

**SPECIFICATIONS**

*for*

**STREETSCAPE PLANTINGS**

**TOWN OF NORTH BEACH  
CALVERT COUNTY, MARYLAND**

**MAYOR AND TOWN COUNCIL**

**MARK R. FRAZER, MAYOR**

**MICHAEL BENTON**

**JANE HAGEN**

**MICKEY HUMMEL**

**GWEN SCHIADA**

**RANDY HUMMEL**

**PAUL TRANCONE**

*Prepared For*

**THE TOWN OF NORTH BEACH**

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**MARCH, 2017**

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## INVITATION FOR BIDS

Sealed bids for the Streetscape Plantings until 2:00 p.m. prevailing time on Thursday, April 20, 2017 and then publicly opened and read aloud.

The Project includes the furnishing and installation of various trees and shrubs at two locations on Chesapeake Avenue. The first location is in new tree wells the Town is installing on Chesapeake Ave between 1<sup>st</sup>. St. and Seventh St. The second location is at Callis Park on the west side of Chesapeake Ave between 3<sup>rd</sup> and 5<sup>th</sup> St.

Contract Documents are available at the Town's website site at: [northbeachmd.org](http://northbeachmd.org).

Stacy Wilkerson, Town Clerk  
Town of North Beach

### Run Dates

4/5

4/12

## INFORMATION FOR BIDDERS

### A. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

1. Work described herein shall be in accordance with the contract documents including the Contract Specifications book and the Contract Drawings.
2. Before submitting their bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions and on-going contracts that may in any manner affect performance of the Work, (c) determine to his own satisfaction the actual subsurface conditions including the character and type of soil and material he will encounter in the Work, (d) familiarize himself with Federal, State and local laws, ordinances, rules and regulations affecting performance of the Work; and (e) carefully correlate his observations with the requirements of the Contract Documents.
3. The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article.

### B. INTERPRETATIONS

All questions about the meaning or intent, discrepancies or omissions of the Contract Documents shall be submitted in writing and addressed to John A. Hofmann, P.C., P.O. Box 2542, Prince Frederick, Maryland 20678 (email: jahpc@verizon.net). Replies where warranted will be issued by Addenda mailed or delivered to all parties recorded as having received the Contract Documents. Questions received less than 7 calendar days before the scheduled bid opening will not be answered. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

### C. BOND AND INSURANCE REQUIREMENTS

#### 1. **Bid Guarantee**

Each Bidder must furnish with his Bid, a Bid Guarantee in an amount not less than five (5) percent of the amount of his Bid.

The Bid Guarantee shall be in the form of a firm commitment, such as a postal money order, certified check or cashier's check, or bid bond. Bid Bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the State of Maryland and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570.

The OWNER may hold as many of the Bid Guarantees as he may deem advisable until the execution and delivery of the Contract and Contract Bonds, whereupon all Bid Guarantees will be returned. All other Bid Guarantees will be returned within seven days after Bid opening.

#### 2. **Performance and Labor and Material Payment Bonds (NOT REQUIRED)**

The Contractor shall provide the Performance and Labor and Material Maintenance Bonds in accordance with requirements set forth in the General Conditions, in the following amounts:

Labor and Materials Payment Bond shall be 100 percent of the Contract Price.

Performance Bonds shall be 100 percent of the contract price.

Surety company shall meet the requirements stated above for bid bonds. Copy of power of attorney with effective date for signatures shall be attached.

**3. Insurance**

Provide certificates of insurance meeting requirements of Article 8, General Conditions as part of the contract execution as stated in Article 7 herein.

**D. CONTRACT TIME**

The number of days or the actual date for completion of the Work is set forth in the Special Conditions and will be included in the executed Contract.

**E. BID FORMS**

1. The Bid Form and attachments are included in the Contract Specifications Book. Bids shall be submitted on the attached forms and shall be filled out in full, in ink or by typewriter. If changes and erasures are made, such changes and erasers shall be clear and legible, and shall be initialed by the person signing the Bid Form.

Please submit the following forms in the bid package:

- a. Bid Form
- b. Bid Surety, If a Bid Bond Attach Power-of-Attorney

The Bid Form may provide for submission of a price or prices for one or more items, which may be lump sum Bids, alternate prices, and scheduled items resulting in a Bid on a unit of construction or a combination thereof, or other Bidding arrangements. Unless specifically called for, alternate Bids will not be considered.

Bids in which the prices obviously are unbalanced may be rejected. Unbalanced prices shall be interpreted to mean that the unit price for any items is such that it is unreasonable for that particular item when considered by itself and not considered in connection with the bid submitted on any other item or items.

Bids shall be based on products, materials and/or methods named in the Contract Documents.

Detach completed Bid Form and required attachments and submit in a sealed, opaque envelope bearing the Bidder's name and address at the time and place indicated on the Invitation to Bid.

Bids may be modified or withdrawn at any time prior to the opening of bids.

Signing of Bids shall comply with instructions on the Bid Form.

2. The Bidder shall assume full responsibility for timely delivery at location designated for receipt of Bids. Bids received after the designated time for the public bid opening will be returned to the bidder unopened.

Oral, telephonic or telegraphic Bids are invalid and will not receive consideration.

3. Bids will be publicly opened and read aloud at the time and place set forth in the Invitation to Bid. Only bid totals will be publicly read at the Bid Opening. Bidders and other interested parties may be present either in person or by representative. Unit prices will be made available after verification by the OWNER.

In case of discrepancy between prices in writing and in figures, the writing shall govern. In case of error in the extension of prices in the Bid, unit prices will govern.

4. No Bidder may withdraw a Bid within one hundred twenty (120) calendar days after the actual date of the opening of the Bids. Negligence on the part of the Bidder in preparing the Bid confers no right for the withdrawal of the Bid after it has been opened. Should there be reasons why the Contract cannot be awarded within the specific period, the time may be extended by mutual agreement between the OWNER and the Bidder.

F. AWARD OF CONTRACT

1. The OWNER reserves the right to reject any and all bids and waive any and all irregularities, and the right to disregard any or all non-conforming unbalanced or conditional bids or counter proposals. The OWNER may reject, as non-responsive, any or all bids where bidders fail to acknowledge receipt of addenda as prescribed.
2. Award will be based on the prices bid for products, methods and materials named in the Contract Documents. Consideration of the decisions regarding substitutions will not be made until after Award of the Contract.
3. In evaluating Bids, the OWNER will consider the qualifications of the Bidders as described in Article I herein, whether or not the Bids comply with the prescribed requirements and alternates and unit prices if requested in the Bid Form.

The OWNER reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to the OWNER's satisfaction.

4. If a contract is to be awarded, it will be awarded to the lowest responsive Bidder whose evaluation by the OWNER indicates that the Award will be in the best interest of the OWNER within 90 days after the day of the Bid Opening.
5. The OWNER reserves the right to cancel the Award of the Contract at any time prior to execution of the Contract without liability to the OWNER.

G. EXECUTION OF THE CONTRACT

1. Copies of the Agreement Form are contained in the specifications.

The Bidder to whom the Contract has been awarded shall return six copies of the Contract and such other Documents as required by the Contract Documents properly executed, to the OWNER within ten days after the date of issuance of the Notice of Award. The OWNER will execute the Contract within 10 days after receipt of the Contractor's executed Contract Form.

Failure by the Contractor to execute the Contract and submit such other Documents as required by the Contract Documents and file acceptable insurance and bonds within the time aforesaid shall be just cause for annulment of the Award and the forfeiture of the Bid Guarantee which shall become the property of the OWNER, not as a penalty but in liquidation of damages sustained. Award may then be made to the next lowest responsible Bidder or the Work may be re-advertised and constructed under Contract or otherwise, as the OWNER may decide.

2. By executing the Contract, the Contractor represents that he has familiarized himself with, and assume full responsibility for having familiarized himself with, the nature and extend of the Contract Document, work, locality, and with all local conditions and on-going Contracts and Federal, State and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. The Contractor also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Contract Documents and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.
3. The OWNER shall furnish free of charge to the Contractor five copies of the Contract Documents for the execution of the Work. Additional copies will be furnished upon request, at the cost of reproduction.

G. PRE-CONSTRUCTION CONFERENCE

1. Within ten days after execution of the Contract, the OWNER may arrange a pre-construction conference with the Contractor which will include but not necessarily be limited to discussion of the following items: Requirements of the Contract; Contractor's suggested sequence of construction and progress of schedule; erosion and sediment control permit and compliance; OWNER'S procedural requirements; Contractor's coordination with the OWNER, other agencies, other Contractors, and property owners; Contractor's proposed subcontractors and list of all material and equipment he will purchase, giving name, address and telephone number of Supplier.

H. NOTICE TO PROCEED

1. After execution of the Contract, the ENGINEER will issue a Notice to Proceed.
2. The Notice to Proceed will be the date upon which work under this Contract shall be initiated, and upon which the time provided in the Contract for performance of the work shall be commenced.
3. Materials ordered or work done on the site prior to the date set forth in the Notice to Proceed shall be at the Contractor's risk.
4. Failure by the Contractor to initiate work within ten days of the date of commencement set forth in the Notice to Proceed shall be construed as a Breach of Contract and may result in termination of the Contract by the OWNER.

I. BIDDER QUALIFICATIONS

1. Performance Capability

Bidders shall be responsible and have the capability to properly perform classes of work contemplated according to the Contract terms, and shall have the necessary plant, expertise, manpower, equipment, and sufficient capital to execute the Work properly within the time specified.

2. Certified Statement of Qualifications

The OWNER will require any apparent low Bidder who has not performed comparable work for the OWNER within the last five years to submit a certified statement of his organization's financial resources, performance schedule, performance record, integrity, experience, other qualifications, and equipment and facilities pertinent to the proposed Contract. This certified statement shall be submitted within ten days after Bid Opening.

The OWNER, at his discretion, may make such investigations it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish the OWNER all such information and data for this purpose as the OWNER may request. The OWNER may visit any prospective contractor's place of business, contracts in progress or contact persons knowledgeable of the bidder's background to determine his ability, capacity, reliability, financial stability, or other factors necessary to perform the Work. This requirement will be waived if the Bidder has submitted such a statement to the OWNER under the same company name for a comparable contract within five years prior to bid opening date, but will be required if the previous submission was under another name or organization or joint venture. The OWNER, at his discretion, may require any or all of the above listed information from any Bidder. The OWNER reserves the right to reject the bid of a bidder who has previously failed to perform properly or to complete in a timely manner, contracts of a similar nature, or if investigation shows the bidder unable to perform the requirements of the Contract or if the bidder fails to complete and submit the Contractor's Information Report in its entirety.

3.

3. Bid Submittal Limit

A Bidder may submit only one Bid. More than one Bid from an individual, firm or partnership, corporation or association under the same or different names will not be considered, and will be considered grounds for disqualification of the Bids involved, and rejection of the Bids.

J. SUBSTITUTIONS

1. Whenever a material, article or method is specified or described by using the name of proprietary product or the name of a particular manufacturer or vendor, followed by the phrase "or equal", the specific item mentioned shall be understood as establishing the type, function, dimension, appearance and quality desired and is to be the basis upon which bids are to be prepared. Other manufacturer's materials, articles or method not named will be considered after Award of the Contract provided the Contractor submits the proposed substitutions on the Equipment and Material List with his bid, and provided the substitution will not require substantial revisions of the Contract Documents.
2. Whenever a material, article or method is specified or described without the phrase "or equal" no substitutions will be allowed.

K. SUBCONTRACTS

1. Before entering into any subcontracts, the Bidder to whom the Contract has been awarded shall fill out and submit together with his executed Contract Documents, a Subcontractors and Suppliers Form giving the name and address of the proposed subcontractors and suppliers, the portions of the Work and materials which each is to perform, and/or furnish, and shall certify that each proposed subcontractor has the necessary facilities, skill, integrity, past experience and financial resources to perform the Work in accordance with the terms and conditions of the Contract.

L. LAWS AND REGULATIONS

1. The bidder's attention is directed to the fact that all applicable Federal, State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full. The bidder is assumed to have made himself familiar with all such rules and regulations which in any way affect the work, and no plea of misunderstanding will be considered on account of the ignorance thereof. If the bidder shall discover any provision in the plan, specification or other contract document which is contrary to, or inconsistent with, any such law, ordinance, rule or regulation; he shall forthwith report it to the ENGINEER in writing.



M. ESTIMATED QUANTITIES

1. Any estimates of quantities herein furnished by the ENGINEER are approximate only and have been used by the ENGINEER as a basis for estimating the cost of the work and will also be used for the purpose of tabulating and comparing the bids and awarding the contract. The ENGINEER has endeavored to estimate those quantities correctly according to his knowledge and the information shown on the plans, but it is not guaranteed that these estimated quantities are accurate. If the Contractor, in making up and/or submitting his bid, relies upon the accuracy of such estimated quantities, he does so at his own risk.

**BID FORM  
STREETSCAPE PLANTINGS  
TOWN OF NORTH BEACH**

MADE this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

By \_\_\_\_\_

Business  
Address \_\_\_\_\_

Telephone  
No. \_\_\_\_\_

I/WE, the undersigned bidder, declare that the only person, firm or corporation, or persons, firms or corporations, that has or have any interest in this proposal, or in the Contracts proposed to be taken, is or are the undersigned; that this proposal is made without any connection or collusion with any person, firm, or corporation making a proposal for the same work; that the attached specifications and form of contract and the drawings therein referred to, have been carefully examined and are understood; that as careful an examination has been made as is necessary to become informed as to the character an extent of the work required; and that it is proposed and agreed if the proposal is accepted, to contract with the Town of North Beach, in the form in the specifications and as shown by the drawings.

The following bid price(s) include and cover the furnishing of all materials and labor requisite and proper, and the providing of all necessary machinery, tools, apparatus and means for performing the work, and the doing of all the above mentioned work, in the manner set forth, described and shown in the specifications and on the contract drawings, within the prescribed time:

The BIDDER hereby acknowledges receipt of the following addenda:

ADDENDA NUMBER	ISSUE DATE
_____	_____
_____	_____
_____	_____

No successful Bidder may withdraw his bid.

Contractor will begin work within 10 calendar days after Notice to Proceed.

Respectfully submitted,

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

STREETSCAPE PLANTINGS  
 TOWN OF NORTH BEACH  
 BID UNIT PRICE

Item No.	NAME	DESCRIPTION	QTY.	BID UNIT PRICE	Bid AMOUNT
<b>CHESAPEAKE AVE TREEWELLS</b>					
1	Yoshino Cherry	2" Cal. B&B	4		
2	Pink Velour Crepe Myrtle	2" Cal, B&B	14		
3	Compact Inkberry Holly	3 Gal Cont.	10		
4	Soft Touch Compact Holly	3 Gal. cont.	189		
5	Otto Luyken English laurel	2 Gal. Cont.	3		
6	Fountain grass	3 Gal. Cont.	10		
7	Peach Drift Rose	3 Gal. Cont.	218		
8	Gold Fountainn Sedge	1 Gal Cont.	19		
9	Black Eyed Susan	1 Gal. Cont	20		

BF-2

NB STREETSCAPE



**AGREEMENT FORM**

**THE TOWN OF NORTH BEACH  
STREETSCAPE PLANTINGS**

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 2017, by and between the Town of North Beach herein after called "Owner", and \_\_\_\_\_ of \_\_\_\_\_, MD hereinafter called "Contractor".

WITNESSETH, that the Contractor and the Owner for the considerations stated herein mutually agree as follows:

Article 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, appurtenances, equipment and services, including utility and transportation services and perform and complete all work and required supplemental work for the completion of this Contract in strict accordance with the hereinafter referenced Contract Documents all as prepared by John A Hofmann, P.C., and in these Contract Documents, referred to as the "Engineer".

Article 2. The Contract Price. The Owner will pay the Contractor for the performance of the contract Base Bid Work in current funds, for the total quantities of work performed at the prices stipulated in the bid for the respective items of work completed subject to additions and deductions as provided in the Section - Changes in Contract Price & Time in the General Conditions. The Contract price until modified will be

Article 3. Contract Documents. The Contract Documents shall consist of the following (including their attachments and exhibits):

- |                                                                     |                              |
|---------------------------------------------------------------------|------------------------------|
| a. This Agreement                                                   | g. General Conditions        |
| b. Addenda                                                          | h. Technical Specifications  |
| c. Invitation for Bids                                              | i. Drawings                  |
| d. Instructions to Bidders                                          | j. Certificates of Insurance |
| e. Singed copy of bid, with all attachment required for the bidding |                              |
| f. Special Conditions                                               |                              |

Article 4. Time for Completion & Liquidated Damages. The Contractor hereby agrees to commence work under this Contract on or before the date specified in the written "Notice to Proceed" of the OWNER and to fully complete the work in accordance with the "Time for Completion and Liquidated Damages" as specified in the Contract Documents. The Contractor

further agrees to pay, as liquidated damages the amount specified for each consecutive calendar day thereafter that the work remains uncompleted.

This Agreement, together with other Documents enumerated in this Article 3, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, forms the Contract between the parties hereto. In the event that there is a conflict in any provision in any component, the part first enumerated in this Article 3 shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed on the day and year first above written.

\_\_\_\_\_  
(Contractor)

By \_\_\_\_\_

Title \_\_\_\_\_

THE TOWN OF NORTH BEACH  
(Owner)

By \_\_\_\_\_

Mark R. Frazer, Mayor

## SPECIAL CONDITIONS TO THE CONTRACT

### PART 1.0 - PROJECT DESCRIPTION

The Project includes the furnishing and installation of various trees and shrubs at two locations within the Town. The first location is in new planter islands the Town is installing in Chesapeake Ave between 1<sup>st</sup>. St. and 7<sup>th</sup> St. under a separate Contract. The second location is at Callis Park on the west side of Chesapeake Ave. between 3<sup>rd</sup> and 5<sup>th</sup> St.

### PART 2.0 - CONTRACT DRAWINGS

STREETSCAPE PLAN BLOCKS 1-3	March, 2017
STREETSCAPE PLAN BLOCKS 4-7	March, 2017
CALLIS PARK LANDSCAPE/ HARDSCAPE PLAN	Sht. 1 of 1      March, 2017

NOTE Work under this Contract includes furnishing and installing plant materials shown on the Contract Drawings. All other work shown on the drawings is by Others.

### PART 4.0 - CONTRACT TIME/LIQUIDATED DAMAGES

The work included in the PROJECT shall be commenced at the time stipulated by the OWNER in the Notice-to-Proceed (NTP) and shall be fully completed and ready for final acceptance by the OWNER within 45 calendar days. Liquidated damage shall be \$250 for each calendar day the work remains incomplete beyond the time specified.

### PART 5.0 WORK BY OTHERS

Prior to or during the time of this Contract, the Owner will undertake with its own forces or others the following work within the limits of work for this Contract. The Contractor shall coordinate work under this Contract with the work of Others.

Chesapeake Ave Streetscape: The Chesapeake Ave Streetscape Contract includes the construction of planter islands, repaving and replacement sidewalks for Chesapeake Ave from 1<sup>st</sup> to 7<sup>th</sup> St. which also includes placing topsoil in the new planter islands which shall either be removed or remain in place for the planting work under this Contract.

Callis Park: Fencing, walls, walkways and other hardscape features shown on the Callis Park Contract Drawing are being installed under separate contracts and not included in this Contract.



Chesapeake Ave Lighting The Owner is administering separate contracts to upgrade portions of its street lighting for Chesapeake Ave, at some locations new light poles will be installed in the new planter islands

PART 5.0 - MAINTENANCE AND PROTECTION OF TRAFFIC

The Contractor shall be responsible to maintain and protect traffic in the project area to the satisfaction of the Town of North Beach. The Contractor must maintain pedestrian and vehicular traffic and permit access to business, residences, at all times.

**GENERAL CONDITIONS**

**ARTICLE 1 MATERIALS, SERVICES AND FACILITIES**

1.1 It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete and deliver the Work within the specified time.

1.2 Manufactured articles, materials and equipment shall be new, and shall be stored, applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer, and as approved by the Engineer. Manufactured articles, materials and equipment shall meet all specified requirements, and their manufacturers and suppliers shall be approved by the Engineer before delivery to the Contract site. When manufactured articles, materials and equipment, and their manufacturers and suppliers are named in the Specifications, only those named will be considered and accepted.

1.3 Deliveries of material, equipment and supplies to the Contractor or Subcontractors at the contract site shall be specifically addressed to the Contractor or Subcontractor and not to the Owner or Engineer. Owner's or Engineer's personnel will not accept deliveries for the Contractor or Subcontractors.

1.4 Materials and equipment shall be stored to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the work shall be located and stored to facilitate prompt and safe inspection. Temporary fence shall be provided, when required.

1.5 Materials, supplies and equipment shall be in accordance with samples, drawings and catalog cuts submitted by the Contractor and approved by the Engineer and shall not be delivered to the Work site prior to the Engineer's approval of samples and Contractor's drawings.

1.6 Materials, supplies or equipment to be incorporated into the Work shall be new and shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

1.7 All Work included in this Contract shall be performed in a skillful and workmanlike manner. The Contractor shall employ no plant, equipment, materials, methods or persons to which the Engineer objects.

**ARTICLE 2 LAYOUT**

2.1 The Contractor shall be responsible to provide all staking and layout for the work under this Contract.

**ARTICLE 3 PROTECTION OF WORK, PROPERTY AND PERSONS**

3.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all

necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

In case of suspension of Work for any cause, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Work, all material or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, provide for proper drainage, provide temporary heat, light, and other required utilities and services, and shall erect any necessary temporary structures, signs, or other facilities at his expense. In addition, the Contractor shall properly and continuously maintain in acceptable growing condition all living material in newly established plantings, seedings, and sodding furnished under this Contract, and shall take adequate precautions to protect new and existing growth against injury.

3.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. He shall notify owners of adjacent utilities when prosecution of the Work may affect them.

3.3 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, shall act, at his discretion, to Prevent threatened damage, injury or loss.

3.4 When the Owner or Engineer has been notified of emergency situations requiring in the Owner's opinion, immediate attention and rectification, the Owner will so notify the Contractor. Should the Contractor not commence work to rectify the situation within one hour after notification, the Owner may perform the required work and deduct the costs thereof from monies owed the Contractor.

#### ARTICLE 4 SUPERVISION BY CONTRACTOR

4.1 The Contractor shall supervise and direct the Work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be as binding as if given to the Contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work as determined by the Owner.

#### ARTICLE 5 CORRECTION OF WORK

5.1 The Contractor shall promptly remove from the premises all Work rejected by the Engineer for failure to comply with the Contract Documents whether incorporated in the construction or not, and the Contractor shall promptly replace and reexecute the Work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

5.2 All removal and replacement work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected Work within ten days after receipt of Written Notice, the Owner may remove such Work, store the materials and replace the rejected Work at the expense of the Contractor.

5.3 Any work which may be done or materials ordered by the Contractor prior to receipt of the Notice to Proceed, incorporation of previously rejected Work, work done contrary to or regardless of the instructions of the Engineer or Owner, work done beyond the limits shown on the Plans, except as herein specified or any extra work done without written authority from the Owner, will be considered as unauthorized and may not be paid for. Work so done may be ordered removed or replaced at the Contractor's expense.

## ARTICLE 6 PAYMENTS TO THE CONTRACTOR

6.1 At least ten days before each progress payment falls due, the Contractor shall submit to the Project Manager a partial payment estimate, filled out in ink or typewritten and signed by the Contractor, covering Work performed during the period of the partial payment estimate and supported by such data as the Project Manager may reasonably require to include schedule updates. If payment is requested on the basis of materials and equipment not incorporated in the Work, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the Project manager, as will protect the OWNER's interests therein, including applicable insurance. . The Project Manager will, within ten days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate for processing, or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within 30 days of an Project Manager approved partial payment estimate, pay the Contractor a progress payment on the basis of the approved partial payment estimate. The Owner will retain ten percent of the amount of each payment until final completion and acceptance of all Work covered by the Contract Documents. The OWNER at any time after 50 percent of the Work has been completed, if it finds that satisfactory progress is being made, will eliminate retainage on the current and remaining estimates. When the Work is substantially complete, the retained amount may be further reduced to only that amount necessary to assure completion.

6.1.1 With each payment, the Contractor, when signing the payment form, certifies that he has made payment from proceeds of prior payments and that he will make timely payments from the proceeds of progress and final payment then due him, to his subcontractors and suppliers in accordance with his Contractual arrangement with them.

6.1.2 No payments for installation of equipment requiring Operation and Maintenance Manuals will be made prior to receipt of final approved copies of the Operation and Maintenance Manuals.

6.2 Payments shall be made for material or equipment not yet incorporated in the Work after delivery and stockpiling on the Contract site provided submittals have been received and accepted and the material is stored in accordance with the Contract Documents and as recommended by the manufacturer. Payment will not exceed manufacturer's invoice amount, less standard payment retention, and where equipment manuals are required, no payment will be made prior to approval of preliminary submittal of the Operations and Maintenance Manuals.

Material for which payment has been made, wholly or partially, shall not be removed from the Work site. Damage or loss of material and equipment remains the responsibility of the Contractor until the Certificate of Substantial Completion is issued. Payment for material and equipment shall not be construed as acceptance by the OWNER nor does it relieve the Contractor of the responsibility to incorporate material and equipment that complies with the Contract Documents. Contractor shall show evidence that he has paid the supplier of material and equipment prior to receiving the next payment.

- 6.3 Prior to making a request for final payment, the Contractor shall have completed all Work as defined in Article 1.34 herein, under the Contract.

The Project Manager will issue a certificate attached to the final payment request with a copy sent to the Contractor that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages but except such sums as may be lawfully retained by the OWNER, will be paid to the Contractor within 45 days of completion and acceptance of the Work.

- 6.4 The Contractor shall indemnify and save the OWNER's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, tools and all supplies incurred in the furtherance of the performance of the Work. The Contractor shall, at the ENGINEER's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived. If the Contractor fails to do so the OWNER may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor will be resumed in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the Contractor, his Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the OWNER will be considered as a payment made under the Contract Documents by the OWNER to the Contractor and the OWNER will not be liable to the Contractor for any such payments made in good faith.

## ARTICLE 7 ACCEPTANCE OF FINAL PAYMENT AS RELEASE

7.1 The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner and Engineer from any and all claims of any nature, and the failure to mention a particular type of claim does not reflect an intention to allow the claim to survive, and all liability to the Contractor other than claims submitted as specified elsewhere in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with the Work and for every act and neglect of the Owner, Engineer and others relating to or arising out of this Work.

7.2 The Owner shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate or certificate is untrue or is incorrectly made, nor from showing that the work or materials do not in fact conform to the Contract. The Owner shall not be precluded or estopped, notwithstanding any such measurement, estimate or certificate and payment in accordance therewith, from recovering from the Contractor or his Sureties, or both, such damage as it may sustain by reason of his failure to comply with the terms of the Contract.

7.3 Neither the acceptance by the Owner or any representative of the Owner nor any payment of or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Owner, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to recover damages. The waiver of any breach of the Contract shall not be held to be waiver of any other or subsequent breach.

## ARTICLE 8 INSURANCE

8.1 The Contractor shall purchase and maintain insurance with companies acceptable to the Owner meeting requirements specified herein as will protect him from consequential liability which may arise out of or result from the Contractor's execution of the Work, whether done personally or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

8.1.1 Certificates of insurance shall be filed within ten (10) days after receipt of the Notice of Award. These certificates shall contain a provision that policy coverages will not be canceled, altered or materially changed without thirty days prior written notice provided to the Owner, via registered or certified mail, to the address below:

8.2 The Contractor shall provide the following:

### 8.2.1 General Liability Insurance

Such coverage to protect the Contractor and the Owner or Engineer from any claims which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

Such insurance shall include:

- a. Independent Contractor's coverage;
- b. Products and Completed Operations coverage;
- c. Blanket Contractual Liability coverage;
- d. Fire Legal Liability coverage;
- e. Broad Form Property Damage coverage;
- f. No Water Damage Exclusion;
- g. The Comprehensive General Liability Policy shall contain an endorsement indicating that the XC (Explosion and collapse) exclusions applicable to a Contractor's Policy have been deleted for certain work. The XC exclusion shall be deleted on construction contracts for water mains, sanitary sewer and storm drain whenever explosives of any types are to be used to perform Work as set forth in the Contract, and when deemed necessary in the best interest of the Owner, and on construction Contracts for buildings and facilities under which

the Contractor will be constructing buildings and/or facilities. Policy limits shall be as specified herein for each occurrence of Property Damage;

h. No "Employee Exclusion" with respect to personal injury coverage; and

i. The Owner shall be named as an additional insured as their interest may appear.

Limits of Liability to be not less than \$500,000 Each Occurrence and Aggregate (where usually applicable) Combined Personal Injury and Property Damage Liability.

#### 8.2.2 Automobile Liability Insurance

Such coverage shall protect the Contractor and the Owner from any claims arising out of the use of any owned, non-owned and hired automobiles.

Limit of Liability to be not less than \$500,000 Each Accident Combined Bodily Injury and Property Damage Liability.

#### 8.2.3 Workers' Compensation and Employers' Liability Insurance

Statutory coverage for place and type of work to be performed.

Employers' Liability Insurance Limits - Not Less Than:

\$100,000 Each Accident - Bodily Injury by Accident  
\$100,000 Each Employee - Bodily Injury by Disease  
\$500,000 Policy Limit - Bodily Injury by Disease.

#### 8.2.4 Umbrella Liability Insurance

Limit of Liability \$2,000,000 Each Occurrence and Aggregate (where usually applicable), unless otherwise specified.

Required for Contracts which include erection of a structure or facility or an addition to or renovation of an existing structure or facility.

The amount of coverage shall be based upon the 100% projected completed value of the Work and shall be in effect prior to Work commencing and stay in effect until the Contract is completed by the Contractor and accepted by the Owner.

### ARTICLE 9 GUARANTY

9.1 The Contractor shall guarantee all materials and work performed for a period of one year from the date(s) of substantial completion

### ARTICLE 10 CLAIMS AND DISPUTES

10.1 Any claim, dispute on any matter in question between the Contractor and the OWNER arising under the terms and provisions of this Contract, including without limitation, a claim for breach of contract shall be initially submitted in

writing to the OWNER within thirty days of the event giving rise to the claim, dispute or other matter. The Owner shall in no way be obligated to enter into arbitration proceedings with a Contractor for any purpose whatsoever. The Owner will reserve onto itself the right to determine what form of litigation and its location are appropriate at the time of the dispute arises. Any Claim upon which the Owner elects litigation shall be decided only by non-jury litigation in the Circuit Court of Calvert County, and the Contractor waives jurisdiction or venue in any other court or tribunal.

#### ARTICLE 11 TAXES

11.1

The Contractor shall pay all sales, consumer, use and other similar taxes required by the law of the place where the Work is performed.



**SECTION 02910**  
**LANDSCAPING**

**PART 1.0 - GENERAL**

**A. DESCRIPTION**

1. The work under this item shall consist of furnishing and planting trees, shrubs, and vines and ground cover plants and transplanting the same, in the locations and of the type and size indicated on the Contract Drawings or specified elsewhere in the Contract documents and mulching of the tree pit, shrub beds and/or vine and ground cover areas in accordance with the details shown, these specifications or as ordered by the Owner. It shall also include all incidental operations such as, but not limited to, all required excavation, preparation of the tree pit or planting bed, furnishing and placing of the planting soil/topsoil, guying or staking, fertilizing, watering, pruning, spraying, establishing, and replacing of dead and unsatisfactory plants or unsatisfactory material prior to the end of the period of establishment.

**PART 2.0 - MATERIALS**

**A. Plant Stock - General**

1. Nomenclature: The common and botanical name of the plants shall be in conformity with the current edition of Standardized Plant Names (SPN), prepared by the American Joint Committee on Horticultural Nomenclature.

Quality and Size: Plants, including root spread and ball size, shall be in accordance with the current edition of "U.S.A Standard for Nursery Stock", a code of standards sponsored by the American Association of Nurserymen (AAN), or as further specified on the Contract Drawings. All plants shall have a normal habit of growth and be typically characteristic of their respective kinds. When a minimum and maximum size is specified, an average size is required. Plants shall not be pruned before delivery and no plants shall be cut back from larger sizes to meet the sizes specified. Plants shall be free from insect damage, infestation and disease, disfiguring knots, stubs, sun-scalds, abrasions of the bark or any other form of injury or objectionable disfigurements. Plants shall be nursery grown and bear evidence of proper nursery care, including adequate transplanting and root pruning. No plant will be considered nursery grown unless it has been growing in a nursery for at least two years and unless it has been root-pruned or transplanted no more than five years prior to digging.

2. Nursery Grown Plants

Trees: Nursery grown trees shall have no cuts of limbs which are not healing and no cuts over 3/4 inch which have not completely calloused over, no cut back crowns or leaders and no abrasions of the bark. Trees must have good fibrous root systems characteristic of the kind. Deciduous trees shall have normal spread of crowns unless otherwise specified. Trees shall have straight trunks, well-balanced tops and a single leader or as may be characteristic of the species. Trees in which the leader or branches have been cut back or otherwise topped or deformed will not be accepted.

The caliper of shade trees up to and including 4-inches in diameter shall be measured above the root collar (or swelling at the ground) 6-inches above the ground level. Trees

larger than 4-inches in diameter shall be measured 12-inches above the ground level. Height measurements shall be double feet range in larger sizes (e.g. 6'-8').

Shrubs: Shrubs shall have good fibrous root system. The quality of balled and burlapped (B&B) and balled and platformed (B&P) shrubs shall be as specified for B&B and B&P trees herein.

Plants specified as sods or clumps shall be dug from good soil which has produced a fibrous root system typical of the nature of the plant. The sods shall be dug with earth and incidental vegetation adhering to the roots. IF the soils or habit of the root growth is such that the roots are not adequately protected, the sods shall be wrapped in burlap or other suitable material.

Vines and Groundcover Plants: Vines and groundcover plants shall be vigorous, well-furnished with good vigorous root systems. They shall be field grown (F.G.) unless otherwise specified. Pot grown plants (P.G.) shall be vigorous, well developed plants, well established in pots with sufficient roots to retain the soil in which they were growing after removal from the containers, but they shall not be root-bound.

Balled and Burlapped Trees: Balled and burlapped (B&B) trees shall be properly dug and protected to preserve the natural earth in contact with the roots. No manufactured balls will be accepted. The balls shall be of the required size, firmly wrapped and tied with approved materials. No balled plants will be acceptable if they ball is cracked or broken.

Balled and Platformed Trees: Balled and platformed (B&P) trees shall be balled as specified for balled and burlapped trees. Platforms shall be square or octagonal shaped in a size slightly larger than the diameter of the bottom of the soil mass, inserted under each ball and securely lashed to the ball by means of ties from the platform corners to the rope collar on top of the ball.

Container Grown Plants: The provisions of the "ANN Standard" shall govern, except that container grown plants shall have been growing for at least one year, but not more than two years in the same container.

3. Inspection

All planting stock shall be available for inspection in the nursery. The Contractor shall furnish the Owner with complete and detailed information concerning the source of supply for each item of plant material, included in the planting list.

All plant materials will be re-inspected at the project site prior to planting.

4. Substitutions

No change in size, kind or quality from those specified will be permitted without written approval of the Owner.

5. Certificates of Inspection

Certificates of inspection, issued by Federal and State authorities (or both) attesting to the freedom of the plant material from diseases and insect infestations, shall accompany each shipment, invoice or order of stock. On arrival of shipment, such certificates shall be

filed with the Owner. Failure to furnish these certificates upon delivery shall be cause for rejection of the shipment.

6. Transportation and Labelling

Plants transported by open vehicles shall be covered by tarpaulins or other suitable covers securely tied to the body of the vehicle. Closed vehicles shall be adequately ventilated to prevent overheating of the plants. The heads of trees shall be tied in carefully to prevent breakage of the leaders and branches. Trunks and branches shall be adequately supported on padding to prevent their being scraped or bruised. All local, State and Federal laws relative to the shipment of plant material shall be strictly complied with.

Legible labels shall be attached to all separate plants, boxes, bundles, bales or other plant containers, indicating the name, size, and quantity of units in each container and other information necessary for inspection.

7. Delivery

Notice of delivery of plants shall be given to the Owner by the Contractor at least 48 hours in advance of the anticipated delivery date, unless otherwise authorized. The Owner shall be furnished a legible copy of the invoice for each shipment showing kind, sizes and quantities of materials.

All plant materials which are delivered in such a stage as to reasonably endanger their survival will not be accepted.

8. Spring Planting

All deciduous plants shall be received with buds unopened and intact; evergreen plants with the new growth retarded.

9. Fall Planting

Deciduous plants shall not be dug before the plants have hardened off.

B. TOPSOIL

Unless otherwise specified in the Contract drawings, all topsoil used for the planting soil mixture shall be furnished from off-site sources.

The topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic or detrimental to plant growth and shall be free from subsoil, stumps, roots, brush, stones, clay lumps or similar objects larger than two inches in greatest diameter. The topsoil shall be made loose and friable suitable for the planting soil mixture. The organic content shall be not less than 3% nor more than 20% as determined by the wet combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% passing the 200 mesh sieve as determined by the wash test made in accordance with the standard test ASTM D-1140.

The Contractor shall notify the Owner of the location from which he proposes to furnish topsoil to the project at least 15 calendar days prior to delivery.

Topsoil and its source shall be inspected and approved by the Owner before the material is delivered to the project. Any material delivered to the project which does not meet specifications, or which has become delivered to the project which does not meet specifications, or which has become mixed with undue amounts of subsoil during any operation at the source or during placing or spreading, will be rejected and shall be replaced by the Contractor with acceptable material.

Topsoil shall not have been treated with a residual insecticide or herbicide within one (1) year of delivery for use on the project.

C. PLANTING SOIL

Planting soil shall consist of one part peat or humus, three parts topsoil, limestone or sulphur as required for adjusting the ph range and unless otherwise specified one pound of 0-20-0 commercial fertilizer per cubic yard.

For ericaceous plants and broad-leaved evergreens requiring an acid soil, planting soil shall have a true ph of 4.5 to 5.5. If it has not, it shall be amended by the Contractor at his own expense to the proper ph range by mixing with sulphur.

Planting soil for general planting for nonacid-loving plants shall have a true ph value of 5.6 to 6.5. If it has not, it shall be amended by the Contractor at his own expense to the proper ph range by mixing with dolomitic limestone.

The amount of either sulphur or limestone required to adjust the planting soil to the proper ph range (above) shall be determined by the Owner on the basis of agronomic tests.

D. SULPHUR

Sulphur shall be commercial or flour sulphur, unadulterated, and shall be delivered in containers with the name of the manufacturer, material, analysis and net weight appearing on each container.

E. AGRICULTURAL GROUND DOLOMITIC LIMESTONE

Agricultural ground dolomitic limestone shall conform to the standards of the Association of Official Agricultural Chemists and the following gradation:

<u>Square Mesh Sieves</u>	<u>Percent Passing by Weight (Min.)</u>
#10	100
#20	90
#100	40

The minimum calcium and magnesium carbonate equivalent shall be 90%.

F. PEAT OR HUMUS

Peat or humus shall be commercially packaged material from sedge, sphagnum or reed sources. Material shall be in such physical condition that it may be rubbed through a 1/2-inch mesh screen, and may be readily mixed with soil material. It shall be delivered to the project in clean, new sealed containers bearing the brand, net bulk, and name and address of the packer. The material shall have an acidity that falls in the ph range of 3.0 to 7.0. It shall have a minimum organic content of 80% and a minimum water-absorbing capacity of 200%.

The Contractor shall submit to the Owner a certified laboratory analysis of the material intended for use. Shipment to the project shall not begin until written approval is received from the Owner.

G. FERTILIZER

Unless otherwise indicated on the Contract Drawings or directed by the Owner, fertilizer for the planting mix shall be a 0-20-0 commercial fertilizer.

H. MULCH FOR PLANTING

1. Shredded Bark

The material shall consist of processed hardwood bark and shall be shredded and fibrous in nature. The bark shall not be decomposed and free of foreign materials and substances toxic to plant growth, and shall have a relative uniform particle size with a median size of one and one-half inches (1½").

I. WATER

All water shall be obtained from fresh water sources and shall be free from oil, acid, alkalis, salts or other toxic substances and chemicals which may be injurious to plant life.

J. MISCELLANEOUS MATERIALS

1. Tree Stakes

Stakes shall be rough sawn straight grain oak, white or red cedar, or other approved hardwood. Stakes up to 10-feet long shall have a minimum diameter of 2 to 2-1/2-inches. Stakes over 10-feet long shall have a minimum diameter of 3-inches. The maximum diameter of stakes shall not exceed approximately 4-inches. Stakes shall be pointed at one end and shall have a maximum allowable deflection of 1/2-inch for every foot of length. All stakes shall be sound and free of bark, splints, insect and fungi.

2. Ground Anchors

Ground anchors may be either Universal Ground Anchors as manufactured by Laconia Malcable Iron; Auger Type Earth Anchor as manufactured by American Steel Products Corporation or equal or wooden "deadmen" in accordance with the Contract Drawings.

3. Turnbuckles

Turnbuckles shall be manufactured from a good grade of steel, galvanized in accordance with ASTM A153 and measure nominally 3/8" by 6".

4. Guy Wire

Wire for bracing and guying trees and large shrubs shall be No. 10 and No. 12 gauge new annealed galvanized steel wire as shown on the Contract Drawings, free of bends or kinks. Galvanizing shall comply with ASTM A392, Class II.

5. Hose

Hose shall be used to protect trees and shrubs from guy wire damage. The hose shall be good quality 2-ply rubber braided or reinforced, with a minimum inside diameter of 3/8-inch and a maximum outside diameter of 3/4-inch.

6. Wrapping Material

Wrapping material for tree trunks shall be clean new burlap, 7 or 8 ounce weight per square yard, in strips 4 to 6 inches wide or horticulturally approved krinkle-kraft waterproof wrapping paper 30-30-30 in 4-inch widths.

7. Twine

Twine used for tying the wrapping material shall be jute not less than two (2) ply for trees under 3-inches in caliper, and not less than three (3) ply for trees of larger caliper.

8. Anti-Desiccant/Anti-Transpirant

This material shall be in liquid form and be applied by spraying or dipping. The material shall comply with ASTM E96.

9. Tree Wound Dressing

Paint used for tree wounds shall be antiseptic, waterproof, adhesive and elastic, such as asphalt, gutta percha and certain oils with a fungicide, and which remains tacky for four hours and retains elasticity after setting when tested under the heat of the hand. It shall not contain kerosene, coal tar, creosote, turpentine or other material harmful to the living tissue of the trees.

**PART 3.0 - CONSTRUCTION METHODS**

A. General

Construction methods shall be performed in accordance with these specifications, approved horticultural planting standards, and as indicated on the Contract Drawings.

The Contractor is cautioned that within the limits of the project, buried cable for illumination or other utilities, which may be energized, may be present.

- B. Planting Periods: All plant materials shall be planted during the following periods, with the exceptions as noted:

Deciduous Material

Spring: March 1st to May 1st (inclusive) except for balled and burlapped material the planting of which will terminate on May 15th.

Fall: From October 15th until the ground freezes.

Evergreen Material

Spring: March 1st to June 1st (inclusive).

Fall: August 15th to October 1st (inclusive).

Species which shall not be planted during the fall planting season include, but are not limited to, the following:

Acer rubrum and vars.	Purns - All stone fruits
Acer daxycarpum	Pyrus - All pears
Betula varieties	Quercus borealis
Crataegus varieties	Quercus coccinea
Koelreuteria	Quercus palustris
Liquidambar styraciflus	Quercus phellos
Liroodendron tulipifera	Populas varieties
Tilia tometosa	Zelkova varieties

The planting periods may be extended or reduced according to weather and soil conditions and at the discretion of the Owner. The Owner reserves the right to stop planting operations at any time he deems it necessary.

The Contractor shall not plant when weather conditions are unfavorable for proper work or when the soil is in a wet, soggy or frozen condition.

- C. Delivery

The Contractor shall give notice to the Owner at least forty-eight hours in advance before delivering any plant material, unless otherwise approved.

The Owner shall be furnished a legible copy of the invoice/delivery ticket for every shipment showing quantities, sizes and kinds of materials included.

- D. Protection

Plants received by the Contractor shall be kept moist, fresh and protected against exposure to sun, wind and freezing temperatures whether in the receiving yard, in transit, while being handled or in temporary storage on the job site awaiting planting. Plants left out of the ground unprotected overnight, left with roots exposed to the sun, improperly protected during transit, unloading,

heeling-in or during the planting operation shall be rejected and removed from the site within forty-eight hours.

E. Temporary Storage

Where temporary storage or heeling-in of plants is required, the Contractor, prior to the shipping of planting stock, shall provide, prepare and obtain the Owner's approval of a suitable heeling-in site or arrange for a well-ventilated and cool storage shed, located near the planting site.

All acceptable planting stock if not planted immediately, shall be heeled-in or properly stored.

Balled and burlapped plants shall be stored in a protected area with balls 6-inches apart, all voids filled and have their earth balls covered by earth, wood chips, cloth, straw or other suitable material which shall be kept moist or shall be heeled-in as ordered by the Owner.

In the event "heeled-in" plant material must be held over until a later planting season, such "heeled-in" material shall be lifted, replanted and maintained in a satisfactory condition in nursery rows. Such emergency storage and maintenance shall be at the entire risk and cost of the Contractor. The land for such storage shall be provided for by the Contractor unless otherwise approved.

F. Layout of Planting

The Contractor shall furnish suitable stakes and responsible personnel to stake out the locations of all tree/plant pits, the outlines of all plant beds of areas as detailed or indicated on the Contract Drawings. No excavation or cultivation shall be started until the locations and outlines have been approved by the Owner.

Should rocks, utilities or other obstructions prevent planting at indicated locations in accordance with the Contract Drawings, alternate locations shall be as determined by the Owner.

In all mass planting areas, the plants shall be evenly spaced to give uniform cover in the planting bed area.

G. Excavation - General

Excavation for planting pits and beds shall conform to the approved staked locations and outlines. The latter shall be neatly formed by means of spades or other approved tools. All sod, weed, roots and other objectionable material excavated from the plant beds or pit sites which are suitable shall be removed from the site immediately and disposed of by the Contractor in a manner satisfactory to the Owner.

Where rock, underground obstructions or an impervious stratum of soil is encountered during the excavation of plant pits or beds, said materials shall be removed to the depth necessary to permit planting according to the Contract Drawings and specifications and backfilled with acceptable materials, unless other locations for the planting are approved. Explosives may be used only where and as expressly approved.

Excavation operations, particularly on slopes, shall be scheduled to permit actual planting operations within a period of not more than one (1) week unless otherwise approved.

Excavation in excess of that required shall be replaced with planting soil, unless otherwise shown.



H. Planting Beds

The depth of the excavation for the planting beds shall be such that upon placement of the required depth of planting soil the surface is at the required finished elevation or grades. Prior to placing of the planting soil the subsurface of the planting bed shall be scarified to a minimum depth of two inches (2") by raking, discing or other approved means. On sloped areas the raking or discing shall be done parallel to the contours to minimize erosion. All undesirable material larger than two inches in any dimension shall be removed and disposed of, as directed, during this operation.

After the planting soil has been placed and spread, rake the area to a smooth uniform grade as shown on the Contract Drawings prior to planting. Top dress the entire bed area with the specified planting mulch after planting operations have been completed.

I. Plant Pits

All plant pits shall be dug with vertical sides and flat bottoms.

All plants pits shall be excavated to the following diameters and to such depths as may be required to install 12-inches of compacted planting soil mix under the balls or root systems. Prior to placing the planting soil the subsurface of the plant pit shall be scarified to a minimum depth of two inches (2") by raking or other approved methods.

Deciduous Trees	5"-6" Cal, pit diameter 30" greater than ball
	2½-5" Cal., pit diameter 24" greater than ball
	5' high-2½" Cal., pit diameter 18" than ball
	Less than 5' high, pit diameter 30"
Evergreen Trees	More than 5' high, pit diameter 18" greater than ball
Shrubs	12"-18" high, pit diameter 18", depth 18"
	2'-4' high, pit diameter 24"
	4'-6' high, pit diameter 30"
Vines	For common periwinkle, pachysandra and ivy, 4" of planting soil mix beneath and around the root system will be required. Where plant pits are dug with an auguring devices, glazed sides or hardened surfaces shall be scarified prior to planting.

J. Preparation of Planting Soil

All materials required for the planting soil mix shall be delivered to the project site and stockpiled. The required materials shall be thoroughly mixed in the presence of the Owner at a central location and not at the individual planting areas unless otherwise approved.

K. Planting

Planting operations shall be conducted throughout the construction schedule within the specified planting dates when local climate and soil conditions favor satisfactory planting operations.

Before placing plants in pits, sufficient planting soil mix shall be placed and tamped in the bottom of the pits to set the plants so that when they are fully settled after watering they will have the same relation to the surface of the earth as they did in their original place of growth. Balled and burlapped plants shall be handled by the ball and not by the stem or branches, and be placed in the hole without removing the burlap and shall be carefully placed in the prepared pits so that the balls rest on the planting soil. Plants shall be set vertically and the planting soil mix shall then be added around the plant balls to approximately 1/2 to 2/3 the height of the balls and shall be firmly tamped. The remaining burlap around the plant balls shall be loosened and spread out away from the plants, or if it is too bulky, cut away and removed. All string, twine or other tying material shall be removed from around the base of the trunks or stems. The remainder of the pit shall then be filled with the planting soil mix, tamped and thoroughly watered, all within the same working day. A ring of planting soil mix shall be formed around the plant to produce a dish for watering.

Container grown plants in non-soluble containers or plants that are balled with plastic or burlap treated, so as not to disintegrate, shall have the container or ball cover completely removed prior to planting with care taken not to disturb the ball or roots in the process.

L. Staking, Guying and Anchoring

All deciduous and evergreen trees and specified shrubs shall be firmly staked, guyed or anchored in accordance with the requirements of the Contract Drawings immediately upon completion of the backfilling. Stakes shall be placed outside of the root ball. Ground anchors shall be pre-loaded to position them prior to attaching the guy wires.

Wires used for tying the trunk to stakes or for guying shall be secured to the tree by passing through an approved hose to prevent chafing and injury to the trees. Guy wires fastened to stakes shall be tightened by driving the stakes, leaving the wires to be twisted for tightening during establishment.

M. Mulching

Unless otherwise specified or shown, following the plant material installations, mulch shall be hand placed and spread to a depth of three (3") inches and raked to an even surface over all saucer areas for individual trees and shrubs and over the entire area of shrub beds and elsewhere as directed. Planting mulching material shall be as specified on the Contract Drawings.

N. Trunk Wrapping

Unless otherwise specified, the trunks of all deciduous trees shall be wrapped immediately after planting.

Wrapping shall extend from the ground line to the height of the first branches or to the height directed. Wrapping shall be a single layer of burlap bandage or krinkle-kraft waterproof paper, wound spirally, starting from the base and overlapping one and one-half inches. The wrapping shall be tied at top, bottom, and at intervals of not more than 18-inches. Wrapping shall be done at the time of planting, but not before inspection of the tree.

O. Watering

Water means full and thorough soaking of all planting soil in the pits the same work day that the plants are planted. Water shall be applied only by open end hose or at a very low pressure. At no time shall hoses be laid across any travel ways.

P. Pruning

Pruning of planted material shall be limited to removing damaged branches and twigs and to compensate for loss of roots during transplanting. Pruning shall be accomplished after the plants have been inspected on the site and shall be done with care by experienced men in accordance with approved horticultural standards in order to preserve the natural form of the specific plant. Unless otherwise directed all deciduous plants shall have 1/3 to 1/2 of the potential life-bearing surface removed. A single top leader shall be retained.

At the start of such work, typical pruning techniques for each species, variety, and size shall be performed under the supervision of the Owner and these samples/demonstrations shall serve as a guide for subsequent pruning throughout the project.

All damaged or broken main roots shall be pruned with a clean oblique cut immediately above the point of damage.

Q. Placing Tree Protectors

When specified, tree protectors shall be installed at the locations shown and in accordance with the Contract Drawings or as directed.

R. Anti-desiccant

Spraying with anti-desiccant shall be at the Contractor's discretion, as approved by the Owner and at no additional cost to the Owner except the materials moved and planted from May 15 to August 30 must be treated with an approved anti-desiccant in a manner recommended by the manufacturer.

S. Clean Up

Areas disturbed by the planting operations shall be restored to their preexisting condition and left in an orderly condition satisfactory to the Owner. Excess soil, subsoil, rock or other undesirable material and rubbish shall be disposed of by the Contractor as specified elsewhere in the Contract Documents. Grassed areas disturbed by planting operations shall be restored to a satisfactory condition which may include filling to grade, fertilizing, seeding and mulching.

T. Cultural Care and Replacement During the Contract

The cultural care of each plant shall begin immediately after each plant is placed and shall continue throughout the life of the Contract. During this period the Contractor shall do all the work necessary to establish and keep the plants in a live, healthy condition.

The Contractor shall water all plants to provide not less than five gallons of water per square yard (1" layer of water) of the plant pit or planting bed.

Prior to watering, excluding of the mulch, the Owner shall notify the Contractor in writing at least 48 hours in advance of the day watering is to begin, and unless otherwise informed, the Contractor shall water daily where and as directed until all plants on the Contract have been watered with the minimum specified quantities.

The Contractor shall water, cultivate, fertilize, prune the plants, and repair, replace or readjust guy wires, stakes, posts and flagging, as may be required or as ordered by the Owner. He shall reshape earth saucers, repair washouts and gullies, replace lost mulch, keep all planting sites free from weeds, and do other work necessary to maintain the plants in a healthy, growing condition. In the event of the threat of serious damage from insects, diseases or rodent, the plants shall be treated by preventive or remedial measures approved for good horticultural practice.

All dead and unhealthy plants shall be removed from the site immediately and promptly replaced if it occurs during the planting season. Plants requiring replacement between planting seasons shall be immediately removed from the project and replacement made during the next proper planting period. All plants that settle below or rise above the desired finished grades shall be reset at the proper elevations. All replacement plants shall be of the same genus and species, size and quality as originally specified and shall be installed as specified herein for new plant material. Plants that are severely damaged or lose their natural form or become less than the originally specified size due to removal of the dead or damaged portions shall be replaced.

If upon written request, the Contractor fails to comply within one week of the above requirements for watering and within two weeks for all other requests, the Owner may proceed to do the work with adequate labor, equipment and material to perform the work requested. The entire cost of such work shall be deducted from monies due or to become due the Contractor. The cost of all replacement and cultural care including watering, shall be included in the unit price bid for plants.

#### U. Planting Establishment Period

This period shall begin immediately after all planting is in place, inspected and accepted in writing by the Owner. The plant establishment period shall continue for a period of one year from the date of the above inspection.

During the one year period, the Contractor, shall be responsible for all work as specified herein under Cultural Care and Replacement During the Contract.

Twenty calendar days prior to the conclusion of the Plant Establishment Period, a pre-final inspection by the Tenant's Project Representative, Contractor and Owner will be held. During the pre-final inspection, an inventory of acceptable, damaged or rejected materials shall be made and corrective and necessary clean up measures will be determined.

Replacement plant material shall be subject to all requirements specified for the original material.

The Contractor shall remove all stakes, guy wires, and tree wrapping for all trees under 2' caliper unless otherwise directed, prior to final inspection.

The Contractor will notify the Owner in writing that all replacement planting and other required corrective measures have been accomplished. The Tenant's Project Representative and Owner will conduct a final inspection within 15 days after such written notification. If all replacements and corrective measures are determined satisfactory by the Owner, the Contractor will be relieved of all further responsibility for the planting work.

V. Care and Maintenance Manual

The Contractor shall prepare and supply to the Owner a manual describing the care and suggested maintenance for each tree, plant and shrub variety installed as part of the contract. The manual shall describe in detail the time and amounts of fertilizer, watering, cultivation, mulching, pruning and any other activity necessary for the long-term health and viability of the plants installed as part of this work.

The manual shall be submitted prior to final payment for landscaping work.

END OF SECTION