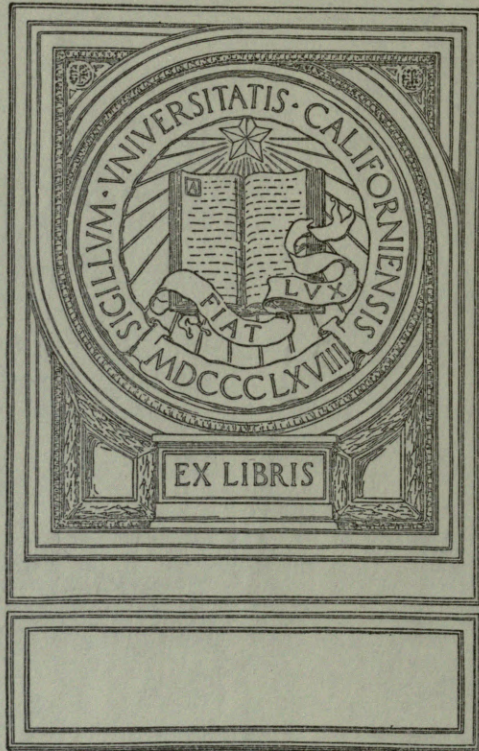


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BOARD OF RAPID TRANSIT RAILROAD COMMIS-
SIONERS, CITY OF NEW YORK.

CONTRACT

FOR

CONSTRUCTION AND OPERATION

OF

RAPID TRANSIT RAILROAD

(MANHATTAN AND THE BRONX.)

WITH

SUPPLEMENTAL AGREEMENTS

TO

NOVEMBER 24th, 1903

Contract Dated, February 21st, 1900

BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS, CITY OF NEW YORK.

CONTRACT

FOR

CONSTRUCTION AND OPERATION

OF

RAPID TRANSIT RAILROAD

*Approved as to form this 11th day of
October, 1899.*

JOHN WHALEN
Corporation Counsel
of the City of New York.

TRAVIS H. WHITNEY

TF 847
N5A25
1903

Agreement, made this 21st day of February, 1900, between THE CITY OF NEW YORK, hereinafter called the City, acting by THE BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS FOR THE CITY OF NEW YORK, hereinafter called the Board, party of the first part, and JOHN B. McDONALD, of the City of New York, hereinafter called the Contractor, party of the second part.

WHEREAS, the Board, in behalf of the City, by due advertisement pursuant to law, of a notice for proposals, which is substantially in the form hereto annexed, and entitled **Invitation to Contractors** has invited Contractors to submit to the Board proposals for making this contract; and

WHEREAS, the Contractor has thereupon duly submitted to the Board a proposal in the form hereto annexed and entitled **Contractor's Proposal**—

Now, therefore, in consideration of the said Invitation to Contractors and the said Contractor's Proposal and of the mutual stipulations and covenants hereinafter contained, and under the authority of chapter 4 of the laws of 1891, entitled, "An Act to provide for Rapid

“Transit Railroads in Cities of over one million Inhabitants,” and of the various acts amending the same, the parties hereby do, the City for itself and its successors and the Contractor for* himself, his heirs, executors and administrators, **Agree** each with the other as follows:

CHAPTER I.—GENERAL.

The Contractor agrees with the City to fully construct and equip the Rapid Transit Railroad upon the Routes and General Plan hereinafter mentioned, and to put the same in operation and thereafter to use, maintain and operate the same under a lease thereof from the City for the term of fifty years.

Outline of
Contract.

The said railroad is for the purposes of this contract divided into four sections, as follows:—

Section I. shall include all of the railroad from the southern terminus thereof at the City Hall to and including a station at 59th street.

Construction
to be by
Sections.

Section II. shall include: (a) All of the railroad on the west side north of such station at 59th street, to and including a station at the intersection of 137th street and Boulevard; and (b) All of the railroad on the east side from 103rd street and Boulevard to and including a station at the intersection of 135th street and Lenox avenue.

*Here insert, if a corporation, *itself and its successors*; if a single individual, *himself, his heirs, executors and administrators*; if several individuals, *themselves, their heirs, executors and administrators, jointly and severally*.

Section III. shall include: (a) All of the railroad on the west side north of such station at 137th street to and including a station at Fort George; and (b) All of the railroad on the east side from the said station at 135th street to and including a station at Melrose avenue.

Section IV. shall include: (a) All the railroad on the west side north of such station at Fort George; and (b) All of the said Railroad on the east side north of such station at Melrose avenue.

The City expects that the Railroad will be so constructed, used, maintained and operated by the Contractor along all the routes and according to the entire General Plan. But the City desires to restrict its entire pecuniary liability for rapid transit at any one time within limits which it deems to be consistent with its other obligations and interests. The Railroad is, therefore, to be constructed and equipped in sections. The Contractor shall begin with Section I. If and when thereafter the City shall so elect the Contractor shall construct Section II. If and when thereafter the City shall so elect the Contractor shall construct Section III. If and when thereafter the City shall so elect the Contractor shall construct Section IV.

Such elections by the City shall be respectively made within and not after the periods hereinafter prescribed.

The City shall pay to the Contractor for Construction of the Railroad as follows: If it shall consist only of Section I then the sum of Fifteen million dollars (\$15,000,000); if it shall consist of only Sections I and II, then the sum of Twenty-six million dollars (\$26,000,000); if it shall consist of only Sections I, II and III, then the sum of Thirty-two million dollars (\$32,000,000); and if it shall include all four sections, then the sum of Thirty-five million dollars (\$35,000,000); and, in addition to the foregoing, the sum of One million dollars (\$1,000,000) for terminals; and, further, in addition to the foregoing, a sum for real estate as follows: If the Railroad shall consist only of Section I, the sum of One hundred and seventy thousand dollars (\$170,000); if only of Sections I and II, the sum of Three hundred and seventy thousand dollars (\$370,000); if only of Sections I, II and III, the sum of Four hundred and sixty thousand dollars (\$460,000); and, if the Railroad include all four sections, then the sum of Five hundred thousand dollars (\$500,000),—Provided, however, that all such payments shall be subject to modification as hereinafter provided.

In no event does the City assume, nor shall it be deemed to assume, any liability of any character for or by reason of Sections II, III or IV, or either of them, except upon its successive elections to construct the same as hereinafter expressly provided.

Rental under
Lease.

The Contractor shall pay to the City as annual rental under such lease, the sums to be fixed and ascertained in the manner stated in Chapter III. hereof.

Divisions and
Construction of
the Contract.

This contract, besides this present Chapter I., General, includes hereinafter the following divisions: Chapter II.—Agreement for Construction; and Chapter III.—Agreement for Operation—the Lease.

The three chapters and all the provisions of this contract are and shall be construed as a single instrument. But, if, between the provisions of the Agreement for Construction and the provisions of the Lease, there shall be any inconsistency, the provisions of the Lease shall control.

The Contractor shall so construct and equip the Railroad as to fully and strictly meet all the requirements and exigencies of the operation thereof as provided in the Lease. The respective obligations of the City and the Contractor in or relating to the use or operation of the Railroad, or as lessor or lessee shall be ascertained solely from this Chapter I., General (including the Copy of the Routes and General Plan, but none other of the papers appended to this Contract), and Chapter III., the Lease.

Definitions of
words:

The following words and expressions used in this contract shall, except where by the context it is clear that

another meaning is intended, be construed as follows :

(1.) The word "City" to mean the City of New York, "City."
and any other corporation or division of government to which the ownership, rights, powers and privileges of the City of New York or the Mayor, Aldermen and Commonalty of the City of New York, under the Rapid Transit Act, shall hereafter come, belong or appertain.

(2.) The word "Board" to mean the Board of Rapid "Board."
Transit Railroad Commissioners for the City of New York, and any other board, body, official or officials, to which or to whom the powers now belonging to the said Board shall, by virtue of any act or acts hereafter pass or be held to appertain.

(3.) The word "Contractor" to mean the party of the "Contractor."
second part to this contract, and* his executors, administrators and assigns, and any and every person or corporation who or which shall at any time be liable in the place or for the party of the second part to perform any

*Here insert, as the case may be, either *its successors or his executors, administrators and assigns, or their executors, administrators and assigns.*

obligations under this contract assumed by the said party of the second part. For convenience the Contractor is hereinafter spoken of as if the Contractor were a corporation. The word "it" shall include "him," "her" and "them," and the word "its" shall include "his," "her" and "their."

"Comptroller."

(4.) The word "Comptroller" to mean the Comptroller of the City of New York, and the officer or board to whom or to which his powers now existing under the Rapid Transit Statute shall come to appertain.

"Engineer."

(5.) The word "Engineer" to mean the present Chief Engineer of the Board and any successor or successors duly appointed or any deputy or substitute for him who shall be appointed by the Board or by its authority.

"Railroad."

(6.) The word "Railroad" to mean the section or sections which the Contractor shall be bound to build, with all stations and real estate belonging to and used in conjunction therewith, and all appurtenances thereto and all other property to be used thereon or in conjunction therewith, and which under this contract are to be constructed or provided by the Contractor and by the Contractor to

be maintained and operated, but excepting, however, the Equipment.

(7.) The words "Rapid Transit Statute" to mean chapter 4 of the laws of 1891 as amended by chapters 102 and 556 of the laws of 1892, chapters 528 and 752 of the laws of 1894, chapter 519 of the laws of 1895, and chapter 729 of the laws of 1896. "Rapid Transit Statute."

(8.) The word "Equipment" to mean all equipment "Equipment." used or intended for use on the Railroad, including all motors, cars, whether used for passengers, freight, express or any other purpose, and all other rolling stock, all boilers, engines, wires, ways, conduits, mechanisms, machinery, power houses, all real estate upon which any such power houses shall stand or which shall be necessary for the generation or transmission of motive power, and all tools, implements and devices of every nature whatsoever used for such generation or transmission of motive power, and also all apparatus and devices for lighting, signalling and ventilation,—whether such equipment be situate on or near or separate from the railway, provided that the same be used or intended for use in connection therewith or for any of its purposes, and including all such equipment in

existence at any time during or at the end of the term of the Lease. Provided, however, that no real estate or rights therein or thereon paid for by the City or acquired for terminals, roadbed, stations or otherwise for construction of the Railroad shall be included in Equipment.

“Agreement for Construction.”

(9.) The words “Agreement for Construction” to mean the provisions of Chapter II. of this contract as explained or modified by the provisions of this chapter.

“Lease.”

(10.) The word “Lease” to mean the provisions of Chapter III. of this contract as modified or explained by the provisions of this chapter.

“New York.”

(11.) The words “New York” to mean the City of New York according to its boundaries at the date of this contract.

“Rental.”

(12.) The word “Rental” to mean all the payments to be made by the Contractor to the City as provided in the Lease, whether being the equivalent of interest or otherwise.

“Construction.”

(13.) The word “Construction” to mean all the work of constructing the Railroad, including the doing of work, the providing of materials, the complete furnishing of the equipment of the Railroad, the restoration and reconstruction of street surfaces, sewers and other sub-surface structures, and all other work or materials to be done or furnished of every nature whatsoever under the Agreement for Construction.

(14.) The word "Operation" to mean operating and "Operation." maintaining the Railroad according to the provisions of the Lease.

(15.) The words "daily newspaper" to mean any paper "Daily newspaper." regularly published in the City of New York on every day or every day except Sundays and holidays.

(16.) The word "notice" to mean a written notice. "Notice." Every such notice to be served upon the Contractor, or upon any surety if not delivered personally, shall either be delivered at such office in the City of New York as shall have been designated by the Contractor or surety, or shall be mailed by deposit in the general postoffice in the City of New York, postage prepaid, addressed to the office so designated, or to such office as the Contractor shall designate by written notice delivered to the Board, or if no such office shall have been designated, or if such designation shall have for any reason become inoperative, then addressed to the person or corporation intended at the City of New York. Such delivery or mailing shall be equivalent to direct personal notice.

The contract is made pursuant to the Rapid Transit Statutes incorporated herein. Statute which is to be deemed a part hereof as if it were incorporated in every chapter hereof.

Security by
Contractor.

Simultaneously with the execution of this contract the Contractor shall give security for the performance of its obligations both under the Agreement for Construction and under the Lease as follows :

Deposit of
\$1,000,000.

I.—*For Construction:*

A.—By depositing with the Comptroller the sum of One million dollars (\$1,000,000) in cash.

The City shall collect all interest, dividends or other income on the cash or securities so held or deposited.

The said deposit whether in cash or securities, in the form and as the same shall at any time be, shall be security for the faithful performance by the Contractor of all the covenants, conditions and requirements specified and provided for in the Agreement for Construction. In case of any default on the part of the Contractor in such performance, and in the further case that the City shall for or by reason of such failure, whether by reason of employment of another contractor or contractors or otherwise, incur or become liable for expense through such default as in the Agreement for Construction provided, then the Comptroller shall forthwith pay and apply to the use of the city from such deposit of \$1,000,000, or

from the portion of the deposit remaining at the time, the amount of such expense.

The Comptroller may, in order to make such payment and application to the use of the City, sell at public auction in the City of New York any of the securities which may then constitute part of such deposit upon notice to be published in four (4) daily newspapers, the first publication to be as much as ten (10) days before the sale and such publication to be made three (3) times within such ten days. The Comptroller shall, from the proceeds of any such sale, deduct all expenses thereof and of such advertisement, and shall pay and apply to the use of the City so much of the residue as may be necessary for the purpose aforesaid. And the Contractor within ten (10) days after notice from the Board so to do shall thereupon by further deposit of money or securities of the character aforesaid approved by the Board restore the said deposit with the Comptroller to the full amount and value of One million dollars (\$1,000,000). In addition to, or in lieu of, the sale above provided for, the Board may, in the name of and in behalf of the City bring any appropriate suit or proceeding in any proper Court to enforce the lien and claim of the City in and upon the said deposit whether such deposit be in money or securities.

If at any time when the Contractor shall otherwise be entitled to a return of the said deposit, as hereinafter provided, there shall be pending any claim for damages or loss caused to others by the negligence, fault or default of the Contractor, for which it shall be claimed that the City shall be liable, then and in that case the said deposit, or such part thereof as the Board shall fix, shall, upon the requirements of the Board, be reserved by the Comptroller for a reasonable time as security to the City against such claims. And the amount of any such damages or costs paid by the City to others or for which the City shall be liable to others, shall be deducted from the said deposit before the same shall be returned to the Contractor as hereinafter provided.

When the Contractor shall have fully completed the Construction and Equipment of the Railroad according to the terms of this contract, and the operation of the same shall have begun pursuant to this contract, the Board shall so certify, and upon such certificate, the Comptroller shall pay and deliver to the Contractor the said deposit, or so much thereof as shall not have been reserved or used or applied for any of the purposes above mentioned and the Contractor shall also then be entitled to be cred-

ited upon the Rental with a sum which shall be equal, as the case may be, either to the interest on the said deposit (if made in cash) from the time of such deposit at the rate of interest provided for in the bonds which shall have been issued and sold by the City to provide for the construction of the Railroad, or to the interest, dividends or other income which the City shall have received from the said securities. If, however, any of the cash so deposited shall have been used or applied for any of the purposes above mentioned, then the Contractor shall not be entitled to credit for interest on the amount of cash so applied from the time of such application.

B.—By filing with the Comptroller a bond executed by the Contractor and by two or more sureties to be corporations or persons approved by the Board in the sum of Five million dollars (\$5,000,000), the said bond to be substantially in the form hereto annexed and entitled **Bond for Construction and Equipment.** Every surety upon such bond shall be bound for at least Five hundred thousand dollars (\$500,000) of the penalty and justify in double the amount for which such surety shall be bound.

Bond.

II.—*For Rental and also for Construction:* By filing with the Comptroller, a bond executed by the Contractor and by sureties approved by the Board,—in the sum of One million dollars (\$1,000,000), the said bond to be substantially in the form hereto annexed and entitled **Continuing Bond.**

In case any of the sureties upon either the *Bond for Construction and Equipment* or the *Continuing Bond* shall become insolvent or unable in the opinion of the Board promptly to pay the amount of such bond to the extent of which such surety might be liable, then the Contractor within thirty days after notice by the Board to the Contractor shall, by supplemental bond or otherwise, substitute another and sufficient surety to be approved by the Board in place of the surety so insolvent or unable. If the Contractor shall fail, within such thirty days or such further time as the Board may grant, to so substitute another and sufficient surety, then the Contractor shall, for all the purposes of this contract, be deemed to be in default in the performance of its obligations hereunder, and the Board may terminate the contract or may bring any proper suit or proceeding against the Contractor or the sureties, or either of them, or may require to be deducted

from any moneys then in or thereafter coming into the hands of the City and due to the Contractor the amount for which the surety insolvent or unable as aforesaid shall have justified on said bond; and the moneys so deducted shall be held by the Comptroller as collateral security for the performance of the conditions of the said bond.

The City shall also have a first lien upon the Equip-
ment as further security for the faithful performance by the Contractor of the covenants, conditions and agreements of this contract on its part to be fulfilled and performed. Such lien shall arise immediately upon the acquisition by the Contractor of any part of the Equipment for use on or in connection with the Railroad or any part of it, or intended for such use, whether or not such equipment be set up or delivered upon or at the railway. The Board may from time to time, by concurrent vote of six (6) members thereof, relieve from such lien any of the property to which the same may attach upon the provision of additional property equivalent in value and in the convenience and certainty with which the lien thereon is enforceable to the property which it is proposed to release, and upon such terms as to the Board, by such concurrent vote, shall seem just.

City's Lien on
Equipment.

Remedies.

In case of default by the Contractor the City shall have the following remedies :

On Contractor's default in Construction or Equipment,—City may complete in behalf of Contractor and hold Contractor liable;

I.—In case the Contractor shall fail to complete the Construction or Equipment of the Railroad, or shall at any time fail to proceed with such Construction or Equipment with reasonable diligence, or so that it shall not be reasonably probable that the same will be completed and equipped within the period herein prescribed therefor, then and in any such case the Board upon a notice to the Contractor of not less than ten days may—

(1) By resolution declare the Contractor to be in default; and the City by the Board in addition to every, or in substitution for any other, remedy which it may have by law or hereunder, may forthwith, so far as the City may now have or may hereafter secure statutory power, procure by contract or otherwise, the completion of such Construction and Equipment; and the City may to the extent of the cost of such completion of the Construction and Equipment and interest thereon withhold and apply thereon any moneys otherwise due or to become due by the City to the Contractor, and the Contractor shall

be liable to the City and shall forthwith pay to the City the excess, if any, of the cost to the City of the completion of such Construction and Equipment over the amount payable to the Contractor therefor under the terms of this contract. And such completion by the City shall not release or discharge the Contractor from liability for Rental, or any other liability hereunder. Or

(2) By resolution declare this contract at an end except as to the liability of the Contractor hereinafter in this paragraph provided, and may make a new contract for Construction and Equipment, upon advertisement of a new invitation to contractors, upon such terms as the Board may deem proper; the same to provide among other things that the new contractor shall allow for so much of Construction and Equipment as has been already completed, such reasonable amount as the Board may deem proper; and in such case the Contractor shall pay the City all damage which the City shall sustain by reason of such failure, including the excess, if any, of the amount which the City shall pay the new contractor over the

or make new Contract.

amount it would have had to pay the Contractor, party hereto, for the same work or materials, and without deduction therefrom because of any increase of rental which the City may secure from the new contractor. Or

or proceed upon
Bond of Constn.

(3) The City may proceed as to the Board shall seem proper upon the Bond for Construction and Equipment.

On default in
payment of rent
or otherwise
hereunder,—

II.—In case of default of the Contractor in paying the Rental herein provided or in case of the failure or neglect of the Contractor faithfully to observe, keep or fulfill any of the conditions, obligations and requirements of this contract, the City, by the Board, may:

City may
take possession,

(1) After notice to the Contractor of at least ten days, take possession of the Railroad and Equipment, and, as the agent of the Contractor, either—

and, as agent
of the Contractor,
operate the Rail-
road,

(a) Maintain and operate the Railroad and use thereon the Equipment (without commencing any proceeding for the enforcement of its lien thereon) for the full unexpired term of the Lease or such shorter period as the Board may determine; or

(b) Enter into a contract with some other person, firm or make a sub-contract; or corporation for the maintenance and operation of the Railroad and use of the equipment, retaining out of the proceeds of such operation after the payment of the necessary expenses of operation, maintenance and use, the said annual rental and paying over the balance, if such there be, to the Contractor; and if the proceeds of the Operation of the Railroad after the payment of the necessary expenses of operation and maintenance, including the keeping in repair of the rolling stock and rest of the Equipment, shall in any year be less than the annual rental, then and in every such case, the Contractor and its bondsmen on the Continuing Bond shall be and continue jointly and severally liable to the City for the amount of such deficiency until the end of the full term for which the Lease was originally made. Or

(2) The City may upon reasonable notice to the Contractor, and after reasonable notice to the Contractor to make good the default, terminate this contract; or may terminate contract; and in such case the Contractor shall be liable to the City for all damage by reason of such default. Or

or may sue or
enforce Lien on
Equipment;

(3) The City may by the Board or otherwise, bring such suit or proceeding as it may deem proper, to enforce its lien upon the Equipment or for any other purpose.
Or

or use Remedies
of Landlord;

(4) The City may avail itself of any or all of the remedies hereinbefore provided, which are not inconsistent with one another or of any other remedy provided by law in the case of landlord and tenant.

Enforcement of
lien on Equipment;

In case the City shall become entitled to enforce its lien against the Equipment, then, at the time of beginning any suit or proceeding for the enforcement of such lien, whether by foreclosure or otherwise, or at any time thereafter, the City shall be entitled forthwith to enter into and take summary and complete possession of the Equipment, or any part thereof, it being the express intention of the Contract that upon any default by the Contractor in Construction, Equipment or Operation the City shall have the right forthwith to operate the Railroad so far as is then practicable (if at all), and to that end to have complete and immediate possession of all Equipment and of all other things necessary or convenient, or which may thereafter be necessary or convenient, for the operation of the

Railroad, which shall belong to the City or upon which the City shall have a lien as aforesaid.

III.—If the Contractor shall fail to construct or operate the Railroad according to the terms hereof and shall, after due notice of its default, omit for more than a reasonable time to comply with the provisions hereof, the Board (1) may by notice to the Contractor forfeit and vacate all the rights of the Contractor under this contract and may bring in the name and behalf of the City an action or actions to declare and establish such forfeiture and vacation and for damages or otherwise as may be necessary for the sufficient and just protection of the rights of the City; or (2) may, upon such terms as to the Board seem just and with such person or corporation as to the Board may seem proper, make another operating contract and lease of the Railroad for the residue of the term of the Contractor in default, including in such contract and lease, a provision as to a transfer or lease to the new contractor of the lien and any other interest of the City

On any failure of Contractor,—

Board may forfeit Contract and sue;

or make new Lease,

and bring Suit.

on and in the Equipment, and may bring action in the name and on behalf of the City to recover from the Contractor the amounts which by this Contract the Contractor agrees to pay the City for Rental or otherwise due from the Contractor, less the amount which shall have been received under and by virtue of such new contract and for all other damages which may have been sustained by the City by reason of such default without allowance to the Contractor for any advantage to the City by increase of Rental.

City's Assurances
to Contractor
of Right to Con-
struct and
Operate.

The City hereby stipulates and covenants to and with the Contractor that the City will secure and assure to the Contractor so long as the Contractor shall perform the stipulations of this contract, the right to construct and to operate the Railroad as prescribed in this contract free of all right, claim or other interference whether by injunction, suit for damages or otherwise on the part of any abutting owner or other person; but the Contractor shall enforce its rights against the City under this provision solely by claim for money, and shall have no right to set up any failure or default on the part of the City to per-

form or satisfy this stipulation or covenant in defense, or by way of exculpation or any excuse whatsoever (otherwise than as a claim or counter-claim for money) of the Contractor for any default or failure of any character whatsoever on its part, except that nothing herein contained shall be construed to require the Contractor to do any act in violation of a valid injunction issued by a Court of competent jurisdiction forbidding such act.

The routes and general plan for the Railroad adopted by the Board by its resolution of 14th January and 4th February, 1897, and heretofore approved by the authorities of the City and by the Appellate Division of the Supreme Court shall be deemed to be incorporated into this contract as a partial description of the Railroad and Equipment. For convenience a copy thereof is hereto appended, entitled **Copy of the Routes and General Plan.**

**Routes and
General Plan
incorporated in
this Contract.**

The railway and its equipment as contemplated by the contract constitute a great public work. All parts of the structure where exposed to public sight shall, therefore, be designed, constructed and maintained with a view to the beauty of their appearance, as well as to their efficiency.

**Beauty of
material as well
as Efficiency.**

Contractor to
afford Facilities
to Board.

If under any provision of this Contract the Board or the City shall be entitled by reason of any failure of the Contractor to do or have done any work upon or in relation to the Railroad or Equipment, then the Contractor shall afford to the Board or the City all facilities for doing such work, and the representatives of the Board or the City shall be at liberty at any time for such purpose to enter upon any part of the premises.

Changes in the
Contract.

No correction or change in this contract shall be made except by written instrument duly authorized by the Board, and consented to by the Contractor and its sureties upon the bonds given hereunder and then in force.

Members of
Board not liable.

No claim shall be made by the Contractor against any member of the Board personally by reason of this contract or of any of its articles or provisions.

Contractor not
taxable on
Interest hereun-
der or on Equip-
ment.

The Contractor shall be exempt from taxation under the laws of the State of New York in respect to its interest in the Railroad under the contract and in respect to the rolling stock and all other Equipment of the Railroad in the manner and to the extent provided in the Rapid Transit Statute.

This contract shall not be assigned without the written consent of the Board concurred in by all the members thereof.

Contract when assignable.

In case the Board shall cease to exist the legislature may provide what public officer or officers of the City of New York shall exercise the powers and duties of the Board under and by virtue of this contract ; and in default of such provision, such powers and duties shall be deemed to be vested in the mayor of the City. In case any officer or officers other than the Board shall hereafter have the powers of the Board or any of them, then the provisions of this contract shall be applicable to such officer or officers to the extent to which the powers of the Board shall appertain to such officer or officers, and any official act or determination of such officer or officers or of this Board shall be sufficient hereunder, anything herein to the contrary notwithstanding, if the same be done or had by lawful vote or resolution or in such manner as the legislature may from time to time prescribe.

Provision in case Board cease.

If any member of the Board or any member of the municipal assembly of the City of New York or any head of a department, chief of bureau, deputy thereof or clerk

City Officials not to be interested.

therein, or any officer of any grade or description of the City, or any person in the employ of the Board is directly, indirectly, actually or contingently interested with the Contractor, and to its knowledge, in any profit or advantage hereunder, or in any supplies or work for or under this contract or for or under any portion of this work, then the Board may, by notice to the Contractor, vacate and terminate the contract. And in such case the Contractor shall be entitled to recover for work which shall then have been done no more than the amount payable hereunder at the time according to the terms of this contract, or than the fair and reasonable value thereof.

Labor Law to be observed.

The provisions of the Labor Law, chap. 415 of the laws of 1897 and the laws amendatory thereof are, so far as applicable, made part of this contract. If the provisions of Section 13 of the said act are not complied with by the Contractor, the contract shall be void. All worked, dressed and carved stone, excepting paving blocks or crushed stone, authorized or required by or under this contract, shall be so worked, dressed or carved within the boundaries of this State as required by Section 14 of the said law. Section 3 of the said law as now amended is

hereby made part of this contract. No laborer, workman or mechanic in the employ of the Contractor or of any subcontractor or any person doing or contracting to do the whole or a part of the work contemplated by this contract, shall be permitted or required to work more than eight hours in any one calendar day except in cases of extraordinary emergency caused by fire, flood or danger to life or property. Each laborer, workman or mechanic employed by such contractor, subcontractor or by such other person on or upon such work or upon any material to be used upon or in connection therewith shall receive the wages provided for in the said section of the said act and the same shall not be less than the prevailing rate for a day's work in the same trade or occupation in the locality where such work on, by or in connection with which such labor is performed in its final or completed form is to be situated, erected or used. This contract shall be void and of no effect unless the person or corporation making or performing the same shall comply with the provisions of the said Section 3.

All necessary
legal provisions
deemed inserted
herein.

It is the understanding of the parties to this agreement that each and every provision of law required to be inserted in this agreement is inserted herein. Furthermore it is hereby stipulated that every such provision is to be deemed to be inserted herein; and if, through mistake or otherwise, any such provision is not inserted in correct form, then the contract shall forthwith, upon the application of either party, be amended by such insertion so as to strictly comply with the law, and without prejudice to the rights of either party hereunder.

Marginal
notes, etc.

Titles, headings and marginal notes are herein printed merely for convenience and shall not be deemed to be any part of this contract for any purpose whatever.

CHAPTER II.—AGREEMENT FOR CONSTRUCTION.

The Contractor will at his own cost and expense, and ^{Work to be done.} in strict conformity with the specifications hereinafter contained and called the **Specifications**, and also in strict conformity with all the provisions of this contract, whether included in the specifications or not, furnish all the materials and labor necessary and proper for the purpose, and, in a good, substantial and workmanlike manner, construct the Railroad, including therein the stations, side-tracks, switches, cross-overs, terminal yards and all other appurtenances complete and ready for Operation, and including also all necessary construction of sewers along or off the route of the Railroad, all necessary readjustment of the mains, pipes, tubes, conduits, subways or other sub-surface structures, the support and care, including underpinning wherever necessary, of all buildings of whatsoever nature, monuments, elevated and surface railways affected by or interfered with during the construction of the Railroad and the reconstruction of street pave-

ments and surfaces, and do all the work and supply all the materials necessary to construct and equip the Railroad in complete working order fully and finally ready for actual operation in the carriage of passengers and otherwise as hereinafter specified. Such construction of sewers, readjustment of mains, pipes, tubes, conduits, subways or other sub-surface structures, and such support, care and underpinning of buildings, monuments and railways are and are to be deemed to be essential parts of the Construction of the Railroad.

The Contractor shall provide a complete Equipment of the Railroad according to definition of Equipment aforesaid and according to the Specifications hereinafter contained.

Construction by Sections.

The Railroad shall, so far as concerns the rights and obligations of the parties under this contract, be deemed to include only Section I, unless and until the City shall determine that the Railroad shall also include Section II. After such election by the City the Railroad shall, so far as concerns such rights and obligations be deemed to include only Sections I and II unless and until the City shall determine that the Railroad shall also include Section III. After such last mentioned election the Railroad shall, so far as concerns such rights and obligations, be deemed to

include only Sections I, II and III unless and until the City shall determine that the Railroad shall also include Section IV, whereupon the Railroad shall be deemed to include all four sections. Every such determination by the City shall be made by written notice by the Board to the Contractor. Such notice shall be given with respect to Section II on or before a date not later than one year after the Contractor shall begin work upon Section I, and with respect to Section III on or before a date not later than two years after the Contractor shall begin work on Section I, and with respect to Section IV on or before a date not later than three years after the Contractor shall begin work on Section I, Provided, however, that such periods shall be respectively extended by the time or times during which by injunction or other legal obstruction the Board shall be delayed in giving the notice.

The City shall pay, and the Contractor shall receive for Price.
the Construction of the Railroad sums of money as follows: If the Railroad shall consist only of Section I, then the sum of Fifteen million Dollars (\$15,000,000); or if the Railroad shall consist only of Sections I and II, the sum of Twenty-six million Dollars (\$26,000,000); or if

the Railroad shall consist only of Sections I, II and III, then the sum of Thirty-two million Dollars (\$32,000,000); or if the Railroad shall consist of Sections I, II, III and IV, then the sum of Thirty-five million Dollars (\$35,000,000), Provided, however, that such payments shall be subject to modification and the conditions herein prescribed. The City shall also pay and the Contractor shall also receive for the Construction of the Railroad the sum of One Million Dollars (\$1,000,000) for terminals, subject to modification as herein provided. The City shall also pay and the Contractor shall also receive for the construction of the Railroad a sum of money for real estate as follows: If the Railroad shall include only Section I, then the sum of One hundred and seventy thousand Dollars (\$170,000); if the Railroad shall include only Sections I and II, then the sum of Three hundred and seventy thousand Dollars (\$370,000); if the Railroad shall include only Sections I, II and III, then the sum of Four hundred and sixty thousand Dollars (\$460,000); if the Railroad shall include Sections I, II, III and IV, then the sum of Five hundred thousand Dollars (\$500,000). The said sums so to be paid do not include the cost of Equipment, but do include

a consideration satisfactory to the Contractor for its obligation to provide the Equipment which, when provided, shall be the property of the Contractor, subject to the first lien of the City, as provided in Chapter I of this contract.

The Board shall have the right, *during the progress of the work*, to amplify the plans, to add explanatory specifications and to furnish additional specifications and drawings within the limits of the general purview of the work.

Right of Board
to amplify Plans,
to require extra
Work, &c.

The Board shall also have the right for any section of the Railroad to require additional work to be done or additional materials to be furnished, or both, within the general purview of a rapid transit railroad as described in the

Copy of the Routes and General Plan hereto appended or to require work or materials herein specified or provided for to be omitted. If such additional work or materials shall be required, then the reasonable value thereof shall be additionally paid to the Contractor. If work or materials herein specified or provided for shall be required to be omitted, then a reasonable deduction shall be made in the manner hereinafter provided from the amount

to be paid to the Contractor for construction, Provided, however, that the amount of work and materials called for by this contract upon any Section shall not be diminished without the consent of the Contractor so as substantially to alter the general character or extent of the work as proposed.

No acceptance to obviate the Necessity for sound Work, &c.

No acceptance of any part of the work or materials in construction or equipment shall relieve the Contractor of his obligation to furnish sound material and perform sound work.

Inspection.

The Board contemplates, and the Contractor hereby approves, the most thorough and minute inspection by the Board, its Engineer and their representatives and subordinates, of all work and materials from the beginning of the manufacture or preparation both of the Railroad and of such materials to the final completion of its Equipment. It is the intention of the Board that its Engineer shall draw the attention of the Contractor to all errors or variations from the requirements of this contract or other defects in workmanship or materials. But it is expressly agreed that no omission on the part of the Board or its Engineer or any other subordinate of the Board to

point out such errors, variations or defects shall give the Contractor any right or claim against the City or in any way relieve the Contractor from its obligation to fully construct and equip the Railroad according to the terms of this contract.

The work is to be done and the materials are to be furnished subject to the direction and approval of the Engineer. The Contractor shall promptly obey and follow every direction within the general purview of the work which shall be given by the Engineer, including any direction which he shall give by way of withdrawal, modification or reversal of any previous direction given by him. If any additional specification be prescribed or additional drawing be required to be followed, or additional detail required, or if any question shall arise as to the quality, character or amount of materials or work, or as to the obligation of the Contractor to do any particular work or furnish any particular materials, or as to the value of any additional work or materials required by the Board or as to the deduction to be made from the contract price for the construction by reason of any materials or work directed by the Board to be omitted, or if any other dispute, question or doubt as to what is the obligation of the

Work subject to
Approval of
Engineer.

Contractor shall arise prior to the time of the complete construction and equipment of the Railroad and the declaration thereof by the Board, the determination of the Engineer shall be binding upon the Contractor and the City, so far as that the Contractor shall, as the case may be, proceed or refrain from proceeding, and without any delay obey the requirement of the Engineer.

Engineer's Determination, when subject to Review.

But a determination of the Engineer shall not be finally conclusive upon either the Contractor or the City as to the reasonable value of any work or materials additionally required as aforesaid or omitted as aforesaid, or as to the question whether the Contractor is entitled to additional payment for anything additionally required by the Engineer, whether upon additional specifications or drawings or in the way of additional details as aforesaid, or otherwise as herein provided, or as to the question whether the City is entitled to a deduction from the amount payable to the Contractor according to the terms hereof. In every such case the Engineer shall make his determination in writing and in duplicate, one duplicate to be filed with the Board and the other duplicate to be delivered to the Contractor. Such determination as to work done or mater-

Mode of Review. Arbitration.

ials supplied on or after the first day of the calendar month next preceding the date of making such certificate, shall if filed with the Board within five days after its said date, be binding and conclusive upon the City unless the Board shall appeal within ten (10) days after such determination is filed with it, and shall be binding upon the Contractor unless the Contractor shall appeal within ten (10) days after such delivery to him. The appeal shall be taken by a written notice addressed, if the Board be the appellant, to the Contractor, or, if the Contractor be the appellant, then to the secretary of the Board. The notice of appeal shall state the determination appealed from, the grounds of appeal, the precise award or redress desired, and shall include the appointment of an arbitrator on the part of the appellant, with a written undertaking on the part of the arbitrator to act. Within ten (10) days after the receipt of a notice of appeal the party receiving the same shall name an arbitrator, and give written notice of such nomination to the party appealing, the notice to be accompanied by a written acceptance by the arbitrator of the appointment. If the party against whom the appeal is taken shall not so nominate an arbitrator, who shall so accept, then the arbitrator named by the party

appealing shall be the sole arbitrator. Either party may, by a general notice to the other, appoint a standing arbitrator for such party. In case of such standing appointment such arbitrator shall be deemed to be appointed upon each appeal, without specification of his appointment upon the appeal. Any vacancy in the office of an arbitrator shall be filled by the party which shall have appointed the last incumbent thereof, within five (5) days after notice of the vacancy—during which five days the running of other periods of time prescribed for or in course of the arbitration shall be suspended. If not so filled,—or if notice of the appointment be not given within such five days, the remaining arbitrator shall be the only arbitrator. Within five (5) days after the appointment of its arbitrator by the party against whom the appeal is taken, or, if there be a standing arbitrator for such party, then after ten (10) days, but within fifteen (15) days after notice of the appeal is given,—the arbitrators,—or if the party against whom the appeal is taken shall be in default in appointing an arbitrator, then within five (5) days after such default the arbitrator named by the party appealing,—shall proceed summarily, and upon two (2) days notice to both parties, to hear such evidence or statements, oral

or written, as may be produced. Such hearing shall be finished within five (5) days after such hearing shall begin; and within three (3) days after finishing such hearing, the determination of such arbitrators or arbitrator shall be made. But if within such three days the arbitrators (in the case of two arbitrators) shall fail to agree upon and make an award, then they shall forthwith so certify to the Board and the Contractor, and the controversy shall be determined by an umpire to be nominated by the Executive Committee for the time being of the Chamber of Commerce of the State of New York, or if within three (3) days after being notified by either of the parties hereto of such failure the said Committee shall not make a nomination, then by an umpire to be named by the Executive Committee for the time being of the Association of the Bar of the City of New York. The umpire shall hear the parties, their counsel, the statements of the arbitrators and the statements and evidence received by them, or such of them and so much thereof as may appear or be submitted to the umpire upon two (2) days notice to the parties. Such notice shall be given within three (3) days after the nomination of the umpire. The hearing by the umpire shall be concluded within three (3)

days. His award shall be made within three (3) days after the hearing before him is concluded. Every determination by the umpire, arbitrator or arbitrators, shall be in writing in duplicate, one to be delivered to the secretary of the Board and the other to the Contractor. The Executive Committee of the said Chamber of Commerce and the Executive Committee of the said Association of the Bar may, upon the joint request of both parties, and from time to time nominate a standing umpire, or a standing board of three experts, to act as such umpire. Such standing umpire or standing board of experts shall, upon every arbitration where an umpire is required, be such umpire, and a decision or determination by a majority of such board of experts shall be the decision of such board. The days for notices and other proceeding shall be exclusive of Saturdays, Sundays and holidays. All fees and expenses of arbitrators and umpires shall be borne and paid equally by the City and the Contractor, by both of whom every such arbitrator and umpire shall be deemed to be employed. Every such arbitrator and umpire shall, before proceeding to hear the testimony or to consider the matter, be sworn as nearly as may be in the same manner as referees in actions at law are required to be sworn.

The Contractor shall become entitled to additional payment for additional work or by reason of additional specifications, drawings, details or other requirements only upon the production of the certificate and determination of the Engineer if unappealed from and certified by the Board, or, if so appealed from, then only upon and according to the final award of arbitrators, arbitrator or umpire as aforesaid certified by the Board, it being expressly agreed that the City shall make no additional payment to the Contractor except upon vouchers which include such certificates and determination unappealed from, or if appealed from, then such final award and certificate of the Board, as a condition precedent to payment and that no payment shall be made in any such case inconsistently with such final award.

Nor shall the City be entitled to claim any abatement from the contract price by reason of diminution in the amount of work required, delay in completion or otherwise except upon the certificate or determination of the Engineer unappealed from by the Contractor as aforesaid, or, if so appealed from, then upon the certificate and award of the arbitrators, arbitrator or umpire as aforesaid.

Vouchers for
extra Work.

When City
entitled to
Abatement of
Price.

**Commencement
and Completion
of Work.**

The Contractor shall begin work upon the Railroad within thirty (30) days after the execution of this contract. The entire Railroad shall be completely constructed and equipped ready for immediate, full and continuous operation as follows: If the Railroad shall consist only of Section I, then within three (3) years from the date of the delivery of this contract; if the Railroad shall consist of Sections I and II, then within two (2) years from the date of notice of election by the City to construct Section II, Provided, however, that the entire period allowed for the construction of Sections I and II shall be as much as three (3) years; if the Railroad shall consist of Sections I, II and III, then within two (2) years from the date of notice of election by the City to construct Section III, Provided, however, that the entire period allowed for the construction of Sections I, II and III shall be as much as four (4) years; or if the Railroad shall consist of Sections I, II, III and IV, then within two (2) years from the date of notice of election by the City to construct Section IV, Provided, however, that the entire period allowed for the construction of Sections I, II, III and IV shall be as much as four and one-half ($4\frac{1}{2}$) years. In the event of delay in such complete Construction and

Equipment beyond the period or periods so prescribed, and in case such delay shall not be excusable, as herein provided, the price to be paid the Contractor shall be reduced as follows: From the several amounts which shall become payable to the Contractor after the expiration of the said period or periods for work completed or materials furnished thereafter, there shall be deducted and retained by the City as liquidated damages for such delay *two per cent.* thereof for each and every month after the expiration of the said period or periods until such amounts are severally certified to be due and payable. But in case the Contractor shall be delayed by injunction or by strike or by any interference of public authority, and in case the Contractor cannot, notwithstanding such injunction, strike or interference, with reasonable diligence make up for the delay so occasioned by speedier work when the Contractor shall not be so interfered with, then the said date for completion shall be extended to a date later than the expiration of the said period or periods by the amount of time of such delay, Provided, however, that no period of such delay shall be deemed to begin until written notice thereof shall be given by the Contractor to the Board.

Price to be reduced for Delay.

The sites of the terminals shall be proposed by the Contractor, but the same shall be subject to the approval of

Sites of Terminals.

the Board. The City shall itself purchase the real estate for the terminals, by condemnation or otherwise; but the amount which shall be paid by the City for real estate for terminals shall be deemed to be payment to the Contractor on account of Construction. The Contractor shall receive the exact cost to the Contractor of the complete construction of the terminals, together with a profit of ten (10) per cent. thereon, for its services in connection therewith. The total amount to be paid or allowed to the Contractor for such cost of construction, including the additional allowance of ten (10) per cent. (as explained above) together with the sum paid by the City for real estate for terminals, shall in no case exceed One million seven hundred and fifty thousand dollars (\$1,750,000).

Cost of Terminals.

The amount included as aforesaid in the price for Construction hereunder for terminals is the estimated sum of One million dollars (\$1,000,000) which includes the allowance for cost of the real estate for terminals and of their complete construction ready for operation, but does not include the cost of any equipment thereof. The variation of the cost of the terminals (including real estate, construction and profit aforesaid) from the said sum of One million dollars (\$1,000,000), shall, within the said

maximum limit of One million seven hundred and fifty thousand dollars (\$1,750,000) be added to or deducted from, as the case may be, the total contract price for construction payable to the Contractor. Any excess of the cost of the terminals above One million seven hundred and fifty thousand dollars (\$1,750,000) shall be borne and paid by the Contractor; and any excess above such amount which the City shall itself have paid, shall be forthwith returned by the Contractor to the City or may be deducted by the City from any money otherwise due the Contractor.

The amount included as aforesaid in the price for Construction hereunder for real estate to be acquired for stations and other purposes of the Railroad except terminal and equipment, is as follows: If the Railroad shall include only Section I, the sum is One hundred and seventy thousand dollars (\$170,000); if it includes Sections I and II, it is Three hundred and seventy thousand dollars (\$370,000); if it includes Sections I, II and III, it is Four hundred and sixty thousand dollars (\$460,000); if it includes Sections I, II, III and IV, it is Five hundred thousand dollars (\$500,000). The City shall itself acquire

Cost of Real
Estate for
Stations, &c.

(by condemnation or otherwise) all such real estate; and every amount paid therefor by the City shall be deemed to be a payment to the Contractor on Construction. In case the total cost to the City of acquiring such real estate shall be greater than the sums so prescribed, then the contract price for Construction shall be increased accordingly, except, however, that the cost of real estate for such purposes to be borne by the City shall in no case exceed the sum of Three hundred and forty thousand Dollars (\$340,000) for Section I; Seven hundred and forty thousand Dollars (\$740,000) for Sections I and II; Nine hundred and twenty thousand Dollars (\$920,000) for Sections I, II and III; and One million Dollars (\$1,000,000) for Sections I, II, III and IV. Any such excess shall be borne by the Contractor. In case the total cost to the City of acquiring such real estate shall be less than the said sum of One hundred and seventy thousand Dollars (\$170,000) for Section I, or Three hundred and seventy thousand Dollars (\$370,000) for Sections I and II, or Four hundred and sixty thousand Dollars (\$460,000) for Sections I, II and III, or Five hundred thousand Dollars (\$500,000) for Sections I, II, III and IV, the contract price for construction shall be diminished accordingly.

The City shall conduct with diligence proceedings to acquire the real estate needed for terminals and other railroad purposes or (if requested by the Contractor) which the Contractor shall need for Equipment. The Contractor shall, however, give to the Board notice of at least three (3) months that the real estate is required, specifying the parcels. Any damage sustained by the Contractor by reason of delay in its possession of such real estate beyond a period of six months after the giving of such notice shall be paid by the City to the Contractor. The amount thereof shall be certified by the Engineer as aforesaid but subject to appeal by the City or Contractor and determination by arbitration as aforesaid.

City to diligently acquire necessary Real Estate.

The City shall pay the Contractor for the work as the same progresses upon vouchers certified by the Board. Written requisitions by the Contractor for such payments shall be delivered to the Board at intervals of not less than one (1) month. Each requisition by the Contractor shall be accompanied by a certificate of the Engineer to the effect that work has been done and materials have been delivered in accordance with the terms of the Contract at or upon the Railroad prior to the time of such requisition of a value stated in such certificate. Such value shall

Payments, how made to Contractor.

be ascertained relatively to the contract value of the entire work.

The Board shall thereupon forthwith prepare and certify a voucher in due form for payment by the City for the work so done and materials so furnished. The Board shall not be bound by the certificate of the Engineer, but may in every case fix the amount due at such sum as the Board shall itself determine to be the proper actual relative value of such work and materials. The amount so certified by the Board shall be forthwith paid by the City to the Contractor without any deduction except as herein otherwise provided. In case such Contractor shall be dissatisfied with the determination of the Board as to value as aforesaid, the Contractor may appeal from such determination in the manner hereinbefore provided for appeals for determination of the Engineer as to additional work, and the receipt by the Contractor of the amount certified by the Board shall not be deemed the waiver of his rights to appeal.

And if the payment upon such appeal shall be determined to be too small, then upon such determination the City shall forthwith and upon a voucher certified by the

Board pay to the Contractor the additional amount awarded upon such appeal.

At a date not later than the time when two-thirds (2-3) Provision of Equipment.
in value of the work which the Contractor shall be bound to do, not including equipment, shall have been finished, and certified by the Engineer (but subject to appeal as aforesaid) the Contractor shall begin and shall thereafter diligently proceed with the provision of the equipment of the Railroad, and such provision shall proceed at such rate as that the Equipment shall be completely ready for use three (3) months in advance of the complete Construction of the Railroad (that is to say, of the Section or Sections which the Contractor shall be bound to construct).

The Contractor shall furnish the Board with satisfactory Evidence that labor and materials are paid for.
evidence that all persons who have done work or furnished materials in the construction, and who have given written notice to such Board before or within ten (10) days after the final completion and acceptance of the whole work required under this contract, that any balance for such work or materials is due and unpaid, have been fully paid and satisfactorily secured; and in case such evidence is not furnished as aforesaid such amount as may be

necessary to meet the claims of the persons aforesaid may be retained from the money due to the Contractor under this agreement until the liabilities aforesaid shall be fully discharged or such notice withdrawn.

If at the time of any such requisition any lien shall have been filed against the Contractor on the Railroad against the amount payable to the Contractor under the provisions of this contract by any person or corporation entitled to file the same for work, labor, or services done or performed for or materials furnished to the Contractor in or about the Construction, an amount reasonably sufficient to pay and discharge such lien and to pay the costs of foreclosure thereof shall be retained by the Comptroller from the amount which would be otherwise payable to the Contractor on such requisition, until the said lien shall be discharged or secured as provided by law. If such lien shall be foreclosed according to law then the Comptroller may pay the said amount found due upon such lien by the judgment in the foreclosure action to the person entitled thereto, and such payment shall be deemed a payment hereunder to the Contractor. If the sum so retained

shall not be sufficient to discharge the lien so foreclosed, the deficiency shall be retained by the Comptroller out of the next moneys coming due to the Contractor.

In case any claim shall be made by any person or corporation against the City for loss or damage to person or property caused by or arising from or alleged to have been caused by or to have arisen from any negligence, fault or default of the Contractor, the amount of such claim shall upon the requirement of the Board be retained by the Comptroller out of any moneys thereafter growing due to the Contractor hereunder (in addition to the other sums hereinbefore authorized to be so retained), as security for the payment of such claim or claims. If and when the liability of the City on such claim or claims has been finally established by a judgment of a court of competent jurisdiction, or has been admitted by the Contractor, the said claim or claims shall be paid from the amount so retained and the balance, if any, paid to the Contractor.

The specifications and contract-drawings hereinafter mentioned, and the other and additional provisions of this contract, are intended by the Board to be full and comprehensive, and to show all the work required to be

**Specifications
and Drawings
subject to
Requirement of
Railroad of high-
est Grade.**

done. But in a work of this magnitude it is impossible either to show in advance all details, or to precisely forecast all exigencies. The specifications and contract-drawings are to be taken, therefore, as indicating the amount of work, its nature and method of construction so far as the same are now distinctly apprehended. But the Contractor understands, and it is expressly agreed, that there is included within its obligation the complete Construction and Equipment of the Railroad as herein contemplated. The Railroad is to be constructed for actual use and operation as an inter-urban railroad of the highest class, adapted to the necessities of the people of the City of New York. It is to be used and operated as provided in Chapter III, the Lease. The Contractor shall construct, complete and fully equip the Railroad in the best manner, according to the best rules and usages of railway construction, so that the Railroad shall be thoroughly fitted for safe, continuous, immediate and full operation in the manner and subject to the requirements of Chapter III, the Lease. If, in the specifications or contract-drawings or in the provisions of this contract, any detail or other

matter or thing requisite for such operation in such manner and subject to such requirements be not mentioned, nevertheless the same is deemed to be included, and the Contractor hereby undertakes to do the same as part of its work hereunder. And it is expressly agreed that the price to be paid the Contractor as herein prescribed includes full compensation for every such detail, matter and thing.

In the event of any doubt as to the meaning of any portion or portions of the specifications or contract-drawings, or of the text of the contract, the same shall be interpreted as calling for the best construction, both as to materials and workmanship, capable of being supplied or applied under the then existing local conditions. This provision, by way of illustration, implies the requirement that the interior surface of every part of the tunnel containing the railway shall be entirely free from percolation of ground or other water from without; the requirement throughout of a structure whose component parts shall be of as permanent and durable a character as practicable; the requirement that the steel and such other parts of the structure as are liable to rust and decay shall be fully protected from such action; the requirement that the track

Where Text of Contract doubtful, best Materials and Workmanship required.

and roadbed shall be such that trains such as are described in Chapter III, the Lease, can be run thereon with safety and comfort at the highest practically attainable speeds; and the requirement that there shall be adequate stations. All the clauses of the specifications, and all parts of the contract-drawings, are, therefore, to be understood, construed and interpreted as intending to produce the results hereinbefore stated.

**Plans and
Contract
Drawings.**

The plans referred to in the specifications hereinafter contained are one hundred and seventeen (117) in number, bear date 7th April, 1898, are each countersigned by the Engineer, are stamped with the seal of the Board, and bear the general title, "**Contract Drawing No. ,**"

The sheets are as follows: Nos. A 1 to A 35 inclusive; Nos. B 1 to B 46 inclusive; Nos. C 1 to C 36 inclusive.

The sections and dimensions of all parts shown on the contract-drawings are typical sections and dimensions applicable to the greater part of the work, and where no extraordinary conditions exist. Where such conditions do exist, or where unforeseen contingencies arise, such as the encountering of quicksand or other bad material, or

when provision must be made for the support of elevated railroad columns, or when there are buildings, monuments or other structures whose foundations are of such a character as to bring an undue thrust upon the tunnel, or other similar circumstances exist, then and in every such case the Board may issue such special plans, duly countersigned by the Engineer, and accompanied by specifications explanatory thereof, or describing the method of construction, changing the sections or the dimensions of the parts or the materials of the structure; and such special plans and specifications when so issued shall be binding on the Contractor.

In addition to the contract-drawings already mentioned, **Supplementary Drawings.** the Board has had prepared a set of maps and plans one hundred and forty-two (142) in number, bearing the same seal, general title and date as the contract-drawings, but designated as "**Supplementary Drawings**" which are signed by the Engineer and marked Nos. D 1 to D 142 inclusive. These supplementary drawings exhibit certain information which the Board has received from its Engineer of the nature of the soil underlying portions of the

route, the nature and position of elevated and surface rail ways, water mains, gas and other pipes, sewers, electric subways, manholes, hydrants, catch basins, and other surface and sub-surface structures. The supplementary drawings have been exhibited to the Contractor without any guarantee on the part of the Board as to their completeness or correctness, and the Contractor may, at its option and at the expense of the Board, have copies thereof for such aid, if any, as the Contractor may derive from them. If, upon opening the streets or otherwise, difficulties of any nature be encountered which are not indicated or suggested by the supplementary drawings, or if additional surface or sub-surface structures be discovered or found of different size or in different positions or of different nature from those shown on the supplementary drawings, or if in any way such supplementary drawings be found erroneous, the Contractor shall have no claim whatever for any such failure, discrepancy, or error, but is to take every necessary or proper precaution to overcome the unforeseen difficulty, and is to take care of, protect, remove, adjust or readjust, as the case may be, the additional or different surface or sub-surface structures according to the direction of the Engineer.

The Contractor shall, before making any sub-contract of its work, in writing state to the Board the name of such sub-contractor, the portion of the work which such sub-contractor is to do or the materials which sub-contractor is to furnish, the place of business of the sub-contractor and such information as the Board may require to enable it to know whether such sub-contractor is able competently to do the work or provide the materials.

Names of Sub-Contractors to be given.

The Contractor admits and covenants to and with the City that the plans and specifications and other provisions of this contract for construction, if the work be done without fault or negligence on the part of the Contractor, do not involve any danger to the foundations, walls or other parts of adjacent buildings or structures; and the Contractor shall at its own expense make good any damage that shall, in the course of construction, be done to any such foundation, walls or other parts of adjacent buildings or structures.

Contractor approves Plans as involving no Damage.

The Contractor shall during the performance of the work safely maintain the traffic on all streets, avenues, highways, parks or other public places in connection with the work, and take all necessary precautions to place proper guards for the prevention of accidents, and put up

Traffic to be maintained.

**Indemnification
for Accidents.**

and keep at night suitable and sufficient lights and indemnify and save harmless the City against and from all damages or costs to which it may be put by reason of injury to the person or property of another or others, resulting from negligence or carelessness in the performance of the work or from guarding the same, or from any improper materials used in its construction, or by or on account of any act or omission of the Contractor or the agents thereof.

Contractors Liability for Damage to abutting Property.

The Contractor shall be responsible for all damage which may be done to abutting property or buildings or structures thereon by the method in which the construction hereunder shall be done, but not including in such damage any damage necessarily arising from proper construction pursuant to this contract or the reasonable use, occupation or obstruction of the streets thereby. The Contractor shall obey any order of the Engineer to support or secure abutting property or any structure thereon; but the Contractor shall not be relieved of responsibility by any failure or omission of the Engineer to give any such order or notice of any danger.

**Excavated
material.**

All material excavated along the route shall be the property of the Contractor.

The Contractor will at all times give to the Board and Inspection its members, to the Engineer and the assistants and superintendents under the Engineer, and any person designated by the Board or its president, all facilities, whether necessary or convenient, for inspecting the materials to be furnished and the work to be done under this contract. The members of the Board, the Engineer and any superintendent, assistant or other person bearing his authorization or the authorization of the Board or its president, shall be admitted at any time summarily and without delay to any part of the work or to inspection of materials at any place or stage of their manufacture, preparation, shipment or delivery.

Any engineer substituted by the Board in place of the Chief Engineer during any absence, illness or inability of his or when the Board shall so determine, shall, during his official connection, have all the power and authority of the Engineer, and in all respects be recognized as such Engineer.

Substitute of
Chief Engineer.

The Contractor shall complete the entire work upon every section of which construction shall be required as aforesaid in accordance with the specifications and contract-drawings and according to the other provisions of this contract and within the times specified in this contract in the most workman-like manner and with the highest regard to the safety of life and property and according to

Contractor
bound to com-
plete in best
Manner.

the lines, levels and directions given by the Engineer, for the price herein agreed upon, except that for extra work, if any, there shall be additional payment as hereinbefore provided, and except that for part or parts of the work, if any, omitted, there shall be deduction from the contract price as hereinbefore provided.

**Best Materials,
Machinery, Tools,
&c., to be used.**

The Contractor is to furnish of the best description all materials, machinery, implements, tools and labor necessary to construct and put in complete working order all work covered by the specifications, contract-drawings and other provisions of this contract including all additional specifications, drawings and details issued or required as herein provided.

**Construction
includes Sewer
and other
Incidentals.**

In order to construct the Railroad it will be necessary to take up and relay the pavement or other surface material, to protect and support during construction elevated and surface railways, water mains, gas pipes, electric subways, pneumatic tubes, steam pipes and other subsurface structures, together with their necessary connections, as the same may be met with along the route ; to build sewers both along the route and other streets ; to make or remake the necessary manholes, catch basins and other sewer connections therewith ; to move, alter, readjust or rebuild water mains, gas pipes, electric subways, pneumatic tubes, steam pipes and other subsurface structures, together with

their necessary connections ; and to do all such additional and incidental work as may be necessary for the completion of the Railroad and the final restoration of the street or other surface to as useful and good a condition as existed before construction shall have been begun. All such work of every description is part of the work of Construction of the Railroad included within this contract.

The following are specifications of the work, but it is expressly understood that such specifications do not include all requirements, but are requirements in addition to those heretofore or elsewhere given or provided in this contract. The specifications and other provisions of this contract, and the contract drawings, are intended to be explanatory of each other. Should, however, any discrepancy appear or any misunderstanding arise as to the import of anything contained in either, the explanation of the Engineer shall be final and conclusive, except that, upon any claim by the Contractor that it has been called upon to do work or furnish materials in excess of quantity or value of those called for by the terms of this contract, it shall be entitled to appeal, as hereinbefore provided, and to a correction by way of money allowance to it of any error of the Engineer.

**Specifications
not exclusive.**

SPECIFICATIONS.

These specifications are grouped in subdivisions as follows:

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I. GENERAL DESCRIPTION.

The railway to be built commences at a point in Park Row near Frankfort Street, with a two-track loop under the City Hall Park, Broadway, and Park Row to the above-mentioned point near Frankfort Street, where there commences a four-track line running thence under Centre Street, New Elm Street, Lafayette Place, across Astor Place and private property between Astor Place or Eighth Street and Ninth Street to Fourth Avenue at Ninth Street; thence under Fourth Avenue and Park Avenue to Forty-second Street, thence under Forty-second Street to Broadway, and thence under Broadway and the Boulevard to a point at or near Ninety-seventh Street, all of which railway shall be known as the Main Line.

General description of the work.

Main Line.

On the four-track portion above mentioned the inside tracks are to be used by express trains stopping only at comparatively long distances, and the outside tracks by local trains stopping at shorter distances.

Express and Local tracks.

At or near Ninety-sixth Street suitable cross-overs shall be constructed, permitting the free running of trains from the south-bound express track to the south-bound local track, and from the south-bound local track to the south-bound express track, and in like manner from the north-bound express track to the north-bound local track, and from the north-bound local track to the north-bound express track.

96th Street cross-overs.

At a suitable point north of the construction of these cross-overs the outside tracks will rise so as to permit the inside tracks, on reaching a point near One Hundred and Third Street, to curve to the right, passing under the north-bound track and to continue thence across and under private property to One Hundred and Fourth Street; thence under One Hundred and Fourth Street and Central Park to One Hundred and Tenth Street near Lenox Avenue; thence under Lenox Avenue to a point near One

East Side Line.

Hundred and Forty-second Street; thence across and under private property and the intervening streets to the Harlem River; thence under the Harlem River and across and under private property to One Hundred and Forty-ninth Street; thence under and along One Hundred and Forty-ninth Street to Third Avenue, to Westchester Avenue, where at a convenient point the tracks will emerge from the tunnel and be carried on a viaduct along and over Westchester Avenue, Southern Boulevard and Boston Road to Bronx Park.

That portion of the railway from the north end of the cross-overs at or near Ninety-seventh Street to Bronx Park, shall be known as the East Side Line.

West Side
Line.

From the northern end of the above-mentioned cross-overs, at or near Ninety-sixth Street, the outside tracks shall rise, as previously described, and after the over crossing of the inside tracks, they shall be brought together on a location under and as far as possible symmetrical with the centre line of the street and proceed along and under the Boulevard to a point between One Hundred and Twenty-second and One Hundred and Twenty-third Streets, at which point the tracks shall commence to emerge from the tunnel and be carried on a viaduct along and over the Boulevard to a point between One Hundred and Thirty-fourth and One Hundred and Thirty-fifth Streets, where they shall again pass into and continue in tunnel under and along the Boulevard and Eleventh Avenue to a point about thirteen hundred and fifty (1,350) feet north of the centre line of One Hundred and Ninetieth Street, where the tracks shall again emerge from the tunnel and be carried on a viaduct across and over private property to Elwood Street, and over and along Elwood Street to Kingsbridge Road or Avenue. private property, the Harlem Ship Canal and Spuyten Duyvil Creek, private property, Riverdale Avenue or Two Hundred and Thirtieth Street, to a terminus near Bailey Avenue.

That portion of the line from the north end of the cross-overs at or near Ninety-seventh Street to the above-

mentioned terminus at Bailey Avenue, shall be known as the West Side Line.

In addition to the construction of the railway itself, it will be necessary to construct or re-construct certain sewers, together with house and other sewer connections and to adjust, re-adjust and maintain railways, pipes, subways, and other surface and sub-surface structures, and to relay the street pavement both on streets occupied by and on streets other than those occupied by the route of the railway.

The above description of the Main, East and West Side Lines, and the sewers off the route of the railway, is told in general language, but the location of the various tracks, junctions, loops, grades, termini, etc., are set forth more particularly and accurately on the accompanying Contract Drawings.

During the progress of the work the Board will give, through the Engineer, to the Contractor, suitable points, marks or benches, indicating the line and grade of the railway and of the sewers; such points for bench marks being established at such intervals as the Engineer deems necessary for the Contractor to be able to perform its work. From such line points and benches, the Contractor, under the supervision of the Engineer, shall make, unless the Board decides otherwise, all the necessary sub-measurements for the locations of foundations, walls, columns, beams, and all other structural parts, both for the railway and all other structures to be built under this contract. Such submeasurements shall be at all times subject to inspection by the Engineer, and if found to be in error, as called for by the plans or his directions, shall be at once corrected, even though work had been done under them.

Lines and
Grades.

The Contractor shall also make all working or shop drawings which may be required in addition to the Contract Drawings, or in addition to such other drawings as the Board may issue in amplification of such Contract Drawings as explained above. All working or shop drawings shall be submitted in duplicate to the Engineer

Working and
Shop drawings.

for his approval, which approval shall be indicated by his countersigning one set of such working or shop drawings and returning the same to the Contractor. Should the working or shop drawings be not in accordance with the Contract Drawings and Specifications, then the Engineer shall return one set of such working or shop drawings, with the necessary corrections and changes indicated thereon, and the Contractor must make such corrections and changes, and again submit plans in duplicate for the approval of the Engineer; and no work shall be done or subcontract let upon said working or shop drawings until the approval of the Engineer be obtained, except as specified below. In the event of the Engineer failing to take any action within ten (10) working days after delivery to him at his office of such plans in duplicate, such failure shall be taken as equivalent to approval and the Contractor shall be entitled to proceed exactly the same as if one set had been returned to him with the Engineer's approval indicated by his signature.

2. MANNER OF PROSECUTION.

Rapidity and safety.

All the work shall be prosecuted in the manner according to location best calculated to promote rapidity in construction, to secure safety to life and neighboring property, and to reduce to the minimum any interference with the public travel.

Night work.

Wherever, in the judgment of the Board, traffic or other local conditions demand, the work shall be prosecuted during the night only or during both the night and day; and at all points the Board shall have power to require the Contractor to so conduct its work that it shall not remain open or obstruct traffic an unreasonable length of time.

Parks.

For that portion of the route under Central Park, and other public parks or parkways, such reasonable precautions must be taken to protect from injury all trees, shrubs, other plants and grassplots, as may be called for by the authorities specially charged with the care of the public

parks. Such trees as are found along the line of the route and between the necessary side lines of excavation, where open excavation is permitted, are to be supported in place, if in the judgment of Engineer such trees can thereby be saved. For every tree removed or killed, the Contractor shall set out a new thrifty tree of similar kind of a height not less than fifteen (15) feet, and of a diameter not less than three and one-half ($3\frac{1}{2}$) inches, in such a position as the superintendent of public parks shall indicate. All roads, crosspaths, grassplots, shrubbery and other plants, removed or affected by the construction of the railroad, shall be restored as soon as possible to as good a condition as existed before commencing operations. Special care must be taken to diminish damage wherever open excavation is permitted, and the width of such excavation must not exceed the width actually necessary, in the opinion of the Engineer, for the proper prosecution of the work.

In Central Park there must be no disturbance of the surface except between the points marked "A" and "B" on Contract Drawing No. A25. No material will be allowed to be piled in Central Park during construction, unless special permission is obtained therefor from the authorities specially charged with the care of public parks.

Central Park.

For that portion of the route along Park Row, and Broadway adjacent to the Post Office, such special precautions will be taken as may be required by the Engineer

Park Row.

For that portion of the route along Centre Street, Lafayette Place, Fourth Avenue, Forty-second Street, Broadway between Forty-second Street and Sixtieth Street, the Contractor will be permitted to conduct its work by open excavation. No opening, unless roofed over with timber so as to permit the passage of vehicles and pedestrians, shall exceed in length four hundred (400) feet, nor in width the distance to the centre of the street or the outer rail of the car track next beyond the centre of the street, if such car track exists, plus such reasonable space in ad-

Centre Street,
Lafayette Place,
Fourth Avenue,
42d Street,
Broadway.

dition as may be required for sheathing, leaving the balance of the street unobstructed for normal surface traffic. No two unroofed openings shall be within five hundred (500) feet in the clear of each other, and every cross street shall be bridged over such opening for a width of at least fifteen (15) feet for a carriageway and with one (1) foot walk in addition five (5) feet in width, except at Fourteenth Street, Twenty-third Street, Fifth Avenue and Sixth Avenue, where the bridging for the carriageway shall be at least thirty (30) feet in width, and for two (2) footwalks in addition, each at least five (5) feet in width.

Openings limited to 30 days.

No open excavation shall be maintained in front of any property for a period greater than thirty (30) working days, unless the consent of the owner of such property shall be filed with the Board. Should it be impossible to restore the pavement within the space of thirty (30) days then, unless permitted by the property owner, or by a special vote of the Board, the Contractor shall maintain a bridge or roof over such excavation, which bridge or roof shall not be subsequently removed for a period exceeding four (4) days at any one time.

New Elm Street.

For that portion of the route along New Elm Street, the Contractor shall be permitted to conduct its work by open excavation, which may be the full width of the tunnel. The Contractor shall, however, maintain bridges at each cross street at least twenty (20) feet in width, and wherever required by the Board, shall so arrange its work as to give access to all property abutting on Elm Street which shall not abut also on a cross street, and not close at one time more than two (2) adjacent blocks against vehicular traffic.

Park Avenue.

For that portion of the route under Park Avenue between Thirty-fourth and Fortieth Streets, the work shall be done by tunnelling without disturbing the surface of the street.

104th Street and Central Park.

For that portion of the route from the east side of the Boulevard between One Hundred and Third and One Hundred and Fourth Streets to the points marked "A" in

Central Park on Contract Drawing No. A 25, and such other portions of the route where the Contractor may so desire, the work shall be done by tunnelling. On the portion of the route above specifically described, the Contractor may establish a shaft of such suitable size as may be necessary, on the easterly sidewalk of Central Park West, leaving, however, a footway for pedestrians to pass the same of not less than six (6) feet in width, which for the protection of pedestrians shall be securely roofed over and be kept lighted at night. From this shaft the Contractor will work both ways to meet the headings driven easterly from the Boulevard and westerly from the point marked "A" on Contract Drawing marked No. A 25. No encroachment on the lands of Central Park at the shaft above-mentioned will be allowed without the express permission of the proper authorities charged with the care of public parks.

On other portions of the route wherever the Contractor may desire to work by tunnelling, it may locate shafts as approved by the Board, of such size and in such locations as will not prevent a reasonable use of the thoroughfares by vehicles and pedestrians, and surface tramways, if they exist.

For that portion of the route lying beneath the Harlem River and the approaches thereto, the work may be conducted by means of compressed air, dredging, open caissons founded on piles, or such other means as the Contractor may prefer and as may be approved by the Engineer. Whatever method, however, is pursued, must give the tunnel a firm foundation without danger of settlement, and must during construction give a free and unobstructed waterway, for the passage of vessels, at least two hundred (200) feet in width. If necessary, the Contractor must keep a channel dredged to a depth at least equal to the minimum channel depth existing in the Harlem River at the time of commencing construction. The Contractor must also maintain suitable signals during both day and night, and during foggy weather, to indicate the position of its temporary work and must, if required by the Engineer, protect the same by guard piles. When

construction is finished, all temporary piles must be drawn and all parts of caissons or other work removed, so that there will be an unobstructed depth of water over the top of the tunnel for the full width of the river measured between the established bulkhead lines as shown by the plans.

Other portions
the Route.

For all other portions of the route north of Sixtieth Street not otherwise specified, the Contractor will be permitted to conduct its work in the most expeditious manner possible, having due regard for the safety of persons and neighboring property and under such reasonable instructions as the Engineer may give from time to time as to facilities to be furnished by the Contractor for the benefit of street travel, both longitudinal and cross.

Along the Boulevard, where in the course of the work it is necessary to destroy the trees in the parkways, the Contractor shall set out if required, wherever there exists four (4) feet or more of top filling over the roof of the tunnel, an equal number of new trees of the same kind not less than fifteen (15) feet in height and with a diameter not less than three and one-half ($3\frac{1}{2}$) inches. These trees are to be bedded in good soil to be approved by the Engineer, and are to be stayed by suitable guys until they have become well rooted.

3. EXCAVATION.

Access to
fire hydrants.

Wherever the work is being carried on by open excavation, access must be given by a bridge to every fire hydrant and fire alarm box, and at all times and in all places no materials must be piled within four (4) feet of any fire hydrant or fire alarm box; and where materials are piled near to a fire hydrant or fire alarm box, and to such height as to obscure a sight of the same, the position of such hydrant or fire alarm box shall be indicated, if required by the Fire Department, by suitable signals, both day and night. And all work in excavation must be so conducted

or bridged, if necessary, as to give the Fire Department access at all times and in all places to any building or buildings for the extinguishing of a fire.

Trenches shall be excavated to such depth in soft ground as may be necessary to permit the laying of such concrete bed or special foundation as may be deemed necessary by the Engineer. In rock they shall be excavated to such depth so that no projecting point of rock shall be within eight (8) inches of the grade of the finished surface of the floor.

Depth of trenches.

Such excavated sand, gravel or stone as in the judgment of the Engineer is suitable for use in mortar, concrete or masonry, may be stored and so used in the work. The balance shall be removed expeditiously and disposed of in any place selected by the Contractor, subject to the ordinances and regulations of the City authorities governing the disposal of such material, and the regulations of the United States Government as to the disposal or dumping of material in and about or near the Harbor of New York. The carting away of excavated material shall be done in residential districts between the hours of 7 A. M. and 8 P. M., unless otherwise specially directed by the Board.

Material excavated.

Hours of removal.

All material which with the permission of the Board may be left temporarily in the street, shall be watered by the Contractor when so directed by the Engineer.

Material to be watered.

For the purpose of facilitating construction and to diminish the period of occupancy of any street for the transportation of material, the Contractor may, with the approval of the Board, lay upon or over the surface of any street temporary tramways to be used only for the removal of excavated materials and for the transportation of materials for use in construction, provided, however, that any such tramway shall be forthwith removed upon the direction of the Board.

Temporary tramways.

All carts, buckets or other vehicles used by the Contractor for the removal of material shall be tight and so arranged when loaded as not to spill over the top. Whenever a cart, bucket or other vehicle so used is leaky, it

Carts to be tight.

shall be immediately withdrawn from the work on notification by the Engineer or his duly qualified assistant in charge of that portion of the work.

Open Excavations.

All open excavations shall be of such width, in addition to that of the railway, as shall be necessary in the opinion of the Engineer, for the proper and expeditious progress of the work, and to permit the laying and readjusting of all sewers, mains, subways and other subsurface structures encountered along the route. The paving, flagging, bridge, curb or gutter stones, if to be re-used, shall be taken at once to be used on another block or shall be piled neatly along the route or in streets adjacent thereto, as may be permitted by the Engineer, but so as not to prevent a reasonable use of the sidewalk by pedestrians, or of the carriageway by vehicles or street cars. The sides of the excavations shall be secured against slips by suitable sheet piling or sheathing, held in place by braces, shores, or waling strips, special precautions being taken where there is additional pressure due to the presence of buildings or other structures. The Engineer may order additional braces and supports, and the same shall be promptly put in place by the Contractor. All such sheet piling, sheathing, bracing, shores and waling strips, shall be put in place by workmen especially skilled for that purpose, and shall be so arranged as to permit their being withdrawn when the trenches are being backfilled. In the event of encountering quicksand, subsurface streams or similar dangerous contingencies, or where passing especially heavy buildings which by their construction or position might bring a great pressure upon the trenches, the right is reserved by the Board for the Engineer to direct that but a short length of trench shall be opened at one time, and furthermore to direct, if necessary, that the same shall be securely sheathed and braced on all sides after the manner of a shaft, and that the permanent work be constructed in such shaft and backfilled before another opening is made. Whenever water is encountered in trenches, the same shall be removed by baling or pumping, great care being taken when pumping that the surrounding particles of soil be not disturbed or removed. If necessary to prevent such

Sides to be secured.

Quicksand.

Pumping.

disturbance, the pumping must be done by a series of driven wells whose points are protected by fine wire cloths, and the rate of flow at each well being made so slow as not to remove the particles of soil; or the pumping must be done by other means approved by the Engineer. The delivery from all pumps shall be conducted into the adjacent sewers, and the delivery pipes shall be so arranged as to be readily inspected at all times to ascertain if the water is free from particles of soil.

Whenever rock is encountered in any trench, and blasting is necessary for its removal, all necessary precautions must be exercised by the Contractor, and before blasts are fired the same must be covered with logs, as required by the ordinances of the City of New York relative to blasting. Explosives shall be used only of such character and strength as may be permitted by the Board, and the right is reserved for the Engineer to direct that in special cases ordinary blasting powder only, in small charges, shall be used.

Blasting.

Wherever any pipe or main is encountered in the trench, right is reserved to direct that all rock within five (5) feet of the same shall be removed by means other than blasting. In residential districts no blasts in open trenches shall be fired, without the special permission of the Board, between the hours of 8 P. M. and 7 A. M. No larger quantity of explosives shall be kept on the line of the work than will be actually required for the twelve (12) hours of work next ensuing, and such supplies shall be divided as far as possible and kept under lock, the key to which being only in the hands of the foreman or other equally trustworthy person. The amount of explosives kept in any one place shall not exceed the limit permitted by any ordinance of the city, or as may be determined by the Board. Caps and exploders shall not be kept in the same place with dynamite and other explosives. During freezing weather, special precautions shall be taken as to the care and manipulation of dynamite.

Hours for
Blasting.

Storage of
Explosives.

4. BACKFILLING.

Layers

The trenches at the sides of and over the top of the tunnel shall be backfilled with sand, gravel, or other good clean earth and free from stones exceeding eight (8) inches in diameter and not containing in any place a proportion of stone below that size exceeding one (1) part of stone to three (3) parts of earth. The filling shall be deposited in layers not exceeding nine (9) inches in thickness, well watered and thoroughly packed by rammers weighing not less than thirty (30) pounds each, and in such manner that no unbalanced pressure can be thrown upon the tunnel or any sewer, pipe or other subsurface structure. Whenever pipes, sewers, or other subsurface structures are met with, the filling must be carefully packed, rammed and tamped under such subsurface structures, using special tools for the purpose. No filling of trenches with frozen earth will in any case be permitted. As fast as the work of filling permits, sheathing and other timber supporting the sides of the excavation shall be carefully withdrawn, or left in place as directed by the Engineer.

Timber to be
withdrawn.

5. PILING AND TIMBERING.

Piles.

At situations where the excavation is in wet ground, or for the foundations of any part of the viaduct portions of the railroad, if in the judgment of the Engineer the ground is of such a character as to require piling, the Board may direct the Contractor to drive piles. Such piles shall be of good sound oak, pine or spruce, straight and free from shakes; they shall be not less than twelve (12) inches in diameter at the butt end, nor less than six (6) inches in diameter at the point, and shall be driven to the satisfaction of the Engineer and by means of a steam hammer driver if so required by him. If necessary the points of the piles shall be protected by proper shoes, and the butts by rings or caps. Piles shall not be spliced unless permitted by the Engineer, and then in

such a manner as he directs. Piles shall be carefully cut off to the grade given by the Engineer.

All foundation timber shall be of pine or spruce, or other timber permitted by the Engineer, sound and free from shakes. It shall be of such dimensions, and laid in such manner, as the special plans to be issued shall require, and held in place by spikes or good seasoned oak or locust treenails.

Foundation timber.

All timber used for sheeting, shoring, bracing, bridging or other temporary purposes, shall be sound and free from any defects that may impair its strength. The top or wearing surface of all bridging used for carriageways shall be of hard yellow pine, sound, straight, and free from all shakes, and large loose knots. All sheathing and timber used temporarily shall be put in place by skilled mechanics, keyed tight by wedges where necessary, and so arranged as to be withdrawn readily without endangering the adjoining soil.

Timber for temporary purposes.

6. TUNNELLING.

All tunnels, unless otherwise ordered by the Board, shall be lined with concrete or brick masonry. Where tunnels are in rock and said rock is dry and free from waterbearing seams, the lining may be of brick or concrete, at the option of the Contractor. Where in wet ground the lining shall be of brick of which at least one ring in the arch and one brick thickness in the sidewalls, shall be laid in asphalt as prescribed in these specifications relative to waterproofing.

Tunnels to be lined.

The spacing between the extrados of the arch or back of the sidewalls and the rock or other materials of excavation, shall be completely filled with dry packing of sound stone of approved size and quality and free from perishable matter, or with rubble masonry laid in natural cement mortar, or with concrete, as may be ordered by the Engineer. The filling of whatever nature to be carefully and thoroughly compacted so as to bring a uniform pressure on the masonry.

Packing.

Extrados to be coated.

Whenever dry packing is used, the extrados of the arch and back of the sidewalls where in contact with such dry packing, shall be covered with a coating of natural cement mortar mixed one (1) portion cement to one (1) portion sand, and not less than one-half ($\frac{1}{2}$) inch thick.

Blasting.

The tunnels shall be excavated to the lines as shown on the plans. Drilling and blasting must be conducted with all possible care and in such manner as not to shatter the roof and sides outside of the section lines, nor endanger adjoining property. Blasts shall not be fired between the hours of 8 P. M. and 7 A. M. where tunnels are in front of private residences, without the express permission of the Board and under such restrictions as it may impose.

Loose Rock.

Whenever any loose rock occurs outside of the lines of the excavation, whose fall or settlement might, in the judgment of the Engineer, produce an unequal or concentrated pressure on the masonry, the same shall be removed.

Drainage of seams.

All seams carrying water shall be carefully drained, as specified under the clauses relating to drainage.

Soft ground.

In soft ground the Contractor must take every precaution, or such precautions as the Engineer may direct, by suitable shields, timbering, lagging or other supports, to prevent any settlement or movement of surrounding ground. Such timber as cannot be drawn without endangering the work or the ground above, shall be left in place and thoroughly surrounded by masonry or dry packing, as the Engineer may direct.

Methods to be approved.

All methods of tunnelling shall be subject to the approval of the Engineer, and be changed from time to time if, in his judgment, the local conditions so require.

Arched cut and cover.

In arched cut and cover work the arching and side walls shall be of concrete or brick masonry, with proper precaution taken in each case to prevent leaks, as prescribed in the clauses relating to waterproofing.

7. CEMENT.

Natural and Portland cement, slow or quick setting, as directed, and equal in quality to the best grades of Rosendale and American Portland cements respectively are to be used and delivered in well made casks or such other packages as may be approved by the Engineer. Best quality.

Before any cement will be allowed to be used, the brand and name of the maker must be submitted to and receive the approval of the Engineer, and no cement will be permitted to be used that is not in all respects satisfactory to him. Brand to be approved.

All cements used shall be subject to inspection and such rigorous tests as shall be ordered by the Engineer, preference being given to cements, however, which, by their records, show a tendency to develop strength steadily for long periods, unless for special purposes cement is required that will develop great strength in a short time. Inspection and tests.

The Contractor must at all times keep in store, at some convenient point in the vicinity of the work, or at the place of manufacture, should the Engineer so elect, a sufficient quantity of cement to allow ample time for tests to be made, and the Engineer shall be notified at once of each delivery. Cements shall be stored in a tight building, each cask or package being raised several inches above ground by blocking or otherwise, and ample storage room must be provided so that each separate lot of not more than one hundred (100) barrels can be stored so as to make it convenient to identify each individual lot in case of its rejection, or in case of the necessity for further tests. Methods of storing.

8. MORTAR.

Sand. All mortar shall be prepared from cement in perfect condition, which has passed the tests required by the Engineer, and clean, sharp sand, free from loam or foreign matter, and approved by the Engineer. These ingredients shall be thoroughly mixed dry in the proportions as specified below; a moderate dose of water is then to be added, so as to produce a stiff paste of the proper consistency.

How mixed. The mortar shall be freshly mixed for the work in hand, in proper boxes made for that purpose, and no mortar shall be used that has become hard or has taken an initial set, nor shall any mortar be used that has stood beyond such limit of time as may be ordered by the Engineer. No retempering of mortar will, under any circumstances, be permitted.

Cement how measured. In mixing mortar, the cement shall be measured as packed in the casks received from the manufacturer, or in other packages equivalent to casks, and the proportions by volume shall be, for the various classes of work, as specified below:

Brick masonry, 1 portion Portland Cement, 2 portions sand.

Column footing stones, 1 portion Portland Cement, 2 portions sand.

Stone masonry, 1 portion Portland Cement, 2½ portions sand.

Rubble masonry, 1 portion Natural Cement, 2 portions sand.

Pointing, 1 portion Portland Cement, 1 portion sand.

Concrete masonry, as specified under the head of concrete.

For other classes of work, as directed by the Engineer.

9. CONCRETE.

The concrete shall be composed of sound, clean, How composed.
screened gravel or sound broken stone, or a mixture of
both, free from all dirt and dust, and mixed together with
the proportion of mortar specified below.

The broken stone or gravel used for concrete for the Size of Stone
finishing floor of the railway, must not exceed one (1) in finishing
inch at their largest diameter. floor.

For all other concrete the maximum diameter for Size of Stone
broken stone or gravel unless specifically permitted by other concrete.
the Engineer must not exceed in any direction two (2)
inches, with a minimum diameter of one-quarter ($\frac{1}{4}$) of
an inch.

In all concrete where the thickness is thirty (30) inches Rubble concrete.
or more, the Contractor may imbed in the same broken
pieces of sound stone whose greatest diameter does not
exceed twelve (12) inches, and whose least diameter or
thickness is not less than three-quarters ($\frac{3}{4}$) of the great-
est diameter. These stones shall be set by hand in the
concrete as the layers are being rammed, and so placed
that each stone is completely and perfectly bedded. No
two stones are to be within six (6) inches of each other
and no stones within four (4) inches of an exposed face.

The proportions of mortar and stone used in making Proportions of
concrete shall be as follows: concrete.

Concrete in arches of roof and sidewalls, where the
thickness does not exceed 18 inches, one (1) portion
Portland cement, 2 portions sand, 4 portions stone.

Concrete in sidewalls or tunnel arches, where backing
is rock in place, 1 portion Portland cement, $2\frac{1}{2}$ portions
sand and 5 portions stone.

Concrete in foundations in wet ground, where thick-
ness, exclusive of finishing floor concrete, does not ex-
ceed 24 inches, 1 portion Portland cement, 2 portions sand,
4 portions stone.

Concrete in foundations in wet ground where thickness,
exclusive of finishing floor concrete, exceeds 24 inches,
1 portion Portland cement, $2\frac{1}{2}$ portions sand, 5 por-
tions stone.

Concrete in foundations in dry ground, 1 portion Portland cement, $2\frac{1}{2}$ portions sand, 5 portions stone.

Concrete in foundations where on rock, if not exceeding 12 inches in thickness, 1 portion Portland cement, $2\frac{1}{2}$ portions sand, 5 portions broken stone. If exceeding 12 inches, 1 portion Portland cement, 3 portions sand, 6 portions broken stone. (NOTE.—If the rock is dry, Natural cement may be substituted for Portland cement in above, but increasing the quantity of cement used thirty (30) per cent.).

Concrete in mass, such as retaining walls, or backing of masonry retaining walls, in dry ground, 1 portion Natural cement, $2\frac{1}{2}$ portions sand, 5 portions stone. If such retaining walls or backing are in wet ground, or subject to extraordinary strain, then Portland cement shall be substituted for Natural.

Stone to be wet.

The broken stone or gravel shall be spread on a platform sprinkled with water, and then thoroughly mixed with the mortar in the proportions as specified above. Machinery for the mixing of concrete may be used if approved by the Engineer.

To be laid immediately.

The concrete shall be laid immediately after mixing and be thoroughly compacted throughout the mass by ramming. The amount of water used in making the concrete shall be approved by the Engineer.

To be allowed to set.

The concrete shall be allowed to set for twelve (12) hours, or more, if so directed, before any work shall be laid upon it; and no walking over or working upon it shall be allowed while it is setting.

Rock to be cleaned.

Before laying concrete on rock surfaces the latter shall be swept clean of the debris and dirt.

How to join new concrete with old.

Whenever it becomes necessary to lay fresh concrete next to or on top of concrete in which the mortar has already set, the surface of the old concrete shall be well washed and a thin layer of clear cement shall then be spread over it immediately previous to the laying of the fresh concrete.

Molds.

Suitable molds shall be provided by the Contractor to support the concrete while being rammed in the walls or

roofs. These molds shall be immediately replaced by new ones as soon as they commence to lose their proper shape. Before being used they shall be carefully cleaned of cement and dirt and shall present to the concrete on the surface afterwards exposed to sight a perfectly smooth surface, to be obtained by covering such portion of the molds with sheet metal, or by carefully planing the wood and coating the face of the same with black oil. In no case on an exposed surface of the concrete must the joints of any competent pieces of the mold, nor the grain of the wood, be visible. The molds shall be set true to line, firmly secured, and be so tight as not to allow water in the mortar to escape. They shall remain in place until the concrete is thoroughly set, and in the event of pressure coming at once on the concrete, such additional time as the Engineer may direct.

On removing the molds, if any voids or irregular connections with the steel framework are discovered, such defective work shall be cut out and filled with a rich concrete or mortar, in such proportion and in such manner as the Engineer may direct.

Voids to be filled.

10. BRICK MASONRY.

Bricks for all masonry, except where enamelled bricks are specified, shall be of the best quality, hard burned bricks, burned hard entirely through, regular and uniform in shape and size and of compact texture. Special bricks of pressed concrete or other equally durable material may be used if approved by the Engineer.

Quality.

Enamelled bricks or tiles will be accepted as "run of kiln," provided that no brick or tile shall go into the work that is unsound, or has any defect that impairs its strength or durability. Enamelled bricks or tiles will be carefully inspected and only "firsts" and "seconds" used in stations,

Enamelled bricks or tiles.

Firsts and seconds.

care being taken to so distribute them that only firsts shall be laid in the most exposed places.

Lower than seconds.

Enamelled bricks or tiles grading below seconds shall be used in the lining of jack-arches over the railway at the stations and in the lining of the sidewalks of the railway for a distance of at least thirty (30) feet in both directions from the ends of the platform.

Fine joints.

Enamelled bricks or tiles must be laid by workmen especially skilled, with very fine joints and perfectly true to line and surface.

Bricks how laid.

All brick masonry shall be laid in mortar of the quality above described, except that in exposed locations coloring matter may be added, if permitted by the Engineer. The bricks shall be laid to line with joints in the face work not exceeding one-quarter ($\frac{1}{4}$) inch in the beds, and three-eighths ($\frac{3}{8}$) inch on ends; the bricks to be thoroughly wet before laying and to be completely imbedded in mortar under the bottom and on the sides and ends at one operation, care being taken to have every joint full of mortar.

Surfaces to be scraped.

All exterior surfaces shall be smooth and regular.

The inside faces of all arches and other exposed parts shall have all the mortar scraped off within three (3) days after the centres have been struck, and shall be pointed and left in neat condition.

Bricks to be culled.

All bricks of whatever nature will be carefully culled before laying, at the expense of the Contractor. No "bats" shall be used except in large masses of brickwork, where a moderate proportion, to be determined by the Engineer, shall be used, but nothing smaller than half bricks.

Unfinished work.

All unfinished work must be racked back or toothed, as directed by the Engineer, and before new work is joined to it the faces of the bricks in the old must be scraped entirely clean, scrubbed with a stiff brush and be well moistened.

Special bricks.

Where necessary to make a neat joint in connection with steel framework, or at corners, curves, or other similar places, special bricks of proper shape shall be furnished and used. All centres made to fit the curves of

Centers.

the work shall be made, put up and removed in a manner satisfactory to the Engineer.

II. STONE MASONRY.

Cut stone masonry will be used for footing stones of columns, copings, ventilating openings, portals, and other exposed surfaces where the line passes from tunnel to viaduct and from viaduct to tunnel. Such masonry, except as otherwise specified, shall be of granite, unless some other durable stone is accepted by the Board.

All stone masonry in connection with portals, and approaches thereto, shall be left with a rock face, rough pointed, or fine hammered, in accordance with the design and the various positions in which the stones are placed. The stones used in such work, or other exposed positions, must be of uniform color, free from all seams, discolorations, and other defects.

Footing stones for columns shall be of the dimensions and shapes shown on the plans, shall be strong and free from defects, and shall be set in Portland cement mortar. Before being set the tops shall be rough-pointed without chisel draft. The vertical sides shall be left quarry faced, the portion of the top where the column base plate is to sit dressed with pean hammers, and the bed brought to a plane such that at no point will it be more than three-quarters ($\frac{3}{4}$) of an inch from a straight edge laid across in any direction. In case the contractor fails to set the footing stones true to line and surface, then they shall be set with their tops about one-eighth ($\frac{1}{8}$) of an inch above the grade called for by the plans, and not less than two (2) days after being set they shall have their tops dressed with pean hammers, so as to form accurate seats for the base plates of the columns. Holes shall be accurately drilled for anchor bolts, and filled with neat Portland cement mortar after the bolts are set in place.

Where used.

How finished.

Footing stones.

To be set high.

Anchor bolt holes.

Portals.

The masonry in the face walls of the portals shall be of first-class rock-faced ashlar.

Retaining walls in cuts.

The retaining walls of open cuts adjacent to tunnel portals shall be faced with good red face bricks for a thickness of at least twelve (12) inches and backed with concrete.

Retaining walls in fills.

The retaining walls of the embankments in the Boulevard at 123d and 133d streets shall be faced with first quality very hard face bricks of color approved by the Engineer and divided into panels by cut stone pilasters all resting on a granite sub-base.

The retaining walls of the embankment in Westchester Avenue shall be faced with first quality very hard bricks or first-class rock-faced ashlar of the quality as described below. The retaining walls at Fort George shall be faced with native stone ashlar.

Sizes of stone.

The sizes of the stones and the depths of the courses shall be according to the plans to be furnished by the Board. All bed joints shall be truly horizontal and all end joints truly vertical. The stones shall be accurately squared, jointed and bedded over their whole surface and laid with one-half ($\frac{1}{2}$) inch joints, except in the native stone masonry where the joints shall not exceed three-fourths ($\frac{3}{4}$) of an inch. The proportion of headers to stretchers shall be as directed by the Engineer, but not less than one (1) header to four (4) stretchers.

Backing of walls.

All retaining walls shall have a backing composed of concrete or good range rubble, made of some sound stone, acceptable to the Engineer, but all thoroughly bonded with and tied to the face of the wall. If rubble be used, the stones must be bedded in the same way as those in the face, but not jointed, and must be well fitted to their places, the interstices being filled with sound stones. If concrete be used, the same shall be composed of materials and mixed in the manner as specified in the clauses relating to concrete. It shall be built up in layers evenly with the stone facing, particular care being taken to have the concrete well rammed, and the headers so set that the facing and backing shall be firmly bonded.

The walls shall be finished with suitable copings as per plans to be furnished by the Board. These copings are to be cut to exact dimensions, with all mouldings, angles and arrises true, well defined and sharp.

Coping stones.

The copings, except at Fort George, shall be surmounted by a masonry wall at least six (6) feet in height. At Fort George the coping shall be surmounted by an iron hand-rail.

Railings.

Refuge niches, archways and quoins, and other special parts, shall be finished in rough pointed work and with stones of such dimensions as called for by the plans to be furnished by the Board.

Refuge niches.

In rock faced work the arrises of the stones enclosing the rock face must be pitched to true lines, the face projections to be bold, and not exceeding three (3) inches beyond the plane of the arrises. The angles of all walls on structures having rock faces are to be defined by a chisel draft not less than two (2) inches wide. In rough pointed work the stones shall at all points be full to the true plane of the face, and at no point shall project beyond one-quarter ($\frac{1}{4}$) of an inch, the arrises to be sharp and well defined. Each stone to have its arrises well defined by a chisel draft one and one-half ($1\frac{1}{2}$) inches in width, unless reduced by the Engineer.

Rock face.

Chisel drafts.

Roughpointing.

In bush-hammered work the faces of the stones shall be brought to a true plane and fine dressed with a bush hammer having six (6) blades to the inch.

Bush hammering.

If directed by the Engineer all stone shall be sprinkled before being laid.

Stones to be sprinkled.

In case, during the progress of the work, any rubble or other masonry of different class from that specified above shall become necessary, or shall be desired by the Board, the same shall be constructed according to the specifications applicable to the best work of such class, and according to the directions of the Engineer.

Rubble masonry.

The pointing of the faces shall be thoroughly made with Portland cement mortar, mixed in the proportion of one portion of cement to one portion of sand.

Pointing mortar.

- Joints to be raked. Unless otherwise permitted, every joint to be raked out within two days after being laid, to a depth of at least two inches.
- Freezing weather. No pointing shall be done in freezing weather and all masonry laid between December 1st and April 1st shall not be pointed until permitted by the Engineer. During freezing weather such masonry only will be built whose construction cannot be postponed, in the judgment of the Engineer, except at the cost of delaying the work. The Contractor must provide salt, or appliances for heating the water and steaming the building materials according to the specific directions of the Engineer.
- Natural cement not to be used in freezing weather. Natural cement will not be permitted to be used in freezing weather. During such weather Portland cement must be substituted in its place.
- Protection during hot weather. During hot weather all masonry, especially concrete, shall be kept wet by sprinkling and be covered until the same has become hard enough to prevent drying and cracking.
- Defective masonry. Any masonry which is found to be defective from any cause at any time before the acceptance of the work must be removed and properly rebuilt.
- Masonry, definition of. The word "masonry," where it occurs in these specifications, covers, unless otherwise specified, masonry of all kinds, whether of concrete, brick or stone.

12. WATERPROOFING.

- Percolation of water to be prevented. It is the very essence of these specifications to secure a railway structure where underground, which shall be entirely free from the percolation of ground or outside water, to which end construction shall be carried out as follows:
- Preparation of foundations. After the soil has been excavated to the required depth and dressed off to a true grade as directed by the Engineer, there shall be laid a bed of concrete of the proportions as herein described, of such thickness as the local conditions demand, in the judgment of the Engineer. On

such bed, which shall be made as level and smooth as possible on the top surface, there shall be spread a layer of hot asphalt, and on such asphalt there shall be immediately laid sheets or rolls of felt, all of the quality hereinafter described; another layer of hot asphalt shall be spread over the felt; another layer of felt laid, and so on until not less than two (2) such layers of felt nor more than six (6) be laid with asphalt between each layer, and below and on top. On top of the upper surface of asphalt the remainder of the concrete as called for by the contract drawings shall be put in place. In dry open soil the felt in the floor concrete may be omitted, the base course of concrete being covered with one good layer of asphalt. In rock excavation, where the same is dry and above water level, both the felt and the asphalt in the floor may be omitted.

Layer of hot asphalt.

Layer of felt.

Omission in dry foundations.

When the I-beam columns of the side walls are set and secured permanently in place, the concrete composing the sidewalks shall be rammed in place in such manner that the back or outer face is flush with the outer flanges of the columns. On such outer face hot asphalt shall be brushed and felt spread in alternate layers, in the manner as described for the foundations, and the backing of concrete then added as shown by the plans. Instead of constructing the side walls with the waterproofing as described above, the contractor may build in dry, open soils, if permitted by the Engineer, and if no additional width of excavation is required for sewers or other purposes, a four (4) inch brick wall supported at the back by the trench sheathing, laid in cement mortar or hot asphalt, and at a distance of at least two (2) inches in the clear from the line of the exterior faces of the side-wall beams, and to attach to it the layers of waterproofing material as described above, and then to ram around the beams and against the waterproofing surface the concrete composing the side walls. Under similar conditions in dry rock excavation, the rock may be excavated so that no projecting point comes within three (3) inches of the line of the exterior face of the side-wall beams and then the rough surface shall be made smooth with a plaster of concrete, and

Side wall construction.

In dry soils.

on such smooth surface the waterproofing material shall be spread, and then the concrete of the side walls rammed against the same in the manner as described above.

Roof construction. The roof of the structure shall be treated in a similar manner by finishing the jackarches to such a height as directed by the Engineer, spreading the asphalt and felt in alternate layers and then adding a cover of concrete, completing the roof as called for by the Contract Drawings.

Continuous water-proof envelope. By the arrangement above described there will be a continuous sheet of asphalt and felt imbedded within the concrete of the bottom, top and both sides, and completely enveloping the structure.

Asphalt, quality of. The asphalt used shall be the best grade of Bermudez, Alcatraz or lake asphalt, of equal quality, and shall comply with the following requirements: The asphalt shall be a natural asphalt or a mixture of natural asphalts, containing in its refined state not less than ninety-five per cent. (95%) of natural bitumen soluble in rectified carbon bisulphide or in chloroform. The remaining ingredients shall be such as not to exert an injurious effect on the work. Not less than two-thirds (2-3) of the total bitumen shall be soluble in petroleum naphtha of 70° Baumé or in Acetone. The asphalt shall not lose more than four (4) per cent. of its weight when maintained for ten (10) hours at a temperature of 300 degrees Fahrenheit.

Chemical composition.

Coal tar prohibited. The use of coal tar, so-called artificial asphalts, or other products susceptible to injury from the action of water, will not be permitted on any portion of the work, or in any mixtures to be used.

Felt, quality of. The felt used in waterproofing such part of the structure as is below ground water level shall be composed of asbestos or other equally non-perishable material dipped in asphalt and weighing not less than ten (10) pounds to the square of one hundred (100) feet. The felt used in other parts of the structure shall be the same as the above, or of the best quality of coal tar felt weighing not less than fifteen (15) pounds to the square of one hundred

(100) feet, except that if the latter be used, one layer more will be required than of the former. All felt shall be subject to the approval of the Engineer.

The surfaces to be waterproofed shall be smooth without projecting stones, or made smooth where necessary by a coating of mortar made of one portion Natural cement to one portion sand, and should be dry before the asphalt is applied.

Surfaces to be smooth.

Means for artificially drying the surface of concrete may be taken by the Contractor by blowing warm air over it, or as otherwise permitted by the Engineer, but not until the concrete has had at least forty-eight (48) hours to set.

Artificial drying.

Each layer of asphalt fluxed as directed by the Engineer must completely and entirely cover the surface on which it is spread without cracks or blowholes.

No cracks or blow holes.

The felt must be rolled out into the asphalt while the latter is still hot, and pressed against it so as to insure its being completely stuck to the asphalt over its entire surface, great care being taken that all joints in the felt are well broken, and that the ends of the rolls of the bottom layer are carried up on the inside of the layers on the sides, and those of the roof down on the outside of the layers on the sides so as to secure a full lap of at least three (3) feet. Especial care must be taken with this detail.

Felt to be carefully laid.

None but competent men, especially skilled in work of this kind, shall be employed to lay asphalt and felt.

Skilled men.

When the finishing layer of concrete is laid over or next to the waterproofing material, care must be taken not to break, tear or injure in any way the outer surface of the asphalt.

Top surface of asphalt not to be broken.

The number of layers of felt on the sides and under the floor shall in no case be less than two (2) in ground that is quite dry, and where there is a water pressure against the masonry equal to twelve (12) feet not less than six (6) layers. Where the water pressure is less than twelve (12) feet, or where the ground is damp, such number of layers between three (3) and six (6) shall be

Number of layers of felt.

used as the Engineer may direct. The number of layers of felt on the roof shall be not less than three (3) of asphalted asbestos or four (4) of tarred felt.

Bricks
dipped in asphalt.

At any point where the Contract Drawings and the Engineer permit, the Contractor may lay, instead of the asphalt and felt above described, one or more courses of bricks dipped in hot asphalt of the above described quality, and laid while the coating of asphalt is still hot.

Asphaltic concrete.

In foundations the Contractor may lay, if it prefer, instead of the ordinary concrete with the layer of waterproofing material, as above described, a bed of asphaltic concrete, composed of broken stone of the qualities previously described for concrete, heated in a suitable heater to such proper temperature as the Engineer may direct, and when so heated have added thereto the melted asphalt of the quality as described above, and in such proportion as to insure a covering of each particle of stone with asphalt, and the whole mass shall then be thoroughly mixed and incorporated in a suitable mixer. Such asphaltic concrete shall be spread in place and thoroughly rolled and compressed so that it will present a smooth, even surface, that will be impervious to water. No asphalt shall be heated to exceed a temperature of 325 degrees Fahrenheit.

Rolled and
compressed.

Waterproofing
when omitted.

In masonry lined structures where there is no steel work and the ground is dry the regular waterproofing may be omitted, but in that case in arched cut and cover work the extrados of the arch shall be coated with hot asphalt of the quality described or the best grade of refined Trinidad.

Leaky masonry
to be rebuilt.

Any masonry that is found to leak at any time prior to the completion of this work shall be cut out and the leak stopped, if so ordered by the Engineer.

13. DRAINS AND PUMPS.

Railway to be
self-draining.

Every part of the railway, the stations and their appurtenances connected therewith, must be so arranged that any water finding access thereto will be led away automatically to the City sewers.

Where the underground portion of the railroad is on an inclined gradient, and is constructed in dry, porous soil, the floor of the railway may be depended on to act as a conduit. At the bottom of the inclined gradient connections must be made with a sewer or with subdrains lying beneath the railway and draining into the sewers.

Where floor may act as conduit.

Along such parts of the work where the soil is not porous, or where the floor of the railway cannot, in the judgment of the Engineer, be used as a conduit, there shall be laid beneath the rail level and on a continuous descending gradient, drain pipes of vitrified salt-glazed stoneware, of the quality described in these specifications for sewer pipe. Such drain pipe shall be of such diameter not exceeding twelve (12) inches, as the Engineer may direct, and there shall be one such drain for each two tracks. Each drain shall be laid in the concrete or directly in the soil with tight or open joints, in such manner and in such position as in the opinion of the Engineer local circumstances require.

Sub drains.

Where the railroad is constructed in rock excavation or in tunnel, drains formed of broken stone or tile and of sufficient capacity, shall be set at every seam or fissure bearing water, and elsewhere as directed by the Engineer. These drains shall be built outside of the sidewalls of the railway, shall be connected with the main drains, and all so arranged as to lead away into the sewers any water that may find its way through the rock.

Rock excavation, drains in.

Where drain pipes connect with the city sewers, the junction shall be protected by traps to prevent back rush of water or gas from the sewers. Connections with the railway shall be as necessity demands and all as directed by the Engineer.

Traps.

Whenever the grade of the railway passes below the bottom of adjacent sewers there shall be constructed a sump connected with the subdrains or the floor of the railway. Such sump must be water tight with a capacity of not less than eight hundred (800) gallons. At every sump there must be an electric or other improved pump

Sump.

Automatic pump. with a capacity of four hundred (400) gallons per minute against a head of fifteen (15) feet. Such pump must be arranged to work automatically. The delivery of such pumps shall be into the city sewers or elsewhere, as directed by the Engineer.

14. STEEL AND IRON.

Medium and rivet steel. The steel used in this work shall be of two grades, medium steel and rivet steel. All steel shall be made by the open-hearth process, and may be either acid or basic, with the following maximum limits of phosphorus:

		ACID.	BASIC.
Phosphorous limits.	Medium steel06%	.04%
	Rivet steel06%	.04%

No irregularities. The finished work shall be perfect in all parts and free from irregularities, surface imperfections of all kinds, and piping. No deficiency in the cross-section or weight of sections, as called for by the plans, exceeding two and one-half ($2\frac{1}{2}$) per cent., will be permitted.

Melt number. The original melt number must be painted or stamped on all ingots, blooms, billets, and slabs, in order to identify the material throughout the various processes of manufacture, and the original melt number, together with the furnace heat number, in case of eyebar flats, must be stamped on each piece of finished material, except in the case of rivet steel and small pieces not forming part of the calculated sections and members, which may be shipped in bundles wired together, with the melt number on a metal tag attached.

Sample bars. Two sample bars not more than two (2) inches wide, having a sectional area of not less than one-half ($\frac{1}{2}$) square inch, shall be cut from the finished product of every melt. When taken from metal more than two inches thick, they may be turned round bars. Tests shall

be made on these sample bars in their natural state, without annealing. Measurements to determine elongation shall be made on an original length of eight (8) inches. When a melt is rolled into several classes of shapes, the material of each class shall be separately tested, in which event one sample bar for each class will suffice. The test pieces when tested in a lever machine shall on an average for each melt fulfill the following requirements:

	Ultimate strength, lbs.	Elastic limit, lbs.	Elongation, %	Reduction of area, %	Requirements.
Medium steel	58,000 to 66,000	33,000	20	44	
Rivet steel,	50,000 to 58,000	28,000	27	54	

The entire fracture shall be silky.

A piece of each sample bar, whose thickness is at least five-sixteenths (5-16) of an inch, after being heated to a cherry red, and cooled in water at a temperature of seventy (70) degrees Fahrenheit, shall be bent cold one hundred and eighty (180) degrees and closed up against itself. In no case shall any crack appear until the diameter of the circle around which the bar is bent becomes less than the thickness of the bar.

Bending tests.

In the case of rivet steel, the sample bar shall close up against itself without showing any crack or flaw.

Punched holes pitched two (2) inches from a sheared or rolled edge in a piece at least three-eighths ($\frac{3}{8}$) inch thick, must stand drifting until their diameters are fifty (50) per cent. greater than those of the original holes, without signs of cracking in the plate.

Punching tests.

Duplicate tests may be made when the test pieces pass five (5) of the above-mentioned requirements, and the chemical analysis. If the second tests pass all requirements the melting will be accepted.

Duplicate tests.

All castings shall be made of tough gray iron which shall exhibit a uniform and closely grained fracture free from any white, mottled or vitreous appearance. It shall be soft enough to be readily cut, drilled and chipped, and

Cast iron.

when struck on a corner or edge with a hammer, the metal shall indent and not break off.

Tests.

The metal must exhibit a tensile strength between eighteen thousand (18,000) and twenty-four thousand (24,000) pounds per square inch when measured on a test specimen, from which the external coating or skin has been entirely removed by turning, planing or milling. When tested in the rough state with the "skin" retained, sample bars or castings having a uniform width and depth of one (1) inch and a length of forty (40) inches shall, when placed horizontally upon two sharp edged supports thirty-six (36) inches apart, sustain at their middle point a gradually applied load of seven hundred and fifty (750) pounds, with a deflection at the centre of four-tenths (0.4) to six-tenths (0.6) of an inch.

Test bars.

The Contractor shall make, prepare and provide at least two (2) of the said cross breaking test bars and the same number of said tensile test bars from each charge or running of the metal actually used in the manufacture of any castings for said work. Two of the test bars of each set shall be poured at the beginning and two at the end of each charge or running. The tension bars shall be of such size and form as may be required by the Engineer or his representative. All such specimens are to be true samples of the iron used in the castings made from said charge or running. All test specimens are to be properly numbered for reference.

Average of tests.

In judging the suitability of the metal, the average of these tests shall be considered as representing the strength of the metal as required aforesaid.

Cast steel,
annealed.

All steel castings shall be annealed.

Test pieces.

Every steel casting shall be made with a coupon for testing, which coupon shall be cut off after annealing, and the test shall be made from a three-quarter ($\frac{3}{4}$) inch round cut from the coupon. The test piece shall show an ultimate strength of at least seventy thousand (70,000) pounds, an elastic limit of not less than thirty-five thousand (35,000) pounds, an elongation of at least fifteen

Tests.

(15) per cent. in two (2) inches, and a reduction of area of twenty (20) per cent. at the point of fracture.

When the bearing surface of any steel casting is finished there shall be no blowhole visible exceeding one (1) inch in any direction, nor exceeding one-half ($\frac{1}{2}$) inch in area. The length of the blowholes gauged by any straight line laid in any direction, shall never exceed one (1) inch in one (1) foot. Blowholes.

All portions of the metal work exposed to view, especially at stations or on viaducts, shall be neatly finished. Pains being taken with any ornamental work to give it an attractive and artistic appearance. Neat finish.

All rolled members shall be carefully straightened at the shop before assembling. Shapes to be straightened.

The nominal size of the rivets shown on the plans shall be understood to be the actual size of the cold rivets before heating. Rivets when driven must completely fill the holes, have full heads concentric with the rivet holes, and be machine driven wherever practicable, the machines to be capable of retaining the applied pressure after the upsetting is completed. The rivet heads must be fully and neatly finished, of approved hemispherical shape, and in full contact with the surface, or be countersunk or flattened when so required, and of a uniform size for the whole diameter of the rivet throughout the work, and must bind the connecting pieces thoroughly together. Rivets.

All loose or otherwise imperfect rivets must be cut out and replaced. No tightening of rivets by caulking or re-cupping will be permitted. Imperfect rivets.

Rivet holes must be accurately spaced. Accurate spacing of holes.

The use of drift pins will be allowed only to bring together the several parts forming a member, and they must not be driven with sufficient force to distort the metal about the holes. Drift pins.

If any hole has to be enlarged to admit the rivet, it must be reamed. Holes how enlarged.

Rivet holes,
when punched.

Rivet holes in the cross frames, lateral connections, columns where the rivets are shop-driven, and such other holes in the metal of the viaduct portion of the work not exceeding five-eighths ($\frac{5}{8}$) of an inch in thickness, as the Engineer may permit, and rivet holes in members composing the frame of the underground structure, except rivet holes for splices in the bottom flanges of roof beams, may be made by a punch whose diameter is one-sixteenth (1-16) of an inch greater than that of the rivets called for by the plans.

All punched holes shall be free from torn or ragged edges, sharp fins being trimmed off before rivetting.

Rivet holes
reamed 1-16 inch.

Rivet holes in the viaduct work other than those specified above, and in splices and connecting splice plates of the underground structure, as above mentioned, shall be made by a punch whose diameter is not greater than that of the rivets called for on the plans, and subsequently increased by reaming to a diameter one-sixteenth (1-16) inch greater than the rivets specified. Before this reaming takes place, all the pieces to be rivetted shall be assembled and bolted into position. After reaming, every hole shall be entirely smooth, showing that the reaming tool has everywhere touched the metal. Should such reaming fail to produce a perfect match of cylindrical holes, then the rivet holes must be made by a punch whose diameter shall be one-eighth ($\frac{1}{8}$) of an inch less than the specified rivets, and subsequently increased by reaming three-sixteenths (3-16) of an inch. When required by the Engineer a reamer shall be run on the outer edge of holes so as to remove the sharp edges and make a fillet of at least one-sixteenth (1-16) inch in width under the rivet head.

Rivet holes in
metal over $\frac{5}{8}$ -
inch thick.

Rivet holes in the flanges of important built up girders whose thickness is over five-eighths ($\frac{5}{8}$) of an inch shall be made by a punch whose diameter is one-eighth ($\frac{1}{8}$) of an inch less than the specified rivets, and shall be subsequently increased by reaming three-sixteenths (3-16) of an inch.

Reaming of
field rivets.

All holes for field rivets, where reaming is called for by the preceding paragraphs, shall be reamed to iron templates

at least one (1) inch thick, or shall be reamed while the connecting pieces are temporarily assembled either in shop or in the field. If such work is done in the shop, the connecting parts must be matchmarked to insure similar positions in erecting.

All built-up members, when finished, must be true and free from twists, kinks, buckles or bent joints between component pieces. All abutting surfaces of compression members, except flanges of plate girders, must be planed or turned to even bearings, so that they shall be in perfect contact.

All I-beam and built-up columns, after gusset plates are rivetted on, shall be faced top and bottom perpendicularly to the axis and to exact length. The lug angles shall then be set so as to produce an even bearing as determined by a straight edge. If lug angles are not set to give an even bearing, then the same shall be rivetted on before facing, but such facing shall not reduce the thickness of angles more than one-sixteenth (1-16) inch. The base and capplates must also be true to surface.

Web-plates must not project beyond the flange angles, nor be more than one-quarter ($\frac{1}{4}$) of an inch from the same. The web stiffeners of the plate girders shall in all cases form a close bearing against the flange angle.

The ends of all stringers, and longitudinal and abutting girders, shall be faced true and square or to exact bevel, as called for by the plans. The header angles shall be so accurately fitted that when the ends of the stringers or girders are faced to the figured length, the amount of metal removed shall not reduce the thickness of the ends of the header angles by more than one-sixteenth (1-16) inch, while securing a true surface on the whole width of the connection.

The abutting ends of the beams in the roof of the underground portion of the work must either be faced or cold sawed so smooth, true, square and perfectly perpendicular to the longitudinal axis of the beams that joints will be tight and give full bearing of beam ends.

All plates thirty-six (36) inches and less in width shall have universal mill rolled or planed edges.

Members to be true.

Bearing surfaces planed.

Columns to be faced.

Web plates.

Ends of abutting girders to be faced.

Beam ends.

Universal mill plates.

- Turned bolts. When members are connected by bolts which transmit sheering stresses, the holes must be reamed parallel and the bolts have a driving fit.
- Anchor holes. All anchor bolts are to be of soft steel with cold pressed or rolled members and so made that when tested to destruction, the threaded portion of the bolts will develop greater strength than the unthreaded portions of the same.
- U. S. standard threads. All threads and nuts, unless otherwise ordered, shall be of the United States standard.
- Machined surfaces coated. All machined surfaces shall be coated with white lead and tallow.
- Steel to be carefully handled. Great care must be taken in handling steel. Straightening after punching must be conducted so as to reduce the risk of cracking to the minimum.
- Steel not to be worked cold. Steel sections must not be hammered cold or worked at a black heat. When any part of the steel piece in which the full strength is required has to be heated for working, the whole shall be afterwards annealed.
- Annealing.
- Damage in transportation to be avoided. All parts shall be loaded for shipment from the shops, so as to avoid injury in transportation. In shipping or handling at any time, every care shall be taken to avoid bending or straining the pieces, or damaging the paint.
- Injured pieces to be rejected. All pieces bent or otherwise injured will be rejected.

15. PAINTING.

- Metal to be cleaned. The metal work before leaving the shop shall be thoroughly cleaned and have all loose rust and scale removed to the satisfaction of the Engineer, and be given one (1) coat of either pure red lead and pure boiled linseed oil, mixed in the proportion of twenty (20) pounds of red lead to a gallon of paint, or one coat of such other paint as may be approved by the Engineer. After erection the metal work shall be cleaned from dirt or other objectionable matter that may be found thereon, and then thoroughly and evenly painted with two (2) additional coats of paint of a kind and color to be approved by the Engineer.
- Kind of paint.
- After erection.

In the case of members buried in concrete, the third coat may be omitted, if permitted by the Engineer, and provided that any damage to the first coat is thoroughly repaired before the application of the second.

Surfaces of built-up members in contact, or inaccessible after assembling, shall be cleaned before assembling, and shall be painted with one (1) heavy coat of red lead or such other paint as the Engineer may permit. The parts shall be at once assembled for riveting, but while the paint is still fresh.

Surfaces in contact to be painted.

All recesses that might contain water, or through which water could enter, must be filled with thick paint or a waterproof cement of ground skins before receiving final painting.

Recesses to be filled.

All surfaces so close together as to prevent the insertion of a brush, must be painted thoroughly by using a piece of cloth.

Use of cloth.

All three (3) coats of paint applied to the metal work must be of distinctly different colors or shades, and the previous coat must be thoroughly dry before the next one is put on.

Coats of different shades.

All materials for painting shall be subject to the closest inspection and chemical analysis, and the detection of any inferior quality of material, or adulterant, shall involve the rejection of all such material and the scraping and repainting of such portions of the work which were painted with it.

Inspection and analysis.

The mixing and application of paint and the preparation of the surface before the application of the paint, will be subject to the closest scrutiny.

No painting in rainy or freezing weather shall be done without the approval of the Engineer.

No painting in rainy or freezing weather.

The surface of the concrete and brick walls, and roof arches, shall be white plastered, or shall be painted with three (3) coats of light color, to the satisfaction of the Engineer. This paint may be spread on by machinery.

Walls and roof.

The final coat of paint at stations shall contain such a proportion of granulated cork as shall be directed by the Engineer.

Cork Paint.

16. TRACK.

The track shall be laid of the best materials and to the standard and in the manner best calculated to make a track on which trains can be run at the highest attainable speeds with the minimum of jar and noise.

Track under-ground.

In the underground portions of the railway the track shall consist of rails laid on a continuous bearing of wooden blocks, the grain of which is to be transverse to the length of the rail. The blocks are to be held in place by guard rails secured to metal cross ties imbedded in concrete. The method of procedure shall be to set the cross ties accurately to grade and support them by blocking until the concrete composing the finishing floor can be rammed into place and has set. This concrete must be brought to a true surface, to exact grade, and flush with the tops of the cross ties as tested by a level and straight edge. On this foundation there will be laid and secured the guard rails, wooden blocking and track rails, as shown by the plans and according to the directions of the Engineer.

Tracks on viaducts.

The track on viaducts shall consist of rails laid on cross-ties with wooden guard timbers, in the manner as described hereafter.

Rail section.

The section of the rail rolled shall conform to the section adopted as standard by the American Society of Civil Engineers, a templet of which will be furnished by the Board. The weight of the rail per linear yard shall be not less than eighty (80) pounds. No variation in height exceeding one-sixty-fourth (1-64) inch from the standard section will be permitted, and the fit of the fishing or male templet shall be maintained perfect.

Length of rails.

The standard length of rails shall be not less than thirty (30) feet. Rails of shorter length will be accepted to the extent of ten per cent. (10%) of the order, but no rail less than twenty-six (26) feet in length will be accepted as No. 1 quality.

The rails shall be No. 1 rails, except as hereinafter otherwise permitted, and free from all mechanical defects and flaws. They shall be sawed square at the ends, and the burrs made by the saws carefully filed off, showing clean surfaces on the faces of the web and head of the rail.

No. 1 quality.

The rails shall be smooth on the head, and straight in all directions of surface and line, without any twist, waves or kinks; particular attention being given to have the ends of the rails without kinks or drops.

Rails to be smooth and straight.

Rails must not be overcambered to cool.

Not over-cambered.

Cold straightening of the rails by "gagging" sufficient to leave distinct marks of the "gag" on the head of the rail, will not be allowed.

Gagging.

If required by the Engineer, holes shall be drilled in the web for plate joints or fastenings in such manner and of such size and spacing as he shall direct. All holes must be accurate in every respect and finished without burrs.

Joint holes.

The number of the charge and the name of the maker, and the month and year of manufacture, shall be marked in plain figures and letters on the side of the web of the rail.

Marks.

The chemical composition of the rails will be left to the railmaker's judgment, except

Chemical composition.

Carbon must not be less than .55% nor exceed .65%.

Phosphorus must not exceed .085% ;

Sulphur must not exceed .07% ;

Silicon must not be less than .10%.

While the heat is being cast, two (2) test ingots shall be made; the first from steel going into the first regular ingot; the other from metal representing the last one. These test ingots shall be three (3) by three (3) inches, and not less than four (4) inches long. From these ingots, bars at least one-half (1/2) inch square shall be drawn at one heat by hammering. Each bar when cold shall be bent, without breaking, to not less than a right angle. Should one (1) bar from a heat fail and the other stand the test, a third bar may be taken from a bloom

Test ingots.

rolled from the ingot represented by the failed one. If this stand the test it shall be accepted in lieu of the failed one. If the makers choose, more than two (2) test ingots shall be taken, but they must be from the steel of the first and last regular ingots. If this be done and a test bar fail, another one may be drawn from the duplicate ingot and tested, and if it stands be accepted.

Breaking tests.

A rail-butt from each conversion shall be placed either head or base upwards on solid steel or iron supports, the distance apart of which, in the clear, shall be four (4) feet; and upon it shall be dropped a weight of two thousand (2,000) pounds falling freely from a height of twenty (20) feet. Should a test fail to stand the drop without breaking, a second one may be made. If it also fails, all rails made from that heat shall be rejected; but if the second test stands, then a third one shall be made, and if this be successful, the rails of that conversion shall be accepted.

Ingots, treatment of.

The treatment of the steel while being cast into ingots and the treatment of the ingots and blooms, shall be according to the latest practice of steel makers. The top end of each ingot shall be cut off sufficiently to show solid steel. After the ingots are cast they shall be kept in an upright position either until ready to be rolled, or until the interior steel has had time to solidify.

Bled ingots.

No "bled" ingots, or ingots from chilled or badly teemed heats, shall be used. In reheating blooms, care shall be taken not to overheat them.

No. 2 rails.

No. 2 rails will not be accepted without the distinct permission of the Engineer. Such rails shall be laid only in storage tracks in terminal yards.

No. 2 rails, quality of.

In order that the rails may be accepted as No. 2 rails, they must conform to the specifications for No. 1 rails, except that they will be accepted in lengths not less than twenty-two and a half ($22\frac{1}{2}$) feet, with a flaw in the head not exceeding one-quarter ($\frac{1}{4}$) inch and flaws in the flanges not exceeding one-half ($\frac{1}{2}$) inch in depth, and may be made from imperfectly poured ingots.

No. 2 rails must be distinctly marked, as directed by the Engineer, before leaving the shops, so that on no account may they be mistaken for No. 1 rails.

To be distinctly marked.

The rail-maker shall supply, without cost to the Engineer, the requisite facilities for inspection and test, and shall furnish a carbon analysis of each heat and such other analyses as the Engineer may require. Should the inspector reject any rails of a heat that show imperfect or improper handling of the metal, all rails of that heat shall be rejected.

Test facilities to be furnished by rail maker.

At any time before shipment, the Engineer or his duly authorized inspector shall have the power to reject any material or finished pieces that, in his judgment, do not comply with the specifications, or which in material or workmanship are not first class in every respect.

Rejection.

In loading rails or unloading them from the cars, or in handling them at any other time up to and including the actual laying, care must be taken not to bruise them or drop them from a height, or to let them fall upon each other.

Handling of rails.

The rails shall be laid truly to exact line, and so that the distance between the inside faces on tangents shall be four (4) feet eight (8) and one-half ($\frac{1}{2}$) inches, and on curves such additional width as the degree of curvature shall require. The rails of the track of curves, whether in tunnel or on viaduct, shall be bent previously to laying by an approved rail bender, to correspond exactly with the curvature of the line. No springing of rails to curve will be permitted.

Rail laying.

Gauge.

Rail bender.

All cutting of rails to close at switches, frogs, or elsewhere, shall be done with a saw.

Cutting of rails.

The rail surface must be exactly true longitudinally, and both rails of the same track shall be set so that their tops are on the same level, transversely, except on curves, where the outer rail must be set at a higher elevation than the inner rail, the amount of such super-elevation depending on the degree of curvature and the location and situation of curves as governing the speed of trains at such point,—and obtained by sloping the concrete floor or by

Rails level transversely.

Superelevation.

- varying the thickness of the bearing blocks, or by both, as directed by the Engineer. The amount of such super-elevation for each case will be furnished by the Engineer.
- Broken joints.** Rails shall always be laid with broken joints; that is, the joints in one line of rails are to be opposite the centres of the other line of rails in the same track; and on viaducts the joints in the rails in each track are to be opposite the corresponding quarters of rails in the adjoining track.
- Metal shims.** Where rails are laid with fished joints, iron shims of thickness depending on the temperature when laying, and as ordered by the Engineer, shall be used; and while laying, at least the last three (3) consecutive shims must remain in position.
- Joint.** The joint used shall be approved by the Engineer.
- No unevenness.** No burr, projection or unevenness will be permitted on the top or on the gauge side of the head.
- Skilled workmen.** All lining, gauging, levelling, spiking, bolting and other work in connection with the laying of the track, must be done by specially skilled workmen in a manner entirely satisfactory to the Engineer.
- Wooden bearing blocks.** The wooden bearing blocks on which the rails in tunnel shall rest, shall be sound, white oak, or long-leaved yellow pine. They are to be on tangents four (4) inches deep and on curves such other depth and taper as required by the super-elevation. They are to be twelve (12) inches long, and eight (8), ten (10) or twelve (12) inches in width. All dimensions shall be exact and the faces shall be dressed on the top and bottom in order to get an even bearing.
- Wooden cross ties.** The cross ties on viaducts shall be of long-leaved yellow pine, dressed on all sides to the specified dimensions. On tangents they shall be seven (7) inches deep, eight (8) inches face, and eight (8) feet long, and on curves such additional depth as to permit their being tapered to fit the super-elevation.
- Spacing.** Ties must be accurately spaced eighteen (18) inches centre to centre and laid at exact right angles to the line of track, and so that the projecting ends shall form a line

on both sides parallel to the centre line of the track. Their top surfaces must form a true plane, as tested by a straight edge fifteen (15) feet long. In order to comply with this requirement ties must be sized on their under side to fit or overcome any cover plate or other irregularity, and holes must be bored one and three-quarters ($1\frac{3}{4}$) inches diameter and not exceeding three-quarters ($\frac{3}{4}$) of an inch deep, to permit ties to rest over rivet heads where the same exist.

Sizing for irregularities.

On every tie and in the proper place beneath the rail seat, there must be set a tieplate having ribs running longitudinally with the cross tie. Such tieplates must be pressed into position, if required by the Engineer, before the rails are laid.

Tieplates.

Each tie, where resting on the top flange of longitudinal girders, shall be held to the flange of the same by hook bolts with nut-locks.

Held by hook bolts.

Every third tie shall be of such additional length as to permit a footwalk three (3) feet wide as measured from the side of the car, to be laid by means of longitudinal planks, and protected on the outside by a hand rail of pattern to be approved by the Board.

Foot walk.

Guard rails shall be laid the whole length of each track and on both sides of the rail. In the under ground work these guard rails shall be of steel in the shape of bulb angles or such other form as may be permitted by the Engineer. On viaducts they shall be of long leafed yellow pine timber, six (6) inches wide, eight (8) inches deep outside of the rails, and six (6) inches deep inside of the rails, and about thirty (30) feet long. Each pair of outside or inside guard rails shall be secured to alternate ties by three-quarter ($\frac{3}{4}$) inch bolts, and the outside guard rails shall be notched one (1) inch over the ties. The joints between connecting timbers shall be made by a lap joint at least eighteen (18) inches long and a close fit. On the inside of sharp curves wooden guard rails may be omitted and a guard rail consisting of track rail laid in place. The flange of such rail shall be planed off to permit the guard rail to be set against the track rail. Guard

Guard rails.

rails shall be set at such a distance from the track rails as may be directed by the Engineer.

Timber,
quality of.

All timber used in connection with the track shall be thoroughly sound and free from sap, shakes, decay, or any other defects which, in the judgment of the Engineer, might impair its strength, durability or serviceability for the special uses intended, and after being dressed to the dimensions required shall be preserved against decay by some process satisfactory to the Engineer.

Preserved.

Frogs and
switches.

All frogs, switches and other appurtenances of a similar nature, must be of such design as to give an unbroken or continuous bearing on the main track rails, and all such devices must receive the approval of the Engineer before being laid. All switches, as far as practicable, shall be laid trailing.

Fastenings.

All angle bars, bolts and nuts, washers, nutlocks, hook bolts, spikes, and other material used in connection with the track, shall be according to the plans issued by the Board or as may be approved by the Engineer.

Timber, framing
of.

All framing of timber must be neatly done. Holes must be bored truly, and recessed holes such as for washers or rivet heads, are to be bored with augurs with stop gauges. The size of augurs used, as a general thing, to be only large enough to permit the bolt to pass the hole easily.

17. SEWERS.

Sewers and appurtenances are to be built of the materials, sizes and dimensions, on the lines and in the manner shown by Contract Drawings Numbers B 1. to B 46.

General clauses to
govern.

The general clauses in these specifications relating to excavation, both in open trench and tunnel; backfilling; cement; mortar; masonry; piling; timber work of all kinds; care of streets and public places, maintenance of surface and sub-surface structures; protection of persons

and neighboring property; repaving or restoring of the surface of the street or other public places; responsibility of the Contractor; authority of the Engineer to examine and condemn materials; and the power of the Board and the Engineer in all or any other respects to enforce this contract, apply to the construction and reconstruction of sewers, water mains or pavements, unless specifically amended or exempted below, both along the route occupied by the railway and elsewhere.

All necessary bull's eyes or spurs for connection of branch sewers, whether of brick or pipe, are to be built in the proposed sewer at the points indicated on the Contract Drawings, and at other points as the Engineer may direct. **Spurs.**

All the mason work throughout, whether of brick or stone, will be laid in cement mortar, made and laid as described in these specifications, except when otherwise ordered in writing by the Engineer. **All masonry to be laid in cement mortar.**

All the trenches, while the foundations are being laid and the masonry being constructed, must be kept entirely free from water at the Contractor's expense, and the sides of the excavations must in all cases be strongly and thoroughly sheeted and shored. **Excavation to be sheeted and kept free of water.**

If it should be found upon excavating, that the proposed sewers, culverts or receiving basins would follow the line or occupy the place of any existing sewer, culvert, drain or water pipe, the Contractor shall, if the Engineer so directs, remove such sewer, culvert, drain or water pipe and rebuild and relay the same in such place and in such manner as the said Engineer shall direct, and if in the opinion of the Chief Engineer of the Department of Water Supply, it be necessary to temporarily remove and relay any water pipe, the same shall be done by the Contractor or by the said Chief Engineer, and the expense thereof shall be borne by the Contractor; and all existing sewers, culverts, drains and house connections intercepted by the proposed sewers, culverts or receiving basins, shall be connected with the new work in such manner as the Engineer **Existing sewer to be removed.**

shall direct; and all sewers, drains, basins, or culverts rendered unnecessary, or becoming disused by the construction of the work herein contemplated, must be filled in and made solid, in the manner directed, with good, wholesome earth.

Allowance of time for delays.

Should postponement or delay be occasioned by the precedence of paving or other contracts, which may be either let or executed by the Department of Highways before or after the execution of this contract, on the line of the work, no claims for damages therefor shall be made or allowed; nor shall any claim for damages be made or allowed in consequence of the street or the adjoining sewers not being in the condition contemplated by the parties at the time of making the contract, except that if the Contractor shall be delayed in the performance of his work by reason of the street or the adjoining sewers not being in such condition, an allowance of time shall be given in the completion of the work equal to the delay so occasioned.

Connections present sewers.

The connections with the present sewers are to be made in a workmanlike manner. Wherever the proposed sewers connect with manholes into which pipes of unsuitable size for such connections have been inserted, the same shall be carefully taken out and new connections made without injuring the manholes. The ends of all sewers, branches and spurs to be securely closed with brick masonry of approved stoneware covers.

Trenches.

The ground shall be excavated in open trenches to the necessary width and depth, or as directed by the Engineer.

Trenches, dimension of.

The trenches for sewers in streets other than the route of the railroad, shall be one (1) foot wider on each side than the sewers intended to be laid in them, at the point of the greatest external diameter, and the bottom of the trenches shall be excavated to the exact form and size of the lower half of the sewers, or as the contract drawings call for, unless otherwise ordered by the Engineer.

No tunnelling will be allowed except by special consent of the Board and according to the method approved by the Engineer. No tunneling.

The sides of the excavation shall be supported by suitable planking and shoring wherever necessary; and in all cases the same are to be drawn as the work progresses, unless otherwise ordered. Shoring.

All irregularities in the bottom of the trenches shall be filled up to the required level with gravel or clean sand, firmly rammed in; and where the ground does not afford a sufficiently solid foundation the Contractor shall excavate the trench to such increased depth as the Engineer may decide to be necessary, and shall then bring it up to the required level and fill with such material and in such manner as the Engineer shall determine. Foundations to be made good.

The material excavated from the trench in streets other than the route of the railway, for the first one hundred (100) feet in length, shall be carted away by the Contractor as soon as excavated, and the material subsequently excavated shall be used to fill in the trench where the sewer has been built. This is done so as to insure that there shall be no surplus material lying on the line of the street at any time during the construction of said sewer. Any extra material required for filling at the completion of the work shall be procured by the Contractor, and at all times the streets and sidewalks shall be kept open and free for the passage of carts, wagons, carriages and street or steam railroad cars, or pedestrians, unless when otherwise authorized by special permission of the Board. Passageway to be left clear.

No more than two hundred (200) feet of trench off the line of the railroad shall be opened at any one time in advance of the complete building of the sewer, unless by permission of the Board, and for the distance therein specified. Length of trench to be opened.

On the completion of each section of one hundred (100) feet of sewer the regrading and repaving over the same shall be done and completed, and all surplus earth, sand and rubbish on that section shall be immediately removed. Surplus material to be removed.

Should the Contractor fail to comply with the foregoing clause, after twenty-four (24) hours' notice in writing by the Engineer, the same may be done at his expense and the cost thereof deducted from his next payment.

Quicksand.

When running sand, quicksand, or bad or treacherous ground is encountered, the work shall be carried on with the utmost vigor, and shall be proceeded with day and night, should the Board so require.

Drains, etc., interrupted.

The Contractor shall provide for the flow of all sewers, drains and water-courses interrupted during the progress of the work, and shall restore and make good all connections, and shall immediately cart away and remove all offensive matter, in such manner and with such precautions as may be directed by the Engineer.

All excavations for culverts and receiving basins in earth are subject to these specifications for trenches.

Rock excavation, dimensions of.

When rock is to be excavated, it shall be fully taken out twenty (20) feet in advance of the laying of the sewer, and six (6) inches below the grade of the outer bottom of the sewer, and, except when concrete or cement is used under the sewer, the trench then filled up to the level of that grade with clean, sharp sand, thoroughly rammed and made solid. The trench at the point of the sewer's greatest external diameter shall be one (1) foot wider on each side than the sewer intended to be laid in it, provided that the trench shall in no case be of less width than four (4) feet six (6) inches, and from this point to the bottom of the trench the sides shall be vertical; and from the same point the sides of the trench shall be sloped upward in the proportion of three (3) inches horizontal to one (1) foot vertical, and so continued until the trench has a width of twelve (12) feet; thence to the surface the sides are to be carried up vertically, and at a width of twelve (12) feet. In case the width of the sewer exceeds ten (10) feet the trench shall be excavated one (1) foot wider on each side than the greatest width of the sewer, and the sides of the trench shall be carried up vertically at that width to the surface.

When the sewer exceeds ten feet in width.

After the sewer with its required foundations is laid or built, the trench shall be backfilled, and the filling carefully packed and rammed under and around the sewer by trusty persons with proper tools. The refilling of the trenches shall be done in layers not exceeding four (4) inches thick in the loose, and the earth used is not to be dumped in piles, but is to be spread evenly at that thickness, and then compressed by iron tampers. The number of men using tamping irons shall be in the proportion of four (4) tampers to one (1) shoveller. If directed by the Engineer the filling shall be flushed with water before tamping. No stone over three inches in diameter will be allowed in refilling. No retaining walls for the refilling will be allowed in the trenches over the sewers, whether for temporary use or otherwise.

Refilling.

Thickness of layers.

The refilling in all cases shall be of good, clean earth, sand or gravel, free from stones above three inches in diameter, and not containing in any part or place a proportion of stones below that size exceeding one (1) part of stone to three (3) parts of earth. For a height of at least one and a half (1½) feet above the top of all pipe sewers the material shall be entirely free from stones.

Kind of earth used.

Where pipe sewers are used special precaution will be required. The earth must be carefully laid in so as not to disturb them, and tamped and solidly rammed down under and around the pipes, with proper tools made for this purpose. The trench shall then be filled by layers, as above described, and the first layers to a point at least nine (9) inches above the top of the pipe shall be carefully thrown in with shovels, and not from barrows or carts. In all cases of rock excavation clean, wholesome earth must be provided and refilled in the manner above described for a height of at least fifteen (15) inches above the top of the pipe.

Where pipe sewers are used.

As the trenches are filled in and the work completed, the Contractor shall cart away or remove all surplus earth, stone and other material from the ground, or to such places on the line of the work as the Engineer shall direct,

Removal of surplus material.

and leave all roads and places free, clear and in good order; and in case this is neglected, he will be allowed only twenty-four (24) hours to remove the same, after a written notice of his failure or neglect.

Quality of bricks. In the construction of brick masonry, none but the best quality of whole North River bricks, burned hard entirely through, will be used; they shall be equal to the sample to be seen in the office of the Engineer of the Department of Sewers and are to be culled as they are brought on the ground, and all bats and all bricks of improper quality are to be immediately removed from the work.

Bricks to be wet before laying and laid in full beds of mortar. The bricks are to be thoroughly wet by immersion immediately before laying. Every brick is required to be laid in a full joint mortar, made as described in these specifications, on its beds, ends and sides, at one operation. In no case is mortar to be slushed or grouted in afterward. The bricks are to be neatly and truly laid, every second course by line, and the joints to be carefully struck on the inside, and the sewer is to be coated on the outside with Natural cement mortar one (1) inch in thickness, mixed in the proportion one (1) cement to one (1) sand.

Courses racked back. All brick work, as it progresses, must be racked back in courses, and in no case will it be allowed to be toothed, unless by special permission in writing from the Engineer.

Inverts. All inverts, or bottom curves, are to be worked from profiles accurately made according to the dimensions of the sewer, and correctly set according to the grades furnished. The same shall be allowed to set for twenty-four (24) hours before the arch is turned. Vitrified stoneware inverts will be used when required by the plan of the work, and whenever so used they must be thoroughly jointed so as to be water-tight along the inner surface of the sewer, in such manner as the Engineer shall direct; and when required by the Engineer the internal space of the invert

blocks is to be solidly filled with concrete made as described in these specifications and well rammed in as each invert block is laid.

The upper curves of arches to be formed on strong centres of correct form and dimensions, according to the sizes and shapes required. The crown is to be keyed up with stretchers, in full joints of mortar. The centres shall not be removed or withdrawn in less than thirty-six (36) hours, and until the work is thoroughly set and the filling of earth is properly put into place a depth which is at least one (1) foot above the crown of the arch. The centres shall then be drawn or struck with care, so as not to crack or injure the work.

Centres.

Crown of the arch.

All fresh work must be carefully protected from injury in any way. No wheeling or walking on it will be allowed, and any portion injured must be relaid by the Contractor.

Fresh work to be protected.

Unless otherwise permitted, vitrified sewer pipes or spurs, with heels moulded thereon for house connections, and equal in every respect to those described in these specifications, and of not less than six (6) inches interior diameter, and of sufficient length to project at least four (4) inches beyond their exterior, are to be worked into the walls of brick or pipe sewers at an angle of about forty-five (45) degrees, and in the direction of the flow of the current. They are to be built in wherever similar house connections exist in the present sewer which is to be reconstructed under this contract. In the case of the construction of new sewers where no sewers existed previously, except sewers under public parks or crossing intersecting streets they are to be built in opposite each house, and where there are no houses, at an average distance apart of seven and one-half ($7\frac{1}{2}$) feet opposite all lot fronts; they are to be so set that their inner ends will be flush with the inner face of the sewer, which end must be moulded or trimmed to the same curve. They are to be set at such height in the walls as the Engineer may direct, and each pipe or spur is to be closed outside by inserting an earthenware cover made for the purpose.

Vitrified sewer pipes or spurs to be built in the wall.

Where and how built.

All pipe branches for lateral sewers are to be similarly furnished and built in where required.

- Mortar. All mortar is to be composed of one (1) part of fresh-ground natural hydraulic cement, of the best quality, and two (2) parts of clean, sharp sand, entirely free from loam. It is to be carefully and thoroughly mixed dry, and a sufficient quantity of water is to be afterwards added to make it of proper consistency. No mortar of improper quality will be allowed to be used in the work.
- Cement, its quality and test. All cement furnished by the Contractor will be subject to inspection and test before it is used. Natural cement shall, when mixed, be capable of resisting a tensile strain of fifty (50), and Portland cement one hundred and sixty (160) pounds per square inch, after thirty (30) minutes exposure in air and twenty-four (24) hours immersion in water.
- Neat cement. When necessary, in the opinion of the Engineer, cement alone, without any admixture of sand, will be used.
- Concrete. Where concrete is required it shall be composed of one (1) part cement, two (2) of sand, mixed into mortar as specified above, excepting that in mixing mortar for concrete less water shall be used than in mixing mortar for brickwork, and five (5) parts of clean, broken stone, free from dust or dirt, and broken so as to pass in every way through a one (1) inch ring. It shall be quickly and thoroughly mixed in a box made for that purpose, and deposited in layers of not less than four (4) nor more than nine (9) inches in thickness, and must be settled into its place by ramming sufficiently to flush the mortar to the surface.
- Layers.
- No working on it. When in place, all wheeling, working or walking on or over it must be prevented until it is sufficiently set.
- Dirty stone, etc. All gravel and broken stone that is dusty or dirty will be required to be thoroughly screened and washed before it can be used; and such piles or heaps as have any admixture of dirt, or stones above the size specified, will be wholly rejected when delivered upon the work.

Where required, vitrified salt glazed stoneware, sewer and drain pipes shall be furnished and laid down, of the sizes and in the manner shown on the plan of the work herein specified. Pipe sewers.

The pipes shall be designated by their interior diameters. Each pipe shall be a true cylinder, and shall have in every part an internal area equal to the full area due to its diameter. How designated.

The inner and outer surface of each pipe shall be concentric. All straight pipes must be straight in the direction of the axis of the cylinder. Concentric.

All pipes of a diameter of twelve (12) inches and under shall in no part be less than one (1) inch in thickness; those of fifteen (15) inches and not under twelve (12) shall in the same way be not less than one and one-quarter ($1\frac{1}{4}$) inches thick; and those of eighteen (18) inches and not under fifteen (15) not less than one and three-eighths ($1\frac{3}{8}$) inches thick. Thickness.

All pipes of whatever kind shall be made of the best material, thoroughly and perfectly burned, without warps, cracks or imperfections, and shall be well and smoothly salt glazed in the best manner over their entire inner and outer surfaces; and they shall be of equal quality in every respect to the samples exhibited at the pipe yards of the Department of Sewers, and subject to all tests ordered by the Engineer, at any time previous to their being used. Made of best materials and glazed.

Each straight pipe, having no branch or connection, shall in no case be less than two (2) feet and six (6) inches in length. Length.

Each pipe having an opening moulded into it for the house connection, or a branch of any size or kind, shall be not less than two (2) nor more than three (3) feet in length.

Each pipe of whatsoever kind must be fitted with a sleeve or collar of the same character, cylindrical, and thickness and not less than five (5) inches in width. Pipe to be fitted with collar.

Each collar must have an internal diameter of not less than one-half ($\frac{1}{2}$) nor more than one and one-half ($1\frac{1}{2}$) inches greater than the external diameter of the pipe to which it is to be fitted. Sizes of collars.

- Curved pipe. When required, curved pipe shall be furnished and laid, curved to such a radius with the axis of the pipe as may be shown on the plan of the work. No curved pipe shall exceed three (3) feet in length.
- Covers. The spurs are to be closed with approved vitrified stoneware covers.
- Bends, etc. Bends, syphons and special pipes shall, if required, be furnished and laid of the sizes and forms shown on plan of the work.
- Hub and spigot pipe. In case the Commissioner of Sewers shall elect to use hub and spigot pipes they shall be furnished in all cases similar and equal in size, quality and kind to those above described. The hub shall have a depth of at least three (3) inches from its face to the shoulder of the pipe on which it is moulded, and shall have an interior diameter not less than one (1) nor more than two (2) inches greater than the exterior diameter of the pipe which is to be fitted into it.
- How laid. All pipes are to be excavated for and laid true in line and grade throughout, according to the lines and grades furnished from time to time. The ends of the pipes shall abut against each other, and in such manner that there shall be no shoulder or unevenness of any kind along the bottom half of the sewer on the inside.
- Where concrete foundation is required. Before putting in concrete, side pieces of plank are to be placed on each side of the pipe, giving the full width required as per section. It is then to be put in layers, the first being five (5) inches in thickness and to the full width. Each layer of concrete, after being thoroughly tamped, shall be allowed to be properly set, for not less than twenty-four (24) hours. After the concrete is set, and before the laying of the pipe is commenced, additional planks shall be used to bring it up to the height required. The plank shall not be removed, but shall be left in. Not less than sixty (60) feet of concrete bottom to be laid at one time, and to be tamped to mortar surface.
- The space between bands to be filled with concrete made with small stones or screened gravel, even with inner surface of bands. The pipe is then to be bedded, and the re-

mainder of the concrete, as per section, put in place, and shall be exposed twenty-four (24) hours for inspection, as required for the bottom course.

Each joint, as the pipes are laid, is to be fitted with a collar or ring which shall lap equally the ends of such abutting pipe; the lower half of the said collar shall in all cases be whole and unbroken, and the upper half shall not be in more than two (2) pieces. The space between the ring and the pipes is to be as uniform as possible, and to be thoroughly filled with the best hydraulic cement mortar, made in small quantities, of equal parts of cement and clean, sharp sand, thoroughly mixed dry, and water enough afterwards added to give it proper consistency, and used as soon as made. The joints shall be carefully wiped and pointed inside and out, and all mortar that may be left inside to be thoroughly cleaned out; and the pipe left clean and smooth throughout. When required strips of pine or spruce plank shall be furnished, six (6) inches wide, one and one-half (1½) inches thick and two (2) feet long, and laid transversely with the trench, or on either side of the joint, and the pipe to rest thereon.

Each joint to be fitted with a collar.

Joints to be wiped and pointed.

Foundation strips of plank.

When the pipes are in place, earth shall be filled in, as provided in these specifications. Every third pipe shall be filled around so as to prevent the moving of the joints.

How filled around.

All pipes, previous to their being lowered into the trench, shall be fitted together dry on the surface and matched, so that when jointed in the trench they may form a true and smooth line of tubes, and in no case shall they be lowered into the trench until the same is done.

Pipes to be first fitted dry.

All branch pipes, connections and pipe of whatever kind, shall be excavated for, fitted and laid as above described.

Branch pipe.

When hub and spigot pipe are used, they shall be laid, fitted and jointed evenly and smoothly, in the same manner as described above.

Hub and spigot pipe.

No walking on or working over the pipes after they are laid (except as may be necessary in tamping the earth

No walking or working on pipe.

and refilling) will be allowed until there is at least thirty (30) inches of earth over them.

Pipe to be cleaned as laid.

The interior of the pipe shall be carefully freed from all dirt, cement and superfluous material of every description as the work proceeds, for which purpose a disk mould or plate attached to a rod sufficiently long to pass two joints from the end of the pipe last laid, shall be continuously worked through.

Mouth of pipe to be protected.

The mouth of the pipe shall be carefully protected from all blasts, and the excavations shall in all cases be fully completed at least twenty (20) feet in advance of the laying of the pipe. In all cases the mouth of the pipe shall be provided with a board or other stopper, carefully fitted to the pipe, to prevent all earth and other substance from washing in.

Inspector to be present.

When the trench is properly prepared, and before laying the sewer, the Contractor must notify the Engineer, who will thereupon direct an assistant or general inspector to be present on the work when sewers are to be laid; and it is further expressly understood that at no other time will such laying be proceeded with.

Iron pipes to be used.

Under station platforms, and at such other points along the route of the railway where the presence of pipes and other subsurface structures would prevent free access to the sewer for the purpose of repairs, the sewer shall be made of iron pipe of the quality called for in these specifications for waterpipe, and made with lead joints in a manner similar to that specified for the laying of water pipes.

Manholes on pipe sewers.

Brick manholes shall be built at such points on the line of the pipe sewers, of the form, thickness and in the manner shown on the Contract Drawings of such work. The brick work shall be carried up to within twelve (12) inches of the arch of the established grade of the street at that point, and true to templets correctly made and set at top and bottom, whence not less than eight (8) lines are to be drawn. The work in all respects shall be of the quality described in these specifications, with the joints neatly struck and pointed on the inside.

Quality of work.

The foundations of these manholes will be of cement concrete, commencing not less than twelve (12) inches below the lines of the inner bottom of the sewer at that point. Sewer pipes are to be built in and trimmed, when necessary, so as to be flush with the inner face of the manhole, and an arch turned over the same on a dry sand joint.

Foundations.

Wrought iron rods of good quality, of the size, length and shape required for steps, are to be built in where shown on the said Contract Drawings.

Steps built in.

Hammer-wrought bluestone is to be furnished and laid, as shown on the Contract Drawings.

Bluestone.

A cast-iron manhole head and perforated cover, free from imperfections, and thoroughly cleaned, and in dimensions, quality of iron and all other respects similar to the pattern adopted by the Commissioner of Sewers, and now exhibited at his office, are to be fitted to each of the above-described manholes. Each manhole head and each cover is to have such certain marks or numbers cast on it as the Commissioner of Sewers shall designate, and also have its weight marked distinctly upon it with oil paint.

Manhole head and cover.

For street manholes no head shall be used that shall weigh less than four hundred and seventy-five (475) pounds, nor more than five hundred (500) pounds, nor cover that shall weigh less than one hundred and thirty-five (135) pounds, nor more than one hundred and fifty (150) pounds. For sidewalk manholes the heads shall weigh not less than three hundred (300) nor more than three hundred and ten (310) pounds, and the covers not less than one hundred (100) nor more than one hundred and ten (110) pounds. When the pavement of street is asphalt, the manhole head shall be fitted with noiseless covers.

Brick manholes shall be worked in the arch of the brick sewers, at such points in the line of the sewer as the Board may direct, of the size, form, thickness, and in the manner shown on the Contract Drawings, and brought up to within twelve (12) inches of the arch of the established grade of the street at that point. The work in all respects to be of the quality above de-

Manholes on brick sewers.

scribed for manholes or pipe sewers. The manholes are to be fitted with wrought-iron rods for steps, and cast-iron manhole heads and covers, as above describel.

No incomplete manholes.

The above described manholes, whether in brick or pipe sewers, are in all cases to be fully and completely built, and fitted with their covers, as the work progresses, and as each is reached; and the sewers will not be allowed to be laid beyond or in advance of any uncompleted manhole.

Receiving basins.

Whenever it becomes necessary to reconstruct or to change the location of receiving basins, the same are to be built in accordance with the plans to be furnished by the Board. Each portion of the basin shall be built of the size and materials designated on said drawing or model; and all of the brickwork is to be plastered thoroughly inside and outside with cement mortar, mixed in the proportion of one (1) part of cement to one (1) part of clean, sharp sand, and carefully made as described in these specifications. Each basin is to have a gutter stone and a head-stone, sound and perfect throughout, free from all seams and imperfections, with bluestone curb and gutter stones adjoining, all cut in accordance with the said drawings or patterns, and the head-stone is to be fitted with a cast-iron cover of the best quality, weighing not less than eighty (80) nor more than ninety-five (95) pounds, of the size and shape shown in such drawings or patterns, and also a cast-iron grate bar, made according to drawing, fastened solidly into the said head-stone, in the manner shown. The said gutter stone and head-stone must be finely hammer-dressed and similar to the sample at the pipe yard of the Department of Sewers, unless otherwise ordered by the Board. An iron hood or trap will be furnished by said Department of the size and dimensions shown on said drawing or model, and is to be built in the basin in the manner therein shown. The whole to be built and laid in cement mortar, as described in these specifications, and the joints carefully struck on the inside.

Gutter stone and head stone.

Cast-iron cover.

Grate bar.

Trap.

The stone forming the bottom of the basin to be in

all cases of the thickness as shown on the section, and in not more than two (2) pieces.

All culverts for the connection of receiving basins with the sewers, are to be of twelve (12) inch vitrified stoneware drain pipe, of the kind and quality previously described, and laid and the trench refilled in the manner described, and shall be connected with the sewers at an angle of forty-five (45) degrees, and in a thorough and workmanlike manner; and when connected with the sewers, the culvert pipe shall not project inside the said sewers, but be trimmed flush with the curve and lines of the inner face thereof. In case the line of the sewers shall intersect any culverts now built, so much of said culverts as may, in the opinion of the Engineer, be necessary, shall be taken up and rebuilt or relaid with vitrified stoneware drain pipe or brick, as the case may be, in the manner described above, and connected by a proper curve with said sewers.

Culverts.

Not to project inside the sewers.

Culverts to be rebuilt.

The Commissioner of Sewers shall have the right to connect any sewer or sewers with the sewers to be built under this contract, or to grant permits to any person or persons to make connections therewith, at any time before it is finally completed; and said Contractor shall not interfere with or place obstructions in the way of such persons as may be employed in building such new sewer or sewers, or in making such connections. No extra allowance will be made to the said Contractor on account thereof.

Permits for connections.

All the curb, gutter, flagging, paving and macadam stones necessary to be removed, together with all rock, earth or sand taken from the trenches, shall be placed in such parts of the carriage way, or the vicinity thereof, as the Engineer in charge of the work shall direct, or shall be removed as provided in these specifications; and in all cases a passageway on the sidewalks, of not less than three (3) feet in width, shall be preserved free from all obstruction, and the Contractor will be required to preserve from needless obstruction the carriage way on one side of the line of the proposed work.

Disposal of paving stones and other material.

Catherine street outfall.	<p>For the outfall of the sewer at or near the foot of Catherine Street, there shall be constructed two (2) new round sewer boxes of the size and shape shown on the Contract Drawings. These boxes shall be built of staves of spruce or yellow pine timber, about four and one quarter ($4\frac{1}{4}$) inches thick by three and one-quarter ($3\frac{1}{4}$) inches face, free from wind shakes, decay, loose or rotten knots, and in pieces milled accurately on all sides to templets conformable with the plans. After milling this timber shall be thoroughly creosoted with not less than ten (10) pounds of creosote or dead oil per cubic foot and tempered according to a process approved by the Engineer. The boxes shall be built in sections about twenty (20) feet long, more or less, according to the spacing of the pile bents of the pier. The staves shall be held in place by galvanized iron bands fastened with screw bolts and placed about three (3) feet apart. The butt joints shall be covered with special cover bands of galvanized iron five (5) inches wide and one-quarter ($\frac{1}{4}$) of an inch thick, with thickened lugs fastened by screw bolts. All sections of the boxes shall be set up on centres accurately shaped to the inside surface of the sewer and placed about six (6) feet apart. The temporary centering on which the boxes are set up will be kept in place until they are secured in position and shall then be removed.</p>
Staves.	
Creosoted.	
Iron bands.	
Centres.	
Galvanized iron.	
Pier alterations.	

During the progress of the work and until the entire completion thereof, all sewers, drains, basins, culverts and connections, are to be kept thoroughly clean throughout and left clean, and the drainage now passing through the old sewers to be taken up, shall be provided for.

Sewers to be kept clean.

If during the progress of the work it is found, in the opinion of the Engineer, reasonably impossible to construct according to the Contract Drawings any sewers, manholes, or other appurtenances, owing to the presence of unknown subsurface structures or other contingencies, the Contractor shall construct such sewers, manholes or appurtenances in the location and according to the directions of the Engineer.

Location affected by subsurface structures.

18. WATER MAINS.

Whenever it is necessary to relay any water main, all new material required for the same shall be of the quality and laid in the manner specified below, and subject to the various clauses of these specifications applicable thereto.

The pipes shall be circular cylinders, with the inner and outer surfaces concentric, and of the full interior diameter required.

Description of conduit pipes.

The hub or socket and the spigot end shall be shaped in exact conformity with the standards of the Department of Water Supply, to be furnished by the Board, and will be tested by circular gauges.

The seat or shoulder of the socket and the end of the spigot must be straight and even, so as to make a smooth joint. Special care will be required in making the sockets and spigots to conform to the drawings, and all pipes will be particularly tested at these points. No pipe will be received whose eccentricity at the spigot and socket ends, or either, exceeds one-eighth ($\frac{1}{8}$) of an inch.

The pipes shall be designated by dimensions of the interior diameter.

Bands, buttons, or ribs shall, if required, be cast on Bands, etc.

pipes, of such forms and dimensions as the Engineer may direct.

Dimensions.

The straight pipe shall be twelve (12) feet long, exclusive of hub; all others as may be directed.

Straight pipes.

All the pipes shall be straight in the direction of the axis of the cylinder.

Thickness.

The thickness of the pipes, branches and special castings shall correspond with the standards of the Department of Water Supply. The weight shall be approximately as follows:

Weight.

The 48-inch pipes, 8,250 pounds each.

The 36-inch pipes, 4,860 pounds each.

The 30-inch pipes, 4,000 pounds each.

The 20-inch pipes, 2,400 pounds each.

The 12-inch pipes, 1,000 pounds each.

The 6-inch pipes, 430 pounds each.

Tested by calipers.

The thickness of the metal of the pipes and special castings will be tested by calipers after the castings have been freed from sand and cleaned.

No pipe will be received when the thickness of metal is less by more than one-twelfth (1-12th) of an inch than the thickness required by the standards.

Variation in weight.

No pipe or casting will be received which weighs less than the weights above mentioned by more than two and a half (2½) per cent. of said weights.

To be cast vertically.

All straight pipes shall be cast vertically, with the hub end down.

All the castings shall be made in such moulding-sand or loam as will leave the surface clean and smooth.

Pipes to be marked.

All the castings shall have the year in which they are cast, the running number of the castings of the same size and form, the letters D. W. S., and the initials or name of the Contractor, and of the foundry where cast, cast on the outer side in raised letters of not less than two (2) inches in length and one-eighth ($\frac{1}{8}$) of an inch in relief, in such manner as the Engineer may designate; and, in case any pipe shall be condemned, the letters D. W. S. shall be erased by the Contractor.

The metal of which the castings are to be cast (which must be remelted in a cupola or air-furnace) shall be pig-iron, made without any admixture of cinder-iron, or other inferior metal, and shall be of such character as to make a pipe strong, tough and of an even grain, entirely free from uncombined carbon when seen under the microscope, and such as will bear, satisfactorily, drilling and cutting, and shall have a tensile strength of at least sixteen thousand (16,000) pounds to the square inch. Quality of metal.

The castings shall be free from scoria, sand holes, air bubbles, and other defects and imperfections.

The castings shall be perfectly cleaned and no lumps shall be left on the inner surface of the barrels or sockets, or on the outer surface of the spigot end. Sockets and spigots to be smooth.

All castings being perfectly cleaned, according to the specifications and the directions of the Engineer, shall be subjected to a careful and thorough hammer inspection. Hammer inspection.

Every casting must be thoroughly dressed and made clean and free from earth, sand and dust, which adheres to the iron in the molds. Iron-wire brushes must be used, as well as softer brushes, to remove the loose dust. No acid or other liquid shall be used in cleaning the castings. Cleaned.

Every pipe, branch and special casting shall be carefully coated inside and out with coal pitch and oil. Every casting must likewise be entirely free from rust when the coating is applied. If the casting cannot be dipped immediately after being cleaned, the surface must be oiled with linseed oil, to preserve it until it is ready to be dipped; no casting to be dipped after rust has set in. To be coated.

The coal-tar pitch to be made from coal tar, distilled until the naphtha is entirely removed and the material deodorized with a mixture of five (5) or six (6) per cent. of linseed oil. Pitch, which becomes hard and brittle when cold, will not answer for this use. The coating.

Pitch of the proper quality having been obtained, it must be carefully heated in a suitable vessel to a temperature of 300 degrees Fahrenheit, and must be main- Heated.

Renewal of pitch.

tained at not less than this temperature during the time of dipping. The material will thicken and deteriorate after a number of pipes have been dipped; fresh pitch must, therefore, be frequently added, and occasionally the vessel must be entirely emptied of its old contents and refilled with fresh pitch.

Every casting must attain a temperature of 300 degrees Fahrenheit, before being removed from the vessel of hot pitch. It may then be slowly removed and laid on skids to drip.

Inspection before dipping.

No casting shall be dipped until the authorized inspector has examined it as to cleaning and rust and subjected it thoroughly to the hammer proof. It may then be dipped, after which it will be passed to the hydraulic press to meet the required water proof. The proper coating will be tough and tenacious when cold on the pipes, and not brittle or with any tendency to scale off.

Proof in hydraulic press.

The castings must be capable of sustaining a pressure in the hydraulic press of three hundred (300) pounds to a square inch, and any casting which shows any defect, by leaking, sweating or otherwise, will be rejected. This proof will be made at the foundry, and at the expense of the Contractor.

Weight to be marked.

The casting will be weighed, and the weight distinctly marked on the casting in white paint. The Contractor will provide at the foundry where the pipes and castings are to be manufactured proper sealed scales and weights for weighing the castings, which will be done at the expense of the Contractor, under the supervision of the inspector.

Pipe to be laid on blocking.

Each pipe over six (6) inches inside diameter, unless otherwise ordered, shall be placed on two blocks and four wedges of hemlock timber, the wedges to rest on the blocks and the pipe on the wedges.

Blocks.

The blocks and wedges shall be of sound hemlock timber. Forty-eight (48), thirty-six (36) and thirty (30) inch pipe shall be laid on blocks four (4) feet long, twelve (12) inches wide and six (6) inches thick, with wedges eighteen (18) inches long, six (6) inches wide, four (4) inches thick on one end and one-half ($\frac{1}{2}$) inch thick on the other. Twenty (20) and twelve (12) inch

pipe shall be laid on blocks two (2) feet long, eight (8) inches wide and four (4) inches thick, with wedges, twelve (12) inches long, four (4) inches wide, three (3) inches thick on one end and one-half ($\frac{1}{2}$) inch thick on the other.

The spigot end of the pipe shall be inserted into the hub to within from one-fourth ($\frac{1}{4}$) to one-eighth ($\frac{1}{8}$) of an inch of the full depth of the hub, and the space around the pipe shall be equalized so as to give as nearly as possible an equal space for the packing. The space between the pipe and hub shall be packed with clean, sound hemp packing yarn, free from tar, far enough to leave the proper space for lead. The remaining space shall then be filled by running it full of lead to a depth of four (4) inches, with a bead outside of the face of the hub large enough to allow for caulking, so that when the joint is properly caulked the lead will be flush with the hub of the pipe. After the joint shall have been run with lead, it shall be caulked by means of proper tools, so as to make a watertight joint.

Joints.

Yarn.

Lead.

The lead to be used shall be of the best quality of pure, soft lead, and in every respect suitable for the purpose.

Quality of lead.

In case it becomes necessary to cut any connection with any other main, house or hydrant, or in any way to interfere with the continuous and normal flow of water, due notice shall be sent at least forty-eight (48) hours in advance to the Engineer and to the Commissioner of Water Supply, and the Contractor shall, if so ordered, make a temporary by-pass or other arrangement to preserve the flow of water while breaking connections.

Flow of water interrupted.

All connections cut, interfered with or injured shall be restored under the directions of the Engineer and without delay to a suitable condition as good as existed before commencing work.

All connections to be restored.

Stop cocks, boxes, branches, curved pipe, and other specials according to the standards of the Department of Water Supply, shall be set where necessary.

Specials.

19. PAVING.

Pavement to
be restored.

As soon as the work in any open excavation or trench made under this contract, shall have been completed, the trench backfilled and the backfilling thoroughly rammed in place and compacted, all as provided herein, the Contractor shall proceed to restore the surface to a condition similar to, and equally good as that existing previous to the commencement of construction. If the pavement were originally of asphalt on a concrete foundation and laid under a guarantee as to repairs and maintenance, which guarantee at the time of relaying has not expired, the Contractor will have the option of calling on the original contractor for such asphalt pavement to relay the same under his contract with the Commissioner of Highways and at the price named therein, or the option of laying such asphalt pavement itself according to the specifications herein contained and giving to the Commissioner of Highways a satisfactory guarantee as to maintenance and repairs for a period equal in length to the unexpired portion of the guarantee of the original contractor, and a sufficient bond indemnifying the City against suit for damage by said original contractor.

Asphalt on
concrete.

If the original contractor shall relay any asphalt pavement as contemplated above, he will be considered by the Board as a sub-contractor to the Contractor under this contract, and nothing herein contained shall be construed as entitling either the Contractor or such sub-contractor to any additional payment from the Board or the City for such work, beyond the general sum named herein.

Samples to be
submitted.

If asphalt pavement is to be laid the Contractor shall submit to the Board and to the Commissioner of Highways samples of the materials he intends to use, together with certificates and statements as follows:

1. Specimens of asphalt and asphaltum with a certificate stating where the specimens were mined.
2. A specimen of the asphaltic cement, with a statement of the elements of the composition of the bitu-

minous cements used in the composition of the paving surface.

3. Specimens of sand intended to be used.
4. Specimens of pulverized carbonate of lime, granite or quartz intended to be used.
5. A certificate, if the material proposed to be used has not heretofore been used in the City of New York, showing some other locality where pavement of such material has been laid, its area, date of acceptance, which must have been at least two (2) years previous to the issuance of the certificate, and that said pavement has worn well and satisfactory; all to be signed and acknowledged by the chief municipal officer having charge of said work in the city or cities where such pavement has been laid.

Such specimens, certificates and statements must be, in the judgment of the Board, equal in all respects to similar conditions exacted by the Department of Highways for other asphalt pavement in the City of New York.

The backfilling on the top of the trench shall be of clean gravel or sand, or other wholesome earth, free from all spongy or vegetable material and thoroughly rolled with a roller weighing not less than ten (10) tons, so that the top of the filling is parallel to the crown of the street and nine (9) inches below it, except beneath the stone block pavement adjoining rails, manhole heads and stopcock boxes, where the depth below finished grade shall be thirteen and a half (13½) inches. When the roller cannot reach every portion of the roadbed, the bottom shall be rolled by a small roller or tamped, as directed by the Engineer, and water shall be sprinkled on such bottom when required. Upon the foundation thus prepared, there shall be laid a bed of hydraulic cement concrete six (6) inches in thickness, and made as follows:

Subgrade for asphalt.

All cement must be of the best quality, of either fresh-ground best American Portland or Rosendale Cement.

hydraulic cement, and shall be tested and approved by the Engineer before being used.

Portland cement concrete.

Concrete, when Portland cement is used, shall be composed of one (1) part of cement, three (3) parts of clean, sharp sand and seven (7) parts of broken stone, or one (1) part of cement, three (3) parts of clean, sharp sand, four (4) parts of broken stone and three (3) parts of pebbles by measure.

Rosendale cement concrete.

Concrete, when Rosendale cement is used, shall be composed of one (1) part cement, two (2) parts of clean, sharp sand and three (3) parts of broken stone, or one (1) part of cement, two (2) parts of clean, sharp sand, two (2) parts of broken stone and two (2) parts of pebbles, by measure. The cement and sand shall be mixed dry; the broken stone having been first wet shall be then added and the mass turned over, with the addition of the necessary water, and worked until the broken stone is incorporated completely.

Pebbles.

The pebbles shall be hard, clean, free from sand, screened and washed, and of a size that has passed a sieve of one and one-half ($1\frac{1}{2}$) inch mesh and rejected by a three-quarter ($\frac{3}{4}$) inch mesh.

Broken stone.

The broken stone shall be solid trap, limestone or granite, free from dust or dirt, and of a graded size not larger in any dimension than will pass through a two (2) inch ring, and shall be crushed and screened before being brought upon the work, and no crushing shall be done on the work.

Concrete to be rammed.

The concrete shall be placed in proper position and there rammed with wooden rammers until thoroughly compacted, which surface shall be three (3) inches below the grade of the top of the finished pavement and exactly parallel thereto.

The concrete foundation shall be capable of sustaining such test as the Engineer shall deem necessary.

No carting or wheeling will be allowed on the concrete until it is sufficiently set, and then only on planks laid down for the purpose.

Mixing concrete.

The whole operation of mixing and laying each batch, which shall not contain more than one (1) barrel of cement, must be performed as expeditiously as possible

by the employment of a sufficient number of skilled men, and, if necessary, must be protected from the action of the sun and wind until set. No concrete will be allowed to be used which has been mixed more than thirty (30) minutes.

Upon the foundation must be laid a fine bituminous concrete or binder, to be composed of clean broken stone not exceeding one and one-quarter ($1\frac{1}{4}$) inches in their largest dimensions, thoroughly screened, and either coal-tar residuum, commonly known as No. 4 paving composition, or the same bitumen used in the body of the pavement.

Bituminous binder.

The stone must be heated by passing through revolving heaters, and thoroughly mixed by machinery with the paving composition in the proportion of one (1) gallon of paving composition to one (1) cubic foot of stone.

Stone to be heated.

This binder must be hauled to the work and spread with hot iron rakes in all holes or inequalities and depressions below the true grade of the pavements, to such thickness that after being thoroughly compacted by tamping and handrolling the surface shall have a uniform grade and cross-section, and the thickness of the binder at any point shall be not less than three-quarters ($\frac{3}{4}$) of an inch. No binder shall be laid during a rain, nor shall any binder be laid that is too cold to be manipulated easily; over-heated binder shall be removed entirely from the work.

Laying of binder.

The upper surface shall be exactly parallel with the surface of the pavement to be laid.

Upon this foundation must be laid the wearing surface, or paving proper, the basis of which, or paving cement, must be pure asphaltum, unmixed with any of the products of coal tar.

Wearing surface.

The wearing surface will be composed of:

1. Refined asphaltum.
2. Heavy petroleum oil.
3. Fine sand, containing not more than one (1) per centum of hydro-silicate of alumina.
4. Fine powder of carbonate of lime, granite or quartz.

5. The heavy petroleum oil must be freed from all impurities and brought to a specific gravity of from 18 to 22 degrees Baumé, and a fire test of 250 degrees Fahrenheit, or, if the formula of Contractor requires it, the powdered carbonate of lime may be omitted, and the heavy petroleum oil may be replaced by sufficiently fluid natural bitumen.

Asphaltum.

The asphaltum used must be equal in quality to that mined from the Pitch Lake on the Island of Trinidad, or from the Alcatraz mine, Santa Barbara County, California, specially refined and brought to a uniform standard of purity and gravity, of a quality to be approved by the Commissioner of Highways.

Asphaltic cement.

From these two hydro-carbons shall be manufactured an asphaltic cement which shall have a fire test of 250 degrees Fahrenheit, and, at a temperature of 60 degrees Fahrenheit, shall have a specific gravity of 1.19, said cement to be composed of one hundred (100) parts of pure asphalt, and from fifteen (15) to twenty (20) parts of heavy petroleum oil.

Pavement mixture.

The asphaltic cement being made in the manner above described, the pavement mixture must be formed of the following materials, and in the proportions stated:

Asphaltic cement.....	From 12 to 15
Sand	From 83 to 70
Pulverized carbonate of lime, granite or quartz	From 5 to 15

How mixed.

The sand and asphaltic cement are to be heated separately to about 300 degrees Fahrenheit. The pulverized carbonate of lime, granite or quartz, while cold, shall be mixed with the hot sand in the required proportions, and then mixed with the asphaltic cement at the required temperature, and in the proper proportions, in a suitable apparatus, which will effect a perfect mixture.

Laying of pavement mixture.

The pavement mixture prepared in the manner thus indicated must be brought to the ground in carts, at a temperature of about 250 degrees Fahrenheit, and if the temperature of the air is less than 50 degrees, iron

carts, with heating apparatus, shall be used in order to maintain the proper temperature of the mixture; it shall then be carefully spread by means of hot iron rakes, in such manner as to give a uniform and regular grade. The surface shall then be compressed by hand-rollers, after which a small amount of hydraulic cement shall be swept over it, and it shall then be thoroughly compressed by a steam roller weighing not less than two hundred and fifty (250) pounds to the inch run, the rolling to be continued for not less than five (5) hours for every one thousand (1,000) square yards of surface. After having received its ultimate compression the pavement must have a thickness of not less than two (2) inches.

The powdered carbonate of lime, granite or quartz shall be of such a degree of fineness that five (5) to fifteen (15) per centum by weight of the entire mixture for the pavement shall be an impalpable powder of limestone, and the whole of it shall pass a No. 26 screen. The sand shall be of such size that none of it shall pass a No. 80 screen, and the whole of it shall pass a No. 10 screen.

Powdered stone.

Sand.

The gutters for a width of twelve (12) inches next the curb must be coated with hot, pure asphalt, and smoothed with hot smoothing irons in order to saturate the pavement to a depth to be directed by the Engineer with an excess of asphalt.

Gutters.

If rock asphalt be used, the material shall be an amorphous limestone naturally, thoroughly and uniformly impregnated with bitumen: (1) From the Sicilian mines at Ragusa and Verwohle, equal in quality and composition to that mined by the United Limmer and Verwohle Rock Asphalte Company, Limited. (2.) From the Swiss mines at Val de Travers, equal in quality and composition to that mined by The Neuchatel Asphalte Company, Limited. Or (3) from the French mines at Seyssel, Mons, and Sicilian mines at Ragusa, equal in quality and composition to that mined by the Compagnie Générale des Asphaltes de France, Limited, and it shall be prepared and laid as follows:

Rock Asphalt.

Preparation.

The rock shall be finely crushed and pulverized; the powder shall then be passed through a fine sieve. Nothing whatever shall be added to or taken from the powder obtained by grinding the bituminous rock. The powder shall contain nine (9) to twelve (12) per cent. natural bitumen, eighty-eight (88) to ninety-one (91) per cent. pure carbonate of lime, and must be free from quartz, sulphates, iron pyrites or aluminum.

Powder to be heated.

This powder shall be heated in a suitable apparatus to 200 to 250 degrees Fahrenheit, and must be brought to the ground at such temperature, in carts made for the purpose, and then carefully spread on the binder foundation previously prepared to such depth that, after having received its ultimate compression, it will have a thickness of not less than two (2) inches.

Surface to be rolled.

The surface shall be rendered perfectly even by rammers and smoothers, and shall be rolled with a steam roller weighing not less than two hundred and fifty (250) pounds to the inch run, the rolling to continue for not less than five (5) hours for each one thousand (1,000) square yards of surface in the case of Trinidad asphalt; in the case of rock asphalt pavement the ultimate compression may be by heated pilons.

Special permission to lay rock asphalt.

But rock asphalt shall not be used in any case without written permission from the Commissioner of Highways.

Space next to rails, manholes, etc.

On each side of the rails of the car tracks, around all manholes and stop-cock boxes, the Contractor, when required, shall lay a line of granite or syenite paving blocks, as headers, long and short stones alternating and tothing into the pavement, laid on a foundation of six (6) inches of concrete, which must extend to the depth of the cross-ties and beneath and around the girders and stringers, on which shall be laid a bed of fresh cement mortar, two (2) inches in thickness; and on the mortar so laid shall be laid the stone blocks, the top surface of which shall conform to the grade of the pavement. The joints of the blocks shall be filled with paving cement, as hereinafter described.

Space within car tracks.

Whenever the space within car-tracks has been laid with granite or syenite blocks, the said space shall be

repaved with said blocks or said asphalt according to the determination of the Commissioner of Highways.

If granite or syenite pavement on a concrete foundation is to be relaid, the filling on top of the trench is to be formed, and rolled or thoroughly tamped, as prescribed for asphalt pavement, except that the surface is to be truly shaped to a grade sixteen (16) inches below that of the street grade, except under and eighteen (18) inches on each side of the track girders, where the finished surface shall be six (6) inches below the girders.

GRANITE pavement on concrete.

Upon the foundation thus prepared, there shall be laid a bed of concrete to a depth of six (6) inches. Where vaults, railroad ties, sewer connections, cable railroad, electric or pneumatic conduits or other subsurface structures are encountered, the depth of the concrete shall be increased, diminished or omitted, as may be deemed necessary by the Engineer.

Concrete thickness.

The concrete shall be composed of the same quality and proportion of materials, and mixed and laid in the same manner, as described for asphalt paving.

Concrete proportions.

In all cases where horse-car tracks exist and a concrete foundation is to be laid between the rails of the same, the Contractor shall keep men to pass the cars over the same, so that no horses shall travel on the concrete until three (3) hours after it has been laid, and the Contractor shall then cover the concrete with sand and planks until the pavement is laid. Horses must be kept off stone pavement until the joints are filled with tar.

Horse cars to be passed by hand.

The surface of the concrete is to be kept wet until covered with sand, and at least thirty-six (36) hours shall be allowed for the concrete to set before the pavement is laid. When connection is to be made with any layer set or partially set, the edge of such layer must be broken down, be free from dust and properly wet, so as to make the joints fresh and close. On this concrete foundation shall be laid a bed of clean, sharp sand, perfectly free from moisture (made so by artificial heat, if deemed

Preparation of foundation.

necessary) not less than one and one-half ($1\frac{1}{2}$) inches thick, to the depth necessary to bring the pavement and crosswalks to the proper grade when thoroughly rammed.

Stones how laid.

Upon this bed of sand the stone blocks and crosswalks must be laid. The stone blocks are to be laid in courses at right angles with the line of the street, except in special cases, when they shall be laid at such angle with such crown and at such grade as the Engineer may direct. Each course of blocks shall be of uniform width and depth, and so laid that all joints shall be close joints and all longitudinal joints shall be broken by a lap of at least three (3) inches.

When temperature is below 40 degrees F.

When the temperature at 7 o'clock A. M. is below 40 degrees Fahrenheit, the pavement must be rammed and made ready for pouring the paving cement within thirty (30) feet of the row of blocks last laid, and all joints shall be filled with paving cement within fifty (50) feet of the face of the paving; the intention of this requirement being to have the joints filled before the gravel gets either wet or cold.

Gravel for joints.

As the blocks are laid they shall be covered immediately with clean, hard, hot, dry gravel, of proper size, as directed by the Engineer, artificially dried, which shall be raked into the joints until all the joints become filled therewith. This gravel shall be free from sand; it shall be such as has passed through a horizontal sieve of three-quarters ($\frac{3}{4}$) inch mesh, and retained by one of a one-half ($\frac{1}{2}$) inch mesh. The blocks shall then be thoroughly rammed, and the ramming be repeated until the blocks are brought to an unyielding bearing with uniform surface, true to the roadway on the established grade, and the courses adjusted to the proper line, and no gravel shall be added after ramming until the joints are poured with cement. Before the pouring of the paving cement as hereinafter provided for, the joints and gravel filling must be made dry and free from dirt, fine gravel, sand or any matter that would obstruct or hinder the complete filling of all voids and spaces within the joints to the full depth of the joint.

Blocks to be rammed.

The paving cement as hereinafter described shall then be poured into the joints at a temperature not less than 300 degrees Fahrenheit, and while the gravel is still hot and dry, until the joints and all interstices of gravel filling are full and will take no more and are filled flush with the top of the blocks. Dry, hot gravel of proper size, heated in pans especially provided by the Contractor for that purpose, must then be poured along the joints filled with paving cement, as above described, and consolidated by tamping with a light rammer or otherwise.

Paving cement.

The paving cement to be used in filling the joints between the paving blocks and between the crosswalk stones as herein provided shall be composed of twenty (20) parts of refined Trinidad asphalt of a quality to be approved by the Engineer, and three (3) parts of residuum oil mixed with one hundred (100) parts of coal tar which shall be obtained from the direct distillation of coal tar, and shall be the residuum therefrom, and shall be such as is ordinarily numbered 4 at the manufactory (the proportions to be determined by the weight). It shall be delivered on the work in lots at least one (1) week before being used, in order that the necessary analysis and examination may be made by the Engineer. In addition to this the Contractor must furnish the Engineer with the certificate of the manufacturer or refiner that the materials are of the kind specified. The coal tar, oil and asphalt must be mixed and heated in the proportions named, on the work as needed for immediate use, to a temperature of 300 degrees Fahrenheit, which temperature shall be indicated by a thermometer attached and fixed to the boiler or heating kettle.

Paving cement composition.

If stone pavement is to be relaid without concrete foundation, the trench is to be backfilled, dressed off and compactly rolled or tamped as previously described for asphalt pavement, except that the surface is to be truly shaped to a grade ten (10) inches below the top of the proposed pavement when rammed, unless stones are to be used of a different depth than the standard stones of not less than seven (7) nor more than eight (8) inches, in which case

STONE pavement without concrete.

the distance from the grade of the proposed pavement to the grade of the filling as rolled, is to be increased or decreased accordingly.

Stones how laid.

The stone blocks are to be laid in courses at right angles with the line of the street, except in special cases when they shall be laid at such angle as directed, with such crown and at such grade as the Engineer may direct; each course of blocks shall be of uniform width and depth, and so laid that all longitudinal joints or end joints shall be close joints and shall be broken by a lap of at least three (3) inches, and that joints between courses shall be as close as possible. As the blocks are laid they shall be covered with sharp, coarse sand to a depth that will completely fill all joints which shall be raked until all the joints become filled therewith; the blocks shall then be thoroughly rammed to a firm, unyielding bed, with a uniform surface to conform to the grade and crown of the street. No ramming shall be done within twenty-five (25) feet of the face of the work that is being laid, and in doing all ramming the Contractor shall employ one (1) rammer to every two (2) pavers. Whenever the payment for not less than two hundred (200) feet, and not exceeding two hundred and sixty (260) feet, shall have been constructed as above described, it shall be covered with a good and sufficient second coat of clean, sharp sand; and shall immediately thereafter be thoroughly rammed until the work is made solid and secure; and so on until the whole of the work embraced in this agreement shall have been well and faithfully completed, in accordance with these specifications.

MACADAM pavement.

Where macadam pavement is to be relaid the trench is to be backfilled, dressed off and compactly rolled or tamped as previously described for asphalt pavement, except that the surface is to be truly shaped to a grade eighteen (18) inches below the grade of the proposed pavement.

Bed, preparation of.

Old material.

On taking up old macadam pavement, only so much of the component material shall be used in relaying as the Engineer may permit. Such material shall be neatly piled

as and where directed and the old material condemned as unfit for use shall be at once removed and disposed of in the manner as specified for excavated material. New material for macadam paving shall be of the quality and description as hereinafter described. New material.

The stone for the foundation of the pavement is to be sound, hard and durable quarry stone, not too brittle or friable, free from sap, seams and imperfections, and of even quality, each from ten (10) to twelve (12) inches in depth, from three (3) to six (6) inches in width, and from six (6) to sixteen (16) inches in length, and of a sufficiently uniform size to be acceptable, with sufficiently parallel and even faces on sides, ends, top and bottom, and to properly join and wedge, except the stones under the trap or granite block pavement, or bridge stones, which only differ from those above described in that they must be not less than six (6) nor more than eight (8) inches in depth, and except the course of stone under the macadam, which is next to the stone blocks, which stone is to be twelve (12) inches in depth, not less than twelve (12) nor more than twenty-four (24) inches in length, and not less than six (6) nor more than nine (9) inches in thickness, but in every other respect similar to the foundation stone first above described. Quality and dimensions of the stone foundations.

The bottom course is to be composed of broken trap or Clinton Point stones, all of the same kind and hard, durable and not too brittle. The stones are to be of uniform quality, free from sap, seams and imperfections, and free from screenings, dirt and other foreign matter. No stone in its greatest diameter shall be more than two and a half ($2\frac{1}{2}$) inches, and in its smallest diameter less than one and one-half ($1\frac{1}{2}$) inches, and the stones between these dimensions shall average sufficiently large to be acceptable. The broken stone composing the next overlying course is to be hard, durable, and not too brittle trap-rock or Clinton Point stone; no stone shall measure more than two (2) inches nor less than one and a half ($1\frac{1}{2}$) inches in any diameter. The stones between these dimensions Quality and dimensions of the Macadam Stone.

shall be distributed evenly throughout the mass, and shall be of a shape as nearly cubical as can be secured by any mechanical process acceptable to the Engineer.

Quality and dimensions of the binding material.

The binding course is to be composed of trap-rock or Clinton Point screenings. They shall be of uniform quality, free from dirt and other foreign matter, no stone to be of larger size in any direction than one-half ($\frac{1}{2}$) inch, and all particles to be of such relative size to one-half ($\frac{1}{2}$) inch as shall be acceptable to the Engineer; it may contain not more than twenty (20) per cent. of the flour.

A sample of the macadam stone, showing the quality and the run of the size of the stone to be used in the work, shall be furnished at the office of the Board and approved by the Engineer before any is placed upon the street or avenue.

Laying the foundation for pavement.

After the road-bed is properly prepared, to the satisfaction of the Engineer, and the stone for foundation hauled and deposited thereon, they shall be laid by hand in the form of a close, firm pavement, so as to break joints by at least one (1) inch and with the various sizes properly distributed. They shall be set on their broadest edges, without underpinning, perpendicular to the line of grade, lengthwise and at right angles across the road, except in the case of the stone under the macadam, which is next to stone blocks or bridge stones, and stones where the roadway beyond is not macadamized, which foundation stone are to be placed with their longest side parallel to the curb or bridge stones; after being set closely together, they are to be firmly wedged by inserting and driving down with a bar, in all possible places between them, stones of the same quality, as near as practicable, of the same depth, until all the stones are bound and clamped in proper position; all the projections and irregularities of the upper part of the pavement shall be broken off with a hammer, care being taken not to loosen the pavement, and the spalls and chips are to be worked and driven with the hammer into all the interstices not already filled by the process of wedging, so that the pavement, when completed, shall pre-

sent a sufficiently even, but not too smooth surface, and be ten (10) inches thick under the macadam, except the line of stone nearest the stone blocks, which shall be twelve (12) inches, and eight (8) inches under the stone blocks or new lines of bridge stone. No wedging shall be done within twenty-five (25) feet of the face of the work that is being laid and the stone foundations must be in a compact and satisfactory condition in every respect at the time of the spreading of the broken stone. The road bed must be prepared for laying the telford at least fifty (50) feet ahead of the work. The interstices of the telford over which stone blocks or bridge stones are to be placed must be thoroughly and completely filled with clean, sharp, coarse sand.

After the stone foundation has been completed agreeably to these specifications and has passed the inspection of the Engineer, a layer of broken stone of the quality and size herein specified for the bottom course, and of such a depth as will, when rolled, have a surface four (4) inches below the surface of the broken stone when completed, irrespective of the finishing course, shall be spread evenly over the foundation pavement, except where the stone blocks and bridge stones are to be laid; this layer is then to be rolled until sufficiently compact with or without the sprinkling of water, and in so doing as much dry screening of trap-rock as can be introduced without separate stone, is to be rolled into the stone so as to fill the interstices, and stone is to be added or removed so as to make the surface practically of the proper height. Macadamizing.

The next overlying course will be of the stone herein-before described for said course, and is to be spread at such depth that the surface, when rolled, will be at the proper grade irrespective of the finishing course; this layer is then to be rolled, and during the process of rolling, similar stone is to be added or removed from time to time, so that when the rolling ceases, the roadway is truly surfaced to the required grade and crown.

During the process of rolling the upper course of stone, screenings shall be introduced dry or with the assistance

of water applied in such manner and quantity as shall be required, so that all interstices shall be entirely and completely filled with screenings, and as these screenings disappear in the interstices of the stone with the rolling, fresh screenings are to be added until all interstices are filled and the surface of the pavement smooth and consolidated and on the proper crown and grade. After the upper layer has become thoroughly compact, there shall be spread upon the surface so much screenings as will produce a covering of one (1) inch in depth when rolled. The rolling is to be continued until the surface is puddled and water flushes on it, and the screenings shall be worked in and through to such extent as is necessary for puddling, after water flushes on the surface screenings to the depth of one-half ($\frac{1}{2}$) inch shall be spread over the road, which shall then be open to traffic.

The surface of any course shall be scratched, if required, so as to obtain a proper bond with that next overlying.

Each of the different courses must be completed for the distance of not less than fifty (50) feet before any of the materials of the next succeeding course are laid.

Rolling.

The rolling of the macadam stone and screenings shall be done with a roller weighing not less than four thousand (4,000) pounds to the foot of width.

Each layer of broken stone and the screenings shall be well and thoroughly rolled, and the rolling upon each layer shall be prosecuted, until, in the opinion of the Engineer, each course shall have been completed as hereinbefore specified, and until each layer and the finished surface shall be rolled and finished to his entire satisfaction and approval.

During the rolling of the lower course of stone only so much water shall be sprinkled thereon as is necessary to prevent wearing by attrition; but in rolling the upper course of stone and the screenings, water is to be applied in such quantities and in such manner as to completely and compactly fill all interstices with screenings, and soaked so as to secure a set and to produce the flushing

hereinbefore referred to; and the screenings shall be worked in and through to further secure this result, and shall be applied to such extent as is necessary for puddling. The sprinkling of the puddled course shall be done from a cask or other receptacle, mounted on a two wheeled cart, and in compacting and puddling this course the cart shall be kept immediately in front of the wheels of the roller.

After all the interstices of the stone are filled with screening, forty-eight (48) hours may elapse before the final puddling, if, in the opinion of the Engineer, better results would be obtained thereby.

The rolling shall be prosecuted in such sections as shall be directed, for the entire width of the wheelway, and a length of fifty (50) feet at the end of each course shall, when practicable, remain, as the work progresses, uncovered by the next overlying course, and, when practicable, no rolling will be allowed within twenty-five (25) feet of the end of any course. No rolling directly on the telford will be allowed without special permission.

The pavement, when completed, shall be, when practicable, at each point of such construction, at least of such a depth as required by the specifications, that is, eighteen (18) inches exclusive of the finishing course, and of such crown and such form of gutter as shall be directed, and in any case the thickness of the pavement is to be determined on a line at right angles to the grade and crown.

Depth of pavement.

The use of a proper roller, rammers or other suitable implement, is to be substituted for that of the steam-roller when necessary.

The construction of the telford foundation and the macadam pavement shall proceed so as to be equally advanced across the entire width of the space to be paved.

Particular care and attention will be required in obtaining a satisfactory joining of the macadam paving and the blocks in the gutters, and at the bridge stones.

- Unpaved streets. On unpaved streets, the filling over the work shall be brought to a height not greater than the established grade of the street, and the street surface restored to a condition safe and suitable for public travel.
- Cross walks. Wherever cross-walks are required across or adjoining pavement that is to be relaid, the present bridge stones are to be relaid, provided they are not broken in taking up and are in a condition to use, as approved by the Engineer. They shall be redressed so as to be laid with joints at the ends not exceeding one-quarter ($\frac{1}{4}$) of an inch in width from the top to the bottom. Bridge stones are to be firmly imbedded on a foundation of clean, sharp sand and set and tamped in such a manner that they shall admit of no further settlement. They must be true to line and grade, and so laid in courses that the transverse joints will be broken by a lap of at least one (1) foot.
- Pavements adjoining the excavation. Paving, flag, bridge, curb and gutter stones adjoining the excavation shall, where deemed necessary to secure a true street grade, be taken up and relaid by the Contractor at the time of repaving. Whenever any sidewalks or curbstones are displaced, taken up or removed, they shall be relaid by the Contractor in a manner similar to and in a condition at least as good as existed previous to such displacement or removal, and as soon as possible after the completion of the work.
- Broken stones to be replaced. Whenever any paving, curb, gutter or flag-stones are lost or broken, they shall be replaced by stones of similar size and quality.
- Specifications do not prohibit laying better pavements under special agreements. Nothing contained in these specifications shall be understood or construed as prohibiting the Contractor from making any arrangement with the Commissioner of Highways, or such other officer of the City of New York who may be in charge of street paving, to lay a better or other form of street pavement; or to make an arrangement with any property owner to lay another style of sidewalk in front of such premises in place of the pavement or sidewalk taken up; in which case the Contractor is to file with

the Board a copy of its contract with such municipal officer or with such property owner, duly acknowledged in writing by both parties. In case the municipal officer in charge of street paving, or any property owner, desires to lay a pavement in any street, or a sidewalk along any street, affected by this contract, different from the one removed, and shall notify the Board in writing that he has failed to make satisfactory arrangements for such work with the Contractor, then the Board in its discretion may direct the Contractor to finish and dress off the filling over its work to such grade as the Engineer may select, and further direct it to remove from the street all stones of whatever nature not required to be relaid, and to permit another contractor to lay such pavement or sidewalk; in which case the liability of the Contractor under this contract shall cease as far as that part of its work is concerned, whenever the Engineer shall report to the Board that the instructions of the Board have been complied with, exactly the same as if the Contractor had fully completed the repaving as hereinbefore provided. The Engineer shall then report to the Board the number of square yards of pavement thus disturbed but not relaid, and the Board will deduct from the amount named in this contract as the price to be paid to the Contractor, the sum of one dollar and five cents (\$1.05) for each square yard of said pavement when the same is granite, and one dollar and twenty cents (\$1.20) for each square yard of said pavement when the same is macadam.

In case municipal officer or property owners cannot agree with contractor.

In New Elm Street where the same is to be widened or regraded, the Contractor will not be required to relay the pavement unless the work of widening and repaving shall have been completed prior to his commencing work. It will, however, remove the old material or store the same for use by the parties owning the same, as directed by the Board, and backfill with approved filling material to a grade below that of the proposed pavement, as may be ordered by the Board, and leave its work in such condition that the municipal officer in charge of street paving or the abutting property-owners, may let contracts for new pavements.

No paving in New Elm Street.

20. MAINTENANCE OF STREET RAILROAD TRACKS, MAINS AND OTHER SURFACE OR SUBSURFACE STRUCTURES.

Surface and sub-surface structures to be supported.

The Contractor shall at all times, by suitable bridging or other supports, maintain and support in an entirely safe condition for their usual service and to the reasonable satisfaction of the owners, all elevated railroad structures, street tramways of whatever character, water and gas mains, steam pipes, pneumatic tubes, electric subways, sewers, drains, and all other surface or subsurface structures encountered during the progress of the work. The sidewalks, curbs, areas and stoops along the line of the work must also be protected from any injury; but should any injury occur to any sidewalk, curb, area or stoop, the Contractor shall fully restore the same to as good a condition as existed before the injury was done.

Notice to be given in advance of commencing operations.

Notice is to be given by the Contractor to all companies and the proper city officials, owning or having charge of surface or subsurface structures along any part of the work, of its intention to commence operations along such part of the route, at least one (1) week in advance, and the Contractor shall file with the Engineer at the same time a copy of said notice; and it shall co-operate with the proper officers or officials in charge of such structures and shall furnish them with all reasonable facilities to inspect the methods of caring for their property.

Work, when done by City or companies owning mains.

Whenever it becomes necessary to cut, move, change or reconstruct any such structures, as named above, or connections therewith, such work shall be done according to the reasonable satisfaction of the owners of such pipes or other structures, and should they so desire by the owners themselves, at the expense of the Contractor; such expense not to exceed the actual cost of labor and materials used, together with a reasonable allowance for the use of plant and tools not exceeding seven and a half (7½) per cent.

All work of reconstruction or alteration if performed by the City or owners shall be done with reasonable dispatch and facilities are to be provided so that said work will interfere as little as possible with the practical working and use of such structures. Failing to make such alterations within a reasonable time as shall be adjudged by the Board, may be considered by the Contractor as a waiver on part of said City or owners of the right to do said work.

To be reconstructed without delay.

In the event of the companies or the City, being required to make any alteration to their structures as above provided, or in case they shall consider it necessary or desirable to make any further alterations in, or do any work to or in connection with surface or sub-surface structures owned by them or it, at the time the work under this contract is in progress, the Contractor shall give said company or City all reasonable opportunity to perform such work, provided such work or alteration for the benefit solely of the owners of sub-surface structures does not cause the Contractor any serious loss or delay, as shall be determined by the Board.

Right of companies and City to do work.

21. STATIONS.

Contract Drawings Numbers C 26. to C 34. inclusive, are plans and details of two stations, the one for local trains only and the other for local and express trains. During the progress of the work the Board will issue additional plans for the other stations to be built, which plans shall be similar in principle to those shown in the Contract Drawings above mentioned, differing, however, in dimensions and details as rendered necessary by local conditions, which plans shall become binding on the Contractor as if prepared and issued at the time of signing the contract. Or, if the Contractor prefer, it may prepare plans of all or any of the stations and submit the same to the Board, and if their approval be obtained to such plans, or to such plans as amended by them, then the Contractor

Stations underground.

may use such plans, or plans as amended, in lieu of the plans shown in Contract Drawings Numbers C 26. to C 34., inclusive, and the other Contract Drawings of the other stations as contemplated above. Such plans, if prepared by the Contractor must, in order to be approved, describe stations at least as convenient, effective and attractive in their general plan, arrangement and details as the stations described in these specifications and in the Contract Drawings Numbers C 26. to C 34., inclusive. Where local conditions permit, and the Board approve, the Contractor will be permitted to build stations with island platforms.

Stations on viaducts.

Stations on viaducts shall be built according to plans and specifications furnished by the Board or according to plans and specifications furnished by the Contractor and approved by the Board. Such plans and specifications will describe stations of the most convenient form according to the local conditions, and with an attractive and artistic appearance. The platforms shall be of the same length as for the stations underground, and the stairways leading to the same shall start from both sides of the street, or from both sides of the cross streets in the case of two sided stations located at the intersection of streets. Platforms and stairways shall be as wide as the local circumstances permit, and shall be covered for their full length. All materials used in the construction of such stations shall be of the best class as ordinarily used for such work.

Vault lights.

The roof of the stations, where under the sidewalks, shall, to as great an extent as possible, consist of what are known as vault lights. These lights shall be made of cast-iron frames, with lenses not exceeding two (2) inches in diameter, of strong glass set in cement, all of design approved by the Engineer; which frames shall be of sufficient strength to carry, when supported in a manner similar to that in which they are to be permanently set, an equally distributed load of at least five hundred (500) pounds per square foot without signs of failure, deformation or permanent set, when such test load is removed. The right is reserved to test at least one (1) frame in

every ten (10) delivered, as selected by the Engineer. Should the one selected fail, another will be selected by the Engineer; and, if that fail, then the whole lot may be rejected. These frames must be set in place with cement, lead or other means to be absolutely waterproof, as tested by a hose with one-half ($\frac{1}{2}$) inch nozzle and hydrant pressure.

In order to prevent any leaks and as far as possible condensation, the Contractor must exercise great care in the construction of station walls and roofs. The walls above the platform level, when acting as retaining walls, shall be built of brick or concrete with a waterproof layer, all as described under the appropriate clauses in these specifications. The walls shall be faced with enamelled hollow bricks. If such hollow bricks can not be obtained of quality satisfactory to the Engineer, then at a distance of one (1) inch from the interior face of such walls there shall be built a wall of enamelled bricks, or in place of enamelled brick a wall not less than four (4) inches thick of hollow brick, the exterior face of which shall be covered with enamelled tiles. The interior wall may be stayed by header bricks abutting against the main wall, such header bricks occurring not oftener than one (1) inch in each square yard. The hollow spaces in the walls shall be connected at the bottom by a pipe furnished with a stopcock and leading to the drain.

Walls.

Hollow bricks.

The floors of stations shall be of some approved form of cement or artificial stone, and shall be so arranged as to drain to one or more points as directed, where suitable and proper provision shall be made for the removal of water used in flushing the same. In the designs of stations all corners formed by intersecting walls shall be avoided by joining these walls by curves of large radius. In order that such curved surface shall present a smooth and workmanlike finish, the Contractor shall supply special bricks or tiles properly curved to the radius used; and where the sidewalls join the floor the corners shall be rounded by specially made bricks or tiles curved to a

Floors.

radius of at least two (2) inches. All details of the stations must be so arranged as to facilitate cleaning, and to permit if desired a thorough washing of all parts of the stations and their approaches by means of a hose.

Ceilings.

The ceilings of stations where not made by vault lights shall be made as follows: The roof shall be formed in the ordinary manner as the roof of the railway, that is, of brick or concrete jack arches, all carefully water-proofed. The interior surface shall be made of wood, plaster on expanded metal laths, or some non-conducting material approved by the Board. This material, of whatever nature, shall be of the best quality ordinarily used for such purpose, and shall be attached to the flanges of the roof beams so as to leave an air space behind the same. The ceiling on the exposed surface shall be suitably decorated. The stairways shall be of iron or of sound and suitable stone, and furnished with the most approved form of treads to prevent slipping. Wherever possible there shall be two (2) stairways for each side of each station, and all stairways shall be of as great a width as the local conditions will satisfactorily permit and as the Board may approve. Where the presence of area-

Stairways.

ways or other openings permits there shall be louvre ventilators of glass of approved design placed immediately beneath the ceiling of stations. These louvres shall be in height not exceeding three (3) feet, shall extend in length as great a distance as the local circumstances shall permit, unless otherwise ordered by the Board, and shall be so arranged as to exclude storm water.

Ventilators.

The ticket booths, railings, doors and other details are to be of wood, brass and glass, and designed and constructed with skill and in a manner approved by the Board.

Waterclosets.

Each side of every station, unless otherwise ordered by the Board, shall be equipped with two (2) waterclosets plainly marked for the use of women and men respectively. They shall be finished with bowls of sanitary design and approved make, and supplied with a good flushing device. In addition to the bowl the closet for the men

shall be furnished with a urinal and special flush for the same, all of approved design. The doors leading to these closets shall be equipped with good self-closing springs. Each closet shall have a ventilating pipe leading direct to the outer air, and covered by a suitable cast iron grating to set in the sidewalk or other place, and furnished with a small automatic exhaust fan. The bowls and urinals shall be connected by means of cast iron drain pipes to the main sewer. These drains shall be furnished with sufficient traps of approved design, set close to the fixtures, which traps shall be back-aired in an efficient and workmanlike manner, such back-air pipes terminating in the sidewalk or other approved situation, and covered by suitable galvanized iron gratings.

Both sides of every station shall have connection with the Croton water main so as to permit the attaching of hose or hoses for the flushing and washing of all parts of the station and platform, waiting rooms and stairways. Water connections.

In certain stations it will be necessary to pass sewers or pipes, or both, beneath the station platforms, and in order to reach the same for the purpose of inspection and repair, cast iron frames capable of being lifted, of such size and design as the Board may prescribe, shall be inserted in the floor, and the concrete of the floor so laid as to be exactly flush with the same. Sewers and pipes.

Whenever it is necessary to suspend from the ceilings of any station or stations, pipes for the conveyance of water, gas, air, electric cables or other materials, the same shall be of wrought iron or steel in lengths of at least twenty (20) feet between joints. The joints and manner of attaching and supporting such pipes shall be as permitted by the Engineer. Water mains shall be encased in asbestos or other approved non-conducting material and all exposed mains or pipes shall be suitably painted.

Wherever station platforms are located at a depth or height exceeding thirty (30) feet from the surface of the Elevators.

street, the Contractor shall, if required by the Board, establish an approved plant of elevators not exceeding four (4) in number, each elevator being of sufficient size to carry at least twenty-five (25) persons.

Lighting.

The Contractor shall submit to the Board a system of lighting the stations to be approved by them before being put into operation. The lights are to be located as far as possible by being sunk in recesses in the ceiling or behind mouldings, so as to be sheltered from direct observation, and to furnish light by reflection. The lights must be of sufficient number and so situated as to light the stations, platforms and bridges in a thorough manner.

Decoration.

The stations must be finished in a decorative and attractive manner, such as is consistent with and suitable to buildings of such character. The general effect is to be light, avoiding any gloomy suggestion. To produce such an appearance the color of the enameled bricks or tiles shall be white or approaching white, except as bricks or tiles of other color are introduced for architectural effect. The ceilings are to be decorated in a suitable and attractive manner, and tinted a light color.

22. TERMINALS.

Where located.

Terminal grounds shall be located by the Contractor subject to the approval of the Board, and shall be sufficient in area to permit the construction of machine repair shops, transfer and turntables, and other terminal appur-

Extent.

tenances, and storage tracks having a mileage of not less than five (5) miles and capable of storing such equipment as will be furnished under this contract, and such reasonable additions thereto as are likely to be made within ten (10) years next ensuing from the completion of the work.

Surface to be graded.

The surface of such ground shall be improved by excavating, filling, or other grading as ordered by the Board, in order to put the same in proper condition for use.

Buildings, transfer and turntables and similar terminal appurtenances of a permanent character shall be constructed according to the plans and specifications furnished by the Board; or according to the plans and specifications to be furnished by the Contractor and approved by the Board.

Permanent improvements.

All buildings shall be constructed of steel, brick, or other fireproof materials, and shall present an attractive appearance.

Fire proof buildings.

All machinery and other equipment in connection with such buildings or other terminal appurtenances are to be furnished and owned by the Contractor along with the equipment as contemplated by the Statute and called for by this contract.

Machinery and equipment owned by contractor.

Sidetracks of substantial character shall be constructed on the terminal grounds. These sidetracks shall have a combined length sufficient to hold all the rolling stock furnished by the Contractor, and shall be so laid out and placed as to permit their convenient operation, and the inspection and cleaning of the cars while stored thereon.

Sidetracks.

23. EQUIPMENT.

Full and sufficient equipment, including all rolling stock, motors, boilers, engines, wires, subways, conduits and mechanisms, machinery, tools, implements and devices of every nature whatsoever, used for the generation or transmission of motive power, and including all power houses, real estate necessary therefor, or for the generation or transmission of motive power, and all apparatus for signalling and ventilation, are to be provided by the Contractor at its expense, as provided in the Statute.

Furnished by contractor.

The amount of such equipment shall be at least sufficient to supply at one time trains of three (3) cars on the local lines at two (2) minute intervals, and trains of four (4) cars on the express lines at five (5) minute intervals, each car having a minimum seating capacity of forty-eight (48) persons.

Amount required.

Power.

The motive power of such equipment shall be of such a character as not to require combustion in the tunnels or on the viaducts. The motors shall have sufficient power to haul on level gradients, in addition to their own weight, a train of five (5) cars, at an average speed of thirty-five (35) miles an hour, with stations one and a half ($1\frac{1}{2}$) miles apart, allowing ten (10) seconds for the duration of each stop.

Cars.

The cars shall be so constructed as to facilitate to the utmost a quick discharge and loading of passengers. Both motors and cars shall be designed to have a handsome and attractive appearance, both within and without, and be constructed of the best material and workmanship; and special care must be taken to avoid all loose or rattling parts that might produce noise. Extra provision must be made for the thorough ventilation of all cars.

Signals.

The signalling devices shall be of the most approved and reliable character, preference being given to a system which will automatically bring a train to a stop in the event of the man in charge failing to obey a danger signal.

Ventilation.

The Contractor shall so construct the tunnel, cars and equipment and provide them with such devices for ventilation that they will be supplied at all times with pure, wholesome air. In addition to the openings to be constructed at stations, the Contractor shall construct at least two (2) such blowholes as shown on Contract Drawing No. C 10. between every two stations on the tunnel portion of the Main and West Side Lines between Sixtieth street and One hundred and fiftieth street. The Contractor may construct other blowholes and ventilating shafts and such other constructions as, in the opinion of the Contractor, may be needed to give an efficient system of ventilation and as may be approved by the Board.

Equipment to be approved.

The general plans of the equipment, including designs for cars, devices for signals and ventilation, must be submitted to the Board and approved by it, both as to design and quantity, and furthermore, the construction of the

equipment must be similarly approved as to material and workmanship.

24. GENERAL CLAUSES.

All materials and workmanship must be of the best class in every respect as ordinarily used for such work where applied, and the Engineer is to be the sole judge of their quality and efficiency.

Materials and workmanship.

Wherever necessary the Contractor shall erect and maintain at its own expense fences for the protection of adjoining property and of the adjoining public places.

Fences.

At its own expense and under the direction of the Engineer, the Contractor is to clear the work, streets and all public places occupied by it from all refuse and rubbish, and leave them in a neat condition.

Work to be cleared.

Wherever the Contractor is absent from any part of the work where it may be necessary to give instructions, orders will be given by the Engineer to and shall be received and obeyed by the superintendent or overseer of the Contractor who may have charge of the particular work in relation to which the orders are given, and a written copy of such orders will be forwarded to the Contractor by the Engineer without delay.

Orders given in Contractor's absence.

The principal lines and grades are to be given by the Engineer, who may change them from time to time as may be authorized and directed by the Board. The stakes and marks given by the Engineer must be carefully preserved by the Contractor, which must give to the Engineer all necessary assistance and facilities for establishing benches and plugs for making measurements.

Lines and grades.

Any inefficient or imperfect work which may be discovered before the final acceptance of the work, shall be corrected immediately on the requirement of the Engineer, notwithstanding that it may have been overlooked by the proper inspector.

Imperfect work.

Damaged work to be replaced.

In all work of whatever kind, which during its progress and before its final acceptance, shall become damaged from any cause, so much of it as may be objectionable, shall be broken up or removed, and be replaced by good and sound work.

Notice to be given to Engineer prior to commencing construction.

Before commencing work on any part of the route, whether on the railway or on the sewers lying off the line of the railway, the Contractor shall give notice in writing to the Engineer at least one (1) week in advance of its intention to commence such operations; and before commencing manufacture, or resuming manufacture if the same has been suspended, of any article called for by these specifications, notice shall be given to the Engineer in writing at least one (1) week in advance, with the name and address of the mill and the amount and description of the material to be manufactured, in order that proper inspection may be arranged for.

Commencement to be postponed.

If so requested by the Engineer in writing, countersigned by the President of the Board, a further reasonable delay in commencing work or manufacture must be granted, such delay to extend the time of completing this contract as named herein.

Conveniences.

Necessary conveniences, properly secluded from public observation, shall be constructed wherever needed for the use of laborers on the works, to the satisfaction of the Engineer and the sanitary authorities.

Ordinances and regulations.

In all operations connected with the work, all ordinances of the City authorities, and of the Board of Health, which shall be valid and operative with respect to work on the Rapid Transit Railroad, and the valid regulations of the officers of the United States in charge of the navigable waters in and about the Harbor of New York, and all laws of this State which are now applicable and control or limit in any way the actions of those engaged in the work or affecting the materials belonging to them, must be respected and strictly complied with.

If the work or any part thereof, or any material found or brought on the ground for use in the work or selected for the same, shall be condemned by the Engineer as unsuitable or not in conformity with the specifications, the Contractor shall forthwith remove such materials from the work and rebuild or remedy such work as may be directed by the Engineer.

Removal of condemned material.

The Contractor shall employ only competent, skillful and faithful men to do the work. Whenever the Engineer shall notify the Contractor in writing that any man on the work is in his opinion incompetent, unfaithful or disorderly, such man shall be discharged from the work and shall not again be employed on it.

Competent men to be employed.

25. SECTIONAL CONSTRUCTION.

The foregoing specifications and all drawings have, for convenience, been prepared without regard to the construction of the Railroad in sections. All of the specifications and drawings shall, so far as applicable, apply to each section which the Contractor shall be bound to construct.

26. TRADE COMBINATIONS, ETC.

In the event of difficulty arising through trade combinations, or otherwise, preventing the purchase on fair terms, as determined by the Board, of any article called for by these specifications, then the Board may upon the request of the Contractor adopt such alternative requirements as it shall deem proper.

Contractor protected from trade combinations.

CHAPTER III.—THE LEASE.

Description of
Railroad.

The City hereby lets the Railroad to the Contractor for the term hereinafter mentioned. The Railroad hereby leased includes the railway constructed under the Routes and General Plan thereof prescribed by the resolutions of the Board adopted on the 14th day of January and the 4th day of February, 1897, together with terminals, stations and all other appurtenances whatsoever of the said Railroad, but not including the Equipment thereof, Provided, however, that the railroad leased shall be deemed to include only Section I unless and until the City shall determine, as prescribed in Chapter I, General, to construct Section II, whereupon the railroad leased shall be deemed to include only Sections I and II unless and until the City shall determine, as prescribed in Chapter I, General, to construct Section III, whereupon the railroad leased shall be deemed to include Sections I, II and III unless and until the City shall determine, as pre-

scribed in Chapter I, General, to construct Section IV, whereupon the railroad hereby leased shall be deemed to include all four sections.

The Contractor hereby agrees to equip, maintain and operate the Railroad during the whole of the said term. The said term shall be fifty (50) years, and shall run from the date on which Section I of the Railroad shall be declared by the Board to be ready for operation, provided, however, that, if the Railroad shall include Sections II, III and IV, or any of them, the term of the Lease as to each of such sections so included shall begin on the date or dates on which it shall be declared by the Board to be ready for operation and shall end at the end of the said first mentioned term of fifty years.

The Contractor shall surrender possession of the Railroad at the end of the said term of fifty years or at the earlier termination of this Lease, as herein provided.

Contractor to
surrender Posses-
sion at End of
Lease.

The Contractor shall pay to the City rental for the Railroad, which rental shall consist of the following:

(1) An annual sum equal to the annual interest payable by the City upon all bonds which shall be issued by it in

Rental.

order to provide means for Construction. The amount of such interest shall be ascertained as of the time when the Railroad shall be declared by the Board to be ready for operation; but it shall be increased from time to time by the amount of the annual interest payable by the City for all bonds which, after the date when the Railroad shall be so declared to be ready for operation, shall be issued in order to provide means for Construction. The amount or amounts payable under this subdivision shall not be subject to decrease by reason of the refunding by the City at lower rates of interest of any of the bonds issued as aforesaid. Bonds issued in order to provide means for Construction shall be deemed to include bonds issued to pay interest on bonds theretofore issued pursuant to this Contract under the provisions of section 34 of the Rapid Transit Act; but shall not be deemed to include bonds issued to pay for rights, terms, easements, privileges or property other than lands acquired in fee.

(2) A further annual sum which shall be equal to one per centum upon the whole amount of the said bonds (with the exceptions above mentioned) except that the

annual payment in excess of such interest shall, for each year during the period of five (5) years from the date at which the payment of rental shall begin, be such sum not exceeding such one (1) per centum as shall be equal to the excess of the profits of the Contractor for such year in the operation of the Railroad over five (5) per centum upon the capital of the Contractor invested in the enterprise, and except further that for each year during a second and immediately succeeding period of five (5) years, there shall, in lieu of such one per centum, be paid one-half ($\frac{1}{2}$) of such one (1) per centum and in addition an amount not exceeding one-half ($\frac{1}{2}$) of such one (1) per centum which shall be equal to the excess of the profits of the Contractor for such year in the operation of the Railroad over five (5) per centum per annum upon its capital invested as aforesaid.

The Rental shall begin as to each Section with the date of the declaration of the Board that such Section is ready for operation and shall be payable at the end of each quarter on the first days of January, April, July and October.

During the first ten (10) years of the said term of fifty (50) years, the Contractor shall deliver to the Comptroller at the time each payment of Rental is due a state-

When Contractor to state net Proceeds of Operation.

ment in form and with details to be prescribed by the Board, the same to be verified under oath by the Contractor or by the treasurer of the Contractor, or, in case of his absence or inability, then by its president, or other chief officer or manager, showing for the preceding quarter,—

(1) The amount of Capital of the Contractor invested in the enterprise not including borrowed money however secured.

(2) The gross receipts from the operation of the Road.

(3) The operating expenses of the road including actual expenditure for repairs and maintenance and interest on borrowed money, but without allowance otherwise for wear or tear or deterioration.

The profits shall be determined by deducting from the gross receipts the operating expenses as above defined.

After the expiration of the said period of ten (10) years the Contractor shall deliver to the Comptroller at the quarterly times above mentioned a statement verified as

above provided, showing its gross receipts for the preceding quarter from the operation of the Road.

The Comptroller or the Board shall have the right to verify any of the said statements by an examination of the Contractor's books and the examination under oath of any of its officers or servants ; and the Contractor hereby covenants that its officers and servants shall submit to such examination and produce such books whenever and wherever they may be reasonably required by the Board or Comptroller.

The Contractor by Chapter II of this contract has agreed to itself construct the Railroad so that the same shall be an intra-urban railway of the very best character according to the highest modern standard, in respect of safety, speed and convenience and in all other respects. The Contractor covenants to and with the City that at the time or times the Lease shall begin the said Railroad so far as declared by the Board ready for operation shall be a railway of the character aforesaid ready for immediate and continuous operation, and that the same shall, at the time of the commencement of the said term or terms, be a railway in all respects conforming to all and every of the requirements of the Lease. The Contractor admits

Contractor's
Assurance of
Character of
Railroad.

that at the commencement of its Operation of the Railroad under the Lease it will have a complete knowledge thereof and a knowledge ampler than that of the City or any official thereof. The Contractor shall at no time and in no event be at liberty to object to the plans or specifications upon which the Railroad has been constructed, or the manner of its construction, maintenance or operation.

Contractor to observe highest Standard of Railway Operation.

The Contractor covenants to and with the city that the Contractor will, during the term of the Lease, operate the Railroad carefully and skilfully according to the highest known standards of railway operation.

It further covenants to do all the things which in this Contract is provided that it shall do.

Trains, their Speed, Frequency, &c.

The Contractor shall run trains of two kinds, local trains and express trains. The local trains shall be run at a speed on the average, stops at stations included, of not less than fourteen (14) miles per hour. The express trains shall be run on the average, stops at stations included, at a rate of not less than thirty (30) miles per hour. The Contractor shall, so far as is practicable, meet all reasonable requirements of the public in respect of frequency and character of its railway service to the full

limit of the capacity of the Railroad. Between the hours of half-past eleven and one o'clock at night and between five and six o'clock in the morning trains shall be run by the Contractor stopping at all stations at intervals of not less than ten (10) minutes. Between the hours of one o'clock and five o'clock in the morning trains shall be run, stopping at all stations at intervals of not less than fifteen (15) minutes.

The Contractor shall operate the Railroad with the Safety. highest regard to the safety of the passengers and employees thereof and of all other persons. Mechanical and other devices for safety shall be of the very best known character. The Contractor hereby covenants to and with the City that it will save the City harmless of and from all claims of every nature arising from injuries to passengers, employees or other persons by reason of negligence on the part of the Contractor or of any of its employees, and all other claims by reason of operation of the Railroad, except those against which the City by this contract assures the Contractor.

The Contractor shall during the term of the Lease keep Repairs. the Railroad and its Equipment and each and every part

thereof in thorough repair, and shall restore and replace every part thereof which may wear out or cease to be useful, so that at all times and at the termination of the Lease the Railroad shall be in thoroughly good and solid condition and fully and perfectly equipped presently ready for continuous and practical operation to the full limit of its capacity. If at any time the Board or its Engineer shall notify the Contractor of any loss, wear, decay or defect in the Railroad or the Equipment, such loss, wear, decay or defect shall forthwith be completely remedied by the Contractor at its own expense, so far as the same interferes or is inconsistent with the thoroughly good or solid condition of the Railroad or its Equipment as aforesaid, or with the continuous or practical operation thereof to its full limit as aforesaid. If the Contractor shall unreasonably fail or refuse to so forthwith completely remedy such loss, wear, decay or defect, the Board may in such manner, whether by contract or otherwise, as it may deem proper, procure such losses, wear, decay or defect to be supplied and remedied, and for such purpose shall be entitled, so far as it shall deem necessary or convenient, to

enter upon the premises ; and the Contractor shall forthwith, upon the demand of the Board, pay to the City the entire cost incurred by the City in supplying such loss or wear or in remedying such decay or defect.

The Contractor shall keep the stations, tunnels and all other parts of the Railroad clean, free from unnecessary dampness, and in that and in all other respects in thoroughly good order and condition. The Contractor shall promptly remove from the stations and their approaches, including the sidewalks immediately adjoining the approaches, all ice and snow and all other obstructions or hindrances.

Contractor to keep Railroad in good Condition.

The Contractor shall not permit advertisements in the stations or cars which shall interfere with easy identification of stations or otherwise with efficient operation.

Not to permit Advertisements, etc., to interfere.

The Contractor shall suitably and thoroughly light and heat the stations and cars of this Railroad ; and they shall be so lighted that passengers may conveniently read therein. Such light and heat shall be provided by electricity or such other illuminating and heating agent, as may be approved by the Board.

To light and heat Stations, Cars, &c.

- Waiting Rooms. The Contractor shall keep the waiting-rooms in clean and comfortable condition, and provide therein proper seating capacity and good drinking water. The Contractor shall provide in connection therewith sufficient and suitable water-closets, and keep the same in sanitary condition.
- Ventilation. The Contractor shall cause all tunnels, stations and cars of the Railroad to be thoroughly ventilated with pure air.
- Tunnels to be lighted. The Contractor shall keep all tunnels sufficiently lighted at all times to permit the tracks and walls and roofs of the tunnels to be clearly visible for inspection.
- Motive Power. The motive power shall be electricity or compressed air, which shall be so used as to involve no combustion in the tunnels or any injury to the purity of the air in the tunnels,—Provided, however, that, if, in the future development of the railway art, any method of generating or transmitting power superior to electricity and involving no combustion or other injury to the purity of the atmosphere in the tunnels or in the cars shall be discovered to be practicable, then the Contractor shall have the right to adopt such different method if approved by the Board.

But if the Contractor shall adopt such different method, then the Contractor shall provide and maintain equipment for the generation and transmission of power by such different method at least equal in completeness, efficiency and durability to the Equipment as provided to be used at the commencement of the term of the Lease. Any such change of motive power shall be made only upon general and detailed plans and specifications which shall have been submitted by the Contractor to the Board at least two (2) months before any such change shall be made.

The Contractor shall at all times provide all reasonable Inspection. conveniences for the inspection of the Railroad and Equipment and every part thereof by the Board, its members, its engineers and subordinates. The members of the Board, its engineers and subordinates shall at any time upon its authority have access to any part of the Railroad or Equipment, or to any materials therefor in process of manufacture.

The Contractor shall at all times provide, in quantities Character of Rolling Stock. amply sufficient for the travel to the full capacity of the Railroad, cars, rolling stock and other parts of the Equipment of the best character known at the time to the art

of intra-urban railway operation. In case of any such neglect the Board may, upon notice, require the defect to be made good; and, if the defect shall not forthwith and upon such notice be made good, then the Board shall be at liberty, either by contract or otherwise as it may see fit, to make good such defect; and in so doing the Board shall, so far and for such time as may be necessary or convenient, be entitled to enter upon or take possession of any part of the Railroad or Equipment. The Contractor shall forthwith repay to the City the cost to which it shall be put in making good any such defect.

The Contractor shall at all times keep upon the Railroad, cars, motors and other equipment which shall, to the limit of the capacity of the Railroad, be adequate to the requirements of the travelling public.

Rolling Stock to be adequate.

The Contractor shall, before the declaration of the Board that the Railroad is ready for operation and before the Contractor shall be entitled to the final payment for construction, file with the Board in duplicate a true schedule of the Equipment of the Railroad. Such schedule shall be in detail and shall be prepared in such form as may be prescribed by the Board. After the operation

Schedules of Equipment to be filed.

of the Railroad shall have been begun the Contractor shall within thirty days after the first day of January and the first day of July respectively in each year file a like schedule showing in detail all of the Equipment on such first day of January or first day of July respectively. Every such schedule shall be verified by the affidavit of the general manager or other officer of the Contractor who shall be in the general care and control of the Equipment, and who shall in such affidavit state that he is in such general care and control.

The Equipment shall be kept by the Contractor in thoroughly good order and repair; and the Contractor hereby expressly covenants to and with the City that the Contractor will not at any time within three (3) years before the end of the term of the Lease permit the Equipment to be less in quantity or inferior in quality to the Equipment as it shall have been at any prior time during the term of the Lease.

Equipment to be kept in good Order.

The lien of the City upon the Equipment shall be applicable to all Equipment at any time provided by the Contractor during the term of the Lease in like manner as to the Equipment provided by the Contractor prior to the commencement of said term.

City's Lien on Equipment.

Freight may be carried.

The Contractor may use the Railroad for the carriage of freight or express matter, Provided, however, that such use shall not to any extent or in any way interfere with the use of the Railroad to its fullest capacity for all passengers who shall desire to be carried upon it. Nor shall the Contractor make any use of the Railroad or any part of it or of its Equipment which shall to any extent or in any way interfere with such use to its fullest capacity for passengers.

Fares.

The Contractor shall during the term of the Lease be entitled to charge for a single fare upon the Railroad the sum of five (5) cents but not more. The Contractor may provide additional conveniences for such passengers as shall desire the same upon not to exceed one (1) car upon each train, and may collect from each passenger in such car a reasonable charge for such additional convenience furnished him, provided that the amount to be charged therefor and the character of such additional convenience shall from time to time be subject to the approval of the Board. The Contractor may provide not to exceed one (1) car in each train for persons smoking.

If the Contractor shall default in paying the rental here-
in provided or shall fail to observe, keep and fulfill the
conditions, obligations and requirements of the Lease or
any of them, the City shall have all the remedies provided
in that case by Chapter I. of this contract.

Powers of City
on Default of
Contractor.

At the termination of the Lease, (or if the same shall,
at any time not less than one (1) year before the expira-
tion of the term of the present lease,—be renewed by
agreement between the City and the Contractor, then upon
the expiration of said renewal thereof) the City shall buy
and the Contractor shall sell, the whole of the property of
the Contractor employed in and about the equipment,
maintenance and operation of the Railroad. The right of
the City so to buy shall be protected by its lien upon
Equipment as aforesaid. Such purchase and sale shall
be at a reasonable price, due regard being had to the con-
dition, wear and tear of the property. Such price may
be fixed by agreement between the Board and the Con-
tractor; but if they shall not agree then such price shall be
fixed by arbitration, or, if either party shall object to ar-
bitration, or if the terms or procedure of arbitration shall

City to buy
Contractor's
Property at End
of Term.

not be agreed upon, or if the arbitration shall fail,—then by appropriate suit or proceeding in the Supreme Court of this State. The City shall have the right at the termination of the Lease, whether or not the price shall have been ascertained or paid, to take possession and use and operate all such property of the Contractor, but subject, however, to its liability to pay the value thereof to be ascertained as aforesaid with interest from the time of taking possession.

Lease, when Assignable.

The Lease shall not be assignable by the Contractor without the written consent of the Board concurred in by six (6) of its members.

Right to Renewal.

Upon the written demand of the contractor or its lawful assignee delivered to the Board not more than two (2) years and not less than one (1) year before the expiration of the term of this Lease, the Contractor shall be entitled to a renewal hereof for the term of twenty-five (25) years. Such renewal lease shall be in the same form as this lease except that, in lieu of the term or terms of duration of this lease, such renewal lease shall be for the term of twenty-five (25) years from the date of the expiration of

this lease, and except further that such renewal lease shall contain no provision for a renewal and except further that the amount of the annual rental shall be an amount not less than the average amount of the annual rental for the ten (10) calendar years of the lease next preceding the Contractor's demand for renewal, and that the amount of such rental, subject to such minimum limit, shall be agreed upon between the Board and the Contractor or its assignee or, if they shall not agree, then the amount of such rental shall, subject to such minimum, be fixed by arbitration or, if either party shall object to arbitration or, if the terms of procedure shall not be agreed on or if the arbitration shall fail, then by an appropriate suit or proceeding in the Supreme Court of this State.

In witness whereof this contract has been executed for the CITY OF NEW YORK by its BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS under and by a resolution duly adopted by the said Board, and the seal of the said BOARD has been hereto affixed and these presents signed by the President and Secretary of the said BOARD; and the CONTRACTOR has hereto set his hand and seal the day and year first above written.

THE BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS,

by A. E. ORR,

[SEAL.]

PRESIDENT.

ATTEST:

BION L. BURROWS,
SECRETARY.

JNO. H. STARIN,

WOODBURY LANGDON,

G. L. RIVES,

CHAS. STEWART SMITH,

MORRIS K. JESUP,

ROBT. A. VAN WYCK,

MAYOR OF THE CITY OF NEW YORK.

BIRD S. COLER,

COMPTROLLER OF THE CITY OF NEW YORK.

[SEAL.]

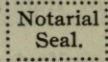
JOHN B. McDONALD.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK. } ss.

On this 24th day of February, 1900, at the said city, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the President, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners of the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

And on the same day, at the said county, before me duly appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (36),



Notary Public,

N. Y. Co.

Invitation to Contractors.

OFFICE OF THE BOARD OF RAPID TRANSIT }
 RAILROAD COMMISSIONERS OF THE CITY }
 OF NEW YORK,

No. 320 Broadway, New York City.

, 1899.

The City of New York (hereinafter called the City), acting by its Board of Rapid Transit Railroad Commissioners, proposes to build a rapid transit railroad in the City of New York. By this advertisement the Board invites proposals to construct the railroad, to equip the same, to put the same into operation and thereafter to use and operate the same upon a lease thereof from the City for the term of fifty (50) years with a right to a renewal of the lease for a further term of twenty-five (25) years, all upon the terms and conditions set forth in the draft of Contract hereinafter referred to.

Payments to the Contractor will be made for construction as the work proceeds as provided in the form of contract.

The annual rental to be paid by the Contractor under such lease, after completion, will, except as provided in the contract amount to the interest paid by the City on its bonds for cost of construction (including interest during

construction, but excluding bonds issued to pay for easements and the like), and in addition one (1) per cent. on such cost of construction with provision for contingent abatement or reduction of such one (1) per cent. during the first ten (10) years of the lease, and, in addition, if the Proposal of the Contractors shall so state, in years when the gross receipts from the operation of the road exceed Five million dollars (\$5,000,000), a sum equal to the percentage of such excess stated in such Proposal.

The points within the City of New York between which the said road is to run and the route or routes to be followed are as follows, namely: From the corner of Broadway and Park Row under Park Row to Centre street; under Centre street to new Elm street; under new Elm street to Lafayette Place; to and under Fourth avenue and Park avenue to Forty-second street; under Forty-second street to Broadway; under Broadway to Fifty-ninth street; under Broadway (formerly the Boulevard) to One hundred and twenty-fourth street; then by viaduct to One hundred and thirty-fourth street; under Broadway and Eleventh avenue to a point about 1350 feet north of One hundred and ninetieth street; to the southeast end of

Ellwood street; over Ellwood street, Kingsbridge Road and Riverdale avenue to Kingsbridge Station of the New York and Putnam Railroad, together with a loop under City Hall Park and Broadway, connecting Centre street and Park Row; and a Branch as follows: Running from One hundred and third street to and under One hundred and fourth street, crossing Central Park, to Lenox avenue and One hundred and tenth street; under Lenox avenue to One hundred and forty-second street; easterly to and under the Harlem River, to and under One hundred and forty-ninth street to Third avenue; to and under and by viaduct along Westchester avenue to Southern Boulevard; to Boston Road and Bronx Park.

The general method of construction shall be such as to provide for the portion of the route on the loop south of the City Hall and for the portions of the route on both the east and the west side lines north of One hundred and third street, two (2) tracks, and for the portion of the route between the City Hall loop and One hundred and third street, four (4) tracks. These tracks shall be of the standard gauge, that is to say, of a width of four (4) feet eight and one-half ($8\frac{1}{2}$) inches between the rails. The roof of the tunnel shall be as near the surface of the

street as street conditions will permit, and is to have a height of not less than thirteen (13) feet in the clear and with a maximum width in the clear, except as influenced by local conditions, of fifty (50) feet where there are four (4) tracks and twenty-five (25) feet where there are two (2) tracks. There shall also be suitable stations, turnouts, switches and cross-overs. The portion of the route underground shall be constructed with steel girders, with brick or concrete arches or masonry walls and arched roof. The viaduct portions shall be of steel and masonry. The manner of construction of the portions underground shall be by tunneling or open excavation.

The Railroad is, for the purposes of the contract, divided into four sections: Section I, including the part from the southern terminus at the City Hall to 59th street; Section II, including (a) the part on the west side from 59th street to 137th street, and (b) the part on the east side beginning with the branch at 103rd street and the Boulevard, and extending to 135th street and Lenox avenue; Section III, including (a) the part on the west side from 137th street to Fort George, and (b) the part on the east side from 135th street to Melrose avenue; and Section

IV, including (a) the part on the west side north of Fort George, and (b) the part on the east side north of Melrose avenue. The City expects that the entire Railroad, that is to say, all of such four (4) sections, will be constructed and operated. But the City desires to restrict its entire pecuniary liability for rapid transit at any one time within the limits deemed consistent with its other obligations and interests. The Railroad is, therefore, to be constructed and equipped in sections. The Contractor shall begin with Section I. If and when, within one (1) year after the commencement of work on Section I the City shall so elect, the Contractor shall construct Section II. If and when, after the commencement of Section II, and within two (2) years from the commencement of Section I, the City shall so elect, the Contractor shall construct Section III. If and when after the commencement of Section III and within three (3) years after the commencement of Section I the City shall so elect, the Contractor shall construct Section IV. The Railroad shall, so far as concerns the rights and obligations of the parties under the contract, be deemed to include only Section I, and in addi-

tion the other of Sections II, III and IV, which the City shall determine to construct within the limits of time aforesaid.

The term of years for which the contract is proposed to be made extends for fifty (50) years after the completion of the road and its readiness for operation as declared by the Board, with an option to the Contractor to extend the lease for twenty-five (25) years at a rental to be fixed as in the contract provided, but not less than the average rental for the last ten (10) calendar years before the Contractor's demand for renewal.

Other requirements, provisions, details and specifications are stated in the printed form of contract now on file at the office of the Chief Engineer of the Rapid Transit Board, No. 22 William Street, New York City, where copies of the same and of the forms of bonds and contractor's proposal may be had. Such printed form of contract is to be deemed part of this Invitation.

Sealed bids or proposals for the construction and leasing of such rapid transit road endorsed: "Proposals for "constructing and leasing Rapid Transit Railroad" with the name of the person or persons, corporation or corporations making the same will be received at the said office of the Board at No. 320 Broadway, Borough of Manhattan, New York City, until the 15th day of Janu-

ary, 1900, at 12 o'clock noon, at which time or at a later date to be fixed by the Board, the proposals will be publicly opened at the said office and the award of the contract, if awarded, will thereafter and within thirty (30) days after the opening of the bids be made by the Board to the person or persons, corporation or corporations, if any, whose proposal shall, in its opinion, be for the best interest of the City. The bidder or bidders whose proposal shall be accepted shall in person or by duly authorized representative attend at the said office of the Board within ten (10) days after the notice of a delivery by the Board and deliver a contract in the form referred to duly executed.

At the time of the delivery of the contract the Contractor shall give security as follows:

(1) By deposit of One million dollars (\$1,000,000) in cash or in securities of the character of securities in which savings banks of this State may invest their funds and which securities shall be approved by the Board. Such One million dollars (\$1,000,000) shall be security for construction.

(2) By a continuing bond in the penalty of One million dollars (\$1,000,000) to secure construction, operation,

payment of rental and all other obligations of the Contractor.

(3) By a bond in the penalty of Five million dollars (\$5,000,000) to secure construction and equipment.

The forms of the bonds are prescribed in the Contract.

In case of failure or neglect so to execute and deliver the contract and required bonds and make the required deposit, such bidder or bidders will, at the option of the Board, be deemed either to have made the contract or to have abandoned the contract.

In the latter case the Board shall give notice thereof to the bidder or bidders. And the Board may thereupon proceed to make another contract with such, if any, of the original bidders, as, in the opinion of the Board, it will be to the best interest of the City to contract with, or may by new advertisement as originally made, invite further proposals. The defaulting bidder or bidders shall thereupon be liable to the City for all loss and damage by it sustained, including the excess, if any, of the amount it shall pay any other contractor over the amount of the bid of such defaulting bidder or bidders, and without abatement

by reason of any increase of Rental which such excess may produce to the City, which damages are hereby liquidated at One hundred and fifty thousand dollars (\$150,000).

Bidders shall specify separately the amount of the bid in each of the following four cases: (1) When the Railroad shall consist only of Section I; (2) When the Railroad shall consist of Sections I and II; (3) When the Railroad shall consist of Sections I, II and III; and (4) When the Railroad shall consist of Sections I, II, III, and IV.

Bidders shall specify in their proposals the estimate of the cost of the equipment of the railroad upon which the proposal is based. The equipment includes all motors, cars, whether used for passengers, freight, express or any other purpose, and all other rolling stock, all boilers, engines, wires, ways, conduits, mechanisms, machinery, power-houses, all real estate upon which any such power-houses shall stand or which shall be necessary for the generation or transmission of motive power, and all tools, implements and devices of every nature whatsoever used for such generation or transmission of motive power, and

also all apparatus and devices for lighting, signalling and ventilation.

Work must be begun under the contract within thirty days after it shall be executed and delivered.

Each proposal shall be enclosed in a sealed envelope and delivered to the Board or to its secretary; and in the presence of the person offering the proposal it shall be deposited in a sealed box in which all proposals shall be deposited. No proposal will be received or deposited unless accompanied by a certified check drawn upon a national or state bank within the City of New York, payable to the order of the Comptroller of the City of New York for the sum of One hundred and fifty thousand dollars (\$150,000). If the Board shall, by notice to any bidder, accept his or its proposal and if the bidder shall fail within ten (10) days thereafter or within such further period, if any, as may be prescribed by the Board, to duly execute and deliver the contract and the two bonds with sureties and make the deposit of One million dollars (\$1,000,000), then this Invitation to Contractors and the proposal accepted as aforesaid shall be a contract binding the bidder

to pay to the City the damages by it sustained by reason of such failure, and in such case the bidder hereby absolutely assigns to the City the ownership of such One hundred and fifty thousand dollars (\$150,000) in payment of such damages. Such check must not be enclosed in the sealed envelope containing the proposal, but must be separately delivered to the Board or to its secretary, who will give a proper voucher for the deposit. All such deposits made by bidders whose proposals shall not be accepted by the Board will be returned to the person or persons making the same within five (5) days after the contract shall be executed and delivered. The deposit of the successful bidder shall be returned when the contract is executed and its provisions as to security complied with by him.

The price stated for construction shall include the furnishing of all materials and the performance of all labor requisite to the complete construction and equipment of the proposed Rapid Transit Railroad, including all sewer and street construction and reconstruction and other work caused by or incidental to the construction of the railway as set out in the proposed form of contract and specifica-

tions. The equipment when completely delivered shall, however, be the property of the Contractor, but subject to a lien of the City to secure performance by the Contractor of its obligations under the contract, including payment of rental under the lease during its entire term.

Proposals shall be in the form prescribed by the Board, copies of which may be obtained from the Chief Engineer.

The Railroad is to be operated by the Contractor after it is completed for the period aforesaid, and the Contractor is to pay to the City rental therefor as prescribed in the contract.

Bidders must state in their proposals the names and places of business of their proposed sureties.

Bidders whose proposals are otherwise satisfactory to the Board may in case the sureties named by them are not approved by the Board, substitute in their proposals the names of new Sureties approved by the Board.

Bidders must state in their proposals their names, places of residence, and the names of all persons interested with them in the proposal, either directly or indirectly; and, if the bidder shall be a corporation, then there shall be sub-

mitted a certified copy of its certificate of incorporation, with a certificate of the amount of stock paid in in cash; and the names and business addresses of all officers and directors of the corporation shall be stated. No bidders shall make a proposal in connection with any other bidder; and the proposal shall so state and shall also state that the proposal is in all respects fair and without collusion or fraud. No member of the Board or of the Municipal Assembly of New York or head of a department, chief of a bureau, deputy thereof, clerk therein, or any officer or employee of the City or of the Board shall be either directly or indirectly or actually or contingently interested in the proposal or in any supplies or work to which it relates, or any portion of the profits thereof, and the proposal shall so state.

No proposal will be allowed to be withdrawn for any reason whatever after it shall have been deposited with the Board.

The Board reserve the right to reject the proposal of any person who is in arrears to the City upon any bid or contract, or who is in default as surety or otherwise in any obligation to that corporation.

The proposal shall be signed and also verified by an affidavit of the bidder (or if it be a corporation then by the president thereof) to the effect that the several matters therein stated are in all respects true.

Each bidder shall in his or its proposal specify an office within the City of New York at which notices may be delivered; and delivery of a notice at such office shall be deemed a sufficient delivery and notice to such bidder.

The Board may reject any or all proposals if the Board shall deem it to the interest of the City so to do.

THE BOARD OF RAPID TRANSIT RAIL-
ROAD COMMISSIONERS,

By

A. E. ORR,

PRESIDENT.

BION L. BURROWS,

SECRETARY.

Contractor's Proposal.

*To the Board of Rapid Transit Railroad
Commissioners of the City of New York:*

NOTE.—Sums of money must be written in words and also stated in figures.

The undersigned,

do hereby in pursuance of the **Invitation of Contractors** made by your Board, a copy of which is hereto annexed, propose, according to the terms thereof and of the form of **Contract** therein referred to, to fully construct the Rapid Transit Railroad therein mentioned (and hereinafter called the Railroad), and to equip the same completely ready for immediate and continuous operation, for the following sum or sums of money: If the Railroad shall consist only of Section I, then for the sum of

Dollars (\$),

or if it shall consist only of Sections I and II, then for the sum of

Dollars (\$); or if it shall consist of only Sections I, II and III, then for the sum of

Dollars (\$),

or if it shall include all four (4) sections, then for the sum of

Dollars (\$)); and, in addition to the foregoing, the sum of One million dollars (\$1,000,000) for terminals; and, further, in addition to the foregoing, a sum for real estate as follows: If the Railroad shall consist only of Section I, the sum of One hundred and seventy thousand dollars (\$170,000); if only of Sections I and II, the sum of Three hundred and seventy thousand dollars (\$370,000); if only of Sections I, II and III, the sum of Four hundred and sixty thousand dollars (\$460,000); and, if the Railroad include all four (4) sections, then the sum of Five hundred thousand dollars (\$500,000), Provided, however, that these sums are subject to modification as provided in the said form of contract, and to be paid as therein provided. And the undersigned do further propose according to the terms of the said Invitation and Contract, that after the Railroad shall have been declared by your Board, to be ready for operation, the undersigned shall use and operate the Railroad upon lease from the City of New York (hereinafter called the City), for fifty (50) years after such declaration, and to pay rental therefor as provided in the said form of contract, Provided, however, [*that the percentage of gross

*Only *one* of the forms in brackets to be used.

receipts above Five million dollars (\$5,000,000) to be included in rental shall be per cent.]

[that no percentage of gross receipts shall be additionally included in rental.]

The undersigned do hereby propose to make a contract with the City in the form referred to in the **Invitation to Contractors** and hereto annexed.

The undersigned will if this Proposal shall be accepted, forthwith execute such contract with the City (acting by your Board) and at the time of such execution will deposit pursuant and subject to the terms thereof*

with the Comptroller of the City of New York, and will also at the time of such execution deliver to the Comp-

*Here insert either the words "the sum of One million dollars (\$1,000,000)." or the words "securities of which a schedule is hereto annexed entitled 'Schedule of Securities,' such securities being of the value of One million dollars (\$1,000,000)."

troller the Continuing Bond for One million dollars (\$1,000,000) therein required and being in the form hereto annexed and with the following sureties:

And also the Bond for Construction and Equipment for Five million dollars (\$5,000,000) therein required and being in the form hereto annexed and with the following sureties:

Your Board may cause any notice intended for the undersigned to be delivered at Room No. _____ on the _____ floor of the building No. _____ street in the City of New York. Such delivery shall be sufficient notice to the undersigned.

At the time of delivering this proposal to the secretary of your Board the undersigned separately delivers to the secretary a certified check drawn upon the bank of _____ of the City of New York payable to the order of the Comptroller of the City of New York for the sum of One hundred and fifty thousand dollars (\$150,000). If

your Board shall by notice to the undersigned as aforesaid accept this **Contractor's Proposal**, then, if the undersigned shall fail within ten (10) days thereafter or within such longer period as may be prescribed by your Board, to make the deposit of One million dollars (\$1,000,000) aforesaid, or to procure the two (2) bonds or the contract to be duly executed and delivered as aforesaid, then the **Invitation to Contractors** and this **Contractor's Proposal** shall constitute a contract binding the undersigned to pay to the City the damages by it sustained by reason of such failure of the undersigned, as provided in said Invitation to Contractors. And the undersigned hereby assigns to the City the said sum so specially deposited by the delivery of such certified check, but subject to the condition that if this Proposal shall not be accepted or if it shall be accepted and the undersigned shall within ten (10) days after notice as aforesaid or any longer period prescribed by your Board, execute the said contract and make the said deposit of One million dollars (\$1,000,000) and procure the said two (2) bonds to be duly executed and delivered, then such sum so specially deposited shall be returned to the undersigned.

A notice of acceptance of this Proposal by your Board

addressed to the undersigned as aforesaid shall forthwith, at the option of your Board, operate as against the undersigned as a complete making of a contract according to the form thereof as aforesaid, with the blanks therein contained filled in according to this Proposal.

This Proposal is based in part on an estimate of the cost of the equipment of the Railroad (as defined in the **Invitation to Contractors**) at _____ dollars (\$ _____).

The following are all the persons interested with the undersigned in this Proposal, together with their names and places of residence:

This Proposal is made without any connection with any corporation or person making another proposal for the same contract.

This Proposal is in all respects fair and without collusion or fraud.

No member of your Board or of the Municipal Assembly or head of a department, or deputy thereof or clerk therein, or any other officer of the City, or any person in the employ of your Board is directly or indirectly interested in this Proposal or in the supplies or work to which it relates or in any portion, direct or indirect, of the profits or other proceeds thereof.

Dated No.

STREET, NEW YORK CITY.

STATE OF NEW YORK, }
 CITY AND COUNTY OF NEW YORK, } ss.:

being duly sworn, says:

I am*

the proposing contractor above named. I have read the foregoing proposal. The same is in all respects true.

Sworn to before me this }
 day of 1899. }

**If the contractor be a person, here say "the person;" if it be a firm, here say "a member of the firm of _____;" if it be a corporation, say "the President (or Treasurer) of the Company."*

NOTICE: *To this Proposal must be annexed:*

1. Copy of Invitation to Contractors.
2. Copy of Proposed Contract.
3. Schedule of Securities, if securities be deposited for the \$1,000,000 in lieu of cash.
4. Form of Continuing Bond, with blanks completely filled.
5. Form of Bond for Construction and Equipment with blanks completely filled.

Copy of the Routes and General Plan.

Routes.

One route as follows: Its centre line shall commence at a point at or near the intersection of Broadway with Park Row; thence under Park Row and Centre street to a point at or near its intersection with New Elm street as proposed; thence under New Elm street as proposed, to Lafayette Place; thence under Lafayette Place to Eighth street; thence across and under Eighth street, and thence under private property lying between Eighth and Ninth streets and east of the westerly side or line of Lafayette Place, produced, to Fourth avenue; thence under Fourth avenue and Park avenue to Forty-second street; thence turning from Park avenue into Forty-second street, and taking for the purposes of the curve, if necessary or convenient, private property at the southwest corner of Park avenue and Forty-second street; thence under Forty-second street to Broadway; thence under Broadway to Fifty-ninth street; thence under the Boulevard to a point at or near One hundred and Twenty-fourth street; thence by viaduct along and over the Boulevard to a point at or near One hundred and Thirty-fourth street; thence under the Boulevard and Eleventh avenue to a point on Eleventh avenue, situate north of One Hundred and Ninetieth street, and distant therefrom not less than one thousand and not more than one thousand five hundred feet, and thence under or over (as may be most convenient) private property to a point at the southeast end of Ellwood street near Hillside street, and thence over Ellwood street to Kingsbridge avenue or Broadway; thence over Kingsbridge avenue or Broadway, as now proposed, to Riverdale avenue, and thence easterly over Riverdale avenue to a point within five hundred feet of the present Kingsbridge station of the New York and Putnam Railroad Company.

This route shall include a loop at the City Hall Park which shall connect with the portion of the route aforesaid along Centre street at or near the south end of that

street, and thence proceed westerly and southerly under City Hall Park and Broadway, and thence easterly to again connect with the portion of the route aforesaid in Park Row. All of the said loop shall lie under City Hall Park, Park Row, between the south end of Centre street and Ann street, and the portion of Broadway adjoining the City Hall Park lying between Vesey and Murray streets. This route shall also include suitable tracks and connections from the City Hall loop to the Post-office, such tracks and connections being under the City Hall Park and under the portion of Park Row between the south end of Centre street and Ann street. This route shall also include suitable tracks and connections from the portion of the route near the corner of Park avenue and Forty-second street to the yard and tracks of the Grand Central Station. All of the tracks and connections last mentioned shall be under Park avenue and Forty-second street and private property to be acquired. By private property in this description is meant property not forming part of the streets of the City of New York and not belonging to the City of New York.

Also a route as follows: Its centre line shall diverge from the route aforesaid on the Boulevard, between a line parallel to and one hundred feet north of One Hundred and Third Street and a line parallel to and one hundred feet south of One Hundred and Third street; thence under private property to a point in One Hundred and Fourth street; thence under One Hundred and Fourth street to and across Central Park, West; thence under Central Park to the intersection of Lenox avenue and One Hundred and Tenth street; thence under Lenox avenue to a point near One Hundred and Forty-second street; thence curving to the east and passing under private property, One Hundred and Forty-third and One Hundred and Forty-fourth streets, to the Harlem River at or near the foot of One Hundred and Forty-fifth street; thence under the Harlem River and private property to East One Hundred and Forty-ninth street at or near its intersection with River avenue; thence under East One Hundred and Forty-ninth street to a

point near its intersection with Third avenue; thence with a curve to the left and under Third avenue to a point near its intersection with Westchester avenue; thence with a curve to the right to and under Westchester avenue, and thence by viaduct over and along Westchester avenue to the Southern Boulevard; thence over and along the Southern Boulevard to the Boston road and thence over and along the Boston road to Bronx Park.

Plan of Construction.

The General Plan of Construction of the road is as follows:

For the route under Park Row and the said loop at City Hall Park, two parallel tracks; for the route from the point of connection of the City Hall loop with the route aforesaid at the southerly end of Centre street to the junction at or near One Hundred and Third street and the Boulevard four parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to the New York and Putnam Railroad Company's station at Kingsbridge, two parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to Bronx Park, two parallel tracks.

All of the above mentioned tracks shall be placed on the same level, except that wherever required by special necessities of surface or sub-surface structures or other special or local necessities and for the purpose of avoiding grade crossings at the southerly end of Centre street and the One Hundred and Third street junction, any one or more of the tracks may be depressed below the level of the other tracks to a depth of not more than twenty feet.

The tracks shall be of standard gauge, that is to say, of a width of four feet and eight and a half inches between the rails. There shall be twelve and a half feet width in the tunnels and on the viaducts for each track, except that at stations, switches turnouts, curves and crossovers the

width may be increased to the extent permitted by the width of the tunnel. *The tracks* wherever passing over or under the street *shall be placed over or under the central part of the street*, except that no tunnel or viaduct or any wall or part thereof under or along a street, shall, except at the stations, station approaches, curves and at places of access to subsurface structures, as hereinafter provided, be within a distance of five feet of the exterior line or side of the street. The tracks shall in all cases be placed in tunnels, except only that on the west side route on the Boulevard at or near One Hundred and Twenty-fourth street the tracks shall emerge from the tunnel and be carried upon a viaduct along the Boulevard to a point at or near One Hundred and Thirty-fourth street and there be taken again into the tunnel and except also that on the west side route at a point at or near One Hundred and Ninetieth street the tracks shall again emerge from the tunnel and be carried upon a viaduct over private property and the above-mentioned streets to the Kingsbridge station, and except also that on the east side from a point on Westchester avenue at or near Bergen avenue the tracks shall emerge from the tunnel and be carried upon a viaduct over and along Westchester avenue and the other streets above mentioned to Bronx Park.

Wherever the tracks change from tunnel to viaduct, or from viaduct to tunnel, the change shall be so made as to occupy or obstruct the use of the surface of the street to the least possible extent consistent with the proper gradient for the tracks.

The roof of the tunnel shall be as near the surface of the street as street conditions and grades will permit. The tunnel shall not be less than thirteen feet in height in the clear. The maximum widths of the tunnel in the clear shall be as follows:

For the route under Park Row and the City Hall Park loop, thirty-eight feet; for the route from at or near the south end of Centre street and to the commencement of New Elm street, fifty feet; for the route from, at or near

the commencement of New Elm street to Lafayette place, sixty-eight feet; for the route from, at or near the commencement of Lafayette place to the junction at or near One Hundred and Third street, fifty feet; for the west side route from the junction at or near One Hundred and Third street to Kingsbridge station, twenty-five feet; and for the east side route from, at or near the junction at One Hundred and Third street to Bronx Park, twenty-five feet; except that wherever the nature of the streets necessitates a curve that an additional width of tunnel may be added not exceeding three feet for each track, and except that on Fourth avenue, from Thirty-second street to Forty-third street, the permissible width shall be sixty-five feet; and for the tunnel beneath the Harlem River and its approaches, the permissible width shall be thirty-five feet. At each cross street where accommodations for pipes, wires, sewers and other subsurface structures have been provided within the tunnel, the tunnel may, in order to provide convenient access to such pipes, wires, sewers and other subsurface structures, have, within the limit of the sides or exterior lines of such cross street or such lines produced, an additional width on each side of the route not to exceed fifteen feet, and the area of additional width on either side not to approach nearer than twelve feet to either side or exterior line of such cross street. Footways between the tracks shall be provided the whole length of the line and accommodations arranged for the convenience and protection of employes.

Whenever necessary for the proper support of the street surface the roof of the tunnel shall be of iron or steel girders with brick or concrete arches supported by iron or steel columns and masonry walls, or the roof shall be a masonry arch. Viaducts shall be built with a width of twelve and one-half feet for each track and with an additional width of three feet on each side for outside footways. Viaducts may be built of metal or masonry, or of both.

Adjacent tracks shall be connected by necessary and suitable switches and connections, and an additional track

for siding accommodation may be constructed not to exceed in length one-quarter of a mile for each mile of roadway, but provided always that the side of the tunnel shall not, by the enlargement of the tunnel for that purpose, be brought within five feet of the exterior line or side of the street.

Along Elm street, wherever the tunnel shall be in the clear not less than sixty-eight feet wide, the pipes, wires, sewers and other subsurface structures shall be placed in suitable galleries in the tunnel at the outside of the exterior tracks. But any such pipes, wires, sewers and other subsurface structures may be placed in suitable galleries beneath the tracks, or such pipes, wires, sewers and other subsurface structures may be placed in the ground above or at the sides of the tunnel, or at the outside of the exterior tracks, and whenever so placed beneath the tracks, or in the ground above or at the sides of the tunnel, the width of the tunnel on New Elm street shall not be more than fifty feet. Pipes, wires, sewers and other subsurface structures shall, at any part of the said routes, be removed or disturbed only when necessary for the construction and operation of the railway, and, if removed or disturbed, shall be placed under the streets in such manner and in such location that the use and service thereof shall not be impaired. Such pipes, wires, sewers and other subsurface structures shall be left or shall be so arranged as to give free access for their repair or alteration, or for the placing with them of new pipes, wires, sewers and other like structures, and for making connections between the same and buildings at any time.

Stations and station approaches shall, in general, be at the intersection of streets and shall be built under, or, if the position of the tracks so require, over, the streets and immediately adjoining private abutting property, or through private property to be acquired for the purpose, or both under or over streets and through private property as aforesaid, except that on the Boulevard, stations and station approaches may be in the centre of the street. The streets under or over which stations or station approaches shall be built may include cross streets, but no part of any

cross street shall be used for a station or station approach at a distance greater than seventy-five feet from the exterior line or side of the street of the route. The word "street," wherever used herein, shall include an avenue or public place.

Along the Boulevard there may be openings in the surface of the street from the tunnel for the purpose of ventilation and light; such openings shall be guarded by convenient and ornamental inclosures. The openings shall not exceed twenty feet in width and fifty feet in length. No two openings shall be within fifty feet of each other. No opening or part thereof shall be within the limits of, or opposite to, any street intersecting the Boulevard; and within the distance of any one block on the Boulevard between any two adjacent crossing streets there shall not be more than two such openings.

The general mode of operation shall be by electricity or some other power not requiring combustion within the tunnels or on the viaducts, and the motors shall be capable of moving trains at a speed of not less than forty miles per hour for long distances exclusive of stops.

The manner of construction shall be by tunnelling or open excavation.

Schedule of Securities.

This schedule gives a full description of the securities or the securities and cash of the value of One million dollars (\$1,000,000) which the Contractor deposits pursuant to the foregoing Contract. If the deposit be made in cash it is made by a certified check or certified checks to the order of the Comptroller of the City of New York, drawn upon one or more national or state banks in the City of New York. If the deposit be made in whole or in part by securities, the securities are payable to, or run in favor of, or are transferred to, the Comptroller of the City of New York. In case of bonds the numbers are given. In case of shares of stock or debentures the dates and numbers of the certificate are given.

Bond for Construction and Equipment.

Know all men by these presents, That

of
hereinafter called **the Contractor**, and

and
hereinafter called **the Sureties**, are held and firmly bound unto the City of New York, hereinafter called **the City**, in the penal sum of Five million dollars (\$5,000,000) lawful money of the United States of America, to be paid to the City, for which payment well truly to be made the Contractor and the Sureties do hereby bind themselves and their, and each of their, executors, administrators and successors firmly by these presents, as follows: The Contractor to be so held and bound the full amount of the said Five million dollars (\$5,000,000) and each of the said Sureties to be so held bound and

bound only for a portion of said penal sum of Five million dollars (\$5,000,000) as follows: The said for the sum of dollars (\$) ; the said for the sum of dollars (\$) ; the said for the sum of dollars (\$).

In Witness whereof, The Contractor and the Sureties have hereunto caused their respective seals to be set and these presents to be attested by the president or vice-president and secretary of each of them which is a corporation this day of 1899.

Whereas the City by its Board of Rapid Transit Railroad Commissioners (hereinafter called **the Board**, is about to enter into contract with the Contractor bearing

even date herewith for the construction and equipment of the Rapid Transit Railroad in the City of New York more particularly described in the said contract ; and

Whereas, The City is about to enter into such contract with the Contractor upon the condition, and not otherwise, that this bond shall be given to the City, and upon the faith thereof,

Now, therefore, the condition of the foregoing obligation is such that if the Contractor shall fully perform the said contract so far as the same requires or shall require the construction and equipment of the said railroad, then this obligation shall be null and void, but else it shall remain in full force and virtue.

It is expressly agreed between the City and the Sureties, and it is upon such agreement that the City accepts this Bond, that the Sureties will and do waive any and every notice of default on the part of the Contractor ; that they will and do permit the City to extend the time of the Contractor to make any payment or do any act ; that no omis-

sion on the part of the City to give any notice of or extension of time granted by or on behalf of the City shall be availed of by the Sureties or either of them as a defence upon this bond; that the Sureties shall not set up or have any defence upon this bond by reason of any alteration of the said contract unless such alteration shall be represented by a formal written instrument duly executed between the City and the Contractor which shall have been duly authorized by a vote of the Board; and that in case of such alteration, however made, the same shall be a defence to the Sureties only to the extent of the actual injury or damage caused to the Sureties by said alteration.

And Whereas, The Contractor has deposited with the City the sum of One million dollars (\$1,000,000) in cash or in securities approved by the Board, as security for the performance by the Contractor of some of the acts and things the performance of which is secured hereby; and

Whereas, Contemporaneously with the delivery of this bond the Contractor has also delivered to the City a bond in the sum of One million dollars (\$1,000,000) as

security for the performance by the Contractor of some of the acts and things the performance of which is secured hereby,——

Now, therefore, it is further expressly agreed between the City and the Sureties that the City shall be at liberty, in case of any default by the Contractor against which this bond is given as security, to collect the loss or damage to the City caused thereby either from the Sureties on this bond or the Sureties on such other bond or bonds or out of the said deposit or out of them all as the City may elect.

NOTE.—The execution of the bond should be duly proved in the form essential to proof to entitle a deed to record in the State of New York. Full affidavits of justification of sureties should be added.

Continuing Bond.

Know all Men by these Presents, that

of

hereinafter called the **Contractor**, and

and

hereinafter called the **Sureties**, are held and firmly bound jointly and severally unto the **City of New York**, hereinafter called **the City**, in the penal sum of One million dollars (\$1,000,000) lawful money of the United States of America, to be paid to the City, for which payment well and truly to be made the Contractor and the Sureties do hereby bind themselves and their and each of their

jointly and severally, firmly by these presents.

In witness whereof, the Contractor and the Sureties have hereunto caused their seals to be set this day of _____, 1899.

Whereas, the City, by its Board of Rapid Transit Railroad Commissioners (hereinafter called the Board) is about to enter into a contract with the Contractor bearing even date herewith for the construction and equipment, and, after such construction and equipment shall be complete, then for the lease and operation of the rapid transit railroad in the City of New York more particularly described in the said contract; and

Whereas, the City is about to enter into such contract with the Contractor upon the condition and not otherwise that this Bond shall be given to the City, and upon the faith thereof,—

Now, therefore, the condition of the foregoing obligation is such that, if the Contractor shall promptly pay the amount of the annual rental specified in the said contract and shall also faithfully perform all the conditions, covenants and requirements therein specified and

provided, and in case of the default on the part of the Contractor as provided in section 34 of the rapid transit act, the Contractor shall pay the amount of the deficiency therein mentioned,—then this obligation shall be null and void, but else it shall remain in full force and virtue.

It is expressly agreed between the City and the Sureties, and it is upon such agreement that the City accepts this Bond, that the Sureties will and do waive any and every notice of default on the part of the Contractor; that they will and do permit the City to extend the time of the Contractor to make any payment or do any act; that no omission on the part of the City to give any notice or extension of time granted by or on behalf of the City, shall be availed of by the Sureties or either of them as a defence upon this Bond; that the Sureties shall not set up or have any defence upon this Bond by reason of any alteration of the said contract unless such alteration shall be represented by a formal written instrument duly executed between the City and the Contractor which shall have been duly authorized by a vote of the Board, and that in case of such alteration, however made, the same shall be

a defence to the Sureties only to the extent of the actual injury or damage caused to the Sureties by such alteration. It is expressly agreed between the City and the Sureties that the Sureties hereby assume all the obligations prescribed for sureties upon bonds like this by chapter 4 of the laws of 1891, and the various acts amendatory thereof (all such acts together being known as the rapid transit act). This Bond shall be a continuing security to the City of New York for the entire term of fifty (50) years after the complete construction and equipment of the rapid transit railroad as prescribed in the said contract and the declaration of the Board that the said railroad and its equipments are so complete.

And whereas, The Contractor has deposited with the City the sum of One Million Dollars (\$1,000,000) in cash or securities approved by the Board as security for the performance by the Contractor of some of the acts and things the performance of which is secured hereby; and

Whereas, Contemporaneously with the delivery of this bond, the Contractor has also delivered to the City, a bond in the sum of Five Million Dollars (\$5,000,000) as further

security for the performance by the Contractor of some of the acts and things the performance of which is secured hereby,—Now, therefore, it is further expressly agreed between the City and the Sureties that the City shall be at liberty in case of any default by the Contractor against which this Bond is given as security, to collect the loss or damage to the City caused thereby either from the Sureties on this Bond or the sureties on such other Bond or Bonds, or out of the said deposit or out of all such securities as the City may elect.

NOTE.—The execution of the bond should be duly proved in the form essential to proof to entitle a deed to record in the State of New York. Full affidavits of justification of sureties should be added.

The City of New York
By its Rapid Transit Board.

WITH

John B. McDonald
Contractor.

AGREEMENT

*Of Modification of Contract for Construction
and Operation of Rapid Transit Railroad,
with Receipt and Agreement Concern-
ing Continuing Bond Annexed.*

Dated, February 21st, 1900.

Executed, February 24th, 1900.

Agreement, made this 21st day of February, in the year Nineteen hundred, between the City of New York (hereinafter called the City) acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), party of the first part, and John B. McDonald, of the City of New York (hereinafter called the Contractor), party of the second part :

WHEREAS, Heretofore on this date and immediately prior to the execution of this instrument, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit railroad in the City of New York and otherwise as therein mentioned, the said contract bearing even date herewith and being hereinafter styled the contract for construction and operation ; and

WHEREAS, This Board did, on or about the 13th day of November, 1899, file with the clerk of the Appellate Division of the Supreme Court of the First Judicial Department, a stipulation in the form hereto annexed entitled "Copy Stipulation" ; and

WHEREAS, The Appellate Division of the Supreme Court did, by a certain order made In the Matter of the Application of the Board of Rapid Transit Railroad Commissioners of the City of New York for the Appointment of three Commissioners to determine whether a Rapid Transit Railway or Railways for the Transportation of Persons and Property as determined by the said Board ought to be Constructed and Operated, relieve the said Board from the said stipulation upon condition that in lieu of the said stipulation the Board should file with the Clerk of the said Appellate Division a stipulation in the same form as the stipulation from which the said Board was thereby relieved except only that in subdivision II thereof for the words "each one being bound for at least "Five hundred thousand dollars (\$500,000) of the penalty and all taken together being bound for Five million "dollars (\$5,000,000) and each justifying in double the "amount for which such person or corporation shall be "bound," there should be substituted the words "each one "being bound for at least Two hundred and fifty thousand "dollars (\$250,000) of the penalty and all taken together

“being bound for Five million dollars (\$5,000,000) and
“each of such sureties justifying in the amount for which
“he shall severally be bound”; and

WHEREAS, The Board did, on the 20th day of February, 1900, duly file with the Clerk of the Appellate Division a stipulation in the same form as the said stipulation of 13th November, 1899, except only that the same was modified as in the said order of the Appellate Division provided; and

WHEREAS, The Contractor has duly delivered to this Board the continuing bond in the penalty of at least One million dollars (\$1,000,000) as provided in the first subdivision of the said stipulation of 13th November, 1899, and has also duly delivered to the said Board the bond for construction and equipment in the penalty of at least Five million dollars (\$5,000,000) as provided in the second subdivision of the said stipulation except only that some of the sureties are severally bound for Two hundred and fifty thousand dollars (\$250,000) instead of Five hundred thousand dollars (\$500,000), and that the sureties instead of justifying in double the amount for which they are

severally bound have justified in the amount for which they are severally bound; and

WHEREAS, The Board in behalf of the City has duly accepted and approved the said bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) given by the Contractor as aforesaid; and

WHEREAS, The Board, as a condition of making this contract and of approving the said bond for construction and equipment, has required the actual deposit with the Comptroller of the City of New York of securities of the value of One million dollars (\$1,000,000) as additional security for the performance of the provisions of the continuing bond for One million dollars (\$1,000,000) to be given by the Contractor as mentioned in the contract for construction and operation, and has also required an obligation on the part of the Contractor for the deposit with the said Comptroller of an additional One million dollars (\$1,000,000) on or before 1st January, 1901, as hereinafter provided, and for the assignment of the beneficial interest of the Contractor in all bonds to be given by subcontractors as hereinafter provided;

Now, therefore, in consideration of the premises and of the said contract for construction and operation and of the sum of One dollar (\$1) by each party hereto to the other in hand paid, the receipt whereof is hereby acknowledged, and with the consent in writing of all bondsmen and sureties of the Contractor and with the concurrence of at least six members of said Board,

It is agreed that the contract for construction and operation be and the same hereby is changed and modified so as to provide that upon the bond for construction and equipment each surety shall be bound for at least Two hundred and fifty thousand dollars (\$250,000) instead of for at least Five hundred thousand dollars (\$500,000) of the penalty and shall justify in the amount, instead of in double the amount, for which such surety shall be bound, and that the said bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) heretofore given by the Contractor be and the same hereby is accepted by the Board as full compliance with the requirements of the contract for construction and operation with respect to the bond for construction and equipment.

And it is further agreed that the contract for construction and operation be and the same is hereby further changed and modified so that in addition to the matters therein contained the same shall provide, and it is hereby agreed, that on or before the first day of January, 1901, the Contractor shall procure the Rapid Transit Subway Construction Company, one of the sureties on the said bond or the Contractor, to deposit with the said Comptroller an additional sum of One million dollars (\$1,000,000) in cash or, in lieu thereof, securities of the kind in which Savings Banks shall then be permitted to invest their funds under the laws of this State, to be approved by the Board, and of the value of One million dollars (\$1,000,000), and that thereafter such One million dollars (\$1,000,000) in cash or securities shall be held by the Comptroller as security for the construction and equipment of the rapid transit railroad as provided in the contract for construction and operation and be subject in all respects, so far as may be, to the provisions of the contract for construction and operation with respect to the said bond for construction and equipment.

It is further agreed that so long as there shall be no default upon the said bond for construction and equipment, said Rapid Transit Subway Construction Company shall be entitled to receive the interest which may become due from time to time upon any securities deposited as hereinbefore provided, and the Comptroller shall, at the request of the said Company, detach from and deliver over to it or upon its order, any coupons or interest warrants for such interest within ten days before the same shall from time to time become due and payable, and in case any default shall occur on the said bond for construction and equipment the City shall have the right to retain any interest which may thereafter become due upon the said securities and apply the same toward making good such default until such default shall be made good and after such default shall be made good then the interest accruing on said securities shall be paid over as hereinbefore provided.

And it is further agreed that the said Rapid Transit Subway Construction Company may, from time to time, withdraw any of the securities deposited hereunder upon

substituting other securities of the kind above described and of equal value and satisfactory to and approved by the Board or upon depositing cash to an amount equal in value to the securities so withdrawn and may thereafter withdraw any cash so deposited upon substituting therefor securities of the kind above described and satisfactory to and approved by the Board to an amount equal in value to the cash so withdrawn.

In case any of the said securities shall at any time in the opinion of the Board cease to be of the character of securities in which the Savings Banks of the State of New York shall then be authorized by law to invest their funds, then within twenty days after notice to the Contractor and the said Rapid Transit Subway Construction Company, the Contractor shall procure the said Rapid Transit Subway Construction Company to substitute for such securities other securities of the character in which the Savings Banks of the State of New York are then authorized by law to invest their funds and of equal value to the securities so objected to.

In case at any time the entire amount of securities shall,

in the opinion of the Board, become of less value than the sum of One million dollars (\$1,000,000) then within twenty days after notice to the Contractor and the said Rapid Transit Subway Construction Company, the Contractor shall procure the said Rapid Transit Subway Construction Company to deposit with the Comptroller securities or cash under the terms of this agreement so as to make the total deposit of the full value of One million dollars (\$1,000,000).

And it is further agreed that the contract for construction and operation be and the same hereby is further changed and modified so that the same shall provide, and it is hereby agreed, that the Contractor, immediately upon receiving from any subcontractor of any part of the work provided for in the said contract bearing even date herewith or for the supply of any material as therein provided, any bond or surety obligation of any kind given to the Contractor to secure the performance of such subcontract shall forthwith assign to the City in form to be approved by the Board, the beneficial interest of the Contractor in such bond or surety obligation so to be given by such sub-

contractor, such beneficial interest to be held and applied by said Board for the City as additional security for the performance by the Contractor of the contract for construction and operation so far as it requires the construction and equipment of the rapid transit railroad mentioned therein.

And it is further agreed that the contract for construction and operation shall be further modified so as to provide, and it is hereby agreed, that any default on the part of the Contractor in any of the provisions in this supplementary agreement provided shall in all respects be deemed to be a default on the part of the Contractor under the contract for construction and operation and that such default shall subject the Contractor in all respects to all liability in the contract for construction and operation prescribed in case of default.

And, WHEREAS, The City, by the Board, has this day given to, and executed with, the Contractor and Rapid Transit Subway Construction Company a receipt for and agreement bearing even date herewith regarding certain securities of the value of One million dollars (\$1,000,000)

to be held as security for any liability under the said continuing bond, and in and by the said receipt and agreement, the City, acting by the said Board and the Comptroller of the City of New York, and the said Rapid Transit Subway Construction Company and the Contractor did make certain stipulations and agreement with respect to such deposit,—

It is further agreed that the said contract for construction and operation be and the same is hereby further changed and modified so as to provide and it is hereby agreed that any default on the part of the Contractor in the performance of the terms and stipulations on his part contained in the said receipt and agreement with respect to the said securities shall be in all respects deemed a default under the said contract for construction and operation of the Rapid Transit railroad.

In witness whereof, this contract has been executed for the City of New York by its Board of Rapid Transit Railroad Commissioners under and by a resolution duly adopted by said Board concurred in by more than six of its members, and the seal of the said Board

has been hereto affixed and these presents signed by the president and secretary of the said Board and the Contractor has hereto set his hand and seal the day and year first above written.

THE BOARD OF RAPID TRANSIT RAIL-ROAD COMMISSIONERS,

By A. E. ORR,

PRESIDENT.

[SEAL.]

ATTEST:

BION L. BURROWS,

SECY.

JOHN B. McDONALD [SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 24th day of February, 1900, at the said city, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners of the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

And on the same day, at the said county, before me duly appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS, (36)

NOTARY PUBLIC,
 N. Y. Co.

[NOTARIAL]
 [SEAL]

The undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment respectively in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, 21st February, 1900.

RAPID TRANSIT SUBWAY
CONSTRUCTION COMPANY,
AUGUST BELMONT,

PRESIDENT.

[SEAL.]

THE UNITED STATES FIDELITY &
GUARANTY COMPANY,

By ANDREW FREEDMAN,

VICE-PRESIDENT.

[SEAL.]

THE CITY TRUST, SAFE DEPOSIT
AND SURETY COMPANY OF
PHILADELPHIA,

By JNO. A. SULLIVAN,

VICE-PRESIDENT.

[SEAL.]

ATTEST:

P. H. MOONEY.

ASST. SECY.

AMERICAN SURETY COMPANY OF
NEW YORK,

R. A. C. SMITH,

VICE-PRES.

[SEAL.]

WM. A. BRANOL,

ASST. SECY.

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,

PRESIDENT.

[SEAL.]

ATTEST:

HENRY N. CHILDS,

ASST. SECRETARY.

PERRY BELMONT.

[SEAL.]

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } SS.:

On this 23d day of February, 1900, before me personally came Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same.

A. W. ANDREWS, (36)

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } SS.:

On this 23d day of February, 1900, before me personally appeared Andrew Freedman, to me known, who being by me first duly sworn, did depose and say that he was Vice-President of United States Fidelity & Guaranty Co. of Maryland, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 23d day of February, 1900, before me personally appeared John A. Sullivan, to me known, who being by me first duly sworn, did depose and say that he was Vice-President of The City Trust, Safe Deposit and Surety Co. of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to

said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 23d day of February, 1900, before me personally appeared Robert A. C. Smith, to me known, who being by me first duly sworn, did depose and say that he was Vice-President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 23d day of February, 1900, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was President of National Surety Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 24th day of February, 1900, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS, (36)

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

THE FOREGOING CONTRACT IS HEREBY APPROVED AS TO FORM.

DATED, NEW YORK, 21ST DAY OF FEBRUARY, 1900.

JOHN WHALEN,

Corporation Counsel of the City of New York.

**Form of Receipt and Agreement as to Deposit of
\$1,000,000 on the Continuing Bond.**

WHEREAS by the terms of a contract for construction and operation of a rapid transit railroad, made the 21st day of February, 1900, by and between the City of New York, acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Rapid Transit Board), and John B. McDonald, of said City, it is provided that simultaneously with the execution of the said contract, the said John B. McDonald shall file with the Comptroller of the City of New York a bond executed by the said John B. McDonald and by sureties approved by the Board in the sum of One million dollars (\$1,000,000) in the form provided in said contract, which bond is therein referred to as a "continuing bond"; and

WHEREAS, Rapid Transit Subway Construction Company has been duly incorporated under the Business Corporations Laws of New York for the purpose of aiding in the construction of Rapid Transit Railroads in the City of New York; and

WHEREAS, the said Company has under agreement with said John B. McDonald procured a surety for him upon the said continuing bond; and

WHEREAS, It has been agreed between the said Rapid Transit Board of the one part and the said John B. McDonald, the contractor, and the said Rapid Transit Subway Construction Company of the other part, that the said last named Company or the Contractor shall contemporaneously with the execution of the said continuing bond deposit with the Comptroller of the City of New York securities of the kind in which Savings Banks of this State are authorized by law to invest their funds, and to be approved by the said Board and to be of the value of One million dollars (\$1,000,000), which so far

as may be necessary, the City shall apply in payment and satisfaction of the said bond in case any liability shall arise thereon, and the said Rapid Transit Board has further agreed that, in case the Legislature shall amend the Rapid Transit Act by permitting the deposit of securities in lieu of the said continuing bond and the acceptance of securities and the cancellation and return of said bond as hereinafter provided, then the said Board will accept the said securities as a deposit in lieu of the said bond and will then cancel and return the same; and

WHEREAS, The said Company has procured the said continuing Bond to be duly executed by a surety satisfactory to the said Rapid Transit Board, who has justified in double the amount of the penalty of the said bond, and said Company has deposited with the Comptroller of the City of New York securities approved by the said Board of the value of One million dollars (\$1,000,000)

Now, therefore, the said City of New York does hereby acknowledge that the Comptroller thereof has under this agreement received from Rapid Transit Subway Construction Company the following securities, to wit:

- \$200,000. New York City Consolidated Stock, "Dock" 3% int. payable May & November—due Nov. 1, 1924.
- \$100,000. New York City Consolidated Stock "Dock" 3% int. payable May & November—due Nov. 1st, 1914.
- \$100,000. New York City Consolidated Stock "School House" 3% interest payable May & November—due November 1, 1908.
- \$250,000. New York City Corporate Stock "Aqueduct" 3½% interest payable April & October—due Oct. 1st, 1919.
- \$250,000. Illinois Central R. R. Co., St. Louis Division & Terminal 1st Mtge. Gold 3%. Interest payable January & July—due July 1, 1951.
- \$100,000. Illinois Central R. R. Co., Louisville Division & Terminal 1st Mtge. Gold 3½% interest payable January & July—due July 1, 1953.

\$20,000. Illinois Central R. R. Co., Western Lines 1st Mtge. Gold 4% interest payable February & August—due Augt. 1, 1951.

being the present market value of One million and twenty-six thousand three hundred and eighty-six and 35-100 dollars (\$1,026,386.35-100), IN CONSIDERATION WHEREOF the said City hereby agrees that in case any liability shall at any time arise upon the said continuing bond the City, in such manner as may be approved by the Rapid Transit Board but upon written notice of at least ten days, may sell said securities or so much thereof as may be necessary to pay any sum which may be or become due upon said bond and apply the same to the payment of such liability and any such payment shall operate to relieve the surety upon the said continuing bond to the same extent as if he had made such payment.

It is further agreed that in case the legislature shall pass an act amending chapter four of the laws of eighteen hundred and ninety-one, known as the Rapid Transit Act, by permitting the deposit of cash or securities in lieu of the said continuing bond, and the cancellation and return of the said bond as hereinafter provided, then and in such case the said Rapid Transit Board shall accept the securities aforesaid, or any other securities of the kind above mentioned, and of the value of not less than One million dollars (\$1,000,000) approved by the said Board, or the sum of One million dollars (\$1,000,000) in cash, as a deposit in lieu of said bond, and shall then cancel and return the said continuing bond.

It is further agreed that so long as there shall be no default upon the said continuing bond the said Rapid Transit Subway Construction Company shall be entitled to receive the interest which may become due from time to time upon the securities deposited as herein provided, and the Comptroller shall at the request of the said Company detach from and deliver over to it or upon its order any coupons or interest warrants for such interest within ten days before the same shall from time to time become due and payable. And in case any default shall

occur on the said continuing bond the City shall have the right to retain any interest which may thereafter become due upon the said securities and apply the same in making good such default until such default shall be made good, and after such default shall be made good, then the interest accruing on said securities shall be paid over as hereinbefore provided.

And it is further agreed that the said Rapid Transit Subway Construction Company may, from time to time, withdraw any of the securities deposited hereunder upon substituting other securities of the kind above described and of equal value and satisfactory to and approved by the Board or upon depositing cash to an amount equal in value to the securities so withdrawn and may thereafter withdraw any cash so deposited upon substituting therefor securities of the kind above described and satisfactory to and approved by the Board to an amount equal in value to the cash so withdrawn.

In case any of the said securities shall at any time, in the opinion of the Board, cease to be of the character of securities in which the Savings Banks of the State of New York are then authorized by law to invest their funds, then within twenty days after notice to the Contractor and the Rapid Transit Subway Construction Company, the Contractor and the said Rapid Transit Subway Construction Company shall substitute for such securities other securities of the character in which the Savings Banks of the State of New York are then authorized by law to invest their funds and of equal values to the securities so objected to.

In case the entire amount of securities shall, in the opinion of the Board, become of less value than the sum of One million dollars (\$1,000,000), then within twenty days after notice to the Contractor and the said Rapid Transit Subway Construction Company, the Contractor and the said Rapid Transit Subway Construction Company shall, under the terms of this agreement, deposit securities or cash so as to make the total deposit of the full value of One million dollars (\$1,000,000), Provided, however, and it is expressly agreed that the obligations here-

under of the Contractor and the Rapid Transit Subway Construction Company shall be joint and several.

In witness whereof, this instrument has been executed for the City of New York by its Board of Rapid Transit Railroad Commissioners under and by a resolution duly adopted by the said Board with the concurrence of more than six of its members and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the Comptroller of the City of New York has signed this instrument, and the Contractor, John B. McDonald, has signed this instrument, and Rapid Transit Subway Construction Company has caused its corporate seal to be hereto affixed and these presents to be signed by its president and secretary, all the day and year first above written.

THE BOARD OF RAPID TRANSIT RAIL-
ROAD COMMISSIONERS,

By A. E. ORR,
PRESIDENT.
[SEAL.]

ATTEST:
BION L. BURROWS,
SECY.

BIRD S. COLER,
COMPTROLLER OF THE CITY OF NEW YORK.

JOHN B. McDONALD. [SEAL.]

RAPID TRANSIT SUBWAY
CONSTRUCTION COMPANY,
By AUGUST BELMONT,
PRESIDENT.
[SEAL.]

ATTEST:
FREDERICK EVANS,
SECRETARY.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 24th day of February, 1900, at the said city, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners of the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

And on the same day, at the said county, before me duly appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS, (36)

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this twenty-fourth day of February, Nineteen hundred, before me personally appeared BIRD S. COLER, to me known and known to me to be the Comptroller of the City of New York, and to me acknowledged that he executed the foregoing instrument as such Comptroller.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my Notarial seal the day and year aforesaid.

A. W. ANDREWS, (36)
 NOTARY PUBLIC,
 N. Y. Co.

[NOTARIAL]
 [SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this twenty-fourth day of February, Nineteen hundred, before me personally appeared AUGUST BELMONT, to me known, who being by me first duly sworn, did depose and say that he was the President of RAPID TRANSIT SUBWAY CONSTRUCTION COMPANY; that he knew the corporate seal of said Company; that the seal affixed to the foregoing instrument was such corporate seal; that the same was affixed by order of the Board of Directors of said Company, and that he signed his name thereto as President by like authority.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my Notarial seal the day and year aforesaid.

A. W. ANDREWS, (36)
 NOTARY PUBLIC,
 N. Y. Co.

[NOTARIAL]
 [SEAL.]

Copy Stipulation.

SUPREME COURT,

APPELLATE DIVISION, FIRST DEPARTMENT.

In the Matter

OF

The Application of the BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS FOR THE CITY OF NEW YORK for the appointment of three Commissioners to determine whether a Rapid Transit Railway or Railways for the transportation of persons and property as determined by said Board ought to be constructed and operated.

The Board of Rapid Transit Railroad Commissioners of the City of New York, hereinafter called the Rapid Transit Board, does hereby stipulate as follows:

The Rapid Transit Board will insert in any contract it shall make for the construction, equipment and operation of the Rapid Transit Railroad described in the application herein to the Appellate Division a requirement that, to make the contract operative as against the City of New York, the contractor or contractors shall give security at the least as follows:

1. A bond pursuant to Sect. 34 of the Rapid Transit Act in the penalty of at least One million dollars (\$1,000,000) which shall be a continuing security and shall provide for the prompt payment by the

contracting person, firm or corporation of the amount of annual rental specified in the contract, and also for the faithful performance by said contracting person, firm or corporation of all the conditions, covenants and requirements specified and provided for in said contract and further providing that such contracting person, firm or corporation and his or its bondsmen, shall, in the case of default on the part of such contractor provided in said Sect. 34, be and continue jointly and severally liable to the City of New York for the amount of the deficiency therein mentioned until the end of the full term for which the said contract shall have been originally made.

2. A bond in the penalty of at least Five million dollars (\$5,000,000) which shall provide that the contractor or contractors shall fully perform the said contract so far as the same requires the construction and equipment of the railroad, such bond to be executed by two or several persons or corporations, each one being bound for at least Five hundred thousand dollars (\$500,000) of the penalty, and all taken together being bound for at least Five million dollars (\$5,000,000) and each justifying in double the amount for which such person or corporation shall be bound.

In witness whereof, the Board of Rapid Transit Railroad Commissioners has caused this stipulation to be signed by its President and Secretary and its official seal to be hereunto affixed at the City of New York, within

the County of New York, on this 13th day of November, 1899.

THE BOARD OF RAPID TRANSIT RAILROAD COMMISSIONERS,

By ALEXANDER E. ORR,
President.

[SEAL.]

BEN. L. BURROWS,
Secretary.

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald
Contractor.

AGREEMENT

***Modifying Contract for Construction and
Operation of Rapid Transit Railroad.***

Dated, June 21st, 1900.

Executed, August 3, 1900.

Agreement made this 21st day of June in the year Nineteen hundred, between the City of New York (hereinafter called the City) acting by the Board of Rapid Transit Railroad Commissioners for The City of New York (hereinafter called the Board), party of the first part, and John B. McDonald, of The City of New York (hereinafter called the Contractor), party of the second part:

Whereas, Heretofore, and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York and otherwise as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; and

Whereas, On or about the 21st day of February, 1900, and immediately after the execution of the contract for construction and operation, the City, acting by the Board, entered into a contract with the Contractor modifying the said contract for construction and operation, the said modifying contract being hereinafter styled the Agreement for Modification of Contract; and

Whereas, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said contract for construction and operation on his part, and has given certain bonds as further security for such performance, and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company; The United States Fidelity & Guaranty Company; The City Trust Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company, and Perry Belmont; and

Whereas, The Contractor desires, and the Board approves, a modification of the Routes and General Plan for the Rapid Transit Railroad referred to in the said contract for the construction and operation, as set forth in certain resolutions adopted by the Board on 21st June, 1900, a copy of which is hereto annexed.

Now, therefore, in consideration of the premises and subject to the consents hereinafter provided,

It is agreed that the said contract for construction and operation, and the routes and general plan therein mentioned, be and the same hereby are modified as follows:

By striking from the said routes the portion thereof be-

ginning at a point under Eleventh avenue on the centre line thereof produced and eleven hundred and five feet north of the centre line of One Hundred and Ninetieth street, and running thence under or over (as may be most convenient) private property to a point at the southeast end of Ellwood street, near Hillside street, and thence over Ellwood street to Kingsbridge avenue or Broadway; thence over Kingsbridge avenue or Broadway as now proposed to a point at or near its intersection with Amsterdam avenue and south of Riverdale avenue; and by inserting in the said routes instead of the portion thereof thus struck out the following, to wit.:

Beginning at the point under Eleventh avenue on the centre line thereof produced above named, namely eleven hundred and five feet north of the centre line of One Hundred and Ninetieth street, and running thence under and over Eleventh avenue and private property to Naegle avenue; thence along and over Naegle avenue to Amsterdam avenue; thence along and over Amsterdam avenue to the said point at or near its intersection with Kingsbridge avenue or Broadway, and south of Riverdale avenue as aforesaid.

The general plan of construction of the portion of the route hereby substituted shall be as follows :

The tracks shall be placed in tunnel from the south end of said portion to a point on private property between Eleventh and Naegle avenues, within 200 feet from the westerly side of Eleventh avenue, and northerly over the rest of the portion of the route hereby substituted, shall be carried upon a viaduct. There shall be at least two parallel tracks, with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners.

And it is further agreed that in all other respects the provisions of the general plan of construction set forth in the said contract for construction and operation shall be applicable to the portion of the route hereby substituted.

And it is further agreed that the contractor shall become entitled to additional payment for such additional work and materials as shall be made necessary by the changes hereby provided, and the City shall become entitled to abatement from the contract price by reason of the diminution in work and materials by reason of such changes,

the amounts of such additional payments and such diminutions to be determined as provided in chapter II. of the said contract for construction and operation.

Provided, however, and it is expressly agreed that this agreement shall take effect when and only when the following consents hereto and approvals hereof shall be duly had, to wit:

1. The consents, as subjoined, of Rapid Transit Subway Construction Company, The United States Fidelity and Guaranty Company, The City Trust, Safe Deposit and Surety Company of Philadelphia, The American Surety Company of New York, National Surety Company, and Perry Belmont.

2. The consent of the Municipal Assembly of The City of New York.

3. The consent of the Mayor of The City of New York.

4. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of routes by this agreement proposed to be substituted as aforesaid; or if such consent

cannot be obtained, then in lieu thereof the determination of three Commissioners, to be appointed by the Appellate Division of the Supreme Court, duly confirmed by the said Appellate Division.

The plan hereto annexed is intended to show the modification of the routes as hereby proposed.

In Witness Whereof, this contract has been executed for The City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the contractor has hereto set his hand and seal the day and year first above written.

JOHN B. McDONALD,

BOARD OF RAPID TRANSIT RAILROAD
COMMISSIONERS FOR THE CITY OF NEW
YORK,

[SEAL.]

By A. E. ORR,

ATTEST:

PRESIDENT.

BION L. BURROWS, SECRETARY.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this 31st day of October, 1900, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the President, and the said Bion L. Burrows, the Secretary, of the Board of Rapid Transit Railroad Commissioners of the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the President of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City, that he was the Secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows, that they knew the seal of the said Board, and that the same was affixed to the foregoing instrument by the authority of the said Board, and of a resolution duly adopted by the same.

STEPHEN CONNELL,
NOTARY PUBLIC (163),
N. Y. Co.

[SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On the 18th day of September, 1900, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

HARRY M. AUSTIN,
 NOTARY PUBLIC,
 Queens County.

[NOTARIAL]
 [SEAL.]
 Certificate filed in New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 4th day of August, 1900, before me personally appeared John H. Brand, to me known, who, being by me first duly sworn, did depose and say that he was the President of United States Fidelity and Guaranty Company of Maryland, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of August, 1900, before me personally appeared John A. Sullivan, to me known, who, being by me first duly sworn, did depose and say that he was the Vice-President of the City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of August, 1900, before me

personally appeared Henry D. Lyman, to me known, who, being by me first duly sworn, did depose and say that he was the President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of August, 1900, before me personally appeared Charles A. Dean, to me known, who, being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 3d day of August, 1900, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was the President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

[NOTARIAL]
[SEAL.]

A. W. ANDREWS,
NOTARY PUBLIC (34),
N. Y. Co.

**Resolutions Adopted by the Rapid Transit Board
on 21st June, 1900.**

Whereas, This Board did on the 14th day of January, 1897, and 4th day of February, 1897, adopt certain Routes and General Plan for a Rapid Transit Railroad in The City of New York, a copy of which is hereto annexed, entitled "Copy Routes and General Plan"; and

Whereas, The said Routes and General Plan were afterward duly approved by the municipal authorities of The City of New York and were duly consented to by Commissioners appointed by the Appellate Division of the Supreme Court, which consent was duly confirmed by the said Appellate Division, in lieu of the consent of the owners of a majority in value of the property along the said routes; and

Whereas, Thereafter and on or about the 21st day of February, 1900, The City of New York did, by this Board, enter into a certain contract with John B. McDonald for the construction and operation of the said Rapid Transit Railroad; and

Whereas, It is the interest of The City of New York and, in the opinion of the said John B. McDonald, it is likewise in his interest, as such contractor, and he desires that said Routes and General Plan shall be changed in the respect hereinafter mentioned but without other change in the said routes and general plan; now therefore it is

Resolved, That, subject to the consents and approvals to be first obtained as in these resolutions hereinafter mentioned, the said Routes and General Plan heretofore adopted by this Board be and they hereby are modified as follows:

By striking from the said routes the portion thereof beginning at a point under Eleventh avenue on the centre line thereof produced and eleven hundred and five feet north of the centre line of One Hun-

dred and Ninetieth street, and running thence under or over (as may be most convenient) private property to a point at the southeast end of Ellwood street, near Hillside street, and thence over Ellwood street, to Kingsbridge avenue or Broadway; thence over Kingsbridge avenue or Broadway as now proposed to a point at or near its intersection with Amsterdam avenue and south of Riverdale avenue; and *by inserting* in the said routes instead of the portion thereof thus struck out the following, to wit: Beginning at the point under Eleventh avenue on the centre line thereof produced above named, namely, eleven hundred and five feet north of the centre line of One Hundred and Ninetieth street, and running thence under and over Eleventh avenue and private property to Naegle avenue, thence along and over Naegle avenue to Amsterdam avenue; thence along and over Amsterdam avenue to the said point at or near its intersection with Kingsbridge avenue or Broadway, and south of Riverdale avenue as aforesaid.

The general plan of construction of the portion of the route hereby substituted shall be as follows:

The tracks shall be placed in tunnel from the south end of said portion to a point on private property between Eleventh and Naegle avenues, within 200 feet from the westerly side of Eleventh avenue, and northerly over the rest of the portion of the route hereby substituted shall be carried upon a viaduct. There shall be at least two parallel tracks with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners. In all other respects the provisions of the said General Plan of Construction adopted on 14th January and 4th February, 1897, shall be applicable to the portion of the route hereby substituted; and it is further

Resolved, That whereas this Board has duly made the inquiries and investigation necessary or proper in the premises and has determined that the modification aforesaid of the said Routes and General Plan are necessary

for the interests of the public and of The City of New York and should be established as herein provided, this Board does hereby determine and establish the said routes and general plan as hereby modified, subject to the consents and approvals to be first obtained as hereinafter mentioned; and it is further

Resolved, That the said modification of routes and general plan shall take effect only upon and after the following consents and approvals thereto shall be duly had, to wit:

1. The consent of the said John B. McDonald, contractor, and of his sureties, as follows: Rapid Transit Subway Construction Company; The United States Fidelity and Guaranty Company; The City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company, and Perry Belmont.

2. The consent of the Municipal Assembly of The City of New York.

3. The consent of the Mayor of The City of New York.

4. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of routes by these resolutions proposed to be substituted, as aforesaid; or if such consent cannot be obtained, then in lieu thereof the determination of three Commissioners to be appointed by the Appellate Division of the Supreme Court duly confirmed by the said Appellate Division.

Copy Routes and General Plan.

January 14, 1897.

One route as follows: Its centre line shall commence at a point at or near the intersection of Broadway with Park Row; thence under Park Row and Centre street to a point at or near its intersection with New Elm street,

as proposed; thence under New Elm street, as proposed, to Lafayette place; thence under Lafayette place to Eighth street; thence across and under Eighth street, and thence under private property lying between Eighth and Ninth streets and east of the westerly side or line of Lafayette place, produced, to Fourth avenue; thence under Fourth avenue and Park avenue to Forty-second street; thence turning from Park avenue into Forty-second street, and taking for the purposes of the curve, if necessary or convenient, private property at the southwest corner of Park avenue and Forty-second street; thence under Forty-second street to Broadway; thence under Broadway to Fifty-ninth street; thence under the Boulevard to a point at or near One Hundred and Twenty-fourth street; thence by viaduct along and over the Boulevard to a point at or near One Hundred and Thirty-fourth street; thence under the Boulevard and Eleventh avenue to a point on Eleventh avenue, situate north of One Hundred and Ninetieth street, and distant therefrom not less than one thousand and not more than one thousand five hundred feet, and thence under or over (as may be most convenient) private property to a point at the southeast end of Ellwood street near Hillside street; and thence over Ellwood street to Kingsbridge avenue or Broadway; thence over Kingsbridge avenue or Broadway, as now proposed, to Riverdale avenue and thence easterly over Riverdale avenue to a point within five hundred feet of the present Kingsbridge station of the New York and Putnam Railroad Company.

This route shall include a loop at the City Hall Park which shall connect with the portion of the route aforesaid along Centre street at or near the south end of that street, and thence proceed westerly and southerly under City Hall Park and Broadway, and thence easterly to again connect with the portion of the route aforesaid in Park Row. All of the said loop shall lie under City Hall Park, Park Row, between the south end of Centre street and Ann street, and the portion of Broadway adjoining the City Hall Park lying between Vesey and Murray streets. This route shall also include suitable tracks and connections from the City Hall loop to the Post-office,

such tracks and connections being under the City Hall Park and under the portion of Park Row between the south end of Centre street and Ann street. This route shall also include suitable tracks and connections from the portion of the route near the corner of Park avenue and Forty-second street to the yard and tracks of the Grand Central Station. All of the tracks and connections last mentioned shall be under Park avenue and Forty-second street and private property to be acquired. By private property in this description is meant property not forming part of the streets of The City of New York and not belonging to The City of New York.

Also a route as follows: Its centre line shall diverge from the route aforesaid on the Boulevard, between a line parallel to and one hundred feet north of One Hundred and Third street, and a line parallel to and one hundred feet south of One Hundred and Third street, thence under private property to a point in One Hundred and Fourth street; thence under One Hundred and Fourth street to and across Central Park, West; thence under Central Park to the intersection of Lenox avenue and One Hundred and Tenth street; thence under Lenox avenue to a point near One Hundred and Forty-second street; thence curving to the east and passing under private property, One Hundred and Forty-third and One Hundred and Forty-fourth streets, to the Harlem River at or near the foot of One Hundred and Forty-fifth street; thence under the Harlem River and private property to East One Hundred and Forty-ninth street at or near its intersection with River avenue; thence under East One Hundred and Forty-ninth street to a point near its intersection with Third avenue; thence with a curve to the left and under Third avenue to a point near its intersection with Westchester avenue; thence with a curve to the right to and under Westchester avenue, and thence by viaduct over and along Westchester avenue to the Southern Boulevard; thence over and along the Southern Boulevard to the Boston road, and thence over and along the Boston road to Bronx Park.

The said General Plan of Construction hereby adopted is as follows:

For the route under Park Row and the said loop at City Hall Park, two parallel tracks; for the route from the point of connection of the City Hall loop with the route aforesaid, at the southerly end of Centre street, to the junction at or near One Hundred and Third street and the Boulevard, four parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to the New York and Putnam Railroad Company's station at Kingsbridge, two parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to Bronx Park, two parallel tracks.

All of the above-mentioned tracks shall be placed on the same level, except that wherever required by special necessities of surface or sub-surface structures or other special or local necessities and for the purpose of avoiding grade crossings at the southerly end of Centre street and the One Hundred and Third street junction, any one or more of the tracks may be depressed below the level of the other tracks to a depth of not more than twenty feet.

The tracks shall be of standard gauge, that is to say, of a width of four feet and eight and a half inches between the rails. There shall be twelve and a half feet width in the tunnels and on the viaducts for each track, except that at stations, switches, turn-outs, curves and cross overs the width may be increased to the extent permitted by the width of the tunnel. The tracks wherever passing over or under the streets shall be placed over or under the central part of the street, except that no tunnel or viaduct or any wall or part thereof under or along a street shall, except at the stations, station approaches, curves and at places of access to sub-surface structures, as hereinafter provided, be within a distance of five feet of the exterior line or side of the street. The tracks shall in all cases be placed in tunnels, except only that on the west side route on the Boulevard at or near One

Hundred and Twenty-fourth street the tracks shall emerge from the tunnel and be carried upon a viaduct along the Boulevard to a point at or near One Hundred and Thirty-fourth street and there be taken again into the tunnel, and except also that on the west side route at a point at or near One Hundred and Ninetieth street the tracks shall again emerge from the tunnel and be carried upon a viaduct over private property and the above-mentioned streets to the Kingsbridge station, and except also that on the east side from a point on Westchester avenue at or near Bergen avenue the tracks shall emerge from the tunnel and be carried upon a viaduct over and along Westchester avenue and the other streets above mentioned to Bronx Park.

Wherever the tracks change from tunnel to viaduct, or from viaduct to tunnel, the change shall be so made as to occupy or obstruct the use of the surface of the street to the least possible extent consistent with the proper gradient for the tracks.

The roof of the tunnel shall be as near the surface of the street as street conditions and grades will permit. The tunnel shall not be less than thirteen feet in height in the clear. The maximum width of the tunnel in the clear shall be as follows:

For the route under Park Row and the City Hall Park loop, thirty-eight feet; for the route from, at or near the south end of Centre street, and to the commencement of New Elm street, fifty feet; for the route from, at, or near the commencement of New Elm street to Lafayette place, sixty-eight feet; for the route from, at, or near the commencement of Lafayette place to the junction at or near One Hundred and Third street, fifty feet; for the west side route from the junction at or near One Hundred and Third street to Kingsbridge station, twenty-five feet; and for the east side route from, at, or near the junction at One Hundred and Third street to Bronx Park, twenty-five feet; except that wherever the nature of the streets ne-

cessitates a curve that an additional width of tunnel may be added not exceeding three feet for each track, and except that on Fourth avenue, from Thirty-second street to Forty-third street, the permissible width shall be sixty-five feet; and for the tunnel beneath the Harlem River and its approaches the permissible width shall be thirty-five feet. At each cross street where accommodations for pipes, wires, sewers and other sub-surface structures have been provided within the tunnel, the tunnel may, in order to provide convenient access to such pipes, wires, sewers and other sub-surface structures, have, within the limit of the sides or exterior lines of such cross street or such lines produced, an additional width on each side of the route, not to exceed fifteen feet, and the area of additional width on either side not to approach nearer than twelve feet to either side or exterior line of such cross streets. Footways between the tracks shall be provided the whole length of the line and accommodations arranged for the convenience and protection of employees.

Whenever necessary for the proper support of the street surface, the roof of the tunnel shall be of iron or steel girders with brick or concrete arches supported by iron or steel columns and masonry walls, or the roof shall be a masonry arch. Viaducts shall be built with a width of twelve and one-half feet for each track and with an additional width of three feet on each side for outside footways. Viaducts may be built of metal or masonry, or of both.

Adjacent tracks shall be connected by necessary and suitable switches and connections, and an additional track for siding accommodation may be constructed, not to exceed in length one-quarter of a mile for each mile of roadway, but provided always that the side of the tunnel shall not, by the enlargement of the tunnel for that purpose, be brought within five feet of the exterior line or side of the street.

Along Elm street, wherever the tunnel shall be in the clear not less than sixty-eight feet wide, the pipes, wires, sewers and other sub-surface structures shall be placed

in suitable galleries in the tunnel at the outside of the exterior tracks. But any such pipes, wires, sewers and other subsurface structures may be placed in suitable galleries beneath the tracks, or such pipes, wires, sewers and other subsurface structures may be placed in the ground above or at the sides of the tunnel, or at the outside of the exterior tracks, and whenever so placed beneath the tracks, or in the ground above or at the sides of the tunnel, the width of the tunnel on New Elm street shall not be more than fifty feet. Pipes, wires, sewers and other subsurface structures shall, at any part of the said routes, be removed or disturbed only when necessary for the construction and operation of the railway, and, if removed or disturbed, shall be placed under the streets in such manner and in such location that the use and service thereof shall not be impaired. Such pipes, wires, sewers and other subsurface structures shall be left or shall be so arranged as to give free access for their repair or alteration, or for the placing with them of new pipes, wires, sewers and other like structures, and for making connections between the same and buildings at any time.

Stations and station approaches shall, in general, be at the intersection of streets and shall be built under, or, if the position of the tracks so require, over, the streets and immediately adjoining private abutting property, or through private property to be acquired for the purpose, or both under or over streets and through private property as aforesaid, except that on the Boulevard stations and station approaches may be in the centre of the street. The streets under or over which stations or station approaches shall be built may include cross streets, but no part of any cross street shall be used for station or station approach at a distance greater than seventy-five feet from the exterior line or side of the street of the route. The word "street," wherever used herein, shall include an avenue or public place.

Along the Boulevard there may be openings in the surface of the street from the tunnel for the purpose of ventilation and light; such openings shall be guarded

by convenient and ornamental inclosures. The openings shall not exceed twenty feet in width and fifty feet in length. No two openings shall be within fifty feet of each other. No opening or part thereof shall be within the limits of, or opposite to, any street intersecting the Boulevard; and within the distance of any one block on the Boulevard between any two adjacent crossing streets there shall not be more than two such openings.

The general mode of operation shall be by electricity or some other power not requiring combustion within the tunnels or on the viaducts, and the motors shall be capable of moving trains at a speed of not less than forty miles per hour for long distances, exclusive of stops.

The manner of construction shall be by tunnelling or open excavation; it is further

Resolved, That plans be prepared to show the route and general plan, in so far as they are hereby adopted, which said plans, when formerly adopted, shall be deemed to be incorporated herein and to form a part hereof.

February 4, 1897.

Resolved, That this Board of Rapid Transit Railroad Commissioners for The City of New York hereby adopts the drawings now produced, and numbered from 1 to 60, both inclusive, as showing the route and general plan adopted by resolution of this Board on January 14, 1897, and that, as provided in the said resolution, the said drawings be deemed incorporated in and to form part of the said resolution; and it is further

Resolved, That the said route and general plan, with the said drawings and the said resolution of January 14, 1897, be and they hereby are adopted by this Board.

The foregoing contract is hereby approved as to form.

Dated New York, June 21, 1900.

THEODORE CONNOLY,

ACTING CORPORATION COUNSEL OF THE CITY OF NEW YORK.

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor.

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*

Dated, January 10th, 1901.

Executed, February, 1901.

Agreement, made this 10th day of January, in the year 1901, between the CITY OF NEW YORK, hereinafter called the City, acting by the Board of Rapid Transit Railroad Commissioners for the City of New York, hereinafter called the Board, party of the first part, and JOHN B. McDONALD, of the City of New York, hereinafter called the Contractor, party of the second part.

WHEREAS heretofore, and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York, and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation, which contract was on said day modified in certain respects by a further agreement between the said parties, bearing the same date; and

WHEREAS, the Contractor furnished the bonds and gave the security required by said contract and agreement modifying the same; and

WHEREAS, the plans and specifications of said railroad contemplated and required the construction of a terminal loop at the City Hall Park, and the parties desire that the said loop shall be shorter and less expensive than as provided in the said contract and that the same shall be constructed in accordance with the plans hereinafter mentioned,

Now, therefore, in consideration of the premises and of the covenants and agreements hereinafter contained,

It is agreed as follows:

The City and the Board, upon the request and approval hereinafter mentioned, hereby require so much of the work and material specified and provided to be done and furnished in said contract in the construction of the said loop as planned and shown by the Contract Drawings Nos. A 1 and C 1 to C 5 inclusive, dated 7th April, 1898, to be omitted, and the Contractor hereby requests the Board to make such requirement, and approves the same.

And it is hereby FURTHER AGREED that the Contractor shall construct the said loop in accordance with the plans hereunto annexed, marked "Contract Drawing No. A 1 (amended)" dated 10th January, 1901, all of which loop shall lie under the City Hall Park, including that portion of said Park known as Mail street, lying north of the Post Office Building and a portion of Park Row between the south end of Centre street and Beekman street.

The Contractor covenants and agrees to construct the said last mentioned terminal loop in accordance with the said requirement hereby made, and covenants and admits that the said loop as so required is now lawfully and duly authorized by the Board, and the Contractor for himself, his successor or successors and assigns hereby covenants and agrees that neither he nor they nor any of them will either directly or indirectly claim or assert to the contrary in any action or proceeding which may at any time be brought against him, or any of them, or which he or any of them may bring or to which he or any of them may be a party or parties, under or by

reason of the said contract for construction and operation, or any provision thereof, *Provided*, however, that in case the Contractor shall at any time be lawfully required to construct a terminal loop as originally described in the contract for construction and operation, no part of the amount paid the Contractor for the construction of such part of the loop as hereby provided to be constructed as is not coincident with the loop as so originally described, shall be charged against the Contractor as payment on account of the construction of the loop as originally described, but the work done in construction of the said part of the loop as hereby provided shall in such case be considered additional work under the said contract for construction and operation and allowed accordingly.

PROVIDED FURTHER, AND IT IS EXPRESSLY AGREED, that this agreement shall take effect when and only when the following consents hereto and approvals hereof shall be duly had, to wit, the consents as subjoined of Rapid Transit Subway Construction Company; The United States Fidelity & Guaranty Company; The

City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company, and Perry Belmont.

In witness whereof, this contract has been executed for the City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board concurred in by six of its members, and the seal of the said Board has been hereto affixed, and these presents signed by the President and Secretary of the said Board, and the Contractor has hereunto set his hand and seal the day and year first above written.

JOHN B. McDONALD.

[SEAL.]

THE BOARD OF RAPID TRANSIT RAIL-
ROAD COMMISSIONERS,

By A. E. ORR,
President.

BION L. BURROWS,

Secy.

[SEAL.]

STATE OF NEW YORK, }
 County of New York, } ss.:

On this 14th day of February, 1901, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they

knew the seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,
Notary Public for Kings County, N. Y.
Certificate filed in New York County.

[NOTARIAL SEAL.]

STATE OF NEW YORK, }
County of New York, } ss.:

On this 11th day of February, 1901, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS,
Notary Public (34),
N. Y. Co.

[NOTARIAL SEAL.]

The undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, January 10th, 1901.

RAPID TRANSIT SUBWAY CONSTRUCTION
COMPANY,

By W. G. OAKMAN,

[SEAL.]

Vice-Prest.

Attest:

FREDERICK EVANS,
Secretary.

THE CITY TRUST, SAFE DEPOSIT AND
SURETY COMPANY OF PHILADELPHIA,

160 BROADWAY, N. Y.

JNO. A. SULLIVAN,
Vice-President.

P. H. MOONEY,

[SEAL.]

Asst. Secretary.

AMERICAN SURETY COMPANY OF NEW YORK,

By H. D. LYMAN,
President.

G. M. SWENEY,
Secretary.

[SEAL.]

THE UNITED STATES FIDELITY AND GUAR-
ANTY COMPANY,

By JOHN R. BLAND,
President.

[SEAL.]

Attest:

WYLLYS BENEDICT,
Attorney in Fact.

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,
President.

[SEAL.]

Attest:

BALLARD McCALL,
Secretary.

PERRY BELMONT.

[SEAL.]

STATE OF NEW YORK, }
County of New York, } ss.:

On the 11th day of February, 1901, before me personally appeared Perry Belmont, to me known and

known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS,

[NOTARIAL SEAL.]

Notary Public (34),

N. Y. Co.

STATE OF NEW YORK, }
County of New York, } ss.:

On this 13th day of February, 1901, before me personally appeared John R. Bland, to me known, who being by me first duly sworn, did depose and say that he was the President of The United States Fidelity & Guaranty Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of

such company, and that he signed his name thereto by like authority. And also, on the 11th day of February, 1901, before me personally appeared John A. Sullivan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the eleventh day of February, 1901, before me personally appeared Henry D. Lyman, to me known, who being by me first duly sworn, did depose and say that he was the President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto

by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 14th day of February, 1901, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 11th day of February, 1901, before me personally appeared Walter G. Oakman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was

affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS,
Notary Public (34),
N. Y. Co.
[NOTARIAL SEAL.]

Approval by Corporation Counsel. •

THE FOREGOING CONTRACT IS HEREBY APPROVED AS TO FORM.

Dated, New York, January , 1901.

JOHN WHALEN,
Corporation Counsel.

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor,

AGREEMENT

***Modifying Contract for Construction and
Operation of Rapid Transit Railroad.***

Dated, May 2d, 1901.

Executed, September, 1901.

Agreement made this second day of May, in the year 1901, between the CITY OF NEW YORK, hereinafter called the City, acting by the Board of Rapid Transit Railroad Commissioners for the City of New York, hereinafter called the Board, party of the first part, and JOHN B. McDONALD, of the City of New York, hereinafter called the Contractor, party of the second part, WITNESSETH :

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York and otherwise as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; which contract was on said day modified in certain respects by a further agreement between the said parties bearing the same date; and which contract has been further modified by a certain other agreement between the said parties, bearing date January 10, 1901; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the perform-

ance of the said contract for construction and operation on his part and has given certain bonds as further security for such performance and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit and Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont; and

WHEREAS, It is in said Contract for Construction and Operation provided that the said Board of Rapid Transit Railroad Commissioners shall have the right for any section of the railroad to require additional work to be done or additional materials to be furnished or both, within the general purview of a rapid transit railroad as therein described, the reasonable value of which should be additionally paid to the contractor; and

WHEREAS, The Contractor desires, and the Board approves, a modification of the said Contract for the Construction and Operation as set forth in certain resolutions, adopted by the Board on May 2, 1901, a copy of which is hereto annexed, in order to provide for the additional

construction of certain tracks as in said resolutions and herein described,

Now, therefore, in consideration of the premises, and subject to the consents hereinafter provided, **it is agreed** that the said contract be and the same is hereby modified as follows:

In addition to the tracks to be laid as prescribed in the Specifications in said contract contained under the head "I. General Description," the Contractor shall, at the time of constructing the same, also lay and construct a sidetrack along the portion of the line of railroad as in said Specifications described, extending along the Boulevard (now Broadway) from a point at or near the north side of One Hundred and Third street to the southerly side of One Hundred and Thirty-seventh street, the same to be laid and constructed in accordance with plans and drawings to be prepared and issued by the Chief Engineer of the Board of Rapid Transit Railroad Commissioners. And it is hereby **AGREED** that the reasonable value of con-

structing said sidetrack shall be deemed a part of the cost of constructing said rapid transit railroad, and shall be ascertained and determined and paid to the Contractor in the manner provided in the contract for the construction and operation of said rapid transit railroad in addition to the amounts in said contract agreed to be paid unto said Contractor, and such additional amounts so paid shall be included in the total cost of the construction of the said railroad in determining the amount of rental to be paid under said contract in like manner as if said sidetrack had been originally authorized therein; and

WHEREAS, It is in said Contract for the Construction and Operation of the rapid transit railroad further provided that the Contractor shall locate and furnish terminal grounds subject to the approval of said Board having a mileage of not less than five miles and capable of storing the equipment to be furnished under said contract for which he is to be paid as specified therein amounts not exceeding in all the sum of One million seven hundred and fifty thousand dollars (\$1,750,000).

It is hereby agreed, that the Contractor shall construct as a part of such terminals three additional tracks on either side of the main track on the portion of the west side line, extending along the Boulevard (now Broadway) between the station at One Hundred and Thirty-seventh street and the station at One Hundred and Forty-fifth street, and that the exact cost thereof, together with ten per cent. (10%) thereon in addition thereto shall be allowed and paid the Contractor, as in said contract provided, and charged against said Contractor as a payment on account of the total sum of One Million Seven Hundred and Fifty Thousand Dollars (\$1,750,000) allowed in said contract for terminals as aforesaid.

PROVIDED, HOWEVER, and it is expressly AGREED that this agreement shall take effect when and only when the following consents hereto and the approvals hereof shall be duly had, to wit:

The consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity &

Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont.

In witness whereof, this contract has been executed for the City of New York by its Board of Rapid Transit Railroad Commissioners under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the president and secretary of the said Board and the Contractor has hereto set his hand and seal the day and year first above written.

[SEAL.]

JOHN B. McDONALD.

BOARD OF RAPID TRANSIT R. R.
COMRS.

By A. E. ORR,
PRESIDENT.

[SEAL.]

BION L. BURROWS,
SECRETARY.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 27 day of Sept., 1901, in the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, each to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for The City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn in the said City, that he was the president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof, and the said Bion L. Burrows, that he resided in the Borough of Manhattan in the said City, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,

[SEAL] NOTARY PUBLIC FOR KINGS COUNTY, N. Y.

Certificate filed in New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 20th day of September, 1901, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (36),
 NOTARY PUBLIC,
 N. Y. Co.

[NOTARIAL]
 [SEAL.]

The Undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One Million Dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five Million Dollars (\$5,000,000), respectively hereby consent to the making of the foregoing instrument.

Dated New York, September 20th, 1901.

RAPID TRANSIT SUBWAY CONSTRUCTION
 COMPANY,

By W. G. OAKMAN,
 VICE-PRESIDENT.

[SEAL.]

PERRY BELMONT.

[SEAL.]

AMERICAN SURETY COMPANY OF NEW
YORK,

DAVID B. SICKELS,
VICE-PRESIDENT.
C. E. MILLEN,
ASST. SECRETARY.
[SEAL.]

THE CITY TRUST, SAFE DEPOSIT AND SURE-
TY COMPANY OF PHILADELPHIA,

160 Broadway, N. Y.
JNO. A. SULLIVAN,
VICE-PRESIDENT.
P. H. MOONEY,
ASST. SECRETARY.
[SEAL.]

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,
PRESIDENT.
[SEAL.]

Attest:

HENRY M. CHILDS,
ASST. SECRETARY.

THE UNITED STATES FIDELITY AND GUAR-
ANTY COMPANY,

By ANDREW FREEDMAN,
VICE-PRESIDENT.
[SEAL.]

Attest:

G. TERRY SINCLAIR,
ATTORNEY IN FACT.

STATE OF NEW YORK. }
 COUNTY OF NEW YORK. } ss. :

On the 20th day of September, 1901, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (36),
 [NOTARIAL] NOTARY PUBLIC,
 [SEAL.] N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this 26th day of September, 1901, before me personally appeared Andrew Freedman, to me known, who, being by me first duly sworn, did depose and say that he was the Vice-President of The United States Fidelity & Guaranty Company of Maryland, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 23rd day of September, 1901, before me personally appeared John A. Sullivan to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed

his name thereto by like authority. And also on the 23rd day of September, 1901, before me personally appeared David B. Sickels, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 25th day of September, 1901, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal, that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 23rd day of September, 1901, before me personally appeared Walter G. Oakman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),
NOTARY PUBLIC,
N. Y. Co.

[NOTARIAL]
[SEAL]

Approval by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED AS TO FORM.

Dated, New York, Sept. 16, 1901.

JOHN WHALEN,
CORPORATION COUNSEL.

**Resolution Adopted by the Rapid Transit Board
on May 2, 1901.**

WHEREAS, This Board has heretofore and on or about the 25th day of April, 1901, received from John B. McDonald, contractor, a request as follows:

“NEW YORK, April 25, 1901.

To the Honorable Board of Rapid Transit Railroad Commissioners:

GENTLEMEN: I have the honor to apply to the Board for permission to construct a siding from a point at or near the north side of One Hundred and Third Street to the southerly side of One Hundred and Thirty-seventh street.

A part of this siding has already been authorized by a resolution adopted by the Board on January 24th last. Another part of the siding was authorized by a resolution of the Board passed March 7, 1901, approving the construction as a part of the terminal of a third or storage track between One Hundred and Third and One Hundred and Sixteenth streets.

The construction of the proposed siding and the other sidings already authorized will not exceed in length one-quarter of a mile for each mile of roadway.

I also apply for permission to construct three tracks as terminals on either side of the main track, between the stations of One Hundred and Thirty-seventh street and One Hundred and Forty-fifth street, and to expend therefor the cost of constructing the third or storage track, between One Hundred and Third street and One Hundred and Sixteenth street, as authorized by the resolution of the Board passed March 7, 1901.

Yours respectfully,

(Signed) JOHN B. McDONALD,"

and

WHEREAS, This Board did, on the 7th day of March, 1901, adopt a certain resolution as follows:

"RESOLVED, That the request of the contractor, John B. McDonald, for the construction of a third or storage track between the regular tracks of the west side line, between One Hundred and Third and One Hundred and Sixteenth streets, be granted, provided that the cost thereof shall be deducted from the one million seven hundred and fifty thousand dollars, which is the maximum liability of the city for cost of terminals, and that a proper stipulation or contract modifying the Rapid Transit Contract in this respect be executed by the contractor and his sureties; and it is further

RESOLVED, That the officers of this Board be and they hereby are authorized to execute with the contractor such contract with such stipulation or amendatory contract;" and

WHEREAS, The construction hereinafter described is for the interest of the City, and will materially improve rapid transit facilities on the routes now authorized; now, therefore, it is

RESOLVED, That the said resolution of 7th March, 1901, be and the same hereby is rescinded; and it is further

RESOLVED, That the President and Secretary, in the name and under the seal of this Board, be and they hereby are authorized to execute an amendatory contract modifying the contract for construction and operation, as follows:

1. That a side track be constructed on the portion of the route extending along the Boulevard (now Broadway), from a point at or near the north side of One Hundred and Third street to the southerly side of One Hundred and Thirty-seventh street; that the work of such construction shall be done and paid for as extra work under the contract for construction and operation; that the cost thereof shall be deemed part of the cost of the Rapid Transit Railway, and that rental therefor is to be paid by the contractor in all respects as if said side track had been originally authorized by the contract for construction and operation made between the City and the said John B. McDonald.

2. That three additional tracks be constructed on either side of the main track on the portion of the route extending along the Boulevard (now Broadway), between the station at One Hundred and Thirty-seventh street and the station at One Hundred and Forty-fifth street; that such additional tracks be and be deemed part of the terminals provided for in the said contract for construction and operation, and that the cost thereof shall be deducted from the \$1,750,000 which is the maximum liability of the City for cost of terminals.

3. That such amendatory contract contain such other details and provisions not inconsistent herewith as shall be approved by the President of the Board.

4. That such contract shall take effect when and only when the following consents and approvals shall have been duly had; Rapid Transit Subway Construction Company; The United States Fidelity and Guaranty Company; The City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York, National Surety Company, and Perry Belmont.

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor.

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*

Dated, 10th April, 1902.

Agreement made this tenth day of April, in the year 1902, between THE CITY OF NEW YORK, hereinafter called the City, acting by the Board of Rapid Transit Railroad Commissioners for the City of New York, hereinafter called the Board, party of the first part, and JOHN B. McDONALD, of the City of New York, hereinafter called the Contractor, party of the second part, WITNESSETH :

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York and otherwise as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation ; which contract was on said day modified in certain respects by a further agreement between the said parties bearing the same date ; and which contract has been further modified by certain other agreements between the said parties respectively, bearing date June 21, 1900, January 10, 1901, and May 2, 1901 ; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said Contract for Construction and Operation on his part and has given certain bonds as further security for such performance, and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit and Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont; and

WHEREAS, It is in said Contract for Construction and Operation provided as follows: "Between the hours of half-past eleven and one o'clock at night and between five and six o'clock in the morning trains shall be run by the Contractor stopping at all stations at intervals of not less than ten (10) minutes. Between the hours of one o'clock and five o'clock in the morning trains shall be run stopping at all stations at intervals of not less than fifteen (15) minutes;" and

WHEREAS, It was the intention of the parties to the Contract for Construction and Operation at the time of its execution, which parties are also the parties to this agreement, that it should be provided in said Contract that between the hours of half-past eleven and one o'clock at night and between five and six o'clock in the morning trains should be run stopping at all stations, at intervals of not more than ten (10) minutes, and that between the hours of one o'clock and five o'clock in the morning trains should be run stopping at all stations at intervals of not more than fifteen (15) minutes, and not, as it is at present provided in said Contract, that such intervals should be intervals of not less than ten (10) minutes and of not less than fifteen (15) minutes respectively;

Now, therefore, in consideration of the premises, and subject to the consents hereinafter provided, **it is agreed** that the said Contract for Construction and Operation be and the same is hereby modified as follows:
By striking from the Lease contained in the said Contract the

following: "Between the hours of half-past eleven and one o'clock at night and between five and six o'clock in the morning trains shall be run by the Contractor stopping at all stations at intervals of not less than ten (10) minutes. Between the hours of one o'clock and five o'clock in the morning, trains shall be run, stopping at all stations at intervals of not less than fifteen (15) minutes."

And by inserting in the said Lease, instead of the portion thereof thus struck out, the following, to wit: "Between the hours of half-past eleven and one o'clock at night and between five and six o'clock in the morning trains shall be run by the Contractor stopping at all stations at intervals of not more than ten (10) minutes. Between the hours of one o'clock and five o'clock in the morning trains shall be run, stopping at all stations at intervals of not more than fifteen (15) minutes."

PROVIDED, HOWEVER, and it is expressly agreed that this agreement shall take effect when and only when the following consents hereto shall be duly had, to wit:

The consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity &

Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont.

In witness whereof, this contract has been executed for the City of New York by its Board of Rapid Transit Railroad Commissioners under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the president and secretary of the said Board and the Contractor has hereto set his hand and seal the day and year first above written.

BOARD OF RAPID TRANSIT R. R. COMMISSIONERS,

By A. E. ORR,

PRESIDENT.

BION L. BURROWS [SEAL.]

SECRETARY.

JOHN B. McDONALD.

[SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } SS. :

On this first day of July, 1902, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows that he resided in the Borough of Manhattan, in the said City, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and

that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,

[SEAL.] NOTARY PUBLIC FOR KINGS COUNTY, N. Y.

Certificate filed in New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this sixth of June, 1902, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (36),

[SEAL.]

NOTARY PUBLIC,

N. Y. Co.

The Undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, April , 1902.

RAPID TRANSIT SUBWAY CONSTRUCTION CO.,

By W. G. OAKMAN,

[SEAL.]

VICE-PRESIDENT.

THE UNITED STATES FIDELITY AND
GUARANTY COMPANY,

By ANDREW FREEDMAN,

[SEAL.]

VICE-PRESIDENT.

AMERICAN SURETY COMPANY OF
NEW YORK,

H. D. LYMAN,

[SEAL.]

PRESIDENT.

H. B. ZEVELY,

SECRETARY.

THE CITY TRUST, SAFE DEPOSIT AND SURETY
COMPANY OF PHILADELPHIA,

160 Broadway, N. Y.

P. H. MOONEY,

VICE-PRESIDENT.

[SEAL.]

TIMOTHY E. COHALAN,

ASST. SECRETARY.

NATIONAL SURETY COMPANY,

By THO. F. GOODRICH,

VICE-PRESIDENT.

[SEAL.]

ATTEST:

BALLARD McCALL,

SECRETARY.

PERRY BELMONT,

[SEAL.]

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On the sixth day of June, 1902, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (36),

NOTARY PUBLIC,

N. Y. Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this sixth day of June, 1902, before me personally appeared Andrew Freedman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of United States Fidelity & Guaranty Company of Maryland, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of June, 1902, before me personally appeared Patrick H. Mooney, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like

authority. And also, on the 6th day of June, 1902, before me personally appeared Henry D. Lyman, to me known, who being by me first duly sworn, did depose and say that he was the President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of June, 1902, before me personally appeared Thomas F. Goodrich, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of National Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 6th day of June, 1902, before me personally appeared Walter

G. Oakman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),

NOTARY PUBLIC,

N. Y. Co.

THE FOREGOING CONTRACT IS HEREBY APPROVED AS TO
FORM.

Dated New York, June 2nd, 1902.

G. L. RIVES,

CORPORATION COUNSEL.

Assignment of Leasing

Part of

Manhattan-Bronx Contract

to

**Interborough Rapid Transit
Company.**

This Agreement, made the 10th day of July, 1902, by and between John B. McDonald, of the City, County and State of New York, hereinafter called the "Contractor," party of the first part, and Interborough Rapid Transit Company, a corporation duly organized and existing under the laws of the State of New York, hereinafter called "Interborough Company," party of the second part, witnesseth:

WHEREAS, The Contractor heretofore entered into a contract with The City of New York (acting by the Board of Rapid Transit Railroad Commissioners for The City of New York), bearing date the 21st day of February, 1900, for the construction, equipment and operation of a rapid transit railroad in The City of New York, which contract was thereafter modified in certain particulars by agreements between the said parties supplemental thereto and amendatory thereof, which agreements bear date the said 21st day of February, 1900; the 21st day of June, 1900; the 10th day of January, 1901; and the 2d day of May, 1901, respectively, the said contract and

agreements amendatory thereof and supplemental thereto being together hereinafter referred to as the rapid transit contract; and

WHEREAS, The Interborough Company has been duly organized under the Railroad Law of this State for the purposes, among other things, of maintaining and operating the said railway, and has been approved in writing by the said Board of Rapid Transit Railroad Commissioners, pursuant to the provisions of chapter 4 of the Laws of 1891, as amended by chapter 544 of the Laws of 1902, and the Contractor desires to assign and transfer unto Interborough Company, and Interborough Company desires to accept an assignment of so much of the rapid transit contract as provides for the maintenance and operation of the said railway, including the obligation to provide an equipment for the same, subject to all the terms and conditions in said contract contained with respect to such maintenance and operation, and with respect to the equipment of the said railroad.

Now, therefore, in consideration of the premises, and for a valuable consideration by Interborough Company

to the Contractor in hand paid, the receipt whereof is hereby acknowledged, the Contractor has sold, assigned, transferred, conveyed and set over, and does hereby sell, assign, transfer, convey and set over unto Interborough Company so much of the rapid transit contract as provides for the maintenance and operation of the said rapid transit railroad (including the equipment thereof), and does hereby assign unto the Interborough Company the right or obligation to maintain and operate the said road, or roads in the rapid transit contract described, for and during the remainder of the term of years specified in such contract, and all rights with respect to such maintenance and operation, or included in the leasing provisions of such contract, subject to all the terms and conditions therein stated, together with all obligations assumed by the Contractor in and by the said rapid transit contract with respect to the equipment of the said railroad; and from and after the execution hereof the Interborough Company shall be entitled to have and receive all sums of money due or to come due from The City of New York under said contract for the equipment of the

said railroad or any part thereof, or for the maintenance and operation of the same, and shall have and enjoy all rights, privileges, emoluments and benefits arising under or because of the provisions for the equipment of the said railroad, and for the maintenance and operation thereof as in said contract provided, as fully as the Contractor might or could have and enjoy if this assignment were not made.

The Interborough Company on its part does hereby assume all of the obligations of the Contractor under or by reason of the rapid transit contract with respect to the equipment of the said railroad and every portion thereof, and all obligations whatsoever of the Contractor under or by reason of the leasing provisions of said contract, and all obligations which relate in any way to the maintenance or operation of the said railroad in said contract described, and does hereby agree to carry out and perform each and every of the said obligations as fully as the Contractor has been or is bound to do in and by the said contract.

The Interborough Company further agrees to well and truly indemnify and save harmless the Contractor of and from any liability, claim or demand arising under such portions of the rapid transit contract as are hereby assigned, or any portion thereof.

This agreement shall bind the parties hereto, their respective heirs, executors, administrators, successors and assigns.

It is, however, understood and agreed that this assignment shall not take effect until the same shall be consented to in writing by the said Board of Rapid Transit Railroad Commissioners, and such assignment and consent shall in no respect affect the security or securities for the performance of the rapid transit contract or any part thereof by the Contractor.

Provided, further, and it is expressly agreed, that this agreement shall take effect when, and only when, the following consents hereto and approvals hereof shall be duly had—to wit, the consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidel-

ity and Guaranty Company, the City Trust, Safe Deposit and Surety Company, of Philadelphia; American Surety Company, of New York; National Surety Company and Perry Belmont.

In witness whereof, the party hereto of the first part has hereunto set his hand and seal, and the party hereto of the second part has caused these presents to be duly signed by its proper officers under its corporate seal, the day and year first above written.

JOHN B. McDONALD, [L. s.]

INTERBOROUGH RAPID TRANSIT COMPANY,

By AUGUST BELMONT, PRESIDENT.

ATTEST :

FREDERICK EVANS, SECRETARY.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 17th day of July, 1902, before me personally came John B. McDonald, to me known, and known to me to be the individual described in and who executed the foregoing instrument, and to me acknowledged that he executed the same.

GEORGE A. STEVES,
NOTARY PUBLIC (114),
County of Kings.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 11th day of July, 1902, before me personally came August Belmont, to me known, who being by me duly sworn, did depose and say, that he resided in the Town of Hempstead, Nassau County, New York; that he is President of the Interborough Rapid Transit Company, the corporation described in and which executed the above instrument; that he knew the seal of the said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

CHAS. W. SANDFORD,
NOTARY PUBLIC (20),
County of Kings.

The Board of Rapid Transit Railroad Commissioners for The City of New York does hereby consent to the foregoing assignment.

Dated, New York, July 18, 1902.

THE BOARD OF RAPID TRANSIT RAILROAD
COMMISSIONERS FOR THE CITY OF NEW
YORK.

By A. E. ORR, PRESIDENT.

BION L. BURROWS,
SECRETARY.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 4th day of September, 1902, at The City of New York, in said county, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known, and known to me to be the said Alexander E. Orr, the President, and the said Bion L. Burrows, the Secretary, of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself, and not one for the other, the said Alexander Orr, that he resided in the Borough of Brooklyn, in the said city, that he was the President of the said Board, and that he subscribed his name to the foregoing consent by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Manhattan, in the said City of New York, that he was the Secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows, that they knew the seal of the said Board, that one of the seals affixed to the above instrument was such seal, and that the same was affixed to the foregoing instrument by the order of the said Board and of a resolution duly adopted by the same, and that they signed their names thereto by like order.

SEYMOUR K. FULLER,
 NOTARY PUBLIC (14),
 Kings County.

Certificate filed in New York County.

We hereby consent to the foregoing assignment.

Dated New York, July 17, 1902.

AUGUST BELMONT & CO.

On this 17th day of July, 1902, before me personally appeared August Belmont, to me known, and known to me to be a member of the firm of August Belmont & Co.,

described in and which executed the foregoing consent, and who acknowledged to me that he executed the same as and for the act and deed of the said firm.

CHAS. W. SANDFORD,
NOTARY PUBLIC (20),
Kings County.

Certificate filed in New York County.

The Undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of one million dollars (\$1,000,000), and the bond for construction and equipment in the penalty of five million dollars (\$5,000,000), hereby consent to the making of the foregoing instrument.

Dated, New York, July 18, 1902.

RAPID TRANSIT SUBWAY CONSTRUCTION
COMPANY,

By AUGUST BELMONT, PRESIDENT.

THE UNITED STATES FIDELITY AND GUAR-
ANTY COMPANY,

By SYLVESTER J. O'SULLIVAN, MANAGER.

CITY TRUST, SAFE DEPOSIT AND SURETY
COMPANY,

By ADRIAN T. KIERNAN, VICE PRESIDENT.

AMERICAN SURETY COMPANY,

By H. D. LYMAN, PRESIDENT.

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN, PRESIDENT.

PERRY BELMONT.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On the 21st day of July, 1902, before me personally appeared Perry Belmont, to me known, and known to me to be the individual described in and who executed the foregoing consent, and who to me acknowledged that he executed the same.

A. W. ANDREWS,
 NOTARY PUBLIC (36),
 New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 21st day of July, 1902, before me personally appeared Sylvester J. O'Sullivan, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the Manager of the United States Fidelity and Guaranty Company, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of said company, and that he signed his name thereto by like order. And also, on the 21st day of July, 1902, before me personally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the Vice-President of the City Trust, Safe Deposit and Surety Company, of Philadelphia, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 18th day of July, 1902, before me personally appeared Henry D. Lyman,

to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the President of American Surety Company, of New York, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 21st day of July, 1902, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the President of National Surety Company, of New York, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 18th day of July, 1902, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say, that he resided in the Town of Hempstead, Nassau County, New York, and was the President of Rapid Transit Subway Construction Company, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order.

A. W. ANDREWS,

NOTARY PUBLIC (36),

New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 30th day of July, in the year 1902, before me personally came John R. Bland, to me known, who being by me duly sworn, did depose and say, that he resided in the City of Baltimore, in the State of Maryland; that he is the President of The United States Fidelity and Guaranty Company, one of the corporations described herein and which executed the above instrument; that he knew the seal of the said corporation; that one of the seals affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

A. W. ANDREWS,
NOTARY PUBLIC (36),
New York County.

Agreement made this 10th day of July, 1902, by and between The City of New York (acting by its Board of Rapid Transit Railroad Commissioners), party of the first part, John B. McDonald, party of the second part, and Interborough Rapid Transit Company, a corporation duly organized and existing under the laws of the State of New York, party of the third part, witnesseth:

WHEREAS, The said John B. McDonald heretofore entered into a contract with The City of New York (acting by the Board of Rapid Transit Railroad Commissioners for The City of New York), bearing date the 21st day of February, 1900, for the construction, equipment and operation of a rapid transit railroad in The City of New York, which contract (hereinafter called the rapid transit contract) was thereafter modified by certain agreements supplemental thereto and amendatory thereof; and

WHEREAS, The said John B. McDonald has assigned, or is about to assign, unto Interborough Rapid Transit Company, by an instrument bearing even date herewith, consented to or to be consented to in writing by the

sureties upon all bonds and undertakings given by the said John B. McDonald pursuant to said contract, so much of the said contract as provides for the maintenance and operation of the railway therein described, including the obligation to provide all equipment for the same, subject to all the terms and conditions in said contract contained with respect to such maintenance and operation, and with respect to the equipment of the said railroad, to which assignment reference is hereby had, and the said parties have requested the said Board of Rapid Transit Railroad Commissioners to consent to the said assignment as provided by law; and

WHEREAS, The said Board of Rapid Transit Railroad Commissioners is willing to consent to such assignment, but only upon the execution and delivery to said Board for said City of this instrument.

Now, therefore, in consideration of the premises and of the covenants hereinafter contained, The City of New York, by its said Board of Rapid Transit Railroad Commissioners, hereby consents to the said assignment to In-

terborough Rapid Transit Company, and to the execution of the said instrument bearing even date herewith.

And the said Interborough Rapid Transit Company hereby covenants to and with The City of New York that it is, and shall hereafter in all respects be, bound to The City of New York, with respect to the equipment of the said railroad mentioned in the said instrument and every portion thereof and all obligations whatsoever of the contractor under or by reason of the leasing provisions of said rapid transit contract and all obligations thereof or thereunder which relate in any way to the maintenance or operation of the railroad in the said rapid transit contract described, and does hereby agree to carry out and perform each and every of the said obligations as fully as the contractor has been or is bound to do in and by the said rapid transit contract. And the said Interborough Rapid Transit Company further covenants to and with the City that the said John B. McDonald, his executors, administrators and assigns, shall fully perform all the obligations and comply with

all the provisions and terms of said contract which are not assigned to and assumed by said Interborough Rapid Transit Company in and by the said instrument bearing even date herewith.

This agreement shall bind the parties hereto, their respective heirs, executors, administrators, successors and assigns.

Provided, further, and it is expressly agreed, that this agreement shall take effect when, and only when, the following consents hereto and approvals hereof shall be duly had—to wit, the consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity and Guaranty Company, the City Trust, Safe Deposit and Surety Company, of Philadelphia; American Surety Company, of New York; National Surety Company and Perry Belmont.

In witness whereof, the party of the first part has caused these presents to be duly executed by its said Board of Rapid Transit Railroad Commissioners under the seal of the said Board, the party of the second part has

hereunto set his hand and seal, and the party of the third part has caused these presents to be duly executed by its proper officers under its corporate seal, the day and year first above written.

THE CITY OF NEW YORK

By THE BOARD OF RAPID TRANSIT RAILROAD
COMMISSIONERS OF THE CITY OF
NEW YORK,

By A. E. ORR, PRESIDENT.

ATTEST:

[SEAL.] BION L. BURROWS, SECRETARY.

INTERBOROUGH RAPID TRANSIT COMPANY,
By AUGUST BELMONT, PRESIDENT.

ATTEST:

[SEAL.] FREDERICK EVANS, SECRETARY.
JOHN B. McDONALD.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 17th day of July, 1902, before me personally appeared John B. McDonald, to me known, and known to me to be the individual described in and who executed the foregoing instrument, and who to me acknowledged that he executed the same.

GEORGE A. STEVES.

NOTARY PUBLIC (114),

Kings County.

Certificate filed in New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 11th day of July, in the year 1902, before me personally came August Belmont, to me known, who being duly sworn, did depose and say, that he resided in Hempstead, Nassau County, New York; that he is the President of the Interborough Rapid Transit Company, the corporation described in and which executed the above instrument; that he knew the seal of the said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

CHAS. W. SANDFORD,
 NOTARY PUBLIC (20),
 Kings County.

Certificate filed in New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 4th day of September, 1902, at The City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known, and known to me to be the said Alexander E. Orr, the President, and the said Bion L. Burrows, the Secretary of the Board of Rapid Transit Railroad Commissioners for The City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself, and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the President of the said Board, and that he subscribed his name to the foregoing consent by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Manhattan, in the said City of New York, that he was the Secretary of the said

Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows, that they knew the seal of the said Board, that one of the seals affixed to the above instrument was such seal, and that the same was affixed to the foregoing instrument by the order of the said Board and of a resolution duly adopted by the same, and that they signed their names thereto by like order.

SEYMOUR K. FULLER,
NOTARY PUBLIC (14),
Kings County.

Certificate filed in New York County.

The undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of one million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of five million dollars (\$5,000,000), hereby consent to the making of the foregoing instrument.

Dated, New York, July 18, 1902.

RAPID TRANSIT SUBWAY CONSTRUCTION
COMPANY,

[SEAL.] By AUGUST BELMONT, PRESIDENT.

THE UNITED STATES FIDELITY AND GUAR-
ANTY COMPANY,

[SEAL.] By SYLVESTER J. O'SULLIVAN,
MANAGER.

ATTEST:

LEONIDAS DENNIS,

ATTORNEY IN FACT.

JOHN R. BLAND,

PRESIDENT.

GEORGE R. CALLIS,

SECRETARY.

CITY TRUST, SAFE DEPOSIT AND SURETY
COMPANY,

[SEAL.]

By ADRIAN T. KIERNAN,

VICE-PRESIDENT.

AMERICAN SURETY COMPANY,

[SEAL.]

By H. D. LYMAN,

PRESIDENT.

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,

PRESIDENT.

PERRY BELMONT.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On the 21st day of July, 1902, before me personally appeared Perry Belmont, to me known, and known to me to be the individual described in and who executed the foregoing consent, and who to me acknowledged that he executed the same.

A. W. ANDREWS,
NOTARY PUBLIC (36),
New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On the 21st day of July, 1902, before me personally appeared Sylvester J. O'Sullivan, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the Manager of The United States Fidelity and Guaranty Company, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 21st day of July, 1902, before me personally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the Vice-President of the City Trust, Safe Deposit and Surety Company, of Philadelphia, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 18th day of July, 1902, before me personally appeared Henry D. Lyman, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and was the President of American Surety Company, of New York, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 21st day of July, 1902, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say, that he resided in the Borough of Manhattan, City of New York, and

was the President of National Surety Company, of New York, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order. And also, on the 18th day of July, 1902, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say, that he resided in Hempstead, Nassau County, New York, and was the President of Rapid Transit Subway Construction Company, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like order.

A. W. ANDREWS,
 NOTARY PUBLIC (36),
 New York County.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 30th day of July, in the year 1902, before me personally came John R. Bland, to me known, who being by me duly sworn, did depose and say, that he resided in the city of Baltimore, in the State of Maryland; that he is the President of the United States Fidelity and Guaranty Company, one of the corporations described

in and which executed the above instrument; that he knew the seal of said corporation; that one of the seals affixed to said instrument was such corporate seal, and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

A. W. ANDREWS,
Notary Public (36),
New York County.

*John B. McDonald,
Contractor.*

[Copy Resolution Board of Directors, The United States Fidelity and Guaranty Company, authorizing Sylvester J. O'Sullivan to sign for company, also attached].

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*

Dated, July 21st, 1902

Executed, 1902

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor.

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*

Dated, July 21st, 1902.

Executed, 1902.

Agreement made this twenty-first day of July, in the year Nineteen hundred and two, between THE CITY OF NEW YORK (hereinafter called the City), acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), party of the first part, and JOHN B. McDONALD, of The City of New York (hereinafter called the Contractor), party of the second part:

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; and

WHEREAS, The said Contract and the Routes and General Plan hereinafter mentioned have been since modified by agreement duly made between the City and the Contractor, with the consent of the sureties hereinafter mentioned; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said Contract for Construction and Operation on his part and has given certain bonds as further security for such performance and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company and Perry Belmont; and

WHEREAS, By written instruments bearing date the tenth day of July, 1902, the Contractor, with the written consent of the Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and operate the said Rapid Transit Railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the Con-

tractor of the provisions of his said contract not so assigned to it; and

WHEREAS, The Contractor desires, and the Board approves, a further modification of the Routes and General Plan for the Rapid Transit Railroad referred to in the said Contract for Construction and Operation as set forth in certain resolutions adopted by the Board on 25th June, 1902, a copy of which is hereto annexed:

Now, therefore, in consideration of the premises and subject to the consents hereinafter provided, **it is agreed** that the said Contract for Construction and Operation and the Routes and General Plan therein mentioned be, and the same hereby are, further modified as follows:

By striking from the said Routes the portion thereof in words as follows, to wit: "thence with a curve to the left and under Third avenue to a point near its intersection with Westchester avenue, thence with a curve to the right to and under Westchester avenue."

And by inserting in the said Routes, instead of the portion thus struck out, the following words, to wit: "thence

crossing Third avenue and under East One Hundred and Forty-ninth street and Bergen avenue upon a curve to a point in the triangular block bounded by Bergen avenue, Gerard street and East One Hundred and Forty-ninth street; at that point beginning to emerge from the ground, and thence upon a viaduct across Gerard street and on or over private property in the block bounded by Westchester avenue, Brook avenue, East One Hundred and Forty-ninth street, Gerard street and Bergen avenue (crossing, if necessary, a part of Brook avenue) to Westchester avenue."

The general plan of construction of the portion of the route hereby substituted shall be as follows:

The tracks shall be placed in tunnel from the westerly end of such portion to a point on private property or on Gerard street, between Bergen avenue and East One Hundred and Forty-ninth street, and easterly over the rest of the portion of the route hereby substituted shall be carried upon a viaduct. The railroad may on the portion of the route between Third avenue and Westchester avenue occupy any portion of any of the streets of the route, but

the railroad shall not at any place exceed thirty (30) feet in width. There shall be at least two parallel tracks, with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners.

And it is further agreed that in all other respects the provisions of the General Plan of Construction set forth in the said Contract for Construction and Operation shall be applicable to the portion of the route hereby substituted; and it is further agreed that the Contractor shall become entitled to additional payment for such additional work and materials as shall be made necessary by the changes hereby provided and the City shall become entitled to abatement from the contract price by reason of the diminution in work and materials by reason of such changes, the amounts of such additional payments and such diminutions to be determined as provided in Chapter II of the said Contract for Construction and Operation.

PROVIDED, however, and it is expressly agreed that this agreement shall take effect when and only when the following consents hereto and approvals hereof shall be duly had, to wit:

1. The consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, The American Surety Company of New York, National Surety Company, Perry Belmont and Interborough Rapid Transit Company.

2. The consent of the Board of Aldermen of the City of New York.

3. The consent of the Mayor of the City of New York.

4. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of routes by this agreement proposed to be substituted as aforesaid, or if such consent cannot be obtained, then, in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court duly confirmed by the said Appellate Division.

The plan hereto annexed is intended to show the modification of the routes as hereby proposed.

In witness whereof, this contract has been executed for the City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the Contractor has hereto set his hand and seal, the day and year first above written.

THE BOARD OF RAPID TRANSIT
RAILROAD COMMISSIONERS,

By A. E. ORR,

PRESIDENT.

BION L. BURROWS,

SECRETARY.

[SEAL.]

JOHN B. McDONALD,

[SEAL.]

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 7th day October, 1902, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Manhattan, in the said City, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the foregoing in-

strument by the authority of the said Board and of a resolution duly adopted by the same.

SEYMOUR K. FULLER,

[SEAL.]

NOTARY PUBLIC, Kings Co.

Cert. filed in New York Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 6th day of October, 1902, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (36),

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

The undersigned, being the surties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, October 6th, 1902.

RAPID TRANSIT SUBWAY
CONSTRUCTION CO.,

By AUGUST BELMONT,
PRESIDENT.

ATTEST:

FREDERICK EVANS,
SECRETARY.

[SEAL.]

PERRY BELMONT,
[SEAL.]

THE UNITED STATES FIDELITY AND
GUARANTY COMPANY,

By ANDREW FREEDMAN,
VICE-PRESIDENT.
[SEAL.]

ATTEST:

G. TERRY SINCLAIR,
ATTORNEY IN FACT.

[SEAL.]

AMERICAN SURETY COMPANY OF
NEW YORK,

DAVID B. SICKLES,

VICE-PRESIDENT.

HENRY TOFTS,

ASSISTANT SECRETARY.

[SEAL.]

THE CITY TRUST, SAFE DEPOSIT AND SURE-
TY COMPANY OF PHILADELPHIA,

160 Broadway, N. Y.

A. T. KIERNAN,

VICE-PRESIDENT.

P. H. MOONEY,

ASST. SECRETARY.

[SEAL.]

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,

PRESIDENT.

ATTEST:

BALLARD McCALL,

SECRETARY.

[SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On the 6th day of October, 1902, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (36),

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 6th day of October, 1902, before me personally appeared Andrew Freedman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of the United States Fidelity & Guaranty Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 6th day of October, 1902, before me per-

sonally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of October, 1902, before me personally appeared David B. Sickles, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 6th day of October, 1902, before me personally appeared Charles A. Dean, to

me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 6th day of October, 1902, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was the President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

The undersigned, being the assignee of John B. McDonald, the Contractor above mentioned, of the right or obligation to maintain and operate the said rapid transit railroad for the term of years specified in said Contract for Construction and Operation, and all rights included in the leasing provisions of the said Contract, together with the obligation to provide equipment for the said Railroad, hereby CONSENTS to the making of the foregoing instrument.

Dated, New York, October 6th, 1902.

INTERBOROUGH RAPID TRANSIT CO.,
By AUGUST BELMONT,
PRESIDENT.

[SEAL.]

ATTEST:

FREDERICK EVANS,
SECRETARY.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this 6th day of October, 1902, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he resided in the County of Nassau, in the State of New York; that he is President of Interborough Rapid Transit Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said Company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of said Company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

Approval by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED AS TO FORM.

Dated, New York, October 3rd, 1902.

G. L. RIVES,

CORPORATION COUNSEL.

Resolution of June 25th, 1902.

WHEREAS, This Board did, on the 14th day of January, 1897, and 4th day of February, 1897, adopt certain Routes and General Plan for a rapid transit railroad in the City of New York, a copy of which is hereto annexed entitled "Copy Routes and General Plan;" and

WHEREAS, The said Routes and General Plan were afterwards duly approved by the municipal authorities of the City of New York, and were duly consented to by commissioners appointed by the Appellate Division of the Supreme Court, which consent was duly confirmed by the said Appellate Division, in lieu of the consent of the owners of a majority in value of the property along the said routes; and

WHEREAS, Thereafter, and on or about the 21st day of February, 1900, the City of New York did by this Board enter into a certain contract with John B. McDonald for the construction and operation of the said rapid transit railroad; and

WHEREAS, It is the interest of the City of New York and, in the opinion of the said John B. McDonald, it is likewise in his interest as such contractor, and he desires that said Routes and Plan shall be changed in the respect hereinafter mentioned, but without other change in the said Routes and General Plan.

Now, therefore, it is

RESOLVED, That, subject to the consents and approvals to be first obtained as in this resolution hereinafter mentioned, the said Routes and General Plan heretofore adopted by this Board be, and they hereby are, modified as follows:

By striking from the said Routes the portion thereof in words as follows, to wit: "thence with a curve to the left and under Third avenue to a point near its intersection with Westchester avenue, thence with a curve to the right to and under Westchester avenue."

And by inserting in the said Routes, instead of the portion thus struck out, the following words, to wit: "thence crossing Third avenue and under East One Hun-

dred and Forty-ninth street and Bergen avenue upon a curve to a point in the triangular block bounded by Bergen avenue, Gerard street and East One Hundred and Forty-ninth street; at that point beginning to emerge from the ground, and thence upon viaduct across Gerard street and on or over private property in the block bounded by Westchester avenue, Brook avenue, East One Hundred and Forty-ninth street, Gerard street and Bergen avenue (crossing, if necessary, a part of Brook avenue) to Westchester avenue."

The general plan of construction of the portion of the route hereby substituted shall be as follows:

The tracks shall be placed in tunnel from the westerly end of such portion to a point on private property or on Gerard street, between Bergen avenue and East One Hundred and Forty-ninth street, and easterly over the rest of the portion of the route hereby substituted shall be carried upon a viaduct. The railroad may on the portion of the route between Third avenue and Westchester avenue occupy any portion of any of the streets of the route, but the railroad shall not at any place exceed thirty feet in width. There shall be at least two parallel tracks, with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners.

In other respects the provisions of the said General Plan of Construction adopted on 14th January and 4th February, 1897, shall be applicable to the portion of the route hereby substituted; and it is further

RESOLVED, That whereas this Board has duly made the inquiries and investigation necessary or proper in the premises, and has determined that the modification aforesaid of the said Routes and General Plan is necessary for the interests of the public and of the City of New York and should be established as hereinafter provided, this Board does hereby determine and establish the said Routes and General Plan as hereby modified, subject to the consents and approvals to be first obtained as hereinafter mentioned; and it is further

RESOLVED, That the said modification of the Routes and General Plan shall take effect only upon and after the following consents thereto and approvals thereof shall be duly had, to wit:

1. The consent of John B. McDonald, contractor, and of his sureties, as follows: Rapid Transit Subway Construction Company; The United States Fidelity and Guaranty Company; The City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company, and Perry Belmont.
2. The consent of the Board of Aldermen of the City of New York.
3. The consent of the Mayor of the City of New York.
4. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of routes by these resolutions proposed to be substituted as aforesaid; or, if such consents cannot be obtained, then, in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court, duly confirmed by the said Appellate Division.

And it is further

RESOLVED, That this Board hereby adopts the drawing now produced and numbered as showing in substance the modification hereby adopted.

And it is further

RESOLVED, That the President and the Secretary of the Board be, and they hereby are, authorized to execute in the name of and on behalf of the Board a contract with the Contractor providing for the said modification of the Routes and General Plan.

“Copy Routes and General Plans.

“January 14, 1897.

“One route as follows: Its centre line shall commence at a point at or near the intersection of Broadway with Park Row; thence under Park Row and Centre street to a point at or near its intersection with New Elm street as proposed; thence under New Elm street, as proposed, to Lafayette place; thence under Lafayette place to Eighth street; thence across and under Eighth street, and thence under private property lying between Eighth and Ninth streets and east of the westerly side or line of Lafayette place, produced, to Fourth avenue; thence under Fourth avenue and Park avenue to Forty-second street; thence turning from Park avenue into Forty-second street, and taking for the purposes of the curve, if necessary or convenient, private property at the southwest corner of Park avenue and Forty-second street; thence under Forty-second street to Broadway; thence under Broadway to Fifty-ninth street; thence under the Boulevard to a point at or near One Hundred and Twenty-fourth street; thence by viaduct along and over the Boulevard to a point at or near One Hundred and Thirty-fourth street; thence under the Boulevard and Eleventh avenue to a point on Eleventh avenue, situate north of One Hundred and Ninetieth street, and distant therefrom not less than one thousand and not more than one thousand five hundred feet, and thence under or over (as may be most convenient) private property to a point at the southeast end of Ellwood street near Hillside street, and thence over Ellwood street to Kingsbridge avenue or Broadway; thence over Kingsbridge avenue or Broadway, as now proposed, to Riverdale avenue, and thence easterly over Riverdale avenue to a point within five hundred feet of the present Kingsbridge station of the New York and Putnam Railroad Company.

“This route shall include a loop at the City Hall Park which shall connect with the portion of the route aforesaid along Centre street at or near the south end of that street, and thence proceed westerly and southerly under City Hall

Park and Broadway, and thence easterly to again connect with the portion of the route aforesaid in Park Row. All of the said loop shall lie under City Hall Park, Park Row, between the south end of Centre street and Ann street, and the portion of Broadway adjoining the City Hall Park lying between Vesey and Murray streets. This route shall also include suitable tracks and connections from the City Hall loop to the Postoffice, such tracks and connections being under the City Hall Park and under the portion of Park Row between the south end of Centre street and Ann street. This route shall also include suitable tracks and connections from the portion of the route near the corner of Park avenue and Forty-second street to the yard and tracks of the Grand Central Station. All of the tracks and connections last mentioned shall be under Park avenue and Forty-second street and private property to be acquired. By private property in this description is meant property not forming part of the streets of the City of New York and not belonging to the City of New York.

“Also a route as follows: Its centre line shall diverge from the route aforesaid on the Boulevard, between a line parallel to and one hundred feet north of One Hundred and Third street and a line parallel to and one hundred feet south of One Hundred and Third street; thence under private property to a point in One Hundred and Fourth street; thence under One Hundred and Fourth street to and across Central Park West; thence under Central Park to the intersection of Lenox avenue and One Hundred and Tenth street; thence under Lenox avenue to a point near One Hundred and Forty-second street; thence curving to the east and passing under private property, One Hundred and Forty-third and One Hundred and Forty-fourth streets, to the Harlem River at or near the foot of One Hundred and Forty-fifth street; thence under the Harlem River and private property to East One Hundred and Forty-ninth street at or near its intersection with River avenue; thence under East One Hundred and Forty-ninth street to a point near its intersection with Third avenue; [thence with a curve to the left and under Third avenue to a point near its intersection with West-

chester avenue; thence with a curve to the right to and under Westchester avenue], and thence by viaduct over and along Westchester avenue to the Southern Boulevard; thence over and along the Southern Boulevard to the Boston road, and thence over and along the Boston road to Bronx Park.

“The said General Plan of Construction hereby adopted is as follows:

“For the route under Park Row and the said loop at City Hall Park, two parallel tracks; for the route from the point of connection of the City Hall loop with the route aforesaid at the southerly end of Centre street to the junction at or near One Hundred and Third street and the Boulevard, four parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to the New York and Putnam Railroad Company’s station at Kingsbridge, two parallel tracks; for the route from the junction at or near One Hundred and Third street and the Boulevard to Bronx Park, two parallel tracks.

“All of the above-mentioned tracks shall be placed on the same level, except that wherever required by special necessities of surface or sub-surface structures or other special or local necessities and for the purpose of avoiding grade crossings at the southerly end of Centre street and the One Hundred and Third street junction, any one or more of the tracks may be depressed below the level of the other tracks to a depth of not more than twenty feet.

“The tracks shall be of standard gauge, that is to say, of a width of four feet and eight and a half inches between the rails. There shall be twelve and a half feet width in the tunnels and on the viaducts for each track, except that at stations, switches, turnouts, curves and cross overs, the width may be increased to the extent permitted by the width of the tunnel. The tracks wherever passing over or under the streets shall be placed over or under the central part of the street, except that no tunnel or viaduct or any wall or part thereof under or along a street, shall, except

at the stations, station approaches, curves and at places of access to sub-surface structures, as hereinafter provided, be within a distance of five feet of the exterior line or side of the street. The tracks shall in all cases be placed in tunnels, except only that on the west side route on the Boulevard at or near One Hundred and Twenty-fourth street the tracks shall emerge from the tunnel and be carried upon a viaduct along the Boulevard to a point at or near One Hundred and Thirty-fourth street and there be taken again into tunnel, and except also that on the west side route at a point at or near One Hundred and Ninetieth street the tracks shall again emerge from the tunnel and be carried upon a viaduct over private property and the above-mentioned streets to the Kingsbridge station, and except also that on the east side from a point on Westchester avenue at or near Bergen avenue the tracks shall emerge from the tunnel and be carried upon a viaduct over and along Westchester avenue and the other streets above mentioned to Bronx Park.

“Wherever the tracks change from tunnel to viaduct, or from viaduct to tunnel, the change shall be so made as to occupy or obstruct the use of the surface of the street to the least possible extent consistent with the proper gradient for the tracks.

“The roof of the tunnel shall be as near the surface of the street as street conditions and grades will permit. The tunnel shall not be less than thirteen feet in height in the clear. The maximum widths of the tunnel in the clear shall be as follows:

“For the route under Park Row and the City Hall Park loop, thirty-eight feet; for the route from, at or near the south end of Centre street and to the commencement of New Elm street, fifty feet; for the route from, at or near the commencement of New Elm street to Lafayette Place, sixty-eight feet; for the route from, at or near the commencement of Lafayette Place to the junction at or near One Hundred and Third street, fifty feet; for the west side route from the junction at or near One Hundred and Third street to Kingsbridge station, twenty-five feet; and for the east side route from, at or near the junction at One

Hundred and Third street to Bronx Park, twenty-five feet; except that wherever the nature of the streets necessitates a curve that an additional width of tunnel may be added not exceeding three feet for each track, and except that on Fourth avenue, from Thirty-second to Forty-third street, the permissible width shall be sixty-five feet; and for the tunnel beneath the Harlem River and its approaches, the permissible width shall be thirty-five feet. At each cross street where accommodations for pipes, wires, sewers and other sub-surface structures have been provided within the tunnel, the tunnel may, in order to provide convenient access to such pipes, wires, sewers and other sub-surface structures, have, within the limit of the sides or exterior lines of such cross street or such lines produced, an additional width on each side of the route not to exceed fifteen feet, and the area of additional width on either side not to approach nearer than twelve feet to either side or exterior line of such cross street. Footways between the tracks shall be provided the whole length of the line and accommodations arranged for the convenience and protection of employes.

“Whenever necessary for the proper support of the street surface, the roof of the tunnel shall be of iron or steel girders with brick or concrete arches supported by iron or steel columns and masonry walls, or the roof shall be a masonry arch. Viaducts shall be built with a width of twelve and one-half feet for each track, and with an additional width of three feet on each side for outside footways. Viaducts may be built of metal or masonry, or of both.

“Adjacent tracks shall be connected by necessary and suitable switches and connections, and an additional track for siding accommodation may be constructed not to exceed in length one-quarter of a mile for each mile of roadway, but provided always that the side of the tunnel shall not, by the enlargement of the tunnel for that purpose, be brought within five feet of the exterior line or side of the street.

“Along Elm street, wherever the tunnel shall be in the clear not less than sixty-eight feet wide, the pipes, wires,

sewers and other sub-surface structures shall be placed in suitable galleries in the tunnel at the outside of the exterior tracks. But any such pipes, wires, sewers and other sub-surface structures may be placed in suitable galleries beneath the tracks, or such pipes, wires, sewers and other sub-surface structures may be placed in the ground above or at the sides of the tunnel, or at the outside of the exterior tracks, and whenever so placed beneath the tracks, or in the ground above or at the sides of the tunnel, the width of the tunnel on New Elm street shall not be more than fifty feet. Pipes, wires, sewers and other sub-surface structures shall, at any part of the said routes, be removed or disturbed only when necessary for the construction and operation of the railway, and, if removed or disturbed, shall be placed under the streets in such manner and in such location that the use and service thereof shall not be impaired. Such pipes, wires, sewers and other sub-surface structures shall be left or shall be so arranged as to give free access for their repair or alteration, or for the placing with them of new pipes, wires, sewers and other like structures, and for making connections between the same and buildings at any time.

“Station and station approaches shall, in general, be at the intersections of streets and shall be built under, or, if the position of the tracks so require, over, the streets and immediately adjoining private abutting property, or through private property to be acquired for the purpose, or both under or over streets and through private property as aforesaid, except that on the Boulevard, stations and station approaches may be in the centre of the street. The streets under or over which stations or station approaches shall be built may include cross streets, but no part of any cross street shall be used for a station or station approach at a distance greater than seventy-five feet from the exterior line or side of the street of the route. The word ‘street,’ wherever used herein, shall include an avenue or public place.

“Along the Boulevard there may be openings in the surface of the street from the tunnel for the purpose of ventilation and light; such openings shall be guarded by convenient and ornamental inclosures. The openings

shall not exceed twenty feet in width and fifty feet in length. No two openings shall be within fifty feet of each other. No opening or part thereof shall be within the limits of, or opposite to, any street intersecting the Boulevard, and within the distance of any one block on the Boulevard between any two adjacent crossing streets there shall not be more than two such openings.

“The general mode of operation shall be by electricity or some other power not requiring combustion within the tunnels or on the viaducts, and the motors shall be capable of moving trains at a speed of not less than forty miles per hour for long distances, exclusive of stops.

“The manner of construction shall be by tunnelling or open excavation; it is further

“Resolved, That plans be prepared to show the route and general plan, in so far as they are hereby adopted, which said plans, when formally adopted, shall be deemed to be incorporated herein and to form a part hereof.

February 4, 1897.

“Resolved, That this Board of Rapid Transit Railroad Commissioners for the City of New York hereby adopts the drawings now produced and numbered from 1 to 60, both inclusive, as showing the route and general plan adopted by resolution of this Board on January 14, 1897, and that as provided in the said resolution the said drawings be deemed incorporated in and to form part of the said resolution; and it is further

“Resolved, That the said route and general plan with the said drawings, and the said resolution of January 14, 1897, be, and they hereby are, adopted by this Board.”

The first section of this chapter deals with the general principles of the law of torts. It discusses the elements of negligence, the duty of care, and the standard of care. It also covers the defenses to negligence, such as contributory negligence and comparative negligence. The second section discusses the law of strict liability, which applies to certain activities that are considered inherently dangerous, such as the use of explosives or the keeping of wild animals. The third section discusses the law of intentional torts, which are torts that are committed with the intent to cause harm to another person. The fourth section discusses the law of tortious interference with contract, which is a tort that occurs when one person intentionally interferes with another person's contract with a third party.

The second section of this chapter deals with the law of strict liability. It discusses the elements of strict liability, which are the same as the elements of negligence, except that the defendant's intent is not required. It also discusses the defenses to strict liability, which are the same as the defenses to negligence. The third section discusses the law of intentional torts, which are torts that are committed with the intent to cause harm to another person. The fourth section discusses the law of tortious interference with contract, which is a tort that occurs when one person intentionally interferes with another person's contract with a third party.

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CHAPTER 11

The first section of this chapter deals with the law of property. It discusses the elements of property, which are the same as the elements of negligence, except that the defendant's intent is not required. It also discusses the defenses to property, which are the same as the defenses to negligence. The second section discusses the law of intentional torts, which are torts that are committed with the intent to cause harm to another person. The third section discusses the law of tortious interference with contract, which is a tort that occurs when one person intentionally interferes with another person's contract with a third party.

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The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.
Lenox Avenue.*

*Dated, January 16th, 1903.
Executed, January, 1903.*

Agreement made this 16th day of January, in the year Nineteen hundred and three, between THE CITY OF NEW YORK (hereinafter called the City), acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), party of the first part, and JOHN B. McDONALD, of The City of New York (hereinafter called the Contractor), party of the second part, WITNESSETH :

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of a Rapid Transit Railroad in the City of New York and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation ; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said Contract for Construction and Operation on his part and has given certain bonds as further security for such performance and upon such bonds there are sure-

ties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont; and

WHEREAS, By written instruments bearing date the tenth day of July, 1902, the Contractor, with the written consent of the Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and operate the said Rapid Transit Railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the Contractor of the provisions of his said contract not so assigned to it; and

WHEREAS, It is in said Contract for Construction and Operation provided that the said Board of Rapid Transit Railroad Commissioners shall have the right for any sec-

tion of the railroad to require additional work to be done or additional materials to be furnished or both, within the general purview of a rapid transit railroad as therein described, the reasonable value of which should be additionally paid to the Contractor; and

WHEREAS, The Contractor desires, and the Board approves, a modification of the Routes and General Plan for the Rapid Transit Railroad referred to in the said Contract for Construction and Operation as set forth in certain resolutions adopted by the Board on the 24th day of October, 1901, and the 20th day of November, 1902, copies of which are hereto annexed, in order to provide for routes and a general plan in addition to the said Routes and General Plan, as in said resolutions and herein described; and

WHEREAS, On or about the 28th day of April, 1902, The Board of Aldermen of the City of New York did by a majority vote of all its members approve such modification of the Routes and General Plan as aforesaid, as set forth in said resolution of 24th October, 1901, and did

consent to the construction of a railway or railways in accordance therewith, and on the same day the Mayor of the City of New York did approve the said resolution and did consent to the modification as aforesaid ; and

WHEREAS, The Board has obtained the approval of the owners of a majority in value of the property along the streets and portions of the streets as are included in the routes by this agreement proposed to be added as aforesaid to such modification, and the consent of the said owners to the construction and operation of the railway therein provided for ; and

WHEREAS, Heretofore, and on or about the 31st day of December, 1902, the City, acting by the Board, entered into a contract, a copy of which is hereto annexed, with the Interurban Street Railway Company, providing, among other things, for certain method and manner of construction of the said Railroad in front of certain premises, leased by the Interurban Street Railway Company, fronting on the west side of Lenox avenue, between One Hundred and Forty-sixth and One Hundred and

Forty-seventh streets, wherein it was provided that any contract made by the Board for construction in front of such premises shall refer to, and the said contract shall therein be made binding upon, any such contractor and any of his agents.

Now, therefore, in consideration of the premises and subject to the consents hereinafter provided, it is **agreed** that the said Contract for Construction and Operation and the Routes and General Plan therein contained be, and the same are hereby modified by adding to the said Routes and General Plan the words following, to wit:

“And also extending from a point under Lenox
“avenue near One Hundred and Forty-second street
“northerly under Lenox avenue to a point at or near
“its intersection with the street known as ‘Exterior
“street,’ including connections by necessary and suit-
“able switches and tracks, or otherwise, with abutting
“properties used as terminal or storage grounds.

“The general plan of construction of the route
“hereby added shall be by tunnel in the same manner
“as provided in the routes and general plan for the
“construction of the rapid transit railroad under the
“portion of Lenox avenue between One Hundred and
“Tenth street and One Hundred and Forty-second
“street. There shall be at least two parallel tracks

“with the right at any time to add a third track in the
“discretion of the Board of Rapid Transit Railroad
“Commissioners.

“A station and station approaches may also be built
“at the intersection of one of the streets intersecting
“Lenox avenue, between One Hundred and Forty-
“second and Exterior streets, as the Board of Rapid
“Transit Railroad Commissioners may decide.

“In all other respects the provisions of the said
“general plan of construction adopted January 14th
“and February 4th, 1897, shall be applicable to the
“portion of the route hereby substituted.”

And it is hereby agreed that the reasonable value of constructing that portion of the rapid transit railroad upon the said additional route from the point of commencement thereof under Lenox avenue near One Hundred and Forty-second street to a point under Lenox avenue at its intersection with the centre line of One Hundred and Forty-eighth street, shall be deemed a part of the cost of constructing said rapid transit railroad, and shall be ascertained and determined and paid to the Contractor in the manner provided in the contract for the construction and operation of said rapid transit railroad in addition to the amounts in said contract agreed to be paid unto said Contractor, and such additional amounts so paid

shall be included in the total cost of the construction of the said railroad in determining the amount of rental to be paid under said contract in like manner as if said additional route had been originally authorized therein; and

WHEREAS, It is in said Contract for the Construction and Operation of the Rapid Transit Railroad further provided that the Contractor shall locate and furnish terminal grounds subject to the approval of said Board, having a mileage of not less than five miles and capable of storing the equipment to be furnished under said contract for which he is to be paid as specified therein, amounts not exceeding in all the sum of One million seven hundred and fifty thousand dollars (\$1,750,000).

It is hereby further agreed, That the Contractor shall construct as a part of such terminals that portion of the rapid transit railroad upon the said additional route from a point under Lenox avenue at its intersection with the centre line of One Hundred and Forty-eighth street to the northerly termination thereof at a point under Lenox avenue at or near its intersection with the

street known as "Exterior street," and that the exact cost thereof, together with ten per cent. (10%) thereon in addition thereto shall be allowed and paid the Contractor, as in said contract provided, and charged against said Contractor as a payment on account of the total sum of One million seven hundred and fifty thousand dollars (\$1,750,000), allowed in said contract for terminals as aforesaid,

It is hereby further agreed, that the contract of December 31st, 1902, between the City and the Interurban Street Railway Company, hereinbefore mentioned, is and shall be binding upon the said Contractor and any of his agents.

Provided, however, and it is expressly AGREED, That this agreement shall take effect if and when and only when the following consents shall have been duly had, to wit :

The consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity & Guarantee Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Com-

pany of New York, National Surety Company, and Perry Belmont, and Interborough Rapid Transit Company.

In witness whereof, This contract has been executed for the City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the Contractor has hereto set his hand and seal, the day and year first above written.

BOARD OF RAPID TRANSIT RAILROAD
COMMISSIONERS.

By A. E. ORR,

PRESIDENT.

[SEAL.]

BION L. BURROWS,

SECRETARY.

[SEAL.]

JOHN B. McDONALD.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this 29th day of January, 1903, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the

foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,

NOTARY PUBLIC FOR KINGS COUNTY, N. Y.

Certificate filed in New York County.

[SEAL.]

STATE OF NEW YORK, }
County of New York, } ss.:

On this 26th day of January, 1903, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (36),

NOTARY PUBLIC,

N. Y. Co.

[SEAL.]

The undersigned, being the sureties of John P. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, January 26th, 1903.

RAPID TRANSIT SUBWAY CONSTRUCTION COMPANY,

By W. G. OAKMAN,

VICE-PRESIDENT.

[SEAL.]

THE UNITED STATES FIDELITY AND GUARANTY COMPANY,

By ANDREW FREEDMAN,

ATTEST: VICE-PRESIDENT.

SYLVESTER J. O'SULLIVAN,

MANAGER.

[SEAL.]

AMERICAN SURETY COMPANY OF NEW YORK,

H. B. ZEVELY,

VICE-PRESIDENT.

WM. A. BRANDT,

ASSISTANT SECRETARY.

[SEAL.]

NATIONAL SURETY COMPANY,
By THOS. F. GOODRICH,
VICE-PRESIDENT.

ATTEST: BALLARD McCALL,
SECRETARY.
[SEAL.]

THE CITY TRUST, SAFE DEPOSIT AND SURE-
TY COMPANY OF PHILADELPHIA,
160 Broadway, N. Y.

A. T. KIERNAN,
VICE-PRESIDENT.

P. H. MOONEY,
ASST. SECRETARY.
[SEAL.]

PERRY BELMONT. [SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this 27th day of January, 1903, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (36),
 Notary Public,
 N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On the 26th day of January, 1903, before me personally appeared Andrew Freedman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of the United States Fidelity & Guaranty Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 27th day of January, 1903, before me personally ap-

peared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 26th day of January, 1903, before me personally appeared Henry B. Zevely, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of American Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 27th day of January, 1903, before me personally appeared Thomas F. Goodrich, to

me known, who being by me first duly sworn, did depose and say that he was the Vice-President of National Surety Company of New York, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 26th day of January, 1903, before me personally appeared Walter G. Oakman, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of Rapid Transit Subway Construction Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),

NOTARY PUBLIC,

N. Y. Co.

[SEAL.]

The undersigned being the assignee of John B. McDonald, the Contractor above mentioned, of the right or obligation to maintain and operate the said rapid transit railroad for the term of years specified in said Contract for Construction and Operation, and all rights included in the leasing provisions of the said Contract, together with the obligation to provide equipment for the said Railroad, hereby CONSENTS to the making of the foregoing instrument.

Dated New York, January 26th, 1903.

INTERBOROUGH RAPID TRANSIT CO.,

E. P. BRYAN,

VICE-PRESIDENT.

[SEAL.]

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 26th day of January, 1903, before me personally appeared Edward P. Bryan, to me known, who being by me first duly sworn, did depose and say, that he resided in the County of Westchester, in the State of New York, that he is Vice-President of Interborough Rapid Transit Company, the corporation described in and which executed the foregoing consent; that he knew the corporate seal of said Company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of said Company, and that he signed his name thereto by like authority.

A. W. ANDREWS (36),

[SEAL.]

NOTARY PUBLIC,
 N. Y. Co.

Approved by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED
 AS TO FORM.

Dated, New York, January 22nd, 1903.

G. L. RIVES,
 CORPORATION COUNSEL.

Copy Resolution October 24, 1901.

WHEREAS, This Board did, on the 14th day of January, 1897, and 4th day of February, 1897, adopt certain Routes and General Plan for a rapid transit railroad in the City of New York, a copy of which is hereto annexed entitled "Copy Routes and General Plan"; and

WHEREAS, The said Routes and General Plan were afterward duly approved by the municipal authorities of the City of New York, and were duly consented to by commissioners appointed by the Appellate Division of the Supreme Court, which consent was duly confirmed by the said Appellate Division, in lieu of the consent of the owners of a majority in value of the property along said routes; and

WHEREAS, Thereafter, and on or about the 21st day of February, 1900, the City of New York did by this Board enter into a certain contract with John B. McDonald for the construction and operation of the said rapid transit railroad; and

WHEREAS, It is the interest of the City of New York, and, in the opinion of the said John B. McDonald, it is likewise in his interest as such contractor, and he desires that said Routes and General Plan shall be changed in the respect hereinafter mentioned, but without other change in the said Routes and General Plan; now therefore it is

RESOLVED, That, subject to the consents and approvals to be first obtained as in these resolutions hereinafter mentioned, the said Routes and General Plan heretofore adopted by this Board be, and they hereby are, modified by adding to the said routes the following, to wit:

"And also extending from a point under Lenox avenue near One Hundred and Forty-second street northerly under Lenox avenue to a point at or near its intersection with the street known as 'Exterior street,' including connections by necessary and suitable switches and tracks, or otherwise, with abutting properties used as terminal or storage grounds.

“The general plan of construction of the portion of the route hereby added shall be by tunnel in the same manner as provided in the routes and general plan for the construction of the rapid transit railroad under the portion of Lenox avenue between One Hundred and Tenth street and One Hundred and Forty-second street. There shall be at least two parallel tracks with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners.

“A station and station approaches may also be built at the intersection of one of the streets intersecting Lenox avenue, between One Hundred and Forty-second and Exterior streets, as the board of Rapid Transit Railroad Commissioners may decide.”

In all other respects the provisions of the said general plan of construction adopted January 14th and February 4th, 1897, shall be applicable to the portion of the route hereby substituted; and it is further

RESOLVED, That whereas this Board has duly made the inquiries and investigation necessary or proper in the premises, and has determined that the modification aforesaid of the said Routes and General Plan are necessary for the interests of the public and of the City of New York and should be established as herein provided, this Board does hereby determine and establish the said Routes and General Plan as hereby modified, subject to the consents and approvals to be first obtained as hereinafter mentioned; and it is further

RESOLVED, That the said modifications of Routes and General Plans shall take effect only upon and after the following consents and approvals thereto shall be duly had, to wit:

1. The consent of the Municipal Assembly of The City of New York.
2. The consent of the Mayor of the City of New York.
3. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of routes by these resolutions proposed to be substituted as aforesaid; or, if such con-

sents cannot be obtained, then, in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court, duly confirmed by the said Appellate Division.

4. The consent of the said John B. McDonald, contractor, and of his sureties, as follows: Rapid Transit Subway Construction Company; The United States Fidelity and Guaranty Company; The City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company and Perry Belmont.

It is further

RESOLVED, That this Board hereby adopts the drawing now produced and numbered one as showing the modifications or extension hereby adopted.

Copy Resolution November 20th, 1902.

WHEREAS, The Board did, on the 24th day of October, 1901, at the request of John B. McDonald, the Contractor, adopt certain resolutions modifying the routes and general plan contained in the Contract for Construction and Operation, entered into by the City of New York and the said Contractor on or about the 21st day of February, 1900, in order to provide for a route and a general plan in addition to the said routes and general plan in said Contract contained; and

WHEREAS, The said Contractor is willing that the cost of constructing that portion of the Rapid Transit Railroad upon the said additional routes from the point of its commencement under Lenox avenue near One Hundred and Forty-second street to a point under Lenox avenue at its intersection with the centre line of One Hundred and Forty-eighth street, shall be deemed a part of the cost of constructing said Rapid Transit Railroad and shall be ascertained and determined and paid to the said Contractor in the manner provided in the Contract for Construction and Operation of said Rapid Transit Railroad in addition to the amounts in said contract agreed to be paid unto said Contractor, and such additional amounts so paid shall be included in the total cost of the construction of the said Railroad in determining the amount of rental to be paid under said contract, in like manner as if said additional route had been originally authorized therein; and that the cost of constructing that portion of the said railroad upon the said additional routes from a point under Lenox avenue at its intersection with the centre line of One Hundred and Forty-eighth street to the northerly end of such extension route at a point under Lenox avenue at or near its intersection with the street known as Exterior street, shall be deemed to be part of the terminals provided for in the said Contract for Construction and Operation, and that the exact cost thereof, together with ten per cent. thereon in addition thereto, shall be allowed and paid the Contractor as in said Contract for Construction and Operation provided, and charged against said Contractor as a payment on account of the total sum of One million

seven hundred and fifty thousand dollars (\$1,750,000), the maximum amount allowed in said contract for terminals;

RESOLVED, That the officers of this Board be, and they hereby are, in the name and under the seal of the Board, authorized to execute with the Contractor a contract modifying the Contract for Construction and Operation in this respect, substantially as follows:

[Here follows form of Contract.]

Agreement of December 31st, 1902.

Agreement, made this 31st day of December, in the year 1902, between the City of New York, acting by The Board of Rapid Transit Railroad Commissioners for the City of New York, hereinafter called the Board, party of the first part, and the Interurban Street Railway Company, of the City of New York, hereinafter called the Company, party of the second part:

WHEREAS, The Sixth Avenue Railroad Company and the Metropolitan Street Railway Company are severally the owners of the property fronting on the west side of Lenox avenue, between One Hundred and Forty-sixth and One Hundred and Forty-seventh Streets, in the Borough of Manhattan, City of New York, and have leased the said property, and the same is now held by the Interurban Street Railway Company, the party hereto of the second part under lease; and

WHEREAS, The said owning corporations have, by instrument bearing date the 14th day of August, 1902, copies of which are hereto annexed marked "A," given their consent in writing to the construction of the rapid transit railroad in this City according to the certain routes and general plan of construction; and

WHEREAS, It is for the interest of all the parties that the construction of said rapid transit railroad under the authority of the Board shall not interfere with the operation of the railroad of the Company, and shall not prevent access to and egress from said car house;

Now, THEREFORE, in consideration of one dollar (\$1.00) and of other good and valuable considerations, each to the other in hand paid, the parties hereto agree as follows:

The Board agrees that the work of constructing said rapid transit railroad according to the said routes and general plan in front of the premises of the Company aforesaid shall be done in such a manner that there shall be no unreasonable, unnecessary or preventable interference with or obstruction to the operation of the railroad of the Company in front of said premises by the Commissioners or any of their servants or agents, or by any contractor or any of his servants, agents or employees, who

shall at any time carry on construction work in front of said premises.

That the method and manner of construction be such that the tracks and special work of the Railway Company, as well as the pits beneath the special work, shall not be disturbed, and shall be maintained at all times in condition for safe operation of the cars of the Railway Company. And whenever it shall be necessary to undermine this special track work, it shall be supported by substantial timbering in a manner acceptable to the Engineer of the Railway Company.

And if it shall be necessary during the progress of the work to remove the bottoms from any of the junction pits or manholes, the concrete bottoms shall be replaced by timber platforms.

Also whenever it shall be necessary during the progress of the work to drive sheet piling near these tracks or special work, it shall be done at such time and in such manner as not to interfere with the free use of the tracks by the Railway Company.

It is also understood that after the completion of the tunnel, the tracks and special work of the Railway Company will be permanently supported in such a way as to obviate any settlement after the removal of the temporary supports.

That any contract made by the Commissioners for construction in front of such premises shall refer to, and this contract shall therein be made binding upon, any such contractor and any of his agents.

IN WITNESS WHEREOF, the parties hereto have signed this agreement the day and year first above written.

THE BOARD OF RAPID TRANSIT RAILROAD
COMMISSIONERS FOR THE CITY OF NEW
YORK,

By A. E. ORR,
PRESIDENT.

BION L. BURROWS,
SECRETARY.

[SEAL.]
INTERURBAN STREET RAILWAY COMPANY,

By H. H. VREELAND,
PRESIDENT.

[SEAL.]

*To the Board of Rapid Transit Railroad Commissioners
for the City of New York:*

Referring to the routes and general plan of construction adopted by said Board of Rapid Transit Railroad Commissioners on the 14th day of January, 1897, and to the plans and conclusions therewith, all of which were on or about the 2d day of March, 1897, transmitted by said Board to the Common Council of the City of New York, and referring also to the resolutions adopted by said Board on the 24th day of October, 1901, and thereafter transmitted to the Board of Aldermen of the present City of New York, providing for the modification of or extension to said routes, general plan of construction, plans and conclusions, by adding to the said routes the following, to wit: Lenox avenue, from a point in the centre line thereof near the centre line of One Hundred and Forty-second street, northerly to a point at or near the intersection of Lenox avenue with Exterior street; the general plan of construction to be by tunnel in the same manner as provided in the routes and general plan for the construction of the rapid transit railroad under that portion of Lenox avenue between One Hundred and Tenth street and One Hundred and Forty-second street, the undersigned, Metropolitan Street Railway Company, of No.

, in the City of New York, being owner of property on the west side of Lenox avenue, in the Borough of Manhattan, in the City of New York, along and bounded on the said west side of said Lenox avenue, and known as Lot No. 1, Block No. 2015, on the Block Map of Taxes and Assessments of the City of New York, filed in the office of the Commissioners of Taxes and Assessments in the Borough of Manhattan, in the City of New York, in the year 1902, does hereby *consent* to the construction and operation of a rapid transit railway in the City of New York according to the said routes, general plan of construction, plans and conclusions transmit-

ted as aforesaid by said Board to the Common Council of the City of New York, but modified as aforesaid.

Dated the 14th day of October, 1902.

METROPOLITAN STREET RAILWAY
COMPANY,

By D. B. HASBROUCK,

[SEAL.]

VICE-PRESIDENT.

CITY AND COUNTY OF NEW YORK, SS.:

On this 16th day of October, A. D. 1902, before me personally came D. B. Hasbrouck, to me known, who, being by me duly sworn, did depose and say that he resided in the City of New York, Borough of Brooklyn, and State of New York; that he is the Vice President of the Metropolitan Street Railway Company, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by the like order.

RALPH W. BOTHAM,

[L. S.]

NOTARY PUBLIC, KINGS Co. (83).

Certificate filed in New York County.

*To the Board of Rapid Transit Railroad Commissioners
for the City of New York:*

Referring to the routes and general plan of construction adopted by said Board of Rapid Transit Railroad Commissioners on the 14th day of January, 1897, and to the plans and conclusions therewith, all of which were on or about the 2d day of March, 1897, transmitted by said Board to the Common Council of the City of New York, and referring also to the resolutions adopted by said Board on the 24th day of October, 1901, and thereafter

transmitted to the Board of Aldermen of the present City of New York, providing for the modification of or extension to said routes, general plan of construction, plans and conclusions, by adding to the said routes the following; to wit: Lenox avenue, from a point in the centre line thereof near the centre line of One Hundred and Forty-second street, northerly to a point at or near the intersection of Lenox avenue with Exterior street; the general plan of construction to be by tunnel in the same manner as provided in the routes and general plan for the construction of the rapid transit railroad under that portion of Lenox avenue between One Hundred and Tenth street and One hundred and Forty-second street, the undersigned, Sixth Avenue Railroad Company, of No.

, in the City of New York, being owner of property on the west side of Lenox avenue, in the Borough of Manhattan, in the City of New York, along and bounded on the said west side of said Lenox avenue, and known as Lot No. 1, Block No. 2015, on the Block Map of Taxes and Assessments of the City of New York, filed in the office of the Commissioners of Taxes and Assessments in the Borough of Manhattan, in the City of New York, in the year 1902, does hereby *consent* to the construction and operation of a rapid transit railway in the City of New York according to the said routes, general plan of construction, plans and conclusions transmitted as aforesaid by said Board to the Common Council of the City of New York, but modified as aforesaid.

Dated the 14th day of October, 1902.

SIXTH AVE. R. R. CO.,

By FRANK CURTISS,

[SEAL.]

PRESIDENT.

ATTEST: E. H. GARRISON,

SECRETARY.

CITY AND COUNTY OF NEW YORK, ss.:

On this 14th day of October, A. D., 1902, before me personally came Frank Curtiss, to me known, who, being by me duly sworn, did depose and say that he resided in the Town of Sheffield, State of Massachusetts, and he is

the President of the Sixth Avenue Railroad Company, the corporation described in and which executed the foregoing instrument; that he knew the seal of said corporation; that the seal affixed to said instrument was such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by the like order.

WARREN C. FRENCH, Jr.,

[L. s.]

NOTARY PUBLIC,

N. Y. Co.

John B. McDonough

Contractor

and

Interborough Rapid Transit
Company

AGREEMENT

Modifying Contract for Construction and
Operation of Rapid Transit Railroad
BOSTON, MASS.

Dated, July 10th, 1903

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor,

and

Interborough Rapid Transit
Company

AGREEMENT

Modifying Contract for Construction and
Operation of Rapid Transit Railroad.
FORT LEE FERRY.

Dated, July 16th, 1903.

Agreement made this 16th day of July, in the year Nineteen hundred and three, between THE CITY OF NEW YORK (hereinafter called the City), acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), party of the first part, and JOHN B. McDONALD, of The City of New York (hereinafter called the Contractor), and Interborough Rapid Transit Company, parties of the second part, WITNESSETH:

WHEREAS, Heretofore and on the 14th day of January, 1897, and the 4th day of February, 1897, the Board adopted certain Routes and General Plan for a rapid transit railroad in the City of New York, a portion of which extends under the Boulevard to a point at or near One Hundred and Twenty-fourth street, and thence by viaduct along and over the Boulevard to a point at or near One Hundred and Thirty-fourth street and thence further to the north on the westerly branch of the said rapid transit railroad; and

WHEREAS, Heretofore and on or about the 21st day of

February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of the said Rapid Transit Railroad in the City of New York and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said Contract for Construction and Operation on his part and has given certain bonds as further security for such performance and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont; and

WHEREAS, By written instrument bearing date the tenth day of July, 1902, the Contractor, with the written consent of the Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and

operate the said Rapid Transit Railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the Contractor of the provisions of his said contract not so assigned to it; and

WHEREAS, It is in said Contract for Construction and Operation provided that the said Board of Rapid Transit Railroad Commissioners shall have the right to require additional work to be done or additional materials to be furnished or both, within the general purview of a rapid transit railroad as therein described, the reasonable value of which should be additionally paid to the Contractor; and

WHEREAS, The Contractor desires, and the Board approves, a modification of the Routes and General Plan for the Rapid Transit Railroad referred to in the said Contract for Construction and Operation as set forth in certain

resolutions adopted by the Board on the 16th day of July, 1903, a copy of which is hereto annexed, in order to provide for an addition to the said Routes and General Plan, as in said resolutions and herein described :

Now, therefore, in consideration of the premises, but subject to the consents hereinafter provided, it is **agreed** that the said contract for Construction and Operation and the Routes and General Plan therein contained be, and the same are hereby modified by adding to the said Routes and General Plan the words following, to wit:

“And also a branch or spur extending from the
 “line of the route aforesaid on Broadway (formerly
 “the Boulevard), at a point about one hundred (100)
 “feet northerly from the north line of One Hundred
 “and Twenty-fifth street, and thence extending north-
 “erly along and over Broadway (being in addition to
 “the tracks hereinbefore originally provided along
 “such portion of Broadway) to Manhattan street;
 “thence westerly along and over Manhattan street
 “and under the Manhattan viaduct and over and
 “across the tracks of the New York Central & Hud-
 “son River Railroad, West One Hundred and Thir-
 “tieth street and the exterior or bulkhead street to the
 “ferry house at the foot of West One Hundred and
 “Thirtieth street, together with proper connections by

“necessary and suitable switches, tracks and other-
“wise, with the rapid transit railroad originally de-
“scribed in said Routes and General Plan, at and
“north of One Hundred and Twenty-fifth street, and
“also including proper connections by stairways and
“otherwise with the said ferry house.

“The general plan of construction of the route here-
“by added shall be by elevated structure of the same
“character and to be constructed in the same manner
“as is hereinbefore provided for the elevated portion
“of the rapid transit railroad over and along Broad-
“way (the Boulevard) at One Hundred and Twenty-
“fifth street. There shall be at least two parallel
“tracks with the right at any time to add a third track
“in the discretion of the Board of Rapid Transit Rail-
“road Commissioners. The said connections, switch-
“es and tracks shall be so constructed as to make
“convenient the running of trains without change be-
“tween the portions of the said rapid transit railroad
“over and along Broadway (the Boulevard) south of
“One Hundred and Twenty-fifth street and the part
“on Manhattan street hereby provided for. Stations
“and station approaches may be built at the intersec-
“tion of Broadway and Manhattan street and also at
“the terminus of the addition hereby adopted at the
“foot of West One Hundred and Thirtieth street or
“elsewhere, upon the said addition, as the Board of
“Rapid Transit Railroad Commissioners may decide.

“In all other respects the provisions of the said
“general plan of construction adopted January 14th
“and February 4th, 1897, shall be applicable to the
“portion of the route hereby added.”

And it is hereby further agreed, that the said contract be and the same shall hereafter be deemed to be so modified as that the portion of the rapid transit railroad added by the modification aforesaid of the Routes and General Plan shall in all respects, except as herein otherwise expressly provided, be deemed to be part of the rapid transit railroad originally described in the said contract hereby modified, provided, however, that the frequency of train service upon the said portion of the rapid transit railroad so added by the said modification shall, from time to time, be determined by the Board, Provided, further, however, that the frequency of such service shall in no case be required to be greater than is in said contract provided for service upon the remainder of the said rapid transit railroad.

And it is hereby further agreed, that the reasonable value of constructing that portion of the rapid transit railroad upon the said additional route and including all of the said connections, switches, tracks, stations and station approaches, and all appurtenances of such ad-

dition to the said rapid transit railroad shall be deemed a part of the cost of constructing said rapid transit railroad, and shall be ascertained and determined and paid to the Contractor in the manner provided in the contract for the construction and operation of said rapid transit railroad in addition to the amounts in said contract originally agreed to be paid unto said Contractor, and that such additional amounts so paid shall be included in the total cost of the construction of the said railroad in determining the amount of rental to be paid under said contract in like manner as if said additional route had been originally authorized therein ;

Provided, however, and it is expressly AGREED, That this agreement shall take effect if and when and only when the following consents shall have been duly had, to wit :

The consents as subjoined of Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company

of New York, National Surety Company, and Perry Beiment; and

Provided, further, however, and it is expressly agreed, that this agreement shall take effect if and when, and only when, the following consents shall have been duly given to the said resolutions adopted by the Board on the 16th day of July, 1903, a copy of which is hereto annexed, providing for the said addition to said Routes and General Plan; the consent of the Board of Aldermen of the City of New York; the consent of the Mayor of the City of New York; and the consent of the owners of a majority in value of the property along such streets or such portions of streets as are included in the portion of the route added as aforesaid, or if such last mentioned consent cannot be obtained, then in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court duly confirmed by the said Appellate Division.

The plan hereto annexed entitled "Board of Rapid Transit Railroad Commissioners for the City of New York; Routes and General Plan adopted by resolution

July 16, 1903," is intended to illustrate and show in general the addition to and modification of the said original Routes and General Plan as hereby proposed.

In witness whereof, This contract has been executed for the City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the said John B. McDonald has hereto set his hand and seal and the said Interborough Rapid Transit Company has caused its corporate seal to be hereto affixed and attested by its secretary, and these presents to be signed by its president,—all the day and year first above written.

BOARD OF RAPID TRANSIT R. R. COMMISSIONERS FOR THE CITY OF NEW YORK,

By A. E. ORR,
PRESIDENT.

BION L. BURROWS,
SECRETARY.

[SEAL.]

JOHN B. McDONALD,
[SEAL.]

INTERBOROUGH RAPID TRANSIT CO.,
AUGUST BELMONT,
PRESIDENT.

ATTEST:

H. M. FISHER,
SEC. *pro tem.*

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this first day of October, 1903, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal

of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,

[NOTARIAL]

NOTARY PUBLIC for

[SEAL.]

Kings County, N. Y.

Certificate filed in New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 23d day of September, 1903, before me personally appeared John B. McDonald, to me known, and known to me to be the individual described in and who executed the foregoing contract, and he acknowledged to me that he executed the same.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On this 28th day of September, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say, that he resided in the County of Nassau, in the State of New York; that he is President of Interborough Rapid Transit Company, the corporation described in and which executed the foregoing contract; that he knew the corporate seal of said company; that one of the seals affixed to said contract was such corporate seal; that it was affixed thereto by order of the Board of Directors of said Company, and that he signed his name thereto by like authority.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

The Undersigned being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, September 23d, 1903.

RAPID TRANSIT SUBWAY
CONSTRUCTION CO.,

By AUGUST BELMONT,
PRESIDENT.
[SEAL.]

AMERICAN SURETY COMPANY
OF NEW YORK,

DAVID B. SICKLES,
VICE-PRESIDENT.

HENRY TOFTS,
ASSISTANT SECRETARY.
[SEAL.]

THE UNITED STATES FIDELITY
AND GUARANTY COMPANY,

By SYLVESTER J. O'SULLIVAN,
MANAGER.

ATTEST:

G. TERRY SINCLAIR,
ATTORNEY IN FACT.
[SEAL.]

PERRY BELMONT. [SEAL.]

THE CITY TRUST, SAFE DEPOSIT AND SURE-
TY COMPANY OF PHILDELPHIA,

160 Broadway, N. Y.

A. T. KIERNAN,

VICE-PRESIDENT.

P. H. MOONEY,

ASST. SECRETARY.

[SEAL.]

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,

PRESIDENT.

ATTEST:

BALLARD McCALL,

SECRETARY.

[SEAL.]

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 28th day of September, 1903, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this 28th day of September, 1903, before me personally appeared Sylvester J. O'Sullivan, to me known, who being by me first duly sworn, did depose and say that he was the Manager of The United States Fidelity & Guaranty Company, the corporation of the name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 29th day of September, 1903, before me personally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he

signed his name thereto by like authority. And also, on the 28th day of September, 1903, before me personally appeared David B. Sickles, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of American Surety Company of New York, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 29th day of September, 1903, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And

also on the 28th day of September, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was the President of Rapid Transit Subway Construction Company, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that the seal affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

Approval by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED
AS TO FORM.

Dated, New York, September 18th, 1903.

G. L. RIVES,
CORPORATION COUNSEL.

Copy Resolution of 16th July, 1903.

WHEREAS, This Board did, on the 14th day of January, 1897, and 4th day of February, 1897, adopt certain Routes and General Plan for a rapid transit railroad in the City of New York, a copy of which is hereto annexed entitled "Copy Routes and General Plan"; and

WHEREAS, The said Routes and General Plan were afterward duly approved by the municipal authorities of the City of New York, and were duly consented to by commissioners appointed by the Appellate Division of the Supreme Court, which consent was duly confirmed by the said Appellate Division, in lieu of the consent of the owners of a majority in value of the property along said routes; and

WHEREAS, Thereafter, and on or about the 21st day of February, 1900, the City of New York did by this Board enter into a certain contract with John B. McDonald for the construction and operation of the said rapid transit railroad; and

WHEREAS, By written instrument bearing date the 10th day of July, 1902, the said John B. McDonald with the written consent of this Board concurred in by six members thereof duly assigned the right or obligation to maintain and operate the said rapid transit railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the said John B. McDonald as such contractor, of the provisions of his said contract not so assigned to it; and

WHEREAS, It is the interest of the City of New York, and, in the opinion of the said John B. McDonald, it is likewise in his interest as such contractor, and he desires that said Routes and General Plan shall be changed in the respect hereinafter mentioned, but without other change in the said Routes and General Plan; now therefore it is

RESOLVED, That, subject to the consents and approvals to be first obtained as in these resolutions hereinafter mentioned, the said Routes and General Plan heretofore adopted by this Board be, and they hereby are modified by adding to the said routes the following, to wit:

“And also a branch or spur extending from the line of the route aforesaid on Broadway (formerly the Boulevard), at a point about one hundred (100) feet northerly from the north line of One Hundred and Twenty-fifth street; and thence extending northerly along and over Broadway (being in addition to the tracks hereinbefore originally provided along such portion of Broadway) to Manhattan street; thence westerly along and over Manhattan street and under the Manhattan viaduct and over and across the tracks of the New York Central & Hudson River Railroad, West One Hundred and Thirtieth street and the exterior or bulkhead street to the ferry house at the foot of West One Hundred and Thirtieth street, together with proper connections by necessary and suitable switches, tracks and otherwise, with the rapid transit railroad originally described in said Routes and General Plan, at and north of One Hundred and Twenty-fifth street, and also including proper connections by stairways and otherwise with the said ferry house.

“The general plan of construction of the portion of the route hereby added shall be by elevated structure of the same character and to be constructed in the same manner as is hereinbefore provided for the elevated portion of the rapid transit railroad over and along Broadway (the Boulevard) at One Hundred and Twenty-fifth street. There shall be at least two parallel tracks with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners. The said connections, switches and tracks shall be so constructed as to make convenient the running of trains without change between the portions of the said rapid transit railroad over and along Broadway (the Boulevard) south of One Hundred and Twenty-fifth street and the part on Manhattan street hereby provided for. Stations and station ap-

proaches may be built at the intersection of Broadway and Manhattan street, and also at the terminus of the addition hereby adopted at the foot of West One Hundred and Thirtieth street or elsewhere upon the said addition as the Board of Rapid Transit Railroad Commissioners may decide."

In all other respects the provisions of the said general plan of construction adopted January 14th and February 4th, 1897, shall be applicable to the portion of the route hereby added; and it is further

RESOLVED that, Whereas this Board has duly made the inquiries and investigation necessary or proper in the premises, and has determined that the modification aforesaid of the said Routes and General Plan are necessary for the interests of the public and of the City of New York and should be established as herein provided, this Board does hereby determine and establish the said Routes and General Plan as hereby modified, subject to the consents and approvals to be first obtained as hereinafter mentioned; and it is further

RESOLVED, That the said modifications of Routes and General Plans shall take effect only upon and after the following consents and approvals thereto shall be duly had, to wit:

1. The consent of the Board of Aldermen of The City of New York.
2. The consent of the Mayor of The City of New York.
3. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of the routes added as aforesaid; or, if such consents cannot be obtained, then, in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court, duly confirmed by the said Appellate Division.

4. The consent of the said John B. McDonald, contractor, and of his sureties, as follows: Rapid Transit Subway Construction Company; The United States Fidelity and Guaranty Company; The City Trust, Safe Deposit and Surety Company of Philadelphia; American Surety Company of New York; National Surety Company, and Perry Belmont, and also of Interborough Rapid Transit Company.

It is further RESOLVED, That this Board hereby adopts the drawing now produced and entitled "Board of Rapid Transit Railroad Commissioners for the City of New York: Routes and General Plan adopted by Resolution, July 16, 1903," as showing in general the additions to and modifications of the original Routes and General Plan hereby adopted.

[Drawing annexed to Original Agreements.]

The City of New York
By its Rapid Transit Board,

WITH

John B. McDonald,
Contractor,

and

**Interborough Rapid Transit
Company.**

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*
WESTCHESTER AVENUE

Dated, July 16th, 1903.

Agreement made this 16th day of July, in the year Nineteen hundred and three, between THE CITY OF NEW YORK (hereinafter called the City), acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), party of the first part, and JOHN B. McDONALD, of The City of New York (hereinafter called the Contractor), and Interborough Rapid Transit Company, parties of the second part, WITNESSETH :

WHEREAS, Heretofore and on the 14th day of January, 1897, and the 4th day of February, 1897, the Board adopted certain Routes and General Plan for a rapid transit railroad in the City of New York, a portion of which in the Borough of the Bronx extends from under the Harlem River under private property to East One Hundred and Forty-ninth street at or near its intersection with River avenue; thence under East One Hundred and Forty-ninth street to a point near its intersection with Third avenue; thence with a curve to the left and under Third avenue to a point near its intersection with Westchester avenue; thence with a curve to the right to and under

Westchester avenue; and thence by viaduct over and along Westchester avenue to the Southern Boulevard and thence further to the north on the easterly branch of the said rapid transit railroad; and

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of the said Rapid Transit Railroad in the City of New York and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; and

WHEREAS, The Contractor has deposited with the Comptroller of the City certain security for the performance of the said Contract for Construction and Operation on his part and has given certain bonds as further security for such performance and upon such bonds there are sureties as follows: Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company, and Perry Belmont; and

WHEREAS, By written instrument bearing date the tenth day of July, 1902, the Contractor, with the written consent of the Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and operate the said Rapid Transit Railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the Contractor of the provisions of his said contract not so assigned to it; and

WHEREAS, It is in said Contract for Construction and Operation provided that the said Board of Rapid Transit Railroad Commissioners shall have the right to require additional work to be done or additional materials to be furnished or both, within the general purview of a rapid transit railroad as therein described, the reasonable value of which should be additionally paid to the Contractor; and

WHEREAS, The Contractor desires, and the Board ap-

proves, a modification of the Routes and General Plan for the Rapid Transit Railroad referred to in the said Contract for Construction and Operation as set forth in certain resolutions adopted by the Board on the 16th day of July, 1903, a copy of which is hereto annexed, in order to provide for an addition to the said Routes and General Plan, as in said resolutions and herein described,—

Now, therefore, in consideration of the premises, but subject to the consents hereinafter provided, it is **agreed** that the said Contract for Construction and Operation and the Routes and General Plan therein contained be, and the same are hereby modified by adding to the said Routes and General Plan the words following, to wit:

“And also a branch or spur extending from the
“line of the route aforesaid on Westchester avenue
“at a point at or near the intersection of St. Ann’s
“avenue and Westchester avenue and extending west-
“erly along Westchester avenue (being in addition
“to the tracks hereinbefore originally provided over
“and along such portion of Westchester avenue) to
“near Third avenue, and from Westchester avenue
“turning southerly into Third avenue to a point con-
“venient for connection with the railroad of the Man-
“hattan Railway Company over Third avenue, to-
“gether with proper connections by necessary and

“suitable switches, tracks and otherwise, with the
“rapid transit railroad aforesaid at or near the inter-
“section of St. Ann’s avenue and Westchester ave-
“nue aforesaid, and also together with proper con-
“nections by necessary and suitable switches, tracks
“and otherwise with the said railroad of the Man-
“hattan Railway Company upon Third avenue.

“The general plan of construction of the route
“hereby added shall be by elevated structure of the
“same character and to be constructed in the same
“manner as is hereinbefore provided for the elevated
“portion of the rapid transit railroad over and along
“Westchester avenue. There shall be at least two
“parallel tracks with the right at any time to add a
“third track in the discretion of the Board of Rapid
“Transit Railroad Commissioners. The said connec-
“tions, switches and tracks shall be so constructed
“as not to interfere with the convenience of running
“trains without change between the portion of the
“said rapid transit railroad over and along Westches-
“ter avenue and east of St. Ann’s avenue and the
“portion of the said rapid transit railroad running
“from St. Ann’s avenue westerly along Westchester
“avenue, and turning thence southwesterly towards
“and into East One Hundred and Forty-ninth street,
“and as to make convenient the running of trains
“without change between such portion of the said
“rapid transit railroad lying east of St. Ann’s avenue
“and the said elevated railroad of the Manhattan
“Railway Company.

“In all other respects the provisions of the said
“general plan of construction adopted January 14th
“and February 4th, 1897, shall be applicable to the
“portion of the route hereby added.”

And it is hereby further agreed that the
said contract be and the same shall hereafter be deemed
to be so modified as that the portion of the rapid transit

railroad added by the modification aforesaid of the Routes and General Plan shall in all respects, except as herein otherwise expressly provided, be deemed to be part of the rapid transit railroad originally described in the said contract hereby modified, Provided, however, that the frequency of train service upon the said portion of the rapid transit railroad so added by the said modification shall, from time to time, be determined by the Board, Provided, further, however, that the frequency of such service shall in no case be required to be greater than is in said contract provided for service upon the remainder of the said rapid transit railroad.

And it is hereby further agreed that the reasonable value of constructing that portion of the rapid transit railroad upon the said additional route and including all of the said connections, switches, tracks and all appurtenances of such addition to the said rapid transit railroad shall be deemed a part of the cost of constructing said rapid transit railroad, and shall be ascertained and determined and paid to the Contractor in the manner provided in the contract for the construction and operation of said rapid transit railroad in addition to the

amounts in said contract originally agreed to be paid unto said Contractor, and that such additional amounts so paid, together with all sums which the City shall be required to pay for right of way or any other easements or rights necessary to be purchased, condemned or otherwise acquired for the construction or operation of the said portion of railroad added by the modification aforesaid, shall be included in the total cost of the construction of the said railroad in determining the amount of rental to be paid under said contract in like manner as if said additional route had been originally authorized therein.

Provided, however, and it is expressly AGREED, That this agreement shall take effect if and when and only when the following consents shall have been duly had, to wit:

The consents as subjoined of Rapid Transit Subway Construction Company. The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Security Company, and Perry Belmont; and

Provided, further, however, and it is expressly agreed, that this agreement shall take effect if and when, and only when, in addition to the consents aforesaid, there shall be duly executed and delivered in form satisfactory to the Board an agreement under seal between the City, the said John B. McDonald, the said Interborough Rapid Transit Company and the Manhattan Railway Company providing and assuring that, during the period of the lease contained in the said contract between the City and John B. McDonald made on or about the 21st day of February, 1900, and every renewal or extension thereof, any passenger upon the said rapid transit railroad traveling along Westchester avenue from the north as far as St. Ann's avenue, shall have the right as part of the same trip and without additional fare, to be carried thence upon the portions of the rapid transit railroad hereby added to the railroad of the Manhattan Railway Company along Third avenue, and thence southerly upon the railroad of the Manhattan Railway Company to any point upon the said railroad south of the intersection of the said Third avenue and Westchester avenue, and that any passenger

upon the said railroad of the Manhattan Railway Company traveling northerly along said Third avenue as far as Westchester avenue, shall have the right, as part of the same trip and without additional fare, to be carried easterly upon the portion of the rapid transit railroad hereby added along Westchester avenue to St. Ann's avenue, and thence continuing easterly or northerly to any point upon the eastern branch of the rapid transit railroad as described in the said Routes and General Plan; and

Provided, further, however, and it is expressly agreed, that this agreement shall take effect if and when, and only when, the following consents shall have been duly given to the said resolutions adopted by the Board on the 16th day of July, 1903, a copy of which is hereto annexed, providing for the said addition to said Routes and General Plan; the consent of the Board of Aldermen of the City of New York; the consent of the Mayor of the City of New York; and the consent of the owners of a majority in value of the property along such streets or such portions of streets as are included in the portion of the route added as aforesaid, or if such last mentioned

consent cannot be obtained, then in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court duly confirmed by the said Appellate Division.

The plan hereto annexed entitled "Board of Rapid Transit Railroad Commissioners for the City of New York; Routes and General Plan adopted by resolution July 16, 1903," is intended to illustrate and show in general the addition to and modification of the said original Routes and General Plan as hereby proposed.

In witness whereof, This contract has been executed for the City of New York, by its Board of Rapid Transit Railroad Commissioners, under and by a resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the said John B. McDonald has hereto set his hand and seal and the said Interborough Rapid Transit Company has caused its corporate seal to be hereto affixed and attested

by its secretary, and these presents to be signed by its president,—all the day and year first above written.

BOARD OF RAPID TRANSIT R. R. COMMISSIONERS FOR THE CITY OF NEW YORK,

By A. E. ORR,
PRESIDENT.

BION L. BURROWS,
SECRETARY.
[SEAL.]

JOHN B. McDONALD,
[SEAL.]

INTERBOROUGH RAPID TRANSIT CO.

AUGUST BELMONT,
PRESIDENT.
[SEAL.]

ATTEST:

H. M. FISHER,
SEC. *pro tem.*

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this first day of October, 1903, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board, and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the

seal of the said Board and that the same was affixed to the foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

H. A. D. HOLLMANN,

[NOTARIAL]

NOTARY PUBLIC FOR

[SEAL.]

Kings County, N. Y.

Certificate filed in New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 23d day of September, 1903, before me personally appeared John B. McDonald, to me known and known to me to be the individual described in and who executed the foregoing contract, and he acknowledged to me that he executed the same.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss. :

On this 28th day of September, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say, that he resided in the County of Nassau, in the State of New York; that he is President of Interborough Rapid Transit Company, the corporation described in and which executed the foregoing contract; that he knew the corporate seal of said Company; that one of the seals affixed to said contract was such corporate seal; that it was affixed thereto by order of the Board of Directors of said Company, and that he signed his name thereto by like authority.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

The Undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, September 23d, 1903.

RAPID TRANSIT SUBWAY
CONSTRUCTION CO.,

By AUGUST BELMONT,

PRESIDENT.

[SEAL.]

AMERICAN SURETY COMPANY
OF NEW YORK,

DAVID B. SICKLES,

VICE-PRESIDENT.

HENRY TAFTS,

ASSISTANT SECRETARY.

[SEAL.]

THE UNITED STATES FIDELITY
AND GUARANTY COMPANY,

By SYLVESTER J. O'SULLIVAN,

MANAGER.

ATTEST:

G. TERRY SINCLAIR,

ATTORNEY IN FACT.

[SEAL.]

PERRY BELMONT.

[SEAL.]

THE CITY TRUST, SAFE DEPOSIT AND
SURETY COMPANY OF PHILADELPHIA,
160 Broadway, N. Y.

A. T. KIERNAN,
VICE-PRESIDENT.

P. H. MOONEY,
ASST. SECRETARY.

[SEAL.]

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,
PRESIDENT.

ATTEST:

BALLARD McCALL,
SECRETARY.

[SEAL.]

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On this 28th day of September, 1903, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

A. W. ANDREWS (39),

[NOTARIAL]

NOTARY PUBLIC

[SEAL.]

N. Y. Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss.:

On the 28th day of September, 1903, before me personally appeared Sylvester J. O'Sullivan, to me known, who being by me first duly sworn, did depose and say that he was the Manager of the United States Fidelity & Guaranty Company, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 29th day of September, 1903, before me personally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by or

der of the Board of Directors of said company, and that he signed his name thereto by like authority. And also, on the 28th day of September, 1903, before me personally appeared David B. Sickles, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of American Surety Company of New York, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 29th day of September, 1903, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed

thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 28th day of September, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was the President of Rapid Transit Subway Construction Company, the corporation of that name described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS (39).

[NOTARIAL]

NOTARY PUBLIC,

[SEAL.]

N. Y. Co.

Approval by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED
AS TO FORM.

Dated New York, September 18th, 1903.

G. L. RIVES,

CORPORATION COUNSEL.

Copy Resolution of 16th July, 1903.

WHEREAS, This Board did, on the 14th day of January, 1897, and 4th day of February, 1897, adopt certain Routes and General Plan for a rapid transit railroad in the City of New York, a copy of which is hereto annexed entitled "Copy Routes and General Plan"; and

WHEREAS, The said Routes and General Plan were afterward duly approved by the municipal authorities of the City of New York, and were duly consented to by commissioners appointed by the Appellate Division of the Supreme Court, which consent was duly confirmed by the said Appellate Division, in lieu of the consent of the owners of a majority in value of the property along said routes; and

WHEREAS, thereafter, and on or about the 21st day of February, 1900, the City of New York did by this Board enter into a certain contract with John B. McDonald for the construction and operation of the said rapid transit railroad; and

WHEREAS, By written instrument bearing date the 10th day of July, 1902, the said John B. McDonald, with the written consent of this Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and operate the said rapid transit railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which company also guaranteed the performance by the said John B. McDonald as such contractor, of the provisions of his said contract not so assigned to it; and

WHEREAS, It is the interest of the City of New York, and, in the opinion of the said John B. McDonald, it is likewise in his interest as such contractor, and he desires that said Routes and General Plan shall be changed in the respect hereinafter mentioned, but without other change in the said Routes and General Plan; now therefore, it is

RESOLVED, That, subject to the consents and approvals to be first obtained as in these resolutions hereinafter mentioned, the said Routes and General Plan heretofore adopt-

ed by this Board be, and they hereby are, modified by adding to the said routes the following, to wit:

And also a branch or spur extending from the line of the route aforesaid on Westchester avenue at a point at or near the intersection of St. Ann's avenue and Westchester avenue and extending westerly along Westchester avenue (being in addition to the tracks hereinbefore originally provided over and along such portion of Westchester avenue) to near Third avenue and from Westchester avenue turning southerly into Third avenue to a point convenient for connection with the railroad of the Manhattan Railway Company over Third avenue, together with proper connections by necessary and suitable switches, tracks and otherwise, with the rapid transit railroad aforesaid at or near the intersection of St. Ann's avenue and Westchester avenue aforesaid, and also together with proper connections by necessary and suitable switches, tracks and otherwise with the said railroad of the Manhattan Railway Company upon Third avenue.

The general plan of construction of the portion of the route hereby added shall be by elevated structure of the same character and to be constructed in the same manner as is hereinbefore provided for the elevated portion of the rapid transit railroad over and along Westchester avenue. There shall be at least two parallel tracks with the right at any time to add a third track in the discretion of the Board of Rapid Transit Railroad Commissioners. The said connections, switches and tracks shall be so constructed as not to interfere with the convenience of running of trains without change between the portion of the said rapid transit railroad over and along Westchester avenue and east of St. Ann's avenue, and the portion of the said rapid transit railroad running from St. Ann's avenue westerly along Westchester avenue and turning thence southwesterly towards and into East One Hundred and Fortyninth street, and as to make convenient the running of trains without change between such portion of the said rapid transit railroad lying east of St. Ann's avenue and the said elevated railroad of the Manhattan Railway Company.

In all other respects the provisions of the said general plan of construction adopted January 14th and February 4th, 1897, shall be applicable to the portion of the route hereby added ; and it is further

RESOLVED, that, Whereas this Board has duly made the inquiries and investigation necessary or proper in the premises, and has determined that the modification aforesaid of the said Routes and General Plan are necessary for the interests of the public and of the City of New York and should be established as herein provided, this Board does hereby determine and establish the said Routes and General Plan as hereby modified, subject to the consents and approvals to be first obtained as hereinafter mentioned ; and it is further

RESOLVED, That the said modifications of Routes and General Plans shall take effect only upon and after the following consents and approvals thereto shall be duly had, to wit :

1. The consent of the Board of Aldermen of The City of New York.
2. The consent of the Mayor of The City of New York.
3. The consent of the owners of a majority in value of the property along streets or such portions of streets as are included in the portion of the routes added as aforesaid ; or, if such consents cannot be obtained, then, in lieu thereof, the determination of three commissioners to be appointed by the Appellate Division of the Supreme Court, duly confirmed by the said Appellate Division.
4. The consent of the said John B. McDonald, contractor, and of his sureties, as follows : Rapid Transit Subway Construction Company ; The United States Fidelity and Guaranty Company ; The City Trust, Safe Deposit and Surety Company of Philadelphia ; American Surety Company of New York ; National Surety Company and Perry Belmont.

It is further Resolved, That this Board hereby adopts the drawing now produced and entitled "Board of Rapid

Transit Railroad Commissioners for the City of New York, Routes and General Plan adopted by resolution, July 16, 1903," as showing in general the additions to and modifications of the original Routes and General Plan hereby adopted, numbered one as showing the modifications or extension hereby adopted.

[Drawing attached to original agreements.]

The City of New York

By its Rapid Transit Board.

WITH

John B. McDonald,

Contractor,

and

Interborough Rapid Transit
Company.

AGREEMENT

*Modifying Contract for Construction and
Operation of Rapid Transit Railroad.*

CONTINUING BOND.

Dated, November 24th, 1903.

The City of New York
By its Rapid Transit Board

with

John B. McDonald,

Contractor,

and

Interborough Rapid Transit

Company.

AGREEMENT

Modifying Contract for Construction and
Operation of Rapid Transit Railroad.
CONTRACTING BOARD

Dated November 24th, 1903

Agreement made this 24th day of November, in the year Nineteen hundred and three, between THE CITY OF NEW YORK (hereinafter called the City), acting by the Board of Rapid Transit Railroad Commissioners for the City of New York (hereinafter called the Board), part of the first part, and JOHN B. McDONALD, of The City of New York (hereinafter called the Contractor), and INTERBOROUGH RAPID TRANSIT COMPANY (hereinafter called the Interborough Company), parties of the second part, WITNESSETH:

WHEREAS, Heretofore and on or about the 21st day of February, 1900, the City, acting by the Board, entered into a contract with the Contractor for the construction and operation of the Rapid Transit Railroad in the City of New York and otherwise, as therein mentioned, the said contract being hereinafter styled the Contract for Construction and Operation; and

WHEREAS, On or about the 21st day of February, 1900, and immediately after the execution of the Contract for Construction and Operation, the City, acting by the Board,

entered into a contract with the Contractor modifying the said Contract for Construction and Operation, the said modifying contract being hereinafter styled the Agreement for Modification of Contract ; and

WHEREAS, Upon entering into said Contract for Construction and Operation and said Agreement for Modification of Contract, the Contractor gave a bond to the City for the performance of the said Contract for Construction and Operation, with Perry Belmont as surety thereon, known as the Continuing Bond, and caused to be deposited with the City as collateral security therefor certain securities of the value of more than One million dollars (\$1,000,000) ; and

WHEREAS, The Contractor, upon entering into said Contract and the said Agreement, deposited with the Comptroller of the City certain other security for the performance of the said Contract for Construction and Operation, on his part, and gave a certain other bond as further security for such performance, and upon such bond there are sureties as follows: Rapid Transit Subway Construc-

tion Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, and National Surety Company; and

WHEREAS, By written instrument bearing date the tenth day of July, 1902, the Contractor, with the written consent of the Board, concurred in by six members thereof, duly assigned the right or obligation to maintain and operate the said Rapid Transit Railroad for the term of years specified in the said contract and all rights included in the leasing provisions of the said contract, together with the obligation to provide equipment for the said railroad, unto Interborough Rapid Transit Company, which Company also guaranteed the performance by the Contractor of the provisions of his said contract not so assigned to it; and

WHEREAS, The Contractor and Perry Belmont, the surety upon said Continuing Bond, desire, and the Board approves, a modification of the said Contract for Construction and Operation;

Now, therefore, in consideration of the premises, but subject to the consents hereinafter provided, it is **agreed** that the said Contract for Construction and Operation, and the said Agreement for Modification of Contract, be, and the same hereby are, modified so as to provide that upon the receipt by the City, acting by the Board, from the Contractor and the Interborough Company of the bond or deposit of cash or securities as hereinafter mentioned, it may consent to the surrender and cancellation of the said Continuing Bond originally given as aforesaid, with Perry Belmont as surety thereon, and also to the surrender to the Contractor and to the Interborough Company of securities amounting in value to at least One million dollars (\$1,000,000) deposited as aforesaid, Provided, however, and it is expressly agreed that this agreement shall take effect when, and only when the Contractor and the Interborough Company shall give to the City in lieu of the said Continuing Bond so to be cancelled a bond in amount at least One million dollars (\$1,000,000), upon which the said Contractor and the Interborough Company shall be principals, with sureties ap-

proved by the Board. Said bond shall be a continuing security and shall provide for the prompt payment by the said Contractor or the said Interborough Company of the amount of the annual rental specified in the Contract for Construction and Operation and also for the faithful performance by said Contractor and Interborough Company of all the conditions, covenants and requirements specified and provided for in said contract. The said bond shall, except as to names of the sureties, be substantially in the form hereto annexed entitled "Form of Bond." In lieu of said bond the said Contractor or the Interborough Company may, upon the approval of the Board, deposit with the Comptroller of the City cash equal in amount to the entire amount of the said bond or securities which are lawful for the investment of the funds of savings banks within this State and are worth not less than the entire amount of said bond.

And it is further agreed, that the said Contract for Construction and Operation and the said Agreement for Modification of Contract be and the same hereby are modified so as to provide that the Board may, in case

any of the sureties upon the said bond so to be given or upon any bond to be given in lieu thereof as hereinafter provided shall become insolvent or unable in the opinion of the Board promptly to pay the amount of such bond to the extent of which such surety might be liable, then the Contractor or the said Interborough Company within thirty days after notice by the Board to the Contractor or said Interborough Company shall, by supplemental bond or otherwise, substitute another and sufficient surety in place of the surety so insolvent or unable. If the Contractor or said Interborough Company shall fail within such thirty days or such further time as the Board may grant to so substitute another and sufficient surety, then the Contractor or the Interborough Company shall be deemed for all the purposes of the Contract for Construction and Operation and its modifications to be in default in the performance of his or its obligations thereunder and the Board may terminate the said Contract or may bring any proper suit or proceeding against the Contractor or the said Interborough Company or any of their sureties or either of

them, or may require to be deducted from any moneys then in or thereafter coming into the hands of the City and due to the Contractor or the said Interborough Company the amount for which the surety insolvent or unable as aforesaid shall have justified on said bond; and the moneys so deducted shall be held by the Comptroller as collateral security for the performance of the conditions of the said bond.

And it is further agreed, that the said Contract for Construction and Operation and the said Agreement for Modification of Contract be and they hereby are modified so as to provide that the Board may, at the request of the Contractor or the Interborough Company and as allowed by law, substitute for any continuing bond or deposit given or made by the Contractor or the Interborough Company another bond or deposit to be approved by the Board, which said bond or deposit shall continue in lieu of said former bond or deposit, **PROVIDED, HOWEVER, AND IT IS EXPRESSLY AGREED** that this agreement shall take effect when, and only when, the following consents

hereto shall be duly had, to wit: The consents, as sub-joined, of Rapid Transit Subway Construction Company, The United States Fidelity & Guaranty Company, The City Trust, Safe Deposit & Surety Company of Philadelphia, American Surety Company of New York, National Surety Company and Perry Belmont.

In witness whereof, This contract has been executed for the City of New York by its Board of Rapid Transit Railroad Commissioners, under and by resolution duly adopted by said Board, concurred in by more than six of its members, and the seal of the said Board has been hereto affixed and these presents signed by the President and Secretary of the said Board, and the said John B. McDonald has hereto set his hand and seal, and the said Interborough Rapid Transit Company has caused its corporate seal to be hereto affixed and attested by its Secretary and these presents to be signed by its President, all the day and year first above written.

JOHN B. McDONALD,

[SEAL.]

INTERBOROUGH RAPID TRANSIT CO.,
AUGUST BELMONT,
PRESIDENT.
[SEAL.]

ATTEST:

JOHN T. BUCK,
TREAS.

BOARD OF RAPID TRANSIT RAILROAD COM-
MISSIONERS FOR THE CITY OF NEW
YORK,

By A. E. ORR,
PRESIDENT.
[SEAL.]

BION L. BURROWS.

Approval by Comptroller.

THE FOREGOING CONTRACT IS HEREBY APPROVED.

Dated, New York, December 31, 1903.

EDWARD M. GROUT,
COMPTROLLER.

Approval by Corporation Counsel.

THE FOREGOING CONTRACT IS HEREBY APPROVED
AS TO FORM.

Dated, New York, December 7th, 1903.

G. L. RIVES,
CORPORATION COUNSEL.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this 7th day of January, 1904, at the City of New York, in said County, before me personally appeared Alexander E. Orr and Bion L. Burrows, to me known and known to me to be, the said Alexander E. Orr, the president, and the said Bion L. Burrows, the secretary of the Board of Rapid Transit Railroad Commissioners for the City of New York; and the said Alexander E. Orr and Bion L. Burrows, being by me duly sworn, did depose and say, each for himself and not one for the other, the said Alexander E. Orr, that he resided in the Borough of Brooklyn, in the said City, that he was the president of the said Board and that he subscribed his name to the foregoing contract by virtue of the authority thereof; and the said Bion L. Burrows, that he resided in the Borough of Brooklyn, in the said City of New York, that he was the secretary of the said Board, and that he subscribed his name thereto by like authority; and both the said Alexander E. Orr and Bion L. Burrows that they knew the seal of the said Board and that the same was affixed to the

foregoing instrument by the authority of the said Board and of a resolution duly adopted by the same.

[SEAL.]

H. A. D. HOLLMANN,

NOTARY PUBLIC FOR KINGS COUNTY, N. Y.

Certificate filed New York County.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this 14th day of December, 1903, before me personally appeared John B. McDonald, to me known and known to me to be the person and Contractor named in and who executed the foregoing contract, and acknowledged to me that he executed the same.

A. W. ANDREWS (39),

[SEAL.]

NOTARY PUBLIC,

N. Y. Co.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } ss. :

On this 14th day of December, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say, that he resided in the County of Nassau, in the State of New York, that he is President of Interborough Rapid Transit Company, the corporation described in and which executed the foregoing contract; that he knew the corporate seal of said Company; that one of the seals affixed to said contract was such corporate seal; that it was affixed thereto by order of the Board of Directors of said Company, and that he signed his name thereto by like authority.

[SEAL.]

A. W. ANDREWS,
NOTARY PUBLIC,
N. Y. Co.

The undersigned, being the sureties of John B. McDonald, the Contractor above mentioned, upon the continuing bond in the penalty of One million dollars (\$1,000,000) and the bond for construction and equipment in the penalty of Five million dollars (\$5,000,000) hereby consent to the making of the foregoing instrument.

Dated New York, December 14th, 1903.

RAPID TRANSIT SUBWAY CONSTRUCTION CO.,

By AUGUST BELMONT,

PRESIDENT.

[SEAL.]

THE UNITED STATES FIDELITY &

GUARANTY COMPANY,

By JOHN R. BLAND,

PRESIDENT.

[SEAL.]

ATTEST:

GEO. R. CALLIS,

SECRETARY.

AMERICAN SURETY COMPANY OF NEW YORK,

By WALTER S. JOHNSON,

VICE-PRESIDENT.

[SEAL.]

R. R. BROWN,

ASST. SECRETARY.

PERRY BELMONT.

[SEAL.]

NATIONAL SURETY COMPANY,

By CHAS. A. DEAN,

PRESIDENT.

[SEAL.]

ATTEST:

BALLARD McCALL,

SECRETARY.

THE CITY TRUST, SAFE DEPOSIT AND SURE-
TY COMPANY OF PHILADELPHIA,

100 Broadway, N. Y.

A. T. KIERNAN,

VICE-PRESIDENT.

[SEAL.]

P. H. MOONEY,

ASST. SECRETARY.

STATE OF NEW YORK }
 COUNTY OF NEW YORK, } ss.:

On this 22nd day of December, 1903, before me personally appeared Perry Belmont, to me known and known to me to be the individual described in and who executed the foregoing consent, and he acknowledged to me that he executed the same.

[SEAL.]

A. W. ANDREWS,
 NOTARY PUBLIC (39),
 N. Y. Co.

STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.:

On the 11th day of December, 1903, before me personally appeared John R. Bland, to me known, who being by me first duly sworn, did depose and say that he was the President of the United States Fidelity & Guaranty Company, one of the corporations described in and which executed the foregoing consent; that he knew the corporate seal of said company; that one of the seals affixed to said consent was such corporate seal; that it was affixed there-

to by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 29th day of December, 1903, before me personally appeared Adrian T. Kiernan, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of The City Trust, Safe Deposit and Surety Company of Philadelphia, one of the corporations described in and which executed the foregoing consent ; that he knew the corporate seal of said company ; that one of the seals affixed to said consent was such corporate seal ; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 19th day of December, 1903, before me personally appeared Walter S. Johnston, to me known, who being by me first duly sworn, did depose and say that he was the Vice-President of the American Surety Company of New York, one of the corporations described in and which executed the foregoing consent ; that he knew the corporate seal of said company ; that one of the seals affixed to said consent was such corporate seal ; that it was affixed thereto by or-

der of the Board of Directors of such company, and that he signed his name thereto by like authority. And also, on the 25th day of December, 1903, before me personally appeared Charles A. Dean, to me known, who being by me first duly sworn, did depose and say that he was the President of National Surety Company of New York, one of the corporations described in and which executed the foregoing consent ; that he knew the corporate seal of said company ; that one of the seals affixed to said consent was such corporate seal ; that it was affixed thereto by order of the Board of Directors of such company, and that he signed his name thereto by like authority. And also on the 14th day of December, 1903, before me personally appeared August Belmont, to me known, who being by me first duly sworn, did depose and say that he was the President of Rapid Transit Subway Construction Company, one of the corporations described in and which executed the foregoing consent ; that he knew the corporate seal of said company ; that one of the seals affixed to said consent was such corporate seal ; that it was affixed thereto by

order of the Board of Directors of such company, and that he signed his name thereto by like authority.

A. W. ANDREWS,

[SEAL.]

NOTARY PUBLIC,

N. Y. Co.

Form of Bond

KNOW ALL MEN BY THESE PRESENTS, That JOHN B. McDONALD and INTERBOROUGH RAPID TRANSIT COMPANY [hereinafter called Interborough Company] (the said John B. McDonald and Interborough Company being hereinafter called the Principals) and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND and UNITED STATES FIDELITY AND GUARANTY COMPANY, both corporations of the State of Maryland, carrying on business in the State of New York, and having their respective offices and usual places of business at No. 35 Wall Street and 66 Liberty street, in the City of New York [hereinafter called the Sureties], are held and firmly bound unto the CITY OF NEW YORK [hereinafter called the City] in the penal sum of One Million Dollars (\$1,000,000), lawful money of the United States of America, to be paid to the City, for which payment well and truly to be made the said John B. McDonald binds himself, his executors, administrators and assigns and Interborough Company binds itself and its successors, and the said Sureties bind themselves, their successors and assigns, jointly and severally, firmly by these presents, as follows:

The said Principals to be so held and bound in the full amount of the said One million dollars (\$1,000,000), and each of the said Sureties to be so held and bound, and bound only in the sum of Five hundred thousand dollars (\$500,000).

IN WITNESS WHEREOF, John B. McDonald has hereto set his hand and seal and Interborough Company and the Sureties have caused these presents to be duly executed by their respective officers thereunto duly authorized and their respective corporate seals to be hereunto affixed this 7th day of January, in the year of our Lord one thousand nine hundred and four (1904).

WHEREAS, The City, by its Board of Rapid Transit Railroad Commissioners (hereinafter called the Board) heretofore entered into a contract with John B. McDonald, bearing date the 21st day of February, 1900, for the construction and equipment, and after such construction and equipment shall be complete, then for the lease and operation of the Rapid Transit Railroad in the City of New

York, particularly described in said contract, which contract was thereafter modified by certain amendatory and supplemental agreements; and

WHEREAS, upon entering into such contract the said John B. McDonald gave a bond to the City, with Perry Belmont as Surety thereon, known as the Continuing Bond, and deposited with the City as collateral security therefor certain securities of the value of more than One million dollars (\$1,000,000); and

WHEREAS, On the 10th day of July, 1902, the said John B. McDonald duly assigned to Interborough Company so much of said contract as provided for the maintenance and operation of the said Rapid Transit Railroad (including the equipment thereof), together with the right or obligation to maintain and operate the said road or roads in the Rapid Transit Contract described for and during the remainder of the term of years specified in such contract, and all rights with respect to such maintenance and operation or included in the leasing provisions of such contract, subject to all the terms and conditions therein stated, together with all obligations assumed by said McDonald in and by the said Rapid Transit Contract with respect to the equipment of said Railroad; and

WHEREAS, By such assignment Interborough Company assumed all the obligations whatsoever of the said McDonald in respect of the portions of the contract affected by said assignment and agreed to carry out and perform the same and also covenanted with the said City that the said McDonald should fully perform all the obligations and comply with all the provisions and terms of the said contract which were not assigned to and assumed by Interborough Company, as above set forth; and

WHEREAS, The said contract has been modified in writing from time to time in other respects with the consent of both of the parties thereto and of the Surety upon said Continuing Bond by the amendatory and supplemental agreements above referred to; and

WHEREAS, The said contract has been especially and by agreement between the City, acting by the Board and the said John B. McDonald and Interborough Rapid Transit Company with the consent of Perry Belmont, dated the

24th day of November, 1903, modified so as to provide that the City by the Board may consent to the surrender and cancellation of the said bond originally given as aforesaid with Perry Belmont as surety thereon, and may also surrender to the Contractor and the Interborough Company the securities, amounting in value to at least One million dollars (\$1,000,000), deposited as aforesaid (but such surrender to be made with the written consent of the Rapid Transit Subway Construction Company, which originally made the deposit as aforesaid) and to accept this bond in lieu of such original bond and of such securities; and

WHEREAS, The sureties on such Continuing Bond have requested the City by this Board to surrender such original bond and securities; and

WHEREAS, The City, by the Board, has accordingly consented to so surrender the said bond and securities amounting in value to at least One million dollars (\$1,000,000) deposited as aforesaid, and to accept this bond in lieu of said bond and securities; and

WHEREAS, Such consent has been given, and such surrender of securities will be made upon and only upon the faith and security of this bond;

NOW, THEREFORE, the condition of this obligation is such that if John B. McDonald and Interborough Company shall promptly pay the amount of the annual rental specified in said contract and shall also faithfully perform all the conditions, covenants and requirements therein and in any modifications thereof, specified and provided, and in case of default on the part of Interborough Company or on the part of the said John B. McDonald, as provided in Section 34 of the Rapid Transit Act, Interborough Company or said McDonald shall pay the amount of the deficiency therein mentioned, then this obligation shall be null and void, but else it shall remain in full force and virtue.

IT IS EXPRESSLY AGREED between the City and the Sureties and it is upon such agreement that the City accepts this bond, that the Sureties will and do waive any and every notice of default on the part of Interborough Company or of said McDonald; that they will and do permit the City to extend the time of Interborough Company or

of said McDonald to make any payment or do any act; that no omission on the part of the City to give any notice or extension of time granted by or on behalf of the City shall be availed of by the Sureties as a defense upon this bond; that the Sureties shall not set up or have any defense upon this bond by reason of any alteration of the said contract, unless such alteration shall be represented by formal written instrument, duly executed, between the City and Interborough Company or said McDonald, as the case may be, which shall have been duly authorized by a vote of the Board, and that in case of such alteration, however made, the same shall be a defense to the Sureties only to the extent of the actual injury or damage caused to the Sureties by said alteration.

IT IS EXPRESSLY AGREED between the City and the Sureties that the Sureties hereby assume all the obligations prescribed for sureties upon bonds like this by Chapter 4 of the Laws of 1891 and the various acts amendatory thereof (all such acts together being known as the "Rapid Transit Act").

This bond shall be a continuing security to The City of New York for the entire term of fifty (50) years after the complete construction and equipment of the Rapid Transit Railroad, as prescribed in the said contract and the several modifications thereof, and the declaration of the Board that the said Railroad and its equipment are so complete.

AND WHEREAS, The said John B. McDonald deposited with the City the sum of One million dollars (\$1,000,000) in cash or securities approved by the Board as security for the performance by the said McDonald of some of the acts and things, the performance of which is secured hereby; and

WHEREAS, Contemporaneously with the delivery and execution of the Rapid Transit Contract above referred to, the said John B. McDonald also delivered to the City a bond in the sum of Five million dollars (\$5,000,000) as further security for the performance by him of some of the acts and things, the performance of which is secured hereby;

NOW, THEREFORE, it is further expressly agreed between the City and the Sureties that the City shall be at

liberty, in case of any default by the said John B. McDonald, or by the Interborough Rapid Transit Company, against whom this bond is given as security, to collect the loss or damage to the City caused thereby either from the Sureties on this bond or the sureties on such other bond or bonds, or out of the said deposit, or out of all such securities as the City may elect.

INTERBOROUGH RAPID TRANSIT COMPANY,

By

ATTEST:

UNITED STATES FIDELITY AND GUARANTY
COMPANY,

By

ATTEST:

FIDELITY AND DEPOSIT COMPANY OF MARY-
LAND,

By

ATTEST:

RAPID TRANSIT RAILWAY CONTRACT

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