokes, repaired body, 2 new crossbars.
- Sprinkler No. 23.—Painted inside and outside, new back, new sprinkler frame, 8 new bolts.
- Sprinkler No. 24.—8 new bolts, painted inside and outside and caulked.
- Sprinkler No. 25.—New reach, 2 new back futchels, 39 new bolts, new sprinkler frame, painted inside and outside.
- Sprinkler No. 26.—Repaired sprinkler frame, lashed sprinkler to frame.
- Sprinkler No. 27.—New sprinkler frame, 2 new bolts, repaired springs, repaired carriage part.
- Sprinkler No. 29.—Painted inside and outside, 2 new pump handles, 1/2 new top, 1/2 new sprinkler-frame, new reach, 2 new futchels, 1 new axle-bed, 1 new bolster, 2 new bars.
- Sprinkler No. 33.—Painted inside and outside, 2 fifth-wheel blocks, 2 new bolts, new sprinkling frame, whole new carriage part, new foot board.
- Hand carts—1 new bottom, 1 new bar, 2 new tires, 4 new wheels, 1 new handle, repaired tail board, boxed 4 wheels, painted same, cut and fitted new axle, new plate on bottom, new strap bolt on side, new shaft.

The following material was used in making the repairs:

- Iron, 935 lbs.; steel, 262 lbs.; joice, 100 feet; old boards, 815 feet; nails, 48 lbs.; oak, 305 feet; white wood, 30 feet; spokes, 87; rims, 25 pieces; hubs, 6; pine, 120 feet; Japan, 3/4 gallons; varnish, 1 1/2 gallons; sand-paper, 90 sheets; turpentine, 6 gallons; raw oil, 10 gallons; boiled oil, 2 gallons; putty, 25 lbs.; black paint, 13 lbs.; red lead, 69 lbs.; white lead, 180 lbs.; bolts used, 284; rope, 60 feet; new couplings, 2; screws, 2 1/2 gross; hose, 18 feet.



## Miscellaneous Shop Work.

Picks sharpened, 1304; bars sharpened, 4; hooks made, 8; picks steeled and laid, 43; hydrant wrenches made, 2; crooks and hose repaired, 8; frost wedges made, 2; made and placed new racks in iron house; repaired wagon used by Superintendent; 4 new rims; 2 new spring-bars, painted same complete; fitted new body; new crossbars reset, tires made and ironed; 2 sets of sway bars; and whiffletrees made; 2 new wheels for sprinkler; repaired wheel jack; painted 2 sets of whiffletrees; painted lumber-shed; made and fitted 1 dozen stone breaking hammer handles; made and fitted 2 new handles to paving rammers; branded 72 picks and shovel handles; sharpened grubs; repaired gully trap frame; made 1 coal-box; made 1 wheel box for blacksmith; made 2 new road scrapers; 18 bolts used; repaired 5 basin buckets, new bottoms; made 2 new clevises for pulley blocks; made 5 benches for basin cleaning; made and shod 3 snow shovels; repaired snow-plows; made and fitted 2 new handles to old snowplow; fitted new wheels to shop door; made neck yoke for road scraper; repaired snowplow; made 2 bleeding-poles for basins; made 1 wheel stand for painter; built store-room for tools; repaired basin brackets for Bureau of Sewers; 10 new hooks; repaired windlass for Bureau of Sewers; repaired chairs for Bureau of Sewers; sharpened sounding bars.

The following unpaved streets were repaired with sweepings, from the macadam streets, etc:

One Hundred and Fifty-fifth street, between St. Nicholas avenue and St. Nicholas place.  
One Hundred and Fifty-first street, west of the Boulevard.  
One Hundred and Thirty-first street, west of the Boulevard.  
One Hundred and Twenty-eighth street, west of Eighth avenue.  
Eleventh avenue, between Sixty-fifth and Sixty-seventh streets.  
One Hundred and Thirty-fifth street, between Eighth and St. Nicholas avenues.  
One Hundred and Forty-first street, between Eighth and Convent avenues.  
One Hundred and Fifty-sixth street, between Tenth and Eleventh avenues.  
One Hundred and Fifty-first street, east of Tenth avenue.  
One Hundred and Forty-fourth street, between Boulevard and Tenth avenue.  
Seventy-third street and Boulevard.

Seventy-fifth street, between Ninth and Tenth avenues.  
New avenue, between One Hundredth and One Hundred and Tenth streets.  
Sixty-sixth street, between Ninth and Twelfth avenues.  
Sixty-sixth street, between Boulevard and Tenth avenue.  
One Hundredth street, between Boulevard and Eleventh avenue.  
Sixty-eighth street, between Tenth and Eleventh avenue.  
Tenth avenue, between Seventieth and Seventy-first streets.  
Seventy-eighth street, between Boulevard and Eleventh avenue.  
Eightieth street, between Tenth avenue and Riverside drive.  
Eighty-fourth street, between Boulevard and Tenth avenue.  
One Hundred and Twenty-sixth street, between St. Nicholas and Ninth avenues.  
One Hundred and Twentieth street, between Boulevard and Tenth avenue.  
One Hundred and Fifteenth street, west of Boulevard.  
Ninety-sixth street, between Boulevard and Tenth avenue.  
Ninety-fourth street, between Boulevard and Tenth avenue.  
One Hundred and Twenty-second street, between Eighth and St. Nicholas avenues.  
One Hundred and Fourteenth street, between Eighth and St. Nicholas avenues.  
Ninetieth street, between Boulevard and Tenth avenue.  
Avenue B, between Seventy-eighth and Eighty-sixth streets.  
One Hundred and Thirty-fifth street, between St. Nicholas and Eighth avenues, cleaned.

There was used in the above work for repairs 1,450 truck-loads of sweepings and fifty loads dirt removed.

The following are the macadamized streets and avenues that have been cleaned or repaired during the quarter, with the cost of each also on account of other work done:

Western Boulevard, between the Circle at Fifty-ninth and One Hundred and Fifty-fifth streets—

	Area.
Roadway and gutters cleaned.....	550,221 square feet.
Gutters cleaned.....	97,627 "
Sand spread.....	242,058 "
Macadam repaired.....	62,824 "
Block-pavement relaid.....	119 "
Lime-stone screenings spread.....	42,900 "
Basins cleaned, 128.	

Avenue St. Nicholas, between One Hundred and Twenty-fifth and One Hundred and Fifty-fifth streets—

Gutters cleaned.....	65,200 square feet.
Roadway repaired with gravel.....	54,078 "
Sidewalk cleaned of earth.....	2,316 "
Open drains cleaned.....	486 lineal feet.
Sidewalk drain dug.....	437 "
Basins cleaned, 41.	

Seventy-second street, between Ninth avenue and Riverside Drive—

Roadway and gutters cleaned.....	124,620 square feet.
Repairs to macadam pavement.....	9,970 "
Block pavement repaired.....	79 "

St. Nicholas place, One Hundred and Forty-ninth to One Hundred and Fifty-fifth street—

Gutters cleaned.....	17,754 "
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One Hundred and Forty-fifth street, Eighth avenue to Boulevard—

Gutters cleaned.....	13,544 "
Basins cleaned, 5.	

Morningside avenue, east, between One Hundred and Tenth and Manhattan streets—

Block pavement repaired.....	45 "
Sidewalks repaired.....	216 "
Basins cleaned, 21.	

Seventy-second street, Avenue A to Fifth avenue—

Roadway and gutters cleaned.....	153,160 "
Repairs to macadam pavement.....	5,350 "
Basins cleaned, 8.	

Fifth avenue, between One Hundred and Tenth and One Hundred and Twentieth streets—

Gutters cleaned.....	21,266 "
Repairs to macadam pavement.....	1,856 "
Basins cleaned, 11.	

One Hundred and Fifty-fifth street, between St. Nicholas avenue and Boulevard—

Basins cleaned (2).	
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First avenue, between One Hundred and Ninth and One Hundred and Sixteenth streets—

Roadway and gutters cleaned.....	92,412 "
Repairs to macadam pavement.....	1,040 "
Basins cleaned (16).	

Avenue A, between Fifty-seventh and Eighty-sixth street—

Roadway and gutters cleaned.....	448,204 "
Repairs to macadam pavement.....	280 "
Basins cleaned (38).	

Seventh avenue, between One Hundred and Tenth and One Hundred and Fifty-fourth streets—

Gutters cleaned.....	59,240 "
Gravel bank screenings spread.....	100,747 "
Sand and clay removed from roadway.....	62,360 "
Flagging relaid.....	144 "
New bridge stone laid.....	624 "
Repairs to macadam pavement.....	800 "
Block pavement repaired.....	8 "
Basins cleaned (9).	

Sixth avenue, between One Hundred and Tenth and One Hundred and Forty-sixth streets—

Gutters cleaned.....	57,443 "
Gravel bank screenings spread.....	87,690 "
Flagging relaid.....	360 "
New bridge stone laid.....	624 "
Repairs to macadam pavement.....	800 "
Basins cleaned (20).	

One Hundred and Tenth street, between Fifth and Eighth avenues—

Roadway and gutters cleaned.....	69,390 "
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One Hundred and Sixteenth street, between Pleasant and Seventh avenues—

Roadway and gutters cleaned.....	96,000 square feet.
Gutters cleaned.....	26,248 "
Repairs to macadam pavement.....	21,054 "
Basins repaired (4).	

Pleasant avenue, between One Hundred and Nineteenth and One Hundred and Twenty-fourth streets—

Roadway and gutters cleaned.....	79,149 "
Basins cleaned (9).	

Mt. Morris avenue, between One Hundred and Twentieth and One Hundred and Twenty-fourth streets—

Roadway and gutters cleaned.....	62,900 "
Gravel bank screenings spread.....	54,514 "
Repairs to macadam pavement.....	60 "
Basins cleaned (1).	

One Hundred and Twentieth street, between Fifth and Mt. Morris avenues—

Roadway and gutters cleaned.....	12,900 "
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One Hundred and Twenty-fourth street, Pleasant to Fifth and Sixth to Seventh avenues—

Roadway and gutters cleaned.....	141,870 "
Repairs to macadam pavement.....	14,690 1/2 "
Basins cleaned (5).	

One Hundred and Twenty-third street, between Mt. Morris and Eighth avenues—

Roadway and gutters cleaned.....	65,100 "
Repairs to macadam pavement.....	1,750 "
Basins cleaned (0).	

Fifth avenue, between One Hundred and Twenty-fourth and One Hundred and Thirtieth streets—

Roadway and gutters cleaned.....	62,640 "
Gravel bank screenings spread.....	11,344 "
Basins cleaned (9).	

St. Nicholas avenue, between One Hundred and Tenth and One Hundred and Fifty-fifth street—

Roadway and gutters cleaned.....	179,014 "
Roadway repaired with gravel.....	36,647 "
Flagging relaid.....	240 "
Basins cleaned (5).	

One Hundred and Forty-fifth street, between Sixth and Eighth avenues—

Roadway and gutters cleaned.....	99,000 "
Flagging relaid.....	45 "

One Hundred and Tenth street, between First and Fifth avenues—

Roadway and gutters cleaned.....	50,301 "
Macadam pavement repaired.....	3,300 "
Basins cleaned (3).	

One Hundred and Thirty-eighth street, Boulevard to Eleven avenue—

Block pavement.....	
Sand spread.....	10,400 "

## RECAPITULATION.

Roadway and gutters cleaned.....	2,286,881 "
Gutters cleaned.....	358,326 "
Sand spread.....	242,058 "
Macadam pavement repaired.....	123,774.50 "
Lime-stone screenings spread.....	42,900 "
Roadway repaired with gravel.....	9,072 "
Gravel-bank screenings spread.....	254,295 "
Clay removed from roadway.....	62,360 "
New bridge-stone laid.....	1,268 "
Flagging relaid.....	1,005 "
Block pavement repaired.....	250 "
Sidewalks drain dug.....	437 lineal feet.
Open drains cleaned.....	486 "
Sidewalks cleaned of earth.....	2,316 square feet.
Sand spread on block pavement.....	10,400 "
Basins cleaned.....	335 "

The following unpaved roads, streets and avenues, have been cleaned or repaired during the quarter:

Gutters Cleaned and Roadway regulated—

Ninety-fourth street, between Second and Third avenues.  
Eighty-seventh street, between Madison and Fifth avenues.  
Ninety-third street, between Fourth and Fifth avenues.  
Ninety-fifth street, between Madison and Fifth avenues.  
Ninety-first street, between Fourth and Fifth avenues.  
One Hundred and First street, between Madison and Fifth avenues.  
One Hundred and Second street, between Madison and Fifth avenues.  
One Hundred and Third street, between Madison and Fifth avenues.  
One Hundred and Seventh street, between Madison and Fifth avenues.  
One Hundred and Ninth street, between Madison and Fifth avenues.  
Eighty-sixth street, between Western Boulevard and Eighth avenue.  
One Hundred and Eighth street, between Madison and Fourth avenues.  
Seventy-fifth street, between Western Boulevard and Eighth avenues.  
One Hundred and Twenty-sixth street, between St. Nicholas and Ninth avenue.  
Seventy-sixth street, between Eighth and Ninth avenues.  
One Hundred and Eighteenth street, between Fourth and Madison avenues.  
One Hundred and Thirty-second street, between Fourth and Fifth avenues.  
Seventy-fourth street, between Ninth and Tenth avenues.  
One Hundred and Thirty-sixth street, between Madison and Eighth avenues.  
One Hundred and Thirty-second street and Madison avenue.  
Seventy-seventh street, between Eighth and Tenth avenues.  
One Hundred and Thirty-fifth street, between Madison and Eighth avenues.  
One Hundred and Thirty-fourth street, between Seventh and Eighth avenues.  
Madison avenue, between One Hundred and Thirty-fourth and One Hundred and Thirty-seventh streets.  
Kingsbridge road, at Two Hundred and Ninth, Two Hundred and Thirteenth, One Hundred and Eighty-sixth and Two Hundredth streets.  
Lexington avenue, between Ninety-fourth and Ninety-fifth streets.  
Madison avenue, between Eighty-sixth and One Hundred and Tenth streets.  
Pleasant avenue, between One Hundred and Thirteenth and One Hundred and Nineteenth streets.

Repaired Roadway—

Ninety-sixth street and Lexington avenue.

Roadway and gutters cleaned—

Kingsbridge road, between Two Hundred and Ninth and Two Hundred and Twenty-second streets.

Scraped with hose scraper and rolled with horse roller, Madison avenue, between One Hundred and Sixteenth and One Hundred and Twenty-second streets. Gutters cleaned and roadway regulated.

Macadamized the hills at One Hundred and Ninetieth street with gneiss-stone and lime-stone screenings. Area, 6,000 square feet.

Covered the broken stone on Kingsbridge road, between One Hundred and Seventy-fifth and One Hundred and Seventy-Eighth streets with dirt. Area, 15,215 square feet.

Laid two courses of gutter stone on north side of Eighty-sixth street across Tenth avenue, and two courses on west side of Tenth avenue across Eighty-sixth street, 330 lineal feet.

The following amount of material was used on the above work:

2,434 team-loads of dirt.  
149 team-loads of broken stone.  
18 team-loads of lime-stone chips.  
20 team-loads of Telford stone.  
442 team-loads of dirt furnished by contractor.

NOTE.—On Madison avenue, free of cost, not included in the above account.



Kingsbridge road, between One Hundred and Fifty-fifth street and Kingsbridge, has been sprinkled.

Snow has been plowed from sidewalks and gutters on the following streets:

#### Sidewalks—

Kingsbridge road, between One Hundred and Seventy-fifth and Two Hundred and Sixteenth streets.

#### Sidewalks and Gutter—

Eighth avenue, between One Hundred and Thirty-fifth and One Hundred and Fifty-fifth streets.

One Hundred and Thirty-fifth street, between Avenue St. Nicholas and Madison avenue.

One Hundred and Thirty-fourth street, between Avenue St. Nicholas and Madison avenue.

One Hundred and Thirty-third street, between Avenue St. Nicholas and Madison avenue.

Snow has been plowed from the gutters on all macadamized streets, roads and avenues from the sidewalks in front of vacant property. This work is done after each snow-storm.

The following is a summary of the work done for the year, with an account of material used and removed, also the area repaired or covered. The macadam streets, requiring special mention, are the following:

Boulevard, between Fifty-ninth and Seventy-ninth streets, been re-surfaced with Roahook gravel.

Seventh-second street, at the intersection of Ninth avenue, old pavement picked up, re-surfaced with gneiss rock and lime-stone screenings.

One Hundred and Twenty-second street, between Boulevard and Riverside Drive, macadam and Telford removed from the gutters, and the same repaired with block pavement; the roadway was covered with gravel bank screenings, between Tenth avenue and Riverside Drive.

Pleasant avenue, One Hundred and Fifty-fifth and One Hundred and Fifty-second streets.

Mount Morris avenue, Fifth avenue, between One Hundred and Twenty-ninth and One Hundred and Thirtieth streets.

One Hundred and Forty-fifth street, between Tenth avenue and Boulevard.

Sixth avenue, between One Hundred and Tenth and One Hundred and Forty-fifth streets.

Seventh avenue, between One Hundred and Tenth and One Hundred and Twenty-eighth streets, has all been covered with gravel bank screenings. This is the first year that this material has been used on the roads, and has proven to be very satisfactory, keeping the stone well in bond, and in dry weather making a most excellent wheelway.

Seventh avenue, between One Hundred and Twenty-eighth and Thirty-fifth streets, was covered with three inches of sand and clay, against which I protested, and has been an utter failure for road covering material, and is now being removed as rapidly as possible.

One Hundred and Twenty-fourth street, between Lexington and First avenues.

One Hundred and Tenth street, between Lexington and Third avenues, been entirely resurfaced with new broken stone screening and gravel. These roads are now in as good condition as when originally built. A more detailed statement of the work performed during the year, with the amount of material used and removed, is herewith submitted:

Western Boulevard, between One Hundred and Eighteenth and One Hundred and Twenty-third street (west side), was entirely re-surfaced with trap-rock stone, much of which came from One Hundred and Twenty-second street, and lime-stone screenings.

The following is a summary of work done on macadamized roads, streets and avenues during the year, and paid for from the appropriation for "Boulevards, Roads and Avenues—Maintenance of":

	Area.
Roadway and gutters cleaned.....	8,373,383 square feet
Gutters cleaned.....	2,017,336 "
Roadway repaired with trap rock.....	632,119 "
Roadway repaired with gravel.....	759,406 "
Gravel bank screenings spread.....	1,992,374 "
Cow Bay sand spread.....	335,714 "
Coarse sand spread.....	49,200 "
Trap-rock screenings spread.....	20,160 "
Sand and clay spread.....	483,143 "
Gutter stuff spread.....	383,000 "
Flagging relaid.....	4,761 "
Old bridge stone relaid.....	176 "
New bridge stone laid.....	1,721 "
Block pavement relaid.....	628 "
Cobble stone gutter relaid.....	295 "
Lime stone screenings spread.....	64,566 "
Gutter paved with block pavement.....	4,160 "
Sidewalks cleared of earth.....	2,316 "
Sand and clay removed.....	62,360 "
Gutter stone relaid.....	400 lineal feet.
Stone culverts cleaned and repaired.....	207 "
Drains cleaned.....	370 "
Curbs reset.....	66 "
Open drain cleaned.....	486 "
Sidewalk drain constructed.....	437 "
American elm trees planted.....	163 "
Catch stone set in front of basin.....	3 "
Paving blocks used.....	12,140 "
Basins cleaned.....	539 "

The area cleaned as given above is not calculated as the streets having been cleaned but once during each quarter, whereas the fact is, many of them have been cleaned three and four times during each quarter.

The following is an account of the material used and hauled during the year by the teams employed on Boulevards maintenance:

2,807 team-loads of broken stone of trap-rock.

1,267 team-loads of Roahook gravel.

611 team-loads of gravel bank screenings.

756 team-loads of sand.

438 team-loads of dirt.

388 team-loads of trap-rock screenings.

257 team-loads of lime-stone screenings.

237 team-loads of gutter stuff.

142 team-loads of paving blocks.

135 team-loads of sand and clay.

99 team-loads of gneiss stone.

16 team-loads of Telford stone.

13 team-loads of flagging.

220 lineal feet of drain pipe.

The following is an account of the material removed during the year from macadamized roads, streets and avenues:

9,285 team-loads dirt removed from gutters and roadways.

1,202 team-loads dirt from basins.

188 team-loads sand and clay.

657 team-loads broken stone.

153 team-loads Telford stone.

40 team-loads building stone.

29 team-loads sand.

20 team-loads gutter stone.

5 team-loads dirt from sidewalks.

Sewer and water connections repaired during the quarter:

31 sewer connections.

19 water connections.

#### Material used—

75 truck-loads trap-rock.

13½ truck-loads sand.

2 truck-loads gravel bank screenings.

17½ truck-loads dirt removed.

4 truck-loads trap-rock screenings.

123 truck-loads Telford stone.

3 truck-loads gravel.

600 paving blocks.

Statement showing the amount of water used during the quarter in sprinkling the macadamized roads, streets and avenues during the year:

	Barrels or Loads.	Gallons.
First quarter.....	500	281,739
Second quarter.....	17,528	10,787,872
Third quarter.....	29,633	18,196,854
Fourth quarter.....	9,751	5,926,367
Total.....	57,412	35,192,832

The work at the repair shops during the year has been very extensive. The sprinkling carts in use, in this Bureau are very old, and consequently require extraordinary care and repairs to keep

them in condition for use; 20 of these have been thoroughly painted inside and outside, all weak or decayed timbers removed or repaired, and the iron-work generally overhauled, and in fact all the sprinkling carts have been or are now being put in as good condition as their age will admit. In addition to this work 4 tool-boxes have been built, 2 old ones have been repainted, 13 hand-carts have been painted and repaired, 3 new frames have been made for horse rollers, 15 new wheels, 4 pairs of shafts for monitors, 4 new road scrapers, 48 sets of whiffletrees painted, painted 9 wheelbarrows, sharpened 2,477 picks, sharpened and laid 209 picks, made 8 new grubs, 4 sets of whiffletrees, 25 hydrant wrenches, and many pieces of miscellaneous work too numerous to detail. There have been used on this work during the year 1,020 carriage-bolts, 1 small axle, 3,944 pounds of iron, 582 pounds of common steel, 112 lbs. of spring steel, 11½ gross of screws, 48 pieces of rims, 15 hubs, 284 spokes, 579 lbs. of white lead, 263 lbs. of black lead, 165 lbs. of tire iron, 35 lbs. of steel iron, 5 new couplings, 17½ gallons of raw oil, 26 gallons of turpentine, 8½ gallons of varnish, 2,095 feet of old boards, 287 feet of white wood, 876 feet of pine, 1,215 feet of oak, 135 lbs. of nails, 150 feet of rubber hose, and quantities of other material necessary in work of this kind. In addition to this, the old buildings occupied for years as repair shops by the Bureau have been torn down, and such material as was of value removed to the new storage yard at One Hundred and Nineteenth street and St. Nicholas avenue. The new shops have been fitted in proper condition for the work to be performed therein.

The unpaved streets have received general attention, most prominent repairs having been made on the following roadways:

Fort Washington Depot lane, between Kingsbridge road and the Hudson river, resurfaced with lime-stone screenings.

One Hundred and Seventy-fifth street, between Tenth avenue and the Kingsbridge road, for a width of 21 feet in the centre, macadamized with gneiss rock, sand, and lime-stone screenings.

Kingsbridge road, between One Hundred and Seventy-fifth and One Hundred and Seventy-eighth streets, for a width of 20 feet in the centre, macadamized with broken stone and sand.

Inwood lane, between Kingsbridge road and the Hudson river, macadamized with gneiss rock and lime-stone screenings.

Kingsbridge road, between One Hundred and Eighty-ninth and One Hundred and Ninetieth streets, macadamized with gneiss rock and lime-stone screenings.

There was used for macadamizing these streets 1,308 team-loads of gneiss rock furnished free of cost to the Department and broken to the proper size by the employees of the Bureau.

Barry's Hill, between Seventh avenue and Central bridge, repaired with trap-rock stone and trap-rock screenings.

F street, between Inwood street and Bolton road, covered with lime-stone screenings.

Kingsbridge road, between One Hundred and Ninetieth and Inwood streets, macadam repaired with gneiss-rock, sand and lime-stone screenings.

Boulevard, north of One Hundred and Fifty-eighth street (sometimes called French Boulevard), resurfaced with clay.

Madison avenue, between Eighty-sixth street and the bridge, roadway generally regulated.

Kingsbridge road, between One Hundred and Fifty-fifth street and Tenth avenue, generally regulated.

One Hundred and Thirty-fifth street, between St. Nicholas and Madison avenues, gutters opened and roadway properly shaped.

The roadways of the majority of unpaved streets have been generally regulated and gutters opened. A detailed statement of the area macadamized, and the material, is herewith shown:

#### UNPAVED STREETS.

The following amount of material has been used or removed in the cleaning or repairing of unpaved streets and avenues during the year 1886:

#### Used and Built.

5,730 truck-loads of earth.
1,208 truck-loads of Telford stone.
330 truck-loads of lime-stone screenings.
17 truck-loads of cap stone.
573 truck-loads of broken stone.
8 truck-loads of trap-rock screenings.
8 truck-loads of cobble stones.
3,895 truck-loads of Boulevard sweepings.
19 lineal feet curb reset.
495 square feet flagging relaid.
25 lineal feet stone drain built.

#### Material Removed.

59 truck-loads of dirt.
6 truck-loads of stone.

The above amount does not include any material delivered directly on the work by contractors.

The following is a general account of macadamizing and the work done during the year and paid for from the appropriation made for maintaining unpaved streets.

	Area.
Roadway macadamized with gneiss-rock, lime-stone, screenings and sand.....	55,812 square feet.
Roadway macadamized with gneiss-stone and sand.....	15,250 "
Roadway macadamized with gneiss-stone and lime-stone screenings.....	1,681,825 "
Roadway repaired with trap-rock screenings.....	28,000 "
Roadway covered with lime-stone screenings.....	43,440 "
Crosswalk of gutter stone laid.....	330 lineal feet.
Flagging relaid.....	104 "
Curb reset.....	22 "
Stone culverts cleaned and repaired.....	50 "

The following is the amount of money received as rentals for steam road-rollers, horse rollers, sprinklers, etc., and deposited to the credit of the General Fund:

First quarter.....	\$245 75
Second quarter.....	59 68
Third quarter.....	39 00
Fourth quarter.....	51 00

Total.....\$395 40

The following material was obtained, free of cost, and used or stored for future use for the benefit of the City:

Sand and clay, 241 cubic yards, at 75 cents.....	\$180 00
Material suitable for unpaved streets, 334 cubic yards at 30 cents.....	100 20
Telford stone for macadamizing, 1308 truck loads at 25 cents.....	327 00
Sand and clay, 135 cubic yards at 30 cents.....	40 50
Sand and clay, 171 team loads at 15 cents.....	25 65

Total.....\$673 35

The following is a statement of the various appropriations and expenditures on Roads, Streets and Avenues Unpaved—Maintenance of—1886:

Amount appropriated for 1886.....	\$25,000 00
Amount transmitted during the first quarter, 1886.....	1,724 25

Balance, April 1, 1886.....	\$23,275 75
Amount transmitted during the second quarter, ending June 30, 1886.....	6,017 76

Balance, June 30, 1886.....	\$17,258 04
Amount transmitted during the third quarter, ending September 30, 1886.....	9,977 05

Balance, September 30, 1886.....	\$7,280 99
----------------------------------	------------

Amount transmitted during the fourth quarter, ending December 31, 1886, is as follows:

Pay-roll, Laborers, etc., for Sept. 30, 1886.....	\$1,221 75
" " " Oct. 15, ".....	1,099 00
" " " 30, ".....	989 75
" " " Nov. 15, ".....	1,008 75
" " " 30, ".....	899 25
" " " Dec. 15, ".....	974 75
Lime-stone screenings.....	516 25
Use of horse.....	90 00

\$6,799 50

\$481 49

The following is the amount received during the fourth quarter, ending December 31, 1886, for use of sprinklers and road rollers, and deposited to the credit of the General Fund.....\$51 00



The following is a statement of the appropriations and expenditures on Boulevards, Roads and Avenues—Maintenance of, 1886:

Amount appropriated for 1886.....	\$80,000 00
Amount transmitted during the first quarter, 1886.....	6,769 87
Balance, April 1, 1886.....	\$73,230 43
Amount transmitted during the second quarter, ending June 30, 1886.....	24,798 66
Balance, June 30, 1886.....	\$48,431 47
Amount transmitted during the third quarter, ending September 30, 1886.....	23,109 94
Balance, April 1, 1886.....	\$25,321 53
Amount transmitted during the fourth quarter, ending December 31, 1886, is as follows:	
Pay-roll, Laborers, etc., for Sept. 30, 1886.....	\$3,090 12
" " " " Oct. 15, ".....	3,146 30
" " " " " 30, ".....	3,245 49
" " " " Nov. 15, ".....	3,137 80
" " " " " 30, ".....	2,926 93
" " " " Dec. 15, ".....	2,901 37
Road rolling.....	511 22
Use of horse.....	180 00
Trap-rock stone and screenings.....	1,474 50
Lime stone and bridge stone.....	303 45
Powder and fuse.....	4 10
Lumber.....	12 88
Repairs to sprinklers.....	38 34
Supplies.....	211 12
	21,183 62
	\$4,137 91

## Document "I."

DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF LAMPS AND GAS, ROOM 11, No. 31 CHAMBERS STREET,  
NEW YORK, January 8, 1887.

GEN. JOHN NEWTON, Commissioner of Public Works.

SIR—In compliance with your circular letter of 8th ultimo, I have the honor to submit the following report of the transactions of the Bureau of Lamps and Gas, for the quarter ending December 31, 1886; with a summary of the same for the whole year:

In Exhibit "A" will be found a statement showing the amounts expended for a supply of illuminating gas to the various public markets, offices, armories, etc., and for the fitting-up, lighting, and maintenance of the public lamps for the first, second, third and fourth quarters, and the sums total for the entire year.

In Exhibit "B" is a summary of the appropriation for "Lamps and Gas and Electric Lighting," and this shows an expenditure during the fourth quarter of two hundred and thirty-seven thousand and fourteen dollars and ninety-two cents (\$237,014.92), and for the year, of seven hundred and twelve thousand, four hundred and eighty-eight dollars and eighteen cents (\$712,488.18), leaving a surplus balance of six thousand three hundred and eleven dollars and eighty-two cents (\$6,311.82). Of this surplus the sum of four thousand five hundred dollars (\$4,500) has been transferred by the Board of Estimate and Apportionment to the account of "Public Buildings—Construction and Repairs," still leaving a balance of one thousand eight hundred and eleven dollars and eighty-two cents (\$1,811.82).

Exhibit "C" is a summary of the appropriation for "Salaries—Lamps and Gas and Electric Lighting," and this shows an expenditure during the quarter of eleven hundred and twelve dollars and ninety cents (\$1,112.90), and for the year of five thousand and thirty-one dollars and seventy-five cents (\$5,031.75), leaving surplus balance of three hundred and sixty-eight dollars and twenty-five cents (\$368.25).

Exhibit "D" is a summary of the appropriation for "Street Signs on Buildings and Public Lamps," and this shows an expenditure for the quarter of nine hundred and twenty-nine dollars and fifty cents (\$929.50), and for the year of nineteen hundred and seventy-four dollars and fifty cents (\$1,974.50), leaving a surplus balance of three thousand and twenty-five dollars and fifty cents (\$3,025.50). There are no outstanding bills or claims against this Bureau, and hence the foregoing balances are not needed for the purposes of this office.

Exhibit "E" is a summary of the "Lamp Account," showing the number of new lamps lighted, old lamps relighted, and lamps discontinued by each gas and electric light company during the quarter and the year. Two hundred and sixty new gas-lamps have been lighted, ninety-eight old gas-lamps relighted, and seventy-two gas-lamps discontinued during the quarter; and six hundred and fifty new gas-lamps, seventy new naphtha-lamps, and three new electric-lamps have been lighted, two hundred and forty-two old gas-lamps relighted, and two hundred and fifty-three gas-lamps discontinued during the year. The total number of lamps lighted at the close of the year was twenty-four thousand one hundred and ninety-four gas, one hundred and twenty naphtha, and seven hundred and eleven electric-lamps. The total net increase during the year was six hundred and thirty-nine gas, seventy naphtha, and three electric.

Exhibit "F" is a statement showing the lowest, highest and average illuminating power of the gases supplied to the City by the several gas-light companies during the quarter and the year.

Exhibit "G" is a copy of the time-table for lighting and extinguishing the public gas-lamps during the contract year. The electric-lamps are lighted about thirty to forty minutes after sunset and extinguished about thirty minutes before sunrise, according to the conditions of the weather.

The following statement shows the number of new gas-lamps fitted-up, lamp-posts removed, reset, straightened, etc., during the year:

BY WHAT GAS COMPANY.	NEW LAMPS FITTED UP.	LAMP-POSTS REMOVED.	LAMP-POSTS RESET.	LAMP-POSTS STRAIGHTENED.	COLUMNS REFITTED.	COLUMNS RELEADED.
Consolidated Gas Co.—						
New York Branch.....	19	42	41	231	62	271
Manhattan Branch.....	27	27	27	89	13	52
Municipal Branch.....	11	7	8	35	11	10
Metropolitan Branch.....	62	29	47	132	16	52
Harlem Branch.....	342	68	74	310	11	46
New York Mutual Gas-light Co.....	3	3	1	10	....	8
Equitable Gas-light Co.....	14	5	10	39	6	74
Central Gas-light Co.....	103	115	115	202	1	3
Northern Gas-light Co.....	72	9	24	74	....	....
Yonkers Gas-light Co.....	....	....	1	142	....	....
N. Y. & N. J. Globe Gas-light Co.....	70	....	1	1	....	....
Totals.....	720	309	349	1,265	120	516

The following table will show the number of new lamps lighted by the several gas companies in each of the years, from 1879 to 1886, both inclusive:

BY WHAT GAS COMPANY.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.
Consolidated Gas Co.—								
New York Branch.....	78	30	26	31	17	18	23	19
Manhattan Branch.....	131	58	41	67	53	22	50	27
Municipal.....	110	137	126	146	156	67	159	62
Metropolitan Branch.....	134	138	99	219	255	308	312	342
Harlem Branch.....	....	1	....	3	....	5	....	....
New York Mutual Gas-light Co.....	....	....	....	....	....	....	7	14
Equitable Gas-light Co.....	115	49	65	105	75	134	74	103
Central Gas-light Co.....	90	....	67	102	124	109	178	72
Northern Gas-light Co.....	....	16	14	187	36	2	10	....
Yonkers Gas-light Co.....	....	....	....	....	....	....	50	70
* N. Y. & N. J. Globe Gas-light Co.....	....	....	....	....	....	....	....	....
Totals.....	820	422	438	860	716	566	863	720
† Brush Electric Illuminating Co.....	....	23	....	32	....	292	....	1
† United States Illuminating Co.....	....	....	....	73	....	227	61	2

\* Naphtha-lamps.

† Electric-lamps.

The following statement shows the average number of lamps lighted under the supervision of the Department of Public Works in each of the years from 1879 to 1886, both inclusive:

BY WHAT COMPANY.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.
Consolidated Gas Co.—								
New York Branch.....	3,381	3,560	3,565	3,461	3,369	3,046	3,450	3,865
Manhattan Branch.....	6,687	6,804	6,667	6,495	6,477	6,953	4,450	3,239
Municipal Branch.....	....	....	....	....	....	....	....	1,122
Metropolitan Branch.....	4,068	4,282	4,349	4,529	4,658	4,504	4,172	3,719
Harlem Branch.....	4,280	4,682	4,774	4,950	5,157	5,422	5,767	5,787
New York Mutual Gas-light Co.....	800	1,037	986	826	768	591	316	216
Equitable Gas-light Co.....	....	....	....	....	....	....	1,411	1,586
Central Gas-light Co.....	1,764	1,834	1,874	1,938	2,007	2,072	2,205	2,256
Northern Gas-light Co.....	1,026	1,050	1,117	1,181	1,308	1,429	1,551	1,686
Yonkers Gas-light Co.....	72	76	91	207	295	325	331	337
* N. Y. & N. J. Globe Gas-light Co.....	510	....	....	....	....	....	50	90
Brush Electric Illuminating Co.....	....	23	55	55	55	246	347	347
United States Illuminating Co.....	....	....	....	73	73	243	338	361
Totals.....	22,550	23,388	23,478	23,715	24,167	23,931	24,394	24,611

\* These are naphtha-lamps; the 510 were situated in Harlem, and were discontinued in 1879. The 50 lamps lighted in 1885, and added to in 1886, are situated at Woodlawn Heights, in a locality which cannot at present be reached by gas.

In 1886 the New York Branch of Consolidated Company lost 61 lamps by transferring the same to the Equitable Gas-light Co. The Manhattan Branch lost 1,449, of which 440 were transferred to the Municipal Branch, 530 to the Metropolitan Branch, and 74 to the Equitable Gas-light Co. The Metropolitan Branch took 440 from the Manhattan and 2,232 from the Metropolitan Branch. The Metropolitan Branch took 530 from the Manhattan and 734 from the Harlem Branch, and transferred 2,232 to the Municipal Branch and 87 to the Equitable Gas Co. The Harlem Branch transferred 734 to the Metropolitan Branch. The New York Mutual Gas Co. transferred 23 lamps to the Equitable Gas-light Co. The Equitable Gas-light Co. took 222 from the Consolidated and 23 from the New York Mutual Co. The averages are made by adding the total number lighted by the several companies at the end of each month and dividing the results by 12.

Gas-mains have been laid during the year, as follows:

By Consolidated Gas Company.....	48,348' 6"
By New York Mutual Gas-light Company.....	....
By Equitable Gas-light Company.....	126,498' 7"
By Standard Gas-light Company.....	10,362'
By Central Gas-light Company.....	3,556'
By Northern Gas-light Company.....	3,750'
By Yonkers Gas-light Company.....	....
Total laid in 1886, 36 <sup>51</sup> / <sub>80</sub> miles, or.....	192,515' 1"

Gas-mains have been taken up during the year, as follows:

By Consolidated Gas Company.....	1,487'
By Equitable Gas-light Company.....	1,235' 7"
Total taken up.....	2,722' 7"

The total miles of gas-mains in the streets of this city on December 31, 1886, was as follows:

	Miles.	Feet.
Consolidated Gas Company.....	725	3,357' 6"
New York Mutual Gas-light Company.....	122	1,173'
Equitable Gas-light Company.....	77	3,258' 10"
Standard Gas-light Company.....	1	5,082'
Central Gas-light Company.....	50	4,415'
Northern Gas-light Company.....	29	3,460'
Yonkers Gas-light Company.....	10	3,610'
Total miles of gas-mains, December 31, 1886.....	1,018 <sup>336</sup> / <sub>80</sub>	....

Of these mains 927<sup>527</sup>/<sub>80</sub> miles are on Manhattan Island, and 91<sup>325</sup>/<sub>80</sub> miles are in the annexed territory north of Harlem river.

The Equitable Gas-light Company commenced the laying of mains in this city in the month of May, 1883, and it now has of

Four-inch main.....	49,473' 10"
Six-inch main.....	168,269' 2"
Eight-inch main.....	59,955' 6"
Twelve-inch main.....	55,727'
Sixteen-inch main.....	29,684' 7"
Twenty-inch main.....	26,996' 9"
Twenty-four-inch main.....	19,807' 10"
Total.....	409,914' 8"

And it has paid into the City Treasury, as required by the conditions prescribed by the Gas Commission, at the rate of twenty cents per lineal foot, amounting in the aggregate to \$81,982.80, this being the only gas company that makes compensation to the City Treasury for the privilege of laying mains in the streets of this city.

Branch 1, of Consolidated Gas Company (the old New York Gas-light Company), lights the public lamps and supplies gas to the public in that part of the city lying south of the centre line of Houston street. Its works are at Twenty-first street, East river, the manufacture is water-gas, and its office is at the corner of Hester and Elizabeth streets.

Branch 2 (the old Manhattan Company), lights the lamps and supplies gas to the public in that part of the city lying north of the centre line of Houston street and south of the centre line of Twenty-third street. It has two gas-works making coal gas, one of which is at Fourteenth street, East river, and the other at Eighteenth street, North river, and its office is at No. 4 Irving place. The mains of this branch are connected with a main carrying water-gas so that the illuminating power of the gas is increased when it reaches the consumer.

Branch 3 (the old Municipal Co.) lights the lamps and supplies gas to the public in that part of the city lying north of the centre line of Twenty-third street, south of the centre line of Seventy-ninth street, and east of Fifth avenue, including both sides of Fifth avenue, from Fifty-ninth to Seventy-ninth street. Its works are at Forty-fourth street, North river; the manufacture is water-gas, and its office is at Fourth avenue and Twenty-sixth street.

Branch 4 (the old Metropolitan Co.) lights the lamps and supplies gas to the public in that part of the city lying north of the centre line of Twenty-third street, west of the centre line of Fifth avenue to Fifty-ninth street, and west of the westerly line from Fifty-ninth street to Seventy-ninth street; south of Transverse Road No. 2 in Central Park to Eighth avenue, and west of Eighth avenue to centre line of One Hundred and Tenth street to North river, including both sides of the Transverse road, and both sides of Eighth avenue.

Branch 5 (the old Knickerbocker Co.) does not light any public lamps or do any commercial business, its former office having been closed. Its works are at Ninety-ninth street, East river, and it manufactures water-gas, which is supplied to Branch 6.

Branch 6 (the old Harlem Gas Co.) lights the public lamps and furnishes gas to the public in that part of the city lying north of the centre line of Seventy-ninth street and Transverse Road No. 2 to Eighth avenue, thence northerly along Eighth avenue to the centre line of One Hundred and Tenth street; thence westerly along the centre line of One Hundred and Tenth street to North river, excluding both sides of Transverse road and both sides of Eighth avenue south of One Hundred and Tenth street. Its coal-gas works at One Hundred and Eleventh street, East river, have been closed, and it obtains its gas from Branch No. 5. Its office is at Third avenue and One Hundred and Fourteenth street.

The main office of the Consolidated Gas Company is at Irving place and Fifteenth street. Its capital is \$30,070,000, and capacity of works 28,000,000 cubic feet per day.

The New York Mutual Gas-light Company has mains on various streets or parts of streets between Battery place and Sixty-fifth street, and lights a few of the public lamps between Thirty-fourth and Sixty-fifth streets. It manufactures water gas at the works on Eleventh street, East river, and its office is at Fourth avenue and Sixteenth street. The capital is \$3,500,000; capacity of works, 4,000,000 cubic feet per day.

The Equitable Gas-light Company has mains in various streets or parts of streets between Division street on the south and Seventy-fourth street on the north, and lights the lamps on the



lines of its mains which were laid prior to the execution of its present lamp contract. Its works are at Forty-first street, East river; the manufacture is water-gas, and its office is at Third avenue and Twenty-fifth street. Capital, \$3,000,000; capacity of works, 6,000,000 cubic feet per day.

The Central Gas-light Company supplies gas to the Twenty-third Ward (formerly town of Morrisania), and lights all the public lamps therein. It manufactures coal gas at the works at One Hundred and Thirty-eighth street, Port Morris, and its office is at Alexander avenue and One Hundred and Forty-second street. Capital, \$450,000; capacity of works, 400,000 cubic feet per day.

The Northern Gas-light Company supplies gas to that part of the Twenty-fourth Ward formerly town of West Farms, and lights the public lamps therein. It manufactures coal-gas at its works on the Bronx river, West Farms, and its office is at No. 1845 Fourth avenue, Tremont. Capital, \$125,000; capacity of works, 150,000 cubic feet per day.

The Yonkers Gas-light Company has mains in, supplies gas to, and lights the public lamps in a small section of the Twenty-fourth Ward (formerly town of Kingsbridge). Its gas works and office are in the City of Yonkers, and its manufacture is water-gas. Capital, \$200,000; capacity of works, 250,000 cubic feet per day; business principally confined to the City of Yonkers, Westchester County.

The New York and New Jersey Globe Gas-light Company lights its lamps by means of naphtha contained in a reservoir on each lamp.

The Standard Gas-light Company commenced the laying of mains in November last, and up to December 31 it had laid mains in Fifty-seventh, Fifty-ninth and Sixty-seventh streets, from Madison avenue to Second avenue; and in Second avenue, from Fifty-seventh to Seventy-first street; and it has commenced the erection of gas works at One Hundred and Fifteenth street, East river. The manufacture is to be water-gas, and its office is at No. 2 Cortlandt street. Capital, \$1,000,000. The right of this company to lay gas-mains in the streets of this City was obtained from the State Legislature, by a special law (chapter 248 of the Laws of 1886), and this is the only case where a gas company has laid pipes in our public thoroughfares without the necessity of securing the consent of the Common Council.

The length of new streets lighted during the year 1886 was  $8\frac{2}{3}$  miles.

The total length of streets of the city lighted on December 31, 1886, was  $464\frac{1}{2}$  miles.

The total length of piers lighted was  $1\frac{1}{2}$  miles.

The total length of bridges lighted was  $1\frac{1}{2}$  miles.

The total area of parks lighted was  $38\frac{1}{2}$  acres.

The total area of Gansevoort market lighted was  $3\frac{1}{4}$  acres.

New lamps have been erected and lighted in the following streets during the year:

Thirtieth street, from First avenue to East river.

Sixty-fifth street, from Tenth avenue, west, one-half the block.

Seventieth street, from Tenth to Eleventh avenue.

Seventy-ninth street, north side, from Tenth avenue to the Boulevard.

Eightieth street, from Avenue A to Avenue B.

Eighty-seventh street, from Tenth avenue, east, one-half the block.

Ninetieth street, from Second to Third avenue.

Ninety-fourth street, from Eighth to Ninth avenue.

Ninety-seventh street, from Lexington to Fourth avenue.

Ninety-seventh street, from Eighth to Ninth avenue.

Ninety-eighth street, from Second to Third avenue.

Ninety-ninth street, from Second to Third avenue.

Ninety-ninth street, from Boulevard to Eleventh avenue.

One Hundred and Sixth street, from Madison to Fourth avenue.

One Hundred and Fifteenth street, from Fourth to Fifth avenue.

One Hundred and Sixteenth street, Eighth to Ninth avenue.

One Hundred and Twenty-first street, from Sixth to Seventh avenue.

One Hundred and Twenty-third street, from Ninth to St. Nicholas avenue.

One Hundred and Twenty-fifth street, from Tenth avenue to the Boulevard.

One Hundred and Twenty-ninth street, from Manhattan street to the Boulevard.

One Hundred and Thirty-fifth street, from Fourth to Madison avenue.

One Hundred and Forty-first street, from Tenth avenue to Hamilton place.

First avenue, from Eighty-eighth to One Hundred and Fifth street.

Eighth avenue, from One Hundred and Fifty-fifth to One Hundred and Fifty-ninth street.

Ninth avenue, from Ninety-ninth to One Hundred and Ninth street.

Tenth avenue, west side, from One Hundred and Thirty-first to One Hundred and Forty-fourth st.

Dewey place, from Forty-fourth to Forty-fifth street.

Madison avenue, east side, from Ninetieth to One Hundred and Ninth street.

Manhattan avenue, from One Hundred and Fifth to One Hundred and Sixth street.

Pleasant avenue, from One Hundred and Fourteenth to One Hundred and Fifteenth street.

Washington street, from Little West Twelfth to Fourteenth street.

The following streets in Twenty-third Ward:

One Hundred and Fortieth street, from Brook avenue to Willis avenue.

One Hundred and Forty-ninth street, from Third avenue to St. Ann's avenue.

One Hundred and Forty-ninth street, from Beach avenue to Prospect avenue.

Arcularius place, from Gerard avenue to Mott avenue.

Brown place, from One Hundred and Thirty-fourth to One Hundred and Thirty-fifth street.

Prospect avenue, from One Hundred and Sixty-fifth to One Hundred and Sixty-sixth street.

Tinton avenue, from One Hundred and Sixty-first to One Hundred and Sixty-third street.

The following streets in Twenty-fourth Ward:

Adams avenue, from Kingsbridge road to Columbine avenue.

Jerome avenue, from Kingsbridge road to Southern Boulevard.

Madison avenue, from Kingsbridge road to Crescent avenue.

Peiham avenue, from Hoffman street to Broadway.

Popham street, from Morris avenue to Fleetwood avenue.

Southern Boulevard, from Hull avenue to Perry avenue.

Woodlawn Heights, Twenty-fourth Ward.

Grand avenue, from Third street to the New York City and Northern Railroad.

The following statement will show the prices now paid the several companies, under the existing contracts, for furnishing the gas to and lighting, extinguishing, cleaning, repairing and maintaining the public lamps for the year ending on April 30, next:

CONTRACTOR.	For Gas to and Lighting, Extinguishing, etc., each Lamp, per annum.	For each Lamp-post Straightened.	For each Column Replaced.	For each Column Refitted.	For each Lamp-post Removed.	For each Lamp-post Reset.	For each New Lamp Fitted-up.
Consolidated Gas Co.	\$17 50	\$1 50	\$1 50	\$3 50	\$3 50	\$8 00	\$8 00
New York Mutual Gas-light Co.	17 50	1 50	1 50	3 50	3 50	8 00	8 00
Equitable Gas-light Co.	12 00	1 50	1 50	3 50	3 50	10 00	10 00
Central Gas-light Co.	28 00	1 50	1 50	1 50	3 50	8 00	8 00
Northern Gas-light Co.	30 00	1 50	1 50	3 00	3 50	8 00	8 00
Yonkers Gas-light Co.	30 00	1 00	1 00	1 00	1 50	8 00	8 00
New York and New Jersey Globe Gas-light Co.	25 00	1 00	1 00	2 00	3 00	5 00	5 00

#### Electric Lamp Contracts.

United States Illuminating Company, for the year ending April 30, 1887, at seventy cents each lamp per night (\$255.50 per year), including the fitting-up and every cost of maintenance for lighting the following-named streets:

	Lamps.
Bleecker street, from the Bowery to Eighth avenue.	34
Broadway, from Battery place to Thirtieth street.	53
Canal street, from the Bowery to North river.	26
Catharine street, from East Broadway to East river.	7
Chambers street, from Broadway to North river.	8
East Broadway, from Chatham Square to Grand street.	20
Fifth avenue, from Washington Square to Fourteenth street.	7
Fulton street, from North river to East river.	17
South street, from Whitehall to Grand street.	64
West street, from Battery place to Eleventh street.	50
Battery Park.	20
City Hall Park.	13
Tompkins Park.	16
Washington Park.	15
Gansevoort Market Square.	13

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Brush Electric Illuminating Company, for the year ending April 30, 1887, at seventy cents each lamp per night (\$255.50), including the fitting-up and every cost of maintenance, for lighting the following-named streets:

	Lamps.
Broadway, from Fourteenth street to Fifty-ninth street.	47
Fifth avenue, from Fourteenth to Fifty-ninth street.	41
Fourth avenue, from Eighteenth to Thirty-fourth street.	16
Park avenue, from Thirty-fourth to Forty-second street.	9
Seventh avenue, from Fourteenth to Fifty-ninth street.	43
Fourteenth street, from North river to East river.	40
Twenty-third street, from North river to East river.	34
Thirty-fourth street, from North river to East river.	36
Forty-second street, from North river to East river.	36
Fifty-ninth street, from Third to Ninth avenue.	22
Madison Park, 6 lamps on mast, equivalent to.	12
Union Park, 6 lamps on mast, equivalent to.	12

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The total aggregate length of streets now lighted by electric-lights is thirty-miles, and the total area of public parks and Gansevoort Market is forty-one and three-fourths acres.

In order that a comparison may be made of the relative cost of lighting the streets by electric-lights and by gas, I submit the following:

Statement Showing the Streets and Public Places now Lighted by Electric-lights, with the Number of such Lights and Cost of Same; also the Number of Gas-lamps Displaced by Electric-lights and Annual Cost of Gas-lamps:

STREETS AND PUBLIC PLACES NOW LIGHTED.	Number of Electric-lamps, at \$255.50 each per Year.	Aggregate cost of same per Year.	Number of Gas-lamps Displaced, at \$17.50 each per Year.	Aggregate cost of same per Year.	Excess of cost for Electric-lamps per Year.
Bleecker street, from Bowery to Eighth avenue.	34	\$8,687 00	128	\$2,240 00	\$6,447 00
Broadway, from Battery place to Fifty-ninth street.	109	25,550 00	490	8,575 00	16,975 00
Canal street, from Bowery to North river.	26	6,643 00	89	1,557 50	5,085 50
Catharine street, from East Broadway to East river.	7	1,788 50	28	490 00	1,298 50
Chambers street, from Broadway to North river.	8	2,044 00	22	385 00	1,659 00
East Broadway, from Chatham Square to Grand street.	20	5,110 00	90	1,575 00	3,535 00
Fulton street, from North to East river.	17	4,343 50	56	980 00	3,363 50
Fourth avenue, from Eighteenth to Thirty-fourth street.	17	4,343 50	75	1,312 00	3,031 50
Fifth avenue, from Fourteenth to Fifty-ninth street.	48	12,204 00	249	4,357 50	7,846 50
Park avenue, from Thirty-fourth to Forty-second street.	8	2,044 00	70	1,225 00	819 00
Seventh avenue, from Fourteenth to Fifty-second street.	43	10,986 50	167	2,922 50	8,064 00
Fourteenth street, from North to East river.	40	10,220 00	153	2,677 50	7,542 50
Twenty-third street, from North to East river.	34	8,687 00	118	2,065 00	6,622 00
Thirty-fourth street, from North to East river.	36	9,198 00	108	1,890 00	7,308 00
Forty-second street, from North to East river.	36	9,198 00	145	2,537 50	6,660 50
Fifty-ninth street, from Third to Ninth avenue.	22	5,621 00	80	1,400 00	4,221 00
South street, from Whitehall to Grand street.	64	16,352 00	198	3,465 00	12,887 00
West street, from Battery place to West Eleventh street.	50	12,775 00	217	3,797 50	8,977 50
Battery Park.	20	5,110 00	60	1,050 00	4,060 00
City Hall Park.	13	3,321 50	98	1,715 00	1,606 50
Tompkins Park.	16	4,088 00	157	2,747 50	1,340 50
Washington Park.	15	3,832 50	129	2,257 50	1,575 00
Madison Park.	12	3,066 00	94	1,645 00	1,421 00
Union Park.	12	3,066 00	66	1,155 00	1,911 00
Gansevoort Market Square.	13	3,321 50	85	1,487 50	1,834 00
Totals.	711	\$181,660 50	3,211	\$56,192 50	\$125,468 00

Resolutions have been adopted by the Board of Aldermen requesting the Gas Commission to cause a number of additional streets to be lighted by the electric system, and in order to show the additional expense which would be incurred by such lighting, I submit the following:

Statement showing the Several Streets or Parts of Streets and Public Places in which on Extension of Electric-lights is requested by Resolution of the Common Council, with the Estimated Number of Lights required to comply with same, and the cost; also the Number of Gas-lamps which could be Displaced, and their cost.

FOR WHAT STREETS.	Estimated number of Electric-lights.	Aggregate Cost of Same per Year.	Number of Gas-lamps Displaced.	Aggregate Cost of Same per Year.	Excess of Cost of Electric Lighting.
Avenue A, Houston to Eighth street .....	8	\$2,044 00	22	\$385 00	\$1,659 00
Avenue A, Tenth to Fourteenth street .....	4	1,022 00	12	210 00	812 00
Avenue B, Houston to Twenty-third street .....	20	5,110 00	50	875 00	4,235 00
Avenue C, Houston to Fourteenth street .....	15	3,832 50	49	857 50	2,975 00
Avenue D, Houston to Fourteenth street .....	13	3,321 50	35	612 50	2,709 00
First avenue, Twenty-third to Forty-second street .....	17	4,343 50	69	1,207 50	3,136 00
First avenue, Houston to Fourteenth street .....	14	3,577 00	61	1,067 50	2,509 50
First avenue, Fifty-ninth to Eighty-sixth street .....	29	7,409 50	108	1,890 00	5,519 50
Second avenue, Houston to Eighth street .....	8	2,044 00	31	542 50	1,501 50
Second avenue, Twenty-third to Forty-second street .....	17	4,343 50	71	1,242 50	3,101 00
Third avenue, Twenty-third to Forty-second street .....	17	4,343 50	75	1,312 50	3,031 00
Third avenue, One Hundred and Sixth to One Hundred and Thirtieth street .....	25	6,387 50	100	1,750 00	4,637 50
Fourth avenue, Fifth to Fourteenth street .....	10	2,555 00	46	805 00	1,750 00
Third avenue, Harlem Bridge to One Hundred and Seventieth street .....	53	13,541 50	190	3,325 00	10,216 50
Fifth avenue, Fifty-ninth to One Hundred and Tenth street ..	50	12,775 00	210	3,675 00	9,100 00
Sixth avenue, Fourteenth to Fifty-ninth street .....	41	10,475 50	180	3,150 00	7,325 50
Eighth avenue, Fourteenth to One Hundred and Tenth street ..	91	23,250 50	285	4,987 50	18,263 00
Ninth avenue, Fourteenth to Forty-second street .....	27	6,898 50	113	1,977 50	4,921 00
Ninth avenue, west side, between Fifty-ninth and Sixtieth streets ..	1	255 50	4	70 00	185 50
Tenth avenue, Fourteenth to Forty-second street .....	27	6,898 50	108	1,890 00	5,008 50
Eleventh avenue, Fourteenth to Forty-second street .....	27	6,898 50	104	1,820 00	5,078 50
Thirteenth avenue, Eleventh to Twenty-fifth street .....	20	5,110 00	73	1,277 50	3,832 50
Tenth street, Avenue A to Third avenue .....	8	2,044 00	18	315 00	1,729 00
Tenth street, West street to Sixth avenue .....	12	3,066 00	32	560 00	2,506 00
Fifteenth street, Seventh avenue to North river .....	13	3,321 50	30	525 00	2,796 50
Sixteenth street, Seventh avenue to North river .....	14	3,577 00	31	542 50	3,034 50
Seventeenth street, Seventh avenue to North river .....	14	3,577 00	27	472 50	3,104 50
Eighteenth street, Seventh avenue to North river .....	14	3,577 00	31	542 50	3,034 50
Nineteenth street, Seventh avenue to North river .....	14	3,577 00	29	507 50	3,069 50
Twentieth street, Seventh avenue to North river .....	14	3,577 00	33	577 50	2,999 50
Twenty-first street, Seventh avenue to North river .....	14	3,577 00	32	560 00	3,017 00
Twenty-second street, Seventh avenue to North river .....	14	3,577 00	34	595 00	2,982 00
Twenty-third street, Seventh avenue to North river .....	14	3,577 00	35	612 50	2,964 50
Twenty-fifth street, Seventh avenue to North river .....	14	3,577 00	31	542 50	3,034 50
Twenty-sixth street, Seventh avenue to North river .....	14	3,577 00	30	525 00	3,052 00
Twenty-seventh street, Seventh avenue to North river .....	14	3,577 00	30	525 00	3,052 00
Twenty-eighth street, Seventh avenue to North river .....	15	3,832 50	29	507 50	3,325 00
Twenty-ninth street, Seventh avenue to North river .....	15	3,832 50	33	577 50	3,255 00
Thirtieth street, Seventh avenue to North river .....	15	3,832 50	40	700 00	3,132 50
Thirty-first street, Seventh avenue to North river .....	15	3,832 50	30	525 00	3,307 50
Thirty-second street, Seventh avenue to North river .....	15	3,832 50	29	507 50	3,325 00
Thirty-third street, Seventh avenue to North river .....	15	3,832 50	31	542 50	3,290 00
Thirty-fifth street, Seventh avenue to North river .....	15	3,832 50	46	805 00	3,027 50
Thirty-sixth street, Seventh avenue to North river .....	15	3,832 50	28	490 00	3,342 50
Thirty-seventh street, Seventh avenue to North river .....	15	3,832 50	33	577 50	3,255 00
Thirty-eighth street, Seventh avenue to North river .....	15	3,832 50	35	612 50	3,220 00
Thirty-ninth street, Seventh avenue to North river .....	15	3,832 50	37	647 50	3,185 00
Fortieth street, Seventh avenue to North river .....	19	4,854 50	44	770 00	4,084 50
Forty-first street, Seventh avenue to North river .....	19	4,854 50	41	717 50	4,137 00
Forty-third street, Seventh avenue to North river .....	19	4,854 50	44	770 00	4,084 50
Forty-fourth street, Seventh avenue to North river .....	19	4,854 50	40	700 00	4,154 50
Forty-fifth street, Seventh avenue to North river .....	19	4,854 50	47	822 50	4,032 00
Forty-sixth street, Seventh avenue to North river .....	19	4,854 50	40	700 00	4,154 50
Forty-seventh street, Seventh avenue to North river .....	19	4,854 50	40	700 00	4,154 50
Forty-eighth street, Seventh avenue to North river .....	19	4,854 50	41	717 50	4,137 00
Forty-ninth street, Seventh avenue to North river .....	19	4,854 50	43	752 50	4,102 00
Fiftieth street, Seventh avenue to North river .....	19	4,854 50	39	682 50	4,172 00
Fifty-first street, Seventh avenue to North river .....	19	4,854 50	46	805 00	4,049 50
Fifty-second street, Seventh avenue to North river .....	19	4,854 50	38	665 00	4,189 50
Fifty-third street, Seventh avenue to North river .....	19	4,854 50	30	595 00	4,399 50



FOR WHAT STREETS.	Estimated number of Electric-lights.	Aggregate Cost of Same per Year.	Number of Gas-lamps Displaced.	Aggregate Cost of Same per Year.	Excess of Cost of Electric Lighting.
Fifty-fourth street, Seventh avenue to North river	19	\$4,854 50	37	\$647 50	\$4,207 00
Fifty-fifth street, Seventh avenue to North river	19	4,854 50	37	647 50	4,207 00
Fifty-sixth street, Seventh avenue to North river	19	4,854 50	37	647 50	4,207 00
Fifty-seventh street, Seventh avenue to North river	19	4,854 50	37	647 50	4,207 00
Fifty-eighth street, Seventh avenue to North river	19	4,854 50	37	647 50	4,207 00
Fifty-ninth street, Ninth avenue to North river	13	3,321 50	30	525 00	2,796 50
Seventy-second street, Central Park to North river	14	3,577 00	22	385 00	3,192 00
Eighty-sixth street, First avenue to East River Park	7	1,788 50	20	350 00	1,438 50
Ninety-second street, Central Park to North river	14	3,577 00	22	385 00	3,192 00
One Hundred and Twenty-fifth street, East to North river	38	9,709 00	145	2,537 50	7,171 50
Barclay street, Broadway to West street	6	1,533 00	18	315 00	1,218 00
Barrow street, West to Fourth street	10	2,555 00	30	525 00	2,030 00
Bowery, Chatham Square to Sixth street	40	10,220 00	100	1,750 00	8,470 00
Broad street, Wall to South street	9	2,299 50	34	595 00	1,704 50
Canal street, Bowery to East Broadway	7	1,788 50	24	430 00	1,358 50
Carmine street, Varick to Bleeker street	4	1,022 00	10	175 00	847 00
Centre street, Chambers to Broome street	15	3,832 50	40	700 00	3,132 50
Circle, Eighth avenue and Fifty-ninth street	12	3,066 00	20	350 00	2,716 00
Chatham street, Tryon Row to Oliver street	12	3,066 00	18	315 00	2,751 00
Christopher street, West street to Sixth avenue	14	3,577 00	44	770 00	2,807 00
Clarkson street, West to Varick street	7	1,788 50	14	245 00	1,543 50
Cortlandt street, Broadway to North river	5	1,277 50	21	367 50	910 00
Desbrosses street, Hudson street to North river	4	1,022 00	10	175 00	847 00
East river water-front, Grand to Fourteenth street	22	5,621 00	42	735 00	4,886 00
Elizabeth street, Canal to Bleeker street	14	3,577 00	32	560 00	3,017 00
Grand street, East river to Sullivan street	36	9,198 00	151	2,642 50	6,555 50
Greenwich avenue, Sixth to Eighth avenue	10	2,555 00	30	525 00	2,030 00
Houston street, East to North river	44	11,242 00	120	2,100 00	9,142 00
Hudson street, Chambers to Fourth street	34	8,687 00	137	2,397 50	6,289 50
James street, Chatham Square to East river	6	1,533 00	18	315 00	1,218 00
Liberty street, Broadway to North river	5	1,277 50	13	227 50	1,050 00
Madison avenue, Twenty-third to Fifty-ninth street	32	8,176 00	120	2,100 00	6,076 00
Mott street, Canal to Bleeker street	14	3,577 00	36	630 00	2,947 00
Mulberry street, Canal to Bleeker street	14	3,577 00	36	630 00	2,947 00
Oliver street, Chatham Square to East river	7	1,788 50	24	430 00	1,358 50
Paradise Park	3	755 50	9	157 50	598 00
Pier 12, East river	1	255 50	1	255 50	0 00
Roosevelt street, Chatham Square to East river	7	1,788 50	24	430 00	1,358 50
Spring street, Bowery to North river	20	5,110 00	72	1,260 00	3,850 00
Varick street, Canal to Carmine street	11	2,810 00	32	560 00	2,250 00
Vesey street, Broadway to West street	6	1,533 00	18	315 00	1,218 00
Wall street, Broadway to East river	10	2,555 00	35	612 50	1,942 50
Washington street, Fulton street to Battery place	15	3,832 50	40	700 00	3,132 50
West street, Eleventh to Fourteenth street	12	3,066 00	36	630 00	2,436 00
West Washington place	1	255 50	4	70 00	185 50
Whitehall street, Bowling Green to South Ferry	7	1,788 50	18	315 00	1,473 50
Worth street, Broadway to Chatham Square	11	2,810 00	19	332 50	2,477 50
Bryant Park	16	4,088 00	0	0 00	4,088 00
Mount Morris Park	12	3,066 00	0	0 00	3,066 00
Central Park Drives	254	64,897 00	0	0 00	64,897 00
The following in Twenty-third Ward:					
Courtland avenue, One Hundred and Forty-sixth to One Hundred and Fifty-second street	5	1,277 50	20	560 00	717 50
Third avenue, One Hundred and Thirtieth to One Hundred and Sixty-seventh street	35	8,942 50	160	4,480 00	4,462 50
Total	2,123	\$542,426 50	5,385	\$96,127 50	\$446,299 00

The following statement will show the average amount of impurities found in the gases of the several gas companies, as determined by the analyses made by Dr. E. G. Love, our Gas Examiner, in the laboratories of this Department:

OF WHAT COMPANY.	SULPHUR. (Grains in 100 cubic feet.)				AMMONIA. (Grains in 100 cubic feet.)				SULPHURET HYDROGEN.
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	
Consolidated Gas Co.—									
New York Branch	3.65	4.61	3.26	4.41	0.41	0.64	0.23	0.37	
Manhattan Branch	17.99	9.67	5.12	15.85	0.72	8.01	2.59	3.80	
Municipal Branch	5.47	5.37	2.85	4.22	0.57	0.71	0.14	0.33	
Metropolitan Branch	18.35	21.29	29.45	17.39	2.81	6.07	4.06	2.88	
Harlem Branch	4.82	3.48	7.30	4.93	0.90	0.91	0.89	0.48	
New York Mutual Gas-light Co.	2.58	4.42	5.17	4.83	0.56	0.37	0.14	0.16	Traces.
Equitable Gas-light Co.	2.76	2.76	3.45	3.26	0.31	0.25	0.13	0.14	

The following shows the specific gravity of the gases:

OF WHAT COMPANY.	FIRST QUARTER.	SECOND QUARTER.	THIRD QUARTER.	FOURTH QUARTER.
Consolidated Gas Co.—				
New York Branch	.629	.623	.623	.633
Manhattan Branch	.410	.483	.515	.480
Municipal Branch	.647	.655	.656	.661
Metropolitan Branch	.505	.568	.538	.512
Harlem Branch	.641	.629	.619	.624
New York Mutual Gas-light Co.	.675	.753	.726	.733
Equitable Gas-light Co.	.651	.673	.636	.644

The gases manufactured by the several companies are of the following kinds:

New York Branch of Consolidated Gas Co., water-gas, "Tessie du Motay" process.  
Manhattan Branch of Consolidated Gas Co., coal-gas, mixed with water-gas.  
Municipal Branch of Consolidated Gas Co., water-gas, "Tessie du Motay" process.  
Metropolitan Branch of Consolidated Gas Co., coal-gas.  
Knickerbocker Branch of Consolidated Gas Co., water-gas, "Tessie du Motay" process.  
New York Mutual Gas-light Co., water-gas, "Wilkinson's" process.  
Equitable Gas-light Co., water-gas, "Jerzmanowski" process.  
Central Gas-light Co., coal-gas.  
Northern Gas-light Co., coal-gas.  
Yonkers Gas-light Co., water-gas, "Saulsbury" process.

The following statement will show the average maximum and minimum pressure on the mains of such of the companies as connect with our photometric stations, as recorded on the pressure registers during the year, the averages being made for the time during which the public lamps are required to be kept lighted:

OF WHAT COMPANY.	AVERAGE MAXIMUM.				AVERAGE MINIMUM.			
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
Consolidated Gas Co.—								
New York Branch	Inch. 1.39	Inch. 1.06	Inch. 1.41	Inch. 1.98	Inch. 1.12	Inch. 0.98	Inch. 1.34	Inch. 1.57
Manhattan Branch	2.24	2.09	2.14	2.40	1.13	1.00	1.36	1.51
Municipal Branch	2.43	2.17	2.23	2.59	1.32	1.29	1.44	1.38
Metropolitan Branch	1.44	1.53	1.39	1.43	0.72	0.82	0.83	0.81
Harlem Branch	3.04	2.90	2.98	3.12	1.30	1.32	1.35	1.37
New York Mutual Gas-light Co.	2.49	2.41	2.22	3.44	1.75	1.65	1.85	1.87
Equitable Gas-light Co.	2.77	1.99	2.44	2.61	1.45	1.31	1.59	1.57

The total consumption of gas in the public markets, armories and other buildings lighted by this Department in 1886 was 25,463,400 cubic feet, for which the price paid per thousand was \$1.50 to the Consolidated Gas Co. and \$1.40 to the Equitable Gas Co. The price for year 1887 will be \$1.25 per thousand, and the same will be charged by all the companies to private consumers.

The Fire Department (by the permission of the Commissioner of Public Works), has attached fire-alarm signal-boxes to several of the lamp-posts on Broadway and Fifth avenue, which lamp-posts were out of use in consequence of the streets being lighted by electric lights, and also to

several of the lamp-posts on streets lighted by gas. A request was then made that the Broadway and Fifth avenue lamp-posts be fitted up with lanterns and the lamps relighted in order that the signal-box lamp-posts might readily be seen at night. The Common Council accordingly adopted a resolution, which was approved by the Mayor on June 30, 1886, directing that red lamps be placed on the lamp-posts having fire-alarm signal-boxes attached thereto, and that said lamps be lighted. In accordance with this resolution a lantern was made and submitted to and approved by the Fire Commissioners, and such lamps have been placed on all lamp-posts containing the signal-boxes, and the lamps on Broadway and Fifth avenue have been relighted. These lanterns contain ruby glass and are arranged with three street signs, also a sign containing the words "Fire-Alarm," while the door glass contains, in legible characters, directions for opening the signal-box and sending the alarm, and these directions are as legible at night as by day.

In my report for the quarter, ending December 31, 1876, reference was made to the fact that the street-lamp burners in use in this city were of the same capacity (3 cubic feet per hour), as originally adopted in the early days of the city's street-lighting; and a suggestion was then made that the capacity of the burners be increased. In my report for the quarter ending December 31, 1878, I again referred to the matter, and the then Commissioner of Public Works, Mr. Allan Campbell, in his report to the Mayor for the same quarter, adopted the suggestion and advised that burners of a larger capacity be provided, at the same time calling attention to the burners in use in the principal cities of this country and Europe.

We find that nearly all the large cities of this country and all the principal cities of Europe use burners consuming from four to seven feet of gas per hour, while New York City, the great commercial metropolis of this continent, appears to be content with the present inadequate three-foot burner, while it must be apparent to all observers that the streets of this city are, in a general way, very inefficiently lighted. The comfort, convenience, and protection of the people require that our thoroughfares should be thoroughly lighted at night, as it is beyond dispute that properly lighted streets add very materially to the protection of the people and serve as a valuable adjunct to the police.

We have now 466 miles of lighted streets, of which 435 miles are lighted by gas, and 31 miles by electric-lights at an excess of cost of \$125,000 over the former gas-lights. The property-owners on the 435 miles of gas-lighted streets pay their proportionate rate toward the lighting of the 31 miles of electric-lighted streets, while their own localities are inefficiently lighted by a 3-foot gas-burner adopted half a century ago. In enlarging the capacity of the gas-burner the only additional cost incurred is on account of the proportionate increased consumption of gas, as the expense for lighting, extinguishing, cleaning, etc., remains the same.

As the appropriation for public lighting for the current year has been permanently fixed, and the amount allowed by the Board of Estimate and Apportionment was based upon the gas burners now in use, and upon the existing gas and electric-light districts, no provision having been made for additional electric-lights, of course the gas-burners cannot be enlarged during the current year; but I deem it proper that the attention of the Gas Commission be called to the matter, so that the question may be considered before the final appropriations for 1888 shall have been made.

In the year 1877, and prior thereto, the cost of the gas consumed in the armories of the "National Guard" was defrayed by the several military organizations out of their regimental funds. In the year 1878 a law was enacted by the State Legislature which provided that the armories should be lighted at the expense of the county in which the same may be located. Since the passage of said law the consumption of gas in the armories of this city has been constantly on the increase. In 1877 the total amount of gas consumed in nine armory buildings in this city was 1,763,100 cubic feet, while in the same buildings during 1886 there was consumed 5,584,800, an increase of 3,821,700 cubic feet. That the gas is extravagantly used, and much of it wasted, is evidenced from the fact that our inspectors have frequently found the gas-burners lighted at mid-day. Balls, concerts, athletic exhibitions, etc., are held in the armories, and, of course, these use a very large quantity of gas at the expense of the city. An exception, however, is made at the armory of the Seventh Regiment, as this organization, on assuming the occupancy of its new armory, adopted stringent rules and regulations covering the burning of gas, and a record is kept by it of the amount of gas consumed on occasions other than for strictly regimental purposes, and this amount is deducted from the bills of the gas company at the close of the year, and the check of the regiment is sent to the gas company for the amount of the gas deducted. As the City has erected a large and commodious armory for one of the military organizations, which will doubtless be occupied within the next two months, and as several other buildings will probably be erected within the next two years, it seems to me proper that some regulations should be adopted, either by ordinance of the Common Council, or by the military authorities of the State, whereby the City should be relieved from the payment of gas bills for the gas consumed on all occasions outside of the military code.

All of which is respectfully submitted,

S. McCORMICK, Superintendent of Lamps and Gas.

#### EXHIBIT "A."

Statement showing the Amounts on Vouchers drawn for Gas to the various Public Markets, Offices, etc., and for Fitting-up, Repairing, Lighting, etc., the Public Lamps, for the First, Second, Third and Fourth Quarters of the Year 1886, with the Totals for the Whole Year.

	FIRST QUARTER, ENDING MARCH 31.	SECOND QUARTER, ENDING JUNE 30.	THIRD QUARTER, ENDING SEPT. 30.	FOURTH QUARTER, ENDING DEC. 31.	TOTAL.
Washington Market.....	\$817 50	\$668 40	\$634 65	\$734 47	\$2,855 02
Catharine Country Market.....	28 05	18 30	16 50	22 35	85 20
Catharine Meat Market.....	22 50	19 80	21 45	24 18	87 93
Fulton Meat Market.....	378 15	338 55	331 80	386 39	1,434 89
Fulton Country Market.....	649 20	517 05	492 30	597 30	2,250 85
Essex Market.....	36 96	27 30	20 16	35 98	120 40
Centre Market.....	90 15	44 70	17 10	62 99	214 94
Clinton Market.....	191 10	148 20	145 80	180 20	665 30
Union Market.....	11 40	5 55	5 10	13 05	35 70
Tompkins Market.....	157 78	122 78	119 28	155 54	555 38
Jefferson Market.....	379 68	234 78	111 58	293 10	1,019 20
First District Police Court.....	317 70	317 10	217 20	310 52	1,162 52
Second District Police Court.....	147 08	99 96	44 66	141 68	433 38
Third District Police Court.....	52 08	36 26	24 34	47 04	160 72
Fourth District Police Court.....	147 28	97 44	88 62	140 98	473 30
Fifth District Police Court.....	33 75	9 75	6 00	24 58	74 08
First District Civil Court.....	3 45	6 00	15	4 32	8 52
Second District Civil Court.....	28 80	22 80	17 85	23 90	93 35
Fourth District Civil Court.....	11 62	10 92	9 52	13 86	45 92
Fifth District Civil Court.....	58 24	31 50	24 50	48 72	162 96
Sixth District Civil Court.....	4 62	3 08	4 76	4 20	16 66
Eighth District Civil Court.....	11 25	9 30	8 70	11 37	40 62
Ninth District Civil Court.....	11 55	13 35	7 50	12 75	45 15
Tenth District Civil Court.....	.....	2 33	13	13	2 59
Court-room, Brown Stone Building.....	109 95	85 80	69 60	154 45	419 80
New Court-house.....	1,497 45	1,314 45	921 30	1,192 02	4,925 22
City Hall.....	465 45	400 95	321 15	409 50	1,597 05
Corporation Counsel's Office.....	31 35	4 95	1 80	39 70	77 80
Corporation Attorney's Office.....	77 55	67 80	52 80	68 95	267 10
Receiver of Taxes' Office.....	453 15	296 70	177 45	425 80	1,353 10
Department of Public Works.....	383 40	279 45	190 20	266 20	1,119 34
Department of Taxes.....	14 25	9 45	6 00	11 51	41 21
Court of Special Sessions.....	5 85	1 05	45	15 20	22 55
Assessment Commission.....	4 05	1 50	.....	.....	5 55
CITY RECORD BOOK BINDERY.....	30	90	90	1 33	3 43
County Jail.....	360 78	290 08	217 70	330 28	1,200 84
Pipe Yard, Rivington street.....	2 10	1 35	45	3 20	7 10
Pipe Yard, East Twenty-fourth street.....	.....	.....	.....	3 50	3 50
Water Purveyor's Repair Shop, Thirtieth street.....	16 35	12 30	6 00	13 17	46 82
Water Purveyor's Repair Shop, Eighty-third street.....	8 85	5 10	4 35	5 46	23 76
Water Purveyor's Repair Shop, One Hundred and Twenty-ninth street.....	11 85	9 30	11 85	16 24	49 24
South Gate-house.....	80 55	73 80	70 65	74 98	299 98
Engine-house, High Bridge.....	83 49	67 05	69 90	78 35	298 79
Engine-house, Ninety-eighth street.....	126 45	144 00	130 20	145 15	545 80
Clock-tower, Third District Court-house.....	178 78	150 36	135 10	141 68	605 94
Photometrical Rooms, Grand street.....	32 43	14 77	5 08	18 95	71 23
Photometrical Rooms, Seventy-ninth street.....	8 10	2 40	1 05	6 12	17 67
Dog Pound, foot of East Sixteenth street.....	30	.....	.....	.....	30
Seventh Regiment Armory.....	1,349 55	484 20	169 95	872 20	2,875 90
Eighth Regiment Armory.....	283 65	224 55	120 45	223 04	851 69
Ninth Regiment Armory.....	441 00	340 65	129 30	301 81	1,212 76
Eleventh Regiment Armory.....	118 16	89 74	55 02	110 46	373 38
Twelfth Regiment Armory.....	412 02	212 10	86 66	284 48	995 26
Twenty-second Regiment Armory.....	765 52	559 72	290 50	770 42	2,386 16
Sixty-ninth Regiment Armory.....	385 28	211 58	112 14	247 24	865 42
Seventy-first Regiment Armory.....	30 26	162 54	01 56	225 82	714 28
First Battery Armory.....	.....	30 06	21 84	50 82	102 76
Second Battery Armory.....	129 04	88 34	47 60	128 24	393 82
Public Bath, Battery, North river.....	.....	2 55	28 20	7 95	38 70
Public Bath, Gouverneur Slip, East river.....	.....	.....	25 05	6 15	31 20
Public Bath, Duane street, North river.....	.....	30	14 40	1 50	16 20
Public Bath, Fifth street, East river.....	.....	2 40	27 30	3 15	32 81
Public Bath, Horatio street, North river.....	.....	3 60	28 30	4 35	36 45
Public Bath, Nineteenth street, East river.....	.....	1 80	25 80	3 30	30 90
Public Bath, Twenty-seventh street, North river.....	.....	15	39 75	6 75	46 45



	FIRST QUARTER, ENDING MARCH 31.	SECOND QUARTER, ENDING JUNE 30.	THIRD QUARTER, ENDING SEPT. 30.	FOURTH QUARTER, ENDING DEC. 31.	TOTAL.
Public Bath, Thirty-seventh street, East river.....			\$33 30	\$6 15	\$39 45
Public Bath, Fifty-first street, North river.....		\$2 10	24 30	4 05	31 05
Public Bath, One Hundred and Twelfth street, East river.....			24 30	3 45	27 75
Public Bath, One Hundred and Thirty-eighth street, East river.....			15 87	2 63	18 50
Traveling expenses.....		96 80		102 70	199 50
Gas examinations.....	\$353 00	359 50	356 00	359 00	1,427 50
Lighting Public Markets (pay-rolls).....	513 00	519 00	522 00	516 00	2,070 00
Cleaning Photometrical Rooms (pay-rolls).....	15 00	15 00	15 00	15 00	60 00
New lamp-posts.....	1,347 50		1,540 00	1,349 99	4,237 49
New lamp-posts, Twenty-third and Twenty-fourth Wards.....		770 00		511 87	1,281 87
New street-lamps.....	1,406 50	1,769 00	1,334 00	1,497 75	6,007 25
New street-lamps, Twenty-third and Twenty- fourth Wards.....	377 00	362 50			739 50
New Boulevard lamps.....	675 00	831 25	1,050 00	1,150 00	3,706 25
New lamp-irons.....	304 00	154 57	228 00	216 00	912 57
New lamp-irons, Twenty-third and Twenty- fourth Wards.....		203 00			209 00
Street-signs.....			18 00		18 00
Lettering Boulevard globes.....	75 00	60 00		99 00	234 00
Supplies for Photometrical Rooms.....		83 33		50 00	133 33
Photometrical apparatus.....				48 00	48 00
Repairing and reglazing lamps.....		208 50	75 00	30 00	313 50
Gas-regulators.....	829 97	460 00			1,289 97
Drawing materials.....		16 19			16 19
Repairing gas-holder, Third avenue bridge.....		345 00			345 00
Paints, etc.....		10 67			10 67
Cartages.....		50 00			50 00
Photometrical Rooms, Grand street (rent).....	150 00	150 00	150 00	150 00	600 00
Photometrical Rooms, Seventy-ninth street (rent).....	90 00	90 00	90 00	90 00	360 00
Fitting-up new lamps.....	488 00	670 00	680 00	1,952 00	3,790 00
Fitting-up new lamps, Twenty-third and Twenty- fourth Wards.....		72 00	552 00	776 00	1,400 00
Resetting and repairing lamp-posts.....	274 00	1,834 50	1,458 50	1,946 00	5,513 00
Resetting and repairing lamp-posts, Twenty- third and Twenty-fourth Wards.....	15 00	212 00	695 50	1,221 00	2,143 50
Lighting public lamps.....	55,112 52	83,010 73	82,989 23	111,710 31	332,822 79
Lighting public lamps, Twenty-third and Twenty- fourth Wards.....	20,407 38	30,618 84	30,831 11	41,781 93	123,642 26
Lighting electric-lamps.....	29,029 00	45,532 20	45,401 30	60,457 60	180,420 10
Lighting naphtha-lamps.....	208 34	312 51	690 21	1,000 00	2,211 06
Totals.....	\$123,322 93	\$177,298 06	\$174,852 27	\$237,014 92	\$712,488 18

## RECAPITULATION.

Gas to public offices.....	\$11,652 72	\$8,458 97	\$6,176 42	\$9,981 77	\$36,269 88
Supplies to public lamps.....	5,758 97	5,234 81	5,378 00	5,673 44	22,045 22
Supplies to public lamps, Twenty-third and Twenty-fourth Wards.....	377 00	1,341 50		511 87	2,230 37
Fitting-up new lamps.....	488 00	670 00	680 00	1,952 00	3,790 00
Fitting-up new lamps, Twenty-third and Twenty- fourth Wards.....		72 00	552 00	776 00	1,400 00
Resetting and repairing lamp-posts.....	274 00	1,834 50	1,458 50	1,946 00	5,513 00
Resetting and repairing lamp-posts, Twenty-third and Twenty-fourth Wards.....	15 00	212 00	695 50	1,221 00	2,143 50
Lighting public lamps.....	55,112 52	83,010 73	82,989 23	111,710 31	332,822 79
Lighting public lamps, Twenty-third and Twenty- fourth Wards.....	20,407 38	30,618 84	30,831 11	41,781 93	123,642 26
Lighting electric-lamps.....	29,029 00	45,532 20	45,401 30	60,457 60	180,420 10
Lighting naphtha-lamps.....	208 34	312 51	690 21	1,000 00	2,211 06
Totals.....	\$123,322 93	\$177,298 06	\$174,852 27	\$237,014 92	\$712,488 18

## EXHIBIT "B."

Summary of the Appropriation for "Lamps and Gas and Electric Lighting," for 1886, showing the Amounts Expended during the Quarter and the Year, with the Balance standing to the Credit of the Appropriation.

Amount appropriated for "Lamps and Gas and Electric Lighting," 1886..... \$718,800 00  
 Amount of vouchers drawn to September 30, 1886..... \$475,473 26  
 Amount expended during the quarter ending December 31, 1886..... 237,014 92

Total amount expended during the year..... 712,488 18

Unexpended balance..... \$6,311 82

Of this balance there was transferred by the Board of Estimate and Apportionment,  
 on October 25, to "Public Buildings—Construction and Repairs"..... 4,500 00

Surplus balance..... \$1,811 82

## EXHIBIT "C."

Summary of the Appropriation for "Lamps and Gas and Electric Lighting—Salaries," for 1886,  
 showing the Amount Expended during the Year, and the Balance standing to the Credit of the  
 Appropriation.

Amount appropriated for "Lamps and Gas and Electric Lighting—Salaries," 1886... \$5,400 00  
 Amount of vouchers drawn in first quarter ending March 31..... \$1,349 98  
 Amount of vouchers drawn in second quarter ending June 30..... 1,299 99  
 Amount of vouchers drawn in third quarter ending September 30..... 1,268 88  
 Amount of vouchers drawn in fourth quarter ending December 31..... 1,112 90

Total amount expended during the year..... 5,031 75

Surplus balance..... \$368 25

## EXHIBIT "D."

Summary of the Appropriation for "Street-signs on Buildings and Public Lamps," for 1886,  
 showing the Amount Expended during the Year, and the Balance standing to the Credit of the  
 Appropriation.

Amount appropriated for "Street-signs on Buildings and Public Lamps," 1886..... \$5,000 00  
 Amount of vouchers drawn to September 30, 1886..... \$1,045 00  
 Amount expended during the quarter ending December 31, 1886..... 929 50

Total amount expended during the year..... 1,974 50

Surplus balance..... \$3,025 50

## EXHIBIT "E."

Summary of the "Lamp Account," showing the Number of New Lamps Lighted, Old Lamps  
 Relighted, and Lamps Discontinued by each Gas and Electric-light Company during the  
 Quarter ending December 31, 1886; also a Statement for the year.

CONSOLIDATED GAS COMPANY, NEW YORK BRANCH (NO. 1).				
Number of lamps lighted September 30, 1886.....			3,838	
Number of new lamps lighted during the quarter.....			8	
Number of old lamps relighted during the quarter.....			30	
Less lamps discontinued during the quarter.....			4	3,872
Number of lamps lighted December 31, 1886.....				3,872

CONSOLIDATED GAS COMPANY, MANHATTAN BRANCH (NO. 2).				
Number of lamps lighted September 30, 1886.....	2,655			
Number of new lamps lighted during the quarter.....	13			
Number of old lamps relighted during the quarter.....	0			
Less lamps discontinued during the quarter.....			7	2,668
Number of lamps lighted December 31, 1886.....				2,261
CONSOLIDATED GAS COMPANY, MUNICIPAL BRANCH (NO. 3).				
Number of lamps lighted September 30, 1886.....	2,690			
Number of new lamps lighted during the quarter.....	6			
Number of old lamps relighted during the quarter.....	2			
Less lamps discontinued during the quarter.....			0	2,698
Number of lamps lighted December 31, 1886.....				2,698
CONSOLIDATED GAS COMPANY, METROPOLITAN BRANCH (NO. 4).				
Number of lamps lighted September 30, 1886.....	3,131			
Number of new lamps lighted during the quarter.....	19			
Number of old lamps relighted during the quarter.....	8			
Less lamps discontinued during the quarter.....			4	3,158
Number of lamps lighted December 31, 1886.....				3,154
CONSOLIDATED GAS COMPANY, HARLEM BRANCH (NO. 6).				
Number of lamps lighted September 30, 1886.....	5,425			
Number of new lamps lighted during the quarter.....	120			
Number of old lamps relighted during the quarter.....	20			
Less lamps discontinued during the quarter.....			38	5,565
Number of lamps lighted December 31, 1886.....				5,527
Total number of lamps lighted by Consolidated Gas Com- pany, December 31, 1886.....				17,912
NEW YORK MUTUAL GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	208			
Number of new lamps lighted during the quarter.....	0			
Number of old lamps relighted during the quarter.....	0			
Less lamps discontinued during the quarter.....			0	208
Number of lamps lighted December 31, 1886.....				208
EQUITABLE GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	1,673			
Number of new lamps lighted during the quarter.....	3			
Number of old lamps relighted during the quarter.....	1			
Less lamps discontinued during the quarter.....			0	1,677
Number of lamps lighted December 31, 1886.....				1,677
CENTRAL GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	2,245			
Number of new lamps lighted during the quarter.....	70			
Number of old lamps relighted during the quarter.....	36			
Less lamps discontinued during the quarter.....			17	2,351
Number of lamps lighted December 31, 1886.....				2,334
NORTHERN GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	1,706			
Number of new lamps lighted during the quarter.....	21			
Number of old lamps relighted during the quarter.....	1			
Less lamps discontinued during the quarter.....			2	1,728
Number of lamps lighted December 31, 1886.....				1,726
YONKERS GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	337			
Number of new lamps lighted during the quarter.....	0			
Number of old lamps relighted during the quarter.....	0			
Less lamps discontinued during the quarter.....			0	337
Number of lamps lighted December 31, 1886.....				337
Total number of gas-lamps lighted December 31, 1886.....				24,194
NAPHTHA LAMPS.				
NEW YORK AND NEW JERSEY GLOBE GAS-LIGHT COMPANY.				
Number of lamps lighted September 30, 1886.....	120			
Number of new lamps lighted during the quarter.....	0			
Number of old lamps relighted during the quarter.....	0			
Less lamps discontinued during the quarter.....			0	120
Number of naphtha-lamps lighted December 31, 1886.....				120
ELECTRIC-LAMPS.				
BRUSH ELECTRIC ILLUMINATING COMPANY.				
Number of lamps lighted September 30, 1886.....	348			
Number of new lamps lighted during the quarter.....	0			
Number of old lamps relighted during the quarter.....	0			
Less lamps discontinued during the quarter.....			0	348
Number of lamps lighted December 31, 1886.....				348



UNITED STATES ILLUMINATING COMPANY.				EQUITABLE GAS-LIGHT COMPANY.			
Number of lamps lighted September 30, 1886.....	363			Number of lamps lighted December 31, 1885.....	1,416		
Number of new lamps lighted during the quarter.....	0			Number of new lamps lighted during the year.....	14		
Number of old lamps relighted during the quarter.....	0			Number of old lamps relighted during the year.....	4		1,434
Less lamps discontinued during the quarter.....		363		Number of lamps transferred from Branch No. 1 of Consolidated Gas Company.....	61		
Number of lamps lighted December 31, 1886.....			363	Number of lamps transferred from Branch No. 2 of Consolidated Gas Company.....	74		
Total number of electric-lamps lighted December 31, 1886..			711	Number of lamps transferred from Branch No. 4 of Consolidated Gas Company.....	87		
RECAPITULATION FOR QUARTER.				Number of lamps transferred from New York Mutual Gas-light Company..		222	
Number of gas-lamps lighted September 30, 1886.....	23,908					23	
Number of naphtha-lamps lighted September 30, 1886.....	120			Less lamps discontinued during the year.....		1,679	
Number of electric-lamps lighted September 30, 1886.....	711			Number of lamps lighted December 31, 1886.....			1,677
		24,739		CENTRAL GAS-LIGHT COMPANY.			
Number of new gas-lamps lighted during the quarter.....	260			Number of lamps lighted December 31, 1885.....	2,242		
Number of new naphtha-lamps lighted during the quarter.....	0			Number of new lamps lighted during the year.....	103		
Number of new electric-lamps lighted during the quarter.....	0			Number of old lamps relighted during the year.....	67		2,412
Number of gas-lamps relighted during the quarter.....	98			Less lamps discontinued during the year.....		78	
Number of naphtha-lamps relighted during the quarter.....	0			Number of lamps lighted December 31, 1886.....			2,334
Number of electric-lamps relighted during the quarter.....	0			NORTHERN GAS-LIGHT COMPANY.			
Less gas-lamps discontinued during the quarter.....		98		Number of lamps lighted December 31, 1885.....	1,657		
Less naphtha-lamps discontinued during the quarter.....		72		Number of new lamps lighted during the year.....	72		
Less electric-lamps discontinued during the quarter.....		0		Number of old lamps relighted during the year.....	1		1,730
			72	Less lamps discontinued during the year.....		4	
Total number of lamps lighted December 31, 1886.....			25,025	Number of lamps lighted December 31, 1886.....			1,726
Summary of the "Lamp Account" for the Year 1886.				Number of lamps lighted December 31, 1885.....	337		
CONSOLIDATED GAS COMPANY, NEW YORK BRANCH (NO. 1).				Number of new lamps lighted during the year.....	0		
Number of lamps lighted December 31, 1885.....	3,897			Number of old lamps relighted during the year.....	0		337
Number of new lamps lighted during the year.....	19			Less lamps discontinued during the year.....		0	
Number of old lamps lighted during the year.....	40			Number of lamps lighted December 31, 1886.....			337
Less lamps discontinued during the year.....		3,956		Total gas-lamps lighted December 31, 1886.....			24,194
Less lamps transferred to Equitable Gas-light Company.....	23			YONKERS GAS-LIGHT COMPANY.			
	61			Number of lamps lighted December 31, 1885.....	50		
Number of lamps lighted December 31, 1886.....		84		Number of new lamps lighted during the year.....	70		
			3,872	Number of old lamps relighted during the year.....	0		120
CONSOLIDATED GAS COMPANY, MANHATTAN BRANCH (NO. 2).				Less lamps discontinued during the year.....		0	
Number of lamps lighted December 31, 1885.....	3,677			Number of naphtha lamps lighted December 31, 1886.....			120
Number of new lamps lighted during the year.....	27			ELECTRIC LAMPS.			
Number of old lamps relighted during the year.....	30			BRUSH ELECTRIC ILLUMINATING COMPANY.			
Less lamps discontinued during the year.....		3,734		Number of lamps lighted December 31, 1885.....	347		
Less lamps transferred to Branch No. 3.....	29			Number of new lamps lighted during the year.....	1		
Less lamps transferred to Branch No. 4.....	440			Number of old lamps relighted during the year.....	0		348
Less lamps transferred to Equitable Gas Light Company.....	530			Less lamps discontinued during the year.....		0	
	74			Number of lamps lighted December 31, 1886.....			348
Number of lamps lighted December 31, 1886.....		1,073		UNITED STATES ILLUMINATING COMPANY.			
			2,661	Number of lamps lighted December 31, 1885.....	361		
CONSOLIDATED GAS COMPANY, MUNICIPAL BRANCH (NO. 3).				Number of new lamps lighted during the year.....	2		
Number of lamps lighted December 31, 1885.....	0			Number of old lamps relighted during the year.....	0		363
Number of new lamps lighted during the year.....	11			Less lamps discontinued during the year.....		0	
Number of old lamps relighted during the year.....	22			Number of lamps lighted December 31, 1886.....			363
Number of lamps transferred from Branch No. 2.....	440			Total electric-lamps lighted December 31, 1886.....			711
Number of lamps transferred from Branch No. 4.....	2,232			RECAPITULATION FOR YEAR.			
Less lamps discontinued during the year.....		2,705		Number of gas-lamps lighted December 31, 1885.....	23,555		
Number of lamps lighted December 31, 1886.....		7		Number of naphtha-lamps lighted December 31, 1885.....	50		
			2,698	Number of electric-lamps lighted December 31, 1885.....	708		24,313
CONSOLIDATED GAS COMPANY, METROPOLITAN BRANCH (NO. 4).				Number of new gas lamps lighted during the year.....	650		
Number of lamps lighted December 31, 1885.....	4,163			Number of new naphtha-lamps lighted during the year.....	70		
Number of new lamps lighted during the year.....	62			Number of new electric-lamps lighted during the year.....	3		723
Number of old lamps relighted during the year.....	22			Number of old gas-lamps relighted during the year.....	242		
Number of lamps transferred from Branch No. 2.....	530			Number of old naphtha-lamps relighted during the year.....	0		
Number of lamps transferred from Branch No. 6.....	734			Number of old electric-lamps relighted during the year.....	0		242
Less lamps discontinued during the year.....		5,511		Less gas-lamps discontinued during the year.....		253	
Less lamps transferred to Branch No. 3.....	38			Less naphtha-lamps discontinued during the year.....		0	
Less lamps transferred to Equitable Gas-light Company.....	2,232			Less electric-lamps discontinued during the year.....		0	
	87						253
Number of lamps lighted December 31, 1886.....		2,357		Total number of lamps lighted December 31, 1886.....			25,025
			3,154	NEW YORK MUTUAL GAS-LIGHT COMPANY.			
CONSOLIDATED GAS COMPANY, HARLEM BRANCH (NO. 6).				Number of lamps lighted December 31, 1885.....	231		
Number of lamps lighted December 31, 1885.....	5,935			Number of new lamps lighted during the year.....	0		
Number of new lamps lighted during the year.....	342			Number of old lamps relighted during the year.....	0		
Number of old lamps relighted during the year.....	56			Less lamps discontinued during the year.....		0	
Less lamps discontinued during the year.....		6,333		Less lamps transferred to Equitable Gas-light Company.....		23	
Less lamps transferred to Branch No. 4.....	72						23
	734			Number of lamps lighted December 31, 1886.....			208
Number of lamps lighted December 31, 1886.....		806					
			5,527				
Total lamps of Consolidated Gas Company, December 31, 1886.....			17,912				



## EXHIBIT "F."

Statement showing the Illuminating Power in candles of the Gas supplied to the City by the several Gas-light Companies during the Quarter ending December 31, 1886, as shown by the Daily Observations at the Photometrical Rooms of the Department of Public Works, with Average for the Year.

FOR WHAT TIME.	CONSOLIDATED GAS CO. NEW YORK BRANCH.			CONSOLIDATED GAS CO. MANHATTAN BRANCH.			CONSOLIDATED GAS CO. METROPOLITAN BRANCH.			CONSOLIDATED GAS CO. MUNICIPAL BRANCH.			CONSOLIDATED GAS CO. KNICKERBOCKER BRANCH.			N. Y. MUTUAL GAS-LIGHT CO.			EQUITABLE GAS-LIGHT CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
Week Ending—	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
Oct. 2.....	25.85	27.47	26.60	20.40	24.28	22.24	20.91	22.42	21.97	29.97	32.02	30.97	21.60	22.99	22.34	30.55	32.72	31.29	31.57	32.45	31.90
" 9.....	25.78	27.15	26.17	20.58	22.97	21.48	21.62	22.56	21.92	28.76	29.58	29.12	21.86	23.24	22.42	29.78	32.24	30.74	30.20	32.18	31.61
" 16.....	24.83	26.51	25.94	20.56	22.37	21.61	22.11	23.17	22.75	29.05	30.48	29.79	22.99	23.86	23.44	28.18	31.40	30.05	29.35	32.38	30.32
" 23.....	26.08	27.01	26.61	20.67	22.51	21.90	21.33	22.55	21.98	29.53	30.87	30.16	20.91	23.99	22.38	29.76	32.62	31.44	29.58	30.96	30.31
" 30.....	24.18	26.88	25.47	20.68	22.04	21.02	20.49	22.12	21.24	28.15	29.45	28.81	21.25	22.62	22.06	26.93	30.44	29.04	30.18	32.53	31.25
Nov. 6.....	25.06	26.92	25.92	20.28	22.04	21.01	20.30	20.99	20.72	29.52	30.31	29.86	22.96	24.33	23.51	31.20	31.74	31.37	30.46	32.52	31.59
" 13.....	24.21	26.54	24.83	19.82	21.93	20.51	19.28	21.67	20.66	28.21	29.62	28.92	22.62	24.90	23.80	29.35	31.79	30.50	30.32	33.38	31.11
" 20.....	24.66	26.36	25.62	20.20	22.15	20.91	20.08	22.20	21.20	30.33	31.09	30.69	21.71	23.76	22.98	30.49	31.33	30.92	31.11	33.04	32.26
" 27.....	24.61	26.85	25.88	20.45	21.58	21.17	19.89	20.77	20.44	29.14	30.97	30.01	22.88	23.99	23.46	29.41	30.82	30.20	32.04	33.79	32.73
Dec. 4.....	24.25	25.48	24.89	19.58	20.86	20.42	20.86	22.32	21.72	28.21	29.66	28.97	22.61	23.63	23.14	29.64	30.55	30.06	30.36	32.32	31.47
" 11.....	23.85	25.47	24.73	20.14	20.92	20.50	19.97	21.64	20.81	29.13	30.21	29.92	21.88	22.82	22.35	29.12	30.44	29.83	30.52	32.68	31.62
" 18.....	24.66	26.08	25.66	20.43	21.05	20.71	19.96	20.52	20.33	29.06	30.96	29.95	22.00	23.80	23.10	28.64	30.04	29.55	31.40	32.21	31.81
" 25.....	25.55	26.35	25.99	19.97	20.56	20.39	19.82	20.32	20.08	29.93	30.34	30.08	22.88	23.56	23.27	30.17	31.09	30.63	29.70	32.10	31.34
" 31.....	23.88	25.85	24.94	19.28	20.30	19.96	20.38	21.28	20.75	29.55	30.38	29.96	21.61	23.56	22.55	28.14	30.03	29.18	30.65	31.86	31.42
Average.....			25.66			20.99			21.18			29.80			22.92			30.35			31.49

## Average for the Year.

FOR WHAT TIME.	CONSOLIDATED GAS CO. NEW YORK BRANCH.			CONSOLIDATED GAS CO. MANHATTAN BRANCH.			CONSOLIDATED GAS CO. METROPOLITAN BRANCH.			CONSOLIDATED GAS CO. MUNICIPAL BRANCH.			CONSOLIDATED GAS CO. KNICKERBOCKER BRANCH.			N. Y. MUTUAL GAS-LIGHT CO.			EQUITABLE GAS-LIGHT CO.		
	ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.			ILLUMINATING POWER IN CANDLES.		
Month of—	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.	Lowest.	Highest.	Average.
January.....	21.09	24.64	23.01	16.89	18.80	18.11	20.40	22.30	21.33	26.51	29.62	28.29	21.69	25.99	24.18	24.20	32.63	28.62	28.96	34.55	31.95
February.....	19.55	25.55	23.30	16.76	18.85	17.79	20.00	22.16	21.40	25.51	29.23	27.99	23.18	26.38	24.97	24.07	32.29	29.48	24.46	33.05	30.82
March.....	21.15	25.47	23.17	17.40	20.05	18.26	19.13	21.99	20.88	26.29	32.07	29.51	22.48	26.28	24.42	25.60	31.38	29.30	27.76	32.95	30.49
April.....	23.71	28.14	26.01	18.42	20.55	19.32	20.66	22.39	21.50	28.45	31.79	29.92	23.89	26.96	25.18	27.73	31.32	29.56	28.60	33.15	30.79
May.....	24.53	29.31	26.61	18.35	20.60	19.26	20.82	23.30	22.32	27.06	31.69	29.80	23.48	27.13	25.40	27.36	32.17	30.54	29.18	33.71	31.60
June.....	23.29	27.15	25.79	17.93	22.63	20.09	21.45	23.73	22.22	28.30	30.65	29.70	22.32	24.72	23.59	28.45	32.30	30.45	30.18	33.71	32.42
July.....	25.88	28.48	26.93	21.06	23.39	22.19	20.03	22.59	21.29	29.08	31.50	30.24	20.72	23.38	22.19	26.88	33.71	30.17	29.49	33.53	31.57
August.....	23.06	27.69	25.64	19.92	23.07	21.40	20.34	21.95	21.01	25.48	29.83	27.84	20.08	23.60	21.66	28.57	33.00	30.63	27.63	33.07	30.62
September.....	22.82	27.00	25.31	18.97	22.67	20.98	20.91	23.77	22.40	25.36	31.20	28.41	20.56	23.68	22.39	28.74	33.63	30.73	30.41	32.86	32.06
October.....	24.18	27.47	26.16	20.08	24.28	21.65	20.49	23.17	21.97	28.15	32.02	29.77	20.91	23.99	22.53	26.93	32.72	30.51	29.35	32.53	31.08
November.....	24.21	26.92	25.56	19.82	22.15	20.50	19.28	22.20	20.76	28.21	31.09	29.87	21.71	24.90	23.44	29.35	31.79	30.75	30.32	33.79	31.92
December.....	23.85	26.35	25.24	19.28	21.05	20.40	19.82	22.32	20.74	28.21	30.96	29.78	21.61	23.80	22.88	28.14	31.09	29.85	29.70	32.68	31.53
For the Year.....	19.55	29.31	24.81	16.76	24.28	20.03	19.13	23.77	21.49	25.36	32.07	29.26	20.08	27.13	23.57	24.07	33.71	30.05	24.46	34.55	31.41
Distance from Gas-works.....	1 <sup>8</sup> / <sub>10</sub> Miles.....			1 <sup>8</sup> / <sub>10</sub> Miles.....			3 <sup>8</sup> / <sub>10</sub> Miles.....			3 <sup>8</sup> / <sub>10</sub> Miles.....			1 <sup>5</sup> / <sub>10</sub> Miles.....			1 <sup>5</sup> / <sub>10</sub> Miles.....			2 <sup>7</sup> / <sub>10</sub> Miles.....		
Testing burner.....	Bray's Slit Union No. 7....			Empire, 5 feet.....			Bray's Slit Union No. 6....			Bray's Slit Union No. 7....			Bray's Slit Union No. 6....			Bray's Slit Union No. 7....			Bray's Slit Union No. 7....		
Gas.....	Water gas (Tessie du Motay)			Coal gas with water gas...			Coal and naphtha.....			Water gas (Tessie du Motay)			Water gas (Tessie du Motay)			Water gas (Tessie du Motay)			Water gas (Tessie du Motay)		

## EXHIBIT "G."

Time Table for Lighting and Extinguishing the Public Lamps, for the year, from May 1, 1886, to April 30, 1887.

MONTHS.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.	MONTHS.	BEGIN TO LIGHT.	BEGIN TO EXTINGUISH.
May 1.....	H. M. 6.45	H. M. 4.00	Nov. 5.....	H. M. 4.40	H. M. 5.45
" 7.....	6.55	3.40	" 12.....	4.30	6.00
" 14.....	7.00	3.30	" 19.....	4.25	6.00
" 21.....	7.10	3.15	" 26.....	4.20	6.10
" 28.....	7.15	3.15			
June 4.....	7.25	3.15	Dec. 3.....	4.20	6.15
" 11.....	7.25	3.15	" 10.....	4.20	6.20
" 18.....	7.30	3.15	" 17.....	4.20	6.20
" 25.....	7.30	3.15	" 24.....	4.20	6.25
July 2.....	7.30	3.15	Jan. 1.....	4.30	6.30
" 9.....	7.30	3.15	" 8.....	4.40	6.30
" 16.....	7.20	3.15	" 15.....	4.50	6.25
" 23.....	7.20	3.15	" 22.....	5.00	6.25
" 30.....	7.10	3.30	" 29.....	5.05	6.15
Aug. 6.....	7.10	3.45	Feb. 5.....	5.10	6.10
" 13.....	6.55	4.00	" 12.....	5.20	5.55
" 20.....	6.45	4.10	" 19.....	5.30	5.55
" 27.....	6.30	4.20	" 26.....	5.30	5.45
Sept. 3.....	6.15	4.30	Mar. 5.....	5.40	5.35
" 10.....	6.05	4.40	" 12.....	5.50	5.20
" 17.....	5.55	4.50	" 19.....	6.00	5.10
" 24.....	5.40	5.00	" 26.....	6.10	4.55
Oct. 1.....	5.30	5.00	Apr. 2.....	6.15	4.40
" 8.....	5.20	5.10	" 9.....	6.25	4.30
" 15.....	5.10	5.20	" 16.....	6.30	4.20
" 22.....	5.00	5.30	" 23.....	6.40	4.10
" 29.....	4.45	5.35	" 30.....	6.45	4.00

Total number of hours, 4,000.

All the lamps to be lighted within one hour from the time of beginning.

## INSTRUCTIONS TO LAMP-LIGHTERS.

- I.—The lamps must be lighted and extinguished strictly in accordance with the time specified in this time-table, and all the lamps must be lighted within one hour from the time of beginning.
- II.—The lamps must be kept clean and in good condition; the top glass, sides and bottom glass must be thoroughly cleaned, both on the outside and inside of the lantern, three times in each

week, and oftener if necessary to keep them clean, and dust and dirt must be brushed from the frames, and the glass street signs must also be cleaned. Lighters must bear in mind that with clean glass a greater brilliancy is obtained from the flame. In the winter season the snow must be brushed from the lanterns after each snow fall. Dirty and disordered lamps will be considered as evidence of a careless and incompetent lamp-lighter.

III.—The glass street signs and house numbers must be kept in their proper positions. The sign bearing the name of any avenue or main street must face the roadway of such avenue or street. One of the signs bearing the name of a cross street must face the roadway of such street and the other sign must be placed on the opposite side of the lantern. Be careful to observe that the name does not face the inside of the lantern.

IV.—Advertising signs on the lamp posts or lantern, or colored or ground glass in the lantern are a violation of a corporation ordinance, and must not be permitted, except the red glass near the fire-alarm boxes, and these must be kept in place.

V.—If a lighter on extinguishing a lamp should find a glass broken, he must replace the same before lighting time of the same day. If he should find a glass broken while lighting, he must replace the same before lighting time of the following day, and the bottom glass must be kept in place as well as sides and tops. If he should find any portion of the tin work broken, he must take the lantern to his superintendent for repairs.

VI.—The burners must be kept in good condition to burn with a full, clear, steady flame, and not with single or forked jet. If a burner, when lighted, should not emit the proper flame, then the same must be immediately cleared from its obstruction; and if it will not burn properly, another burner must be substituted.

VII.—If a lighter, when lighting, finds that a lamp will not burn, he will leave such lamp and finish his route. He must then return to the unlighted lamps and endeavor to get them in burning order. If he cannot make the lamp burn, he must report the same on the following morning to the superintendent of the gas company.

VIII.—Lamp-lighters will not be permitted to climb the lamp-posts. The lamps must be lighted either by means of a torch or the use of a ladder.

IX.—In case a lamp-post should be found broken or taken down, or requiring repairs, or an excavation should be made near the same which would endanger its safety, he must report the same at once to the superintendent of the gas company, stating the correct location of the post and what repairs are required. If the post has been taken down, he must report by whom and for what purpose, and date when done. No excuse will be accepted from any lamp-lighter who fails to report lamp-posts taken down or broken.

X.—Lighters must not break the lamp bottoms, nor the street-sign slots. Lamps furnished with these slots should be placed on corner lamp-posts.

XI.—Ladders must not be left tied to the lamp-posts.

S. MCCORMICK, Superintendent of Lamps and Gas.

## CORPORATION ORDINANCES RELATING TO THE PUBLIC LAMPS.

- Sec. 68. Any person breaking, mutilating, or obstructing any of the public lamps in the City of New York shall be liable to a penalty of five dollars for each offense.
- Sec. 69. Any person who shall break, misplace or carry away any of the glass street-signs now or hereafter to be placed in any of the public lamps, shall be liable to a penalty of three dollars for each offense.



Sec. 70. No person, without permission of the Commissioner of Public Works, shall take up, remove or carry away any public lamp-post in the City of New York, under the penalty of ten dollars for each offense.

Sec. 71. No person shall remove or cause, or permit to be removed, any public lamp-post now or hereafter to be placed in front of their premises for the purpose of constructing a vault or otherwise, without the permission of the Superintendent of Lamps and Gas; and the owner or owners of such vault shall cause the lamp-posts so removed to be reset at their own expense immediately upon the completion of the vault, under the penalty of twenty-five dollars for each offense.

Sec. 226. No person shall attach, place, or paste, or caused to be attached, placed, or pasted, any sign or advertisement, or other matter upon any public lamp-post, now erected in the City of New York or that may hereafter be so erected, under the penalty named in the next section.

Sec. 227. The violation of any of the provisions of the preceding section shall be punishable by a fine of not less than one dollar, or more than ten dollars.

Sec. 412. It shall not be lawful to erect any telegraph-post within a distance of ten feet of any public street-lamp. Any person offending against any of the provisions of this section shall be deemed guilty of a misdemeanor, and on conviction thereof before any of the police magistrates or justices of this city, shall be punished by a fine not exceeding ten dollars, or in default of the payment of such fine, by imprisonment not exceeding ten days.

Sec. 1953 of the New York City Consolidation Act of 1882. If any person shall wilfully break, take down, or carry away any glass lamp hung or fixed in any of the streets of the City of New York, or extinguish the lights therein, or by aiding or abetting in the same, shall be subject to a fine of twenty-five dollars, and in default of payment of such fine the offender shall be committed to the penitentiary for the term of two months.

### Document "K."

CITY OF NEW YORK—DEPARTMENT OF PUBLIC WORKS,  
BUREAU OF REPAIRS AND SUPPLIES,  
SUPERINTENDENT'S OFFICE, NO. 31 CHAMBERS STREET, ROOM 15,  
NEW YORK, January 4, 1887.

GEN. JOHN NEWTON, Commissioner of Public Works:

SIR—In compliance with your instructions, I have the honor to submit the following report of the transactions of this Bureau, for the three months ending December 31, 1886:

Among the principal items of work, were the following:

#### THE NEW COURT-HOUSE.

The County Clerk's Office—New doors, furnished with Yale locks, have been placed on 20 of the closets in the document-room, new steam radiators and gas fixtures put in the Searcher's room, and improved burners and shades put on the gas fixtures in the main office. In the Supreme Court—New Holland window-shades were put up where needed, and in the Court of Common Pleas new curtains were hung on the Judge's bench in Part I. and in the General Term room.

#### THE ELEVATOR.

The piston and valves have been repacked, new hand-rope sleeves put in, and a new floor laid in the car.

#### THE CITY HALL.

On the announcement of the death of Ex-President Arthur, the chamber of the Board of Aldermen and main entrance to the building were appropriately draped in mourning. The two sets of flags (storm and fair weather), have been overhauled and repaired. The chimney tops have been taken off, repaired and replaced, and the flues cleaned. Some new boxes have been supplied to the Mayor's office for filing documents, and an eight-day clock furnished to the office of the Civil Service Commissioners.

#### THE BROWN-STONE BUILDING.

District Attorney's Office—Electric connections have been made from the desks of Assistant District Attorney Semple, the Chief Clerk, and Mr. Penny, to the other offices in the building. A storm sash has been put on the window of the Bail Clerk's office, and some new Holland window-shades put up. An iron wire ash top rail, with gate and spring lock, has been put up in outer office, and a wire gate with spring lock put on the door of the Chief Clerk's Office. The plastering in the Grand Jury room, General Sessions room, Part II., and the third-story hall has been repaired, and a new floor put in the elevator car. The gas fixtures in the Receiver of Taxes office repaired and put in order, and the hot-air furnaces cleaned and repaired.

#### 31 CHAMBERS STREET.

In the Water Register's Office, 3 new closets have been built and a map-rack put up, the rolling shutters on the front door repaired, protective ventilators put in the office of Engineer in Charge of Sewers, and a fire-screen, desk and rug furnished for the Commissioner's office.

#### HALL OF RECORDS.

The hot-air furnaces were cleaned and repaired, new pipe and castings furnished where needed, and the plumbing work repaired and put in good order.

#### STAATS ZEITUNG BUILDING.

Department of Taxes and Assessments—Some new chairs and a desk rug have been furnished, and the map case altered and extended.

#### CORPORATION COUNSEL'S OFFICE.

The gas-pipes have been altered in several of the rooms, new brackets and fixtures put up, and a black walnut case for documents furnished.

#### THE STEWART BUILDING.

Finance Department—A new safe has been furnished the Auditor, protective ventilators put up in the City Paymaster's office, a wardrobe furnished for Room No. 7, some cane settees put in the Bureau of Arrears, and new gas-fixtures put up in some of the rooms.

#### THE COURTS (POLICE AND CIVIL).

Third District Police—The furnaces have been cleaned and repaired, and some new smoke-pipe put up.

Fifth District Police—The smoke-pipe of steam boiler has been cleaned and repaired and some new pipe furnished.

Sixth District Police—The window sash and frames have been repaired and glazed where needed, and the plumbing put in order.

First District Civil Court—The gutter on the west side of the building was repaired and relined, the flashings pointed up and the entire roof repaired and painted with metallic paint.

Fifth District Civil Court—A new self-feeder stove with bottom-board and necessary pipe and fixtures has been furnished, and a new galvanized iron chimney-top put up.

#### THE DOG POUND.

The rain-water leaders have been put in repair, and new pipe furnished where needed.

#### THE MARKETS.

Washington Market—The stairways in the new extension on Washington street side of the market have been changed, and the flooring and framing altered to correspond with the new plan. A contract to make the necessary alterations to the skylights and louvres was entered into, and the work is now nearly completed.

West Washington Market—Repairs were made to that portion of Vesey street pier belonging to the City, commencing at a point 150 feet west of West street, and running westerly about 175 feet. A new guard-rail was put up on the dock.

Catharine Market—Extensive repairs have been made to the glazing of the windows.

Tompkins Market—The gutters have been repaired and painted. Two new galvanized iron smoke-stacks put on, the slate roof repaired, about 45 feet of new zinc flashings put on the hips, and the old flashings repaired. Repairs have been made to the drain and soil pipes and the plumbing work put in good order.

Clinton Market—About 165 lineal feet of galvanized iron cornice moulding, with dental blocks, have been put up on the Canal street side of the market; the gutters lined with new tin, flashings placed around the curbs of twenty skylights, the new tin work painted, about 55 feet of galvanized iron leaders put up, and the gravel roof repaired. A new white pine front, with doors and sashes, has been put up on part of the Canal street side of the market. The skylight curbs have been repaired and 28 new skylight sashes hung, with the necessary fastenings. The flooring in several places was taken up, and where it was found defective the decayed timbers were removed and replaced with new beams and girders, and new 1½-inch matched flooring laid.

#### THE ARMORIES.

Seventh Regiment Armory—The wash-basins were repaired, the plumbing put in order, some repairs made to the carpenter work, two fire extinguishers were supplied, and two galvanized iron tanks for the magazine furnished.

Eleventh Regiment Armory—New sash-cord has been put in several of the windows and the glazing repaired. The gutters have been relined with ix-tin and rosin-sized felt paper; the entire roof repaired and painted with metallic paint, the walls and flashings pointed with Portland cement, the ventilators repaired and 6 new galvanized iron chimney tops put on.

Sixty-ninth Regiment Armory—The steam pipes in the basement have been overhauled and repaired, and the radiators in main drill-room and some of the company rooms have been put in good order.

The Office of Bureau of Streets and Roads, St. Nicholas avenue and One Hundred and Nineteenth street—Two new Scorchers stoves, with pipe and fittings, have been put up. New chairs have been furnished and new Holland window shades hung.

#### THE FREE FLOATING BATHS.

The baths have been towed from their summer stations, and are now safely moored in their winter quarters in Gowanus basin.

In addition to the foregoing, the keeping in repair of the furniture, plumbing, steam and gas-fitting, and the glazing of the various buildings and offices in care of the Department, the furnishing of law books, fuel and office supplies, form a very considerable portion of the work of the Bureau.

Very respectfully,

THOMAS H. McAVOY, Superintendent.

### Document "L."

DEPARTMENT OF PUBLIC WORKS—BUREAU OF INCUMBRANCES,  
ROOM 16, NO. 31 CHAMBERS STREET,  
NEW YORK, January 3, 1887.

Hon. JOHN NEWTON, Commissioner of Public Works:

SIR—I herewith submit the following report of the operations of this Bureau, for the quarter ending December 31, 1886, together with a condensed statement of the entire business transacted during the same year:

Number of complaints received and notices issued therefor against obstructions and incumbrances on the various sidewalks, streets and avenues.....	205
Number of removals of merchandise, wagons, carts, trucks, stands, booths, etc., etc., to the Corporation Yard foot of Gansevoort street, North river.....	446

Expense of such removals, including 1,353 loads of dirt, stone, refuse, etc., and 88 dead and dangerous trees, from the various parts of the city.....	\$2,443 85
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Total expenses for the quarter.....	\$3,542 23
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Received from owners for the redemption of seized goods, articles, etc.....	\$503 44
Received from public sale held at the Corporation Yard foot of Gansevoort street, North river, November 4, 1886.....	109 94

Total.....	\$613 38
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Which amount was duly paid over to the City Chamberlain.

Number of permits issued to builders to place building material on the streets.....	1,340
Number of permits issued for special purposes.....	173
Number of notices issued to repair dangerous and defective vault covers.....	2
Number of permits issued to cut down shade trees.....	17
During the year 1886, the total number of complaints received and notices issued was.....	947
Removals to the Corporation Yard.....	1,459
Removal of loads of dirt, stone, refuse, etc.....	1,683
Removal of dead and dangerous trees.....	267
Number of builders' permits issued.....	7,014
Number of special permits issued.....	858
Number of permits issued to cut down trees.....	46
Number of notices issued to repair dangerous and defective vault covers.....	11
Number of notices issued to reflag sidewalks.....	68

Total expenditure for the year.....	\$8,411 92
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Receipts for articles redeemed by owners.....	\$1,642 56
Receipts from public sales at Corporation Yard.....	580 20

Total.....	\$2,222 76
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All of which was duly paid over to the City Chamberlain.

It is to be regretted that the Board of Estimate and Apportionment did not increase the appropriation for the present year, especially in view of the pressing demands upon the Bureau for the removal of old obstructions as well as the regulation of upwards of 7,000 buildings and alterations, which, in many cases, require the removal of large quantities of dirt and building material left upon the streets and sidewalks after the completion of the buildings. There is no branch of the City Government with the same field of labor before it that has not received a larger appropriation with which to perform its work and must necessarily be somewhat hampered thereby.

Not only have you strenuously urged the increase asked for, but prominent taxpayers and merchants have come to your assistance and argued for the granting of the same before the Board, but all to no purpose. The amount allowed is \$10,000, the same as in the past few years, of which \$3,116 is for inspectors' salaries, etc., and the balance, \$6,884, for the removal of all classes of obstructions throughout the city.

In other words, this Bureau is allowed about eighty-six cents per day for each of the Wards, with which to perform the task of removing all obstructions.

Unless this amount be increased it will be difficult to remove more than new obstructions, while the old ones will have to exist until a more liberal allowance is made.

From the foregoing report of the workings of this Bureau during the year 1886, it will be observed that there have been more obstructions removed to the Corporation Yard than in any previous year since the existence of the Bureau, and at the same time with less cost to the City.

Respectfully,

GEO. A. McDERMOTT, Superintendent of Incumbrances.

### Document "M."

BUREAU OF WATER REGISTER, NO. 31 CHAMBERS STREET,  
NEW YORK, December 31, 1886.

Hon. JOHN NEWTON, Commissioner of Public Works:

SIR—I herewith transmit statement of moneys received for water rents, penalties and taps, for the quarter ending December 31, 1886:

	Principal.	Penalties.	Taps.
October.....	\$87,533 51	\$1,387 90	\$1,636 50
November.....	76,337 83	3,175 40	1,339 00
December.....	151,523 05	3,144 30	1,124 50
Total.....	\$315,394 39	\$7,707 60	\$4,100 00

Total.....	\$327,201 99
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## Deposit to the credit of "Water-meter Fund, No. 2"—

October .....	\$363 69
November .....	83 94
December .....	93 65
Total .....	\$541 28

## Special Fund—"Repairing Streets"—

October .....	\$887 00
November .....	888 00
December .....	976 00
Total .....	\$2,751 00

I have the honor to also submit a statement of moneys received for the year ending December 31, 1886, and placed to the credit of their respective accounts with the City Chamberlain:

Total Receipts.	
Regular water rates and penalties .....	\$1,563,981 26
Water by meter-measurement .....	738,879 88
Permits for water for building purposes .....	40,931 47
Water rates returned in arrears .....	\$70,394 95
Water by meter-measurement returned in arrears .....	46,646 12
Pipe-tapping receipts .....	117,041 07
Restoring pavements .....	14,328 50
Collections for Meter and Meter Settings— Special Meter Stock No. 1 .....	\$2,475,162 18
Water Meter Fund No. No. 2 .....	\$10,705 00
Amount returned to Bureau of Arrears for meters and meter settings .....	\$68 84
Water Meter Fund No. No. 2 .....	\$14,389 13
Amount returned to Bureau of Arrears for meters and meter settings .....	2,938 12
	\$17,327 25

The amount received during the year for restoring pavements of \$10,705 is reserved for repairing openings in streets, made for the purpose of connecting water pipes with buildings, etc., etc.

The special account of \$17,327.25 is reserved and set apart to reimburse the City for advances made for meters and meter settings.

The receipts for water rates and penalties, including water by meter-measurement and building purposes, and for tapping water pipes, show an increase over the last year (1885), amounting to \$223,445.28.

I respectfully beg leave to renew the recommendation made in my yearly report of 1885, of having all buildings with steam-engines and others using extra water by estimated quantity, metered with as little delay as possible.

Waste of water continues, notwithstanding the citizens are daily admonished to be careful. Inspectors appointed to check this evil often find consumers allowing water to run through the faucets to avoid freezing in the service pipes. This waste causes low pressures upon the water-mains, and complaints of great scarcity of supply by many citizens throughout the city.

The receipts have been large and show an increased revenue over last year, notwithstanding the complaints from every part of the city that the water does not rise in different localities sufficiently high to supply consumers who have paid for its use for the current year. All of which is respectfully submitted.

J. H. CHAMBERS, Water Register.

## HEALTH DEPARTMENT.

HEALTH DEPARTMENT OF THE CITY OF NEW YORK,  
NEW YORK, February 1, 1887.

The Board met this day.

## Reports.

From the Sanitary Superintendent—Weekly report of operations of the First Division; weekly report of operations of the Second Division; weekly report of operations of the Third Division; weekly report of operations of the Fourth Division; weekly report of operations of the Fifth Division; weekly report of operations of the Sixth Division; weekly report of operations of the Seventh Division; weekly letter; weekly mortuary statement; weekly abstract of births; weekly abstract of still-births; weekly abstract of marriages; weekly abstract of deaths from contagious diseases; weekly report of attendance of clerks; weekly reports of sanitary condition of slaughter-houses; weekly report of manure-dumping; weekly report on removal of privy-vaults; weekly report on house-to-house inspections; weekly report on condition of offal dock; on applications for leave of absence; on application for permits; on applications for relief from certain orders; on condition of street pavements, etc.; monthly medical reports from charity institutions; on delayed birth and marriage certificates; on changes in the hospital service; on violation of section 9 of the Revised Statutes by Rev. T. W. Chambers; on application to file supplemental papers relating to death of Ellen Fraser; in respect to baling of manure; on application for additional help in the Fourth Division.

From the Attorney and Counsel—Weekly report; monthly report; reports on violations of the Sanitary Code referred to the Attorney for prosecution.

## Communications from other Departments.

From the Department of Finance—Comptroller's weekly statement.

## Miscellaneous Communication.

From the County Medical Society—In respect to the removal of manure.

## Bills Audited.

Thomas F. White .....	\$3,000 00	Gilbert & Barker Manufacturing Co. ....	\$30 44
J. B. Purroy .....	166 66	Park & Tilford .....	883 23
Whitehall, Tatum & Co. ....	2 66	C. W. Klappert's Sons .....	16 06
Charles S. Young .....	530 55	Francis H. Loss, Jr. ....	33 89
Percy Rockwell .....	23 79	Baker, Voorhis & Co. ....	3 00
Charles Lederer .....	357 99		

## Permits Granted.

To keep a lodging-house at No. 33 Washington street.  
To keep a lodging-house at No. 72 Greenwich street.  
To keep a lodging-house at No. 90 South street.  
To keep one cow at No. 527 West Fifty-second street.  
To keep and care for four infants at No. 358 West Thirty-sixth street.  
To keep four hens at No. 341 Ninth avenue.  
To keep four chickens at No. 78 Ninth avenue.  
To provide beds for one hundred and sixty-four children at corner Eighty-seventh street and Avenue A.

## Permit Denied.

To keep a lodging-house at No. 49 Oliver street.

## Resolutions.

Resolved, That the Register of Records be and is hereby authorized and directed to record the following birth returns:

Leslie Ella Wallace, October 19, 1886.  
Anne Duncan, October 23, 1886.  
Kate O. Beary, October 24, 1886.  
Catharine Miller, October 28, 1886.  
Viola Guild, March 11, 1886.

Resolved, That permission be and is hereby granted to file supplemental papers relating to the death of Ellen Fraser, who died April 23, 1886.

Resolved, That leaves of absence be and are hereby granted as follows:

Inspector Samuel W. Smith, from February 1 to February 10, on account of sickness.  
Inspector Martin, extended to February 3.

Resolved, That the following persons be and are hereby employed as follows:

Michael Lestrangle, Driver, from January 27, at \$2 per day.  
Christopher Farrell, Stableman, from January 28, at \$2 per day.  
Frederick O. Swain, Fireman, from January 31, at \$2.50 per day.

Resolved that the following persons be and are hereby employed as follows:

Louisa Carey, Helper, from January 24, at \$12 per month.  
Mary Daley, Helper, from January 26, at \$12 per month.

Resolved, That the following orders be and are hereby suspended or modified, as follows:

No. 597, at No. 57 East Ninety-first street, to February 14.  
No. 11278, at No. 418 West Eighteenth street to April 1.  
No. 13483, at No. 643 Hudson street, to March 15.  
No. 460, at No. 349 West Houston street, to April 10.  
No. 11620 at No. 2076 Second avenue, to February 15.  
No. 549, at 1295 Broadway, to March 10.  
No. 13491, at Nos. 515½ and 517 Pearl street, to February 15.  
No. 93, at No. 244 East Ninetieth street, to March 1.  
No. 14294, at No. 436 West Forty-ninth street, to March 1.  
No. 14069, at No. 441 West Thirty-ninth street, to February 22.  
No. 406, at No. 642 Second avenue, to April 10.  
No. 13562, at No. 194 East Seventy-sixth street, to April 1.  
No. 13553, at No. 607 West Forty-fifth street, to April 5.  
No. 90, at No. 234 Division street, the portion which refers to privy vault, to March 15.  
No. 607, at No. 226 West Forty-second street, to May 15, provided the sink be kept clean and inoffensive.  
No. 448, at Nos. 1032 and 1034 First avenue, the part relating to vault only, to April 15.  
No. 572, at No. 767 Second avenue, the part referring to privy only, to April 1.  
No. 13091, at No. 14 Duane street, modified as follows: That the eaves, gutter and leader on rear of house be replaced by a new one, and the same be connected with the privy vault; that the yard be so graded that surface water shall be discharged into the privy vault; that the privy vault be cleaned and disinfected.  
No. 11913, at Nos. 453 and 455 West Sixteenth street, modified so as to read as follows: That a sufficient supply of water be provided, reasonably convenient, for the use of the tenants on the top floor of each house.  
No. 537, at No. 209 Hester street, granted, provided the leader be not allowed to discharge upon the sidewalk.  
No. 13299, at No. 436 West Twentieth street, during the pleasure of the Board.  
No. 12584, at No. 420 West Fifty-second street, so modified as not to require a cast-iron house drain, running trap and fresh-air inlet, the remainder to be enforced.  
No. 14437, at No. 327 Madison avenue, to May 1, provided defects in all pipes are properly repaired and tank overflow pipe disconnected from the soil pipe.  
Resolved, That the application for relief from Order No. 296, on premises No. 11 Broadway, be and is hereby denied.  
A schedule of articles accounted for on Property Returns for six months ending December 31, as expended, condemned, or lost or destroyed, was received from the Property Clerk, and ordered on file.  
In answer to a request from the Board, a number of persons engaged in the livery stable and manure business appeared before the Board and made statements in respect to the practicability of baling, and handling when baled, of manure in this city; and, after due consideration, the subject was laid on the table for further consideration.

## Action of the Board on Plans for Light and Ventilation of New Tenement-houses.

Resolved, That the following plans for the light and ventilation of new tenement-houses be and are hereby approved upon the conditions described in the permits issued in each case, and the said plans and specifications are hereby modified in accordance therewith:

Plan No. 4707, for one tenement-house, northwest corner Elizabeth and Bayard streets, as amended.  
Plan No. 4709-2, for two tenement-houses, Nos. 14 and 16 Orchard street, as amended.  
Plan No. 4722, for one tenement-house, No. 14 Market street, as amended.  
Plan No. 4727, for one tenement-house, southwest corner Temple and Cedar streets.  
Plan No. 4729, for one tenement-house, Nos. 1396 and 1398 Avenue A.  
Plan No. 4693, for four tenement-houses, northwest corner Ninth avenue and Ninety-first street, as amended.

## Tabled for Amendment.

Resolved, That the following plans for the light and ventilation of new tenement-houses be and are hereby tabled for amendment:

Plan No. 4712, for two tenement-houses, Nos. 112 and 114 Monroe street.  
Plan No. 4736, for one tenement-house, southeast corner Washington place and Sixth avenue.

## Action of the Board on Plans for the Plumbing and Drainage of New Houses.

Resolved, That plans for the plumbing and drainage of the following new houses be and are hereby approved upon the conditions contained in the statement of the action of the Board attached to the specifications submitted with the plans, and the said plans are hereby modified in accordance therewith:

Plan No. 5735, for one tenement, southeast corner St. Nicholas avenue and One Hundred and Twenty-first street, as amended.  
Plan No. 5649, for six tenements (supplemental), west side Seventh avenue, from One Hundred and Twenty-third to One Hundred and Twenty-fourth street.  
Plan No. 5974 (amendment), for one factory, west side University place, from Ninth to Tenth street.  
Plan No. 5975, for one dwelling, No. 42 West One Hundred and Twenty-fifth street, as amended.  
Plan No. 5988, for one factory, No. 405 Greenwich street, as amended.  
Plan No. 6004, for one factory, north side Fifty-third street, one hundred feet east of Second avenue.  
Plan No. 6006, for one tenement, No. 1610 Second avenue.  
Plan No. 6007, for one synagogue, Nos. 12, 14 and 16 Eldridge street.  
Plan No. 6008, for one church, south side One Hundred and Thirteenth street, two hundred and seventy-five feet east of Third avenue.  
Plan No. 6009, for one tenement, No. 124 East Eighty-fifth street.  
Plan No. 6010, for one tenement, southwest corner Cedar and Temple streets.  
Plan No. 6011, for three dwellings, west side Edgecomb avenue, ninety feet south of One Hundred and Forty-fifth street.  
Plan No. 6012, for eight tenements, southwest corner Eighty-third street and First avenue, conditionally.  
Plan No. 6013, for one tenement, north side Eighty-first street, one hundred and seventy-five feet west of First avenue, conditionally.  
Plan No. 6014, for one office, north side One Hundred and Thirty-sixth street, one hundred and two feet east of Edgecomb avenue.  
Plan No. 6015, for one dwelling, south side One Hundred and Fifty-seventh street, between Tenth and St. Nicholas avenues.  
Plan No. 6016, for one tenement, west side Third avenue, two hundred and ninety feet south of One Hundred and Sixty-seventh street.  
Plan No. 6017, for one dwelling, east side Chisholm street, two hundred and fifty-five feet south of Jennings street.  
Plan No. 6018, for three tenements, two on east side of Second avenue, twenty-eight feet south of Eighty-third street, and one on south side Eighty-third street, seventy-five feet east of Second avenue.  
Plan No. 6019, for one tenement, southeast corner of Eighty-third street and Second avenue.  
Plan No. 6020, for two tenements east side Second avenue, seventy-eight feet south of Eighty-third street.  
Plan No. 6021, for two tenements, south side Sixty-sixth street, two hundred and fifty feet east of First avenue.  
Plan No. 6022, for one tenement, Nos. 1396 and 1398 Avenue A.  
Plan No. 6023, for one dwelling, east side Ackerman street, near Two Hundred and Thirty-second street.  
Plan No. 6024, for one dwelling, east side Ackerman street, one thousand feet north of Riverdale avenue.  
Plan No. 6025, for one dwelling, west side Sixth avenue, one hundred and fifty feet north of Highbridge road, as amended.  
Plan No. 6026, for one tenement, No. 45 Mott street.  
Plan No. 6027, for one tenement, No. 313 West Sixtieth street.  
Plan No. 6028, for one theatre, Nos. 728 and 730 Broadway.  
Plan No. 6031, for one dwelling south side Cole street, seventy-five feet west of Decatur avenue.  
Plan No. 6032, for one dwelling, east side Decatur avenue, three hundred feet north of John street.  
Plan No. 6033, for one dwelling, west side Church street, opposite to Two Hundred and Fiftieth street.



Resolved, That the following violations of law in the plumbing and drainage of new houses be and are hereby referred to the Attorney:

3466, 3652, 3840, 3948, 3982, 4190, 4179, 4047, 4083, 4071, 4181, 4197, 4208, 3578, 3862, 3963, 3987, 3962, 4026, 4042, 4160, 4173, 4183, 4206, 4215.

Sanitary Bureau.

The following is a record of the work performed in the Sanitary Bureau for the week ending January 29, 1887:

The total number of inspections made by the Sanitary Inspectors was 5,347.

The number of complaints returned by the Sanitary Inspectors was 429.

During the past week 287 complaints were received from citizens, and referred to the Sanitary Inspectors for investigation and report.

There were issued to the consignees of vessels, to discharge cargoes on vouchers from the Health Officer of the Port, 36 permits.

There were issued to consignees, to discharge rags (in bulk, under bonds), 5 permits.

There were issued, under the Sanitary Code, 5 miscellaneous permits.

There were issued to scavengers to empty, clean and disinfect privy sinks, 35 permits.

At premises where contagious diseases were reported, 209 visits were made, and 67 disinfections and 58 fumigations were performed.

The number of cases of contagious diseases removed to Riverside Hospital was 28.

The number of vaccinations performed was 3,480 of which 556 were primary, and 2,924 revaccinations.

There were seized and condemned, 9,015 pounds of meat, and 200 pounds of fish.

The number of specimens of milk examined was 44, the number of analyses of same made was 3, and the amount of fines imposed was \$50.

The certificates of 584 births, 62 still-births, 263 marriages, and 735 deaths, reported to have taken place in this city, were received by this Bureau during the week ending Saturday, January 29, 1887. This shows an increase of 24 births, 1 still-birth, and 36 marriages, and a decrease of 54 deaths, when compared with the number received during the preceding week, but when compared with the corresponding week of the year 1886, there was a decrease of 20 births, and an increase of 1 still-birth, 43 marriages and 83 deaths. Compared with the mortality reported during the preceding week, the deaths from measles decreased 16; diphtheria, 16; whooping-cough, 3; cerebro-spinal fever, 2; malarial fevers, 4; puerperal diseases, 2; alcoholism, 2; rheumatism and gout, 6; cancer, 9; phthisis pulmonalis, 10; bronchitis, 4; heart diseases, 4; aneurism, 1; marasmus, tabes mesenterica and scrofula, 2; hydrocephalus and tubercular meningitis, 3; meningitis and encephalitis, 5; convulsions, 4; apoplexy, 8; all diseases of the brain and nervous system, 26; cirrhosis and hepatitis, 2; cyanosis and atelectasis, 1; premature and preterm births, 2; surgical operations, 4; while the deaths from small-pox increased 1; scarlatina, 5; croup, 6; typhoid fever, 1; diarrhoeal diseases, 4; inanition, 2; pneumonia, 24; gastritis, enteritis and peritonitis, 7; Bright's disease and nephritis, 8; suicide, 3; drowning, 2. The number of deaths from erysipelas was the same in the two successive weeks.

Deaths from the principal Zymotic Diseases, Phthisis Pulmonalis, Pneumonia, Bronchitis, and Children under five years of age, reported during the week and compared with the three preceding weeks.

WEEK ENDING—	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Membranous Croup.	Whooping Cough.	Typhus Fever.	Typhoid Fever.	Cerebro-Spinal Fever.	Remittent, Intermittent, Typho-Malarial, Continued, and Simple Fevers.	Diarrhoeal Diseases.	Phthisis Pulmonalis.	Pneumonia.	Bronchitis.	Diseases of the Nervous System.	Diseases of the Urinary System.	DEATHS OF CHILDREN.		
																	Under 1 year of age.	Under 2 years of age.	Under 5 years of age.
Jan. 8, 1887.....	61	12	53	30	9	7	4	7	8	121	94	50	64	49	161	261	350		
" 15, " .....	73	6	40	34	7	9	5	5	13	122	112	54	53	52	180	273	365		
" 22, " .....	68	11	54	18	6	4	6	8	8	114	101	49	74	47	173	243	335		
" 29, " .....	52	16	38	24	3	5	4	4	12	104	125	45	48	52	154	223	306		
Total.....	254	45	185	106	25	25	19	24	41	461	432	198	239	200	663	1000	1356		

The ages of 173 of the persons who died during the week were reported to be under one year, 243 under two years, 335 under five years, and 53 seventy years and over, which shows that the number of deaths of children under five years of age was 29 more than the number reported during the preceding week, and represent 42.46 per cent. of the total weekly mortality.

Deaths reported from Small-pox, Measles, Scarlatina, Diphtheria, Membranous Croup, Whooping Cough, Typhus, Typhoid, Cerebro-Spinal, and Malarial Fevers, in Institutions, Tenement and other Dwellings, with Average Age, Floor, and Ward where the Death occurred, and the Hour of Death, for the week ending January 29, 1887.

DISEASE.	In Houses containing 3 Families and under.	In Houses containing over 3 Families.	Canal Boats.	Hotels and Boarding-houses.	Institutions.	FLOOR.										AVERAGE AGE.		
						Basement.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Top.	Not Stated.	Years.	Months.	Days.	
Small-pox.....	1	1	..	..	1	..	1	..	..	1	..	..	..	..	28	4	..	
Measles.....	8	34	..	..	10	..	7	12	13	4	6	..	..	..	2	1	1	
Scarlatina.....	4	12	..	..	..	4	5	3	3	1	..	..	..	..	6	3	3	
Diphtheria.....	5	26	..	1	5	10	9	7	3	3	3	..	..	..	4	7	8	
Membranous Croup.	4	20	..	..	..	4	7	7	3	3	..	..	..	..	2	5	24	
Whooping Cough....	1	1	..	..	1	..	1	..	..	..	1	..	..	..	1	5	7	
Typhus Fever.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Typhoid Fever.....	..	3	..	..	2	..	..	..	1	..	2	..	..	..	17	8	11	
Cerebro-Spinal Fever	1	3	..	..	..	..	..	..	4	..	..	..	..	..	3	10	16	
Malarial Fevers.....	2	1	..	1	..	2	2	..	..	..	..	..	..	..	42	4	27	

DISEASE.	WARDS.																				TOTAL DEATHS.
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	
Small-pox.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Measles.....	2	..	2	..	1	2	..	1	..	10	..	5	1	1	2	2	11	3	1	6	52
Scarlatina.....	..	..	..	..	1	1	1	..	1	1	3	1	..	3	..	3	1	..	..	..	16
Diphtheria.....	..	..	..	1	1	1	..	3	..	6	2	1	..	1	..	9	3	1	7	1	37
Membranous Croup..	1	..	..	..	3	1	..	1	..	4	..	1	..	1	..	3	2	1	5	1	24
Whooping Cough....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Typhus Fever.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever.....	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	2	..	..	..	5
Cerebro-Spinal Fever	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	4
Malarial Fevers.....	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	4

Hours at which Deaths Occurred.

DISEASE.	A. M.												P. M.										Total.
	1 o'clock.	2 o'clock.	3 o'clock.	4 o'clock.	5 o'clock.	6 o'clock.	7 o'clock.	8 o'clock.	9 o'clock.	10 o'clock.	11 o'clock.	12 o'clock.	1 o'clock.	2 o'clock.	3 o'clock.	4 o'clock.	5 o'clock.	6 o'clock.	7 o'clock.	8 o'clock.	9 o'clock.	10 o'clock.	
Small-pox.....	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	3
Measles.....	2	2	..	2	4	3	4	3	2	4	1	1	1	3	2	4	2	2	..	1	1	4	52
Scarlatina.....	1	1	2	2	..	..	1	..	1	..	1	..	1	1	..	1	1	..	1	..	1	..	16
Diphtheria.....	2	1	..	3	1	..	2	4	..	2	2	4	2	1	..	1	1	1	2	1	2	5	37
Membranous Croup..	1	1	3	2	1	1	1	..	1	..	4	..	3	..	1	1	2	2	..	..	..	..	24
Whooping Cough....	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	3
Typhus Fever.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever.....	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	2	..	..	..	..	..	..	5
Cerebro-Spinal Fever	..	..	..	..	1	1	..	1	..	..	..	..	1	..	..	1	..	..	1	..	1	..	4
Malarial Fevers.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	4

Of the total number of deaths reported for the week, 130 were in institutions, 430 in tenement houses, 162 in houses containing three families or less, 6 in hotels and boarding-houses, 7 in rivers, streets, boats, etc.; 12 were on the basement floor, 136 on the first, 150 on the second, 143 on the third, 2 on the fourth, 1 on the fifth, 0 on the sixth; 723 were stated to be residents of New York City, and 12 non-residents; 97 were stated to be single, 196 married, 88 widowed, and the condition of 354 was not stated; these were children who had not attained a marriageable age.

The total number of burial permits issued during the week were as follows, viz.: City deaths, 735; still-births, 63; bodies in transitu, 12; of the total burial permits issued for city and still-births, 59 were upon certificates received from the Coroners; 584 births, 263 marriages, 63 still-births, 735 deaths; 12 applications for transit permits were recorded, indexed and tabulated; 119 searches of the registers of births, marriages, and deaths were made, and 3 transcripts of the birth record, 4 of marriage, and 66 of death were issued during the week.

The mean temperature for the week ending January 29, 1887, was 37.8 degrees Fahr.; the mean reading of the barometer was 29.909; the mean humidity was 86, saturation being 100; the number of miles traveled by the wind was 1,543, and the total amount of rain-fall was 1.24 inches depth of water, as reported by D. Draper, Ph. D., Director of the New York Meteorological Observatory, Central Park.

The disposition of 707 deaths and still-births, or 88.60 per cent. of the total number reported, was in the following 14 cemeteries: Bayside (Jewish), 27; Calvary (Roman Catholic), 283; City, pauper burial-ground (undenominational), 104; Greenwood (undenominational), 46; Lutheran (undenominational), 117; Cypress Hills (undenominational), 11; Evergreen (undenominational), 37; Woodlawn (undenominational), 18; St. Michael's (Protestant Episcopal), 15; Union (Methodist Protestant), 4; Holy Cross (Roman Catholic), 12; Macpelah, L. I. (Jewish), 6; St. Raymond's (Roman Catholic), 11; Washington (undenominational), 16.

The distribution of deaths (actual mortality) for the week ending January 22, 1887, was in the following Wards, viz.: First, 7; Second, 1; Third, 7; Fourth, 12; Fifth, 9; Sixth, 16; Seventh, 25; Eighth, 22; Ninth, 34; Tenth, 30; Eleventh, 12; Twelfth, 119; Thirteenth, 22; Fourteenth, 31; Fifteenth, 14; Sixteenth, 25; Seventeenth, 40; Eighteenth, 28; Nineteenth, 156; Twentieth, 40; Twenty-first, 48; Twenty-second, 60; Twenty-third, 17; Twenty-fourth, 13.

The actual mortality for the week ending January 22, 1887, was 788; this is 127 more than the number that occurred during the corresponding week of the year 1886, and 129 more than the average of the corresponding weeks of the past five years, and represents an annual death-rate of 28.01 per 1,000 persons living, the population estimated at 1,463,110.

The annual death-rate per 1,000 persons living, of the estimated or enumerated population, according to the most recent weekly returns of Philadelphia was 22.97; Brooklyn, 21.70; Baltimore, 17.58; Boston, 23.31; New Orleans, 18.85; Cleveland, 19.02; Charleston, 22.96; Worcester, 21.28; Cambridge, 16.91; Fall River, 24.68; Lynn, 15.82; Springfield, 13.80; Pittsburgh, 20.28. Monthly returns—Providence, 18.70; Dubuque, 11.35. Foreign cities—weekly returns—London, 23.0; Liverpool, 28.2; Birmingham, 22.8; Manchester, 31.0; Glasgow, 30.9; Edinburgh, 20.7; Dundee, 25.7; Dublin, 36.2; Belfast, 30.2; Cork, 27.9; Brussels, 25.3; Antwerp, 25.5; Paris, 25.64; Rome, 29.2; Venice, 32.2; Berlin, 21.4; Munich, 24.9; Breslau, 24.33; Vienna, 24.7; Copenhagen, 23.8; Stockholm, 21.7; Christiana, 23.7; Amsterdam, 24.0; Rotterdam, 29.8; The Hague, 22.5; Calcutta, 41.5; Madras, 41.3; St. Petersburg, 29.0; Warsaw, 28.19; Salford, 23.7; Liege, 20.2; Prague and suburbs, 28.5; Cairo, 40.8; Alexandria, 37.5. Returns for 10 days—Turin, 27.9; Palma, 20.8. Monthly returns—Buenos Ayres, 21.5; Marseilles, 25.5; Sydney, 25.1.

By order of the Board.

EMMONS CLARK, Secretary.

DEPARTMENT OF PUBLIC WORKS.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE, NO. 31 CHAMBERS STREET,  
NEW YORK, February 4, 1887.

In accordance with the provisions of section 51 of chapter 410 of the Laws of 1882, the Department of Public Works makes the following report of its transactions for the week ending January 29, 1887:

Public Moneys Received during the Week.

For Croton water rents .....	\$28,860 84
For penalties on water rents .....	920 25
For tapping Croton pipes .....	102 00
For sewer permits .....	234 72
For restoring and repaving—Special Fund .....	214 00
For sale at public auction .....	169 88
For vault permits .....	618 75
Total .....	\$31,120 44

Permits Issued.

- 23 permits to tap Croton pipes.
- 18 permits to open streets.
- 12 permits to make sewer connections.
- 14 permits to repair sewer connections.
- 102 permits to place building material on streets.
- 17 permits—special.
- 1 permit to construct street vault.

Obstructions Removed.

- 4 obstructions removed from the various streets and avenues.

Repairing and Cleaning Sewers.

- 48 receiving-basins and culverts cleaned.
- 3,502 lineal feet of sewer cleaned.
- 12 lineal feet of sewer rebuilt.
- 20 lineal feet of sewer repaired.
- 7 lineal feet of culvert rebuilt.
- 15 lineal feet of spar-pipe laid.
- 1 manhole rebuilt.
- 1 manhole repaired.
- 2 basins repaired.
- 2 new basin covers put on.
- 1 new manhole head and cover put on.
- 58 cubic yards of earth excavated and refilled.
- 19 square yards of paving relaid.
- 190 cart-loads of dirt removed.

Public Lamps.

- 3 new lamps lighted.
- 7 old lamps relighted.
- 5 lamps discontinued.
- 2 lamp-posts reset.
- 1 lamp-post straightened.
- 1 column refitted.
- 1 column relaid.



Report of Photometrical Examinations of Illuminating Gas, for the week ending January 29, 1887, made at the Photometrical Rooms of the Department of Public Works.

DATE.	TIME.	Thermometer.	Barometer.	GAS COMPANY.	BURNER.	Pressure as Delivered to Burner.	Consumption of Gas, Rate per hour.	Consumption of Candle, Grs. per hour.	ILLUMINATING POWER.	
									Observed.	Corrected.
Jan. 24	6 P.M.	74.	29.48	Manhattan	Empire ft. ....	.59	5.00	123.0	19.10	19.58
" 25	2 P.M.	73.	29.93	"	"	.59	5.00	124.8	19.08	19.84
" 26	5 P.M.	74.	29.89	"	"	.59	5.00	121.2	18.40	18.58
" 27	1 P.M.	62.	30.57	"	"	.60	5.00	118.8	19.14	18.95
" 28	5 P.M.	74.	30.28	"	"	.60	5.00	120.0	19.28	19.28
" 29	4 P.M.	73.	29.86	"	"	.60	5.00	121.2	19.94	20.14
									Average.	19.39
Jan. 24	5:30 P.M.	74.	29.48	New York	Bray's Slit Union 7	.75	5.00	120.0	24.92	24.92
" 25	2:30 P.M.	73.	29.93	"	"	.75	5.00	118.8	25.30	25.05
" 26	4:30 P.M.	74.	29.89	"	"	.75	5.00	120.0	24.06	24.06
" 27	1:30 P.M.	62.	30.57	"	"	.77	5.00	120.0	25.41	25.41
" 28	4:30 P.M.	74.	30.28	"	"	.75	5.00	123.0	24.72	25.34
" 29	1 P.M.	73.	29.86	"	"	.74	5.00	117.6	25.92	25.40
									Average.	25.03
Jan. 24	4 P.M.	74.	29.48	N. Y. Mutual	"	.81	5.00	121.2	28.92	29.21
" 25	4 P.M.	73.	29.93	"	"	.81	5.00	121.2	30.78	31.09
" 26	3 P.M.	74.	29.89	"	"	.83	5.00	124.2	29.14	30.16
" 27	3 P.M.	62.	30.57	"	"	.85	5.00	124.2	29.58	30.61
" 28	3 P.M.	74.	30.28	"	"	.85	5.00	120.0	30.82	30.82
" 29	3:30 P.M.	73.	29.86	"	"	.85	5.00	120.0	31.24	31.24
									Average.	30.52
Jan. 24	5 P.M.	74.	29.48	Municipal	"	.76	5.00	121.2	30.04	30.34
" 25	3 P.M.	73.	29.93	"	"	.76	5.00	124.8	29.42	30.59
" 26	4 P.M.	74.	29.89	"	"	.77	5.00	120.0	30.16	30.16
" 27	2 P.M.	62.	30.57	"	"	.79	5.00	120.0	28.84	28.84
" 28	4 P.M.	74.	30.28	"	"	.77	5.00	117.6	30.28	29.68
" 29	1:30 P.M.	73.	29.86	"	"	.77	5.00	115.2	31.36	30.11
									Average.	29.95
Jan. 24	4:30 P.M.	74.	29.48	Equitable	"	.76	5.00	120.0	31.18	31.18
" 25	3:30 P.M.	73.	29.93	"	"	.75	5.00	114.0	34.76	33.02
" 26	3:30 P.M.	74.	29.89	"	"	.77	5.00	119.4	33.52	33.35
" 27	2:30 P.M.	62.	30.57	"	"	.78	5.00	115.2	34.36	32.99
" 28	3:30 P.M.	74.	30.28	"	"	.77	5.00	120.0	32.64	32.64
" 29	2 P.M.	73.	29.86	"	"	.78	5.00	114.0	35.52	33.74
									Average.	32.82
Jan. 24	11:30 A.M.	78.	29.51	Metropolitan	No. 6	.64	5.00	123.0	20.54	21.15
" 25	11 A.M.	75.	30.15	"	"	.65	5.00	120.0	20.04	20.04
" 26	11 A.M.	78.	29.89	"	"	.66	5.00	124.2	19.52	20.30
" 27	11 A.M.	68.	30.66	"	"	.65	5.00	119.4	21.00	20.90
" 28	11:30 A.M.	70.	30.47	"	"	.67	5.00	120.0	20.84	20.84
" 29	11:30 A.M.	78.	29.93	"	"	.64	4.85	117.0	20.38	20.48
									Average.	20.62
Jan. 24	11 A.M.	77.	29.51	Knickerbocker	"	.61	5.00	121.2	20.12	20.32
" 25	11:30 A.M.	76.	30.15	"	"	.63	5.00	126.0	19.66	20.64
" 26	10:30 A.M.	77.	29.89	"	"	.62	5.00	121.8	19.88	20.18
" 27	11:30 A.M.	69.	30.66	"	"	.63	5.00	120.0	19.76	19.76
" 28	11 A.M.	69.	30.47	"	"	.66	5.00	116.4	20.66	20.04
" 29	12 M.	78.	29.93	"	"	.60	5.00	118.2	22.90	22.56
									Average.	20.58

E. G. LOVE, PH. D., Gas Examiner.

Statement of Laboring Force Employed in the Department of Public Works during the Week ending January 29, 1887.

NATURE OF WORK.	MECHANICS.	LABORERS.	TEAMS.	CARTS.
Aqueduct—Repairs, maintenance and strengthening.....	33	112	10	6
Supplying water to shipping.....	"	"	"	"
Laying Croton pipes.....	3	11	2	"
Repairing and renewal of pipes, stop-cocks, etc.....	49	97	"	11
Bronx River Works—Maintenance and repairs.....	2	18	1	"
Repairing and cleaning sewers.....	4	37	"	17
Repairs and renewals of pavement.....	21	37	"	8
Boulevards, roads and avenues—Maintenance of.....	13	32	7	1
Roads, streets and avenues.....	1	10	2	"
Totals.....	126	354	22	43
Increase over previous week.....	"	"	"	"
Decrease from previous week.....	7	13	"	"

Requisitions on the Comptroller.

The total amount of requisitions drawn by the Department on the Comptroller during the week is \$16,610 17.

D. LOWBER SMITH, Deputy Commissioner of Public Works.

## APPROVED PAPERS

Resolved, That the resolution and ordinance for regulating, grading, setting curb-stones and flagging One Hundred and Fifty-fifth street, from the first new avenue west of Eighth avenue to St. Nicholas place, which was approved by the Mayor, October 27, 1886, be and is hereby annulled, rescinded and repealed.

Adopted by the Board of Aldermen, January 25, 1887.  
Approved by the Mayor, January 31, 1887.

Resolved, That the resolutions passed by the Board of Aldermen, on the occasion of the presentation of the Freedom of the City to M. Bartholdi, be engrossed, mounted on a scroll, enclosed in a suitable box, and transmitted to M. Bartholdi; the expense thereof not to exceed the sum of two hundred dollars, and to be charged to the appropriation made for that purpose; the work to be done under the direction of a special committee of three, to be appointed by the President.

Adopted by the Board of Aldermen, January 25, 1887, and the President appointed Aldermen Farrell, Quinn, and Conkling as such committee.  
Approved by the Mayor, January 31, 1887.

Resolved, That permission be and the same is hereby given to Francis L. Weiss to erect and keep a watering-trough in front of his premises, No. 340 Stanton street, the work to be done and water supplied at his own expense, under the direction of the Commissioner of Public Works; such permission to continue only during the pleasure of the Common Council.

Adopted by the Board of Aldermen, January 18, 1887.

Received from his Honor the Mayor, February 2, 1887, without his approval or objections thereto; therefore, as provided in section 75, chapter 410, Laws of 1882, the same became adopted.

## EXECUTIVE DEPARTMENT.

MAYOR'S OFFICE,  
NEW YORK, January 7, 1886.

Pursuant to section 9 of chapter 339, Laws of 1883, I hereby designate "New York Times" and the "Daily News" two of the daily newspapers printed in the City of New York, in which notice of each sale of unredeemed pawns or pledges by public auction in said city, by pawnbrokers, shall be published for at least six days previous thereto, until otherwise ordered.

W. R. GRACE, Mayor.

MAYOR'S OFFICE,  
NEW YORK, December 31, 1885.

In pursuance of the ordinance, approved April 30, 1877, and amended June 1, 1877, entitled, "An ordinance to prevent the danger of hydrophobia to any of the inhabitants of the City of New York," notice is hereby given that all Dogs found at large in the City of New York on and after January 1, contrary to such ordinance, will be seized and disposed of as provided therein.

The Dog Pound at the foot of Sixteenth street, East river, is hereby designated as the place where dogs so captured must be delivered to the Keeper thereof. The Pound will be open from eight o'clock A. M. until five o'clock P. M. daily, Sundays excepted, on and after the first day of January, 1886.

WM. R. GRACE,  
Mayor.

## OFFICIAL DIRECTORY.

STATEMENT OF THE HOURS DURING WHICH all the Public Offices in the City are open for business, and at which each Court regularly opens and adjourns, as well as of the places where such offices are kept and such Courts are held; together with the heads of Departments and Courts.

### EXECUTIVE DEPARTMENT

Mayor's Office.

No. 6 City Hall, 10 A. M. to 3 P. M.  
ABRAM S. HEWITT, Mayor; ARTHUR BERRY, Secretary and Chief Clerk.

Mayor's Marshal's Office.

No. 1 City Hall, 9 A. M. to 4 P. M.  
THOMAS W. BYRNES, First Marshal.  
GEORGE W. BROWN, Jr., Second Marshal.

### COMMISSIONERS OF ACCOUNTS.

Rooms 114 and 115, Stewart Building, 9 A. M. to 4 P. M.  
WM. PITT SHEARMAN, J. B. ADAMSON.

### AQUEDUCT COMMISSIONERS.

Room 209, Stewart Building, 5th floor, 9 A. M. to 5 P. M.  
JAMES C. SPENCER, President; JOHN C. SHEEHAN, Secretary; BENJAMIN S. CHURCH, Chief Engineer; J. C. LULLEY, Auditor.

### BOARD OF ARMORY COMMISSIONERS.

THE MAYOR, Chairman; PRESIDENT OF DEPARTMENT OF TAXES AND ASSESSMENTS, Secretary.  
Address M. COLEMAN, Staats Zeitung Building, Tryon Row. Office hours, 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

### LEGISLATIVE DEPARTMENT.

Office of Clerk of Common Council.

No. 8 City Hall, 10 A. M. to 4 P. M.  
HENRY R. BEEKMAN, President Board of Aldermen.  
FRANCIS J. TWOMEY, Clerk Common Council.

City Library.

No. 12 City Hall, 10 A. M. to 4 P. M.  
BERNARD JACOBS, City Librarian.

### DEPARTMENT OF PUBLIC WORKS.

Commissioner's Office.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
JOHN NEWTON, Commissioner; D. LOWBER SMITH, Deputy Commissioner.

Bureau of Chief Engineer.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
GEORGE W. BIRDSALL, Chief Engineer.

Bureau of Water Register.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
JOHN H. CHAMBERS, Register.

Bureau of Street Improvements.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
WM. M. DEAN, Superintendent.

Engineer-in-Charge of Sewers.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
HORACE LOOMIS, Engineer-in-Charge.

Bureau of Repairs and Supplies.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
THOMAS H. McAVOY, Superintendent.

### Bureau of Water Purveyor.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
ALSTON CULVER, Water Purveyor.

### Bureau of Lamps and Gas.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
STEPHEN McCORMICK, Superintendent.

### Bureau of Streets.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
GEO. E. BABCOCK, Superintendent.

### Bureau of Incumbrances.

No. 31 Chambers street, 9 A. M. to 4 P. M.  
JOHN RICHARDSON, Superintendent.

### Keeper of Buildings in City Hall Park.

MARTIN J. KEESSE, City Hall.

### FINANCE DEPARTMENT.

Comptroller's Office.

No. 15 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
EDWARD V. LOWE, Comptroller; RICHARD A. STORRS, Deputy Comptroller.

### Auditing Bureau.

Nos. 19, 21, 23 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
WM. J. LYON, Auditor of Accounts; DAVID E. AUSTEN, Deputy Auditor.

Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents.  
Nos. 31, 33, 35, 37, 39 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
ARTEMAS S. CADY, Collector of Assessments and Clerk of Arrears.

### Bureau for the Collection of City Revenue and of Markets.

Nos. 1 and 3 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
JAMES J. KELSO, Collector of the City Revenue and Superintendent of Markets.

### Bureau for the Collection of Taxes.

First floor, Brown-stone Building, City Hall Park.  
GEORGE W. McLEAN, Receiver of Taxes; ALFRED VREDENBURG, Deputy Receiver of Taxes.

### Bureau of the City Chamberlain.

Nos. 25, 27 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
WM. M. IVINS, City Chamberlain.

### Office of the City Paymaster.

No. 33 Reade street, Stewart Building.  
JOHN H. TIMMERMAN, City Paymaster.

### LAW DEPARTMENT.

#### Office of the Counsel to the Corporation.

Staats Zeitung Building, third floor, 9 A. M. to 5 P. M.  
Saturdays, 9 A. M. to 4 P. M.  
E. HENRY LACOMBE, Counsel to the Corporation;  
ANDREW T. CAMPBELL, Chief Clerk.

#### Office of the Public Administrator.

No. 49 Beekman street, 9 A. M. to 4 P. M.  
RICHARD J. MORRISON, Public Administrator

#### Office of the Corporation Attorney.

No. 49 Beekman street, 9 A. M. to 4 P. M.  
WILLIAM A. BOYD, Corporation Attorney.

### POLICE DEPARTMENT.

Central Office.

No. 300 Mulberry street, 9 A. M. to 4 P. M.  
STEPHEN B. FRENCH, President; WILLIAM H. KIPP, Chief Clerk; JOHN J. O'BRIEN, Chief Bureau of Elections.

### DEPARTMENT OF CHARITIES AND CORRECTION.

Central Office.

No. 66 Third avenue, corner Eleventh street, 8:30 A. M. to 5:30 P. M.  
HENRY H. PORTER, President GEORGE F. BRITTON, Secretary.

### FIRE DEPARTMENT.

Office hours for all except where otherwise noted from 9 A. M. to 4 P. M. Saturdays, to 3 P. M.

Headquarters.

Nos. 157 and 159 East Sixty-seventh street.  
HENRY D. PURROY, President; CARL JUSSEN, Secretary.

#### Bureau of Chief of Department.

CHARLES O. SHAY, Chief of Department.

#### Bureau of Inspector of Combustibles.

PETER SEERY, Inspector of Combustibles.

#### Bureau of Fire Marshal.

GEORGE H. SHELTON, Fire Marshal.

#### Bureau of Inspection of Buildings.

ALBERT F. D'OENCH, Superintendent of Buildings.

#### Attorney to Department.

WM. L. FINDLEY.

#### Fire Alarm Telegraph.



**Repair Shops.**

Nos. 128 and 130 West Third street.  
JOHN CASTLES, Foreman-in-Charge, 8 A. M. to 5 P. M.

**Hospital Stables.**

Ninety-ninth street, between Ninth and Tenth avenues.  
JOSEPH SHEA, Foreman-in-Charge.  
Open at all hours.

**HEALTH DEPARTMENT.**

No. 301 Mott street, 9 A. M. to 4 P. M.  
ALEXANDER SHALER, President; EMMONS CLARK, Secretary.

**DEPARTMENT OF PUBLIC PARKS.**

Emigrant Industrial Savings Bank Building, Nos. 49 and 51 Chambers street, 9 A. M. to 4 P. M.  
M. C. D. BORDEN, President; CHARLES DE F. BURNS, Secretary.

**Civil and Topographical Office.**

Arsenal, Sixty-fourth street and Fifth avenue, 9 A. M. to 5 P. M.

**Office of Superintendent of 23d and 24th Wards.**

One Hundred and Forty-sixth street and Third avenue, 9 A. M. to 5 P. M.

**DEPARTMENT OF DOCKS.**

Battery, Pier A, North River, 9 A. M. to 4 P. M.  
L. J. N. STARK, President; B. W. ELLISON, Secretary.  
Office hours from 9 A. M. to 4 P. M. daily, except Saturdays; on Saturdays as follows: from October 1 to June 1, from 9 A. M. to 3 P. M.; from June 1 to September 30, from 9 A. M. to 12 M.

**DEPARTMENT OF TAXES AND ASSESSMENTS.**

Staats Zeitung Building, Tryon Row, 9 A. M. to 4 P. M. Saturdays, 3 P. M.  
MICHAEL COLEMAN, President; FLOYD T. SMITH, Secretary.

**Office Bureau Collection of Arrears of Personal Taxes.**

Brown-stone Building, City Hall Park, 9 A. M. to 4 P. M.  
CHARLES S. BEARDSLEY, Attorney; WILLIAM COMBERFORD, Clerk.

**DEPARTMENT OF STREET CLEANING.**

Nos. 31 and 32 Park Row, "World" Building, Rooms 8 and 9, 9 A. M. to 4 P. M.  
JAMES S. COLEMAN, Commissioner; JACOB SEABOLD, Deputy Commissioner; R. W. HORNER, Chief Clerk.

**CIVIL SERVICE SUPERVISORY AND EXAMINING BOARDS.**

Room No. 11, City Hall.  
EVERETT P. WHEELER, Chairman of the Supervisory Board; LEE PHILLIPS, Secretary and Executive Officer.

**BOARD OF ESTIMATE AND APPORTIONMENT.**

Office of Clerk, Staats Zeitung Building, Room 5.  
The Mayor, Chairman; CHARLES V. ADEE, Clerk.

**BOARD OF ASSESSORS.**

Office, City Hall, Room No. 11½, 9 A. M. to 4 P. M.  
EDWARD GILON, Chairman; WM. H. JASPER, Secretary.

**BOARD OF EXCISE.**

No. 54 Bon street, 9 A. M. to 4 P. M.  
CHARLES H. WOODMAN, President; DAVID S. WHITE, Secretary and Chief Clerk.

**SHERIFF'S OFFICE.**

Nos. 3 and 4 New County Court-house, 9 A. M. to 4 P. M.  
HUGH J. GRANT, Sheriff; JOHN B. SEXTON, Under Sheriff; BERNARD F. MARTIN, Order Arrest Clerk.

**REGISTER'S OFFICE.**

East side City Hall Park, 9 A. M. to 4 P. M.  
JAMES J. SLEVIN, Register; JAMES J. MARTIN, Deputy Register.

**COMMISSIONER OF JURORS.**

Room 127, Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.  
CHARLES REILLY, Commissioner; JAMES E. CONNER, Deputy Commissioner.

**COUNTY CLERK'S OFFICE.**

Nos. 7 and 8 New County Court-house, 9 A. M. to 4 P. M.  
JAMES A. FLACK, County Clerk; THOMAS F. GILROY, Deputy County Clerk.

**DISTRICT ATTORNEY'S OFFICE.**

Second floor, Brown-stone Building, City Hall Park, 9 A. M. to 4 P. M.  
RANDOLPH B. MARTINE, District Attorney; ANDREW D. PARKER, Chief Clerk.

**THE CITY RECORD OFFICE.**

And Bureau of Printing, Stationery, and Blank Books  
No. 2 City Hall, 9 A. M. to 5 P. M., except Saturdays, on which days 9 A. M. to 3 P. M.  
THOMAS COSTIGAN, Supervisor; R. P. H. ABELL, Book-keeper.

**CORONERS' OFFICE.**

Nos. 13 and 15 Chatham street, 8 A. M. to 5 P. M. Sundays and holidays, 8 A. M. to 12.30 P. M.  
MICHAEL J. B. MESSEMER, FERDINAND LEVY, FERDINAND EIDMAN, JOHN R. NUGENT, Coroners; JOHN T. TOAL, Clerk of the Board of Coroners.

**SUPREME COURT.**

Second floor, New County Court-house, opens at 10.30 A. M.  
CHARLES H. VAN BRUNT, Presiding Justice; JAMES A. FLACK, Clerk; THOMAS F. GILROY, Deputy County Clerk.

General Term, Room No. 9, WILLIAM LAMB, Jr., Clerk.  
Special Term, Part I., Room No. 10, HUGH DONNELLY, Clerk.

Special Term, Part II., Room No. 18, WILLIAM J. HILL, Clerk.

Chambers, Room No. 11, WALTER BRADY, Clerk.

Circuit, Part I., Room No. 12, SAMUEL BARRY, Clerk.

Circuit, Part II., Room No. 14, RICHARD J. SULLIVAN, Clerk.

**COURT OF COMMON PLEAS.**

Third floor, New County Court-house, 11 A. M.  
Assignment Bureau, Room No. 23, 9 A. M. to 4 P. M.  
Clerk's Office, Room No. 22, 9 A. M. to 4 P. M.  
General Term, Room No. 24, 11 o'clock A. M. to adjournment.  
Special Term, Room No. 21, 11 o'clock A. M. to adjournment.  
Chambers, Room No. 21, 10.30 o'clock A. M. to adjournment.  
Part I., Room No. 25, 11 o'clock A. M. to adjournment.  
Part II., Room No. 26, 11 o'clock A. M. to adjournment.  
Part III., Room No. 27, 11 o'clock A. M. to adjournment.  
Naturalization Bureau, Room No. 23, 9 A. M. to 4 P. M.  
RICHARD L. LARREMORE, Chief Justice; NATHANIEL JARVIS, Jr., Chief Clerk.  
Circuit, Part III., Room No. 13, GEORGE F. LYON, Clerk.  
Circuit, Part IV., Room No. 15, J. LEWIS LYON, Clerk.  
Judges' Private Chambers, Rooms Nos. 19 and 20, EDWARD J. KNIGHT, Librarian.

**SUPERIOR COURT.**

Third floor, New County Court-house, 11 A. M.  
General Term, Room No. 35.  
Special Term, Room No. 33.  
Chambers, Room No. 33, 10 A. M.  
Part I., Room No. 34.  
Part II., Room No. 35.  
Part III., Room No. 36.  
Judges' Private Chambers, Room No. 30.  
Naturalization Bureau, Room No. 32.  
Clerk's Office, Room No. 31, 9 A. M. to 4 P. M.  
JOHN SEDGWICK, Chief Judge; THOMAS BOESE, Chief Clerk.

**COURT OF GENERAL SESSIONS.**

No. 32 Chambers street. Parts I. and II. Court opens at 11 o'clock A. M.  
FREDERICK SMYTH, Recorder; HENRY A. GILDER-SLEEVE and RUFUS B. COWING, Judges of the said Court. Terms, first Monday each month.  
JOHN SPARKS, Clerk. Office, Room No. 11, 10 A. M. till 4 P. M.

**CITY COURT.**

City Hall.  
General Term, Room No. 20.  
Trial Term, Part I., Room No. 20.  
Part II., Room No. 19.  
Part III., Room No. 15.  
Special Term, Chambers, Room No. 21, 10 A. M. to 4 P. M.  
Clerk's Office, Room No. 10, City Hall, 9 A. M. to 4 P. M.  
DAVID MCADAM, Chief Justice; JOHN REID, Clerk.

**OVER AND TERMINER COURT.**

New County Court-house, second floor, southeast corner, Room No. 12. Court opens at 10½ o'clock A. M.  
Clerk's Office, Brown-stone Building, City Hall Park, second floor, northwest corner, Room No. 11, 10 A. M. till 4 P. M.

**COURT OF SPECIAL SESSIONS.**

At Tombs, corner Franklin and Centre streets, daily at 10.30 A. M., excepting Saturday.  
Clerk's Office, Tombs.

**DISTRICT CIVIL COURTS.**

First District—First, Second, Third and Fifth Wards, southwest corner of Centre and Chambers streets.  
MICHAEL NORTON, Justice.  
Clerk's office open from 9 A. M. to 4 P. M.

Second District—Fourth, Sixth and Fourteenth Wards, corner of Pearl and Centre streets, 9 A. M. to 4 P. M.  
CHARLES M. CLANCY, Justice.

Third District—Ninth and Fifteenth Wards, southwest corner Sixth avenue and West Tenth street. Court open daily (Sundays and legal holidays excepted) from 9 A. M. to 4 P. M.  
GEORGE W. PARKER, Justice.

Fourth District—Tenth and Seventeenth Wards, No. 30 First street, corner Second avenue. Court opens 9 A. M. daily; continues to close of business.  
ALFRED STECKLER, Justice.

Fifth District—Seventh, Eleventh and Thirteenth Wards, No. 151 Clinton street.  
JOHN H. MCCARTHY, Justice.

Sixth District—Eighteenth and Twenty-first Wards, No. 61 Union place, Fourth avenue, southwest corner of Eighteenth street. Court opens 9 A. M. daily; continues to close of business.  
WILLIAM H. KELLY, Justice.

Seventh District—Nineteenth and Twenty-second Wards, No. 151 East Fifty-seventh street. Court opens every morning at 9 o'clock (except Sundays and legal holidays) and continues to the close of business.  
AMBROSE MONELL, Justice.

Eighth District—Sixteenth and Twentieth Wards, southwest corner of Twenty-second street and Seventh avenue. Court opens at 9 A. M. and continues to close of business. Clerk's office open from 9 A. M. to 4 P. M. each court day.  
FREDERICK G. GEDNEY, Justice.

Ninth District—Twelfth Ward, No. 225 East One Hundred and Twenty-fifth street.  
HENRY P. MCGOWN, Justice.  
Clerk's office open daily from 9 A. M. to 4 P. M. Trial days Tuesdays and Fridays. Court opens at 9½ A. M.

Tenth District—Twenty-third and Twenty-fourth Wards, corner of Third avenue and One Hundred and Fifty-eighth street.  
Office hours, from 9 A. M. to 4 P. M. Court opens at 9 A. M.

Eleventh District—No. 919 Eighth avenue; Twenty-second Ward, and all that part of the Twelfth Ward lying south of One Hundred and Tenth street and west of Sixth avenue. Court open daily (Sundays and legal holidays excepted) from 9 A. M. to 4 P. M.  
LEO C. DESSAR, Justice.

**POLICE COURTS.**

Judges—MAURICE J. POWER, J. HENRY FORD, JACOB PATTERSON, JR., JAMES T. KILBRETH, JOHN J. GORMAN, HENRY MURRAY, SOLON B. SMITH, ANDREW J. WHITE, CHARLES WELDE, DANIEL O'REILLY, PATRICK G. DUFFY.  
GEORGE W. CREGIER, Secretary.  
Office of Secretary, Fifth District Police Court, One Hundred and Twenty-fifth street, near Fourth avenue.

First District—Tombs, Centre street.

Second District—Jefferson Market.

Third District—No. 69 Essex street.

Fourth District—Fifty-seventh street, near Lexington avenue.

Fifth District—One Hundred and Twenty-fifth street, near Fourth avenue.

Sixth District—One Hundred and Fifty-eighth street and Third avenue.

**DEPARTMENT OF PUBLIC PARKS**

DEPARTMENT OF PUBLIC PARKS,  
Nos. 49 and 51 CHAMBERS STREET,  
NEW YORK, February 7, 1887.

**TO CONTRACTORS.****PROPOSALS OR ESTIMATES FOR FURNISHING PARKKEEPERS UNIFORMS.**

SEALED ESTIMATES FOR THE ABOVE WORK, indorsed with the above title, also with the name of the person or persons making the same, and the date of presentation, will be received at the Office of the Department of Public Parks, Nos. 49 and 51 Chambers street, until eleven o'clock A. M., on Wednesday, the 23d day of February, 1887, at which place and hour the bids will be publicly opened by the head of said Department and read, and the award of the contract will be made as soon thereafter as practicable.

The number and kind of uniforms required is as follows:

One (1) double-breasted Uniform body coat for Captain.  
Six (6) double-breasted Uniform body coats for Sergeants.

Nine (9) single-breasted Uniform body coats for Roundsmen.

One hundred and thirty-five (135) single-breasted Uniform body coats for Parkkeepers.

Fifteen (15) single-breasted Uniform body coats for Mounted Parkkeepers.

Seven (7) pairs Uniform pants for Captain and Sergeants.

Fifteen (15) pairs Uniform pants for Mounted Parkkeepers.

One hundred and forty-four (144) pairs Uniform pants for Parkkeepers.

Each and every of the foregoing articles to be made of the best West Point Cadet cloth, 54 inches wide, 22 ounces to the yard for coats and 18 ounces to the yard for pants.

The time for the completion of the work of furnishing said uniforms will be forty (40) days after the date of the contract.

The person or persons to whom the contract may be awarded will be required to attend at the office of the said Department, with the sureties offered by him or them, and execute the contract within five days after written notice that the same has been awarded to him or their bid or estimate, and that the sureties offered by him or them have been approved by the Comptroller; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation, and thereupon the contract will be readvertised and relet, and so on until the contract be accepted and executed.

N. B.—The prices must be written in the estimate, and also stated in figures, and all estimates will be considered as informal which do not contain bids for all items called for in these proposals, or which contain bids for items not called for therein. Permission will not be given for the withdrawal of any bid or estimate, and the right is expressly reserved by the Department of Public Parks to reject any or all estimates which it may deem prejudicial to the public interests. No estimate will be accepted from, or contract awarded to any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

No bid or estimate will be received or considered unless accompanied by either a certified check upon one of the National or State Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; and if he shall execute the contract within the time aforesaid the amount of his deposit will be returned to him.

Bidders are required to state in their estimates, under oath, their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, they shall distinctly state the fact; also, that such estimate is made without any connection with any other person making a bid or estimate for the same purpose, and that it is in all respects fair and without collusion or fraud; and also, that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof.

The estimate must be verified by the oath, in writing, of the party making such estimate that the several matters therein stated are in all respects true. When more than one person is interested in the estimate the verification must be made by all the parties interested.

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, and stated in the proposals, over and above all his debts of every nature, and over and above his liabilities, as bail, surety, or otherwise; that he has offered himself as surety in good faith and with intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be determined by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

Bidders will be required to complete the entire work to the satisfaction of the Commissioners of the Department of Public Parks, and in substantial accordance with the specifications. No extra compensation beyond the amount payable for the work before enumerated which shall be actually performed, at the price therefor to be specified by the lowest bidder, shall be due or payable for the entire work.

The amount of security required is one thousand seven hundred and fifty dollars (\$1,750).

Bidders are informed that no deviation from the specifications will be allowed unless a written permission shall previously have been obtained from the Commissioners of the Department of Public Parks.

Blank forms of proposals and form of agreement, including the specifications, and showing the mode of payment for the work can be obtained on application to the Secretary at this office.

M. C. D. BORDEN,  
JOHN D. CRIMMINS,  
JESSE W. POWERS,  
Commissioners of Public Parks.

**DEPARTMENT OF TAXES AND ASSESSMENTS.**

DEPARTMENT OF TAXES AND ASSESSMENTS,  
STAATS ZEITUNG BUILDING,  
NEW YORK.

IN COMPLIANCE WITH SECTION 817 OF THE City Consolidation Act of 1882, it is hereby advertised that the books of "The Annual Record of the Assessed Valuations of Real and Personal Estate" of the City and County of New York, for the year 1887, will be open for examination and correction from the second Monday of January, 1887, until the first day of May, 1887.

All persons believing themselves aggrieved must make application to the Commissioners of Taxes and Assessments, at this office, during the period said books are open, in order to obtain the relief provided by law.

Applications for correction of assessed valuations on personal estate must be made by the person assessed, to the said Commissioners, between the hours of 10 A. M. and 2 P. M., at this office, during the same period.

MICHAEL COLEMAN,  
EDWARD C. DONNELLY,  
THOMAS L. FEITNER,  
Commissioners of Taxes and Assessments.

**AQUEDUCT COMMISSION.**

AQUEDUCT COMMISSIONER'S OFFICE,  
ROOM 209, STEWART BUILDING, No. 280 BROADWAY,  
NEW YORK, January 31, 1887.

**TO CONTRACTORS.**

BIDS OR PROPOSALS FOR DOING THE work and furnishing the materials called for in the approved form of contract now on file in the office of the Aqueduct Commissioners, for the construction of additional Shaft No. 13 A, situated on Section 7 of the New Croton Aqueduct, at about Station 112+00, will be received at this office, until the 16th day of FEBRUARY, 1887, at 3 o'clock P. M., at which place and hour they will be publicly opened by the Aqueduct Commissioners, and the award of the contract for doing said work and furnishing said materials will be made by said Commissioners as soon thereafter as practicable.

Blank forms of said approved contract and the specifications thereof, and the bids or proposals, and proper envelopes for their enclosure, and forms of bonds, and also the plans for said work, and all other information required can be obtained at the above office of the Aqueduct Commissioners, on application to the Secretary.

By order of the Aqueduct Commissioners.

JAMES G. SPENCER,  
President.

JOHN C. SHEEHAN,  
Secretary.

AQUEDUCT COMMISSIONERS' OFFICE,  
ROOM 209, STEWART BUILDING, No. 280 BROADWAY,  
NEW YORK, January 25, 1887.

**TO CONTRACTORS.**

BIDS OR PROPOSALS FOR DOING THE work and furnishing the materials called for in the approved form of contract now on file in the office of the Aqueduct Commissioners for the construction of Section 15 of the New Croton Aqueduct, being the New Gate-house at One Hundred and Thirty-fifth street in the City of New York, will be received at this office until FRIDAY, the 11th day of FEBRUARY, 1887, at 2 o'clock P. M., at which place and hour they will be publicly opened by the Aqueduct Commissioners, and the award of the contract for doing said work and furnishing said materials will be made by said Commissioners as soon thereafter as practicable.

Blank forms of said approved contract and the specifications thereof, and bids or proposals and proper envelopes for their enclosure, and form of bonds; and also the plans for said work, and all other information required can be obtained at the above office of the Aqueduct Commissioners on application to the Secretary.

By order of the Aqueduct Commissioners.

JAMES C. SPENCER,  
President.

JOHN C. SHEEHAN,  
Secretary.

**POLICE DEPARTMENT.**

POLICE DEPARTMENT—CITY OF NEW YORK,  
OFFICE OF THE PROPERTY CLERK (Room No. 9),  
No. 300 MULBERRY STREET,  
NEW YORK 1886.

OWNERS WANTED BY THE PROPERTY Clerk of the Police Department of the City of New York, No. 300 Mulberry street, Room No. 9, for the following property, now in his custody, without claimants: Boats, rope, iron, lead, male and female clothing, boots, shoes, wine, blankets, diamonds, canned goods, liquors, etc., also small amount money taken from prisoners and found by patrolmen of this Department.

JOHN F. HARRIOT,  
Property Clerk

**JURORS.****NOTICE****IN RELATION TO JURORS FOR STATE COURTS.**

OFFICE OF THE COMMISSIONER OF JURORS,  
ROOM 127, STEWART BUILDING,  
CHAMBERS STREET AND BROADWAY,  
NEW YORK, June 1, 1886.

APPLICATIONS FOR EXEMPTIONS WILL BE heard here, from 10 to 3 daily, from all persons hitherto liable or recently serving who have become exempt, and all needed information will be given.

Those who have not answered as to their liability, or proved permanent exemption, will receive a "jury enrollment notice," requiring them to appear before me this year. Whether liable or not, such notices must be answered (in person, if possible, and at this office only) under severe penalties. If exempt, the party must bring proof of exemption; if liable, he must also answer in person, giving full and correct name, residence, etc. etc. No attention paid to letters.

Persons "enrolled" as liable must serve when called or pay their fines. No mere excuse will be allowed or interference permitted. The fines if unpaid will be entered as judgments upon the property of the delinquents.

All good citizens will aid the course of justice, and secure reliable and respectable juries, and equalize their duty by serving promptly when summoned, allowing their clerks or subordinates to serve, reporting to me any attempt at bribery or evasion, and suggesting names for enrollment. Persons between sixty and seventy years of age, summer absentees, persons temporarily ill, and United States and District Court jurors are not exempt.



Every man must attend to his own notice. It is a misdemeanor to give any jury paper to another to answer. It is also punishable by fine or imprisonment to give or receive any present or bribe, directly or indirectly, in relation to a jury service, or to withhold any paper or make any false statement, and every case will be fully prosecuted.

CHARLES REILLY,  
Commissioner of Jurors.

## FIRE DEPARTMENT.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 4, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING AND** laying fifty thousand (50,000) feet of Waring cable and for furnishing three hundred and ninety-six thousand (396,000) feet of wire of various kinds and sizes, will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February 16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

No estimate will be received or considered after the hour named.

For information as to the amount and kind of materials and work to be furnished and done, bidders are referred to the specifications which form part of these proposals.

The form of the agreement with specifications, showing the manner of payment for the materials and work, may be seen and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimates in addition to inserting the same in figures.

The materials are to be delivered within thirty (30) days after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are fixed and liquidated at twenty (20) dollars.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance in the sum of two thousand five hundred dollars (\$2,500); and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of one hundred and twenty-five dollars (\$125). Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Fire Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING** fifteen thousand (15,000) feet of 2½ inch Peerless Manufacturing Company's (P) Brand seamless fabric, four-ply rubber hose, with standard couplings attached, will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February

16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

Special attention is directed to the test of the hose by the Fire Department and the guarantee of the hose by the contractor, required by the specifications.

No estimate will be received or considered after the hour named.

For information as to the description of the hose, bidders are referred to the specifications which form part of these proposals.

The form of the agreement, with specifications, and showing the manner of payment for the work, may be seen and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

The hose is to be delivered at the Repair shops of the Fire Department (Nos. 130 and 132 West Third street) on or before the nineteenth (9th) day after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are, by a clause in the contract, fixed and liquidated at twenty-five (25) dollars per day.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the supply to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance in the sum of eight thousand (8,000) dollars; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, and stated in the proposals, over and above all his debts of every nature, and over and above his liabilities as bail, surety or otherwise; that he has offered himself as a surety in good faith and with an intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount four hundred dollars (\$400). Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING FIF-** teen thousand (15,000) feet of 2½-inch Maltese Cross seamless fabric, four-ply rubber hose, with standard couplings attached, will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February 16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

Special attention is directed to the test of the hose by the Fire Department and the guarantee of the hose by the contractor, required by the specifications.

No estimate will be received or considered after the hour named.

For information as to the description of the hose, bidders are referred to the specifications which form part of these proposals.

The form of the agreement, with specifications, and showing the manner of payment for the work, may be seen and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

The hose is to be delivered at the Repair Shops of the Fire Department (Nos. 130 and 132 West Third street) on or before the sixtieth (60th) day after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are, by a clause in the contract, fixed and liquidated at twenty-five (\$25) dollars per day.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at

said office, on or before the date and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the supply to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance in the sum of eight thousand (8,000) dollars; and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, and stated in the proposals, over and above all his debts of every nature, and over and above his liabilities as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of four hundred dollars (\$400). Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal, but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING A** second size La France Steam Fire Engine will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February 16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

No estimate will be received or considered after the hour named.

For information as to the amount and kind of work to be done, bidders are referred to the specifications, which form part of these proposals.

The form of the agreement (with specifications), showing the manner of payment for the work, may be seen and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimates in addition to inserting the same in figures.

The work is to be completed and delivered within thirty (30) days after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are fixed and liquidated at twenty (20) dollars.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will,

on its being so awarded, become bound as sureties for its faithful performance, in the sum of two thousand (2,000) dollars; and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of one hundred (100) dollars. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING ONE** Second Size Clapp & Jones Steam Fire-Engine will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February 16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

No estimate will be received or considered after the hour named.

For information as to the amount and kind of work to be done, bidders are referred to the specifications, which form part of these proposals.

The form of the agreement (with specifications) showing the manner of payment for the work, may be seen and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

This work to be completed and delivered within sixty (60) days after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are fixed and liquidated at twenty (\$20) dollars.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance in the sum of two thousand dollars (\$2,000); and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of one hundred dollars (\$100). Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days



after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York as liquidated damages for such neglect or refusal; but, if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
157 AND 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**SEALED PROPOSALS FOR FURNISHING ONE** Hayes turn-table hook and ladder truck, will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 11 o'clock A. M., Wednesday, February 16, 1887, at which time and place they will be publicly opened by the head of said Department and read.

No estimate will be received or considered after the hour named.

For information as to the amount and kind of work to be done, bidders are referred to the specifications, which form part of these proposals.

The form of the agreement (with specifications), showing the manner of payment for the work, may be seen, and forms of proposals may be obtained at the office of the Department.

Bidders will write out the amount of their estimate in addition to inserting the same in figures.

The truck to be completed and delivered within sixty (60) days after the execution of the contract.

The damages to be paid by the contractor for each day that the contract may be unfulfilled after the time specified for the completion thereof shall have expired, are fixed and liquidated at twenty (\$20) dollars.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope, to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation and a statement of the work to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof, or Clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance, in the sum of one thousand seven hundred dollars (\$1,700); and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as a surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the national banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of eighty-five (\$85) dollars. Such check or money must not be enclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York, as liquidated damages for such neglect or refusal, but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

HENRY D. PURROY,  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

HEADQUARTERS FIRE DEPARTMENT,  
Nos. 157 & 159 EAST SIXTY-SEVENTH STREET,  
NEW YORK, January 26, 1887.

**NOTICE IS HEREBY GIVEN THAT THE** Board of Commissioners of this Department will meet daily, at 10 o'clock A. M., for the transaction of business.

By order of

HENRY D. PURROY, President.  
RICHARD CROKER,  
ELWARD SMITH,  
Commissioners.

CARL JUSSEN,  
Secretary.

### DEPARTMENT OF PUBLIC WORKS.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE,  
ROOM 6, NO. 31 CHAMBERS STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**BIDS OR ESTIMATES, INCLOSED IN A SEALED** envelope, with the title of the work and the name of the bidder indorsed thereon, also the number of the work as in the advertisement, will be received at this office until 12 o'clock M., Thursday, February 17, 1887, at which place and hour they will be publicly opened by the head of the Department and read.

No. 1. REGULATING AND GRADING McCOMB'S DAM ROAD, from One Hundred and Fifty-fifth street, to One Hundred and Fifty-sixth street, and SETTING CURB AND GUTTER-STONES AND FLAGGING SIDEWALKS THEREIN.

No. 3. REGULATING AND GRADING SEVENTY-SEVENTH STREET, from the Boulevard to the Riverside Drive, and SETTING CURB-STONES AND FLAGGING SIDEWALKS THEREIN.

No. 4. REGULATING AND GRADING NINETY-SEVENTH STREET, from the Boulevard to the Riverside Drive, and SETTING CURB AND GUTTER-STONES AND FLAGGING SIDEWALKS THEREIN.

No. 5. REGULATING AND GRADING ONE HUNDRED AND THIRTY-EIGHTH STREET, from Tenth avenue to the Boulevard, and SETTING CURB-STONES AND FLAGGING SIDEWALKS THEREIN.

No. 6. FOR THE CONSTRUCTION OF A RETAINING-WALL AND STAIRWAY WITH IRON RAILINGS, AND NECESSARY EXCAVATION TO ADMIT OF THE ERECTION OF THE SAME, ON FORTY-THIRD STREET, between First avenue and Prospect place.

No. 7. SEWER IN LEXINGTON AVENUE, between One Hundred and Twenty-second and One Hundred and Twenty-third streets.

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested, it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and is in all respects fair and without collusion or fraud. That no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as a surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

**THE COMMISSIONER OF PUBLIC WORKS** RESERVES THE RIGHT TO REJECT ALL BIDS RECEIVED FOR ANY PARTICULAR WORK IF HE DEEMS IT FOR THE BEST INTERESTS OF THE CITY.

Blank forms of bid or estimate, the proper envelopes in which to inclose the same, the specifications and agreements, and any further information desired, can be obtained, for Regulating and Grading, and for Retaining-Wall, Room 5, and for Sewer, Room 9, No. 31 Chambers street.

JOHN NEWTON,  
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE,  
ROOM 6, NO. 31 CHAMBERS STREET,  
NEW YORK, February 2, 1887.

### TO CONTRACTORS.

**BIDS OR ESTIMATES, INCLOSED IN A SEALED** envelope, with the title of the work and the name of the bidder indorsed thereon, also the number of the work as in the advertisement, will be received at this office until 12 o'clock M., Thursday, February 17, 1887, at which place and hour they will be publicly opened by the head of the Department.

No. 1. FOR LAYING WATER-MAINS IN TENTH, SEVENTH, FOURTH, MADISON, WEST END AND RIVERSIDE AVENUES AND ONE HUNDRED AND FORTY-NINTH, ONE HUNDRED AND FORTY-FOURTH, ONE HUNDRED AND THIRTIETH, ONE HUNDRED AND FIRST, SEVENTY-SEVENTH STREETS, AND IN SOUTH-ERN BOULEVARD.

No. 2. FOR FURNISHING AND DELIVERING TAPPING-COCKS AND HYDRANT WASTE-COCKS.

No. 3. FOR FURNISHING THE DEPARTMENT OF PUBLIC WORKS WITH THREE THOUSAND TWO HUNDRED (3,200) GROSS TONS (2,240 POUNDS TO A TON) OF EGG SIZE LEHIGH AND WILKESBARRE COMPANY'S BEST WILKESBARRE COAL. Sixteen hundred tons to be delivered at High Bridge and sixteen hundred tons to be delivered at Water Works, Ninety-seventh street and Ninth avenue.

Bidders for the above contracts must be regularly engaged in the business and well prepared for furnishing

the materials they propose for; and no contract will be made with any bidder who is not prepared to furnish satisfactory evidence to that effect.

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested, it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and is in all respects fair and without collusion or fraud. That no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as a surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the National Banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

**THE COMMISSIONER OF PUBLIC WORKS** RESERVES THE RIGHT TO REJECT ALL BIDS RECEIVED FOR ANY PARTICULAR WORK IF HE DEEMS IT FOR THE BEST INTERESTS OF THE CITY.

Blank forms of bid or estimate, the proper envelopes in which to enclose the same, the specifications and agreements, and any further information desired, can be obtained at the office of the Chief Engineer, Croton Aqueduct, Room 10, No. 31 Chambers street.

JOHN NEWTON,  
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE,  
NO. 31 CHAMBERS STREET,  
NEW YORK, September 29, 1886.

### PUBLIC NOTICE.

**PERSONS HAVING ANY BUSINESS IN THIS** Department which is not assigned to or transacted by the several Bureaux in the Department, and which should come under the immediate notice of the Commissioner of Public Works, are requested to communicate directly in person, or by letter, with the Commissioner.

JOHN NEWTON,  
Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,  
COMMISSIONER'S OFFICE,  
NO. 31 CHAMBERS STREET,  
NEW YORK, November 10, 1886.

### NOTICE TO CROTON WATER CONSUMERS.

**NUMEROUS APPLICATIONS HAVE BEEN** made to this Department by citizens claiming reductions or rebates on bills for water supplied through meters, on the alleged ground of leakage caused by defective plumbing and worn-out service pipes, or by willful waste of water by tenants allowing the faucets to be turned on in full force in water-closets, sinks, etc., without the knowledge or consent of the owners of the premises.

The main object of the use of water-meters is to enable this Department to detect and check the useless and unwarrantable waste of an element so valuable and essential to the health and comfort of all the citizens, and this object can only be accomplished by enforcing payment for the water wasted.

Under the law all charges for water supplied through meters are a lien against the respective premises, and the law therefore holds the owner of the premises responsible for the amount of water used or wasted.

Notice is therefore given to all householders that, in all further applications for reduction of water rents, no allowance will be made on account of waste of water occurring through leaks, from defective service pipes or plumbing, or wasteful use of water by tenants or occupants of buildings, though such leakage or waste may have occurred without the knowledge or consent of the owners of the buildings.

House-owners are further notified that whenever their premises become vacant, and are likely to remain vacant, they must notify this Department in writing, and that unless this requirement is complied with no deductions in extra water rents will be allowed for any portion of one year.

JOHN NEWTON,  
Commissioner of Public Works.

### FINANCE DEPARTMENT.

CITY OF NEW YORK,  
FINANCE DEPARTMENT,  
COMPTROLLER'S OFFICE,  
January 27, 1887.

### NOTICE TO PROPERTY-OWNERS.

**IN PURSUANCE OF SECTION 916 OF THE** "New York City Consolidation Act of 1882," the Comptroller of the City of New York hereby gives public notice to all persons, owners of property affected by the following assessment lists, viz:

Depot place regulating, grading, laying crosswalks, flagging, setting curb and gutter-stones, between Sedgwick avenue and New York Central and Hudson River Railroad.

Sixty-seventh street regulating, grading, curbing and flagging, from Third avenue to Avenue A.

One Hundred and Twenty-sixth street regulating, grading, curbing and flagging, between Tenth avenue and Grand Boulevard.

One Hundred and Thirty-fourth street regulating, grading, curb, gutter and flagging, from Willis to Brook avenue.

One Hundred and Forty-third street regulating, grading, setting curb and gutter-stones and flagging, and laying crosswalks, between Brook and St. Ann's avenues.

One Hundred and Forty-fourth street regulating, grading, curb and flagging, from Seventh avenue to the east line of the first new avenue west of Eighth avenue.

One Hundred and Fifty-fifth street regulating, grading, setting curb and gutter stones and flagging, from Elton to Courtlandt avenues.

One Hundred and Forty-sixth street regulating, grading, setting curb and gutter stones and flagging, and laying crosswalks between North Third and St. Ann's avenues.

Lincoln avenue paving, from Southern Boulevard to North Third avenue, with trap-block pavement.

Fourth avenue paving, from Seventy-second to Ninety-sixth street, with granite-block pavement, which was confirmed by operation of law on July 18, 1885.

Seventieth street paving, from Avenue A to a line about 650 feet easterly, with trap-block pavement.

Seventy-third street paving, from Ninth avenue to a line about 225 feet west of Eighth avenue, with granite-block pavement.

Eighty-ninth street paving, from First avenue to Avenue A, with granite-block pavement.

Ninety-third street paving, from Second avenue to Avenue A, with granite-block pavement.

One Hundred and Forty-third street paving, from Alexander to Brook avenue, with trap-block pavement.

One Hundred and Fifty-second street paving, from Avenue St. Nicholas to St. Nicholas Place, with Telford-macadam pavement.

One Hundred and Fifty-third street paving, from Tenth avenue to Avenue St. Nicholas, with granite-block pavement.

One Hundred and Fifty-third street paving, from St. Nicholas place to Avenue St. Nicholas, with Telford-macadam pavement.

Sixth avenue, flagging sidewalks four feet wide, from One Hundred and Twenty-fifth to One Hundred and Forty-fifth street.

Fifty-ninth street flagging, south side, commencing at Fourth avenue and extending east about 110 feet.

Sixty-second street flagging, south side, between First and Second avenues.

Seventy-ninth street flagging, north side, from Ninth to Tenth avenue.

One Hundred and Twenty-first street flagging, south side, between Lexington and Fourth avenues.

Morris avenue, laying crosswalks, between North Third and Railroad avenues.

Second avenue sewer, west side, between Sixty-sixth and Sixty-seventh streets, and in Sixty-seventh street, between Second and Third avenues.

Eighth avenue sewer, between One Hundred and Fourteenth and One Hundred and Sixteenth streets.

Sixty-sixth street sewer, between Eighth and Ninth avenues.

Eighty-fourth street sewer, between Tenth and Riverside avenues.

Eighty-eighth street sewers, between Madison and Fifth avenues, and in Madison avenue, between Eighty-seventh and Ninety-first streets.

Eighty-eighth, Eighty-ninth and Ninetieth streets sewers, between Ninth and Tenth avenues.

One Hundred and Thirty-ninth street sewer, from the summit between Alexander and Willis avenues to Brook avenue.

One Hundred and Forty-fourth street sewer, between Eighth avenue and first new avenue west of Eighth avenue, and in said new avenue, between One Hundred and Forty-second and One Hundred and Forty-fifth streets.

One Hundred and Forty-fifth street sewer, north side, between Boulevard and Tenth avenue, and in Tenth avenue, west side, between One Hundred and Forty-fifth and One Hundred and Forty-sixth streets.

One Hundred and Forty-sixth street sewer, between Avenue St. Nicholas and Tenth avenue.

One Hundred and Forty-seventh street sewer, between Eighth avenue and first new avenue west of Eighth avenue, with branches in said new avenue, between One Hundred and Forty-fifth and One Hundred and Fifty-first streets.

Kingsbridge road sewer, between One Hundred and Fifty-fifth and One Hundred and Fifty-sixth streets.

Westchester avenue and One Hundred and Fiftieth street sewers, between Brook and Courtlandt avenues, with branches in North Third and Bergen avenues, between One Hundred and Forty-ninth street and Westchester avenue.

—which were confirmed by the Board of Revision and Correction of Assessments January 14, 1887, and entered on the same date, in the Record of Titles of Assessments, kept in the "Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents," that unless the amount assessed for benefit on any person or property shall be paid within sixty days after the date of said entry of the assessments, interest will be collected thereon as provided in section 917 of said "New York City Consolidation Act of 1882."

Section 917 of the said act provides that, "If any such assessment shall remain unpaid for the period of sixty days after the date of entry thereof in the said Record of Titles of Assessments, it shall be the duty of the officer authorized to collect and receive the amount of such assessment, to charge, collect and receive interest thereon, at the rate of seven per centum per annum, to be calculated from the date of such entry to the date of payment."

The above assessments are payable to the Collector of Assessments and Clerk of Arrears at the "Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents," between the hours of 9 A. M. and 4 P. M., and all payments made thereon, on or before April 4, 1887, will be exempt from interest as above provided, and after that date will be subject to a charge of interest at the rate of seven per cent, per annum from the date of entry in the Record of Titles of Assessments in said Bureau to the date of payment.

EDWARD V. LOEW,  
Comptroller.

### REAL ESTATE RECORDS.

**THE ATTENTION OF LAWYERS, REAL** Estate Owners, Monetary Institutions engaged in making loans upon real estate, and all who are interested in providing themselves with facilities for reducing the cost of examinations and searches, is invited to those Official Indices of Records, containing all recorded transfers of real estate in the City of New York from 1853 to 1887, prepared under the direction of the Commissioners of Records.

Grantors, grantees, suits in equity, insolvents' and Sheriff's sales, in 61 volumes, full bound, price ..... \$100 00  
The same in 25 volumes, half bound ..... 50 00  
Complete sets, folded, ready for binding ..... 15 00  
Records of Judgments, 25 volumes, bound ..... 10 00  
Orders should be addressed to "Mr. Stephen Angell Room 23, Stewart Building."

EDWARD V. LOEW,  
Comptroller.

### NEW AQUEDUCT.

#### WESTCHESTER COUNTY SECTION.

#### SUPREME COURT—SECOND JUDICIAL DISTRICT.

In the matter of the petition of Hubert O. Thompson, Commissioner of Public Works of the City of New York, under and in pursuance of chapter 490 of the Laws of 1883, and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, for the appointment of Commissioners of Appraisal, under chapter 490 of the Laws of 1883.

#### TO ALL PERSONS INTERESTED IN THIS PROCEEDING.

**NOTICE IS HEREBY GIVEN THAT THE FIRST** separate report of the above-mentioned Commissioners of Appraisal appointed herein, on October 11, 1884,



which report was filed on January 14, 1887, in the office of the Clerk of Westchester County, at the Court-house, in the village of White Plains, in said county, will be presented for confirmation to the Supreme Court, at a Special Term thereof, to be held in the Second Judicial District, at the Court-house in Poughkeepsie, Dutchess County, on February 26, 1887, at 11 o'clock in the forenoon.

Dated New York, January 27, 1887.

E. HENRY LACOMBE,  
Counsel to the Corporation.

### MANHATTAN ISLAND SECTION.

Notice of application for confirmation of the report of Commissioners of Appraisal, Manhattan Island Section, dated December 3, 1886, as to Parcels Twelve (12), Thirteen (13), Fourteen (14) and Fifteen (15).

**PUBLIC NOTICE IS HEREBY GIVEN THAT IT** is my intention to make application before Honorable Joseph F. Barnard, at a Special Term of the Supreme Court of the State of New York, to be held in the Second Judicial District, at the Court-house in Poughkeepsie, Dutchess County, on the 26th day of February, 1887, at 11 o'clock in the forenoon of that day, or as soon thereafter as counsel can be heard, to confirm the report as to Parcels Twelve (12), Thirteen (13), Fourteen (14) and Fifteen (15), of the Commissioners of Appraisal appointed in the above matter, pursuant to the provisions of chapter 490 of the Laws of 1883, which said report was filed in the office of the Clerk of the County of Westchester, on the 27th day of January, 1887, and a copy of which was filed in the office of the Clerk of the County of New York on the same day.

Dated New York, January 27, 1887.

E. HENRY LACOMBE,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City

### BOARD OF EDUCATION.

**SEALED PROPOSALS WILL BE RECEIVED BY** the School Trustees of the Eighth Ward, at the Hall of the Board of Education, corner of Grand and Elm streets, until Wednesday, February 16, 1887, and until 9:30 o'clock A. M., on said day, for the Plumbing, etc., for a new school-house in course of erection on the north side of King street, between Congress and Varick streets, known as Nos. 29, 31, 33 and 35 King street.

Plans and specifications may be seen, and blanks for proposals and all necessary information may be obtained at the office of the Engineer, No. 146 Grand street, corner of Elm street, third floor.

Proposals will be received for the entire work and materials required for the plumbing work.

The party submitting a proposal, and the parties proposing to become sureties, must each write his name, place of residence, and place of business on said proposal.

Two responsible and approved sureties, residents of this city, are required in all cases.

No proposal will be considered from persons whose character or antecedent dealings with the Board of Education render their responsibility doubtful.

The Trustees reserve the right to reject any or all of the proposals submitted.

C. WESLEY BAUM,  
GEORGE F. VETTER,  
O. ROCKEFELLER,  
CHARLES H. HOUSLEY,  
WILLIAM BRANDON,  
Board of School Trustees, Eighth Ward.

Dated New York, February 3, 1886.

### DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, February 4, 1887.

**THE UNDERSIGNED WILL SELL AT PUBLIC** Auction, for account of the Commissioners of Public Charities and Correction, at their office, No. 66 Third Avenue, on Wednesday, February 16, 1887, at 11 o'clock A. M., the following articles, viz.:

- 25,000 pounds Mixed Scrap Iron, more or less.
- 18,000 pounds Mixed Rags, more or less.
- 220 Syrup Barrels, more or less.
- 70 Iron-bound Barrels, more or less.
- 15,000 pounds Soap Grease, more or less.
- 1,250 barrels Bones.

—to be delivered at the foot of East Twenty-sixth street, and to be paid for as follows:

Twenty-five per cent. of estimated value to be paid on day of sale, and the remainder on delivery.

R. E. CLEARY,  
Storekeeper.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

### TO CONTRACTORS.

**PROPOSALS FOR FIXTURES AND IMPLEMENTS, STEAM-HEATING AND FURNISHING OF APPARATUS AND ALL THE APPLIANCES REQUIRED BY THE SUPERINTENDENT OF GENERAL DRUG DEPARTMENT, FOR THE CHEMICAL LABORATORY AND STOREHOUSE FOR SPIRITS AND OILS, NOW BEING ERRECTED ON GROUNDS OF BELLEVUE HOSPITAL.**

**SEALED BIDS OR ESTIMATES FOR THE** aforesaid job, in accordance with the specifications and plans, will be received at the office of the Department of Public Charities and Correction, No. 66 Third Avenue, in the City of New York, until 9:30 o'clock A. M., of Tuesday, February 15, 1887. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Fixtures, etc., for General Drug Department Building, etc., on Grounds of Bellevue Hospital, City of New York," and with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department, and read.

THE BOARD OF PUBLIC CHARITIES AND CORRECTION RESERVES THE RIGHT TO REJECT ALL BIDS OR ESTIMATES IF DEEMED TO BE FOR THE PUBLIC INTEREST, AS PROVIDED IN SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the per-

formance of the contract by his or their bond, with two sufficient sureties, each in the penal amount of THREE THOUSAND (\$3,000) dollars.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities, as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the National or State Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be enclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-book, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

Bidders will write out the amount of their estimate, in addition to inscribing the same in figures.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract.

BIDDERS ARE INFORMED THAT NO DEVIATION FROM THE SPECIFICATIONS WILL BE ALLOWED, UNLESS FROM THE WRITTEN INSTRUCTIONS OF THE COMMISSIONERS OF PUBLIC CHARITIES AND CORRECTION.

The form of the agreement, including specifications, and showing the manner of payment, can be obtained at the office of the Department, where the plans will be on exhibition for information of bidders.

Dated, New York, February 3, 1887.

HENRY H. PORTER, President,  
THOMAS S. BRENNAN, Commissioner,  
CHARLES E. SIMMONS, Commissioner,  
Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

### TO CONTRACTORS.

**PROPOSALS FOR GROCERIES, CROCKERY, DRY GOODS, IRON, LUMBER, ETC.**

**SEALED BIDS OR ESTIMATES FOR FURNISHING**

#### GROCERIES.

8,200 pounds Dairy Butter, sample on exhibition Thursday, February 10, 1887.

- 1,000 pounds Cheese.
- 1,000 pounds Dried Apples.
- 5,000 pounds Barley, price to include packages.
- 10,000 pounds Oatmeal, price to include packages.
- 10,000 pounds Rice.
- 300 pounds Tapioca.
- 200 pounds Dried Currants.
- 500 pounds Cocoa.
- 1,000 pounds Candles, 225.
- 25 barrels Pickles, 40-gallon barrels, 2,000 per barrel.

- 100 bushels Dried Peas.
- 3,000 gallons Syrup.
- 12 dozen Gelatine.
- 40 dozen Canned Peas.
- 40 dozen Canned Peas.
- 40 dozen Sea Foam.

- 2,720 dozen Fresh Eggs, all to be candled.
- 50 prime City Cured Smoked Hams, to average about 14 pounds each.

- 625 barrels good, sound Irish Potatoes, to weigh 168 pounds net per barrel.

- 50 barrels prime Red Onions, 150 pounds net per barrel.

- 100 barrels prime Carrots, 130 pounds net per barrel.

- 100 barrels prime Russia Turnips, 135 pounds net per barrel.

- 100 bales prime quality long bright Rye Straw, tare not to exceed three pounds. Weight charged as received at Blackwell's Island.

- 10 barrels prime quality Sal Soda, about 340 lbs. per barrel.

#### CROCKERY.

- 2 gross Male Urinals.

#### DRY GOODS.

- 500 yards White Flannel.
- 50 dozen Black Spool Cotton No. 30.
- 100 Toilet Quills.

#### IRON AND HARDWARE.

- 20 bars Refined Iron,  $\frac{3}{4}$ " x 2".
- 16 bars Refined Iron,  $\frac{3}{4}$ " square.
- 36 bars Refined Iron,  $\frac{3}{4}$ " square.
- 295 bars Refined Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ ".
- 12 bars Refined Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ ".

- 200 feet first quality Angle Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ ".
- 60 feet first quality Angle Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ ".

- 2 bundles first quality Band Iron,  $\frac{3}{4}$ " x 10 in.

- 210 bars Refined Iron,  $\frac{3}{4}$ " in. round.

- 2 bundles Refined Iron,  $\frac{3}{4}$ " in. round.

- 3 bars Refined Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ " in.

- 2 bars first quality Blister Steel,  $\frac{3}{4}$ " x  $\frac{1}{2}$ " in.
- 15 bars Refined Iron,  $\frac{3}{4}$ " x  $\frac{1}{2}$ " in.
- 1 bundle Refined Iron,  $\frac{3}{4}$ " in. round.
- 1 bundle Refined Iron,  $\frac{3}{4}$ " in. round.
- 48 sheets Tinned Copper, 48 x 14, 18-oz.
- 10 kegs Cut Nails, 8d.
- 12 dozen Flat Shovels.

#### LIME.

- 25 barrels first quality Common Lime.
- 50 barrels first quality W. W. Lime.
- 25 barrels first quality Chloride of Lime, containing not less than 32 per cent. of Chloride.

#### LEATHER AND FINDINGS.

- 300 sides Good Damaged Sole Leather, to average about 22 to 25 pounds.
- 600 pounds first quality Suede's Iron Shoe Nails, 200 pounds each 4-8, 5-8, 6-8.

#### LUMBER.

- 1,000 square feet first quality, clear, thoroughly seasoned Yellow Georgia Pine Flooring, cone or vertical grained,  $\frac{1}{2}$ " in. x 4 in., tongued and grooved, dressed one side.
- 25 first quality Spruce Joists, 3 in. x 4 in. x 16 ft.
- 500 feet first quality clear White Pine,  $\frac{3}{4}$ " in., dressed two sides.
- 40 first quality clear Pine Boards,  $\frac{1}{2}$ " in. x 12 in. x 10 ft., dressed two sides.
- 40 pieces first quality Spruce Flooring, 1 in. x 9 in., dressed, tongued and grooved.
- 800 feet first quality clear White Pine Flooring,  $\frac{1}{2}$ " in. x  $\frac{1}{2}$ " in., dressed, tongued and grooved.
- 50 first quality Chestnut Posts, 4 in. x 12 ft.
- 50 first quality clear Pine Boards,  $\frac{1}{2}$ " in. x 10 in., dressed both sides.
- 100 feet first quality, Clear Ceiling Boards,  $\frac{1}{2}$ " in. x  $\frac{1}{2}$ " in. x 16 ft., tongued and grooved, beaded and dressed two sides.
- 75 first quality, clear ceiling boards, 1 in. x  $\frac{1}{2}$ " in. x 13 feet, dressed one side.
- 20,000 lineal feet first quality, clear, thoroughly seasoned, cone or vertical grained Yellow Georgia Pine Flooring,  $\frac{1}{2}$ " in. x 3 in., tongued and grooved, dressed one side.
- 550 feet first quality, clear, thoroughly seasoned, White Ash,  $\frac{1}{2}$ " in. x 10 in.
- 2,000 feet first quality, clear, thoroughly seasoned, Partition Boards,  $\frac{1}{2}$ " in. x  $\frac{1}{2}$ " in. x 12 ft., tongued and grooved, beaded and dressed both sides.
- 2,000 feet first quality clear thoroughly seasoned Ceiling Boards,  $\frac{1}{2}$ " x  $\frac{1}{2}$ " x 16 ft., dressed, tongued and grooved.
- 500 feet first quality thoroughly seasoned Pine Paneling,  $\frac{1}{2}$ " in. thick.
- 100 feet first quality Spruce, 3 in. x 9 in.
- 75 lineal feet first quality seasoned White Oak, 4 in. x 4 in.
- 450 superficial feet first quality seasoned White Oak,  $\frac{1}{2}$ " in.
- 150 superficial feet first quality seasoned White Oak, 2 in.
- 50 first quality Spruce Plank,  $\frac{1}{2}$ " in.
- 125 first quality Ceiling Boards, clear, thoroughly seasoned,  $\frac{1}{2}$ " in. x  $\frac{1}{2}$ " in., dressed, tongued and grooved.

All lumber to be delivered at Blackwell's Island.

—will be received at the Department of Public Charities and Correction, in the City of New York, until 9:30 o'clock A. M. of Friday, February 11, 1887. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Groceries, Dry Goods, Lumber, etc." with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

THE BOARD OF PUBLIC CHARITIES AND CORRECTION RESERVES THE RIGHT TO REJECT ALL BIDS OR ESTIMATES IF DEEMED TO BE FOR THE PUBLIC INTEREST, AS PROVIDED IN SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Delivery will be required to be made from time to time, and in such quantities as may be directed by the said Commissioners.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, each in the penal amount of fifty (50) per cent. of the ESTIMATED amount of the contract.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, Head of a Department, Chief of a Bureau, Deputy thereof or Clerk therein, or other officer of the Corporation is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities, as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the State or National Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be enclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-book, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within

damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept, but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet as provided by law.

The quality of the articles, supplies, goods, wares, and merchandise must conform in every respect to the samples of the same on exhibition at the office of the said Department. Bidders are cautioned to examine the specifications for particulars of the articles, etc., required, before making their estimates.

Bidders will state the price for each article, by which the bids will be tested.

Bidders will write out the amount of their estimate in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract, from time to time, as the Commissioners may determine.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instruction of the Commissioners of Public Charities and Correction.

No bid or estimate will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The form of the agreement, including specifications, and showing the manner of payment, can be obtained at the office of the Department.

Dated New York, January 31, 1887.

HENRY H. PORTER, President,  
THOMAS S. BRENNAN, Commissioner,  
CHARLES E. SIMMONS, Commissioner,  
Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE.

### TO CONTRACTORS.

**PROPOSALS FOR ELEVEN HUNDRED AND EIGHTY-FIVE TONS OF WHITE ASH COAL.**

**SEALED BIDS OR ESTIMATES FOR FURNISHING** eleven hundred and eighty-five (1,185) tons White Ash Coal, as required, during the year 1887, and in accordance with the specifications, will be received at the office of the Department of Public Charities and Correction, No. 66 Third Avenue, in the City of New York, until 9:30 o'clock A. M. of Friday, the 18th of February, 1887. The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for 1,185 Tons White Ash Coal," with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

THE BOARD OF PUBLIC CHARITIES AND CORRECTION RESERVES THE RIGHT TO REJECT ALL BIDS OR ESTIMATES IF DEEMED TO BE FOR THE PUBLIC INTEREST, AS PROVIDED IN SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Delivery will be required to be made from time to time, and in such quantities as may be directed by the said Commissioners.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, each in the penal amount of three thousand (\$3,000) dollars.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a department, chief of a bureau, deputy thereof or clerk therein, or other officer of the Corporation is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance; and that if he shall omit or refuse to execute the same, they shall pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities, as bail, surety or otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered, to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the National or State Banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be enclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-book, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within



five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

Bidders will write out the amount of their estimate, in addition to inserting the same in figures.

Payment will be made by a requisition on the Comptroller in accordance with the terms of the contract.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instruction of the Commissioners of Public Charities and Correction.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The form of the agreement, including specifications, and showing the manner of payment, can be obtained at the office of the Department.

Dated NEW YORK, February 5, 1887.

HENRY H. PORTER, President,  
THOMAS S. BRENNAN, Commissioner,  
CHARLES E. SIMMONS, Commissioner,  
Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, January 13, 1887.

### PROPOSALS FOR 2,000 TONS OF FRESH MINED WHITE ASH STOVE COAL FOR THE OUT-DOOR POOR.

PROPOSALS, SEALED AND INDORSED AS above, will be received by the Board of Public Charities and Correction, at their office, until 9.30 o'clock A. M., of Friday, February 18, 1887, at which time they will be publicly opened and read by the President of said Board, for 2,000 tons Fresh Mined White Ash Stove Coal, of the best quality; each ton to consist of two thousand pounds; to be well screened, and delivered in such quantities and in such parts of the city as may be required in specifications, and ordered from time to time, south of Eighty-fourth street, to be subject to such inspection as the Commissioners may direct, and to meet their approval as to the quality, quantity, time and manner of delivery in every respect.

The award of the contract will be made as soon as practicable after the opening of the bids.

No proposal will be considered unless accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded under that proposal, they will, on its being so awarded, become bound as sureties in four thousand (\$4,000) dollars each, for its faithful performance; which consent must be verified by the justification of each of the persons signing the same for double the amount of surety required. The adequacy and sufficiency of such security will be approved by the Comptroller.

No bid or estimate will be received or considered unless accompanied by either a certified check upon one of the National or State banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be enclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the Estimate-box, and no estimates can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

The Board of Public Charities and Correction reserves the right to reject all bids if deemed for the best interests of the city, and no proposal will be accepted from, or a contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Blank forms of proposals and specifications, which are to be strictly complied with, can be obtained on application at the office of the Department, and all information furnished.

HENRY H. PORTER, President,  
THOMAS S. BRENNAN, Commissioner,  
CHARLES E. SIMMONS, Commissioner,  
Public Charities and Correction.

NEW YORK, February 5, 1887.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, February 7, 1887.

IN ACCORDANCE WITH AN ORDINANCE OF the Common Council, "In relation to the burial of strangers or unknown persons who may die in any of the public institutions of the City of New York," the Commissioners of Public Charities and Correction report as follows:

At Workhouse, Blackwell's Island—Thomas Ash-fellow, aged 34 years; committed December 27, 1886.

John Williams, aged 42 years; committed January 27, 1887.

At Branch Lunatic Asylum, Hart's Island—Jane Doe, alias Lizzie Hogan, colored, aged 36 years; 4 feet 11½ inches high; black eyes and hair.

Ann McCauley, aged 61 years; 5 feet 3 inches high; gray eyes and hair.

Nothing known of their friends or relatives.

By order

G. F. BRITTON,  
Secretary.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,  
No. 66 THIRD AVENUE,  
NEW YORK, January 31, 1887.

IN ACCORDANCE WITH AN ORDINANCE OF the Common Council, "In relation to the burial of strangers or unknown persons who may die in any of the public institutions of the City of New York," the Commissioners of Public Charities and Correction report as follows:

At Morgue, Bellevue Hospital, from foot of Cortlandt street, unknown man, aged about 30 years; 5 feet 7 inches high; sandy hair, blue eyes, sandy moustache. Had on black overcoat, dark brown mixed coat and pants, dark vest, blue shirt, red flannel shirt; gaiters.

Unknown man, from Hudson and Light streets, aged about 50 years; 5 feet 6 inches high; light brown hair and moustache, mixed with gray, gray eyes. Had on black overcoat, dark mixed vest and pants, blue check jumper, white cotton flannel shirt and drawers, brown cotton socks; boots; cloth cap.

At Penitentiary, Blackwell's Island—Thomas Henderson, colored; aged 18 years; 5 feet 6 inches high. Had on when received, black striped coat, gray dotted pants, brown striped vest; cloth cap.

At Workhouse, Blackwell's Island—Charles Shears, aged 50 years; committed January 12, 1887.

At Lunatic Asylum, Blackwell's Island—Annie Kelly, aged 66 years; 4 feet 11 inches high; gray hair; blue eyes. Had on when admitted, striped shawl, black dress; slippers.

At Homeopathic Hospital, Ward's Island—John Daly, aged 31 years; 5 feet 6 inches high; brown eyes and hair. Had on when admitted brown coat and vest, dark mixed pants; gaiters; black derby hat.

Nothing known of their friends or relatives.

By order

G. F. BRITTON,  
Secretary.

### CORPORATION NOTICE.

PUBLIC NOTICE IS HEREBY GIVEN TO THE owner or owners, occupant or occupants of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors, for examination by all persons interested, viz.:

List 2269, No. 1. Regulating, grading, setting curb and gutter stones, flagging the sidewalk four feet wide, and laying crosswalks in One Hundred and Forty-eighth street, from the easterly curb-line of North Third avenue to westerly curb-line of St. Ann's avenue.

List 2318, No. 2. Paving Eighty-ninth street, from Second to Fifth avenue.

List 2325, No. 3. Sewer in One Hundred and Forty-first street, between Avenue St. Nicholas and Tenth avenue.

List 2331, No. 4. Flagging north side of Eighty-third street, from First to Second avenue.

The limits embraced by such assessments include all the several houses and lots of ground, vacant lots, pieces and parcels of land situated on—

No. 1. Both sides of One Hundred and Forty-eighth street, from North Third to St. Ann's avenue, and to the extent of half the block at the intersecting avenues.

No. 2. Both sides of Eighty-ninth street, from Second to Fifth avenue, and to the extent of half the block at the intersecting avenues.

No. 3. Both sides of One Hundred and Forty-first street, from Avenue St. Nicholas to Tenth avenue, east side of new Ninth avenue, from One Hundred and Thirty-ninth to One Hundred and Forty-third street, and blocks bounded by One Hundred and Fortieth and One Hundred and Forty-second streets, new Ninth avenue and Tenth avenue.

No. 4. North side of Eighty-third street, from First to Second avenue.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 11½ City Hall, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments for confirmation, on the 7th day of March, 1887.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHAS. E. WENDT,  
VAN BRUGH LIVINGSTON,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 11½ CITY HALL,  
NEW YORK, February 5, 1887.

PUBLIC NOTICE IS HEREBY GIVEN TO THE owner or owners, occupant or occupants of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors, for examination by all persons interested, viz.:

List 2256, No. 1. Regulating, grading, setting curb-stones, flagging sidewalks, laying crosswalks and paving East One Hundred and Thirty-fifth street, with trap-blocks, the roadway therein, from North Third avenue to the Mott Haven Canal.

List 2273, No. 2. Laying crosswalks in Willis avenue, between Southern Boulevard and North Third avenue.

List 2280, No. 3. Regulating, grading, curb and flagging in One Hundred and Fifty-seventh street, from Tenth avenue to the Boulevard.

List 2323, No. 4. Regulating, grading, setting curb-stones and flagging in One Hundred and Twelfth street, from Seventh to Eighth avenue.

The limits embraced by such assessments include all the several houses and lots of ground, vacant lots, pieces and parcels of land situated on—

No. 1. Both sides of East One Hundred and Thirty-fifth street, from North Third avenue to the Mott Haven Canal, and to the extent of half the block at the intersecting streets and avenues.

No. 2. Both sides of Willis avenue, between Southern Boulevard and North Third avenue, and to the extent of half the block at the intersecting streets and avenues.

No. 3. Both sides of One Hundred and Fifty-seventh street, between Tenth avenue and the Boulevard, and to the extent of half the block at the intersecting avenues.

No. 4. Both sides of One Hundred and Twelfth street, from Seventh to Eighth avenues, and to the extent of half the block at the intersecting avenues.

All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections in writing to the Chairman of the Board of Assessors, at their office, No. 11½ City Hall, within thirty days from the date of this notice.

The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments for confirmation, on the 21st day of February, 1887.

EDWARD GILON, Chairman,  
PATRICK M. HAVERTY,  
CHAS. E. WENDT,  
VAN BRUGH LIVINGSTON,  
Board of Assessors.

OFFICE OF THE BOARD OF ASSESSORS,  
No. 11½ CITY HALL,  
NEW YORK, January 19, 1887.

### SUPREME COURT.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of GERARD AVENUE, although not yet named by proper authority, from One Hundred and Thirty-fifth street to Jerome avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First.—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to us at our office, No. 73 William street (third floor), in the said city, on or before the twenty-second day of March, 1887, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said twenty-second day of March, 1887, and for that purpose will be in attendance at our said office on each of said ten days at 3 o'clock P. M.

Second.—That the abstract of the said estimate and assessment, together with our maps, and also all the

affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the twenty-second day of March, 1887.

Third.—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York which taken together are bounded and described as follows, viz.: northerly by the southerly side of Jerome avenue and by a line drawn at right angles, or nearly so with the easterly side of Gerard avenue at its northerly termination at Jerome avenue and extending easterly from the said easterly side of Gerard avenue to the centre line of the block between Gerard and Mott avenues; easterly by the centre line of the blocks between Gerard avenue and Railroad, Mott and Walton avenues and Marchwood place; southerly by the northerly side of One Hundred and Thirty-fifth street and westerly by the centre line of the blocks between Gerard avenue and River avenue; excepting from said area all the streets and avenues heretofore opened and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four and the Laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map deposited as aforesaid.

Fourth.—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof in the County Court-house, at the City Hall, in the City of New York, on the fifteenth day of April, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 29, 1887.

LUKE F. COZANS,  
J. DANA JONES,  
JOHN WHALEN,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title wherever the same has not been heretofore acquired, to that part of a certain street or avenue known as BAILEY AVENUE, although not yet named by proper authority, commencing at Sedgwick avenue, and running to its junction with the north line of Boston avenue in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

NOTICE IS HEREBY GIVEN THAT THE BILL of the costs, charges and expenses incurred by reason of the proceedings in the above-entitled matter, will be presented for taxation to one of the Justices of the Supreme Court, at the Chambers thereof, in the County Court-house at the City Hall, in the City of New York, on the seventeenth day of February, 1887, at 10½ o'clock in the forenoon of that day, or as soon thereafter as counsel can be heard thereon; and that the said bill of costs, charges and expenses has been deposited in the office of the Department of Public Works, there to remain for and during the space of ten days.

Dated New York, February 4, 1887.

GEORGE W. MCLEAN,  
HENRY M. WHITEHEAD,  
WILLIAM H. BARKER,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title wherever the same has not been heretofore acquired to that part of SEDGWICK AVENUE (although not yet named by proper authority), extending from the Twenty-third Ward line to the Fordham Landing road, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court to be held at Chambers thereof, in the County Court-house, in the City of New York, on Friday, the 4th day of March, 1887, at the opening of the Court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended, is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue, known as Sedgwick avenue, from the Twenty-third Ward line to the Fordham Landing road, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks, being the following-described lots, pieces or parcels of land, viz.:

PARCEL "A."

Beginning at a point in the southern line of the land acquired for the eastern approach to the bridge across the Harlem river at One Hundred and Eighty-first street, distant 643.88 feet northerly from the intersection of southern line of the land acquired for said bridge approach with the western line of Aqueduct avenue.

1st. Thence northerly along the land acquired for the eastern approach to the bridge across the Harlem river at One Hundred and Eighty-first street for 75.88 feet;

2d. Thence southwesterly, deflecting 98° 43' 36" to the left for 1,121.88 feet;

3d. Thence southwesterly, deflecting 15° 10' to the right for 199.88 feet;

4th. Thence southwesterly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 153.88 feet for 80.88 feet;

5th. Thence southeasterly along the radial line drawn through the southern extremity of the preceding course for 11 feet;

6th. Thence southerly, deflecting 90° to the right for 32 feet;

7th. Thence westerly, deflecting 90° to the right for 11 feet;

8th. Thence southerly, deflecting 90° to the left for 91.88 feet to the boundary line between the Twenty-third and Twenty-fourth Wards;

9th. Thence southeasterly along the boundary line between the Twenty-third and Twenty-fourth Wards for 57.88 feet;

10th. Thence northerly, deflecting 100° 16' 15" to the left for 133.88 feet;

11th. Thence northerly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 71.88 feet for 37.88 feet;

12th. Thence northerly on a line tangent to the preceding course for 27.88 feet;

13. Thence northerly, deflecting 15° 10' to the left for 1,062.88 feet to the point of beginning.

PARCEL "B."

Beginning at a point in the northern line of the land acquired for the eastern approach to the bridge across the Harlem river at One Hundred and Eighty-first street, distant 678.88 feet westerly from the intersection of the northern line of the land acquired for said bridge approach with the western line of Aqueduct avenue.

1st. Thence northerly along the land acquired for the eastern approach to the bridge across the Harlem river at One Hundred and Eighty-first street for 75.88 feet;

2d. Thence northerly, deflecting 81° 16' 24" to the right for 772.88 feet;

3d. Thence northerly, deflecting 7° 45' to the right for 531.88 feet;

4th. Thence northerly, deflecting 6° 40' to the right for 508.88 feet;

5th. Thence northerly, deflecting 4° 34' 35" to the left for 638.88 feet;

6th. Thence northerly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 598.88 feet for 348.88 feet;

7th. Thence northerly on a line tangent to the preceding course for 496.88 feet;

8th. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 345.88 feet for 268.88 feet;

9th. Thence northerly on a line tangent to the preceding course for 73.88 feet;

10th. Thence northerly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 754.88 feet for 320.88 feet to a point of reverse curve;

11th. Thence northerly on the arc of a circle tangent to the preceding course, whose radius is 404.88 feet for 144.88 feet;

12th. Thence northerly on a line tangent to the preceding course for 208.88 feet;

13th. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 345.88 feet for 84.88 feet;

14th. Thence northerly on a line tangent to the preceding course for 1,055.88 feet;

15th. Thence northerly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 325.88 feet for 306.88 feet;

16th. Thence northerly on a line tangent to the preceding course for 396.88 feet;

17th. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 781.88 feet for 215.88 feet;

18th. Thence northerly on a line tangent to the preceding course for 153.88 feet;

19th. Thence northerly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 611.88 feet for 304.88 feet to a point of reverse curve;

20th. Thence northerly on the arc of a circle tangent to the preceding course, whose radius is 637.88 feet for 303.88 feet;

21st. Thence northerly on a line tangent to the preceding course for 191.88 feet;

22d. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 404.88 feet for 54.88 feet;

23d. Thence northerly on a line tangent to the preceding course for 203.88 feet;

24th. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 404.88 feet for 104.88 feet;

25th. Thence northerly on a line tangent to the preceding course for 184.88 feet;

26th. Thence northerly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 300.88 feet for 109.88 feet, to the land acquired for the opening of Sedgwick avenue, from Fordham Landing road to Boston avenue;

27th. Thence easterly along said lands of Sedgwick avenue for 86.88 feet;

28th. Thence southerly, curving to the right on the arc of a circle whose radius drawn through the eastern extremity of the preceding course forms an angle of 26° 15' 22" northerly of and with the preceding course and is 375.88 feet for 187.88 feet;

29th. Thence southwesterly on a line tangent to the preceding course for 184.88 feet;

30th. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 479.88 feet for 123.88 feet;

31st. Thence southwesterly on a line tangent to the preceding course for 203.88 feet;

32d. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course whose radius is 479.88 feet for 65.88 feet;

33d. Thence southwesterly on a line tangent to the preceding course for 191.88 feet;

34th. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 712.88 feet for 339.88 feet to a point of reverse curve;

35th. Thence southwesterly on the arc of a circle tangent to the preceding course, whose radius is 536.88 feet for 267.88 feet;

36th. Thence southwesterly on a line tangent to the preceding course for 153.88 feet;

37th. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 856.88 feet for 236.88 feet;

38th. Thence southwesterly on a line tangent to the preceding course for 306.88 feet;

39th. Thence southwesterly, curving to the left on the arc of a circle tangent to the preceding course, whose radius is 250.88 feet for 235.88 feet;

40th. Thence southerly on a line tangent to the preceding course for 1,055.88 feet;

41st. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 420.88 feet for 103.88 feet;

42d. Thence southwesterly on a line tangent to the preceding course for 208.88 feet;

43d. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 479.88 feet for 170.88 feet to a point of reverse curve;

44th. Thence southwesterly on the arc of a circle tangent to the preceding course, whose radius is 679.88 feet for 288.88 feet;

45th. Thence southwesterly on a line tangent to the preceding course for 73.88 feet;

46th. Thence southwesterly, curving to the right on the arc of a circle tangent to the preceding course, whose radius is 420



No. 73 William street (third floor), in the said City, on or before the twenty-second day of March, 1887, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said twenty-second day of March, 1887, and for that purpose will be in attendance at our said office on each of said ten days, at 12 o'clock M.

Second—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the twenty-second day of March, 1887.

Third—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Northerly by the centre line of the block between One Hundred and Fifth and One Hundred and Fifty-first streets; easterly by the westerly side of Avenue St. Nicholas; southerly by the centre line of the block between One Hundred and Fifth and One Hundred and Forty-ninth streets, and westerly by the easterly side of Tenth avenue; excepting from said area all the streets and avenues heretofore opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four and the laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, at the City Hall, in the City of New York, on the fifteenth day of April, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 29, 1887.

DAVID G. YUENGLING, JR.,  
EUGENE S. IVES,  
GEORGE F. LANGFERN,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to the opening of ONE HUNDRED AND THIRTY-NINTH STREET, from the Boulevard to Tenth avenue, in the Twelfth Ward of the City of New York.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at Chambers thereof, in the County Court-house in the City of New York, on Friday, the 4th day of March, 1887, at the opening of the Court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended, is the acquisition of title in the name and on behalf of the Mayor, Aldermen and Commonality of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue known as One Hundred and Thirty-ninth street, from the Boulevard to Tenth avenue, in the Twelfth Ward of the City of New York, being the following-described lots, pieces or parcels of land, viz.:

Beginning at a point in the easterly line of the Boulevard—distance 199 feet 10 inches southerly from the southerly line of One Hundred and Fortieth street; thence easterly and parallel with said street 249 feet 3/4 inches to the westerly line of Hamilton place; thence southerly and along said line 65 feet 2 inches; thence westerly 223 feet 9 3/4 inches to the easterly line of the Boulevard; thence northerly and along said line 60 feet to the point or place of beginning.

Also, beginning at a point in the westerly line of Tenth avenue—distance 199 feet 10 inches southerly from the southerly line of One Hundred and Fortieth street; thence westerly and parallel with said street 444 feet 3 1/2 inches to the easterly line of Hamilton place; thence southerly and along said line 65 feet 2 inches; thence easterly 469 feet 8 1/2 inches to the westerly line of Tenth avenue; thence northerly and along said line 60 feet to the point or place of beginning.

Said street to be 60 feet wide between the lines of the Boulevard and Tenth avenue.

Dated New York, January 28, 1887.

E. HENRY LACOMBE,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of FOREST AVENUE (although not yet named by proper authority), extending from the southerly side of Home street to the southerly side of Boston road, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

PURSUANT TO THE STATUTES IN SUCH cases made and provided, notice is hereby given that an application will be made to the Supreme Court of the State of New York, at a Special Term of said Court, to be held at chambers thereof, in the County Court-house, in the City of New York, on Friday, the 4th day of March, 1887, at the opening of the court on that day, or as soon thereafter as counsel can be heard thereon, for the appointment of Commissioners of Estimate and Assessment in the above-entitled matter. The nature and extent of the improvement hereby intended is the acquisition of title, in the name and on behalf of the Mayor, Aldermen and Commonality of the City of New York, for the use of the public, to all the lands and premises, with the buildings thereon and the appurtenances thereto belonging, required for the opening of a certain street or avenue, known as Forest avenue, from the southerly side of Home street to the southerly side of Boston road, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks, being the following-described lots, pieces or parcels of land, viz.:

Beginning at the intersection of the eastern line of Forest avenue and the southern line of Home street, being the northeastern extremity of the land acquired for the opening of Forest (Concord) avenue from the southern side of Denman place to Home street;

1st. Thence northerly along the land acquired for the opening of Forest avenue from the southern side of Denman place to Home street for 50 feet;

2d. Thence northerly, deflecting 90° to the right, for 803 1/2 feet, to the land acquired for the opening of Boston road;

3d. Thence northerly along the southern line of Boston road for 113 1/2 feet;

4th. Thence southerly, deflecting 151° 29' 33" to the right, for 905 feet to the point of beginning.

And as shown on certain maps filed by the Commissioners of the Department of Public Parks, in the Office of the Register of the City and County of New York, in the Office of the Secretary of State of the State of New York, and in the Department of Public Parks.

Dated New York, January 28, 1887.

E. HENRY LACOMBE,  
Counsel to the Corporation,  
No. 2 Tryon Row, New York City.

In the Matter of the Application of the Commissioners of the Department of Public Parks for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of a certain street or avenue known as TINTON AVENUE, although not yet named by proper authority, commencing at Kelly street, and running to its intersection with the south line of Westchester avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to us at our office, No. 73 William street, (third floor), in the said city, on or before the twelfth day of March, 1887, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said twelfth day of March, 1887, and for that purpose will be in attendance at our said office on each of said ten days at 3 o'clock P. M.

Second—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the twelfth day of March, 1887.

Third—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: northerly by the southerly side of Westchester avenue and the southerly side of One Hundred and Fifty-sixth street; easterly by the centre line of the blocks between Tinton avenue and Union avenue; southerly by the northerly side of Kelly street and westerly by the centre line of the blocks between Tinton avenue and Wales avenue; excepting from said area all the streets and avenues heretofore opened and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four and the laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map, deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, at the City Hall, in the City of New York, on the first day of April, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 19, 1887.

G. M. SPEIR, JR.,  
JNO. O'BRYNE,  
JOHN T. BOYD,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of Kelly street, although not yet named by proper authority, commencing at Wales avenue and running to its intersection with the west line of Prospect avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to us at our office, No. 73 William street (third floor), in the said city, on or before the 12th day of March, 1887, and that we, the said Commissioners will hear parties so objecting within the ten week-days next after the said 12th day of March, 1887, and for that purpose will be in attendance at our said office on each of said ten days, at 3 o'clock P. M.

Second—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the 12th day of March, 1887.

Third—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: northerly by the centre line of the blocks between Kelly street and Dawson street; easterly by the westerly side of Prospect avenue; southerly by the centre line of the blocks between Kelly street and Beck street, and westerly by the westerly side of Wales avenue; excepting from said area all the streets and avenues heretofore opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four, and the laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, at the City Hall, in the City of New York, on the 1st day of April, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 19, 1887.

G. M. SPEIR, JR.,  
JNO. O'BRYNE,  
JOHN T. BOYD,  
Commissioners.

CARROLL BERRY, Clerk.

In the matter of the application of the Commissioners of the Department of Public Parks for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of a certain street or avenue known as WALES AVENUE, although not yet named by proper authority, commencing at Kelly street and running to its intersection with the south line of Westchester avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and

who may be opposed to the same, do present their objections in writing, duly verified, to us at our office, No. 73 William street (third floor), in the said city, on or before the 12th day of March, 1887, and that we, the said Commissioners, will hear parties so objecting within the ten week-days next after the said 12th day of March, 1887, and for that purpose will be in attendance at our said office on each of said ten days at three o'clock P. M.

Second—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the 12th day of March, 1887.

Third—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Northerly by the southerly side of Westchester avenue; westerly by the centre line of the blocks between Wales avenue and Robbins and Westchester avenues; southerly by the northerly side of Kelly street and the northerly side of Dawson street, and easterly by the centre line of the blocks between Wales avenue and Tinton avenue; excepting from said area all the streets and avenues heretofore opened and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four and the laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map deposited aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the chambers thereof, in the County Court-house, at the City Hall, in the City of New York, on the first day of April, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated, New York, January 19, 1887.

G. M. SPEIR, JR.,  
JNO. O'BRYNE,  
JOHN T. BOYD,  
Commissioners.

CARROLL BERRY, Clerk.

#### NOTICE OF APPLICATION FOR APPRAISAL.

PUBLIC NOTICE IS HEREBY GIVEN THAT it is the intention of the Counsel to the Corporation of the City of New York to make application to the Supreme Court for the appointment of Commissioners of Appraisal, under chapter 490 of the Laws of 1883.

Such application will be made at a Special Term of said Court, to be held in the Second Judicial District, at the County Court-house in Poughkeepsie, Dutchess County, on the twenty-sixth day of February, 1887, at 11 o'clock in the forenoon.

The object of such application is to obtain an order of Court appointing three disinterested and competent freeholders, of whom two shall reside in the County of Westchester, and one in the City and County of New York, as Commissioners of Appraisal to ascertain and appraise the compensation to be made to the owners and all persons interested in the real estate hereinafter described, as proposed to be taken or affected for the purposes indicated in chapter 490 of the Laws of 1883.

The real estate sought to be taken or affected as aforesaid is located in part in the town of Mount Pleasant, Westchester County, and in part in the town of Greenburgh, Westchester County, and is laid out and indicated on maps filed in the office of the Register of Westchester County, in White Plains, Westchester County, as follows:

First—Upon a map filed in said Register's office on the 2d day of December, 1886, and bearing the following certificate, to wit:

We, the Commissioners appointed to carry out the provisions of chapter 490 of the Laws of 1883 of the State of New York, do hereby certify that this is one of six similar maps prepared in accordance with the provisions of said act for amending proceedings and including other property in the manner shown and described upon the plan adopted by us on the 12th day of November, 1886, as follows:

#### FINAL PLAN SHEET No. 9 A.

##### THE AQUEDUCT COMMISSION.

For the more efficient carrying out of the provisions of chapter 490 of the Laws of 1883 of the State of New York, we, the Commissioners appointed to carry out the provisions of said chapter of said laws, do hereby approve and adopt this plan for the construction of a new aqueduct upon the line adopted and filed by us on the 7th day of May 1884, and as shown upon the property maps adopted by us on the 9th day of July 1884, and filed in the office of the Register of the County of Westchester upon the 28th day of August 1884; this plan being for a modification of the plans heretofore adopted, by including other property to be taken in fee as shown upon this plan and designated hereon as Parcels Nos. 712 A, B, C, D, E, F, G, H, I, J and K; and Nos. 715 1/2, 716 1/2 and 718 1/2; and we direct this plan to be filed as "Final Plan Sheet No. 9 A."

And we do further certify that said six similar maps have been adopted by us in the manner prescribed in said act this 16th day of November, 1886.

JAMES C. SPENCER,  
WILLIAM DOWD,  
C. C. BALDWIN,  
OLIVER W. BARNES,  
E. L. RIDGWAY,  
JOHN NEWTON,  
Commissioners of Public Works,  
HAMILTON FISH, JR.,

And of which the following is a statement of the external boundaries, by courses and distances, within which are included all real estate and easements to be taken or affected in the acquisition in fee of additional lands at Shaft Site 8, in the town of Mount Pleasant, Westchester County.

All those pieces or parcels of land situate in the town of Mount Pleasant, Westchester County, which are included within the following boundaries:

Beginning at a point upon the lands of George Hart on the westerly line of the present highway, known as the "Sleepy Hollow Road," which point is distant upon a course of south 22° 37' west 496 feet from the middle of the Pocantico river, and is now marked by a stake bearing the letters "A. C.;" and running thence (1) north 22° 37' east across the lands of said Hart and the lands of the estate of William H. Aspinwall, deceased, 1,075 1/2 feet to a point in the aforesaid Sleepy Hollow Road, which point is distant upon said course 16 feet from the westerly line of said Sleepy Hollow Road; thence (2) north 75° 52' east across said road and across the lands of Susan N. Leggett 305 feet to the westerly line of the lands heretofore taken by the City of New York, and designated Parcel 716 upon the map filed in the office of the Register of the County of Westchester on the 28th day of August, 1884; thence (3) along said westerly line of said lands south 22° 37' west 839 feet; thence (4) north 44° 04' west across the lands of William W. Carson 38 1/2 feet to the easterly line of the said Sleepy Hollow Road; thence (5) along the said easterly line of said road the following courses and distances, viz.: South 53° 58' west 72 feet; south 71° 14' 30" west 149 1/2 feet; south 46° 17' 20" west 87 1/2 feet; south 36° 41' west 171 1/2 feet; thence (6) north 50° 44' west across said road 34 feet to the place of beginning, including within said boundaries Parcels Nos. 712 A, B, C, D, E, F, G, H, I, J and K, and containing 51 1/2 acres, more or less.

Beginning at a point upon the easterly line of the lands heretofore taken for the said New Croton Aqueduct, said lands being designated "Parcel No. 712" on the map filed in the office of the Register of Westchester County on the 28th day of August, 1884, and which point is now marked by a stake bearing the letters "A. C.;" and running thence (1) along said easterly line north 22° 37' east

and along the lands of William W. Carson and of Susan N. Leggett 1,258 feet; thence (2) along a stone wall across the lands of said Susan N. Leggett south 42° 04' east 166 feet; thence (3) across the lands of said Susan N. Leggett and William W. Carson, parallel to the aforesaid easterly line, and distant 150 feet therefrom, south 22° 37' west 942 feet; thence (4) across the lands of said Carson south 54° 04' 45" west 287 1/2 feet to the place of beginning, including within said boundaries the parcels numbered 715 1/2, 716 1/2 and 718 1/2, and containing 3 1/2 acres, more or less.

All of which lands are to be taken in fee simple.

Second—Upon a map filed in the office of the said Register on the 29th day of December, 1886, and bearing the following certificate, to wit:

We, the Commissioners appointed to carry out the provisions of chapter 490 of the Laws of 1883, do hereby certify that this is one of the six similar maps prepared in accordance with the provisions of said act for amending proceedings and including other property in the manner shown and described upon the plan adopted by us on the 12th day of November, 1886, as follows:

#### FINAL PLAN SHEET No. 3 A.

For the more efficient carrying out of the provisions of chapter 490 of the Laws of 1883 of the State of New York, we, the Commissioners appointed to carry out the provisions of said chapter of said laws, do hereby approve and adopt this plan submitted to us by the Chief Engineer, for amending the proceedings heretofore taken and to acquire the fee simple in lieu of the easement heretofore acquired upon Parcel No. 299 and part of Parcel 300 in the town of Greenburgh, County of Westchester, as the same are shown upon the maps filed in the office of the Register of said County on the 28th day of August 1884; and to acquire the fee simple in certain additional lands adjoining the aforesaid parcels, all as shown upon said plan, and designated Parcels 299, 299 1/2, 300 A, 300 1/2, and 300 3/4; and we direct said plan to be filed as "Final Plan Sheet 3 A."

And we do further certify that said six similar maps have been adopted by us in the manner prescribed in said act this 16th day of November, 1886.

JAMES C. SPENCER,  
WILLIAM DOWD,  
C. C. BALDWIN,  
OLIVER W. BARNES,  
E. L. RIDGWAY,  
JOHN NEWTON,  
Commissioners of Public Works,  
HAMILTON FISH, JR.,

New York, November 16, 1886.

And of which the following is a statement of the external boundaries, by courses and distances, within which are included all real estate and easements intended to be taken or affected in acquiring the fee simple of certain lands for Shaft Site 15 1/2, Town of Greenburgh, Westchester County.

All those pieces or parcels of land situate in the Town of Greenburgh, Westchester County, which are included within the following boundaries:

Beginning at a point, now marked by a stake bearing the letters "A. C.," upon the northerly line of the highway known as the Ravensdale road or Jackson avenue, where said line is intersected by the westerly line of the survey of the New Croton Aqueduct route, and distant at a right angle 33 feet from the centre line of said survey as the same is shown upon the map filed in the office of the Register of Westchester County, on the 28th day of August, 1884; and running thence (1) north 27° 12' east 620 1/2 feet; thence (2) south 62° 48' east 328 1/2 feet, crossing the aforesaid centre line at a right angle 58 1/2 feet distant northeasterly from Monument No. 76 on said centre line; thence (3) south 2° 55' 20" east 58 1/2 feet; thence (4) south 2° 55' east 275 feet; thence (5) south 87° 5' west 233 1/2 feet; thence (6) north 62° 48' west 184 1/2 feet to the easterly line of the aforesaid survey; thence (7) along said easterly line south 27° 12' west 209 1/2 feet; thence (8) north 48° 21' west 68 1/2 feet to the place of beginning; containing 4 1/2 acres, more or less.

All of which lands are to be taken in fee simple.

Dated New York, January 15, 1886.

E. HENRY LACOMBE,  
Counsel to the Corporation.

In the matter of the application of the Commissioners of the Department of Public Parks, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that part of LINCOLN AVENUE (although not yet named by proper authority), from Southern Boulevard to the United States Channel line of the Harlem river, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Department.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to the owner or owners, occupant or occupants, of all houses and lots and improved or unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in these proceedings, or in any of the lands affected thereby, and who may be opposed to the same, do present their objections in writing, duly verified, to us at our office, No. 73 William street (third floor), in the said city, on or before the twenty-first day of February, 1887, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said twenty-first day of February, 1887, and for that purpose will be in attendance at our said office on each of said ten days at twelve o'clock M.

Second—That the abstract of the said estimate and assessment, together with our maps, and also all the affidavits, estimates and other documents which were used by us in making our report, have been deposited in the office of the Department of Public Works, in the City of New York, there to remain until the twenty-first day of February, 1887.

Third—That the limits embraced by the assessment aforesaid are as follows, to wit: All those lots, pieces or parcels of land, situate, lying and being in the City of New York which taken together are bounded and described as follows, viz.: Northerly by the southerly side of the Southern Boulevard; westerly by the centre line of the block between Lincoln avenue and North Third avenue; southerly by the bulkhead line of the Harlem river and easterly by the centre line of the blocks between Lincoln avenue and Alexander avenue; excepting from said area all the streets and avenues heretofore opened, and all the unimproved land included within the lines of streets, avenues, roads, public squares or places shown and laid out upon any map or maps filed by the Commissioners of the Department of Public Parks, pursuant to the provisions of chapter six hundred and four of the Laws of eighteen hundred and seventy-four, and the Laws amendatory thereof, or of chapter four hundred and ten of the Laws of eighteen hundred and eighty-two, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the chambers thereof, in the County Court-house, at the City Hall, in the City of New York, on the eighteenth day of March, 1887, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, January 4, 1887.

NATHL. JARVIS,  
CHARLES REILLY,  
CHAS. W. WELSH,  
Commissioners.

CARROLL BERRY, Clerk.

#### THE CITY RECORD.

COPIES OF THE CITY RECORD CAN BE obtained at No. 2 City Hall (northwest corner basement). Price three cents each.