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1869

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NINTH ANNUAL REPORT

OF THE

BROOKLYN PARK

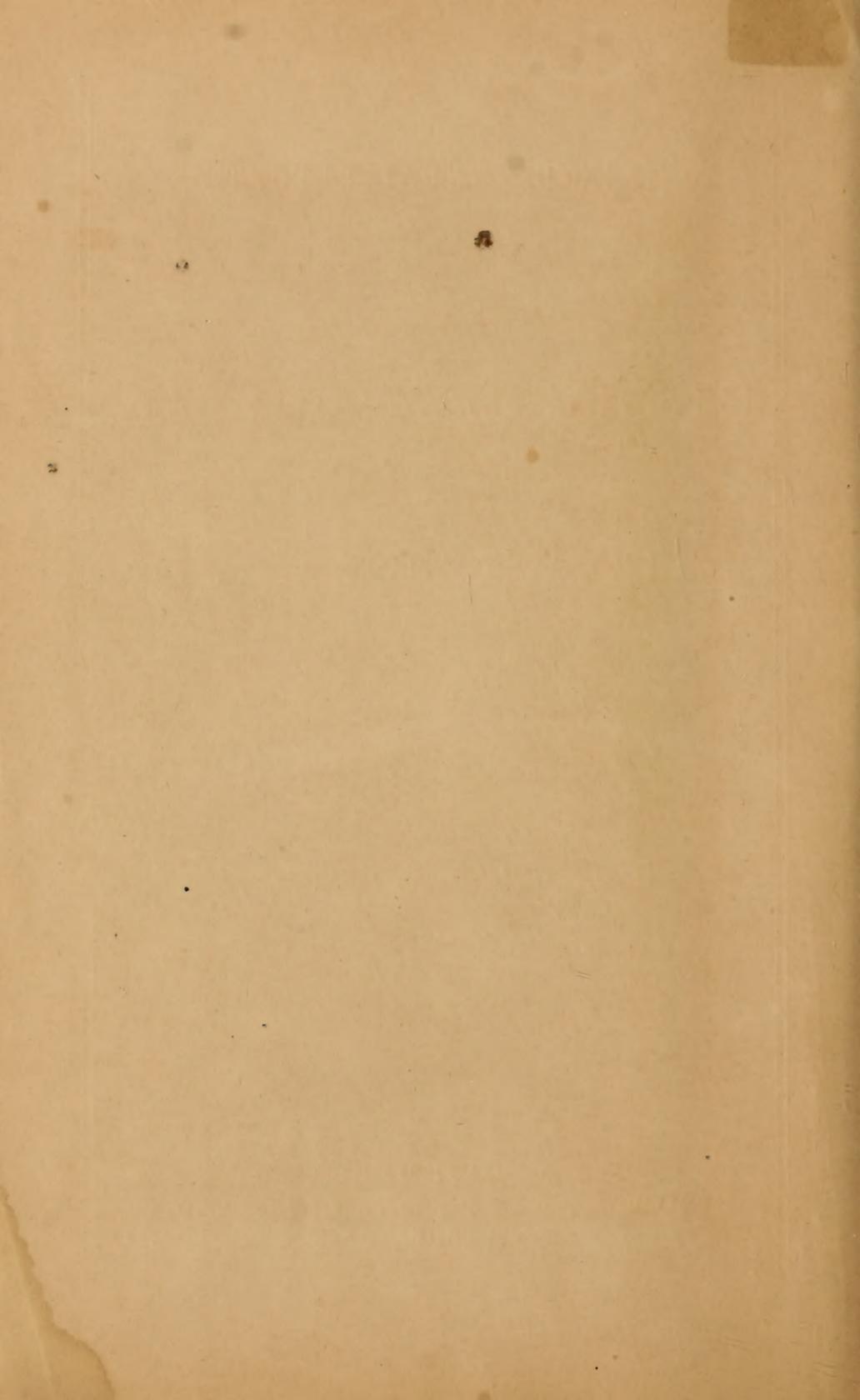
COMMISSIONERS.

~~~~~  
JANUARY, 1869.  
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BROOKLYN:

DAILY UNION PRINT, COR. FULTON AND FRONT STREETS.

1869.







PROSPECT PARK. -- EAST DRIVE.

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THE BOARD  
OF  
BROOKLYN PARK COMMISSIONERS.

JAMES S. T. STRANAHAN,  
WALTER S. GRIFFITH,  
JOHN H. PRENTICE,  
EDWARDS W. FISKE,  
WILLIAM MARSHALL,

ABIEL A. LOW,  
SEYMOUR L. HUSTED,  
ABRAHAM B. BAYLIS,  
STEPHEN HAYNES,  
ISAAC VAN ANDEN,

MARTIN KALBFLEISCH.

*President,*

JAMES S. T. STRANAHAN.

*Secretary,*

WALTER S. GRIFFITH.

*Comptroller and Counsel,*

JOHN N. TAYLOR.

*Landscape Architects and Superintendents,*

OLMSTED, VAUX & CO.

*Assistant Architect,*

EDWARD C. MILLER.

*Engineer in Charge,*

CHARLES C. MARTIN.

*Assistant Engineers in Charge,*

JOHN BOGART, JOHN Y. CULYER.

## STANDING COMMITTEES OF THE BOARD.

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### EXECUTIVE COMMITTEE.

JOHN H. PRENTICE,  
SEYMOUR L. HUSTED,  
ISAAC VAN ANDEN,

WALTER S. GRIFFITH,  
STEPHEN HAYNES.  
EDWARDS W. FISKE.

### FINANCE COMMITTEE.

ABRAHAM B. BAYLIS,  
MARTIN KALBFLIESCH,

ABIEL A. LOW,  
WILLIAM MARSHALL.

### AUDITING COMMITTEE.

WALTER S. GRIFFITH,

JOHN H. PRENTICE,  
ISAAC VAN ANDEN.

# R E P O R T

OF THE

## BROOKLYN PARK COMMISSIONERS.

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*To the Honorable, the Mayor and Common Council of  
the City of Brooklyn:*

The Brooklyn Park Commissioners, in conformity to the requirements of the law which appointed them to office, and which prescribes and regulates their duties, herewith present to the Honorable, the Mayor and Common Council of the City, a report of their proceedings for the year 1868, together with a statement of their receipts and expenditures during the same period.

Since the last Annual Report, the Commission, with its official staff, has remained essentially unchanged, except that Messrs. William Marshall and Isaac Van Anden have been appointed Commissioners, to supply vacancies which have occurred in the Board—the latter to occupy the place made vacant by the death of our late associate, Cornelius J. Sprague, Esq. By the decease of this gentleman, park enterprise has lost one of its earliest and firmest advocates, and the city a faithful guardian of its interests. A wise Providence had previously deprived us of the valuable services of Dr. Richard L. Thompson, a former secretary of the Board, and of Ex-Mayor Thomas G. Talmadge, a zealous coadjutor in

many a plan of city improvement; so that there now remain but three members of the Board of Commissioners who were originally selected to organize and carry forward the important work in which we are engaged. By a recent act of the Legislature, also, the Mayor of the city, as a suitable representative of the city's interest in the operations of the Board, was made, *ex-officio*, a Park Commissioner, and we have now, therefore, the honor of inscribing his name upon the roll of our members.

A copy of the act referred to is annexed to this report, and will be found to contain some provisions of interest to our tax-payers, particularly that portion of it, which distributes the current expenses of maintaining the parks, after construction, over the whole city, without confining the burden, as was originally intended, to the Western District. The substantial justice of this provision was apparent after the passage of the law which put all the parks of the city under one general management, and was the more obvious, when it came to be seen that the interest taken in our parks, and the benefits to be derived from them, are not confined to any particular locality, but that all participate in their advantages, and feel an equal pride in the successful development of their several plans of improvement.

The Commissioners were authorized by this law to call upon the Joint Board of Common Council and Supervisors for such an amount, not exceeding one hundred thousand dollars in any one year, as they should, by resolution, determine to be necessary for the support and proper maintenance of the parks, and that amount, so determined, is directed to be levied in the same manner as other taxes are levied in our city. We have not deemed it necessary to require more than sixty-eight thousand

four hundred dollars to be raised for the coming year; but it is probable that as the work draws to its completion, the amount required for this purpose will, at no time, be much less than the full sum authorized to be expended. The subject of defraying these expenses will necessarily engage the attention of the Commissioners as the work passes on from construction to maintenance; and they will endeavor, from time to time, to develop such sources of revenue as may be found incidental to the parks themselves. Licenses for the sale of mineral waters and other refreshments; for light and convenient carriages to run upon the drives for hire; for perambulators on the walks, and for boats on the lakes, and the like, may all be made conducive to the interest of the city, by relieving it of a portion of the cost of maintenance, without infringing, to any extent, upon the privileges of the public in the use of the parks.

The same act embraces a revision of the powers and duties of the Commission, which are extended, in some respects, beyond the scope of the original law under which they have heretofore acted, and, in connection with the other act just referred to, has much increased their duties and responsibilities. Among other things, it confers upon the Board authority to perfect the boundaries of Prospect Park along the Ninth Avenue, which had an unsightly extension jutting out into the avenue, opposite the park, near the main entrance; and also along Fifteenth street, which was laid down in a curve line, to correspond with the park boundary, until it reached the Coney Island road, and which required adjustment. These two operations seemed necessarily connected with the improvement of this park; and the Board was therefore, directed to institute the legal proceedings required for their accomplishment. The Commissioners of Estimate and Assessment, who were appointed by

the Court for the purpose, have completed their task to the satisfaction of the Board, at a very moderate expense to the parties interested.

The Commissioners regret to say that the bill which was introduced into the Legislature last spring for the laying out of streets and avenues throughout the county of Kings, beyond the city of Brooklyn, failed to become a law. Their views on this important subject; the advantages—municipal, financial, and sanitary—of properly adjusting and connecting the streets and avenues of this rapidly growing suburb of the city, with our own thoroughfares; and the great inconvenience, loss and confusion which must arise from a neglect of this work, were stated in a former report, and need not here be repeated. They take this occasion, however, to add, that the evils of delay are becoming every day more apparent, in consequence of the large amount of property in the country towns which is being mapped out into city lots, and sold for purposes of improvement. Every proprietor who brings his lots into market, and cuts up his farm for sale, seems to lay out his streets and avenues, and arrange his property according to his own fancy or supposed advantage, without reference to the public convenience, and without knowing, in fact, what the public requirements really are. The Board has always, even at the risk of sometimes appearing to step beyond the exact line of its duty, been solicitous to point out difficulties arising from the loss of valuable improvements, which are too frequently destroyed in the progress of subsequent advances of the city, and which a more prudent foresight might easily have prevented. The Board can do nothing further at this time than to call the attention of the parties more immediately interested to the subject, and to express the hope that it will receive from the

Legislature that decided action which its importance manifestly demands.

The propriety, if not the absolute necessity, of an extension of Prospect Park at its western angle, so as to allow the principal drive in that direction to be carried out according to the original design, has been repeatedly urged in former reports of the Board, and the Legislature was on more than one occasion applied to for permission to make the desired acquisition; but without success. The Commissioners have now, however, the pleasure of stating that an act was passed at the last session, authorizing this extension, and directing the Board to apply to the Supreme Court for the appointment of Commissioners to estimate the value of the land so taken. Messrs. Teunis G. Bergen, Henry W. Slocum, Crawford C. Smith, Henry C. Murphy, Jr., and Edwin K. Scranton, well known citizens of Brooklyn, were selected by the Court to perform this duty; and it is understood that their report is nearly ready for publication. The land in question consists of twelve blocks of ground, lying between Ninth and Tenth Avenues, and Third and Fifteenth streets, and might, when its annexation was first suggested by the Board, have been obtained for a comparatively small price. Its present value, however, has been much increased within the last two years from various causes, especially by its vicinity to the Park, and its acquisition must now necessarily be somewhat costly to the City, but the Board indulge the hope that the forthcoming report of these Commissioners will be of such a character, as to justify the Board in asking the Court to ratify and confirm the same. When these proceedings shall have been completed, Prospect Park will extend over the whole area embraced within its original design, and any further extension of its boundaries, would, in the judgment of the Commissioners, not only tend

to mar the symmetry of its present fine proportions, but would entail an unnecessary expense upon our already heavily-burdened city. When the future wants of our teeming population shall require more extended Park accommodations, as no doubt they will, the Commissioners believe the public convenience will be better served by opening other Parks in different and more remote sections of the city, than by adding to the present ample dimensions of Prospect Park.

In this connection, the Commissioners would add, that the question of the best disposition to be made of the land lying east of Flatbush Avenue, still remains undetermined. Subsequent reflection, aided by suggestions contained in the more recent study which has been given to the subject by our landscape architects, (their report thereon being hereto appended) has confirmed the opinion expressed by them three years since, when the present Board first took up the consideration of the subject, that the division of the Park by the broad thoroughfare which connects the city with the large agricultural country beyond it, would seriously interfere with those impressions of amplitude and continuous extent, which are necessary to landscape effect; and that this objection cannot be obviated by any reasonable amount of bridging, which could be introduced for the purpose of connecting the two portions together. The reservoir grounds also encroach so largely upon the eastern section, that they in effect, subdivide its two parts into very insignificant dimensions for Park purposes. The formation of the ground moreover, as was suggested in a former report of our landscape architects on the subject, is of a character that renders its improvement very expensive; and when the best thing possible shall have been done, it must always present a cramped, confined, and unsatisfactory appearance. In addition to this, the full development of

the great Southeastern Parkway through the heart of the Ninth Ward, which is now in the hands of Commissioners of Estimate and Assessment, and about to be opened up to the public, will require this splendid improvement to be carried through to the Plaza east of the reservoir, and will still further lessen the capabilities of this portion of the Park.

The reservoir hill, with its magnificent prospect, will always form one of the most attractive features of this charming locality; and should in connection with general park improvement, aided by a light foot bridge thrown across the Avenue, be embellished in the highest style of art. The land north and south of this hill, running along the Avenue to the depth of perhaps two hundred and sixty feet, embracing in the whole, an extent of about twenty-five acres, can be retained by the city, and used to good advantage for various municipal purposes; but we believe the time is not far distant, when a generous public sentiment will require, that considerable portions of this land shall be devoted to still more liberal uses.

Upon the basis of carefully collected statistics, showing the actual progress of the last forty years, the steady advance of Brooklyn, will, within the next fifteen years, carry the aggregate of its population beyond a million of inhabitants. A community of this magnitude, second to none in wealth, intelligence, or enterprise, must not only occupy a large territorial extent, but will in its expansion, require great educational, social, and artistic facilities. Our young and aspiring Historical, Botanical, and other kindred Societies, already demand ampler space for their development, while our men of letters and of science are preparing to seize the splendid opportunity here presented of establishing a University which shall be metropolitan in character, as well as in position. The location we refer

to, will soon become the geographical center of a great religious and intellectual people, which, with its Park surroundings, will afford opportunities for mental culture, as well as for artistic and athletic training, such as can probably be no where else found, in equal measure, upon our continent. A wise forecast therefore seems to demand that these advantages shall be secured for the generations who are to follow us, and who are to advance the moral and mental progress of our race.

After making this reservation, there will still remain east of the Avenue, a high plateau of land of about one hundred acres, remarkably well adapted for building purposes, whose value has been recently much increased by surrounding improvements. And the Commissioners respectfully submit for the consideration of their constituents, whether in view of what has been suggested, as well as of the financial considerations about to be presented, it may not be judicious to adopt the proposal of some of our wisest and most practical citizens, to allow this land to return to its former domestic uses, and thereby diminish the city debt and increase one of its great sources of revenue. The plot in question, contains about twelve hundred ordinary sized city lots of land, and would probably realize, if properly laid out, and sold, with suitable building covenants, at least two thousand dollars a lot, or a total of say two-and-a-half millions of dollars, to be applied in liquidation of the Park debt. And if we increase this valuation by the probable value of the buildings which we may reasonably expect to see erected thereon, say five and a half millions of dollars, we shall add independantly of the immense stimulus thereby given to the surrounding property, eight millions of dollars to the taxable property of the city, and enlarge her revenue two hundred and fifty thousand dollars per annum. At the same time, we make a

direct saving to the city of at least a million and a half of dollars, which is the probable cost of improving this property, if retained as a Park; and of about twenty-five thousand dollars a year for the cost of its maintenance, with interest on both sums.

The Commissioners also in a former Report, submitted for public consideration, the subject of putting the City Park (which it will be remembered is opposite the Navy Yard wall) to some other use than that to which it is now subjected. Without reference to its natural defects as a pleasure ground, which were stated in that Report, the immediate vicinity of Washington Park, with its superior attractions of air, prospect, and salubrity, rendering it a much more agreeable place of resort than the City Park, the question is unavoidably presented, whether, under these circumstances, it is at all desirable, or even proper to devote that very considerable amount of expense and labor to its improvement, which would be necessary to make it suitable for the purposes for which it was originally designed; while its central position, its capacious and convenient sewerage, its nearness to the East River, and its consequent easy communication with all parts of the surrounding country, point to this spot as possessing peculiar advantages for a general market. These suggestions have since received further consideration from the Board, and have also obtained as they are pleased to find, the assent of many of our more experienced and sagacious citizens; and in fact, the Board think they are fully warranted in the statement, that public opinion is now decidedly in favor of the change which they have suggested.

Brooklyn has long felt the want of a public market, where its retail trade can be furnished with those supplies of provisions for which it is now largely dependant upon the City of New York. The statistics of 1865, show that

in addition to the large amount of cereals raised upon our island during that year, there was sent to market from the same source of supply, over three millions of dollars worth of the various products of the garden; together with large quantities of Milk, Eggs, Poultry, and other articles equally necessary for our daily sustenance, valued in the whole, at something over six millions of dollars. The amount has since been largely increased by the greater facilities for transportation afforded by the two additional railroads which have since been opened on the north and south sides of the island, leading directly to the city. And the great bulk of this produce may be said to be daily passing over our ferries to New York, mainly because it finds no suitable place in our city on this side of the East River where it can be received and held for distribution among our people.

Our city seems to be the natural depot for the sale of this large and valuable product of the island; and its already large population, could probably dispose of it all with proper management; and yet it goes over to our sister city, passing by the very doors of those for whom it is really designed, and who are obliged to follow, and there purchase it at a largely increased price, and in a very deteriorated condition. Our citizens at the same time lose the benefits of the trade which would naturally result, if the farmers had an opportunity of spending the money received from the sales of this produce among them; while the value of property in the neighborhood continues in a very depressed condition, and the city is deprived of the advantages which would necessarily follow upon the large increase of taxable property resulting from the proposed improvement. For these reasons, we hope soon to see our corporate authorities resume their control of the City Park, and after properly regulating the ground, proceed to the erection of a substantial general market, upon so liberal and enlarged a scale, as shall secure to our

citizens a cheap and full supply of all the prime necessities of life. While, at the same time, our city will establish a credit for corporate enterprise, and open to itself new and abundantly fertile sources of revenue.



PRUNING LADDER USED ON THE PARK.

The financial statement of the Board for the current year will be found appended to this Report, showing the receipts and expenditures on account of each of the Parks under their charge, as well as on account of the Parade Ground. The amount received from the city for the improvement of Prospect Park, was eight hundred and forty thousand dollars, being the proceeds of sales of seven per cent. City Bonds. From the rents of houses still standing on the Park, with sales of old material, grass, and fire-wood, together with pound receipts and interest on bank balances, there has also been realized the sum of fourteen thousand six hundred and sixty-six dollars.

The statement further exhibits the entire expenditure of the Commission since its organization upon each of the Parks, and the particular fund chargeable therewith. The total expenditure on account of Prospect Park for the year, was one million and seventy-eight thousand six hundred and forty-five dollars; and on account of the other City Parks, ninety-two thousand two hundred and sixty-two dollars. The largest disbursement was of course for labor, amounting to six hundred and seventy-five thousand eight hundred and eighty-nine dollars, a sum, which, when compared with the number of men employed, shows that there has as yet, been no reduction in the price of labor. The materials of construction have required an outlay of one hundred and ninety-two thousand one hundred and nineteen dollars; a large proportion of which, was for stone, brick, lime, and cement, used in the construction of bridges, and the laying of drainage and water pipe. An expenditure of nineteen thousand nine hundred and eighty-seven dollars for trees and shrubs, has much increased the very fine and varied stock of our already extensive Nursery. Fifteen thousand and fifty-five dollars were spent for drain pipe; and the Belgian and

other pavements have cost seventy-one thousand three hundred and eighteen dollars.

The Commissioners respectfully refer to the Reports of the Engineer in charge of the work, and his Assistants, for a further and more detailed statement of the several objects of these expenditures, than can well be presented in the limited pages of this Report. The vouchers applicable to each item of the account, will be found at the office of the Board, regularly filed and numbered for greater convenience.

Operations on the Park have steadily progressed since the opening of the Spring, and as many men as could be employed to advantage, have been kept at work. In addition to the Engineering Corps in the service of the Commission, a statement of the laboring force employed, will be found in the annexed report of an Assistant Engineer, from which it will appear that the main part of the force has been employed two hundred and ninety-seven days during this year. The largest number of men working at any one time, was in the month of April, and consisted of thirteen hundred and ninety-two men, while the greatest number during the preceding year was eighteen hundred and forty.

The results accomplished by this force will better appear from the reports of our Engineers, to which reference has already been made, but in general it may be stated that much of the easterly portion of Prospect Park is now complete, and has, during the latter part of the year, been in constant use by the public; and that the improvement of the residue of this park, except in the extreme western district, where, for reasons before referred to, nothing has been done, is in a very satisfactory state of progress.

The extent of ground which has been under treatment during the year is over two hundred acres; the whole area finished being one hundred and forty acres, exclusive of roads, walks and waters; of which area one hundred and nine are slopes and meadows, and thirty-one woodland. The finished drives now amount to nearly three miles and a quarter, being a little more than two miles in excess of that which we were able to report last year. Of bridle paths, we have nearly a mile and a half finished or well progressed; and of walks three miles and three quarters are completed, and nearly five additional miles in progress. The very large and continually increasing number of delighted visitors show how thoroughly these walks and drives are appreciated by them. A fine specimen of rustic work has been erected near the main entrance to the Park for a Summer house; and a vine-covered trellis work, with seats overlooking the children's play ground, commands a beautiful sea and island view, and when covered with the foliage and flowers of climbing plants, will afford grateful shelter to all such as may be disposed to linger in its shade.



RUSTIC TRELLIS.

The somewhat comprehensive system of drainage and water works required for use in this Park, has been well advanced, and nearly four and a half miles of drain pipe, with two and a quarter miles of iron and cement pipe for water distribution, have been laid.

The grading, paving, and planting of the interior of the Plazza is mainly complete, and in the course of the ensuing year, it is intended to construct the large fountain basin which is to occupy the center of this important feature of the Park design. Two archways, which were in progress at the date of the last Report, have been finished, one of them for the passage of the walk under the main circuit drive near the entrance, and the other, the east road arch near the head of the lake. Two others are in progress; large quantities of stone having been dressed and prepared for the purpose of carrying on the work early in the Spring. About twelve acres of the lake have been completed, and the Assistant Engineers' Report will show to what extent the ice formed thereon during the season, has been enjoyed by throngs of merry skaters, male and female. Early in the coming season the lake will have been increased in its dimensions to the extent of about twenty acres and filled with water, adding a new and beautiful feature to the interesting scenery of this neighborhood.

In their last report, the Commissioners directed the attention of the Common Council to the fact that a large amount of taxable property had been added to the City since the commencement of active operations on this Park, and showed from the records of the Board of Assessors, that the increase in the three Wards immediately contiguous thereto, to wit: the Eighth, Ninth and Twentieth Wards, amounted to seven million, four hundred and eighty-two thousand six hundred and ninety-two

dollars. They observe from a recent examination of the same records, that the increased valuation of real estate within the same territorial limits for the year 1868, is three millions four hundred and ninety-three thousand one hundred and fourteen dollars, and has amounted in the whole, to ten millions nine hundred and seventy-four thousand eight hundred and six dollars since work commenced on this Park. An increase, which, during the same year, has added to the revenue of the City, from these three Wards alone, full ninety thousand dollars more than the annual interest on the whole Park debt.

The Commissioners are pleased to find also, that the advantages of the Park to surrounding property have not been confined to the three Wards we have specified, but have been productive of still greater benefit to our neighbors of Flatbush, where the value of real estate has more than doubled during the year; the assessed value of that town in 1867 being two millions five hundred and nineteen thousand nine hundred and fifteen dollars; while in 1868, at a period of the year when property had not yet realized the great advance it has since attained, it amounted to five millions and thirty thousand nine hundred and seventy dollars.

The proposed modification of Carrol Park is nearly complete. After an entire revision of its drainage and of its grassy slopes, the walks were laid with pine tar concrete, and finished with fine gravel well rolled in, producing a perfectly firm and smooth surface for the ease and comfort of visitors. Some additional trees and plants, with an ornamental flag staff, and a play ground for children, were also introduced, and the improvements made seem to be fully appreciated by our citizens.

The revision of the ground at Washington Park—or old Fort Green, as the older residents of our city still

delight to call it—in pursuance of the plan which was laid down in the Special Report of our landscape architects, and appended to the last Annual Report of the Board, is now so far advanced that it is expected to be opened for public use early next Summer.

In concluding this statement of their operations for the year eighteen hundred and sixty-eight, the Park Commissioners take occasion to congratulate their fellow citizens upon the fact, that we at length have a Park worthy of the name, and in some degree commensurate with the magnitude and the requirements of a great city ; where our eyes may be refreshed by resting upon something else than mere interminable rows of brick and mortar ; and where refining meditative influences will ever teach us that trade is not the whole end and aim of life. That we have a Park richly garnished with natural beauty, whose quiet repose, luxuriant foliage and fragrant ocean breeze may tempt us from those engrossing mercenary pursuits by which we are too apt to be absorbed, and lead us to better things. A broad precinct—free of access ; permanent in duration ; guarded well from rude intrusion—where genius may bring its offerings, and nature and art blend together to work out images of serene and placid beauty : open equally to rich and to poor ; and contributing alike to the pleasure and improvement of the sick and the well ; the man of business and the man of work.

Dated January 28, 1869.

J. S. T. STRANAHAN,  
PRESIDENT.

W. S. GRIFFITH,  
SECRETARY.

JOHN N. TAYLOR,  
COMPTROLLER.



AN ABSTRACT OF THE FINANCIAL STATEMENT  
OF THE  
BROOKLYN PARK COMMISSION,  
FOR THE YEAR 1868.

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The total receipts on account of PROSPECT

PARK during the year 1868, were :

Balance of cash in Bank, January 1st, ..	\$264,202 28	
From Treasurer of the city.....	\$840,000 00	
“ Rents of houses on the Park.....	4,965 97	
“ Sales of old houses.....	1,175 00	
“ Sales of wood, grass and old material .. .. .	732 09	
“ Interest on Bank balances.....	6,779 43	
“ Lost tools. ....	99 73	
“ Sales of stone.....	133 50	
“ Park Pound.....	780 90	854,666 64
		\$1,118,868 90

The total expenditures for the same time were :

Paid Salaries, Comptroller, Superintendent, Landscape Architect and Engineers.....	26,833 35	
“ Surveyors, Draftsmen and Assistants.....	55,350 73	
“ Laborers, Keepers, Mechanics, horses and carts.....	675,889 49	
“ Materials of construction, Tools and Instruments.....	192,119 30	
“ Stationery, printing and drawing materials.....	5,192 38	
“ Fitting up offices, rent and repairs	2,850 61	
“ Trees, plants and shrubs.....	19,987 89	
“ Manure and other fertilizers.....	4,987 60	
“ Water pipe and hydrants.....	9,049 98	
“ Drainage pipe.....	15,055 17	
“ Belgian and other pavements.....	71,318 63	1,078,645 12

Balance to the credit of Prospect Park,

December 31, 1868.....

40,223 78

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\$1,118,868 90

The total receipts on account of WASHINGTON, CARROL, CITY HALL and CITY PARKS were :

Balance of cash in bank Jan. 1st, 1868..		\$66,435 65
From City Treasurer.....	\$72,000 00	
“ Interest on bank balances.....	800 00	72,800 00
		<hr/>
		\$139,236 55

The total expenditures for the same period were on:

Washington Park.....	73,835 09	
Carrol Park.....	16,716 98	
City Hall Park.....	1,343 03	
City Park.....	367 98	92,263 08
		<hr/>
Balance to the credit of the same Parks, December 31, 1868.....		46,973 47
		<hr/>
		\$139,236 55

THE EXPENDITURES ON WASHINGTON PARK WERE :

Paid Surveyors and Assistants.....		\$2,906 82
“ Materials of construction and tools		12,335 10
“ Office furniture.....		50 58
“ Manure.....		401 12
“ Drainage pipe.....		1,293 15
“ Laborers, mechanics, horses and carts.....		46,223 40
„ Stationery, printing and drawing materials.....		313 98
“ Trees, plants and shrubs.....		207 37
“ Patent pavements.....		10,103 57
		<hr/>
Total.....		\$73,835 09

ON CARROL PARK :

Paid Surveyors and Assistants.....		\$598 89
“ Materials of construction.....		1,162 31
“ Manure.....		45 00
“ Mechanics, laborers, horses and carts.....		12,444 26
“ Trees, plants and shrubs.....		250 50
“ Water pipe and drainage pipe.....		274 28
“ Patent pavements.....		1,941 74
		<hr/>
Total.....		\$16,716 98

## ON THE CITY HALL PARK.

Paid laborers, horses and carts.....	\$1,343 03
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## ON THE CITY PARK:

Paid laborers and repairs.....	\$367 98
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## PARADE GROUND.

The total receipts on account of the  
PARADE GROUND during the year 1868  
were:

From the County Treasurer.....	\$13,000 00	
“ Sales of old material.....	139 00	
“ Interest on bank balances.....	310 00	\$13,449 00

The total expenditures for the same time  
were:

Paid Surveyors and Assistants.....	\$182 83	
“ Materials of construction.....	2,456 37	
“ Mechanics, laborers and teams....	6,078 01	
“ Trees.....	55 68	
Expended in 1867.....	250 68	9,023 57

Balance to the credit of the Parade Ground December 31, 1868.....		4,425 43
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\$13,449 00

This balance will be reduced by the proportion of the expense of paving and improving Franklin avenue, chargeable to the Parade Ground, and of which returns have not yet been made to this office. It should be stated also that in the Prospect Park account, eight thousand seven hundred and ninety dollars (\$8,790) of the item charged to engineering, properly belongs to the labor department.

## RECAPITULATION.

Balance of cash 1st January, 1868.....		\$330,638 83
Received on account of Prospect Park..	\$854,666 62	
“ “ “ other City Parks	72,800 00	
“ “ “ Parade Ground.	13,449 00	940,915 62
		<u>\$1,271,554 45</u>
Expended on account of Prospect Park.	1,078,645 12	
“ “ “ other City Parks	92,263 08	
“ “ “ Parade Ground.	9,023 57	1,179,931 77
		<u>91,622 68</u>
Balance of cash, Dec. 31, 1861.....		\$1,271,554 45

## TOTAL EXPENDITURES OF THE BROOKLYN PARK COMMISSION.

	1865.	1866.	1867.	1868.	Total.
Prospect Park..	\$17,780 90	\$195,701 10	\$973,903 60	\$1,078,645 12	\$2,266,030 72
Washington “			1,851 86	73,835 09	75,686 95
Carrol “			1,810 56	16,716 98	18,527 54
City Hall “				1,343 03	1,343 03
City “			558 44	367 98	926 42
Parade Ground.			250 68	8,772 89	9,023 57
	<u>\$17,780 90</u>	<u>\$195,701 10</u>	<u>\$978,375 14</u>	<u>\$1,179,681 09</u>	<u>\$2,371,538 23</u>

JOHN N. TAYLOR.

*Comptroller.*

# AN ACT,

TO PROVIDE FOR THE IMPROVEMENT AND MAINTENANCE OF THE  
PUBLIC PARKS OF THE CITY OF BROOKLYN. PASSED MAY  
1ST, 1868.

*The People of the State of New York, represented in Senate and  
Assembly, do enact as follows :*

SECTION 1. The Commissioners of Prospect Park, in the City of Brooklyn, shall have full and exclusive power to lay out, regulate, improve and maintain, the Public Parks of the City of Brooklyn, and to govern, manage and direct the same, and the public use thereof; to make ordinances, rules and regulations for their proper management and government; to appoint such engineers, surveyors, clerks and other officers, and such police force as they may deem expedient, and to prescribe and define their respective duties and authority; to fix and regulate the compensation to be paid to the several persons so to be employed by them; to open, widen and grade the northerly side of Ninth Avenue, between Montgomery and Union street, and so much of Fifteenth street as was extended to meet the Coney Island Road, and laid down on the City Map, by an act entitled "An act to extend the boundaries of Prospect Park, in the City of Brooklyn," passed April 30th, 1866; to locate, erect and maintain fountains on the said Parks, or either of them, as well as upon the streets and avenues, which form the boundaries thereof, or intersect the same; to erect and maintain iron and other fences around the said Parks; to flag and reflag the sidewalks of said streets, roads or avenues, on the side which is adjacent to the said Parks; to increase the width thereof, and to set and reset curb and gutter stones, shade trees and lamp posts thereon; and to determine the particular location of any railroad track which is now or may be hereafter placed upon such road, street or avenue.

They may also in the name of the City, or of the said Board of Commissioners, at their option, bring any action which they may deem proper, to recover damages for the breach of any agreement,

express or implied, relating to or growing out of the management or improvement of the said Parks; for penalties for the violation of any ordinance; or for injuries to personal or real property appertaining to the said Parks; or to recover the possession of any such property.

The land taken (and set apart for a parade ground for the County of Kings), shall be the property of said County, as and for a Parade Ground; and shall be under the exclusive charge and management of the Commissioners of Prospect Park, in the City of Brooklyn, for the purposes of police and improvement as such parade ground.—*An Act to provide a Parade Ground for the County of Kings, passed April 27, 1866. Sec. 7.*

The several pieces and parcels of ground, parks and squares in the City of Brooklyn, and the sidewalks, fences and trees adjacent thereto and being between any part of the same hereinafter mentioned, shall hereafter be under the care, management and control of the Commissioners of Prospect Park, as fully and completely as Prospect Park is or may hereafter be under their control, care and management.—*An Act in relation to Parks in the City of Brooklyn, passed May 9th, 1867. Sec. 1.*

The Parks and Squares aforesaid, are Washington Park, City Park, City Hall Park and Carrol Park.—*Same Act. Sec. 2.*

The joint board of Aldermen and Supervisors of the City of Brooklyn shall annually cause to be levied and raised the requisite amount of moneys for carrying this act into effect and for the purposes thereof; and such money shall be promptly and regularly paid over to the said Park Commissioners for said purposes.—*Same Act. Sec. 5.*

The Brooklyn Park Commissioners are hereby authorized to seize and impound any cattle, sheep, swine, goats, horses, geese, or other animals found running at large upon any of the Public Parks in the City of Brooklyn; to impose a penalty of not exceeding five dollars, with reasonable expenses, upon each animal so seized; and to enforce payment thereof in such manner as they shall by ordinance direct.—*Act of May 6th, 1868.*

§ 2. Whenever the Board of Commissioners shall by resolution direct the streets or avenues specified in the preceeding section of this act to be opened or widened, they shall fix a district of assessment beyond which the assessment for such opening or widening shall not extend. They shall then apply to the Supreme Court, at

a special term thereof, to be held in the second judicial district, upon a notice to be published for ten days successively in the corporation newspapers, for the appointment of three Commissioners to estimate the expense thereof, and the amount of damages to be sustained by the owners of property, or other persons to be affected thereby, and to apportion and assess the same as hereinafter described, and the Court shall thereupon proceed to make such appointment.

§ 3. The Commissioners so to be appointed, shall, after having been duly sworn, proceed to estimate such expenses and damages; and after their report thereon shall have been confirmed by the said Court, they shall apportion and assess the same, upon the lands and premises benefitted by the said improvements within the district of assessment, to be fixed by the Park Commissioners, in the same manner as the Board of Assessors of the said city are by law directed to make similar assessments. And all laws now in force relative to the opening and widening of streets or avenues in the City of Brooklyn, subsequent to the appointment of Commissioners of estimate and the proceedings thereon, and the duties of the several persons to be employed therein, substituting the said Park Commissioners in place of the Common Council and Street Commissioner of said city, and substituting also the Commissioners of Estimate and Assessment in place of the Board of Assessors of the said city, and including the levy and collection of the assessments for such improvements and the lien thereof so far as they are not inconsistent with the provisions of this act, shall apply to and regulate all duties arising out of, or proceedings that may be had or taken under this act. But such proceedings shall continue to be under the direction of the said Park Commissioners, who shall act when required as the Common Council and Street Commissioner of said city would be required to act in relation thereto, and who shall employ an attorney and counsel and all such surveyors, clerks, appraisers, and other agents as may be required for the purpose of the said proceedings.

§ 4. The Commissioners of Prospect Park now in office shall continue to hold office for four years after the expiration of their present term of office, and until others are appointed in their places, and from and after the passage of this Act, the Mayor of Brooklyn shall be ex-officio a Commissioner of Prospect Park. They shall together constitute a Board of Commissioners to be hereafter known as "The Brooklyn Park Commissioners," a majority of whom, for the time being, shall constitute a quorum for the transaction of business. If any of the said Commissioners shall not re-

side in the City of Brooklyn, or shall neglect to attend the meetings of the Board, for three monthly meetings, consecutively, after having been duly notified of the time and place of meeting, his office shall be deemed to have been vacated; and after the present number of Commissioners shall for any reason have been reduced to eight, each succeeding vacancy shall be filled for the residue of the term then vacant, by a majority of the ballots of the remaining members of the Board; and upon such ballots it shall be no objection to a candidate that he has once been a member of the Board.

§ 5. The said Board shall, in the month of January, of every year, make and render to the Common Council of said City, a full report of their proceedings during the preceeding year, with a detailed statement of their receipts and expenditures. And all ordinances or rules which they shall at any time adopt for the regulation, use and management of the said Parks, shall immediately thereafter be published for at least ten days, in two daily newspapers printed in said City. No member of the said Board shall receive any compensation for his services; and it shall be a misdemeanor punishable by fine and imprisonment, for any Commissioner to be in any way, directly or indirectly, interested in any contract for services to be rendered, or materials to be furnished for or on account of the said Parks, or either of them.

None of the said Commissioners, nor any person, whether in the employ of said Commissioners or otherwise, shall have power to create any debt, obligation or liability, for or on account of the said Board, or the moneys or property under its control, except by the express authority of the Board, conferred at a meeting thereof, duly convened.—*Act of May 2d, 1861. Sec. 24.*

§ 6. For the purpose of providing the means of laying out, constructing and improving Prospect Park, the Mayor, Comptroller, and City Clerk of the said City, are hereby authorized and required to create and issue, at such times and in such amounts as the said Commissioners shall, by resolution direct, the Bonds of the said City, payable within fifty years from the date thereof, and bearing an interest not exceeding seven per cent. per annum, payable semi-annually. The Bonds so to be issued shall not exceed three millions of dollars in amount, including the Bonds already issued for such purposes; and shall be sold by or under the direction of the said Comptroller, at not less than par, either at public or private sale; and the moneys to arise therefrom shall be called the Brooklyn Park Improvement Fund. All Bonds heretofore issued for the improvement of Prospect Park, shall constitute a portion of the same Fund; and all the provisions of the Act passed May second,

eighteen hundred and sixty-one, entitled "An Act to lay out a public Park and Parade Ground for the City of Brooklyn, and to alter the Commissioners' Map of said City, passed April seventeenth, eighteen hundred and sixty-one," which relates to the redemption of Bonds, and payment of awards, and improvements, and the creation and management of a Sinking Fund applicable thereto, shall apply to and regulate all Bonds that may be issued for the purposes of the said Improvement Fund; and for the payment of all such Bonds, issued and to be issued, with the interest to accrue thereon, all lands within the boundaries of the said Park, are hereby specifically pledged.

§ 7. In case the said Commissioners shall at any time require money for immediate use, before it can be realized by a sale of Bonds, the said Comptroller, on the request of the said Commissioners, may pledge such Bonds for a temporary loan of money thereon. All money to be realized from sales or pledges of Bonds, shall be immediately deposited with the Treasurer of the said City, to the credit of the said Improvement Fund, and shall be held and used for the construction, improvement and maintenance of the said Park, and the adornment thereof. The said Board of Commissioners, through their President and Secretary, shall, from time to time, make drafts upon the said Comptroller for such amounts as may be required for the prosecution of the Park business, after the same shall have been authorized by the Board; each of such drafts shall specify the object for which it is drawn, and the Treasurer shall pay the same, on the order of the Comptroller, countersigned by the Mayor and City Clerk.

§ 8. In order to provide for the maintenance and general improvement of the said Parks, there shall be added to the general tax to be levied in said City, in each and every year, such sum of money, not exceeding one hundred thousand dollars, in any one year, as the said Board of Commissioners shall, from time to time, by resolution determine to be necessary for the proper maintenance, improvement and ornamentation of the said Parks. The Joint Board of Supervisors and Common Council of the City of Brooklyn, shall annually cause the amount so determined by the said Commissioners, to be raised and levied in like manner as other taxes are raised and levied in said City, and the same shall be promptly paid over to the said Park Commissioners for the purposes aforesaid.

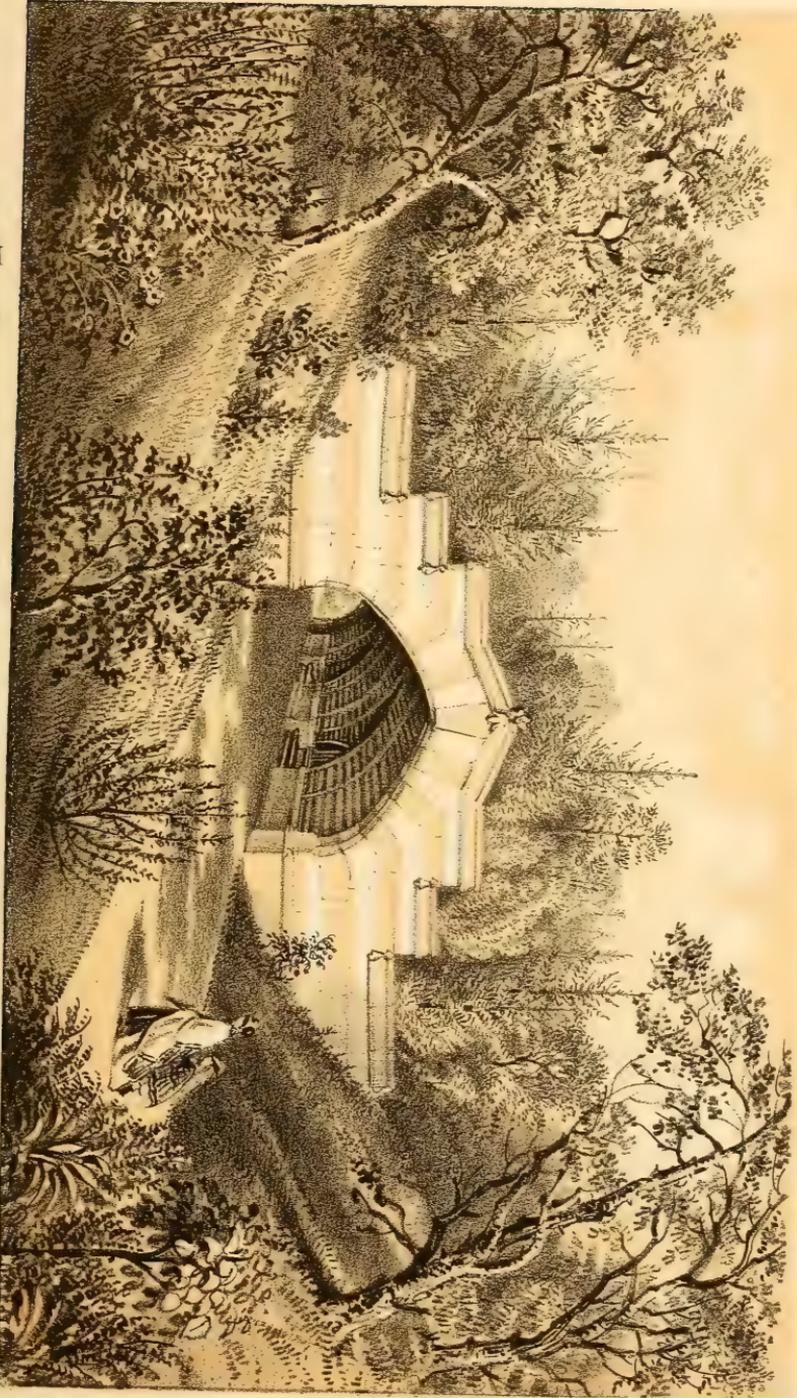
§ 9. Real or personal property may be granted, conveyed, devised or bequeathed to the said City, for the improvement or ornamentation of the said Parks, or either of them, or for the establishment or maintenance within their limits, of museums, zoological or

other gardens, collections of natural history, observatories or works of art, upon such terms and conditions as may be agreed upon by and between the grantors or donors thereof and the said Board of Commissioners. But all property so to be granted, conveyed, devised or bequeathed, and the rents, issues and profits thereof, must be subject to the management and control of the said Board, and may be improved and added to in its discretion, and shall be protected, preserved and arranged by the said Board, for public use and enjoyment, under such rules and regulations as the said Board shall from time to time prescribe. Admissions to said gardens and museums may be either free to the public, or upon the payment of such sums of money as the Board may determine; and all income to be derived from such admissions, shall be applied to the improvement and maintenance of such gardens and museums, or of the said Parks. The Board may also agree for the management or maintenance of any of the said gardens or other institutions, with any society, incorporated or to be incorporated, under any law of this State; but such gardens or other institutions shall always remain subject to the control of the said Park Commissioners.

§ 10. This Act shall take effect immediately.

ENDALE ARCH

Hayward, States & Kooli, 771 Fifth St. N.Y.





# BROOKLYN PARK COMMISSION.

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## REPORT

OF

## LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

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*To the Brooklyn Park Commission:*

GENTLEMEN:—We lay before you our customary Annual Report upon matters of Design, Construction and Superintendence.

### DESIGN.

No material modifications have been made in the primary study of the plan of the Park, during the past year, but in the elaboration of that part covering the district between Franklin Avenue and the water adjoining, the original lines have been somewhat changed, the drive and ride widened, and a return branch of the drive has been introduced on the west shore; the object of the whole variation being to give a more decided promenade character to this long southerly stretch of shore road, and to bring it into more close connection with the principal carriage concourse at the east end of the lake.

The removal of a large deposit of sand, needed in road construction, which was found just below the original surface near the middle of the Park, south of the old line of Third Street, has made it practicable to broaden the dale effects, originally designed to be secured in the vicinity, and to carry the east dale walk in a more direct course than was originally proposed—both results being very desirable.

As the city can not expect to secure due returns for its expenditures without employing every economical means of extending the influence of the Park by increasing its general accessibility, we feel compelled again to call attention to the

views which governed the selection of the one and those which led to the selection of the other were so different, that the first taken can not now be realized without a sacrifice of the advantages secured with the last.

We consider therefore that all plans for using the grounds north and south of the Reservoir as a garden or park must involve a weak and wasteful compromise and should be persistently resisted. That our meaning may be fully understood it may be desirable to recall the circumstances which have led to the acquisition by the city of the two bodies of land in question.

In the year 1858 a project was bruited about for establishing a series of public pleasure grounds in and about the city, each of which was intended to be located and laid out with reference to the accommodation, not of the population at large, but for the special benefit of that portion of the population which should live nearer to it than to either of the others.

To advance this project a Commission was formed by an act of the Legislature of 1859 which the following year reported a plan whereby the city would have had to maintain eight considerable public grounds. Three of these were to be of large size and were intended for the benefit respectively of the Eastern, Central and Southern districts of the city, while five others, more nearly of the class of Fort Greene, were designed still more especially for local resort. Of the larger grounds one was to be connected with each of the great city reservoirs, the third was to be at Bay Ridge.

Although the land recommended to be taken at one of these points was soon afterwards acquired by the city, no measures looking to construction were adopted, and the eight-park-scheme as it stood at the time this ground was selected, soon came to be considered an unwieldy and impracticable one, and in effect was abandoned.

Nothing more was done toward supplying the city with pleasure grounds until after a period of eight years from the origin of the first project.

In the meantime an experiment of the sort of local pleasure grounds which, on account of the expense involved, were alone practicable under this eight-park-scheme had been tried at Fort Greene and found to result in an injury rather than a benefit to property in the neighborhood, while New York had fairly established the superior advantages of a concentration of capital in the production of a comprehensive,

well equipped, and well kept park, adapted to draw together all classes of the community from every part of a great city. It had also begun to be realized that so long as Brooklyn offered nothing of the character of the New York park, it must expect to fall rapidly into the back-ground as a competitor in providing attractive sites for the residence of a large tax-paying class of citizens.

In the light of this experience, it had become generally evident in 1865, when our relations with your Commission commenced, that effective discussion centered upon a very different idea from that which had led to the acquisition of the two pieces of ground on Flatbush avenue.

Instead of a scheme for establishing several public grounds, each designed for the special benefit of a district, ward or locality, the pressing demand now was for one strikingly fine Park, adapted to be resorted to from all quarters, which would retrieve the prestige which had been lost to the city by the construction of the Central Park.

The duty of developing a practicable scheme for this purpose having fallen naturally, though not perhaps by distinct previous legal enactment, upon your Commission, an examination of the neighborhood within which lay the property under your control, showed that it occupied a position with reference to the distant parts of the city highly important to be considered in the solution of the new problem, although no weight had been attached to it in the original selection of the ground as a site for one of eight district pleasure grounds.

To understand its consequence, it needs to be remembered that the present City of Brooklyn has been mainly formed by the gradual filling up of the space between several original centres of settlement, and that within the last thirty-five years there have been several eras of speculation, during which large isolated estates have been divided for sale in lots, by which additional local street systems have been inaugurated. The present city therefore includes many quite distinct systems, laid out independently, and having no convenient relation one with another. In consequence of this fact few points in the city, and especially in the suburbs, are accessible from more than two sides by direct lines of communication over a mile in length. A certain locality, however, which adjoined, though it was not included within the property of the city in the Eighth and Ninth Wards, constituted what was practically a converging point on the city map of several systems of communication, as will appear by the accompanying diagram, and the following

table showing the distance from the several points named, to the locality in question respectively, by a straight line, and by streets already laid out :

	By Straight Line.	By Streets.
From South Seventh street, Eastern District,	2 40-100 miles.	2 50-100
From Hudson avenue, East River.....	2 10-100	“ 2 12-100
From Hamilton Avenue, East River.....	2 2-100	“ 2 3-100
From Greenwood Cemetery.....	1 31-100	“ 1 31-100
From the Hunter Fly Road, City Line.....	2 48-100	“ 2 48-100
From Flatbush Church.....	1 71-100	“ 1 78-100

The locality in question is an average distance of two miles in a straight line from the several points named ; and it will be seen that by existing streets the deviation is so slight that it would make no appreciable difference in an ordinary carriage drive.

Under these circumstances it was thought advisable first of all to take measures to secure possession to the city of so much ground as was necessary to be controlled in order to turn this advantage of the locality to proper account. This having been done by the acquisition of the site of what is now called the Plaza, there could be no question that any park intended to be formed in the vicinity for the use of the people of all parts of the city should, if possible, be so located as not in the least to neutralize this advantage. If placed entirely within the two converging lines of Flatbush and Ninth Avenues, no street leading toward the locality would be in the least interfered with, while, with hardly any change of the lines as they then stood on the city map, twelve streets and avenues would open on a spacious public place laid out in front of the natural entrance to the park on the city side.

It happened also that by pushing out a little into the country within these two converging lines, there was found what was most wanted in order to secure a suitable proportion and good general relation one to another of the several chief topographical elements of park scenery, in hill and dale, meadow, wood and water. It moreover became evident that even if it had been found really desirable on account of greater convenience of access, these topographical desiderata could not have been nearly as well secured in any other direction. Accordingly, in forming the new plan for a park, it was assumed, that a certain piece of land on Ninth avenue, and another on Franklin avenue, both within the before-mentioned converging lines, would be added to that already in possession, and that a certain other piece of land which had

been secured entirely with reference to the abandoned local-pleasure-ground scheme, and which was wholly undesirable to be regarded in the new plan, would be disposed of in such a way as would most benefit the city.

The object in view in the whole arrangement being simply to secure the best park possible under the circumstances, and at the same time to guard in every way against the unnecessary obstruction of important lines of communication through the city, it was evident that the *acquisition* of the ground on Ninth and Franklin Avenues and the *abandonment* of a large part of the ground on the east side of Flatbush avenue, were alike logical and essential measures for the accomplishment of this end.

It was, however thought necessary to reserve so much of the ground on the east side of Flatbush avenue as was required to prevent the erection of private dwellings within two hundred and fifty feet of the basin of the Reservoir, together with ample sites for any public institutions which it might be desirable in the future to place in the vicinity of the Park, care being taken that the latter should not stand in the way of the most convenient possible street arrangements. The ground around the Reservoir was designed to be laid out as a public garden; not because it was wanted as an appendage to the Park, but because it was a convenient way to protect the Reservoir from a too close apparent proximity to possible private constructions which might suggest to visitors the possibility of a pollution of its contents. By a foot bridge over Flatbush Avenue, however, the garden was planned to serve the purpose of a pleasant approach to the Park from Washington Avenue. All this could be done without encroaching upon any desirable lines of street communication.

It will be observed that the advantages of the plan, as thus set forth, are mainly found in conditions, the value of which will be palpable to all, upon an examination of maps. The superior landscape capabilities which we have claimed for the ground west of Flatbush Avenue, may, however, be considered a matter of opinion. We shall therefore attempt to briefly indicate a few of the main particulars in which the Park, as now designed, appears to us to possess advantages in the promise of scenery appropriate to its purpose, over any that would be available in a park planned to be situated either wholly or in part on the east side of the avenue.

From many points of the drives, rides and walks, the eye will range

over a meadow-like expanse, wherein the first definite obstruction or break in the turfy surface will be at least half a mile away, sometimes considerably more than that, and in which tree tops will be seen in rising perspective, fully a mile away. These views will not offer merely peeps, but will comprehend quite broad and well-balanced pastoral landscapes, free from any object which will suggest the vicinity of the city, from which it is the primary purpose of the Park to give the means of a ready escape. Views will be had over water surface of equal breadth and distance. The visitor will feel the sense of freedom and repose suggested by scenes of this character, and be impressed by their breadth of light and shadow, all the more because they will be enjoyed in alternation and contrast with the obscurity of the thick woods already established, through the seclusion which he will be occasionally led. There is hardly a rood of ground in the Park, which besides serving its own local purpose, will not contribute to general landscape effects, so that every part, whatever its special value, will be associated in such manner with other parts as from some points of view to seem designed to be auxiliary to them, and from others to be supported by them.

We are unable to see how the ground on the east side of Flatbush Avenue could be laid out in such a way as to obtain these almost invaluable conditions for a great town park, in anything like a similar degree. Nor do we see how it would be possible to secure any distinct unity or valuable landscape relationship between the Park and the land in question. The sunken traffic roads in the Central Park are sometimes referred to as offering a parallel to the division formed by Flatbush Avenue, but for the greater portion of its length along the line in question Flatbush Avenue is a causeway, and constitutes a barrier thirty feet high to all views between one piece of ground and the other. Elsewhere, for a short distance, it is true that it lies below the level of the adjoining ground, but it occupies a space one hundred feet wide, and divides a hill. The sunken roads in the Central Park, where the eye ranges over them, are little more than a third of the width, and were laid out with the utmost care to avoid any perceptible break of the surface of the ground where it would be visible to visitors. Where they cross a line of view, it is usually at a distance of more than a quarter of a mile from the observer. There is, on the other hand, no point more than a hundred yards distant from Flatbush Avenue where the eye could range across both the sites in question.

The pieces of ground on the north and south side of the Reservoir must be regarded as practically distinct from one another, as well as

from the ground on the opposite side of the avenue, and if to be improved as proposed, could hardly be treated in any other than in a comparatively small house-garden-like way.

It has been thought that the distant prospect over the city to the harbor from the grounds on the east side of Flatbush Avenue, was a point of superiority; that part of it, however, which is proposed to be retained within the Reservoir garden commands this view much better than any other, so that this advantage is under any circumstances intended to be secured to the city. In no other part of the ground, in fact, is the distant view a consideration of any consequence, because from no other part of the ground can the control of it be long retained. As soon as the ground east of Flatbush Avenue, now being graded for building, shall have been occupied, the present view will be quite cut off. The distant outlooks from points now included in the Park by the extension of the boundaries on the west side of Flatbush Avenue are not only in our estimation far more valuable and suggestive as accessories of the Park, but they are not in a position ever to be cut off, or even seriously injured by the inevitable march of city improvement.

It has been proposed that the ground east of the Plaza, if not thought desirable to be incorporated in the Park, should be laid out as a parade ground, or as an Arboretum, or as a Botanic garden, or as a Zoological garden, but the site possesses no evident natural fitness for either one of these purposes. Even if it so happened that it offered some advantages for either, and it should be thought best to associate such a ground with the Park, a site should clearly be preferred which promised incidental benefit to the Park scenery, which this would not. To show how such sites might be selected, we may refer to any of the special districts which are not, strictly speaking, territorially a part of the public park as now planned, but which, nevertheless, besides serving a special purpose, constitute a real addition to its attractions.

The ground assigned for a childrens' garden is, for instance, so placed that no visitor will enter it except by special intention. Yet, following the main park drive or walk on the East side, every visitor in approaching its border will, almost immediately after passing the entrance, be made to feel that he has plenty of room, all at once, on both sides of him. The trees on the opposite border of the childrens' ground being so placed as to shut out all inharmonious exterior objects, and yet so that no distinct limit to the rural country on the left will be discernable.

Again, the enclosure set off for the pasturage of deer is so arranged that while the visitor cannot enter it, he will not notice any artificial obstruction. It will appear a bright, sunny little meadow, with sparkling water, lost in the distance under trees, and this will come at a turn of the road between two stretches which will be all in shadow, and where the view will have been for a time closely confined by dense underwood.

Again, the Kings County Parade Ground, while entirely outside the Park boundary, is so placed that it serves a very important, and, indeed, almost invaluable landscape purpose when seen from the high grounds within the Park; and so of every other special ground which is now intended to be connected with it.

There is no object to be accomplished by appropriating the ground in question to any form of garden, which would not be much better served by establishing it in some other part of the city, where it would incidentally give the advantage of an airing ground to persons living at too great a distance from the Park, to habitually resort to it with ease and frequency. The residents of the Ninth and Twentieth Wards can hardly claim to be in this condition, and the supposition is a mistaken one that they would experience any serious additional difficulty in reaching a pleasure ground, if the site which the Commission proposes to discard is laid out with a view to an improvement of the general approaches to the Park, instead of to any purpose which would involve its enclosure. The additional distance to be traveled over from all the house lots in the Ninth Ward to the entrances of the present Park and to those which were planned under the old scheme, east of Flatbush Avenue, will be crossed by a carriage driven at the rate of six miles an hour, in seventy-five seconds. The difference to those approaching on foot, considering the Reservoir grounds as a part of the Park, will be less than that. From all the house lots of the Twentieth Ward the present Park will, on an average, be entered sooner than the Park as formerly planned, east of Flatbush Avenue, could have been.

The principal reasons which have led to the preference of other ground for the Park over that east of the Plaza have now been given, and we may add in a few words the reason for the arrangement recommended for the laying out of the discarded ground. As the street lines had been originally established, those on the east side appeared to approach the Park less advantageously than those on the west. In the plans

which we have from time to time submitted for your consideration, our main object has been to counteract this apparent misfortune of the east side.

No one who has examined the plan before the Board can have failed to recognize, we think, that under it an approach to the Park through either of the confluent of the Plaza is calculated to produce a decided effect of dignity, stateliness and *fitness of position*. An expenditure of millions could not be made to give the same especial advantage to the New York park. According to our plans there are six approaches of this character opening upon the Plaza from the West, and six from the East, which is a fair and equitable arrangement, as well as an artistically complete and well-balanced one; but if the ground North of the Reservoir should be appropriated to a garden, it is evident that while the six approaches on the West side would remain intact there would be but two on the East side, neither of which would lead fairly toward the Eastern part of the city.

We have considered it an object to secure not only fine approaches but to so arrange the vacant ground in the immediate vicinity of this principal entrance that, after a few years, strangers visiting the Park would be sure to receive a vivid impression of the Metropolitan advantages offered by Brooklyn as a place of residence. For this purpose the ground belonging to the city, and undesirable to be included in the Park, is proposed to be laid out in such a way that it can be disposed of in lots of unusual size, and otherwise well adapted for urban residences of the very finest character. Such an impression produced at one point, would undoubtedly have a favorable influence upon all the neighborhood, and upon the reputation of the whole city.

We argued the advantages of this general element, in the motive of our design at length, in our Annual Report of last year, and only refer to the subject now that it may be better seen why we attach importance to an arrangement which tends to bring all strangers to the Park in such a way as to establish the strongest favorable impression upon their minds, rather than by such indirect or subordinate and comparatively insignificant approaches as would be necessary on the East side, if our plans in this respect should be overruled.

From all that we have said, we trust it will be seen that the design as it now stands, is intended to develop the previous natural and accidental advantages of the site of the Plaza, as a centre, or radiating and converging point, of a great residence quarter of the Metropolis, and

that this design, to which a large expenditure has already been directed, is impossible to be reconciled with the closing of the streets on the East side of it by a public garden.

#### CONSTRUCTION AND SUPERINTENDENCE.

Statements in detail are appended, made up from their respective records by the engineer in charge and his principal assistants, which show the constructive character and extent of the works which have been carried on during the year, together with statistics of the force employed, organization, discipline, supplies and public resort.

We shall briefly call your attention to the more significant facts in these respects of the year's history of the Park.

A winter of extraordinary, if not of unprecedented severity, was followed by a season equally remarkable for the frequency with which storms occurred, and the amount of rain which fell. During several months, work was almost daily interrupted, or prosecuted under difficulties, and a great deal of labor was expended in opening channels and repairing damages upon ground under construction. These conditions were also unfavorable to the public use of the Park.

The Park has nevertheless served the ends for which it was designed to an extent which could hardly have been expected in the existing stage of its construction, and upon which the Commission is to be congratulated, those resorting to it for health and pleasure often numbering, on fine days, twenty to thirty thousand, and sometimes forty to fifty thousand. The influence of the Park is perceptible in the rapidly increasing number of horses and carriages kept for pleasure driving and riding in the city, and in the number of men who have adopted the practice of taking a daily drive or ride with their families. It is observed that these often bring guests with them, and it is evident that the Park is already regarded with some degree of pride, though this must be for the most part rather in what it promises than in what it is.

The real economy of the large expenditure which the city is making on the Park will eventually be tested chiefly by the degree in which it shall have come to be regarded as a convenient adjunct of the household property of all the citizens, and in which its advantages for the preservation and restoration of health shall be familiarly recognized

and set down on the credit of family accounts. A satisfactory indication of what may be expected in the future, was therefore afforded by the frequency with which in the latter part of the summer it was to be observed that families had come to the Park, not merely for a drive or stroll, but to pass some hours, or a full holiday, or half holiday, refreshments, and sometimes musical instruments being brought with them. Women often came alone, or with their little ones, to stay for some hours, bringing their needle-work; and a number of invalids, aged people and convalescents were to be seen every fine day enjoying the air and the quiet which they found in the groves of the Park.

Numerous schools and bodies of children connected with charitable establishments, also spent a day or half day on the Park during the summer, some returning several times, teachers, parents and friends coming with them. When these parties were large, special ground was assigned them, and they were protected from disagreeable intrusion. Swings, scups, seats, tables and fresh water were supplied to all without charge, as was the use of dressing and retiring rooms, with proper attendance. An arrangement was also made by which ice, ice-cream, biscuit, and lemonade could be provided on the ground, at fixed moderate charges. Seventy-five considerable excursion or pic-nic parties were reported by the keepers to have received their special attention.

As the part of the Park best adapted to this class of visits has not yet been improved, and its advantages are known to comparatively few, and as a much larger number of suitable places will eventually be available for the purpose, it may be expected that the number of holiday parties will increase, and ultimately form a very agreeable and interesting feature of the Park. No artist could imagine prettier or happier groups than were to be frequently seen among the trunks of the East and West woods on nearly every fine day last summer.

The complete absence of a disposition to disorderly or unbecoming conduct, and the general good nature, civility, and decorum which prevailed, was also most encouraging.

Although the acquisition of the Western district of the ground required for the Park was last winter authorized by the Legislature, it has not yet come into the possession of the Commission; the lack of this territory has therefore continued to embarrass operations throughout the year, and active work has of necessity been confined mainly

to the Eastern side of the Park. A full statement of the progress made will be found in the Reports subjoined.

It will be observed that the East drive has been completed; also, most of the bridle road on the east side, and three miles of walk. The Northern arm of the Lake is complete, including about twelve acres of water surface, and a large part of the remainder has been excavated. Breeze Hill concourse is finished. So much of the Parade Ground as will be used for parades, has been finished and enclosed by a strong paling. The turf is well established, and was used with satisfaction in several regimental and brigade parades during the summer. A number of structures of masonry and substantial rustic work have been completed, and others are well advanced. The development in detail of this department of the work has been for the most part under the charge of Mr. E. C. Miller, who was fulfilling the duties of Assistant Architect at the date of our last Report, and whose appointment to the position was subsequently confirmed by your Board. Seventy acres of open ground have been laid down to turf, and thirty acres of wood and coppice land finished. The great well has been sunk nearly to the depth of permanent water flow, and an account of this work is furnished by Mr. Martin, who prepared the plans in accordance with which it has been executed. Fair progress has been made in planting and improving the original growth of the Park. The Commission has been fortunate in obtaining a considerable number of trees originally planted in private grounds, of much larger size than can be had from nurseries. Of these, several of fine character, were presented by Mr. S. R. Trowbridge. For the removal of trees of this class, two machines have been invented and constructed on the Park, and it is desirable that it should be generally known that the Commission is prepared to transplant to the Park any thrifty low-branched tree, the weight of which with its ball of roots will not exceed fifteen tons. There are many such in private grounds, which, as they stand, serve no good purpose, and others which must necessarily fall if not soon removed, to make way for new streets or buildings. The public is indebted to Mr. M. S. Beach for a present of six hundred shrubs taken from his country place on the Hudson, and to Commissioner Husted for some fine trees for the replanting of Fort Greene.

The plan of managing the keeper's force and the gardening workmen in such a way that each would at times help the other, has been gradually coming under trial, and with the advantage of a most discreet and assiduous oversight on the part of the Park Inspector and his assistants, seems to be working well. All the regular daily work

required to keep in tidy order the walks, steps, seats, shelters, arches, bridges and other constructions with which visitors have to come directly in contact, is now done by the keeper's force early in the morning, before visitors ordinarily require their attention, while any insufficiency in the number of keepers arising from illness or from unexpected demands upon them, is at once made good by drafts from the gardening hands. Both wings of this organization are advancing satisfactorily in a proper understanding of the duties that will be required of them, and in efficiency.

In pruning the old forest trees an extension ladder, invented for the purpose by our general foreman of gardening work, has been found of much value.

We have to lament the death of Mr. G. D. McMillan, who until the middle of the last planting season, had been charged especially with the detail of arrangement and the planting of the greater part of the shrubbery of the Park. He was a faithful and zealous public servant, an intelligent and tasteful gardener, and a man of estimable character.

The re-grading of Fort Greene is essentially complete, and about two-thirds of the new ground has been finished and planted, in accordance with the design approved by the Board. The portion of the ground intended as a place for public meeting was some time since completely graded, and the greater part of it paved. It has been in use for several months as a drill ground, and will be available for all its designed purposes early next summer. One mile of the walks of the interior pleasure ground has been graded, one half of which has been completely laid with the Scrimshaw patent pavement, with gratings and other suitable arrangements for efficient drainage.

The plan of Carrol Park as it originally existed, has been revised, the length of walk being considerably reduced, the width increased, and other changes made. The walks have been laid with the Fiske patent pavement on a new plan, slightly dishing to the centre, so as to avoid the necessity of side gutters. The plan is found to work well, giving practically an increased accommodation, and causing apparently no perceptible greater inconvenience. An open area in which children can play without interrupting communication on the walks, has been formed at one end, and in this paved space fixed swings and see-saws were set up just before the close of the season. Two small houses for the accommodation of visitors, with refreshment

stands, tool closets and water closets, have been erected. A decorated flagstaff has also been lately set up.

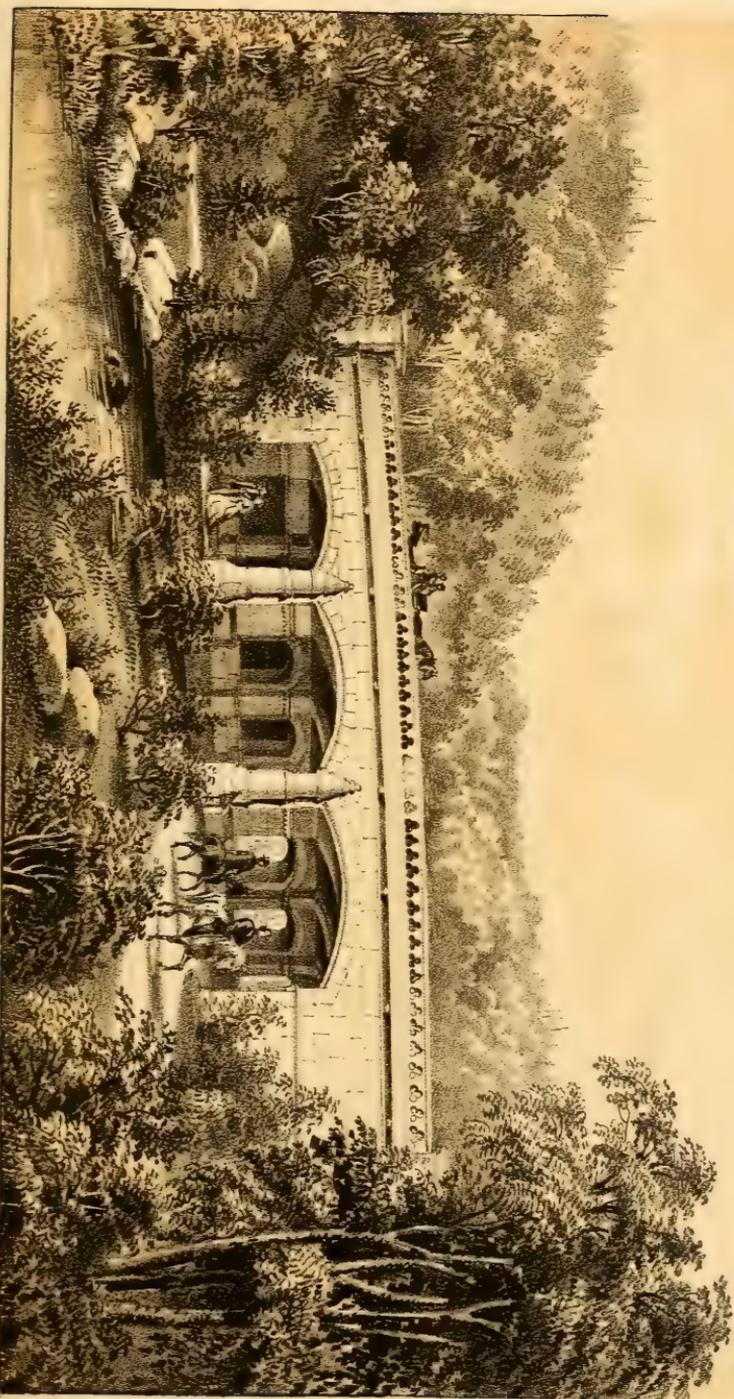
None of these improvements were completed until the end of the season, but the effect in increasing the value of the Park to the public was evident during all the latter part of the summer and autumn in an attendance fully twice as large as was observed the previous year.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects and Superintendents.

BROOKLYN, January 1, 1869.



NETHERWEAD ARCHES.

Hayward, Stattee & Koch, 171 Pearl St.



# R E P O R T

OF

C. C. MARTIN, ENGINEER-IN-CHARGE.

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PARK COMMISSION, CITY OF BROOKLYN,

ENGINEER'S OFFICE, January 1st, 1869.

MESSRS. OLNSTED, VAUX & Co.,

*Landscape Architects and Superintendents.*

GENTLEMEN :

During the past year the paving of the interior portion of the Plaza with Belgian blocks has been completed. The interior curbing has all been set, and the corners properly placed. The foundations, steps, and brick paving for the flagstaff areas have been completed. The sewer, water, and gas pipe were laid before the paving was done. The railroad track of the Flatbush Avenue line has been laid around the side of the fountain with curves of two hundred feet radius as designed, but it was found impossible, with the ordinary construction of road, to keep the cars upon the track without elevating the outer rails on the curves, and this having been done, seriously interferes with the symmetry and harmony of the general grade of the Plaza. This can only be rectified when the increase of traffic becomes sufficient to warrant the Railroad Company in making some improvement in the construction of the cars to meet the serious difficulties that unavoidably occur at this important point. At Manchester a central guide wheel has been successfully used for several years, and this, or some similar arrangement should, as soon as practicable, be experimented with on the Plaza cars.

## ROADS.

The Park roads made during the season do not differ materially in construction from those described in my last Report; the principal portion however having the Rubble foundation. The Rubble foundation is much cheaper than the Telford; and so far as observations have been made upon the Park roads during the year, there are no indications in favor of the Telford. This result might not hold for traffic roads, but for light driving on a park it is undoubtedly true.

That portion of Franklin Avenue which bounds the Park on the south, and divides it from the Kings County Parade Ground has been remodeled and improved. Special effort has been made to secure economy of construction, with the expectation of a reasonably good and durable roadway. The width of the Avenue is now one hundred feet, fifty feet of which is devoted to sidewalk—(thirty feet on the Park side and twenty feet on the Parade Ground side)—and fifty feet to roadway.

The excavation was made to a depth of fifteen inches below the finished grade, over the entire roadway, and this depth was filled with a coarse material, from our Lake excavation, which was composed entirely of sand, gravel and stones varying in size from the finest sand to stone of from six to eight inches in diameter. In making the fill, care was taken to rake forward the stones and coarse gravel into the bottom, thus leaving a surface of a firmer although porous material. Upon the surface thus prepared a layer of about one-fourth of an inch of loam was placed, and the whole thoroughly rolled with rollers varying from three to seven tons in weight. The result is a drive not equal to the Park drives in many respects, but still a very great improvement upon the ordinary roads of the country. The curb and gutter is like that generally used in the city, and is carefully laid, and the road for a distance of five feet from either gutter is paved with cobble stones.

No experiments with new kind of roads have been made during the season. The sample laid by the Scrimshaw Patent Concrete Company in October, 1867, has been in constant use since, and in addition to the ordinary Park driving it has been subjected to the wear incident to the transportation over it of several thousand yards of material, in carts and wagons. It has constantly improved under this treatment, and is at the present time in good condition. The sample laid by the Fiske Pavement and Flagging Company has not answered so good a

purpose, the surface having to some extent disintegrated and worn away. The circumstances under which this was tried were, however, very unfavorable to the pavement, as it was put into use within an hour after it was laid, (at the time of opening the first Park drives), and it should have had time to become hard before being used. I think it would be well to try experiments with any style of roads that promises to be an improvement upon gravel roads. Perhaps nothing better than a gravel road, when in good condition, could be desired, but a kind of road surface which will reduce the cost of maintainance certainly is desirable. The expense of maintaining gravel roads is very great. The gravel disintegrates under the action of horses feet and carriage wheels, and if the roads are not constantly and thoroughly watered, this disintegrated material is blown away as dust during the summer. If not blown away, at every heavy rain a large proportion of it is washed from the road into the silt basins. This not only entails the loss of that amount of valuable material, but necessitates the renewal of the road surface, and this in turn requires excessive watering and expensive rolling, and incidentally the expensive cleaning of silt basins and sewers, follow from the use of destructable road surface.

Two improvements in the case of roads have been tried elsewhere with marked success. One is the use of chloride of lime and the chloride of sodium, neither of which are expensive, in the water used for sprinkling the roads. These unite with the fine material of the road surface, and by cementing them together, prevent both dust and the wash before mentioned. The other is in the use of steam rollers, in place of those drawn by horses. A steam roller can be made much heavier, can travel much more rapidly, and will do a much greater amount of work, at a greatly reduced cost. The rolling upon drives in use could be done at night, when there was no driving, and upon new roads at any time.

#### ARCHWAYS AND BRIDGES.

Both of the arches mentioned in the last Report have been completed, with the exception of the wooden lining of that arch near the main entrance to the Park, and this is nearly finished.

The foundations for the Meadowport arch have been laid during the season, and the abutment walls carried up to the springing line. The excavations for the foundations developed a stiff clay soil. The foundation was prepared by laying oak timbers, twelve inches thick,

about twelve inches apart, and filling the spaces between them with concrete; upon this foundation the heavy stones of the abutments were laid. The superstructure of this archway is to be of Ohio stone, and of brick.

About the same progress has been made with the Nethemead arches. The material upon which the piers rest is a sharp, clean sand. Concrete one foot in depth was laid, upon which the walls were built; when these had been carried up about three feet, a heavy storm filled the pit in which the foundations were, with water to a depth of eleven feet. There being no outlet, the water filtered away between and around the piers and abutments in a few hours, but the stability of the masonry was not in the least disturbed thereby.

The waterway under this bridge is paved with flagging covered with one foot of concrete, to protect the foundations from any possibility of being undermined in times of excessive storms, or of accidents to the pools, which will be located above it. The superstructure is to be of granite, and Ohio stone facings, with a brick arch.

#### RETAINING WALLS.

The retaining walls at the south end of Breeze Hill, which sustain the walks passing between the abutments of the bridge and the lake, have been built. They are of uncoursed Rubble masonry. The width of waterway between these walls is forty feet, and the water alongside the walls is to be one foot in depth, when the water in the lake is at winter level, and four when at summer level. The top of the wall is to be three feet above the summer level of the lake.

#### LULLWOOD BRIDGE.

This bridge carries the main walk over the Lullwater, and is to have a clear span of about thirty feet, with two side spans of thirteen feet each. The height from the surface of the water at summer level to the under side of the bridge will be seven feet, to permit the free passage of boats in summer, and skaters in winter. The foundations for the piers and abutments have been laid, and the walls completed with the exception of the capstones.

#### DAIRY HOUSE.

A stone dairy house has been commenced, and the walls carried up

ready for the plates and roof. The outer walls are of broken Ashlar masonry, formed of small sized stones obtained by breaking boulders found on the Park. The trimmings are of mountain Graywacke and Ohio stone. The interior walls are of brick, and are finished.

#### WALKS.

The greater portion of the walks made during the year have been surfaced with pine tar concrete, laid under a contract with the Fiske Patent Pavement Flagging Company. The cost for preparing the substructure for the tar walks has been materially reduced this season, as the concrete was laid upon the natural soil, wherever it was of tolerably porous material. In sections where a clayey or retentive material was found, this was removed to a depth of six inches and replaced with gravel or sand. All of the tar walks laid last year have proved satisfactory in all respects. They have not been injuriously effected either by heat or cold, and the expense of maintainance has been very slight, for the surfaces have not required renewal, rolling, or sprinkling. The heaviest rains have not damaged them in the slightest degree.

The surface water as it flows from these walks into the silt basins, carries no sediment with it, and this incidentally produces a great saving of expense in the care of silt basins and sewerage systems, as so much less material has to be removed from them. The walks made last year which were surfaced with fine screenings from the McAdam stone, did not prove satisfactory, as the smaller particles washed away, leaving the larger and angular fragments on the surface, and these were unpleasant to walk upon. The gravel walks laid this season were surfaced with Roa Hook gravel; in all other respects they were made like the stone dust walks of last year.

#### THE LAKE.

Work upon the Lake has been vigorously prosecuted during the season, and all of the portion above the great concourse, comprising more than twelve acres of water surface, has been completed. The bottom of the Lake, over almost the entire area excavated, is composed of coarse sand or gravel, than which nothing could be more unsuitable for retaining water. The drainings from the Park surface nearly all tend towards the Lake, and at times, during the progress of the excavation, the water from heavy storms accumulated to a depth of from one to two feet, but owing to the exceeding porous nature of the bot-

tom, the entire quantity filtered away in a few hours. There being no natural supply of water on the Park except surface drainage, it became a matter of vital importance to make an artificial bottom to the Lake, which should be as nearly impervious to water as possible. This was done as follows: the excavation was carried to a depth of one foot below the final bottom of the Lake, and a layer six inches in thickness of stiff clayey loam was laid on evenly, and carted over and otherwise worked, without special care; upon this was laid six inches of blue clay of very fair quality, as it was found in the pit, without other mixture with sand or gravel. This layer of clay was thoroughly wet and carefully cut and worked over with shovels, care being taken to have the water and working reach the lower layer of clayey loam. The puddling on the slopes of the Lake was protected from the action of the sun during the progress of the work, by a layer of gravel and stone three inches thick. These will also protect the slopes from the action of the waves in summer. The slopes of the main Lake are made with an inclination of one foot vertical to five feet horizontal. The puddling on the bottom of the Lake was covered with water as it was laid, and thus protected from injury by the sun.

The clayey loam which was used for the lower layer of the puddle was found in great abundance, over nearly the entire area to be occupied by the Lake, just beneath the surface soil. The blue clay used was found in the Hart range, and is a remarkable deposit. A search was made by borings on all portions of the Park where clay was likely to be found, and at this point it was discovered about three feet below the surface. This covering was removed, and the excavation of the clay carried to a depth of twenty-three feet before the bottom of the deposit was reached. Immediately below the clay is a mass of boulders, which rest upon a bed of sand. Over seven thousand yards of clay have been taken from this deposit, and the indications are that a large quantity still remains.

A temporary dam, with proper weirs, was constructed at the lower end of the completed Lake, and the drainage waters of the Park, from the fall rains, soon filled the Lake to a depth of three feet. From careful daily observations of the water level it has been ascertained that the leakage is so slight as to indicate that the method of puddling adopted is entirely successful.

Two of the Hart Beck pools have been completed, with proper masonry dams, which are covered with rock work. The puddling of

these pools consists of but six inches of clay, as the bottoms were of a clayey character. The slopes of the pools are generally three feet horizontal to one foot vertical.

#### AGRICULTURAL DRAINAGE.

But little Agricultural drainage has been laid during the season. That laid last year has, almost without exception, proved very efficacious, and is generally in good working order.

#### WATER SUPPLIES.

The water distribution system has been extended by continuing the six inch main around the Lake toward Franklin Avenue, and the twelve inch main in the direction of Fifteenth street. The patent cement pipe is still used, and that which was laid last year is in good condition, and requires no repairs.

It is proposed to obtain a supply of water for the Park use, or at least a partial supply, from a well. This well has been located on the south side of Lookout Hill, near the Lake, and work was commenced upon it late in the season. It is to be fifty feet inside diameter at the bottom, and forty-five at the top. The walls are to be of brick, two feet thick and bound together vertically by bolts extending from the bottom to the top, at distances of about four feet apart, measured on the circumference of the circle. After a careful consideration of various methods for sinking the well, it was decided to build the wall, and then to excavate the material from within, trusting to the weight of the wall to force it down. Sixteen feet in height of the wall was laid securely bolted together, before the excavation was commenced. A derrick with a boom fifty-five in length was set up near the well, so that the sweep of the boom commanded the interior of it. Iron buckets containing fourteen cubic feet each were obtained, and a six-horse power hoisting engine purchased. With these appliances the excavation was commenced, and carried on with slight interruption until the work was suspended on account of the frost.

No difficulty was experienced in the lowering of the wall. All that was necessary was to excavate the material from beneath it, and it was carried down by its own weight. Great care was necessary in lowering to keep the excavation under the walls at the same level, so that the wall should settle uniformly. The wall was lowered forty-one feet before the work was suspended, and upon excavating in the center ten

feet deeper, water was reached, at an elevation of fourteen feet above tide level, and fifty-one feet from the surface of the ground. Mr. L. Y. Schermerhorn, Division Engineer, gave the work his careful attention, and to his good judgment and intelligent supervision the success of the work, thus far, is in a great measure due.

#### SKATING.

As before stated, the Lake was partially filled with water in November. Early in December, much earlier than usual, ice formed, and up to the present time has been in good condition for skating. The Union Pond Patent Ice Planers have been used for planing the ice, and so far as my observation extends, these planers, with the accompanying snow cleaners, are the most efficient implements for the care of ice that have as yet been invented. Cuttings of any required depth can be taken, limited only by the propelling power, and the surface is left nearly as smooth as new frozen ice.

A temporary skating house has been erected one hundred and sixty-eight feet long, and twenty-eight feet wide, with a platform in front sixteen feet wide. This was placed over the water, and is supported by stone piers.

#### FORT GREENE.

The improvement of this Park having been authorized, work was commenced in June, and was prosecuted with considerable energy until it was suspended on account of frost. The following items are the most important so far executed. The Gant has been graded and paved with coal tar concrete. The Artillery Road has been graded and paved nearly its entire length, and since both of these are liable to be used for horses, the paving was made four inches in thickness. The walks were paved with the same material, but like those on Prospect Park, the material was laid only three inches thick. These walks are made without side gutters. The depression is in the middle, and the silt basins and gratings are also in the middle. The shaping of the grounds and the re-arrangement of the trees has progressed as rapidly as possible, with the force employed. The work has been under the immediate charge of Mr. T. P. Kinsley, Division Engineer, who, with his corps of able assistants, have performed their duties in a very creditable manner.

Mr. F. Mollard has been General Superintendent of labor, and has evinced good executive qualities.

I am happy to be able to state that the same interest in the work, which existed last year, still continues undiminished, and the same harmony of action throughout the Park organization remains unbroken.

Messrs. Culyer and Bogart still continue to be the same competent and efficient aids as heretofore, and leave nothing to be desired in the management of their respective departments.

Mr. John McGuire, as General Foreman of the Labor Department, has discharged the duties of his responsible position with great credit to himself, and to my entire satisfaction.

C. C. MARTIN,

Engineer-in-Charge.





DESIGN FOR  
**PROSPECT PARK**  
IN  
**THE CITY OF BROOKLYN**

OLMSTED, VAUX & CO.  
LANDSCAPE ARCHITECTS, 110 BROADWAY, N.Y.

1859.



SCALE OF FEET  
0 100 200 300 400 500 600 700 800 900 1000

Harvard Maps & Plans, 1211 and 1212 Pine St.

# R E P O R T

OF

JOHN BOGERT,

ASSISTANT ENGINEER IN CHARGE.

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PARK COMMISSION, CITY OF BROOKLYN,

ENGINEER'S OFFICE, January 1st, 1869.

C. C. MARTIN, Esq.,

Engineer in Charge.

SIR:

I submit herewith the following tables, showing the amount of work done upon the Park during the past year, and also the total amount done up to January 1st, 1869.

## DRIVES.

Drives finished, 125 feet wide, (Plaza).....	2,167	lineal feet
“ 60 “ (Park).....	379	“
“ 50 “ “ .....	1,657	“
“ 46 “ “ .....	1,100	“
“ 40 “ “ .....	6,425	“
“ 30 “ “ .....	1,500	“
“ 23 “ “ .....	1,550	“
“ 50 “ Franklin Avenue.....,	1,860	“
Total length of drive finished.....	16,638	“

or 3 15-100 miles.

Drives in progress 60 feet wide.....	75	lineal feet
“ 50 “ .....	200	“
“ 46 “ .....	1,400	“
“ 40 “ .....	2,535	“
“ 20 “ .....	115	“
Total.....	4,325	“

or 0 82-100 miles.

## RIDES.

Rides finished, 20 feet wide.....	1,575	lineal feet
“ 16 “ .....	625	“
“ 15 “ .....	950	“
“ 8 “ .....	600	“
Total.....	3,750	“

or 0 71-100 miles.

Rides in progress, 20 feet wide.....	3,800	lineal feet.
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or 0 72-100 miles.

## WALKS.

Walks finished, 129 feet wide.....	181	lineal feet.
“ 20 “ .....	408	“
“ 16 “ .....	8,345	“
“ 14 “ .....	400	“
“ 12 “ .....	4,803	“
“ 10 “ .....	580	“
“ 8 “ .....	275	“
“ 360 “ (Fort Greene).....	207	“
“ 16 “ “ .....	570	“
“ 14 “ “ .....	1,700	“
“ 12 “ “ .....	277	“
“ 8 “ (Carroll Park).....	2,275	“
Total.....	20,021	“

or 3 79-100 miles.

Walks in progress 129 feet wide.....	38	lineal feet
“ 30 “ .....	3,726	“
“ 25 “ .....	1,055	“
“ 20 “ .....	5,812	“
“ 16 “ .....	7,625	“
“ 12 “ .....	4,170	“
“ 10 “ .....	775	“

Walks in progress 360 feet wide, (Fort Greene).....	273 lineal feet.
“ 16 “ “ .....	150 “
“ 14 “ “ .....	1,400 “
“ 12 “ “ .....	933 “
Total.....	<u>25,957</u> “

or 4 92-100 miles.

## DRAINAGE.

	During 1868.	Total to Jan. 1, 1869.
18 in. Vitrified Pipe laid, lineal ft. ....	983.....	1,572
15 “ “ “ .....	1,223.....	6,279
12 “ “ “ .....	676.....	6,466
10 “ “ “ .....	436.....	925
8 “ “ “ .....	2,830.....	6 168
7 “ “ “ .....	85.....	305
6 “ “ “ .....	4,826.....	10,235
5 “ “ “ .....	360.....	1,112
4 “ “ “ .....	1,448.....	2,215
2½ “ “ “ .....	—.....	675
10 “ “ “ (Fort Green)....	83.....	83
8 “ “ “ “ .....	448.....	448
6 “ “ “ “ .....	1,632.....	1,632
5 “ “ “ “ .....	757.....	757
4 “ “ “ “ .....	1,066.....	1,066
6 “ “ “ (Carroll Park)....	97.....	97
4 “ “ “ “ .....	310.....	310
6 “ Cement “ “ .....	... ..	142
Totals.....	<u>17,260</u>	<u>40,487</u>

or 3 27-100 miles 7 67-100 m'ls

Tile Pipe laid—3 inch, lineal feet.....	2,181.....	16,869
“ 2½ “ “ .....	.....	25
“ 2 “ “ .....	8,153.....	22,651
“ 1½ “ “ .....	840.....	6,720
Totals.....	<u>11,174</u>	<u>46,265</u>

or 2 12-100 miles 8 76-100 m'ls

## WATER DISTRIBUTION.

Wrought Iron and Cement Pipe—16 inch.....	3,023 lineal feet.
“ “ “ 12 “ .....	2,183 “
“ “ “ 6 “ .....	4,586 “
“ “ “ 4 “ .....	2,010 “
Total.....	<u>11,802</u> “

or 2 24-100 miles.

Cast Iron Pipe—20 inch.....	347	lineal feet.
“ “ 16 “ .....	29	“
“ “ 8 “ .....	180	“
“ “ 6 “ .....	43	“
“ “ 1 “ .....	1,427	“
Total .....	2,026	“

or 3 84-100 miles.

Blow-offs and Branches.....	41
Stop-cocks.....	24
Hydrants.....	20
Reducers.....	3
Metres.....	2

#### AREA OF OPERATIONS UP TO JANUARY 1ST, 1869.

Area worked over up to January 1st, 1869.....	302	acres.
“ “ “ “ 1st, 1868 .....	254	“

Area of surface finished—meadows and slopes.....	109	acres.
“ “ woodland.....	31	“
“ “ water surfaces.....	12½	“
“ “ roads and walks.....	26½	“
Total.....	179	“

Area of surface seeded.....	128	acres.
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#### MASONRY.

Amount of brick masonry.....	1,766	cubic yards.
“ concrete for do.....	67	“
“ stone masonry.....	2,868	“
“ concrete for do.....	593	“
“ stone dressed for arches and buildings.....	974	“
“ “ steps.....	952	lineal feet.
“ curb stone dressed.....	21,269	“
“ “ laid .....	45,556	“
“ Belgian pavement laid.....	293,562	sup. feet.
“ Cobble “ “ .....	47,516	“

#### AMOUNT OF STONE BROKEN.

McAdam stone by stone breaker.....	8,848	cubic yards.
Telford “ hand.....	6,627	“
Spall “ “ .....	11,437	“
Total.....	26,912	“

## MATERIAL MOVED.

	During 1868.	Total to January 1, 1869.
For grading and shaping drives, bridle-roads, walks, meadows and slopes—cubic yards, 52,247.....		271,526
For lakes, pools and streams.... “	218,309.....	354,922
For Plaza..... “	2,000.....	172,555
For sewers and drains.... “	14,074.....	53,164
Soil..... “	80,535.....	330,012
Peat..... “	1,281.....	46,020
Clay..... “	3,038.....	27,876
Manures and compost..... “	14,613.....	25,400
Stone..... “	11,749.....	63,961
Gravel and Sand..... “	53,287.....	60,220
Miscellaneous..... “	893.....	14,624
Total cubic yards.....	<u>452,026</u> .....	<u>1,420,080</u>

## ENGINEER CORPS.

The general organization of the Engineer Corps remains as during previous years. The Assistant Engineers, Mr. Wilson Crosby, Mr. James C. Aldrich, and Mr. L. Y. Schermerhorn, with Mr. T. P. Kinsley at Fort Greene, during the progress of that work, have been constantly and actively employed, and have given careful and valuable service, and the Corps generally, has performed its duties with energy and ability.

Accompanying this Report will be found a map showing the general progress of the work; a map showing the drainage system as executed, and a map showing the water distribution as far as completed.

Respectfully submitted,

JOHN BOGART,

Assistant Engineer in Charge.



# R E P O R T

OF

JOHN Y. CULYER,

ASSISTANT ENGINEER IN CHARGE.

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PARK COMMISSION, CITY OF BROOKLYN,

ENGINEER'S OFFICE, January 1st, 1869.

C. C. MARTIN, Esq.,

Engineer in Charge.

SIR:

The following is a Report of means and materials employed in the construction of the Park during the year ending December 31st, 1868, together with the usual statistics for the same period.

## FORCE.

During the early part of the year the main body of the force was employed in the Lake district, a part was engaged in stone-breaking, and one gang in taking out peat in the pigeon ground. This work having been prepared with special reference to providing employment for the winter, was carried on economically, and continued to the opening of Spring, keeping at work during the severe months of January, February and March, an average of 755 men. On the disappearance of frost, the area of operations being considerably enlarged, the force was increased to 1,215 men during the month of April.

The following statement will show the average number of employed

force during the several months of the year, together with a comparative table for preceding corresponding years.\*

STATEMENT SHOWING THE AVERAGE NUMBER OF EMPLOYED FORCE FOR THE MONTHS AND YEARS NOTED.

Year.	Jan.	Feb.	March	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1866	* Active operations commenced on the Park in the latter part of the month of June, 1866.					300	325	450	550	620	700	725
1867	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100
1868	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912

There were two hundred and ninety-seven days, during which the main part of the force was employed. The largest number of men employed at any one time was in the month of April, viz:—1,392 as against 1,840 for the preceding year.

The statements of force are made up from observations of the actual number of men at work daily, throughout the year, on the Park.

The improvement of Fort Greene Park was begun June 1st, 1868, with a force consisting of two gangs. About the 1st of August another gang was added, and work continued thus till the close of the season, giving employment to an average of 120 men. There were 175 working days from June 1st to December 31st.

#### ORGANIZATION.

The form of organization remains as previously reported. Changes are of frequent occurrence, consequent upon the devolpment of incapacity to discharge the duties required, on the part of men who have sought employment either as foremen, assistants or laborers. It has been made the duty of Engineers of Division and the General Foremen to establish, wherever classes of work admit of it, standards for comparing day's works with the view to derive the largest amount of labor from men receiving a given amount of wages, and the standards thus established have resulted profitably. The force of stone-cutters,

masons, brick layers, carpenters and blacksmiths was largely augmented in consequence of the development and progress of archways and other constructions requiring mechanics' labor.

#### DISCIPLINE.

The following abstract shows the promotions, suspensions and discharges which have occurred during the year :

#### PROMOTIONS.

Promotions from laborers to Assistant Foremen.....	1
Promotions from Assistant Foremen to Foremen.....	4
Promotions from Foremen to Assistant General Foremen.	1
Promotions from Assis't Gen'l Foremen to Gen'l Foremen.	1

There were five resignations of Foremen and Assistants, and three deaths.

#### SUSPENSIONS.

Number of Foremen suspended for breach of discipline.....	15
Number of Assistant Foremen suspended for breach of discipline..	10
Number of laborers suspended for breach of discipline.....	145

#### DISCHARGES.

Number of Foremen discharged for disobedience of orders and neglect of duty.....	3
Number of Foremen discharged for inefficiency.....	3
Number of Assistant Foremen discharged for inefficiency.....	9
Number of Assistant Foremen discharged for other offences. . .	3
Number of laborers, &c., discharged for neglect of duty and inefficiency.....	327
Number of men discharged for intoxication .....	10

#### ACCIDENTS, &C.

During the year five men were injured by falling of banks of earth, and in the severe heat of the summer season several sunstrokes occurred, resulting fatally only in one case, owing to the fact that remedies and proper attention were promptly provided by the foremen and keepers, in accordance with printed instructions.

## KEEPERS, AND THE PUBLIC USE OF THE PARKS.

This branch of the force has remained substantially the same as noted in the Report for 1867. Several minor modifications in rank have occurred, and the scope of duties has in some instances been enlarged in accordance with the intentions of the scheme of organization, and to meet the requirements incident to the growing use of the Park by the public.

An extended stretch of drive has come into use during the past season, together with walks, bridle-roads, and wood-land, the latter having been particularly attractive to out-door gatherings, and these have added much to the demand made upon the keepers' force.

The several minor Parks throughout the city, under the charge of the Commission, have each required a certain amount of surveillance. In addition to what might be ordinarily considered the proper duties of an organization of this nature, it must be remembered that a considerable amount of labor is involved in the necessity existing of constant vigilance and close observation over the property of the Commission, scattered as it is, over all points on the work.

The force consists of—

Two Head Keepers,	One Station Officer,
Six Wardens,	Sixteen Range,
and Twenty-four Post Keepers.	

As heretofore, in cases of absence of regular members, or in cases of emergency requiring increased numbers, the force has been augmented by detailed men from the gardening force, selected with special reference to their fitness to do the required duty.

Thirty-seven arrests were made during the year, of which the following is a summary account:

PROSPECT PARK.	
For fast driving.....	5
For stealing.....	2
For insulting visitors.....	2
For interfering with keepers.....	4
For disorderly conduct.....	18
Insane persons.....	2—33
FORT GREENE.	
For assault.....	1
For disorderly conduct.....	3— 4
Total.....	37

These cases have been in most instances promptly acted upon by the several magistrates before whom they have been taken.

The trouble and annoyance heretofore attending the running at large of animals of all kinds, belonging to persons living in the neighborhood of the Park, has been almost entirely abated since the establishment of a pound, under the jurisdiction of the Commission. Two hundred and fifty animals, including horses, cows, goats, calves and hogs have been impounded and redeemed by their owners, or sold to pay expenses, during the year.

The number of visitors to the Park has been very largely increased. The following tables of persons entering the Park have been made up from daily records at the several entrances. The visitors generally recognize the necessity for a close observance of the rules, and show a desire to co-operate with the keepers in maintaining order.

STATEMENT SHOWING THE NUMBER OF VISITORS TO PROSPECT PARK  
DURING THE YEAR 1868.

1868.	Vehicles.	Equestrians.	Pedestrians.	TotalVisitors
January.....	11.440	1.301	62.012	*94.443
February.....	16.476	510	42.504	90.982
March.....	16.085	3.304	27.281	75.933
April.....	19.089	5.287	25.942	88.502
May.....	38.871	7.623	69.478	194.457
June.....	65.485	8.825	102.544	308.988
July.....	52.877	5.214	98.967	266.821
August.....	51.133	6.369	117.425	277.193
September.....	37.349	4.863	60.322	177.242
October.....	49.684	8.329	72.325	229.942
November.....	44.909	10.113	44.027	188.247
December.....	18.200	3.180	86.056	144.042
Totals.....	421.598	64.918	808.893	2.136.342

\* It is estimated that each vehicle will average three persons.

The largest number of visitors entering the Park in any one day was 51,201, on May 31st, 1868. 690,106 persons visited the Park on Sundays. It is also noticeable that 64,918 equestrians have made use of the Park during the year.

In the month of May of this year, the west woods were thrown open to the public, as a pic-nic ground, subject to established regulations for their use. Scups and swings were placed about the woods, together with tables and seats for the pleasure and convenience of these gatherings. A temporary waiting room was put up on the grounds for the convenience of women and children.

During the ensuing season, over 75 pic-nic parties, numbering from 100 to 500 persons, under the auspices of Churches, Sunday Schools, and other Societies, made use of these grounds.

#### SKATING.

The first skating season was inaugurated on Saturday, January 11th, and with the exception of five days, (January 21st, 22d, 23d, 24th, and 27th.) was uninterrupted till its close on Saturday, March 11th—44 days. The pond covered an area of between four and five acres, with suitable accommodations for the public.

The second season commenced on Saturday, December 12th, and with the exception of two days (December 17th and 21st), continued until the 31st of December, as late a date as this Report is intended to cover, giving a total of 62 skating days for the year.

The skating area has been enlarged from four and a half to twelve acres, with increased accommodations for the public use. During the skating season of 1868, over 200,000 persons visited the Pond. The number of visitors to the Pond on Christmas day was 21,000.

## METEOROLOGICAL OBSERVATIONS.

A systematic course of Meteorological observations was begun in the month of July, a summary of the records of which is herewith appended.

## OBSERVATORY.

Latitude.....	40 41 North.
Longitude.....	73 57 West.
Height of ground above the sea.....	117 feet.
Height of instrument above the ground.....	20 "
Height of instrument above the sea.....	137 "

## METEOROLOGICAL TABLE, No. 1.

Table showing the observed heights of the Barometer, monthly, for the half year ending December 31st, 1868.

Month, 1868.	Mean at 7 A. M.	Mean at 2 P. M.	Mean at 9 P. M.	Month Mean.	Maxi- mum.	Mini- mum.	Diff'rence or Range.
July.....	30.018	30.013	30.012	30.014	30.200	29.730	0.470
August.....	30.050	30.049	30.045	30.048	30.280	29.740	0.540
September.....	30.056	30.043	30.038	30.046	30.350	29.840	0.510
October.....	30.029	30.099	30.049	30.059	30.490	29.700	0.790
November.....	29.937	29.881	29.970	29.929	30.400	29.160	1.240
December.....	29.887	29.909	29.949	29.915	30.700	28.900	1.800

Semi-year mean, at 7 A. M. of 184 observations, 29.996

Semi year mean, at 2 P. M. of 184 observations, 29.999

Semi year mean, at 9 P. M. of 184 observations, 30.011

Semi-year mean of..... 552 observations, 30.002

Maximum for the half year.....30.700 at 7 A. M. Dec: 26.

Minimum for the half year.....28.900 at 7 A. M. Dec: 12.

Difference or range.... 1.800

## METEOROLOGICAL TABLE, No. 2.

Table showing the state of the Thermometer, monthly, for the half year ending December 31st, 1868.

Month. 1868.	FORENOON.		AFTERNOON.		Month Mean.	Maxi- mum.	Mini- mum.	Dif'nce or Range.
	No. of Observations	Mean.	No. of Observations	Mean.				
July.....	31	73.75	62	79.41	76.58	97.00	62.00	35.00
August.....	31	69.50	61	74.91	72.20	90.00	57.00	33.00
September.....	30	61.37	59	66.28	63.83	87.50	43.00	44.50
October.....	31	48.50	61	52.34	50.42	71.00	31.00	40.00
November.....	30	39.53	60	43.95	41.74	66.00	29.00	37.00
December.....	31	26.47	62	28.93	27.70	42.00	4.00	38.00

Semi-year mean in forenoon, of 184 observations..... 53.19

Semi-year mean in afternoon, of 365 observations..... 57.64

Semi-year mean of..... 549 observations..... 55.41

Maximum during the half year..... 97.00

Minimum during the half year..... 4.00

Difference or range..... 93.00

## METEOROLOGICAL TABLE, No. 3.

Table showing the durations and depths of rain, monthly, during the half year ending December 31st, 1868.

Month. 1868.	No. days on which rain occurred.	DURATION			Depth in Inches.	Total depth Inches.	REMARKS.
		Days.	Hours.	Min'ts			
July.....	11	1	5	10	11.10	11.10	A number of light show- ers occurred during July, August, and the first part of September, but not of such a character as to warrant a measurement.
August.....	12		17	50	2.53	13.63	
September.....	9		22	15	11.85	25.48	
October.....	9	1	14	36	1.90	27.38	
November.....	6	1	12	08	4.20	31.58	
December.....	4		21	57	2.45	34.03	
Totals... ..	51	6	21	56	34.03		

## MISCELLANEOUS STATISTICS.

During the summer season two temporary places for refreshment were provided on the Park. One of these was located in the East Woods, and the other and larger one in the West Woods or pic-nic grounds.

Twenty-four drinking stations were provided during the warm weather, to which cool water was constantly supplied by water carts. Temporary water closets were established in three localities. Nine large swings and twenty-one small scups were placed about the East and West woods, at convenient points for the use of the public.

During the year 103 Park seats of iron and wood, 7 feet long; 45 Park seats of iron and wood, 5 feet long, and 60 Park seats of iron and wood, 4 feet long, have been placed about the Park; also 13 tables, 12 feet long by 3 feet wide, each, and 24 camp stools, for the use of pic-nic gatherings. One rustic thatched roof summer house and one vinery, 32 settees and 46 bird-houses have been made during the year.

## CARROLL PARK.

Two Lodges have been erected. One ornamental flagstaff, a fixed frame swing, fifty-two Park seats of iron and wood were placed at convenient points about the Park. One hundred and fifty bird-houses for the use of the sparrows were put up in the trees.

## SUPPLIES.

The usual Annual statement herewith annexed, comprehends under its different divisions, the receipts and issues of supplies, together with the stock on hand. This statement shows the material, &c., received each year, and the aggregate of each article to January 1st, 1869.

## TOOLS, IMPLEMENTS AND MACHINERY.

At this season of the year, all tools, implements, &c., not needed for use, are collected and stored under cover, and are overhauled and put into serviceable condition for spring work. Derricks, gearing, trucks, &c., are painted, impaired iron and wood work replaced and stored under cover until needed.

## TREES AND SHRUBS.

The following statement shows the number of deciduous trees, shrubs, evergreens, &c., purchased during the year; also the stock of the same in the nursery, together with quantities planted during the year:

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, &C., RECEIVED  
DURING THE YEAR ENDING DECEMBER 31ST, 1861.

Trees	Shrubs.	Evergreens	Vines.	Ferns.	H'rbaceous Plants.	Wild Shrubs.
9.637	56.335	20.713	2.256	1.900	291	15.252

3,500 to 4,000 creeping vines, (Periwinkle); about 5,000 wild trees and shrubs were selected and removed from the commons west of the office.

## STOCK IN NURSERY, DECEMBER 31ST, 1868.

Deciduous Trees.	Evergreens.	Deciduous Shrubs.	Vines.	Aggregate.
17.546	29.720	63.850	4.953	116.069

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, &C., PLANTED  
DURING THE YEAR.

Deciduous Trees.	Evergreens	Deciduous Shrubs	Vines.	H'rbaceou P ants. c	Ferns.	Total.
2.881	2.184	16.558	3.498	3.264	1.530	29.913

## FERTILIZING MATERIALS.

The following quantities of manure, night soil and fertilizing materials have been received and are on hand :

- 2,021 two horse loads of horse manure, (1,454 loads of this have been received under contract, from the several City R. R. stables.)
- 753 loads of night soil, (used in composting.)
- 661 bbls. of fish offal.
- 21,427 lbs. of super phosphate of lime.
- 700 bushels of shell lime.
- 275 loads of lime, (mixed with peat.)

Quantities of compost on hand :

## PROSPECT PARK.

Stable manure, compost,.....	4,480	cubic yards
Night soil, " .....	3,220	"
Fish, " .....	835	"
Peat and lime, " .....	15,570	"

## FORT GREENE.

Stable manure, compost..... 875 cubic yards.

Of the large quantity of dimension stone ordered during the year, the greater part is for bridge A and F, (incomplete at this time), and is now on hand. Bridge A is to be built of Ohio sandstone, all of which is on hand and in process of cutting. Bridge F is of Ohio stone and Quincey granite. The Ohio stone is on hand, and cutting nearly complete. The granite is mainly delivered and in process of cutting. Suitable quantities of brick and cement were purchased before the close of the year, ready for early Spring work on these structures.

JOHN Y. CULYER,

Assistant Engineer in Charge:





