

**CITY OF BISMARCK**

FORESTRY DEPARTMENT SPECIFICATIONS

FOR

TREE AND SHRUB IMPROVEMENTS

BISMARCK, NORTH DAKOTA

Prepared by  
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## SECTION 100

### GENERAL PROVISIONS

- 100 FORM OF PROPOSAL AND SIGNATURE. The proposal must be made on forms provided for that purpose, enclosed in a sealed envelope and marked and addressed as required in the Advertisement. It must state the unit prices and the sum of money for which the bidder proposed to supply the materials and perform the work called for in the Proposal and Schedule of Work. If the bid is made by an individual, it must be signed with the full name of the bidder whose address must be given; if the bid is made by a firm, it must be signed in the co-partnership name by a member of the firm and the name and address of each member of the firm must be given; if the bid is made by a corporation, it must be signed by an officer of the corporation in the corporate name and the corporate seal must be attached to such signature.
- 101 PROPOSALS. No proposals received after the time set for the receiving of the proposals will be considered. The right is reserved to hold all proposals for a period of Thirty (30) days and to reject any or all proposals. Bidders are invited to be present at the opening of proposals.
- 102 BIDDERS BOND. Each bid shall be accompanied by a Bidder's Bond in the amount of Five percent (5%) of the amount of the bid as required by Section 40-22-20 North Dakota Century Code as amended and executed as provided in Chapter 40-22 of North Dakota Century Code.
- 103 AWARD AND CONTRACT SECURITY. The bidder to whom the award is made will be required to enter into a written Contract as required by Section 40-22-20 of the North Dakota Century Code with the City of Bismarck and to furnish a Contract Bond in a sum equal to the full amount of the Contract, executed as provided by Section 40-22-30 and containing the conditions set forth in Section 40-22-31. Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a Performance Bond in the amount at least equal to One Hundred percent (100%) of the total Contract amount as security for the faithful performance of the Contract and also a Payment Bond in an amount not less than One Hundred percent (100%) of the total Contract amount as security for the payment of all persons performing labor on the project under the Contract and furnishing materials in connection with the Contract.

After the proposals are opened and read, the products of the quantities and the respective unit prices bid, and the summation of said products, in each proposal, will be verified or corrected.

103 AWARD AND CONTRACT SECURITY (Cont'd).

In case of discrepancy, the bidder's apparent intent indicated shall govern. However, if the bidder's intent is not apparent the proposal will be rejected. The verified or corrected totals of the proposals considered will be compared and the results of such comparison made public. Until the award of the Contract, however, the right will be reserved to reject any and all proposals and to waive technicalities, as may be deemed best for the interests of the City.

The award of the Contract, if made, will be to the lowest responsible bidder whose proposal complies with all the requirements specified. The award, if made, will be made within the time specified in the advertisement for bids unless an extension of this time limit is agreed to in writing by both parties. In the case of Federal and/or State governments, any agency or subdivision thereof, or other participating party that is participating in the costs of construction of the project, or merely concurrence of the aforementioned parties is required by law, any award made by the Board of City Commissioners shall be deemed only tentative until concurrence has been received from the participating and/or regulatory parties.

As provided by the North Dakota statutes, no Contract will be awarded to any Contractor who is not the holder of a current license in the class within which the value of the project falls. A foreign corporation must have a Certificate of Authority to do business in North Dakota before a Contract can be awarded to said corporation.

The City of Bismarck reserves the right to cancel the award of any Contract at any time before the execution of said Contract by all parties without any liability against the City.

All Bidder's Bonds except in case of defaults, will be returned upon request within a reasonable time and as provided by law.

104 FORESTER. Where the word "Forester" is used in the specifications or in the Contract, it shall be and is mutually understood to refer to the City Forester or authorized representatives. The Forester will give locations for all work and no work, depending upon such locations, shall commence until after the same have been established. Upon all questions concerning the interpretations of these specifications or the plans or the execution of the work, the decision of the Forester shall be binding upon both parties. Detail plans of all work not completely shown on the plans now on file will be furnished by the Forester from time to time and the work shall be executed in accordance with such detail plans.

105 CITY. Where the word "City" is used in the specifications or in the Contract, it shall be and is mutually understood to refer to the City of Bismarck or the Bismarck Parks and Recreation District if and when the Contract is issued by the Board of Park Commissioners of the Bismarck Parks and Recreation District.

- 106 CONTRACTOR. Where the word "Contractor" is used in the specifications or in the Contract, it shall be and is mutually understood to refer to the party, firm or corporation with whom the Contract for the execution of the work is made, the agent of this party or the legal representative. The lead worker of the Contractor in charge of the work will be held to represent the Contractor during the absence of the latter or the legal representative. Instructions given to the Contractor's lead worker by the Forester regarding the Contract will be held as having been given to the Contractor.
- 107 CHARACTER OF WORKERS. The Contractor shall remove from the project, when required to do so by the Forester, any disorderly, dangerous, insubordinate or incompetent person employed on the project. This person shall not return to the project without the written consent of the Forester.
- 108 LOCAL CONDITIONS. Bidders shall satisfy themselves as to the nature of the material to be handled and the local conditions affecting the work and if conditions are found to be different than anticipated by the Contractor subsequent to the signing of the Contract, it shall not in any way relieve the Contractor from obligation or any risks from the fulfillment of all the work and terms of the Contract.
- 109 METHODS AND APPLIANCES. The methods and appliances adopted by the Contractor shall be such as will enable them to secure a satisfactory quality of work and will enable them to complete the work within the time specified. If, at any time, such methods or appliances appear inadequate to the Forester, the Forester may order the Contractor to make such improvements of the methods or increase of efficiency as the Forester may deem advisable and the Contractor shall conform to such orders of the Forester. Failure of the Forester to give such orders to the Contractor shall not, in any way, relieve the Contractor from the obligations, which shall remain in full force and effect until the discharge of the Contract. The City reserves the right, in case of improper work, to suspend the work at any time and to re-let the work or to order the reconstruction of any part or all of the work improperly done.
- 110 DELAYS. The Contractor will not be entitled to any compensation for causes resulting in delays or hindrances to the work. Extensions of time will be granted for unavoidable delays which, in the opinion of the Forester, are clearly beyond the control of the Contractor, including but not restricted to Acts of God, or of the public enemy, acts of the City, acts of another Contractor in the performance of a Contract with the City, fires, floods, epidemics, quarantine restrictions, strikes, freight, embargoes, and abnormal and unforeseeable weather. The Forester must receive written notice of claim for such delays from the Contractor before any extensions of time will be granted. Any extension of time will not relieve the Contractor or their Sureties from their obligations which shall remain in full force and effect until the satisfactory discharge of the Contract.

- 111 DAMAGES. The Contractor will be held responsible and be required to make good, at their own expense, any and all damages to personal property caused by carelessness, neglect or want of due precaution on the part of the Contractor, their agents, employees or workers.
- 112 UTILITIES. It shall be the responsibility of the Contractor to familiarize themselves with the location of the existing sewer and water mains and service lines, gas mains and service lines, telephone cable, power, light and telephone poles and guys, steam lines, valve boxes and stop boxes, mail boxes, and all appurtenances pertaining to utility and public services. It shall be their responsibility to notify the respective utility companies Seventy-Two (72) hours in advance of construction and to consult with personnel of said utility companies regarding any changes or conflicts.
- 113 CHANGES. The City reserves the right to make any changes in the design as may be deemed advisable and should any changes so made put the Contractor to extra expense or operate to decrease their expense, the Forester shall make due allowance, which action shall be binding upon both parties. The Contractor, with whom the Contract for the execution of the work is made, will be required to make any extension which the Forester may require. The extensions shall be performed at the same unit price for the same class of work as bid upon for this work, provided that should the prices of materials be increased or diminished over the prices of the same materials at the present time for the same class of work, the Forester shall make due allowance. The action shall be binding upon both parties and provide further that such extensions shall be ordered prior to the completion of the Contract.
- 114 QUANTITIES. The quantities shown on the sheet entitled "Approximate Quantities" are estimated quantities based on information available at the time of design. It is mutually understood that these quantities may change at the time of installation due to unforeseen conditions which may be encountered during installation. The City reserves the right to designate the order in which the work shall be done as well as the location and amount of work to be completed. Payment shall be made for the final amount of work completed at unit prices specified in the Contract.
- 115 SUB-CONTRACTING. All work performed under this Contract shall be by the company or firm to which the Contract is awarded and no portion of the work shall be awarded to a Subcontractor unless authorized in writing by the Forester acting on the approval of the City.
- 116 BENCH MARKS, WITNESS AND GRADE STAKES. All bench marks, witness and grade stakes are the property of the City and in the event of the destruction or removal by the Contractor or any of their employees, such stakes shall be replaced by the Forester at the Contractor's expense. Any interruption of work and/or costs incurred by the Contractor due to any delays caused during the replacement of destroyed bench marks, witness and grade stakes shall be borne by the Contractor.

- 117 ESTIMATES AND PAYMENTS. Estimates and payments are covered in the sections pertaining to the type of work called for.
- 118 TIME OF BEGINNING AND COMPLETION OF WORK. Work on the Contract shall begin on the date specified in the Advertisement for Bids or in a written order from the City and shall be completed on the date specified in the Advertisement for Bids or in the written order from the City. Work shall continue without interruption until the Contract is completed except for weather conditions or at the discretion of the Forester. The City reserves the right to determine in what order the work shall be done and the work shall be executed in accordance with such directions.
- 119 CONTRACTOR'S RESPONSIBILITIES. Unless otherwise specified, the Contractor shall furnish all labor, materials and equipment necessary for the completion of the Schedule of Work in accordance with the plans and specifications. The Contractor shall do all necessary hauling and perform all labor incidental thereto, for which no express provisions have been made. The Contractor shall assume all risks or damages to persons or property prior to the final acceptance of the work. The Contractor shall so conduct their operation as not to interfere with the work of other contractors in the vicinity. The Contractor shall maintain, at all times, an efficiently sized crew headed by a competent lead worker and the necessary skilled labor to efficiently complete the work.
- 120 FINISHING AND CLEAN-UP. From time to time, or as may be ordered by the Forester, and immediately after completion of the work, the Contractor shall, at their own expense, clean up and remove all refuse and unused materials of any kind resulting from their work. Failure to do so within Twenty-Four (24) hours after the request by the Forester, the work may be done by the City and the cost thereof charged to the Contractor and deducted from the Final Estimate.
- 121 LIQUIDATED DAMAGES. Should the Contractor fail to complete the work within the time agreed upon or within such additional time as may have been granted for formal delays, there shall be deducted from any money due the Contractor the sum shown in the Advertisement for Bids for each calendar day that the completion of the work is delayed and the Contractor and their Sureties shall be liable for any excess. Such payments shall be as and for liquidated damages and not as a penalty. The decision of the Forester for the non-completion of the work shall be binding upon both parties.
- 122 BARRICADES AND WARNINGS. The Contractor is assumed to be familiar with all Federal, State and Local law codes, ordinances and regulations which in any manner effect those engaged in the work or the materials or equipment used in or on the site, or in any way effect the conduct of the work. No pleas of misunderstandings or ignorance on the part of the Contractor will, in any way, serve to modify the provisions of the Contract.

122 BARRICADES AND WARNINGS (Cont'd).

The Contractor shall provide and maintain, on a Twenty-Four (24) hour basis, all necessary safeguards such as watch persons, warning signs, barricades and night lights at the Contractor's expense. Barricades and warnings shall be in accordance with Part VI "Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations" of the most recent edition of the Manual on Uniform Traffic Control Devices. Including all subsequent addendum's and interpretations thereof. The Contractor shall in all cases hold the City, acting through it's legally constituted officials, officers or employees, harmless for any and all resulting damage from any of the Contractor's operations.

123 EXTRA WORK. The Contractor shall perform unforeseen work, for which there is no price included in the Contract, whenever it is deemed necessary or desirable in order to complete fully the work as contemplated. Such work shall be performed in accordance with the specifications and as directed by the Forester. When work not shown on the plans is to be performed by the Contractor, the Forester may order the work done on a force account basis when the measurement and payment by unit prices becomes too cumbersome to be practicable, or when it is considered to be in the best interest of the City. Extra work will be paid for at the unit prices or lump sum stipulated in the order authorizing the work or the Forester may require the Contractor to do such work on a force account basis, to be compensated in the following manner:

A. Labor. For all labor and laborers and lead workers in direct charge of the specific operations, the Contractor shall receive the rate of wage (or scale) agreed upon in writing before beginning work for each and every hour that said laborer and lead worker are actually engaged in such work. The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits, when such amounts are required by collective bargaining agreement or other employment Contract generally applicable to the classes of labor employed on the Contract.

An amount equal to Twenty percent (20%) of the sum of the above items will also be paid the Contractor.

B. Bond, Insurance and Tax. For property damage, liability, and Workers Compensation Insurance premiums, Unemployment Insurance contributions and Social Security taxes on the force account work, the Contractor shall receive the actual cost, to which cost Six percent (6%) will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance and tax.

123 EXTRA WORK (Cont'd).

C. Materials. For materials accepted by the Forester and used, the Contractor shall receive the actual cost of such materials delivered on the Contract, including transportation charges paid by them (exclusive of machinery rentals as hereinafter set forth) to which cost, Eighteen percent (18%) will be added. For all materials used in connection with, but not entering permanently into the work, reasonable depreciation will be allowed.

D. Equipment. For any necessary equipment the Contractor shall be paid at the rates which shall be shown on a list of rental rates which is on file at the Forester's office. No percentage shall be added to these rates. No allowance shall be made for the use of small tools.

The above rental rates to be paid on tractors will be on the size normally used to operate the equipment, subject to approval of the Forester. The above rental rates include gas, oil, repairs, and any other incidentals necessary for the operation of the equipment, but do not include the operators. No work will be paid for until unit prices, rental rates and wages have been agreed upon in writing.

E. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

F. Compensation. The Contractor's representative and the Forester shall compare records of the cost of work done as ordered on a force account basis at the end of each day for the purpose of resolving differences.

G. Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Forester with duplicate itemized statements of the cost of such force account work detailed as follows:

1. Name, classification, date, daily hours, total hours, and extension for each laborer and lead worker.
2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
3. Quantities of materials, prices and extensions.
4. Transportation of materials.
5. Cost of property damage, liability and Worker's Compensation Insurance premiums, Unemployment Insurance contributions, and Social Security tax.

- 123 EXTRA WORK (Cont'd).  
Statements shall be accompanied and supported by receipted invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from their stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor. See Section Standard Forms, for a typical "Summary Statement of Force Account Work" sheet.
- 124 FINAL PAYMENT. After the work has been completed the Forester will prepare a final statement showing the quantities of each and every item of work performed by the Contractor. All estimates upon which previous payments have been based are partial estimates and are subject to correction in the final statement. The final statement showing the entire quantity and value of each and every item of work performed will be submitted to the Contractor for approval before being submitted to the City for payment.
- A. Overpayment. If the final statement shows that the total of all partial payments made exceeds the total amount due to the Contractor, the Contractor shall promptly refund the City the amount of such overpayment. If such refund is not made, the City shall have the right to deduct the amount thereof from any monies due to the same Contractor under any other Contract, either present or future.
- 125 CONTRACTOR'S INSURANCE. The Contractor shall not commence work under this Contract until they have obtained and submitted to the City "Certificate of Insurance" for all insurance required under this paragraph and such insurance has been approved by the City nor shall the Contractor allow any Subcontractor to commence on the subcontract until all similar insurance required of the Subcontractor has been obtained and approved.
- A. Compensation Insurance. The Contractor shall take out and maintain during the life of this Contract Worker's Compensation Insurance for all of their employees employed at the site of the project and, in case any work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In the case of the employees engaged in hazardous work under this Contract, at the site of the project, who are not protected under the Worker's Compensation Statute, the Contractor shall provide and shall cause each Subcontractor to provide Employer's Liability Insurance for the protection of his employees not otherwise protected.

125 CONTRACTOR'S INSURANCE (Cont'd).

- B. Public Liability and Property Damage Insurance. The Contractor shall take out and maintain during the life of the Contract such Public Liability and Property Damage Insurance as shall protect them and any Subcontractor performing work covered by this Contract, for claims and damages for personal injury including accidental death and including the coverage for "Assault and Battery" as well as from claims for property damage (including damage to City property), which may arise from operations under this Contract, whether such operations by them or any Subcontractor or by anyone directly employed by either of them to, from or on the site and the amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than \$500,000 for injuries, etc. including accidental death to any person and subject them to the same limit for each person, in an amount not less than \$1,000,000 on account of one accident and Property Damage Insurance not less than \$400,000. Where excavation, trenching or tunneling is involved the Property Damage Liability Coverage under the Comprehensive General Liability Policy shall specifically provide coverage for damage to underground property. All policies under this section shall name the City as an additional insured.

- C. Satisfactory Coverage. In the event that the form of any policy or certificates or the amount of the insurance or the companies writing same are not satisfactory to the City, the Contractor shall not cause any policies to be cancelled or to permit them to lapse and all insurance policies shall include a clause to the effect that the policy shall not be cancelled or changed until Ten (10) days after the City has received written notice as evidenced by the return receipt of the registered letter.
- D. Proof of Insurance. "Certificates of Insurance" shall contain true transcripts from the policy, authenticated by the proper officer of the insurer, evidencing in particular those insured, the extend of the insurance, the locations and operations to which the insurance applies, the effective date and expiration date and the Notice of Cancellation clause mentioned herein above.
- E. Builder's Risk Insurance. The Contractor shall maintain Builder's Risk Insurance (fire and extended coverage) on a One Hundred percent (100%) completed value basis on the insurable portion of the project for the benefit of the City, the Contractor, and all Subcontractors, as their interest may appear.

126 INSPECTION AND TESTING. All materials and equipment used in the project shall be subject to adequate inspection and testing in accordance with generally accepted standards.

126 INSPECTION AND TESTING (Cont'd).

The Contractor shall provide, at their expense, the necessary testing and inspection services required by the Plans and Specifications unless otherwise provided.

The City shall provide all other inspection and testing services not required by the Plans and Specifications.

If the Plans and Specifications, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor shall give the Forester timely notice of readiness. The Contractor shall then furnish the Forester the required certificates of inspection, testing or approval.

Neither observations by the Forester nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from their obligations to perform the work in accordance with the requirements of the Plans and Specifications.

The Forester and representatives shall at all times have access to the work. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records or personnel, invoices of materials, and other relevant data and records. The Contractor shall provide proper facilities for such access and observation of the work and also for any inspection, or testing thereof.

If any work is covered contrary to the request of the Forester it must, if requested by the Forester, be uncovered for the Forester's observation and replaced at the Contractor's expense.

If any work has been covered which the Forester has not specifically requested to observe prior to its being covered, or if the Forester considers it necessary or advisable that covered work be inspected or tested by others, the Contractor at the Forester's request, will uncover, expose, or otherwise make available for observation, inspection or testing as the Forester may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is defective, the Contractor shall bear all the expense of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If however, such work is not found to be defective, the work shall be under Section 123 Extra Work or an extension of the Contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate work order shall be issued.

127 INDEMNITY AGREEMENT FOR CONTRACTORS. The Contractor agrees to indemnify and save harmless the City and its appointed and elected officials and employees, from and against all loss or expense, including attorney's fees and costs by reason of liability imposed by law upon the City, its elected or appointed officials or employees for damages because of bodily injury including death at any time resulting therefrom sustained by any person or persons and on account of damage to property including loss of use thereof, arising out of or in consequence of the performance of this work, whether such injuries to persons or damage to property is due to the negligence of the Contractor, their agents or employees, their Subcontractors, their employees, the City, its appointed or elected officials, employees, or their agents, except only such injury or damage as shall have been occasioned by the sole negligence of the City, its appointed or elected officials or employees.

128 CONFORMITY WITH PLANS AND SPECIFICATIONS. Unless specific tolerances are specified all work performed and all materials furnished shall be in reasonably close conformity with the lines, cross sections, dimensions, material requirements, and plant requirements shown on the Plans or indicated in the Specifications.

Plan dimensions and Contract specification values are to be considered at the target value to be strived for as the design value from which any deviations are allowed. It is the intent of the specifications that the materials, plants, and work shall be uniform in character and shall conform as nearly as realistically possible to the prescribed target value or to the middle portion of the tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When a maximum or minimum value is specified, the production and processing of the material, the quality of the plants, the performance of the work shall be so controlled that the material, plants or work will not be preponderantly of borderline quality or dimension.

In the event the Forester finds the materials, plants or the finished product in which the materials and plants are used are not within reasonably close conformity with the Plans and Specifications but that reasonably acceptable work has been produced, the Forester will then make a determination if the work will be accepted and remain in place. In this event, the Forester will document the basis of the acceptance by Contract modification which will provide for an appropriate adjustment in the Contract price for such work, plants, or materials as the Forester deems necessary to conform to a determination based upon engineering and horticultural judgement.

In the event the Forester finds the materials, plants, or the finished product in which the materials, and plants are used or the work performed are not in reasonably close conformity with the Plans and Specifications and have resulted in an inferior or unsatisfactory product, the work, plants, or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

(127-128)

- 129 SEVERAL CONTRACTS ON SAME SITE. When different types of work on the same site are let under separate contracts, the several Contractors shall cooperate to the fullest extent with each other so that the prosecution of the work under each Contract will be carried out to the best advantage of the City. The City assumes no liability for any delay caused by the Contractor, their Subcontractor(s), or supplier(s), to any other Contractor, their Subcontractor(s), or supplier(s).
- 130 PROTECTION OF TREES. A Contractor working on public rights-of-way or properties shall be responsible for the prevention of damage to trees, shrubs, bushes, hedges, or other woody plants located within or infringing on the public rights-of-way and properties, including parks and shall notify the Forester prior to beginning any work near said trees.

The Contractor shall construct a fence or frame, not less than Four feet (4') high, around the trees at least as far from the trunk as the dripline (canopy), capable of preventing soil, building material, or debris from accumulating about the base of the plant which shall also be capable of serving as a barrier to all construction or public traffic. Materials or debris shall not be stored under the canopy of any tree which may impede the free passage of air, water, or nutrients through the soil except by written permission of the Forester. No person shall allow a gaseous, liquid, or solid substance which is harmful to such trees or plants to come in contact with them. Nails, bolts, or other fastening materials shall not be imbedded into the trunk or limbs of a tree. Ropes, wires, or other hanging materials shall not be attached to a plant in such a manner that the bark may be damaged or cause undue stress to the plant structure.

Any overhanging branches or underlying roots which may be crushed, scarred, broken, or damaged in any way due to unavoidable construction activity shall be reported to the Forester so that preventive action may be taken to minimize damage to plants. Any trees damaged with or without prior notification of the Forester shall be the responsibility of the Contractor to repair or replace as determined by the Forester.

It is determined by the Forester that ditches, tunnels, trenches, or other earthmoving operations for underground utilities construction will cause damage to the health, vigor, and stability of plants. The Forester may require that power drive soil augers or the power push method be used wherever possible. Where this is not possible, the Forester must be notified to assist in determining alternate methods. If trees must be pruned, fertilized, or removed prior to construction, as determined by the Forester, all costs using prescribed methods shall be the responsibility of the Contractor.

Prior to backfilling any trench or ditch the Forester shall be notified to inspect any repairs made to damaged roots. All exposed roots shall be pruned, or trimmed using a hand pruner or hand saw. Axe cuts are not permitted.

130 PROTECTION OF TREES (Cont'd).

Upon completion of the project the Contractor shall notify the Forester for a final inspection of the trees whether or not any damage occurred. Any damage found to have been caused by the activity of the Contractor shall be the remedial responsibility of the Contractor.

## SECTION 200

### TREE AND SHRUB PLANTING SPECIFICATIONS

The following publications are hereby and fully incorporated into and made a part of these specifications as if attached hereto.

A. NOMENCLATURE:

Standardized Plant Names: 1942 Edition; American Joint Committee on Horticultural Nomenclature.

B. GRADING:

American Standard for Nursery Stock: (most recent Edition); American Association of Nurserymen.

201 MATERIALS.

A. TREES.

Specific requirements not covered under this section concerning the various species and the size and manner in which they are to be furnished are shown on the Plant Plan sheets under "Plant List".

1. Quality and Condition. Trees shall be nursery grown, typical of their species or variety, freshly dug, normally shaped, heavy and well branched; with full foliage when in leaf and shall have healthy, well developed root systems. Trees must be self supporting, with straight trunks and with leaders intact. All wounds present at the time of digging must exhibit callusing, with the bark at the edges of any such wound tight and intact. No abrasions or unhealed cuts are allowed on the trunks of trees. All trees furnished shall be free of any insect infestations and shall be grown under climatic conditions with temperature extremes similar to those of the North Central Region for a minimum of Two (2) years prior to use on this project. The name of the nursery that trees are obtained from will be supplied to the Forester before planting will be allowed. Such list will contain the name and address of the nursery, type of tree, number of trees and caliper of trees, and location or origin of tree if different than location of nursery.

201 MATERIALS. (A. TREES.) (Cont'd).

1. Quality and Condition (Cont'd).

- a. Balled and Burlapped Trees (B&B). B&B trees shall be adequately balled with firm natural balls of soil retaining as many fibrous roots as possible in sizes and shapes as specified in the "American Standard for Nursery Stock" (most recent Edition). Balls shall be firmly wrapped with burlap and secured with nails and heavy twine or rope. No tree with loose, broken or manufactured balls will be accepted, except on special approval of the Forester.
- b. Bare-Root Trees (BR). BR trees shall have a well branched root system characteristic of the species with a root spread as specified in the "American Standard for Nursery Stock" (most recent Edition). All damaged, injured, or broken roots shall be cut with a sharp, clean pruning shears leaving no damaged, frayed or splintered cut surfaces.
- c. Container Grown Trees (CG). All CG trees shall be healthy, vigorous, well rooted, and established in the container in which they are sold. They shall have tops of good quality and in a healthy growing condition.

An established CG tree shall be a tree transplanted into a container and grown in that container sufficiently long for new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container.

The container shall be sufficiently rigid to hold the ball shape protecting the root mass during shipping. Container size shall be as specified in the "American Standard for Nursery Stock" (most recent Edition).

- d. Balled and Potted (POT). POT plants are field-grown nursery plants dug with a ball of earth still intact in which they are growing, and which, in lieu of burlapping, are placed into a container to retain the ball unbroken.

Ball sizes shall always be of a diameter and depth to encompass enough of the fibrous and feeding root system as necessary for the full recovery of the plant.

The minimum ball size specification for POT plants shall be the same as for B&B plants. (Ref. 201 A-1a)

201 MATERIALS (Cont'd).

2. Stock Size. The determining measurements for trees shall be the caliper and/or height. Caliper shall be taken Six inches (6") above the ground for sizes up to and including Four inch (4") caliper size, and at Twelve inches (12") above the ground for larger sizes. Height dimensions, if specified, refer to the main body of the plant and not from branch tips. Measurements shall be taken with branches in normal position.
  - a. The specification of a size range shall mean that all such trees furnished shall be equal to or larger than the minimum size in the range, and that not less than Fifty percent (50%) shall be greater than the average size in the range.
  - b. The specifications of an exact size shall mean minimum size, and all such trees furnished shall be equal to or larger than the specified size. Trees larger in size than those specified may be used without approval of the City, at no additional cost. Contractor shall be responsible for increasing proportionately the size of the ball of earth or spread of roots of such larger trees.

B. SHRUBS.

Specific requirements not covered under this section concerning the various species, and the size and manner in which they are to be furnished are shown on the Planting Plan sheets under "Plant List".

1. Quality and Condition. Shrubs shall be nursery grown, typical of their species or variety, normally shaped, with full foliage when in leaf and shall have healthy and well developed root systems. All shrub species shall conform to the Grades and Types set forth in the "American Standard for Nursery Stock" (most recent Edition). All shrubs furnished shall be free of any insect infestations and shall have been grown under climatic conditions with temperature extremes similar to those of the North Central Region for a period of Two (2) years prior to the project. The name of the nursery that the shrub was obtained from will be supplied to the Forester before planting will be allowed. Such list will contain the name and address of nursery, type of shrubs, number of shrubs, size of shrubs, and location of origin of the shrubs if different from location of nursery.

201 MATERIALS (B. SHRUBS.) (Cont'd).

1. Quality and Condition (Cont'd).

- a. Balled and Burlapped Shrubs (B&B). B&B shrubs shall be adequately balled with firm natural balls of soil retaining as many fibrous roots as possible in sizes and shapes as specified in the "American Standard for Nursery Stock" (most recent Edition). Balls shall be firmly wrapped with burlap and secured with nails and heavy twine or rope. No shrubs with loose, broken, or manufactured balls will be accepted except on special approval of the Forester.
- b. Bare-Root Shrubs (BR). BR shrubs shall have a well branched root system characteristic of the species with a minimum root spread as specified in the "American Standard for Nursery Stock" (most recent Edition). All damaged, injured, or broken roots shall be cut with a sharp, clean pruning shears leaving no damaged, frayed or splintered cut surfaces.
- c. Container Grown Shrubs (CG). All CG shrubs shall be healthy, vigorous, well rooted, and established in the container in which they are growing. They shall have tops of good quality and be in a healthy growing condition. a CG shrub shall be in that container a sufficient time that fibrous roots are formed so the shape will remain and the medium will hold together when removed from the container. Container size shall be as specified in the "American Standard for Nursery Stock" (most recent Edition) for the type of shrub used.
- d. Balled and Potted Shrubs (POT). POT plants are field-grown nursery plants, dug with a ball of earth still intact in which they are growing, and which, in lieu of burlapping, are placed in a container to retain the ball unbroken.

Ball sizes shall always be of a diameter and depth to encompass enough of the fibrous and feeding root system as necessary for the full recovery of the plant.

The minimum ball size specifications for POT plants shall be the same as for B&B shrubs. (Ref. 201 B-1a)

201 MATERIALS (B. SHRUBS) (Cont'd).

2. Stock Size. The determining measurement for Deciduous Shrubs shall be the height of the shrub. The size shall be the minimum size allowable for the Grade and shall include plants from that size up to but not including the next larger size. Deciduous Shrub Grades shall have at least the minimum number of canes for that species Type as specified in the "American Standard for Nursery Stock" (most recent Edition).

The determining measurements for Coniferous Evergreen Shrubs shall be spread and/or height depending on the conifer shrub Type. The individual conifer species shall follow the Types specified in the "American Standard for Nursery Stock" (most recent Edition). Measurement should be average of plant and not the greatest diameter.

- a. The specification of a size range shall mean that all such shrubs furnished shall be equal to or larger than the minimum size in the range, and that not less than Fifty percent (50%) shall be greater than the average size in the range.
- b. The specifications of an exact size shall mean minimum size, and all such shrubs furnished shall be equal to or larger than the specified size. Shrubs larger in size than those specified may be used without approval of the Forester, at no additional cost. Contractor shall be responsible for increasing proportionately the size of the ball of earth or spread of roots of such larger shrubs.

- C. PLANT LABELS. Plant labels shall be durable, legible labels stating the correct tree and shrub name and size in weather resistant ink or embossed process. Labels shall be attached in such a manner that will not damage or hinder the growth of the tree or shrub to which it is affixed. (Ref. 202 C5)
- D. Burlap. Burlap used for wrapping root balls of B&B specified trees and shrubs shall be made of jute and weigh not less than 7.2 oz. per square yard.
- E. CONTAINER. Containers used for growing plants shall be constructed of plastic, papier mache', metal, or any material sufficiently rigid to hold the ball shape protecting the root mass during shipping.

201 MATERIALS (Cont'd).

F. ANTI-DESICCANT. Anti-desiccant shall be an emulsion which provides a protective film over plant surfaces (Ref. 202 B1) permeable enough to permit transpiration, delivered in containers of the manufacturer, and shall be mixed according to the manufacturer's directions. Use only when specified under "Special Provisions".

G. PLANTING SOIL (Backfill). Planting soil used for backfilling plant pits shall be one of the following types; type for the project is specified under "Special Provisions".

1. Type 1 Planting Soil: The soil excavated from the plant pits shall be used for backfill in the planting of trees and shrubs. Remove stones larger than 1 inch (1") diameter and any sticks or extraneous materials. Break up all lumps or clods before backfilling.

2. Type 2 Planting Soil: Use only topsoil for the backfilling of planting pits. Topsoil shall be a fertile loam soil, friable, uniform in texture, and free of any stones, lumps, clods, plants or roots, sticks, wood, or other extraneous material. If soil excavated from plant pits qualifies as topsoil and if the Contractor proposes to utilize this soil in the backfilling of plant pits, the sub-grade soils shall be separated from the upper "topsoil" portions whenever encountered (Ref. 203 C2)

3. Type 3 Planting Soil: Planting soil used for backfilling plant pits shall consist of Eighty percent (80%) Type 2 Planting Soil and Twenty percent (20%) well rotted cow or horse manure, well rotted leaf mold, or a mixture of both. The Two (2) ingredients shall be thoroughly mixed until uniform consistency is achieved.

Note: Excavation and backfilling of Types 1 and 2 Planting Soil (Backfill) shall be considered incidental to the project and shall be included in the bid price of the trees or shrubs. Type 3 Planting Soil (Backfill) is a separate bid item.

H. WATER. The Contractor shall furnish all water, equipment, hose attachments and accessories for the adequate irrigation of plant pits as may be required to complete the planting work (Ref. 203 D6) or to fulfill extended maintenance requirements as specified under 206 A1. Water used shall be fresh, clean water, free from any impurities. Water obtained as a waste or by-product of industrial operations is not acceptable.

I. TREE WRAPPING. Wrapping material for trunks of trees shall be a reusable white plastic spiral tree guard (Ref. 203 E1). Use only when specified under "Special Provisions".

Note: When specified, tree wrap shall be incidental to the project and shall be included in bid price for trees.

201 MATERIALS (Cont'd).

J. STAKES. Type and number of stakes used for securing newly planted trees shall be one of the following types; type and number to be specified under "Special Provisions".

1. Stakes used for securing newly planted trees shall be Five feet (5') long standard steel fence or fiberglass posts (U-section). Flanged stakes shall be installed so that the top of the flange is level with the soil surface. Steel posts shall be painted with at least one coat of flat exterior enamel (Ref. 203 E2).
2. Stakes used for securing newly planted trees shall be Eight feet (8') long 2"x2" wooden posts treated with anti-rot products, or scorched on the underground portion with a torch to prevent rot (Ref. 203 E2).

Note: Cost of stakes is incidental to the project and shall be included in bid price for trees.

K. WIRE. Wire used for securing newly planted trees shall be 12 gauge annealed galvanized steel wire of suitable lengths (Ref. 203 E2).

Note: Cost of wire is incidental to the project and shall be included in bid price for trees.

L. STRAPPING: Strapping used as protection for the trunk of the tree shall be suitable whole lengths of webbing not less than Three inches (3") wide, through which metal grommets have been inserted. The webbing may be canvas or reinforced plastic canvas (Ref. 203 E2).

Note: Cost of strapping is incidental to the project and shall be included in bid price for trees.

M. MULCH. Type and amount of Mulch material shall be one of the following types: type and amount specified under "Special Provisions".

1. Wood chips used for mulching planting areas (Ref. 203 D8) shall be thin cut chips approved by the Forester. Chips shall be air-dried finely shredded maximum 1-1/2" diameter and suitable for horticultural purposes. The pH shall be 5.5 – 7.0 and contain no branches, roots, or foreign matter. The moisture content shall be below Thirty-Five percent (35%).
2. Round pebbles used for mulching planting areas (Ref. 203 D8) shall be one inch Pebble Mulch and shall consist of gravel or stone particles conforming to the following gradation:

201 MATERIALS (M 2. MULCH) (Cont'd).

<u>Screen Size</u>	<u>Percent Passing</u>
1"	100%
¾"	90-100%
3/8"	0-50%
No. 4	0-10%

- N. LAWN EDGING. Lawn edging shall be Six inch (6") hollow top bead, black plastid, commercial grade lawn edging (Ref. 203 D9). Lawn edging shall be used only when specified under "Special Provisions".

Note: Lawn edging is a separate bid item.

- O. LANDSCAPE FABRIC. Landscape fabric shall be a woven or non-woven polypropylene fabric suitable for use in landscape plantings. It shall be permeable to air, water, fertilizer, insecticides, etc. and shall impede or prevent weed growth. It shall be durable enough to resist tearing, rotting, and decomposition from the elements. It shall weigh at least 2.5 oz. per sq. yard but no more than 4.5 oz. per sq. yard. The manufacturer and the weight per sq. yard shall be noted on the bid sheet for that item. Landscape fabric shall be used only when specified under "Special Provisions".

Note: Landscape fabric is a separate bid item.

202 PLANT PREPARATION.

- A. INSPECTIONS. All inspections of trees and shrubs are made at the discretion of the Forester, by authorized staff representatives. Approvals or disapproval's based on these inspections will be made in writing.

1. Certificates of Inspection shall accompany the invoice for each shipment of trees as may be required by law for transportation. These Certificates of Inspection by the State of origin, will be supplied to the Forester before planting will be allowed. Inspection by Federal or State governments at the place of growth does not preclude rejection of the trees by the Forester for use on this project.
2. Plant Material Inspection. Trees and shrubs may be subject to inspection by the Forester at their growing site and upon delivery for conformity to specification requirements. Such approval shall not impair the right of inspection and rejection during progress of the planting work.

202 PLANT PREPARATION (A. INSPECTIONS) (Cont'd).

3. Inspection Request. When specified by the Forester, the Contractor shall request, in writing, inspection of the plant material and inform the Forester of the location of the trees and shrubs which they propose to supply. This request shall be received at least Three (3) calendar days prior to proposed digging dates.

B. DIGGING OPERATIONS. No trees or shrubs shall be dug prior to approval by the City (Ref. 202 A2 and A3).

1. Anti-desiccant spray (Ref. 201 F) shall be applied when specified to all trees immediately prior to digging. Trees may be re-sprayed after planting, at the discretion of the Contractor.
2. Trees and shrubs designated B&B shall be adequately balled with firm natural balls of soil retaining as many fibrous roots as possible in sizes and shapes as specified in the "American Standard for Nursery Stock" (most recent Edition). Balls shall be firmly wrapped with burlap and secured with nails and heavy twine or rope. No trees or shrubs with loose, broken, or manufactured balls will be planted, except on special approval by the Forester.
3. Trees and shrubs designated as BR shall be dug retaining a well branched root system of a size specified in the "American Standard for Nursery Stock" (most recent Edition). Roots severely damaged during digging shall be pruned with a sharp, clean pruning shears leaving no split or frayed surfaces.
4. Trees and shrubs designated as POT shall be adequately balled with firm natural balls of soil retaining as many fibrous roots as possible in sizes as specified in the "American Standard for Nursery Stock" (most recent Edition).

C. HANDLING AND TRANSPORTING OPERATIONS.

Trees and shrubs shall be handled at all times so that a minimum of disturbance of roots, trunks and branches will occur.

1. Lifting of B&B trees and shrubs shall be from the bottom only using straps or webbing to avoid cutting into the root ball or loosening the plant stem.
2. Lifting of CG and POT plants shall be by the container only. Any plants with loose stems shall be rejected by the Forester.
3. Tying of branches shall be done with rope or twine only, and in such a manner that no damage will occur to the bark or branches.

202 PLANT PREPARATION (C. HANDLING & TRANS. OPERATIONS) (Cont'd).

4. Weather Protection. All trees and shrubs shall be transported to the project site in a well ventilated vehicle, and at all times be protected against wind draft and freezing temperatures by use of tarpaulins or covers to prevent drying out of foliage, branches, root balls, roots or containers. Plants shall not be packed too tightly as to induce heat buildup and "sweating". Any plants arriving on the site either frozen or heated up and "sweating" will be rejected. Roots of BR trees and shrubs shall be kept moist and covered with fresh, moist packing material. B&B and CG trees and shrubs shall be kept covered and/or moist with fresh, clean material to prevent drying.
5. Plant Labels. Each tree or shrub delivered to the plant site shall bear a plant label stating it's correct size and botanical name (Ref. 201 C). Trees and shrubs that are not labeled, shall not be planted.
6. Delivery. The Contractor shall exercise care in selecting a delivery date for best coordination with plant installation operations.
7. Planting Delay. If, due to unforeseen complications, trees and shrubs cannot be planted immediately upon delivery or in the same day, they shall be set on the ground, and the roots or root balls kept continually moist by sprinkling and/or protecting with a covering of wet peat moss, burlap or other acceptable material to prevent drying.

203 PLANT INSTALLATION.

In general, all work of plant installation shall be conducted in an orderly efficient manner, using care to keep the entire area affected by the planting operations as clean as possible.

A. PLANTING SEASONS.

Planting operations shall be conducted under favorable weather conditions during one of the two planting seasons herein defined:

Spring – April 15 to June 15

Fall – September 15 to November 15

Planting may be conducted under unseasonable conditions, but without additional compensation. All Spring contracts shall be completed prior to June 15. All Fall contracts shall be completed prior to November 15. Any request for an extension of planting time must be made in writing to the Forester, and must be approved in writing by the Forester before work after the cutoff date will be allowed.

203 PLANT INSTALLATION (Cont'd).

B. PLANTING LOCATIONS.

A landscape plan showing locations for individual trees or shrubs will be supplied by the City. In some cases, the location may be inferred from reference to some tangible field object or from some intangible line which can be constructed in the field.

1. Utility Verification. The Contractor shall contact the local utility companies for verification of the location of all underground utility lines in the area of the work. The Contractor shall be responsible for all damages resulting from neglect or failure to comply with this requirement. Trees shall not be planted closer than Ten feet (10') from water service connections or Five feet (5') from gas lines; unless so directed by the Forester. The Contractor shall be responsible for moving trees after planting if they interfere with existing utilities.
2. Staking. Unless otherwise specified, the Contractor shall stake the tree and shrub locations according to the landscape plan provided by the City and shall contact the Forester for verification of the locations before planting proceeds.
3. Location Approval is given verbally by the Forester. Approval of the staked location does not preclude rejection because of a change in the final tree or shrub location, after excavation of the planting hole (Ref. 203 D4).

C. PLANT PIT EXCAVATION SITE (SITE PREPARATION).

Excavate plant pits in the approved locations as specified on the Planting Plan sheets. Pits shall not be left uncovered overnight.

1. Minimum Plant Pit Size for trees and shrubs shall be specified in the project plan sheets for the project. Plant pits shall be fully excavated to the depths, widths, and lengths specified in the project plan sheets. Soil from pits shall not be allowed to remain in the street overnight.
2. Soil Separation. If existing soil will qualify as Planting Soil and if the Contractor proposes to utilize this soil in the backfilling of plant pits, the sub-grade soils shall be separated from the upper "topsoil" portions whenever encountered. The Contractor shall remove and legally dispose of all excess soils immediately (Ref. 201 G2).

203 PLANT INSTALLATION (C. PLANT PIT EXCAVAT. SITE) (Cont'd).

3. Subsurface Conditions. The Forester shall be notified immediately of all subsurface drainage or soil conditions which the Contractor considers detrimental to growth or survival of plant material. Contractor shall state condition and submit proposal for correction, including cost of correction. No work shall be performed on the affected portion of the work until approval of the method of correction is obtained from the Forester in writing. Underground obstructions shall be removed to a depth of Six inches (6") below or outside the pit requirements. The Contractor shall be responsible for all such removals at no additional cost. If removal is impossible or unfeasible, the Forester shall be notified, and may elect to select alternate planting locations.
4. Equipment. Augers may not be used for excavating the plant pits. Augers may be used to aid in starting the planting hole, with the final planting pit being wider and deeper than was originally augured.

D. SETTING PLANTS.

All planting work shall be performed by personnel familiar with planting procedures and under the supervision of a qualified lead worker who will be on the job site at all times.

1. Preparing B&B Plants. Remove all ropes, string, or wire from the root ball just prior to backfilling. Do not remove burlap. If ball has a hard crust, break gently with a fork. Remove burlap from top 2/3 of ball.
2. Preparing BR Plants. The hole shall be filled with backfill soils to the required level of installation of the plant. The plant shall be held in place and its roots spread out naturally. Then backfill according to Section 203 D5.
3. Preparing CG Plants. All containers, metal, wooden basket, papier mache', or plastic must be removed prior to planting. This must be done in a manner so as to not break or disturb the soil ball.
4. Positioning. Remove all twine or rope from the branches of the trees or shrubs before positioning to determine the true shape of the tree, and adjust accordingly. Check final alignment of tree or shrub in the pit just prior to backfilling. Set each plant with the same relationship to finished grade as it bore to the ground from which it was dug. Allow for normal settlement of the backfill material. The trunk of the tree is not to be used as a lever in positioning or moving the tree in the planting hole. See Detail Sheets for proper finished grade.

203 PLANT INSTALLATION (D. SETTING PLANTS) (Cont'd).

5. Backfilling. Brace trees and shrubs rigidly in position as backfilling proceeds. Use care to tamp thoroughly to eliminate air pockets. When pits have been backfilled approximately 2/3 full, water thoroughly before placing the remainder of the soil to the top of the pit and lightly tamp. A saucer to retain water is not to be made with the backfill material. Any plants found planted too deep shall be raised at the Contractor's expense.
6. Watering. Each plant pit (Ref. 201 H) should be watered immediately after backfilling is completed. The amount of water applied should be based upon the amount of natural moisture in the soil and on the water requirements of the individual trees. Initial watering should continue until bubbles cease to rise in the watering basin. After water has soaked away, top dressing shall be added to plant pits to eliminate all holes, sunken areas, etc. caused by soil settlement.
7. Landscape Fabric. When specified on Plan Sheets, landscape fabric shall be placed over planting beds where specified (Ref. 201 O).
8. Mulching. Proper mulch type and depth shall be specified on Plan Sheets. Place material loosely (Ref 201 M).
9. Lawn Edging. Lawn edging shall be used where specified and installed as specified on Plan Sheets (Ref. 201 N).
10. Plant Saucer. Saucers shall be formed only when specified on Plan Sheets.

E. INITIAL PLANTING MAINTENANCE.

Immediately following the completion of work covered in the preceding section, the following operations of maintenance to the new planting shall be performed:

1. Wrapping of the trunk shall be done prior to staking when specified. Start wrapping from the bottom up to 2/3 the height of the tree.
2. Staking of trees shall take place as soon after the completion of actual planting operations as practicable. Stakes (Ref. 201 J) shall be placed at least Six inches (6") from the root ball and driven down a minimum of Eighteen inches (18") or until firm. Flanged metal stakes shall be installed so that the top of the flange is level with the soil surface. Trees shall be fastened to stakes with wire (Ref. 201 K) inserted through metal grommets on the strapping (Ref. 201 L). Tension shall be tight enough to keep the strap in place on the tree but loose enough to allow the tree to move a

203 PLANT INSTALLATION (E. INITIAL PLANTING MTC) (Cont'd).

2. Staking (Cont'd).  
small amount. There will be no loose ends of wire exposed in such a way that injury would result by contact with said loose end. The tree shall stand plumb before and after the completion of all staking operations. No compensation for vandalized trees will be allowed if staking does not immediately follow planting (Ref. 206 B2). See Planting Detail Sheets for Staking Detail.
3. Pruning. When a young tree is planted, dead, broken and split branches shall be removed. A central trunk or leader or well spaced multiple trunks or leaders (as most appropriate for the species and specimen) should be developed by removing competing leaders and removing, heading or thinning laterals on vigorously growing branches which compete with the selected leader(s). Branches should be retained on the lower trunk to increase taper. All pruning cuts shall be clean and smooth, with the bark intact and uninjured at the edges. Do not head back the leader.
4. Cleanup. The entire area around the planting site shall be restored to its original condition. This work shall include replacement of sod destroyed by planting operations, except in the area of the plant pit. Sidewalks, streets, and other paved areas shall be cleaned of any dirt, mud or debris. This cleanup will take place on a daily basis as the work commences. Repairs shall be made to any walls or paved areas damaged during the execution of the Contract. The Contractor shall be held responsible for any damage to public or private property as a result of the work.

204 INITIAL ACCEPTANCE.

Immediately upon completion of all planting and maintenance operations herein before specified, the following actions shall be undertaken:

A. INSPECTIONS.

The Forester shall make a complete inspection of all work to verify compliance with and fulfillment of these specifications.

1. Inspection Request. The Forester shall receive a written request for inspection at least Two (2) days prior to the anticipated date of inspection. Such written request shall constitute Contractors acknowledgement that all work (Ref. 204 B2) has been performed in accordance with these specifications or with changes which are daily authorized by the Forester. The inspection will not be made without this written request.

204 INITIAL ACCEPTANCE (A. INSPECTIONS) (Cont'd).

2. Inspection List. All repairs, replacements, or work completions which may appear at that time to be necessary in the judgement of the Forester shall be noted and referred to the Contractor. Upon completion of all such work included on the Inspection List, the Contractor shall advise the Forester of such completion in writing and a second inspection shall be made. Such procedure shall continue until all items on the Inspection List are corrected.

B. PROVISIONAL ACCEPTANCE.

Upon completion of a satisfactory inspection, either initially or after correction of all Inspection List items, the Forester shall accept the planting work as complete, provided requirements of Extended Maintenance and Guarantee are met (Ref. 206) or unless specified otherwise under "Special Provisions".

1. Provisional Acceptance shall be granted to the Contractor in writing within Ten (10) days after an acceptable inspection, and the date of such document shall establish the beginning of the Extended Maintenance and Guarantee period (Ref. 206).
2. Uncompleted Work. Should certain parts of the planting work be delayed until the following planting season, Provisional Acceptance may still be granted for that portion of the work which is completed if it is determined it constitutes at least Fifty percent (50%) of all planting work under the Contract.

205 CONTRACT PAYMENT.

A. PARTIAL PAYMENTS.

Partial payments will be allowed for a percentage of the work completed. The partial payment will be allowed when the Contractor furnishes to the Forester, in duplicate copy form, an estimate that Sixty percent (60%) of the plant materials have been planted and an estimated value of the work completed based on the agreed Contract price. Such an estimate shall be verified by the Forester through inspection of the work completed. Upon verification, the Forester will allow partial payment to be made to the Contractor for Fifty percent (50%) of the total Contract price or Ninety percent (90%) of the Contractor's estimate, whichever is the lesser. Payments will not be made for stock in holding but not planted.

205 CONTRACT PAYMENT (Cont'd).

B. CONTRACT PAYMENTS.

Upon issuance of the Provisional Acceptance (Ref. 204 B1) for all work, the Contractor is eligible for:

1. Payment in full for the Contract price. The Contractor shall be held responsible for performing the Extended Maintenance and Guarantee portion of the Contract (Ref. 206 A&B).
2. Payment of up to Ninety-Five percent (95%) of the total Contract price. Five percent (5%) of the total Contract price shall be retained by the City to insure the Contractor's performance during the Extended Maintenance and Guarantee Period (Ref. 206 A&B). The Contractor shall be paid the remaining Five percent (5%) of the Contract price upon issuance of the Final Acceptance Notice (Ref. 207 B).

206 EXTENDED MAINTENANCE AND GUARANTEE.

The date of the Provisional Acceptance (Ref. 204 B1) shall constitute the beginning of the Extended Maintenance and Guarantee Period.

A. EXTENDED MAINTENANCE PERIOD.

1. Maintenance shall consist of watering, cultivating, weeding, pruning, mulching, replacing stakes, tightening and repairing guy wires, resetting trees and shrubs to plumb or proper grade, restoration of the plant saucer, and furnishing and applying of such sprays as are necessary to keep the plantings free of insects and disease. An inspection to verify that plantings are receiving maintenance during the Extended Maintenance Period shall be required every Thirty (30) days, commencing after Provisional Acceptance (Ref. 204 B1) by the Forester. A letter is required to be sent to the Forester every Thirty (30) days stating which trees and shrubs have been inspected, any problems uncovered, and any corrective measures undertaken or planned to be undertaken. If trees and shrubs have not been watered and adequate rainfall has not occurred within a one week period (adequate rainfall to be determined by the Forester), trees and shrubs will be watered within Seven (7) calendar days upon written notification by the Forester. Proper protection of adjacent areas shall be provided, and any damage resulting from maintenance operations shall be repaired promptly. A schedule of tree and shrub watering shall be supplied to the Forester at the end of each month stating the location of each tree and shrub and date when watered.

B. GUARANTEE PERIOD.

All trees and shrubs provided under this Contract shall be guaranteed by the Contractor for a minimum of One (1) full year from the date of Provisional Acceptance (Ref. 204 B1) until Final Acceptance (Ref. 207) to be in good and flourishing condition.

1. Replacements. If at the end of the Guarantee Period (Ref. 207 A) any tree or shrub fails to fulfill all requirements of these specifications with regard to quality and conditions (Ref. 201 A&B) and further that they shall be free of dead branches and twigs, and shall bear foliage of a normal density, size, and color, as determined by the Forester, these trees or shrubs shall be replaced as soon as possible. Locations of dead trees and shrubs under guarantee will be sent to the Contractor on or by May 15 for Spring contracts and replaced by June 15. For Fall contracts locations of dead trees and shrubs under guarantee will be sent to the Contractor on or by September 1, and replacement must be made by November 15. Trees and shrubs planted in the Fall of the year that are determined, by the Forester, to be dead the following Spring, will be removed by July 15. Replacements will not be planted until the Fall planting season. This early removal shall in no way effect the Guarantee Period, it will be as though the tree or shrub was in the ground at its original location and subsequent replacement will be made at this location. The Guarantee Period will commence as of the date the tree or shrub is replaced. Replacement trees and shrubs shall be subject to all requirements stated in these specifications with regard to selection, inspections, preparation and planting and maintenance operations. Replacements shall match caliper and/or height attained by other trees of the original planting. Shrubs shall match spread and/or height attained by other shrubs of the original planting. If replacements cannot be made at the end of the Guarantee Period due to circumstances beyond the Contractor's control, for example, plant material not available, or the wrong planting season for a certain species of plant material, a request in writing must be made to the Forester requesting an extension of time as soon as it is determined that such an extension is necessary. The trees or shrubs that are due to be replaced but cannot be, will be removed at this time. The Guarantee Period will commence as of the date of the actual planting.

2. Marginal Trees and Shrubs. If at the end of the Guarantee Period any trees and shrubs are found to be in marginal condition, whereas their condition in regard to these specifications does not merit absolute acceptance or rejection by the Forester, then upon agreement between the Contractor and the City the Guarantee Period shall be extended One (1) full year. This second Guarantee Period shall carry with it all the conditions of the first (Ref. 206 B1) and during this time the Contractor shall perform any maintenance (Ref. 206 A1) necessary. Any trees or shrubs in a declining or unimproved condition at the end of the second period shall be replaced by the Contractor. If any replacement trees and shrubs are found to be in a marginal condition at the end of the Guarantee Period, then Guarantee Period for said trees and shrubs shall be extended One (1) full year. Any tree or shrub in a declining or unimproved condition at the end of the second period shall be replaced by the Contractor.
3. Replacement Guarantee. Replacement trees and shrubs shall be guaranteed for One (1) full year from the date of their Provisional Acceptance (Ref. 204 B1). If said replacement trees and shrubs at the end of the Guarantee Period fail to fulfill all requirements of these specifications with regard to quality and condition (Ref. 201 A1 & B1) and further that they shall be free of dead branches and twigs and shall bear foliage of a normal density, size, and color as determined by the Forester, the Forester may elect subsequent replacement, under these same requirements, replacement with an alternative species or credit for each item at the current years replacement cost. Any of the options are the Forester's choice.
4. Vandalism. The Contractor shall not be responsible for replacement of any trees or shrubs which have failed as the clear result of vandalism. If, however, marginal trees and shrubs (Ref. 206 B1) die as a result of vandalism occurring within the "Second Guarantee Period", then replacement shall be the responsibility of the Contractor.
5. Liquidated Damages. If at the end of the Guarantee Period, any tree or shrub determined by the Forester to be dead and in need of replacement is not replaced at the end of this Guarantee Period liquidated damages will be assessed to the Contractor. These liquidated damages will consist of a cost of Twenty-Five dollars (\$25.00) per tree or Five dollars (\$5.00) per shrub, which the parties agree is a reasonable estimate of the cost to the City a Contractor to timely replace dead trees, every calendar month or portion thereof that the replacement trees or shrubs are not planted. These damages are due and payable at the end of every calendar month and if not paid when due, the Contractor will be considered in breach of Contract and the Contract will be terminated. If the Contract is terminated, the full value of any trees and shrubs not replaced by the Contractor will be due the City and in addition, liquidated damages of Twenty-Five dollars

206 EXTENDED MAINTENANCE AND GUARANTEE (B. GUARANTEE) (Cont'd).

5. Liquidated Damages (Cont'd).

(\$25.00) per tree or Five dollars (\$5.00) per shrub for every calendar month or portion thereof until the next planting season when said trees and shrubs may be planted, will be assessed against the Contractor. The liquidated damages for not replacing trees and shrubs under guarantee will not be assessed against the Contractor, if failure to replace said trees and shrubs is due to circumstances beyond the Contractor's control. The circumstances considered beyond the Contractor's control are as follows:

- a. Labor Strike.
- b. Unavailability of Planting Stock (as determined by the Forester).
- c. Wrong Planting Season (as determined by the Forester).
- d. Acts of God, such as floods, storms, etc.
- e. Any factor, as determined by the Forester, which makes it impossible for Contractor to plant replacement trees or shrubs.

207 FINAL ACCEPTANCE.

A. INSPECTIONS.

Final acceptance of the planting work under this Contract can only be granted by the Forester after completion of all inspections called for herein at the termination of all Guarantee periods.

1. Inspection Requests. At the completion of any Guarantee Period (Ref. 206 B) the Forester shall receive a written request from the Contractor for inspection at least Five (5) days prior to the anticipated date of such inspection.
2. Inspection. Each tree and shrub shall be inspected at the termination of its Guarantee Period. Trees and shrubs found to be unacceptable shall be so noted in writing and a copy furnished to the Contractor. These trees and shrubs shall be replaced (Ref. 206 B1).

B. FINAL ACCEPTANCE.

Final acceptance is granted in writing by the Forester and such document shall note the complete fulfillment of this specification and release of the Contractor from any further work under this Contract. The Contractor, upon receipt of the Final Acceptance document, shall be eligible for complete payment under the terms of the Contract unless complete payment has already been made.

## SECTION 300

### SEEDING & SODDING

#### 301 – SEEDING

##### 301-1 DESCRIPTION

This item shall consist of seeding the areas shown on the plans or as directed by the Forester in accordance with these specifications.

##### 301-2 MATERIALS

###### 301-2.1 Seed.

Seed and seeding mixture shall be free of all prohibited noxious weed seed and shall not contain more than Five Tenths percent (0.5%) by weight of restricted noxious weed seeds. Prohibited and restricted noxious weeds shall be those as classified by State Agriculture Department.

All seed containers must be sealed and labeled to comply with existing North Dakota Agriculture Laws and Regulations or in accordance with the U.S. Department of Agriculture and Regulations under the Federal Seed Act, if shipped in Interstate Commerce.

Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable.

Seed mixture shall contain not less than the specified percent of pure live seed and shall be uniformly mixed by weight to one of the following formulas:

Percent By Weight	Kind of Grass (Rate of Application)	% Pure Live Seed
<u>Class I</u> (40 lbs./ Acre)		
40	Pubescent Wheat Grass	80
40	Crested Wheat Grass	80
20	Slender or Intermediate Wheat Grass	75

301-2.1 **SEED (Cont'd).**

Percent By Weight	Kind of Grass (Rate of Application)	% Pure Live Seed
<u>Class II</u> (5 lbs./100 S.Y.)		
60	Kentucky Blue Grass	80
20	Perennial Rye	80
10	Creeping Red Fescue	75
10	Annual Rye Grass	75
<u>Class II (for shady areas)</u> (5 lbs./100 S.Y.)		
50	Kentucky Blue Grass	80
20	Perennial Rye	80
30	Creeping Red Fescue	80
<u>Class III</u> (40 lbs./Acre)		
100	Brome Grass	80
<u>Class IV</u> (40 lbs./Acre)		
50	Brome Grass	80
50	Crested Wheat Grass	80
<u>Class V</u> (20 lbs./Acre)		
40	Fairway Crested Wheat Grass	80
20	Slender Wheat Grass	75
40	Western Wheat Grass	75
<u>Class VI</u> As specified on the plans or In the "Special Provisions".		

301-2.1 **SEED (Cont'd).**

When Class V seed mixture is specified it shall be sown at the rate of Sixteen (16) pounds per acre and Sixty (60) pounds of Ammonium Nitrate (33.5% Nitrogen) per acre shall be spread on the soil prior to seeding or by means of fertilizer attachment on the drill. Ammonium Nitrate shall not be mixed with the seed.

When Class I, III, IV or V seed mixture is specified, Twenty (20) pounds of Oat seed per acre shall be added to the mixture if seeding is performed before July 15, and if seeding is performed after July 15, Thirty (30) pounds of Rye seed per acre shall be added to the mixture.

If seed with the specified percentage of pure live seed cannot be obtained, additional seed may be used to bring the amount of live seed up to the amount specified.

Seed shall be furnished separately or in mixtures in standard containers with the seed name, lot number, new weight, percentages of purity and of germination and hard seed and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the Forester duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include: Name and address of laboratory, date of test, lot number for each kind of seed and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished and in case of a mixture, the proportions of each kind of seed.

301-2.2 **Topsoil.**

Topsoil shall consist of loose, friable, loamy topsoil that is free of excess acid and alkali. It shall be free from objectionable amounts of sod, hard lumps, gravel, subsoil or other undesirable material which will prevent the formation of a suitable seedbed. Topsoil shall, prior to being stripped, have demonstrated by the occurrence upon it of healthy crops, grass or other vegetable growth that is of good quality, and it is reasonably well drained.

301-2.3 **Lime.**

Lime, if specified, shall be ground limestone containing not less than Eighty-Five percent (85%) of total carbonates, and shall be ground to such fineness that Ninety percent (90%) will pass through a No. 20 mesh sieve and Fifty percent (50%) will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified by an approved testing laboratory on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least Ten percent (10%) Magnesium Oxide.

#### 301-2.4 **Fertilizer.**

Fertilizer, if specified, shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of Total Nitrogen, Available Phosphoric Acid, and Water Soluble Potash. They shall be applied at the rate and to the depth specified and shall meet the specified requirements of the applicable State and Federal laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds of hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader.
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

#### 301-2.5 **Soil for Repairs.**

The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the Forester before being placed.

### 301-3 **CONSTRUCTION REQUIREMENTS**

#### 301-3.1 **General.**

Seeding shall be done at such times of the year when the climatic conditions of temperature and moisture are most adaptable for growth and work of this nature. It is preferred that seeding shall be accomplished before July 1<sup>st</sup> and after September 1<sup>st</sup> of each year.

The areas to be seeded shall be cleared of all debris, rank vegetation, and other material that is detrimental to the preparation of a seedbed. The areas thus cleared shall be shaped or bladed by approved equipment to the plan cross section, or to such cross section that best fits the existing conditions. The areas thus prepared shall be disced, harrowed, raked, or worked by some other approved method, into a reasonably smooth, even seedbed. The surface of the prepared seed bed shall be firm enough to take and hold the seed without undue loss from high winds or ordinary rainfall. If rolling is necessary to secure this, it shall be done prior to the seeding and with an approved roller, the weight of which shall be dependent upon the particular soil conditions.

301-3.1 **General (Cont'd).**

Seed shall be sown by means of a force feed drill with a grass seed attachment, except that on slopes steeper than three to one or on areas too small to be seeded with a force feed drill, seed may be sown by power sprayers, blowers or other approved methods. All equipment shall be in good working order and shall be approved by the Forester.

Kentucky Bluegrass shall be seeded at a very shallow depth or on the surface and cultipacked as germination is enhanced by light exposure.

No seed shall be sown during winds that are strong enough to prevent it from being properly imbedded into the surface.

Fertilizer and/or lime, when specified, shall be spread and worked into the soil during the final preparation of the seedbed.

For bidding purposes, the bidder shall figure on use of 10-20-0 fertilizer spread at the rate of 75 pounds per 100 S.Y.

The Contractor shall take four representative and suitable samples of the soils which are to form the seedbed and shall submit these samples to an approved testing laboratory for analysis and recommendation of fertilizer to be used. Sampling and testing shall be done with sufficient promptness so as to avoid delaying the work. Test results shall be submitted to the Forester.

301-3.2 **Establishing Turf.**

The seeded area shall be kept moist until it has germinated and it's continued growth assured. In all cases, watering shall be done in a manner which will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface. Water will be considered incidental to the items "Seed".

All seeded areas shall be protected against traffic or other use by warning or barricades approved by the Forester.

Additional watering during the dry periods and mowing of seeded areas shall be performed until the seed is firmly established. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the seeded area, they shall be mowed and the clippings raked and removed from the area.

The Contractor shall furnish and replace without compensation, therefore, any seed for areas that have not germinated, died, or are damaged to the extent that replacement is required to conform to the requirements outlined above. The Contract Guarantee Period shall also apply to this item.

## **301-4 MEASUREMENT AND PAYMENT**

### **301-4.1 Seeding Class I.**

Seeding Class I shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class I" complete in place and accepted by the Forester.

### **301-4.2 Seeding Class II.**

Seeding Class II shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class II" complete in place and accepted by the Forester.

### **301-4.3 Seeding Class III.**

Seeding Class III shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class III" complete in place and accepted by the Forester.

### **301-4.4 Seeding Class IV.**

Seeding Class IV shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class IV" complete in place and accepted by the Forester.

### **301-4.5 Seeding Class V.**

Seeding Class V shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class V" complete in place and accepted by the Forester.

### **301-4.6 Seeding Class VI.**

Seeding Class VI shall be measured by the square yard (SY) and paid for at the unit price bid for "Seeding Class VI" complete in place and accepted by the Forester.

## **SECTION 302**

### **SODDING**

#### **302-1 SODDING**

This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with the specification at the locations on the plans or as directed by the Forester.

(301-302)

## 302-2 MATERIALS

### 302-2.1 **Sod.**

Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots or other materials which may be detrimental to the development of sod or to future maintenance. At least Seventy percent (70%) of the plants in the cut sod shall be composed of the species stated in the "Special Provisions", and any vegetation more than Six inches (6") in height shall be mowed to a height of Three inches (3") or less before sod is lifted. Sod, which is the soil containing the roots and the vegetative growth, shall be cut uniformly to a thickness not less than that stated in the "Special Provisions".

### 302-2.2 **Lime.**

Lime, if specified, shall conform to the requirements (Ref. 301-2.3).

### 302-2.3 **Fertilizer.**

Fertilizer, if specified, shall conform to the requirements (Ref. 301-2.4).

### 302-2.4 **Water.**

The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the Forester prior to use.

### 302-2.5 **Soil for Repairs.**

The soil for fill and topsoiling of areas to be repaired shall conform to the requirements (Ref. 301-2.5).

## 302-3 CONSTRUCTION REQUIREMENTS

### 302-3.1 **General.**

Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition which are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the Forester before the various operations are started. The Contractor shall demonstrate to the Forester before starting the various operations that the application of required materials shall be made at the specified rates.

302-3.2 **Preparing The Ground Surface.**

After grading of area has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stone larger than Two inches (2") in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

302-3.3 **Applying Fertilizer and Ground Limestone.**

Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the "Special Provisions". If use of ground limestone is required, it shall then be spread at a rate which will provide not less than the minimum quantity stated in the "Special Provisions". These materials shall be incorporated into the soil at a depth of not less than Two inches (2") by discing, raking, or other methods acceptable to the Forester. Any stones larger than Two inches (2") in any diameter, large clods, roots and other litter brought to the surface by this operation shall be removed.

302-3.4 **Obtaining and Delivering Sod.**

After inspection and approval of the source of the sod by the Forester, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than Two inches (2"). Sod sections or strips shall be cut in uniform widths, not less than Ten inches (10"), and in lengths of not less than Eighteen inches (18"), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected.

Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to a depth the sod is to be cut.

302-3.5 **Laying Sod.**

Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Forester, provided the sod bed is watered to moisten the soil to a depth of at least Four inches (4") immediately prior to laying the sod.

302-3.5 **Laying Sod (Cont'd).**

The sod shall be moist and shall be placed on a moist earth bed. Pitchforks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workers, when replacing it shall work from ladders or treated planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sod. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately One inch (1") below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with the pavement edges.

On slopes steeper than 1 vertical to 2-1/2 horizontal and in V-shaped or flat bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than Twelve inches (12") in length and have a width of not less than 3/4 inch. The pegs shall be driven flush with the surface of the sod.

302-3.6 **Watering.**

Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it becomes established and it's continued growth assured. In all cases, watering shall be done in a manner which will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

302-3.7 **Establishing Turf.**

A. **General.**

The newly placed sod shall be kept in good condition during the care period following placement. The care period after placement of the sod shall be 14 days duration for sod placed during the growing season before July 15, and after September 15; and shall be 21 days duration for sod placed between July 15 and September 15.

The time between October 15 of any year and April 15 of the following year shall not be considered to be a part of the required care period for sod. Sod placed after October 15 of any year, or sod placed at a time when the care period for that sod extends past October 15 shall show evidence of established growth after April 15 of the following year before its care period will be considered concluded.

302-3.7 **Establishing Turf (A. General) (Cont'd).**

Water shall be applied to the sod during the care period according to the following schedule:

Immediately after sod placement – 5 gals./S.Y.  
7 days after sod placement – 5 gals./S.Y.  
14 days after sod placement – 5 gals./S.Y.

For sod placed between July 15 and September 15 an additional 5 gals./S.Y. shall be applied 21 days after sod placement.

Water shall be applied by sprinkling or any method approved by the Forester that prevents wasting the water runoff from the sod area. If necessary to prevent runoff several intermittent application of water may be required. The amount of water to be applied may be reduced by the Forester if, in the Forester's opinion, there has been enough rainfall to warrant a reduction.

The Contractor shall furnish and replace, without any compensation, any sod that dies or is damaged to the extent that replacement is required during the care period. Replacement sod shall be installed under the same specification requirements as those for the original sod being replaced, including the care period.

Water will be considered incidental to the item "Sodding".

B. **Protection.**

All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Forester.

C. **Mowing.**

The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the sodded species, they shall be mowed and the clippings raked and removed from the area.

302-3.8 **Repairing.**

When the surface has become gullied or otherwise damaged during the period covered by this Contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the Forester, and shall then be re-sodded as specified (Ref. 302.3.5).

302-4 **MEASUREMENT AND PAYMENT.**

Sodding shall be measured by the square yard (SY) and paid for at the unit price bid for "Sodding" complete in place and accepted by the Forester.

**SECTION 600**

**STANDARD FORMS**

**601 – CONSTRUCTION CONTRACT**

North Dakota Income Tax Clearance No. \_\_\_\_\_

Expiration Date of Certificate \_\_\_\_\_

**AGREEMENT**

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_  
20\_\_\_\_, by and between the CITY OF BISMARCK, a municipal corporation, hereinafter  
called the "City", and \_\_\_\_\_ Company, a  
corporation, organized under the laws of the State of North Dakota, with its offices at  
\_\_\_\_\_, North Dakota, hereinafter called the  
"Contractor".

The Parties hereto, in consideration of the mutual agreement herein contained, mutually  
undertake, promise and agree for themselves, their respective representatives,  
successors and assigns, as follows:

**ARTICLE I**

The Contractor shall furnish the materials and perform the work for the construction of  
\_\_\_\_\_ and related work in \_\_\_\_\_  
\_\_\_\_\_ Improvement District Number \_\_\_\_\_,  
in strict accord with the Contract as hereinafter defined.

**ARTICLE II**

The following shall be deemed a part of this Contract:

1. The proposal for bids, instructions to bidders and requirements for bidders.
2. The bid of the Contractor.
3. The Agreement.
4. The General Provisions.
5. The Specifications.
6. The Contract Drawings.
7. The bid bond, performance and payment bonds and maintenance bond, if any.
8. All addenda issued by the City Forester prior to the receipt of bids.
9. Notice of Award.
10. Resolution of City awarding bid.
11. All provisions required by law to be inserted in this Contract, whether actually inserted or not.

All of the above taken as a whole shall constitute the Contract Documents.

**ARTICLE III**

The City shall pay the Contractor for the performance of this agreement according to the following schedule of approximate quantities, the aggregate of which is estimated to be approximately \_\_\_\_\_.

Item No.	Item	Qty.	Unit	Price	Total
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Quantities, unit prices and totals taken  
from Proposal Form to be listed here.

Total Estimated Contract Cost \$ \_\_\_\_\_  
to be paid as provided in the specifications out of \_\_\_\_\_ Improvement  
District No. \_\_\_\_\_ Fund of the City of Bismarck, and the City assumes no general  
liability under this Contract.

#### **ARTICLE IV**

All provisions of the Contract relating to time of performance and completion of the work are of the essence of the Contract. Accordingly, the Contractor shall begin work on a date to be specified in a written order from the Board of City Commissioners, and shall fully and entirely perform this Contract, and all work incidental thereto on or before \_\_\_\_\_ subject, however, to other provisions of the Contract documents.

#### **ARTICLE V**

During performance and up to the date of final acceptance, the Contractor shall be under an absolute obligation to protect any damage, loss or injury; and, in the event of such damage, loss or injury the Contractor shall promptly replace or repair such work, whichever the Forester shall determine to be preferable. The obligation to deliver finished work in strict accordance with the Contract prior to final acceptance shall be absolute and shall not be affected by the Forester's approval of or failure to prohibit means and methods of construction used by the Contractor.

The Contractor must take all reasonable precautions to protect the persons and property of others on or adjacent to the site from damage, loss or injury resulting from the Contractor's operations under this Contract.

Within Three (3) days after notice to the Contractor of the happening of any such loss, damage or injury, the Contractor shall make a full and complete report thereof in writing to the Forester.

If the persons or property of others on or adjacent to the site sustain loss, damage or injury resulting directly or indirectly from the work of the Contractor, or their Subcontractors, in their performance of this Contract, or from the Contractor or their Subcontractors failure to comply with any of the provisions of this Contract or of the law, the Contractor shall indemnify and hold the City harmless from any and all claims and judgements for damages and from costs and expenses to which the City may be subjected or which it may suffer or incur by reason thereof.

The Contractor agrees to indemnify and save harmless the City of Bismarck, its appointed and elected officers and employees, from and against all loss or expense, including attorney's fees and costs by reason of liability imposed by law upon the City, and its elected or appointed officials or employees for damages because of bodily injury including death at any time resulting therefrom sustained by any person or persons and on account of damage to property including loss of use thereof, arising out of or in consequence of the performance of this work, whether such injuries to persons or damage to property is due to the negligence of the Contractor, their agents or employees, their sub-contractors, their employees, City of Bismarck, its appointed or elected officers, employees, or their agents, except only such injury or damage as shall have been occasioned by the sole negligence of the City, its appointed or elected officials or employees.

## ARTICLE VI

During the performance of this Contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contract of understanding, a notice, to be provided by the agency contracting officer, advising the labor union workers, representative of the Contractor's commitments under **Section 202 of Executive Order No. 11246 of September 24, 1965**, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of **Executive Order No. 11246 of September 24, 1965**, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Contractor shall furnish all information and reports required by **Executive Order No. 11246 of September 24, 1965**, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of the investigation to ascertain compliance with such rules, regulations, and orders.



**SECTION 602**

**BID BOND**

KNOW ALL PEOPLE BY THESE PRESENTS, that we \_\_\_\_\_  
\_\_\_\_\_ hereinafter called the Principal, as Principal, and the  
\_\_\_\_\_ of, \_\_\_\_\_, a  
corporation duly organized under the laws of the State of \_\_\_\_\_,  
hereinafter called the Surety, as Surety, are held or firmly bound unto \_\_\_\_\_  
\_\_\_\_\_ hereinafter called the Obligee, in the sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_),  
for the payment of which sum well and truly to be made, the said Surety, bind ourselves,  
our heirs, executors, administrators, successors and assigns, jointly and severally,  
firmly by these presents.

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding of Contract Documents with good and sufficient surety and material furnished in the prosecution thereof or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid, and such larger amount for which the Obligee may in good faith Contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

SIGNED AND SEALED THIS \_\_\_\_\_ day of \_\_\_\_\_ A.D. 20 \_\_\_\_\_

In the presence of:	( _____ ) (SEAL)
	(Principal
	( _____ ) (SEAL)
_____	(Title
Witness	( _____ ) (SEAL)
	(Surety
_____	( _____ ) (SEAL)
Witness	(Title
_____	
North Dakota Agent	

**SECTION 603**

**PERFORMANCE BOND**

KNOW ALL PEOPLE BY THESE PRESENTS that \_\_\_\_\_

\_\_\_\_\_  
(Here insert the name and address or legal title of Contractor)

as Principal, hereinafter called Contractor, and \_\_\_\_\_

\_\_\_\_\_  
(Here insert the legal title of Surety)

\_\_\_\_\_  
as Surety, hereinafter called Surety, and held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_  
(Here insert the name & address of legal title of Owner)

as Obligee, hereinafter called Owner, in the amount of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

for payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement, dated \_\_\_\_\_ 20\_\_\_\_\_

entered into a Contract with Owner for \_\_\_\_\_

\_\_\_\_\_  
(Here insert full name and title)

which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

- (a.) The Surety hereby waives notice of any alteration or extension of time made by Owner.
- (b.) Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:
  - 1. Complete the Contract in accordance with its terms and conditions, or
  - 2. Obtain a bid or bids for submission to Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a Contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balances of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price" as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor...
- (c.) Any suit under this bond must be instituted before the expiration of Two (2) years from the date on which final payment under the Contract falls due.
- (d.) No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 20\_\_\_\_\_.

In the presence of:	( _____ ) (SEAL)
	(Principal
	( _____ ) (SEAL)
_____	(Title
Witness	( _____ ) (SEAL)
	(Surety
_____	( _____ ) (SEAL)
Witness	(Title
_____	
North Dakota Agent	

**SECTION 604**

**PAYMENT BOND**

KNOW ALL PEOPLE: That we \_\_\_\_\_

\_\_\_\_\_ hereinafter called the Principal, and \_\_\_\_\_

\_\_\_\_\_ and

\_\_\_\_\_ and

hereinafter called the Surety, or Sureties, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_ hereinafter called the Owners, and to such persons, firms and corporations who may furnish materials for, or perform labor on the work, building or improvements, contemplated in the Contract hereinafter mentioned, in the sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

for the payment whereof the Principal and Surety, or Sureties, bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has by means of a written agreement dated \_\_\_\_\_

entered into a Contract with the Owner for \_\_\_\_\_

\_\_\_\_\_ a copy of which Agreement is by reference made a part hereof.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall faithfully perform the Contract on their part, and satisfy all claims and demands incurred for the same and shall fully indemnify and save harmless the Owner from all costs and damage which he may suffer by reason of failure so to do and shall fully reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any such default and shall promptly make payment to all persons supplying labor or material for use in the prosecution of the work provided for in such Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

AND PROVIDED, that any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Owner or the Principal to the other shall not in any way release the Principal and the Surety, or Sureties, or either or any of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to Surety, or Sureties, or any such alteration, extension or forbearance being hereby waived.

This bond is made for the use and benefit of all persons, firms and corporations who may furnish any material or perform any labor for or on account of said work, building or improvements and they and each of them are hereby made Obligees hereunder the same as if their own proper names were written herein as such, and they and each of them may use hereon.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 20\_\_\_\_\_.

In the presence of:

\_\_\_\_\_) \_\_\_\_\_(SEAL)  
\_\_\_\_\_) as to  
\_\_\_\_\_) \_\_\_\_\_

\_\_\_\_\_) \_\_\_\_\_(SEAL)  
\_\_\_\_\_) as to  
\_\_\_\_\_) \_\_\_\_\_

\_\_\_\_\_) \_\_\_\_\_(SEAL)  
\_\_\_\_\_) as to  
\_\_\_\_\_) \_\_\_\_\_

