

# 8  
=

4849-4

AN ORDINANCE PROVIDING FOR THE SPRINGFIELD  
AVENUE WIDENING IMPROVEMENT NO. 211

WHEREAS, The Board of Local Improvements of the City of Urbana, Illinois, has recommended in writing to the City of Urbana, Illinois, the construction of the Local Improvement to be known as the Springfield Avenue Widening Improvement No. 211, and has presented to said City Council this Ordinance providing for the construction of said improvement, which said ordinance together with the estimate of the cost of said improvement over the signature of the President of the Board of Local Improvements of said City, and approved by said Board, and is itemized to its satisfaction, and

WHEREAS, the improvement hereinafter described is a necessary local improvement and will benefit the property to be benefited thereby, and will not require that private property be taken or damaged in the construction thereof:

THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS:

Section 1. That Springfield Avenue from the east line of Wright Street to the east line of Goodwin Avenue be improved by the construction of a new Portland Cement Concrete Pavement of a width of 37 feet, and of a thickness of seven inches including a two foot Portland Cement Concrete Curb and Gutter on each side; the removal of the present brick pavement including the two foot concrete curb and gutter on each side except the concrete base under the present brick; and also that Springfield Avenue from the east line of Goodwin to the centerline of Busey Avenue be improved by widening the present brick pavement in said street to a width of 37 feet including a four foot curb and gutter on each side, the removal of the present curb along each side of the present pavement from the east line of Goodwin Avenue to the east curb line of the west curb on Busey Avenue, and including also the removal and replacement of all ornamental light standards, including the present cable, and including also the removal and replacement with cement concrete sidewalks of the present brick sidewalks

where necessary, from the east line of Wright Street to the west pavement line of Busey Avenue.

The central 29 feet of that part of the improvement from the east line of Goodwin Avenue to the center of Busey Avenue shall be improved by an asphalt covering which shall be paid for by the City of Urbana out of its Motor fuel tax funds, and is not included in this local improvement.

Section 2. That the profile of the grade for said improvement is hereby established as the grade for the finished surface of said pavement along the center line thereof on said street where the same is to be paved, and the center line of said pavement, at all points along said street, shall have the respective elevations above or below datum plane as shown on said profile hereto attached; the top of the curb along all points on said street where the same is to be curbed shall be four inches above the grade to be established as the grade for said street when completed; such elevation having reference to the bench mark or datum plane) established and fixed by an ordinance adopted by the City Council of the City of Urbana, Illinois, on the 7th day of August, 1905, and amended by an ordinance adopted on the 16th day of February, 1948; the elevation of said datum plane or bench mark as used in said profile being designated at 727.80, all figures above or below said elevation shall be designated in feet and all points along said proposed improvement shall have the elevation above or below said datum plane as indicated in feet above or below said 727.80.

Section 3. That the location and construction of said improvement shall in all respects conform to the detailed plans, maps, plats, profiles, estimate and specifications hereto attached, and that all materials and appliances used in the construction of said improvement shall be in the size, shape, style, dimensions, proportions, and quality provided in the attached drawings,

specifications and estimate, and the said improvement shall be installed and at the places and at the elevations as provided in said drawings and specifications.

Section 4. The attached plans, plats, profiles, maps, specifications and estimate providing for the manner of construction of said improvement are expressly made a part of this ordinance by reference as fully and completely as if the same had been incorporated herein in full, and shall in all respects govern and control the construction and location of said improvement and the materials entering into the same, and in the interpretation of said plans, plats, profiles and specifications the decisions of the Board of Local Improvements with reference thereto shall be final and binding.

Section 5. The construction of said improvement, including all work and materials therefor, as provided in this ordinance, is hereby declared to be a necessary local improvement, and shall be constructed at the place hereinbefore mentioned, and the cost thereof shall be paid by a special assessment on all the property specially benefited by the construction of said improvement to the extent of the special benefits thereon and by a general tax on all the property in the City of Urbana, Illinois, for the public benefits, to the extent of the public benefits thereon.

Section 6. There being no public engineer provided for the City of Urbana, Illinois, and the City Council having on the 2nd day of June, 1941, by resolution designated Jamison Vawter, a member of said City Council, as a member of the Board of Local Improvements, the Council finds that said Board of Local Improvements is legally constituted as provided by Statute, and that the estimate of the cost of said improvement over the signature of the President of said Board of Local Improvements, submitted with the recommendations of said Board of Local Improvements and approved by the same, is hereby adopted and approved by the City Council of the City of Urbana, Illinois, and the copy thereof hereto attached, being the estimate of cost as adopted at the

public hearing on said improvement, is hereby made a part of this ordinance by reference as aforesaid.

Section 7. That the sum of \$3,471.00, being the amount included in the estimate of said President of the Board of Local Improvements hereto attached as the cost of engineering, supervision and inspection as estimated, and the sum of \$2,975.00 as shown in said estimate as the estimate of the cost of making, levying and collecting the assessments herein, including court costs, shall be applied and set forth in said estimate of cost, as provided by an act entitled "An Act Concerning Local Improvements" as amended.

Section 8. That the aggregate amount herein ordered to be assessed against the property and also the assessment against each lot, block, tract and parcel of land therein assessed, shall be divided into ten installments in the manner provided by the statute in such cases made and provided, and each of said installments shall bear interest at the rate of Five per cent per annum according to law.

Section 9. That for the purpose of anticipating the collection of the aforesaid second and succeeding installments, provided for in this ordinance, the City of Urbana, Illinois, shall issue bonds payable out of said installments, being interest at the rate of Five per centum per annum, payable annually, and signed by the Mayor and City Clerk, under the corporate seal of said City; said bonds to be issued in the sum of One Hundred Dollars each, or some multiple thereof, and shall be issued in accordance with and shall in all respects conform to the provisions of said Local Improvement Act.

Section 10. The Corporation Counsel of the City of Urbana, Illinois, is hereby directed to file a petition in the name of the City of Urbana, Illinois, in the County Court of Champaign County, Illinois, praying that steps be taken to levy a special assessment for said improvement in accordance with the provisions of this ordinance and the laws of the State of Illinois.

Section 11. This Ordinance shall be in full force and effect from and after its passage.

Passed by the City Council at an adjourned session of a regular meeting thereof on the 1st day of June A.D. 1948.

Bess M. Holmes  
City Clerk

Approved by the Mayor who signed same this 2nd day of June, A.D. 1948.

George F. Hurd  
Mayor

RECOMMENDATION OF ORDINANCE BY THE BOARD OF  
LOCAL IMPROVEMENTS OF THE CITY OF URBANA, ILLINOIS

4849-4

Urbana, Illinois

To THE HONORABLE MAYOR AND CITY COUNCIL OF THE CITY OF  
URBANA, ILLINOIS:-

The Board of Local Improvements of the City of Urbana,  
Illinois, herewith transmits to your Honorable Body, a draft  
of an ordinance entitled "Springfield Avenue Widening Improve-  
ment No. 211, in the City of Urbana, Illinois."

The Board of Local Improvements hereby recommends the  
making of said improvement, the extent, nature, character,  
locality, and description of which is set forth in the draft  
of ordinance herewith transmitted, and also recommends the  
passage of said ordinance.

The Board of Local Improvements herewith transmits with  
said ordinance an estimate of the cost of said improvement over  
the signature of the President of said Board of Local Improve-  
ments, there being no public engineer provided for the City of  
Urbana, and determined as the final estimate of cost of said  
improvement after a public hearing thereof as required by  
statute; all of which appears in the final resolution adopted  
by said Board at said public hearing adhering to the proposed  
scheme of improvement, which cost or estimated by the President  
of said Board of Local Improvements, is set forth herewith as a  
part of the ordinance herewith transmitted.

May 17, 1948.

Respectfully transmitted:-

Elmer D. Johnson

BOARD OF LOCAL IMPROVEMENTS

FISCAL RESOLUTION ADOPTED AT THE PUBLIC HEARING  
ON THE SPRINGFIELD AVENUE WIDENING IMPROVEMENT  
NO. 311 IN THE CITY OF URBANA, ILLINOIS, HELD  
ON MAY 17, 1948, INCORPORATING ANTIQUITY OF COST

---

WHEREAS, the Board of Local Improvements of the City of Urbana, Illinois, at a public hearing called according to law for the purpose of hearing the representations of any persons desiring to be heard upon the subject of the necessity for the construction of the Springfield Avenue Widening Improvement No. 311 in the City of Urbana, Illinois, the nature thereof or the cost as estimated, and

WHEREAS, it appears to said Board of Local Improvements on this 17th day of May, 1948, to which date the public hearing was adjourned from the 12th day of May, 1948, that certain property owners owning abutting property along said Springfield Avenue sought to be improved do not desire to include in said improvement the construction of Portland Cement Concrete sidewalks adjacent to their respective properties as shown in the estimate of cost of said improvement, whereas, certain other property owners desire that such sidewalks be constructed adjacent to their respective properties as a part of said improvement:

NOW, THEREFORE, BE IT RESOLVED BY SAID BOARD OF LOCAL IMPROVEMENTS on this 17th day of May, 1948, at the adjourned session of said public hearing that the estimate of cost of said improvement as set forth in the original resolution for said improvement be and the same is hereby amended so as to exclude therefrom the estimated cost for constructing Portland *the lots and parcels of land of those owners not wanting a sidewalk;* Cement Concrete sidewalks adjacent to ~~the~~ ~~respective~~ ~~property~~; that the number of lineal feet set forth in the estimate of cost in said original resolution be reduced from 20,000 square feet to 18,700 square feet of Portland Cement Concrete sidewalks making the total cost for the sum of \$5,480.00 instead of \$8,080.00; that the item of supervision of making and laying

the color of the skin, the amount of melanin present, and the degree of pigmentation.

After the first three hours the author had to throw his "little  
spare parts" to the dogs, the next little of good rain arrived to the  
river, so that it was impossible to go on.

including a four foot gun and carriage on each side of said pavilion.

also found in the same place from the same period.

the age-long desire of man to know what is true and right.

Portada del libro que contiene la memoria de los sucesos de la guerra de 1812.

new optional General Concepts package of the extra of \$7,500  
and of the thickness of seven inches totaling a total of

9.00 AM - 10.00 AM: A presentation on the impact of automation on the future of work.

πειταντος πτυς γενια περι τον πατέρα λαβει τη σπουδα που

The unique role played by the immigrant in the foreign in the

3 et 4 mai 1944 dans le port de Brest.

After all points are agreed upon, the Student at once signs and sends the "Non-Participation" paper.

September 20, 1913. All properties due, including \$14300 in outstanding

This section of the survey is designed to elicit information concerning the individual's personal history.

to pay off debts to employees with cash: 00.00-0000000000000000

00-24873 00-10172  
RECEIVED BY PERSONAL OR TELEGRAM PURSUANT  
TO THE REQUIREMENT OF THE AUTHORITY TO COMMENCE

be reproduced from 32,000 to 50,000 copies.

IS NOTION OF PREDICTION AS ESTIMATE FROM OBSERVATION ENTITLED TO

to the west pavement line of Busey Avenue; all of said work to be done as provided in the plan, plate, profiles and specifications for the construction of said work; that all materials furnished for said improvement shall be the size, shape, texture and quality and in the proportions as provided in such detailed drawings and specifications, and shall be included in the manner and form as provided in such detailed plans, plate, drawings and specifications.

Be it further resolved that the widening of said Springfield Avenue as hereinabove set forth, and all the construction work for said widening shall be done in connection with the resurfacing of the central 20 foot portion of said street to be paid for by the City of Urbana out of its motor fuel tax funds.

Be it further resolved that the following estimate of cost of said improvement presented by the President of the Board of Local Improvements, as amended by the order of this Board, be and the same is hereby approved and adopted by the Board of Local Improvement as a final estimate of the cost of said improvement, said estimate being in the sum of the figures as follows:

ESTIMATE OF COST OF SPRINGFIELD AVENUE WIDENING IMPROVEMENT  
No. 21, in the City of Urbana, Illinois, as revised at public hearing on said improvement.

666 cu. yds.	Excavation in earth @ .41.00 per cu. yd.	265.00
3050 lin.ft.	Excavation and Removal of present curb & gutter .40 " lin.ft.	1,220.00
3660 cu.yds.	Excavation and removal of present brick pavement except present concrete base @ 1.00 " cu.yd.	3,660.00
20400 sq.ft.	Excavation and removal of present brick sidewalk @ .01 " sq.ft.	.004.00
900 sq.ft.	Excavation and removal of present P.C. Concrete sidewalk @ .10 " sq.ft.	.00.00
5650 cu.yds.	Portland Cement Concrete Prevent 37 feet outside to outside of curbs and seven inches thick @ 4.00 " cu.yd.	21,800.00
2970 lin.ft.	Portland Cement Concrete curb and gutter two feet wide @ 1.60 " lin.ft.	4,752.00
3600 Lin.ft.	Portland Cement Concrete curb and gutter four feet wide @ 2.60 " lin.ft.	9,360.00
13,700 sq.ft.	Portland Cement Concrete sidewalk 4½ feet wide, four inches thick @ .40 " sq. ft.	5,480.00

37 each Ornamental lights removed and replace including cable	65. <sup>00</sup>	each \$2,405.00
Engineering, supervision & inspection		3,471.00
Misc. Costs including court costs, legal fees, Commissioner's fees, printing, etc.		2,975.00
<b>TOTAL ESTIMATED COST - - - - -</b>		<b>\$56,042.00</b>

I hereby certify that in my opinion the above estimate does not exceed the total cost of said improvement, and the lawful expenses attending the same.

---

President of Board of Local Improvements.

Be it further resolved that said improvement shall be paid for by special assessment of all property benefited by the construction of said improvement to the extent of the special benefits thereto, and by general tax on all the property within the City of Urbana, Illinois, for the public benefits to the extent of the public benefits thereto.

Be it further resolved that said Board finds that no private property will be required to be taken or damaged by or for said proposed improvement; that the Corporation Counsel of the City of Urbana, prepare an ordinance as required by law and present the same to the City Council of the City of Urbana, Illinois.

---

SECRETARY BOARD OF LOCAL IMPROVEMENTS, URBANA, ILLINOIS.

SPECIFICATIONS

SPRINGFIELD AVENUE WIDENING AND RESURFACING

LOCAL IMPROVEMENT #211

FROM EAST LINE OF WRIGHT STREET TO CENTER LINE OF BUSBY AVENUE

BOARD OF LOCAL IMPROVEMENTS

George F. Hurd, President

Elmer H. Johnson

Jameson Vauter, Secretary.

M. H. Kinch,  
Acting City Engineer.

SPECIFICATIONS.

I. GENERAL CONDITIONS OF CONTRACT.

1. DEFINITIONS: Whenever in these specifications or contract, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

CITY: shall mean the City of Urbana, Illinois.

BOARD: shall mean the Board of Local Improvements of the City of Urbana, Illinois.

CONTRACTOR: shall mean the person, firm or corporation to whom the work is awarded and the agent, employees and assignees thereof.

ENGINEER: shall mean the appointed Engineer of the Board of Local Improvements of the City of Urbana, Illinois or his properly authorized representative whose duties it shall be to enforce and interpret these specifications as directed by the Board of Local Improvements of the City of Urbana, Illinois.

PLANS: shall mean all official drawings or reproductions of drawings made or to be made pertaining to the work provided in the contract or any structure in connection therewith.

WORK: shall mean all labor, materials, supplies, use of machinery and tools and overhead costs necessary to complete the proposed improvement in full compliance with all of the provisions of ordinances, plans, specifications, general conditions and contract.

SPECIFICATIONS.

GENERAL CONDITIONS OF CONTRACT (cont'd)

2. SPECIAL PROVISIONS: Shall be inserted at the head of the Specifications as herein-after given and if any Special Provisions conflicts with the Specifications hereinafter included, the Special Provisions shall govern.
3. COMMENCEMENT AND COMPLETION OF WORK: The Contractor shall commence the work within ten days after the contract is signed and shall complete the work on or before the date as given in his proposal or bid for the time of completion. The work shall be commenced at such points as the Board may designate. If the Contractor shall fail to complete the work within the time specified, he shall be liable for and shall pay the wages of the Inspector or Inspectors on the work, at the rate of fifteen Dollars (\$15.00) per day per Inspector, and in addition thereto the sum of Twenty Dollars (\$30.00) per day as liquidated damages to the City and not as a penalty for such failure, from the time when said work should have been completed until the same is actually completed, and the amount of such wages and such liquidated damages may be deducted by the City from any moneys which may be due to the Contractor from the City. In case the City grants an extension of time to the Contractor, the wages of such Inspectors and such liquidated damages will be computed from the date to which the time for completion is extended until the actual completion of the work.
4. CONTRACT: A contract in writing shall be entered into between the City and the Contractor for the performance of said work, in accordance with and subject to the terms and conditions of the specifications, and as shown on the plans, of which contract these general conditions and specifications are a part.

SPECIFICATIONS.

GENERAL CONDITIONS OF CONTRACT (cont'd)

5. SUBLETTING: The Contractor shall not transfer or sublet the work or any part thereof to any person, except with the written consent of the City. In case such consent is given, it shall not relieve the Contractor from any of the obligations of the contract, and any transferee or sub-contractor shall be considered the agent of the Contractor and as between the parties hereto the Contractor shall be and remain liable as if no such transfer or subletting had been made.
6. BOND: The Contractor shall execute and deliver to the City a bond in the penal sum of the amount of the contract, with such sureties as shall be approved by the City conditioned that said Contractor will duly keep and perform all of the terms and conditions of the contract on his part to be kept and performed.
7. ENGINEER: The work provided for in the contract shall be performed under the direction of, and to the entire satisfaction and acceptance of the Board, and its decisions upon all questions which may arise, relative to the contract, plans and specifications shall be final and binding upon the parties here-to. The Engineer may make corrections of errors or omissions in his plans and specifications when necessary for the proper fulfillment of the intention thereof.
8. PLANS AND SPECIFICATIONS: The plans referred to in the specifications or correct copies thereof, are on file in the office of the City Clerk and show the details, dimensions, plans, profiles and general character of the work. During the progress of the work such drawings will be furnished to the Contractor as may from time to time become necessary. Anything shown on the plans and not in the specifications or shown in the specifications and not on the plans, necessary to make the work complete, shall be furnished and constructed by the Contractor without extra charge, the intent and meaning of the specifications being that the Contractor shall finish the work complete in all respects ready for use, for the contract price.

## SPECIFICATIONS.

## GENERAL CONDITIONS OF CONTRACT (cont'd)

9. NOTICE GIVEN BY CONTRACTOR: The Contractor shall give notice in writing to all persons in charge of streets, gas and water pipes, railroads, and all other property that may be affected by the Contractor's operations at least forty-eight hours before breaking ground. He shall also give the Chief of the Fire Department twenty-four hours notice in writing before it becomes necessary to blockade a cross street. The Contractor shall also notify the Engineer at least forty-eight hours before beginning the work and before continuing the work after a suspension of the same. Also when said Contractor shall require the services of the Engineer for laying out any portion of the work.
10. APPLICATION OF WORK: The Engineer shall have the power to direct the applications of the working force of the Contractor, to any particular portion or portions of the work, and to order the increase of said working force at his discretion.
11. DISCIPLINE: It is understood that only competent, skillful, workmen shall be employed to do the work, and that the Engineer shall have authority to order the dismissal of any person on the work, who, in his opinion, is incompetent, or who refuses or neglects to obey any of his instructions relating to the carrying out of the provisions and intent of these specifications, or who is unfaithful, abusive, threatening or disorderly in conduct, and such person shall be dismissed by the Contractor and shall not be employed again on the work.
12. SKILLFUL WORK: Each class or kind of work to be done which requires special skill shall be done under the direction of a foreman and by workmen who are known to be skilled in that class of work.
13. CO-OPERATION: The Contractor and his sub-contractors, if any, shall cooperate with all other Contractors in, upon, or about the work, and shall carry on his work so that none of the co-operating Contractors shall be hindered, delayed, or interfered with in the progress of their work, and so all of the work shall be finished and a complete job of its kind.

SPECIFICATIONS

GENERAL CONDITIONS OF CONTRACT (Cont'd)

14. TESTS: The Contractor shall furnish samples of all materials in sufficient quantities and in ample time so that the proper tests may be made by said Board or its representatives.
15. IMPROPER MATERIALS AND WORK: The Contractor within twenty-four hours after receiving notice from the Engineer so to do, shall proceed to remove from any of the premises all materials condemned by the Engineer, whether used or not, and said Contractor shall remove all portions of the work which the Engineer shall condemn as unsound or improper, or in any way failing to conform to the plans and specifications, and the Contractor shall make good all work damaged or destroyed thereby, all at the sole cost and expense of the Contractor. If the Contractor shall refuse or neglect to remove such materials or to take down such work, to make good such work within the time specified, the City may purchase any acceptable materials on hand and perform such labor necessary and deduct the cost and expense thereof from any moneys due, or that may thereafter become due, said Contractor, under the contract. If, however, at the time of making a monthly or other estimate, the Engineer shall fail to condemn defective material or work, such neglect shall not be construed as an acceptance of such material or work.
16. CONTRACTOR'S SUPERINTENDENT: During the performance of any work herein specified on the premises or public street of said City, the Contractor shall keep on the ground an experienced representative or superintendent duly authorized to represent and act for the Contractor in all matters pertaining to the work to be done under these specifications.
17. INSPECTION: Inspectors will be appointed whose duty it shall be to point out to the Contractor any neglect or disregard of the specifications, but the right of final acceptance or rejection of the work will not be waived at any time during its progress.

The Contractor shall execute the work only in the presence of the Engineer in charge of the work, or Inspectors, during the working hours of the day unless otherwise directed by the Board, but the presence and superintendence of said Engineer or Inspectors representing said City, shall in no way relieve the Contractor of the responsibility of his material or poor workmanship.

## SPECIFICATIONS

## GENERAL CONDITIONS OF CONTRACT (cont'd)

Ordinarily one inspector will be employed, but if on account of difficulties or the specifications on the part of the Contractor, additional inspectors should be required, such additional inspectors shall be employed by the Engineer in charge as he may deem necessary to insure a faithful compliance with the contract, and the pay of each additional inspector shall be charged to the Contractor, at the rate of Fifteen Dollars per day, per inspector and deducted from the amount due in settlement.

Notice of any inspections in this work or in any directions of whatever nature by the Engineer, to any foreman or agent in charge of any portion of the work, in the absence of the Contractor, shall be considered as notice to the Contractor.

18. **COMPLETION OF WORK:** The said improvement shall be constructed and completed under the direction and supervision of the Board of Local Improvements of the City and shall be in all respects and particularly laid and constructed to a uniform like manner and shall be subject to the approval of said board.
19. **PRIVATE ACCOMMODATIONS:** The Contractor shall provide all necessary private accommodations for the use of his employees on the street, and shall maintain the same in a clean and sanitary condition. He shall not create nor permit any nuisance to the public or to residents in the vicinity of the work.
20. **REFERENCE MARKS OR STAKES:** The location and position of all lines and stakes shall be given by the Engineer and the Contractor shall be responsible for such reference points and shall see that the same are retained until the completion of the work, or until the Engineer shall give his permission for their removal.
21. **STAKES FOR ENGINEER:** The Contractor shall furnish suitable stakes and help to place same for the Engineer to use in setting out the work and shall himself or his representative be present when stakes are located.

SPECIFICATIONS.

GENERAL CONDITIONS OF CONTRACT (cont'd)

22. DETOURS: The Contractor shall mark and maintain detours as laid out by the Engineer. If street to be improved is kept open, it shall be properly maintained as directed by the Engineer., cost of such work shall be included in the Contractor's bid.
23. Labor, Tools, ETC: The Contractor, at his own expense, will furnish all material, labor, tools, implements, machinery, appliances, supplies, forms, false work, bridges, staging, mortar boxes, water and everything necessary for the performance of the contract, including all temporary drainage and all pumping apparatus and water piping necessary to supply water for construction operations.
24. MEASUREMENTS: No extra or customary measurements of any kind in accordance with the actual length, area, solid, contents, or number shall be considered in measuring the work under this contract, except that no deductions will be made in payment for any obstructions containing less than one (1) square yard.
25. INTERFERENCE WITH DRAINS: If it is necessary during the progress of the work to interrupt or to obstruct the natural drainage or flow from artificial drains, the Contractor shall make provisions for taking care of all such drainage, so that no damage of any kind or character shall result, and if the Contractor shall neglect so to do, he shall be liable for and shall indemnify and save harmless the City from all liability for any damage which may result from such negligence.
26. PILING MATERIALS: Material or equipment when delivered at the site of the work shall be piled in such manner so as not to interfere with the discharge of any hydrant, sidewalk or roadway.
27. HATCHES, CATCH BASINS, ETC: All the covers and tops of the sewer manholes, catch basins, lamp posts, holes, or water or gas valve boxes on the line of the work shall be reset flush with the surface of the completed pavement by the Contractor, at his own cost and expense.
28. CONNECTING ADJOINING ROADS: The completion of this work under this contract includes any and all work that may be necessary to connect the paved roadway and curbing with all adjoining streets and alleys in a good and workmanlike manner, without extra compensation whatsoever.

## INTRODUCTIONS.

REVIEW OF THE SONG TRAITS (cont'd)

- 29.** **TIME:** All necessary materials shall be supplied and delivered and all tools shall be furnished day and night by the Contractor.

**30.** **PENALTY FOR TIME DELAY:** Prior to the completion of the work by the Contractor and the acceptance thereof, by the City, the work shall remain at the risk of the Contractor and said Contractor shall be required to repair, replace, renew, and make good at his own expense all damages caused by force and violence of the elements, or any other cause whatsoever, provided, however, that in such case the Contractor shall be entitled to a reasonable extension of time within which to complete said work. The Contractor shall accept any extension or extensions of time given by the City within which to complete the work, on account of any delays suffered by the Contractor as full compensation from the City for any and all damages which the Contractor may have suffered by reason or on account of such delay.

**31.** **QUALITY OF WORK:** The Contractor is to use such methods and appliances in the performance of all the operations connected with the work embraced in this contract, as will secure a satisfactory quality of work, and a "blue ribbon" progress which in the opinion of said Board will insure the completion of the work within the time herein specified. If at any time before the commencement or during the progress of the work, such methods or appliances used by said Board to be insufficient or inadequate for securing the quality of work required, or the said rate of progress, they may order the Contractor to increase his efficiency, or to improve the character of his work, and the Contractor must conform to said orders; but the failure of said board to demand such increase of efficiency or improvement shall not release the Contractor from his obligations to secure the quality of work and the rate of progress established in these specifications.

**32.** **DETENTION OR DELAY:** The Contractor will be held responsible for any damage done to the water main or drain pipe, or to any other utility, or to any living tree, which tree must be protected by two (2) inch lumber by the Contractor, in addition to the penalty imposed by the City Commissioners. All loss or damage arising out of the nature of the work to be done, or from any detention, or unforeseen or unusual obstruction or difficulty, which may be encountered in the prosecution of the work, or from the weight of the elements, shall be sustained by the Contractor, who will be required without cost to the City to replace all permanent, sidewalks, or curbs, fissured or injured, and to remove from the streets, all materials, gravel, earth, rubble, etc., immediately after the completion of the work.

SPECIFICATIONS.

G GENERAL CONDITIONS OF CONTRACT (cont'd).

33. USE OF WATER: Contractors desiring to use water from public hydrants will be required to make application to the proper authorities and conform to the rules and regulations provided in such cases by the City Ordinances, and pay for the water at the required water rates.
34. PERMITS, LAWS AND ORDINANCES: The Contractor shall procure and pay for all permits that may be required and shall comply with all laws, ordinances and other regulations of the proper authorities which may by any way affect the work, and shall be responsible for any and all damages arising from the neglect to procure said permits or from disregarding said laws, ordinances or other regulations.
35. DAMAGE AND INJURIES: The Contractor shall and will indemnify, save harmless and defend said City from any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses and Attorney's fees, in any manner caused by, arising from, incident to, connected with, or growing out of the performance of the contract.
36. WORKMAN'S COMPENSATION: The Contractor shall provide and pay (in accordance with the provisions of the Workmen's Compensation Laws, of the State of Illinois) compensation for injuries sustained by, or death resulting to, any of the employees, arising out of or in the course of his employment in the performance of any of the work under this contract, and further shall carry insurance in a company satisfactory to the City fully protecting the Contractor against claims which may be made against him under said laws. The Contractor shall also carry Public Liability and Property Damage insurance sufficient amounts as determined by the Board. The Contractor also agrees to deposit said policies, or a true copy thereof with the City.

The Contractor shall hold the City harmless from and against claims, demands, or suits which may be made or brought against the City on account of any claim made under any of the terms and provisions of said law, for injury or death to any of the employees of the Contractor, his agents or sub-contractors, if any, or damage to any person or property in connection with this work.

37. PATENTS: The Contractor shall and will indemnify, save harmless, and defend said City from any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses, and attorney's fees incident to any infringement or to any claimed infringement of any patent or patents in advance relating to any or all of the machines, apparatuses, or appliances installed or incorporated in the work, or in any way connected therewith or with the use thereof by the City.

SPECIFICATIONS.

GENERAL CONDITIONS OF CONTRACT (cont'd).

38. OPENING AND CLOSING STREETS: No street or streets or Alley or Alleys shall be closed by erecting barricades or otherwise, nor shall the same be opened by the removal of said barricades or otherwise except by permission of the Board.
39. DAMAGE TO OTHER CITY PROPERTY: Damage to any City property by the Contractor's trucks, workmen, or equipment shall be repaired at the Contractor's own expense.
40. PLACING OF MATERIAL: In general no material shall be placed until the site upon which it is to be placed has received the approval of the Engineer.
41. FINAL ACCEPTANCE: Before final payment is authorized by the Board, the street or streets, alley or alleys, or other property on which the work is located between property lines shall be swept off, cleaned, graded, and properly raked and seeded, all foreign material of any kind removed from the site of the work so that the completed work presents a finished and pleasing appearance.

**EXCAVATIONS.**

**III. DRAWDOWN IN GROUNDS.**

1. **REMOVAL:** Excavation in earth shall include the removal and proper disposal of all earthy materials necessary for the construction of the proposed improvement and including embankments, sub-grade, slopes, packways, intersections and approaches and all incidental work thereto necessary to make the completed improvement conform to the plans and these specifications.
2. **EMBANKMENTS:** Embankment shall be formed of cut or material placed and rolled with a 10 ton roller in successive level layers of not more than twelve (12) inches in depth for the full required width of the Cross Section, until a 90% compaction is obtained by means of the Proctor Soil Test. Stumps, trees, rubbish, sod, or any other unsuitable materials shall not be placed in the embankment. Embankments shall be made of sufficient height and width so fit to bear the full weightage and sloughing of the slopes the elevation and width shall conform to the final cross section.
3. **SUBGRADE:** The subgrade shall be considered as that portion of the ground upon which the pavement, sidewalk or drive is placed. The sub-grade shall consist of the natural earth, or material in place, which has been brought to the proper elevation and cross section and rolled with a 10 ton roller, until firm and smooth. The subgrade shall be constructed so that it shall be as nearly as possible of uniform density throughout its entire width. The subgrade shall be brought to a true shape, and, after rolling, shall be tested; if not the proper elevation at all points, materials will be removed or added as may be needed, to bring all portions of the subgrade to the correct elevation.

If trucks are used for hauling concrete the mill shall be continuously used and all cuts and rough places caused by the trucks shall be kept properly covered over and compacted before placing of concrete. The subgrade shall be cleared of all materials and be rotted or sprinkled if dusty, it being understood that in spreading the sand, no pools of water will be formed.

SPECIFICATIONS.

II. EXCAVATION IN EARTH (cont'd).

4. PARKINGS: Shall be considered that part of the street or streets between the back of the curb on each side and the edge of the sidewalk. The parkings shall be graded between the limits heretofore specified with a uniform grade and shall be properly raked and seeded with lawn seed meeting the following requirement:

By weight per acre:

40 lbs. Kentucky Blue Grass

10 lbs. Red Clover

20 lbs. Perennial Rye Grass or Timothy.

10 lbs. White Dutch Clover.

The parkings shall present on completion, a finished and pleasing appearance. All foreign material regardless of whether the same has been left there by the contractor shall be removed from the site of the work.

5. APPEARANCE: Before final acceptance by the Board the entire site of the work shall be properly raked up and cleaned up, and left presenting a finished and pleasing appearance.

6. PAYMENT: Excavation in earth shall be paid for at the unit price per cubic yard for all earthy material excavated and shall include all incidental construction work thereto in accordance with the plans and these specifications and shall include all necessary labor, materials, repairs and supplies, use of equipment and tools and overhead costs to properly do the proposed work in accordance with the plans and these specifications.

## SPECIFICATIONS

### III. EXCAVATION AND REMOVAL OF PRESENT CURB AND GUTTER

1. DESCRIPTION: Excavation and removal of present curb and gutter shall include the removal and proper disposal of all the present curb and gutter necessary to be removed for the construction of the proposed improvement.
2. METHODS: Destructive removal, such as dynamiting etc. will not be permitted. Any salvagable material such as castings etc. shall be loaded by hand into trucks and hauled to the City Garage in the City of Urbana or as directed by the City Engineer and unloaded and piled as directed by the City Engineer. All other material such as broken concrete etc. shall be hauled to the City Dump or as otherwise directed by the Engineer.
3. ACCEPTANCE: Before final acceptance by the Board the entire site of the work shall be properly raked up and cleaned up and left presenting a pleasing and finished appearance.
4. PAYMENT: Excavation and removal of present curb and gutter shall be paid for at the unit price per lineal foot for all curb and gutter so excavated and removed and properly disposed of in accordance with these plans and specifications including all necessary labor, materials, repairs, supplies, use of tools and equipment and overhead to properly do the proposed work in accordance with the plans and these specifications.

SPECIFIC FIGURES

IV. EXCAVATION AND REMOVAL OF PRESENT BRICK PAVEMENT EXCEPT PRESENT CONCRETE BASE.

1. DESCRIPTION: Excavation and removal of present brick pavement except present concrete base shall include the removal and proper disposal of all the present brick pavement except concrete base necessary to be removed for the construction of the proposed improvement.
2. METHODS: Destructive removal such as dynamiting etc. will not be permitted. Any salvagable material such as brick sand cushion etc. shall be loaded by hand into trucks and hauled to the City Garage in the City of Urbana or as directed by the City Engineer and unloaded and piled as directed by the City Engineer. All other material such as broken concrete etc. shall be hauled to the City Dump or otherwise disposed of as directed by the City Engineer.
3. ACCEPTANCE: Before final acceptance by the Board the entire site of the work shall be properly raked up and cleaned up and left presenting a pleasing and finished appearance.
4. PAYMENT: Excavation and removal of present brick pavement except present concrete base shall be paid for at the unit price per square yard for all material so excavated and properly disposed of in accordance with the plans and these specifications and including all necessary labor, materials, repairs, supplies, use of tools and equipment and overhead costs to properly do the proposed work in accordance with the plans and these specifications.

SPECIFICATIONS

V. EXCAVATION AND REMOVAL OF PRESENT BRICK SIDEWALK:

1. DESCRIPTION: Excavation and removal of present brick sidewalk shall include the removal and proper disposal of all brick sidewalk necessary to be removed for the construction of the proposed improvement.
2. METHODS: Destructive removal, such as dynamiting etc. will not be permitted. Any salvagable material such as castings etc. shall be loaded by hand into trucks and hauled to the City Garage in the City of Urbana or as directed by the City Engineer and unloaded and piled as directed by the City Engineer. All other material such as broken concrete etc. shall be hauled to the City Dump or as otherwise directed by the Engineer.
3. ACCEPTANCE: Before final acceptance by the Board the entire site of the work shall be properly raked up and cleaned up and left presenting a pleasing and finished appearance.
4. PAYMENT: Excavation and removal of present brick sidewalk shall be paid for at the unit per square foot for all brick sidewalks so excavated and properly disposed of in accordance with the plans and these specifications including all necessary labor, materials, repair, supplies, use of tools and equipment and overhead to properly do the proposed work in accordance with the plans and these specifications.

## SPECIFICATIONS

### VI. EXCAVATION AND REMOVAL OF PRESENT P. C. CONCRETE SIDEWALK:

1. DESCRIPTION: Excavation and removal of present P.C. concrete sidewalk shall include the removal and proper disposal of all such P.C. Concrete sidewalk necessary to be removed for the construction of the proposed improvement.
2. METHODS: Destructive removal, such as dynamiting etc. will not be permitted. Any salvagable material such as castings etc. shall be loaded by hand into trucks and hauled to the City Garage in the City of Urbana or as directed by the City Engineer and unloaded and piled as directed by the City Engineer. All other material such as broken concrete etc. shall be hauled to the City Dump or as otherwise directed by the Engineer.
3. ACCEPTANCE: Before final acceptance by the Board the entire site of the work shall be properly raked up and cleaned up and left presenting a pleasing and finished appearance.
4. PAYMENT: Excavation and removal of present P.C. Concrete sidewalk shall be paid for at the unit price per square foot for all P.C. Concrete sidewalk so excavated and properly disposed of in accordance with these plans and specifications including all necessary labor, materials, repairs, supplies, use of tools and equipment and overhead to properly do the proposed work in accordance with the plans and these specifications.

SPECIFICATIONS.

**III. REMOVAL OF OLD LIGHT AND REPAIRS TO LIGHTING SYSTEM**

1. **REMOVAL:** The item of Equipment 1 Light removal and removal including all parts the necessary labor involved in removing the standards and poles, including disconnection, and the necessary materials to remove the old poles, components, but includes the proper reconstruction of the stabilized system, making a system complete for satisfactory operation.
2. **REMOVAL:** Destructive removal of any of the cable or hardware used by the existing standard light system will not be permitted.
3. **REMOVAL:** It is recommended that old standards, poles and cables be salvaged. If these items are to be saved, including the poles, they shall be set on a hardened foundation.
4. **REMOVAL:** Any materials of value to be removed from the site of the work shall be removed to the nearest city lot or pile for City disposal. Material of value shall be handled by the removal city crew. The contractor and his helpers and labor shall be required to take sufficient truck load of the new work.
5. **REMOVAL:** Before final acceptance by the Board, the site of the work shall be cleaned up and all material removed, except dirt hauled away. After a period of time, the excavation for a new foundation properly leveled and ready, the new reconstructed permanent light system in complete and satisfactorily operation and the site of the work prepared shall be filled and placed in appearance.
6. **REMOVAL:** Figures of the current of light revision shall be for each light standard including concrete base and cable removed and replaced and an satisfactory condition, including all necessary labor, materials and supplies, use of equipment, machinery and tools and overhead costs.

## SPECIFICATIONS.

## VII PORTLAND CEMENT COMBINED CURB AND GUTTER

1. DESCRIPTION: Portland Cement Concrete Curb and Gutter shall include all necessary curb and/or gutter. The size, dimensions, location, grade, etc. of the proposed Portland Cement Concrete Curb and Gutter shall be as shown on the plans, profiles and Details accompanying; and a part of these specifications.
2. MATERIALS: Before delivery on the job, the Contractor shall submit to the Board a sample as specified by the Board for each of the proposed materials to be used in or on the proposed work. These samples shall be tested and if found to pass the requirements of these specifications similar material shall be considered as acceptable for the work. All materials must receive the approval of the Board before using in or on the work and any material may be rejected if found unsatisfactory up until the time of Final Acceptance by the Board. Rejected material must be removed immediately from the site of the work.
3. CEMENT: The cement shall meet the requirements of the current "Standard Specifications and Tests for Portland Cement" adopted by the American Society for Testing Materials. Ninety-four pounds of Portland Cement shall be considered as one sack, one cubic foot and one fourth of a barrel. Cement shall be placed in a mixer directly from the original packages in which it was shipped. Bulk cement shall not be used. A bag of cement (ninety-four pounds net) shall be considered as one (1) cubic foot. No batches requiring a fractional part of a sack of cement will be permitted.
4. WATER: The water shall be free from all oil, acid, alkali, organic matter or other deleterious substances. It shall be equal in all physical and chemical properties to drinkable water.
5. FINE AGGREGATE: Fine aggregate shall consist of clean, sharp sand having hard strong durable grains; and shall be free from all dust, dirt and injurious amounts soft or flaky particles and shale. It shall be free from alkali and surface coatings and shall not contain injurious amount of vegetable or other organic material as determined by the Colorimetric Test Described in the "Standard Method of Test for Organic Impurities" of the American Society for Testing Materials Serial No. C 40-22. It shall not contain injurious amounts of clay or silt as determined by the "Standard Method of Test for Quantity of Clay or Silt in Sand for Highway Construction", Serial No. D 74-21 of the American Society for Testing Materials. It shall be of such quality that port or composed of one part of Portland Cement and three parts of the fine aggregate, by weight, when made in briquettes shall show a tensile strength at 7 and 28 days at least equal to the strength of briquettes composed of one part of Portland Cement and three parts of Standard Ottawa Sand, by weight. Briquettes shall be made in accordance with the methods as recommended by the American Society of Testing Materials, Serial No. E 9-26.

## SPECIFICATIONS.

## PORTLAND CEMENT CONCRETE CURB AND GUTTER (cont'd)

6. GRADING: Fine aggregate shall range in size from fine to coarse, within the following limits:

Passing through No. 4 sieve ... not less than 85%

Passing through No. 50 sieve ... not less than 30%  
and not less than 7%

Passing through No. 100 sieve ... not more than 5%

Grading. Coarse aggregate shall range in size from coarse to fine, within the following limits:

Passing 1-1/2" sieve ... not less than 95%

Passing 3/4" sieve ... not less than 40% to 75%

Passing No. 4 sieve ... not more than 15%

Passing No. 8 sieve ... not more than 5%

**Coarse Aggregate.** Coarse Aggregate shall consist of washed gravel or broken stone, having hard strong durable particles free from injurious amounts of soft, friable, thin, elongated or laminated pieces, alkali, organic or other harmful matter.

7. CONCRETE: Portland cement concrete shall be mixed in such proportions by weight of water, portland cement, fine and coarse aggregates as will produce a workable plastic mixture, which when molded into test specimens and tested according to Standard Methods, i.e. "American Society for Testing Materials", Serial Designations C 31-21 and C 39-25 shall be given compressive strength of 3500 lbs. per sq. in. in fourteen days, and also a modulus of rupture when tested according to Standard Methods, i.e. American Society of Testing Materials, of 650 lbs. in 14 days. The mixing water shall not exceed five and one-half (5-1/2) U.S. gallons of water to bag of cement. This quantity of water shall include the moisture on the surface of the aggregates. The moisture which the aggregates will absorb in thirty (30) minutes shall not be included in mixing water. They shall be measured as described in the Standard Test of the American Society of Testing Materials, "Tentative Test for the consistency of Portland Cement Concrete", serial Designation D 137-26f. The slump shall not be less than 2 inches nor more than 4 inches. All proportioning for aggregates used in the mix shall be by weight. The equipment for weighing aggregates and the equipment for measuring the amount of water shall be such as meets the approval of the Board. These proportions shall be based upon tests of the materials selected by the Contractor for use in the work and delivered to the Board. The quantities of aggregates for each batch of concrete shall be measured by weight. The Board will furnish to prospective bidders, upon request the approximate proportion by weight necessary to produce concrete having the required workability and strength using aggregates from any established and available source designated by the bidder, it being expressly understood that this information is only for the convenience of the bidder. The Board reserves the right to determine, as the work progresses, and as aggregates are delivered at the site of the work, proportions of cement, water and aggregates actually furnished which will produce

## SPECIFICATIONS.

## PORTLAND CEMENT CONCRETE CURB AND GUTTER (cont'd)

workable plastic concrete having the strength specified herein. In case the proportion determined by the Board and used on the work shall vary from the approximate proportion previously furnished, on account of changes or variations in the materials from the sources originally designated, or on account of the use by the Contractor of aggregates from other sources or for other reasons considered sufficient by the Board, no additional compensation will be paid to the Contractor by the City.

8. MORTAR: The Portland Cement mortar shall be mixed in the proportions by volume of one part Portland Cement and two part sand (fine aggregate). There shall be used between five and six U.S. Gallons of water per one sack batch of mortar. The amount of water shall be such as to give a slump of not less than two and not more than three inches as determined by the slump test. The above proportions may be varied by the Board without any extra compensation to the Contractor. The method of Measurement of the Materials going into each batch shall be as specified by the Board and shall be such as to secure the exact specified proportions of each material including water in each batch.
9. FORMS: Forms shall be of sufficient strength and rigidity so that when properly supported, they will not deflect under the weight or pressure of the wet concrete and other loads incident to the construction. Steel forms are preferred, but in case the Contractor desires to use wooden forms, they shall be at least two inch stock on straightway and one inch stock on curves. New lumber must be used for curves and old, worn, cracked, warped or otherwise undesirable lumber shall not be used for straightaway.
10. DOWEL BARS: Reinforcing steel shall be of the size, weight and cross-sectional area as shown on the plans and Standard Detail accompanying these specifications. It shall be clean, free from rust, paint, oil, or other materials that might reduce its bond strength with the concrete. It shall be of a quality and character meeting the requirements of the "Standard Specifications for Steel Concrete Reinforcement" of the American Society for Testing Materials, Serial No. A 15-1<sup>4</sup> or No. A 16-1<sup>4</sup>.
11. EXPANSION JOINT: Joint material shall be of a suitable material that will not become soft and run in hot weather or become brittle in cold weather. It shall be cut to the true cross section of the Curb and Gutter before being placed. It shall consist of prepared strips of fibre matrix and bitumen, containing less than 25% inert material. It shall be 3/4 inch thick and shall have two holes neatly punched at the proper locations for receiving the slip dowel bars.

## SPECIFICATIONS

## PORTLAND CEMENT CONCRETE CURB AND GUTTER (cont'd)

12. CONSTRUCTION: The building of forms and construction shall be started at such points as the Board may indicate and shall be carried on or constructed in the direction that the Board may indicate.
13. FORMS: The forms shall be oiled before placing. At intervals of thirty feet more or less or in line with the joint in the pavement the expansion joint shall be placed and firmly laid in place.
14. DOVETAIL BARS: The reinforcing dowel bars shall be placed on supports after the building of forms and before the placing of concrete. They shall be placed through the form on the pavement face of the gutter.
15. MIXING: All forms shall receive the approval of the board before the placing of any concrete within them. All concrete shall be mixed in batch type of mixer with a capacity for at least a one sack batch of the proportions as hereinbefore mentioned. No hand mixing will be permitted. The mixing plant and machinery shall be of sufficient capacity and power to carry out each pre-arranged operation without danger of delay during the process. The mixer shall be rotated at a peripheral speed of about 200 feet per minute. Mixing equipment shall be cleaned at the end of each mixing operation. Only enough concrete or mortar shall be mixed that will be placed within 30 minutes. The time of mixing shall not be less than one minute from the time that all materials are in the drum including water until the operator starts to take concrete from the drum. No materials, including water, shall be permitted to enter the drum until all of the concrete has been discharged. The time of mixing mortar shall not be less than two minutes. Re-tempering of concrete will not be permitted. Test specimens of the concrete shall be made as often as required by the Board. Concrete shall be in place in the forms within thirty minutes after mixing or it shall be rejected. Segregation of the aggregates during transportation of the concrete shall be sufficient cause for rejection of the batch.
16. PLACING: Before placing any concrete between the forms, the forms shall be wet down with water. Said water shall be sprinkled on and no pools of water allowed to form or remain. The forms for the face of the curb shall then be plastered with one-half ( $\frac{1}{2}$ ) inch of mortar. In no case shall more than twenty minutes elapse between the placing of the concrete and the plastering with mortar. While the concrete is being placed it shall be thoroughly tamped and the sides adjacent to the forms vibrated. The face form of the curb shall be left in place until the cement has set sufficiently to hold the concrete and mortar in place. ANY PERMANENT OBJECT LEFT IN PLACE SHALL BE ADJUSTED BY BEING BUILT UP WITH BRICK AND/OR MORTAR AND SUCH WORK SHALL BE DONE AT LEAST 24 HOURS BEFORE THE PLACING OF THE ADJACENT CONCRETE.
17. EXPANSION JOINTS: The expansion joint shall be rigidly placed so it will not be displaced by the placing of the concrete. The  $3/4"$  round slip dowel bars shall be placed through said joint and properly mounted on steel chains with expansion device and grease on one half and the other half shall be imbedded in solid concrete.

## SPECIFICATIONS

## PORTLAND CEMENT CONCRETE CURB AND GUTTER (cont'd)

18. FINISHING: The curb shall be edged along the back form with a one (1) inch edger and along the front form with a one and one-half ( $1\frac{1}{2}$ ) inch edger. The surface of the curb shall be steel trowel finished.
19. PROTECTION: When the air temperature is thirty-five degrees F. or less, or if the temperature will fall below thirty-five degrees F. in the next twenty-four hours after placing the concrete, the mixing water and aggregates shall be heated and precautions taken to maintain the concrete at a temperature of not less than fifty degrees F. for a period of seventy-two hours after placing. The methods of heating the materials and protecting the concrete which the Contractor proposes to use shall be approved by the Board. Salt chemicals and other foreign materials shall not be used to prevent freezing. The temperature of the concrete at the time of placing shall not exceed one hundred and twenty degrees F.
20. CURING: Impermeable Paper Method. The surface shall be wetted thoroughly and covered with blankets of impermeable paper as soon as the concrete has hardened sufficiently to prevent marring the surface, which blankets shall remain in place for a period of not less than seventy-two (72) hours from the time applied. The blankets shall be lapped at least eighteen (18) inches end to end and these laps shall be securely weighted with a windrow of earth or other approved method to form a closed joint. The edges of the blanket shall be weighted securely with a continuous windrow of earth. Any torn places or holes in the paper shall be repaired immediately by patches cemented over the openings, using bituminous cement having a melting point of not less than 130 degrees F. The blankets may be reused, provided they are air-tight and are kept serviceable by proper repairs.  
 A longitudinal plumb shall be provided in the blanket to permit shrinkage. The blankets shall be of sufficient width to cover the entire surface and both edges. Joints or laps in the blanket shall be sewed or cemented together in such manner that they will not separate during use. In cooler weather as determined by the Board this operation may be replaced by a covering of 12" of straw.
21. ACCEPTANCE: Any curb and gutter found unsatisfactory shall be plainly marked and removed and rebuilt by the Contractor at his own expense. Any spalling or splitting off of the curb and gutter shall be sufficient cause for rejection. No patching of any kind will be permitted. Before Final Acceptance by the Board the site of the work and plant shall be carefully cleaned up and all rubbish and debris of any kind removed, parkings carefully graded, raked and the whole left presenting a finished and pleasing appearance.

SPECIFICATIONS.

PORLTAND CEMENT CONCRETE CURB AND GUTTER (cont'd)

22. PAYMENT: Payment for Portland Cement Curb and Gutter shall be per lineal foot of curb and gutter in place as measured by the Engineer along the line of the inside face of the completed curb. Driveway and alley curb shall be built up and constructed monolithic with the alley or driveway pavement and the cost of such curb shall be included in the bid price per square of pavement driveways. Curved portions shall be measured and paid for the same as for straight curb and gutter. Payment covers the necessary labor, materials, repairs and supplies, use of machinery and tools and overhead costs, necessary to properly do the proposed work in accordance with the plans and these specifications.

SPECIFICATIONS.

**PORLAND CEMENT CONCRETE PAVEMENT.**

1. DESCRIPTION: Portland Cement Concrete Pavement shall include all necessary paving, including driveways from back of curb to back of curb. The size, dimensions, weight, location and grade shall be as shown on the plans and profiles, details accompanying and a part of these specifications.
2. MATERIALS: Before delivery on the job the Contractor shall submit to the Board a sample so specified by the Board for each of the materials he proposes to use in or on the work. The samples shall be tested and if found to pass the requirements of the specifications similar material will be considered as acceptable for the work. All materials must receive the approval of the Board before being used in or on the work and any material may be rejected if found unsatisfactory by the Board up until the time of final acceptance by the Board. Rejected material must be removed immediately from the site of the work.
3. CEMENT: The cement shall meet the requirements of the current "Standard Specifications and Tests for Portland Cement" adopted by the American Society for Testing Materials, Serial C 9-26. Ninety-four pounds of Portland Cement shall be considered as one sack, one cubic foot and one-fourth of a barrel.
4. WATER: The water shall be free from all oil, acid, alkali, organic matter or other deleterious substances. It shall be equal in all chemical and physical properties to drinkable water.
5. FINE AGGREGATE: Fine aggregate shall consist of clean sharp sand, having strong durable grains, and shall be free from dust, dirt and injurious amounts of soft or flaky particles and shale. It shall be free from alkali and surface coatings and shall not contain injurious amounts of vegetable or other organic material as determined by the Colorimetric Test described in the "Method of Test for Organic Impurities" of the American Society for Testing Materials, Serial No. OMC. It shall not contain injurious amounts of clay or silt as determined by the "Standard Method of Test for Quantity of Clay or Silt in Sand for Highway Construction", Serial No. D-74 of the American Society for Testing Materials. Fine aggregate shall be of such quality that mortar composed of one (1) part Portland Cement, and three (3) parts fine aggregate by weight, when made into briquettes, shall show a tensile strength at (seven (7) and twenty-eight days) equal to or greater than the strength of briquettes composed of one (1) part of the same cement and three (3) parts standard Ottawa sand by weight. The percentage of water used in molding the briquettes of cement and fine aggregate shall be such as to produce a mortar of the same consistency as that of the Ottawas and briquettes of standard consistency. In other respects all briquettes shall be made in accordance with the methods of Testing Cement recommended by the American Society for Testing Materials, Serial No. C 9-26).

SPECIFICATIONS.

PORLAND CEMENT CONCRETE PAVING AND (Cont'd)

Grading: Fine aggregate shall range in size from fine to coarse, within the following limits:

Passing through No. 4 sieve ... not less than 55%  
Passing through No. 30 sieve ... not more than 30% and  
not less than 7%  
Passing through No. 100 sieve... not more than 5%

6. COARSE AGGREGATE: Coarse aggregate shall consist of washed gravel and broken stone, having hard strong durable particles free from injurious amounts of soft, friable, thin, elongated or laminated pieces, alkali, organic or other harmful matter.

Grading: Coarse Aggregate shall range in size from coarse to fine, within the following limits.

Passing 1-1/2" sieve ... not less than 95%  
Passing 3/4" sieve ... not less than 40 to 75%  
Passing No. 4 sieve ... not more than 15%  
Passing No. 8 sieve ... not more than 5%

7. CONCRETE: Portland cement concrete shall be mixed in such proportions by weight of water, Portland Cement, fine and coarse aggregates as will produce a workable and plastic mixture, which when molded into test specimens and tested according to Standard Methods, i.e. "American Society for Testing Materials", Serial Designations C 31-21 and C 39-25 shall give a compressive strength of 3500 lbs. per sq. in. in fourteen days, and also a modulus of rupture when tested according to Standard Methods, i.e. American Society of Testing Materials, of 650 lbs. in 14 days. The mixing water shall not exceed five and one-half (5-1/2) U.S. Gallons of water to bag of cement. This quantity of water shall include the moisture on the surface of the aggregates. The moisture which the aggregates will absorb in thirty (30) minutes shall not be included as mixing water. The consistency shall be measured as described in the Standard Test of the American Society of Testing Materials. "Tentative Test for the Consistency of Portland Cement Concrete", Serial Design. D 139-26T. The slump shall not be less than 2 inches nor more than 4 inches. All proportioning for aggregates used in the mix shall be by weight. The equipment for weighing aggregates and the equipment for measuring the amount of water shall be such as meets the approval of the Board. These proportions shall be based upon tests of the materials selected by the Contractor for use in the work and delivered to the board. The quantities of aggregates for each batch of concrete shall be measured by weight. The Board will furnish to prospective bidders, upon request the approximate proportion by weight necessary to produce concrete having the required workability and strength using aggregates from any established and available commercial source designated by the bidder, it being expressly understood that this information is only for the convenience of the bidder. The Board reserves the right to determine, as the work progresses, and as aggregates are delivered at the site

SPECIFICATIONS.

PORLAND CEMENT CONCRETE PAVEMENT (cont'd)

of the work, proportions of cement, water and aggregates actually furnished which will produce workable plastic concrete having the strength specified herein. In case the proportion determined by the Board and used on the work shall vary from the approximate proportion previously furnished, on account of changes or variations in the materials from sources originally designated, or on account of the use by the Contractor of aggregates from other sources or for other reasons considered sufficient by the Board, no additional compensation will be paid to the Contractor by the City.

8. CONSTRUCTION JOINTS. Construction joints shall be constructed as directed by the Board. A construction shall be placed longitudinally along the center line of the proposed slab with steel center joint and dowel bars. Intermediate construction joints or transverse construction joings caused by delays or other reasons shall be constructed in accordance with these specifications.
  - a. One half (1/2) inch round deformed bars shall be placed through all construction joints. These bars shall be two (2) feet in length and spaced not to exceed two and one-half (2½) foot centers. The bars shall be one-half the total thickness below the surface of the pavement. The bars shall be placed and supported by pins before placing the concrete. All longitudinal and transverse construction joints shall be carefully edged so as to prevent spalling.
9. TRANSVERSE EXPANSION JOINTS: Transverse joints shall be placed at intervals of thirty (3) feet more or less, except at intersection where the joint shall form the intersection in squares as determined by the Engineer. The transverse joints shall be made by inserting during construction and leaving in place prepared strips of fibre matrix and bitumen or similar material of approved quality which shall extend through the entire thickness of the pavement. The prepared strips shall be  $3/4"$  in thickness and of a width equal to the thickness of the pavement, one inch to be placed below the bottom of the slab and the top to be  $1/2$  inch below the top of the slab.
10. STORING MATERIALS. Stock piles of fine and coarse aggregate shall be kept separated. Different kinds of cement, sand, gravel or stone shall be stored separately. Coarse aggregate and fine aggregate shall be stockpiled so as to eliminate segregation of the different sizes.

SPECIFICATIONS.

PORLAND CEMENT CONCRETE PAVEMENT (cont'd)

11. MIXING: The concrete shall be mixed in a batch mixer of a type approved by the Board. All of the materials, including the water for each batch of concrete, shall be mixed at least one (1) minute before any part of the batch is discharged from the drum. The drum shall revolve at a rate of speed specified by the manufacturer for the particular mixer used by the Contractor, but not less than fourteen (14) revolutions per minute. The drum shall be completely emptied before receiving material for the succeeding batch. Water shall be added at the time the other materials are being run into the drum. The volume of the mixed material used per batch shall not exceed the manufacturer's rated capacity of the drum in the cubic feet of mixed material. No mixer shall be used which requires less than one sack of cement per batch.
12. PLACING: Immediately prior to placing the concrete the subgrade shall be checked and brought to an even surface. The surface of the subgrade shall be wet, but shall show no pools of water when the concrete is placed. All soft wet dirt shall be removed.

The interval of time between mixing of the concrete as described above, the placing in the pavement slab as described below shall not exceed thirty (30) minutes.

After mixing, the concrete shall be deposited rapidly upon the subgrade in successive batches for the entire width and depth of the pavement. The work of spreading the concrete shall be done in a continuous operation, completing sections between expansion joints without the use of construction joints.

In case of a breakdown, however, a construction joint shall be used. ANY PERMANENT OBJECT LEFT IN PLACE SHALL BE ADJUSTED BY BEING BUILT UP WITH BRICK AND/OR MORTAR AND SUCH WORK SHALL BE DONE AT LEAST 24 HOURS BEFORE PLACING OF THE ADJACENT CONCRETE.

13. FINISHING: The surface of the concrete shall be struck off for the entire width of the pavement by means of strike-off board. After striking off it shall be thoroughly tamped with a heavy tamper as approved by the Board, and during said tamping the concrete shall be vibrated with a power vibrator as approved by the Board. It shall be again struck off with a finishing strike-off board and floated with a wooden float twelve (12) inches in width and reaching across the entire width of slab being placed. It shall then be finished by two applications of a belt made of canvas, not less than six (6) inches wide and not less than two (2) feet longer than the width of the slab. The belt shall be applied with a combined crosswise and longitudinal motion. For the first application vigorous strokes at least twelve (12) inches long shall be used, and the longitudinal movement of the belt along the pavement shall be very slight.

## SPECIFICATIONS

## PORTLAND CEMENT CONCRETE PAVEMENT (cont'd)

The second application of the belt shall be immediately after the water gloss or sheen disappears, and the stroke of the belt shall not be more than four (4) inches, and the longitudinal movement shall be much greater than for the first belting.

Two suitable bridges to span the width of the slab shall be used to do the floating, no part of said bridges shall come in contact with the finished work.

A notched ten foot straightedge shall be used over each joint to strike off the surface of the concrete to insure a perfect continuity of the surface.

The concrete adjoining transverse joints shall be dense in character and shall be finished with a wood float, which is divided through the center and which will permit finishing on both sides of the filler at the same time.

The surface shall then be broomed with a broom as approved by the Board. When the concrete will have become sufficiently hard to work the edges shall then be run with an edging tool having a radius not greater than one (1) inch.

*along*  
The concrete ~~near~~ the curb and around fixed objects shall be finished with a steel trowel and edged with an edging tool having a radius of one (1) inch.

14.

**DOWEL BARS AND LONGITUDINAL CENTER JOINT:** Dowel bars shall be  $1/2"$  round corrugated steel bars, 2 feet long and shall be placed at two and one-half feet centers. They shall be clean, free from rust, paint, oil or other material. They shall be of a quality and character meeting the requirements of the Standard Specifications for Steel Concrete Reinforcement" ACI, Latest Serial Designation. Slip dowel bars shall be  $3/4"$  inch round, smooth steel bars, 2 feet long and shall be placed at 2-1/2 feet centers. They shall otherwise conform to the above specifications for dowel bars.

Longitudinal center joints shall be formed by installing metal strips, No. 16 gauge triangular shape, one the top placed  $1/2"$  below the top of the slab. They shall not be continuous through any joint, the metal strip shall be firmly held in place by No. 16 gauge metal pins spaced 3-1/2 feet with an allowable variation of  $1/4"$  from the center of the slab. Adjoining sections shall be lapped so that one pin holds both sections. Dowel bars, extending across and through the center joint shall be held in position on both ends by approved supports before the placing of any concrete.

**LONGITUDINAL SLAB SECTION JOINTS:** It is contemplated that the pavement slab will be constructed in three eleven foot sections and therefore no longitudinal metal strips will be required but in case any contractor desires to vary the slab width he may do so as directed by the Engineer except that the maximum width placed between forms shall not exceed twenty feet and said twenty feet must be broken into two ten foot slabs by the use of longitudinal center metal strips and dowel bars as specified.

## SPECIFICATIONS

### PORLAND CEMENT CONCRETE PAVEMENT (cont'd)

15. BLACK TRAFFIC MARKER: Black traffic marker shall be constructed 2 inches on each side of the center line of the proposed improvement. The pigment shall consist of Crystalline black magnetic oxide of iron or ferroso-ferric oxide. It shall be applied at the rate of 2 pounds per ft. and shall be worked into the surface of the concrete and edged to make a well defined center traffic marker.
16. The finished surface of the pavement shall not vary from the specified contour as shown on the Standard Details more than ~~one~~ quarter (1/4) of an inch as checked by a ten (10) foot straight-edge by the Board. The checking shall be done before (10) ten o'clock of the day following the placing of the concrete, and the area which must be corrected shall be plainly marked by the Board or its representatives so that they can be properly removed by the Contractor. This work must be completed to the satisfaction of the Board.

For each variation from the pure surface greater than  $\frac{1}{4}$  and less than  $\frac{1}{2}$  inch which cannot be removed as determined by the Board, there shall be deducted from the amounts due the Contractor the cost of 1 sq. yd. of pavement at the contract unit price per sq. yd. If the variation from the true surface exceeds  $\frac{1}{2}$  inch, the entire area as determined by the Board shall be removed and replaced by pavement of the required quality and smoothness at the entire expense of the Contractor.

17. PROTECTION: When the air temperature is thirty-five (35) degrees F. or less, or if the temperature will fall below thirty-five (35) degrees in the next twenty-four hours after placing the concrete, the mixing water and aggregate shall be heated and precautions taken to maintain the concrete at a temperature of not less than fifty (50) degrees F. for a period of seventy-two (72) hours after placing. The methods of heating materials and protecting the concrete which the Contractor proposes to use shall be approved by the Board. Salt chemicals and other foreign materials shall not be used to prevent freezing. The temperature of the concrete at the time of placing shall not exceed one hundred and twenty (120) degrees F.
18. CURING: Impermeable Paper Method. The surface shall be wetted thoroughly and covered with blankets of impermeable paper, as soon as the concrete has hardened sufficiently to prevent marring the surface, which blankets shall remain in place for a period of not less than seventy-two (72) hours from the time applied. The blankets shall be lapped at least eighteen (18) inches end to end.

## SPECIFICATIONS.

## PORTLAND CEMENT CONCRETE PAVEMENT (cont'd).

and these loops shall be securely weighted with a windrow of earth or other approved method to form a closed joint. The edges of the blanket shall be weighted securely with a continuous windrow of earth. Any torn places or holes in the paper shall be repaired immediately by patches cemented over the openings, using bituminous cement having a melting point of not less than 180 degrees F. The blankets may be reused provided they are six-tight and are kept serviceable by proper repair.

A longitudinal pleat shall be provided in the blanket to permit shrinkage. The blankets shall be of sufficient width to cover the entire surface of both ends. Joints or laps in the blanket shall be sealed or cemented together in such manner that they will not separate during use. In colder weather as determined by the Board this provision may be replaced by covering of 12" of straw.

19. OPENING TO TRAFFIC: The pavement in any one section may be opened to traffic on the twenty-first day following the completion of the last section in that block, or sooner or later at the discretion of the Board. Before opening to traffic, the Contractor shall remove all protective, curbing, and waste materials.
20. PAYMENT: Payment for pavement concrete will be by the square yard at the price named in the contract for payment concrete in place as measured by the engineer. Payment shall be for the completed concrete pavement, including driveways in place, including all labor, and materials, repairs and supplies, use of machinery and tools and overhead costs to properly do the proposed work in accordance with the Plans and these specifications.

SPECIFICATIONS

~~1.~~ PORTLAND CEMENT CONCRETE SIDEWALKS.

1. DESCRIPTION: Portland Cement Concrete Sidewalks shall include all necessary sidewalks including the sidewalk crossing a driveway and all entrance walks. The size, dimension, location, grade, etc. shall be as shown on the plans and profiles accompanying and a part of these specifications.
2. MATERIALS: Before delivery on the job, the Contractor shall submit to the Board a sample as specified by the Board for each of the proposed materials to be used in or on the work. These samples shall be tested and if found to pass the requirements of these specifications, similar material shall be considered as acceptable for the work. All materials must receive the approval of the Board before being used in or on the work and any material may be rejected if found unsatisfactory by the Board up until the time of Final Acceptance by the Board. Rejected material must be removed immediately from the site of the work.
3. CEMENT: The cement shall meet the requirements of the current "Standard Specifications and Tests for Portland Cement", adopted by the American Society for Testing Materials, serial 09-26. Ninety-four pounds of Portland Cement shall be considered as one sack, one cubic foot and one fourth of a barrel. Cement shall be placed in the mixer directly from the original package in which it was shipped. Bulk cement shall not be used. A bag of cement (nine-four pounds net) shall be considered as one (1) cubic foot. No batches requiring a fractional part of a sack of cement will be permitted.
4. WATER: The water shall be free from all oil, acid, alkali, organic matter or other deleterious substances. It shall be equal in all physical and chemical properties to drinkable water.
5. FINE AGGREGATE: Fine aggregate shall consist of clean sharp sand, having strong durable grains, and shall be free from dust, dirt and injurious amounts of soft or flaky particles and shale. It shall be free from alkali and surface coatings and shall not contain injurious amounts of vegetable or other organic material as determined by the Collophometric Test described in the "Standard Method of Test for Organic Impurities" of the American Society for Testing Materials, Serial No. 040-22. It shall not contain injurious amounts of clay or silt as determined by the "Standard Method for Test for Quantity of Clay and Silt in Sand for Highway Construction", serial No. D 74-21, of the American Society for Testing Materials. It shall be of such quality that mortar composed of one part of Portland Cement by weight and three parts of the proposed fine aggregate by weight, when made in briquettes shall show a tensile strength at 7 and 28 days of at least equal to the strength of briquettes composed of one part Portland Cement and three parts of Standard Ottawa Sand by weight. Briquettes shall be made in accordance with the methods as recommended by the American Society for Testing Materials, Serial No. 09-26.

## SPECIFICATIONS

## PORTLAND CEMENT CONCRETE SIDEWALKS (cont'd)

Fine aggregate shall range in size from fine to coarse, within the following limits.

Passing through No. 4 Sieve ... not less than 85%  
 Passing through No. 50 Sieve ... not more than 30%, and  
 not less than 7%  
 Passing through No. 100 Sieve ... not more than 5%

6. **COARSE AGGREGATE:** Coarse aggregate shall consist of washed gravel or broken stone, having hard strong durable particles, free from injurious amounts of soft, friable, thin, elongated or laminated pieces, alkali, organic or other harmful matter. Coarse aggregate shall range in size from coarse to fine within the following limits:

Passing 1-1/2" Sieve ... not less than 38%  
Passing 3/4" Sieve ... 40 to 75%  
Passing No. 4 Sieve ... not more than 15%  
Passing No. 8 Sieve ... not more than 5%

7. **CEMENT:** The Portland Cement Concrete shall be mixed in such proportions as will give a compressive strength when tested by Standard methods, of not less than 3600 lbs. per square inch at the end of a period of 14 days, and also will give a modulus of rupture of not less than 650 lbs. per sq. in. as determined by the aforesaid standard test after a period of the aforesaid 14 days. These proportions shall be based upon tests of the materials selected by the Contractor for use in the work and delivered to the Board. The quantities of aggregates for each batch of concrete shall be measured by weight. The Board will furnish to prospective bidders, upon request, the approximate proportion by weight necessary to produce concrete having the required workability and strength using aggregates from any established and available commercial source designated by the bidder, it being, expressly understood that this information is only for the convenience of the bidders. The Board reserves the right to determine as the work progresses and as aggregates are delivered at the site of the work, proportions of cement, water and aggregates actually furnished which will produce workable plastic concrete having the strength specified herein. In case the proportion determined by the Board and used on the work shall vary from the approximate proportion previously furnished, on account of changes or variations in the materials from the sources originally designated, or on account of the use by the Contractor of aggregates from other sources or for other reasons considered sufficient by the Board, no additional compensation will be paid to the Contractor by the City.

SPECIFICATIONS

PORLAND CEMENT CONCRETE SIDEWALKS (cont'd)

8. FORMS: Forms shall be sufficient strength and rigidity so that, when properly supported and braced they will not deflect under the weight of the concrete and other loads incident to construction. Steel forms are preferred, but in case the Contractor desires to use wooden forms, they shall be at least two inch stock on straightway, and one inch stock on curves. New lumber must be used for curves and old, worn, cracked, warped or otherwise objectionable lumber shall not be used for the straightway.
9. EXPANSION JOINT: Joint material shall be of suitable material that will not become soft and run in the hot weather or become brittle in cold weather. It shall be  $\frac{7}{4}$ " thick of such width that one-quarter inch of the joint will project below the sidewalk slab and one-quarter inch will be left projecting above the sidewalk slab after completion. It shall consist of prepared strips of fibre matrix and bitumen, containing less than 25% of inert material.
10. CONSTRUCTION: The building of forms and construction shall be started at such points as the Board may indicate and shall be carried on or constructed in the direction that the Board may indicate.
11. EXCAVATION: Excavation for sidewalks shall be included in the bid price per square foot for sidewalks in place, including the removal and disposal of any sidewalk either brick, concrete or other material now in place and necessary to be removed. Fills shall be made in not to exceed twelve inch layers and shall be hand-tamped and no concrete shall be placed thereon until in the opinion of the Board the fill has properly settled. The sub-grade shall be brought to the proper elevation or grade in accordance with the plan or the plans and profiles and carefully compacted before the building or laying of any forms. Any vegetable matter or spongy material of any kind shall be removed at this time and replaced with hand-tamped dirt brought to the true and proper elevation.
12. FORMS: The forms shall be firmly staked by stakes not more than three feet apart and otherwise held to the proper lines and grades. After the forms are set all mud or other soft material shall be removed and replaced with gravel or other material. False joints shall then be edged cutting the sidewalk slab into approximate squares.
13. DRIVES AND ALLEY CROSSINGS: The sidewalk slab shall be seven (7) inches in thickness across all drives or alley crossings.

## SPECIFICATIONS.

## PORTLAND CEMENT CONCRETE SIDEWALKS (cont'd)

14. **MIXING:** All forms shall receive the approval of the Board before any mixing operations are started or before any concrete is placed between the forms. No hand mixing will be permitted. All concrete shall be mixed in a batch type mixer approved by the Board with a rated capacity for at least one sack batch of the proportions of concrete as hereinbefore specified. The mixer shall be rotated at a peripheral speed of about 200 feet per minute. Mixing equipment shall be cleaned at the end of each mixing operation. Only enough concrete shall be mixed as can be placed within the following thirty minutes. Re-temping of concrete will not be permitted. The time of mixing shall not be less than one (1) minute from the time all of the materials have entered the drum including the water until such time until the operator starts discharging the concrete from the drum. No materials including water shall be allowed to enter the drum until all of the concrete of previous batch has been discharged. Test specimens of the concrete shall be made as often as specified by the Board. Concrete shall be in place in the forms within thirty minutes after the mixing of the same or it shall be rejected. Segregation of the coarse aggregate from the concrete during transportation of the concrete shall be sufficient cause for rejection of the batch.
15. **PLACING:** While the concrete is being placed it shall be thoroughly tamped and the sides adjacent to the forms spaded. ANY PERMANENT OBJECT LEFT IN PLACE SHALL BE ADJUSTED BY BEING BUILT UP WITH BRICK AND/OR CONCRETE AND SUCH WORK SHALL BE MADE AT LEAST 24 INCHES BEFORE THE PLACEMENT OF THE IMMEDIATE CONCRETE.
16. **FINISHING:** The surface of the sidewalk shall be carefully finished with a wooden float so as to present a smooth but gritty appearance. No ridges or waves shall be left in the finished surface. The surface of the mortar shall be belted after being properly struck off with a straightedge. The surface edges shall be edged with a one inch radius edger. All expansion joints shall be edged to a radius of one (1) inch. Markings at the false joints shall be edged exactly perpendicular to the centerline of the sidewalk slab.
17. **EXPANSION JOINTS:** Expansion joints shall be placed in the forms as indicated by the Board at intervals of thirty feet more or less or in line with joint in the pavement. At all intersections of sidewalks expansion joints shall be placed entirely around the slab of sidewalk at the intersection. Expansion joint shall be  $\frac{3}{4}$ " thick, one thickness shall be placed between the sidewalk where the same is adjacent to any curb and gutter. Expansion joints shall be placed around all permanent objects left in place.

SPECIFICATIONS.

PORLAND CEMENT CONCRETE SIDEWALKS (cont'd)

18. ADJACENT WORK: Walks should be matched up neatly with adjoining walks, steps, curb, or other surface structures and in case of brick walks enough of the latter shall be retained to form a gradual transition in line and grade. All brick removed shall become the property of the City and be hauled to the nearest City lot available for storage.
19. PROTECTION: When the air temperature is thirty-five degrees F. or less or if it will fall below thirty-five degrees F. within the following twenty-four hours, the mixing water and aggregates shall be heated and precautions taken to maintain the concrete at a temperature of not less than fifty degrees F. for a period of seventy-two hours after placing. The methods of heating the material and protecting the concrete which the Contractor proposes to use shall be approved by the Board. Salt chemicals and other foreign materials shall not be used to prevent freezing except as directed by the Engineer. The temperature at the time of placing shall not exceed one hundred and twenty degrees F.
20. CURING: Impermeable Paper Method. The surface shall be wetted thoroughly and covered with blankets or impermeable paper as soon as the concrete has hardened sufficiently to prevent marring the surface, which blankets shall remain in place for a period of not less than seventy-two (72) hours from the time applied. The blankets shall be lapped at least eighteen (18) inches end to end and these laps shall be securely weighted with a windrow of earth or other approved method to form a closed joint. The edges of the blanket shall be weighted securely with a continuous windrow of earth. Any torn places or holes in the paper shall be repaired immediately by patches cemented over the openings, using bituminous cement having a melting point of not less than 180 degrees F. The blankets may be reused, provided they are airtight and are kept serviceable by proper repairs.

A longitudinal slot shall be provided in the blanket to permit shrinkage. The blankets shall be of sufficient width to cover the entire surface and both edges. Joints or laps in the blanket shall be seamed or cemented together in such manner that they will not separate during use. In cooler weather as determined by the Board this operation may be reinforced by a covering of 10% of straw.

SPECIFICATIONS.

PORLAND CEMENT CONCRETE SIDEWALKS (cont'd)

31. ACCEPTANCE: Any sections between false joints showing any spalling or splitting off at the edges or the surface being too rough or uneven said section or sections shall be removed by the Contractor at his own expense. No patching of any kind will be permitted. Before final acceptance by the Board the site of the work and plant shall be carefully cleaned up and all rubbish and debris of any kind removed, parkings carefully raked up and the whole left presenting a finished and pleasing appearance.
32. PAYMENT: Payment for Portland Cement Sidewalks shall be per square foot of sidewalk in place as measured by the Board. Payment shall cover the necessary labor, materials, repairs and supplies, use of machinery and tools and overhead costs necessary to properly do the proposed work in accordance with the plans and these specifications.