

# FOR INFORMATIONAL PURPOSES ONLY - DO NOT USE FOR BIDDING

Department of Public Works Nassau County, N.Y.

Bid Sheet for Contract: H66016 03G

Nassau County DPW

46 of 316

Requirements: Tree Maintenance, Removal, Planting

Contract No: H66016-03G

Item No	Engineers Estimate	Item Description			
9	5.00 CY	Topsoil	For:		
141	200.00 HR	AERIAL BUCKET TRUCK w/OPERATOR/EMERGENCY	For:		
143	200.00 HR	BOOM TRUCK w/OPERATOR/EMERGENCY	For:		
144	200.00 HR	BRUSH CHIPPER/EMERGENCY	For:		
145	200.00 HR	TREE TRIMMER/EMERGENCY	For:		
147	100.00 HR	FORESTRY TRUCK w/OPERATOR/EMERGENCY	For:		
150	100.00 HR	TREE CLIMBER	For:		
361A-2	12.00 EA	Deciduous Major Tree 2" - 2 1/2" CAL.	For:		
361B-3	12.00 EA	Deciduous Minor Tree 2" - 2 1/2" CAL.	For:		
361C-2	12.00 EA	Deciduous Shrubs 2' - 3' Height	For:		
361D-4	12.00 EA	Evergreen Trees 6' - 7' Height	For:		
361E - 2	12.00 EA	Evergreens Shrubs Upright 2' - 3' Height	For:		
362	20.00 CY	Triple Shredded Mulch	For:		
363	500.00 SF	Grass Seeding	For:		
364B	25.00 EA	Tree Pruning 6" - <12" Cal.	For:		

**Department of Public Works Nassau County, N.Y.**

**Bid Sheet for Contract: H66016 03G**

Nassau County DPW

51 of 316

Requirements: Tree Maintenance, Removal, Planting

Contract No: H66016-03G

Item No	Engineers Estimate	Item Description			
364B-OR	25.00 EA	Tree Pruning 6" - <12" Cal. (OFF ROAD)	For:		
364C	50.00 EA	Tree Pruning 12" - <24" Cal.	For:		
364C-OR	50.00 EA	Tree Pruning 12" - <24" Cal. (OFF ROAD)	For:		
364D	75.00 EA	Tree Pruning 24" - <36" Cal.	For:		
364D-OR	75.00 EA	Tree Pruning 24" - <36" Cal. (OFF ROAD)	For:		
364E	75.00 EA	Tree Pruning 36" - <48" Cal.	For:		
364E-OR	75.00 EA	Tree Pruning 36" - <48" Cal. (OFF ROAD)	For:		
364F	25.00 EA	Tree Pruning Over 48" Cal.	For:		
364F-OR	25.00 EA	Tree Pruning Over 48" Cal. (OFF ROAD)	For:		
371	10.00 EA	Peat Moss	For:		
372B	50.00 EA	Tree Removal 6" - <12" Cal.	For:		
372B-OR	50.00 EA	Tree Removal 6" - <12" Cal. (OFF ROAD)	For:		
372C	100.00 EA	Tree Removal 12" - <24" Cal.	For:		
372C-OR	100.00 EA	Tree Removal 12" - <24" Cal. (OFF ROAD)	For:		
372D	75.00 EA	Tree Removal 24" - <36" Cal.	For:		
372D-OR	75.00 EA	Tree Removal 24" - <36" Cal. (OFF ROAD)	For:		

Department of Public Works Nassau County, N.Y.

Bid Sheet for Contract: H66016 03G

Nassau County DPW

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Requirements: Tree Maintenance, Removal, Planting

Contract No. H66016-03G

Item No	Engineers Estimate	Item Description			
372E	25.00 EA	Tree Removal 36" - <48" Cal.	For:		
372E-OR	25.00 EA	Tree Removal 36" - <48" Cal. (OFF ROAD)	For:		
372F	10.00 EA	Tree Removal Over 48" Cal.	For:		
372F-OR	10.00 EA	Tree Removal Over 48" Cal. (OFF ROAD)	For:		
374B	50.00 EA	Stump Grinding 6" - <12" Dia.	For:		
374C	100.00 EA	Stump Grinding 12" - <24" Dia.	For:		
374D	75.00 EA	Stump Grinding 24" - <36" Dia.	For:		
374E	25.00 EA	Stump Grinding 36" - <48" Dia.	For:		
374F	10.00 EA	Stump Grinding Over 48" Dia.	For:		
450	20,000.00 SY	Selective Clearing	For:		
510	1.00 LS	Force Account	For:	\$10,000.00	

REQUIREMENTS CONTRACT  
TREE MAINTENANCE, REMOVAL & PLANTING

NASSAU COUNTY  
CONTRACT NO. H66016-03G  
2022-2024

SPECIAL CONDITIONS

1. Scope of Work:

- a. The purpose of this Contract is to maintain and remove, when necessary, County owned trees located along County roadways, drainage easements, streams, buildings, recharge basins, wooded areas, and miscellaneous County properties.
- b. The work covered by this Contract involves furnishing labor, materials, tools, equipment and incidentals as specified for the pruning and/or removal of trees at various individual locations in Nassau County. In addition, the contract is intended to provide emergency services when directed by the Engineer or his representative.
- c. The Contractor and any subcontractors shall be under a compliance agreement with the State of New York for conducting operations within any Asian Longhorned Beetle (ALB) quarantine area that may be required under this Contract. Documentation of compliance by the Contractor must be provided to the County.
- d. The extent of coverage for this Contract shall include, but not be limited to all items in the Contract under the jurisdiction of the Department of Public Works. The County of Nassau reserves the right during the term of this Contract to increase, decrease or eliminate an item of coverage, and the Contractor is hereby advised that he will receive no additional compensation other than the unit price as expressed in the Contract for such addition or deletion.

2. Standard Specifications:

- a. This document provides specifications for a contract to provide for all necessary maintenance and removals of Nassau County owned trees at various individual County locations. All work under this Contract shall be by and in conformity with the Nassau County Department of Public Works 2009 Specifications and Detail Sheets for Civil Engineering and Site Development Construction with addenda notes and modifications except as modified on the plans and/or in the itemized specifications included herein.
- b. All correspondence concerning this Contract shall be addressed to the Commissioner of Public Works, 1194 Prospect Avenue, Westbury, New York 11590-2723.

3. Period of Agreement:

The Contract shall begin with the County's "Notice to Proceed" and shall continue for a period of twenty-four (24) consecutive calendar months unless the duration of the Contract is extended by mutual agreement of the Commissioner and the Contractor.

The "Notice to Proceed" shall be initiated by the Engineer or his representative to set the starting date of the Contract. The County reserves the right to cancel the Contract at any time if it is in the best interest of the County by serving a 30-day notice to the Contractor.

4. Variation from Normal Bidding Procedure:

- a. Bidders are cautioned that this is a twenty-four month Contract and that the measurements given are on a single unit basis (e.g. each, hour, cubic yard, etc.) with the exception of those items which are on a lump sum basis. All bids are to be based upon a unit price only. The bid factors given in the proposal weigh

each item in proportion to historical and/or anticipated use of said items.

- b. The sum total of the respective unit price multiplied by the bid factor for each item will be used for comparison to determine the low bid. The bidder is further advised that the County may use only one item of work or may use varying quantities of any combination of or all of the Contract items. This Contract shall hold the price bid for each item whether it be a single one or hundreds, except as noted.
- c. It is envisioned that tree work under this requirements type Contract most likely will be sporadic in nature, i.e., periods of work will be followed by periods of inactivity, and so forth. The bidder should not assume that Contract work is going to occur continuously throughout the duration of this Contract. The bidder is further advised that tree work under this Contract is intended for pruning, removal, and emergency response at various individual locations within Nassau County. In preparing his bid, the bidder should NOT assume tree work to be concentrated along any specific street or streets. Rather, the Contractor will be required to prune or remove individual trees at different locations in the County, or respond to emergencies as directed. Locations will be provided as they are identified by the Department of Public Works.
- d. The total value of this Contract shall be \$1,500,000 unless the Commissioner assigns additional funds during the duration of the Contract.
- e. Bid Security - The Contractor will be required to submit a bid bond or certified check made payable to the County of Nassau in the amount specified to insure that the bid is made in good faith.

5. Contract Administration and Inspection:

The Department of Public Works through the Division of Operations will be the administrators of this Contract and shall approve all equipment to be supplied, verify and approve all claims and be responsible for furnishing all necessary inspection to verify compliance with the Contract.

6. Work Sites:

The areas of work provided for shall be at various sites at County-owned installations and in Nassau County-owned rights-of-way. All work shall be at the direction of the Engineer. From time to time the Contractor may be required to clear vegetative growth in order to attain access to a work site.

The bidder should be aware that travel time will be incurred in moving from work location to work location and should incorporate such costs in the unit prices bid in his proposal. Further, it is strongly recommended that the bidder visit the work locations described in this Contract in order to more fully evaluate the scope of work required to be performed.

7. Work Orders:

- a. The County's Engineer or his representative shall notify the Contractor of each location where tree maintenance and/or removal is to be performed. This order will designate the type of work required, the quantity, location and time of completion.
- b. Prior to starting a work order, the Contractor or his representative shall inspect the job site with the Engineer or his County inspector.
- c. The Contractor will not be allowed to start any work order, or progress any which have been started, without proper supervisory personnel (e.g. Foreman or Superintendent) on the job site.

- d. The Contractor shall maintain a telephone number for 7-day, 24-hour emergency calls. The Contractor will be responsible for the notification of any agency that may be affected by the work performed.
- e. Once begun, emergency projects shall proceed continuously until completed. The completion time of any segment of this agreement not emergent, shall be that time agreed to by the Contractor and Engineer as appropriate to complete the designated task.
- f. Failure to complete the work to the satisfaction of the Engineer (Commissioner) within the specified time limit shall involve the application of Liquidated Damages as specified in this agreement.

8. Time of Completion:

The Contractor shall complete the work at each selected location within the time specified on the work order unless otherwise directed by the Engineer. Completion of all work orders issued under this Contract is required prior to the issuance of a Completion Certificate.

9. Contractor Scheduling:

The Engineer shall issue work orders, except in the case of emergency situations, to the Contractor outlining the locations and type of work to be performed. The Contractor shall not be required to submit a work schedule unless otherwise requested. Work orders shall be completed in the order issued unless otherwise directed by the Engineer.

The Contractor shall not be permitted to commence more than five work orders at any one time and shall not commence work on a sixth, unless the Engineer deems it an emergency, or until such time as one of the five in progress is 100% complete.



10. Contractor's Representative:

The Contractor shall have a competent representative at the site of the work or immediately available at all times while the work is being progressed to insure a satisfactory adherence to all of the terms and conditions of this contract. This representative shall be well qualified in the particular work being undertaken.

11. Qualification of Bidders:

All bidders must have a base of operation in Nassau or Suffolk County, NY. This base of operation must be completely equipped with all necessary equipment for complete tree maintenance and removal operations as required for the entire contract period. Any bidder not complying with this requirement shall be disqualified.

Additionally, the Contractor shall have had at least five (5) years experience in tree maintenance and removal work and give evidence of same. Further, Contractor shall have at immediate disposal a minimum of the following operational equipment required to expeditiously address tree maintenance and vegetation control operations.

Five (5) Aerial Bucket Trucks  
Three (3) Boom Trucks  
Five (5) Brush Chippers

The Contractor will be required to show that he is capable of supplying the necessary equipment to fulfill regularly scheduled and emergency work specified in this Contract. The Contractor will list in the Proposal the make, model, plate number, registration expiration date and location of each of the required pieces of equipment for the Engineer's inspection.

The Contractor shall have the ability to provide multiple crews with appropriate equipment in order to conduct operations at more than one

location whether for tree maintenance or removal, or both, when ordered by the County representative.

12. Work Orders:

- a. At the time that this Contract is executed by the County and the Contractor, the Contractor shall submit to the County the name and telephone numbers of three (3) persons having the authority to provide the required emergency crews and equipment at any time, day or night.
- b. The County's Engineer or his representative will notify the Contractor by telephone or otherwise when an emergency condition exists and specify the number of emergency crews required. The Contractor shall be able to provide at least three (3) emergency crews and equipment to the location or locations designated by the County's representative within two (2) hours after said telephone call or other notice to the Contractor.
- c. In the event the Contractor fails to provide the emergency crews and equipment within the specified time limit, the Contractor shall be held responsible for Liquidated damages in the amount of one hundred dollars (\$100.00) per hours, or part thereof for each hour that each emergency crew and equipment fails to arrive at the location designated by the County within the specified time.
- d. An emergency crew shall consist of one (1) aerial bucket truck with operator - Item 141, one (1) tree trimmer - Item 145, one (1) brush chipper - Item 144, and one (1) forestry truck - Item 147. If requested by the Engineer, one (1) boom truck with operator - Item 143. Payment will only be made for items deemed necessary, in the estimation of the County representative, to address the emergency situation.
- e. No items except those of Items 141 through 147 will be used as payment purposes for emergency

work unless otherwise specified by the Engineer.

13. Payment for Emergency Work:

Contractor is advised that emergency work may occur during normal work hours or during hours other than normal work hours. Payment for emergency work will be made as a combination of travel time allowance and work time as follows:

- a. During hours other than normal work hours or when Contractor is not engaged in regularly scheduled work for the County, emergency items will apply. As compensation for Contractor's travel time to and from emergency work sites, a total of one (1) additional hour will be paid for each of the emergency items utilized during any emergency situation.
- b. During normal work hours and when the Contractor is engaged in regularly scheduled work for the County, emergency items will be paid from the time Contractor's crew leaves the work site where regularly scheduled work was being performed until the time Contractor's crew and equipment return to said site or to the end of emergency work.

14. Notice to County:

When directed by the County, the Contractor shall notify the Engineer or his representative twenty-four (24) hours prior to commencement of any work so that the County may have a representative present while the actual work is being performed. Failure of the Contractor to so notify the County may be cause for non-payment of the work.

15. Private Work:

While the Contractor is working on various items of work for the County, the Contractor will do no private or other work. Any action contrary to this requirement shall be considered a breach of this Contract and the County will deal with it as such.

16. Permits:

Under this Contract, the Contractor will not be required to obtain County permits for the removal of trees or mowing of vegetation. However, the Contractor shall obtain permits from any local villages or other local jurisdictions prior to the removal of trees, etc. where such permits may be required.

17. Easement Area Access:

The Contractor will not be permitted to enter an easement area with equipment or men, nor will he be permitted to perform any work operations in the area, until the County has authorized the Contractor to proceed with work operations in the easement area.

18. Notifications and Coordination of Work:

- a. The Contractor shall be responsible for promptly informing the local Police Precinct and the Nassau County Department of Public Works, Traffic Operations Unit, if any emergency situation arises on the job site that affects traffic signals. Failure to notify will make the Contractor responsible for repair costs.
- b. Overhead utilities will occasionally interfere with the work to be conducted under this Contract. Accordingly, the Contractor shall make all necessary coordination with the utility and be prepared to work in conjunction with the utility's personnel to complete the work specified by the County representative.

19. Maintenance of Traffic:

- a. The Contractor shall furnish and erect reflectorized signs and other suitable devices to adequately protect and warn the public and others of all hazards which they may encounter while work is in progress. Signs and other devices shall conform to the New York State Manual of Uniform Traffic Control Devices. The

Contractor shall maintain at all times at least one lane of roadway. The Contractor shall use sufficient flagmen at locations where traffic or physical conditions require their service. The Contractor shall supply a Flashing Lighted Arrow Board when traffic is to be detoured into another lane. It shall be set up prior to the start of the detour.

b. Payment for maintenance and protection of traffic shall be included in the unit prices bid for the various contract items in the proposal.

20. Road Closing:

No road shall be closed without prior written approval of the Engineer.

21. Working Hours:

For the purpose of this Contract, normal working hours are defined 7:00 AM to 3:30 PM during weekdays, Monday through Friday except County holidays. Other than normal working hours are defined as those hours not defined as normal working hours.

22. Governmental Access:

State and Federal Representatives will have access to the work whenever it is in progress and the Contractor shall provide proper facilities for such access and inspection.

23. SAFETY AND HEALTH REQUIREMENTS:

The Contractor shall perform all work in the contract with due regard to the safety and health of the employees and of the public. The Contractor shall comply with 29 CFR 1926 Safety and Health Regulations for Construction, administered by the Federal Occupational Safety and Health Administration (OSHA); NYS Labor Law and 12 NYCRR regarding the safety and protection of persons employed in construction and demolition work. The Contractor shall notify the

Engineer of any inspections scheduled or conducted on the contract by OSHA, NYS Department of Labor (NYSDOL), or other safety and health agencies, of any resulting closing conference, and provide the Engineer with the opportunity to be present at such inspections and closing conference. The Contractor shall notify the Department in writing of the results of any safety and health inspections conducted by representatives of OSHA, NYSDOL, or other safety and health agencies, within one work day of the completion of the closing conference resulting from such inspections. If any citations are issued for alleged violations of OSHA Regulations, a copy shall be provided to the Engineer within one work day of their receipt by the Contractor, and a copy of the final disposition of such citations shall be provided to the Engineer within one work day of receipt by the Contractor.

24. Protection of Lives and Health:

In order to protect the lives and health of his employees under this Contract, the Contractor shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction," issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention, or causing loss of time from work, arising out of and in the course of employment on the work under the Contract. Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or improper construction, maintenance, or operation.

25. Liabilities of Contractor and County:

The County will not assume any responsibility whatsoever for loss or damage of equipment owned or operated by the Contractor, his agents, or employees or subcontractor or for the injury to or death of the Contractor, or his agents or

employees, or his subcontractor. The Contractor will hold and save the County, its officers, agents, servants and employees harmless from liability of any nature or kind for or on account of the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, articles or appliances, used in the performance of this contract, including their use by the County unless otherwise specifically stipulated in the Contract. The Contractor will be responsible for any negligent or wrongful acts or omissions of the Contractor, his employees, agents or subcontractors and employees or agents of the subcontractor(s) incident to the performance of this Contract. The Contractor will hold and save the County, its officers, and employees harmless from all liability for any death or damage to persons or to real or personal property, including negligent use of spray material, which results from the operation of, or incident to, equipment furnished by the Contractor, or otherwise incident to performance of the Contract. However, the Contractor will not be responsible for any negligent or wrongful acts or omissions of the County, its employees, cooperators or their employees.

26. Force Bids:

All lump sum items are Force Bids and therefore the Contractor must bid the price as stated in the Engineer's Estimate for all lump sum items.

27. Supply of Materials, Tools and Equipment:

Contractor may be required from time to time to supply the County with various materials, tools, equipment, or other items deemed necessary by the Engineer. Such materials, tools, equipment, or other items shall become County property upon receipt by Contractor of reimbursement for same.

28. Recourse:

This Contract does not imply that the low bidder, following the award of this Contract, has the

exclusive right or legal recourse to the County of Nassau for any other similar requirements type, or any other tree maintenance or removal contract that may be awarded during the life of this Contract.

29. Tree Size Determination:

The diameter at breast height, commonly referred to as DBH, shall be measured at 4-½ ft. above surrounding ground levels.

30. Removal and Disposal of Wood, Branches, Trash/Debris:

All expenses for removal and disposal of wood and branches resulting from tree pruning and/or removal, that must be removed from the work locations are included in the respective Items of the Contract. Removal, hauling and disposal of such materials shall be accomplished in accordance with any federal, state and/or local regulations that may be in existence. The Contractor and any subcontractors shall be under a compliance agreement with the State of New York for conducting operations within any Asian Long horned Beetle quarantine area required under this Contract. Documentation of compliance by the Contractor must be provided to the County.

31. Bid Factors and Comparison Bid Price:

The Bid Factors are an estimate of low utilization to high utilization for each item. These bid factors help to establish the total Comparison Bid Price, which will be used to evaluate each proposal. The award of this Contract will be based on the Total Comparison Bid Amount and the individual amounts bid for the respective items listed in the proposal.

It shall be understood that the total dollar value of this Contract is not necessarily equal to the Total Comparison Bid Amount. Payment for all work performed by the Contractor shall be in accordance with the unit price bid for each item.



Lump sum (LS) items are force bids and must be bid at the amount indicated in the proposal.

32. Advertising

The successful bidder shall not display any signs on his work vehicles advertising any other firm or agency other than his own.

## **ITEM 9 - TOPSOIL**

1. Description. Under this item the Contractor shall spread topsoil upon previously prepared surfaces as described herein to the lines and grades shown on the Plans and to the compacted depth specified.

### 2. Sources of Supply.

a. Topsoil Furnished and Spread. Under Item 9 the Contractor shall spread topsoil, which he shall furnish from sources, approved by the laboratory, outside the limits of the Contract and outside the right-of-way of the highway and easement lines. The source shall be a well-drained, arable site and preferably one that has been under cultivation at least 5 years prior to the time of removal.

b. Topsoil Obtained from Stock Piles. Under Item 9R, topsoil may be acquired from sites that are designated in the contract documents or approved by the engineer. If no topsoil sites are designated in the contract documents, the material proposed for use as either naturally occurring or manufactured topsoil must be stockpiled, sampled and tested prior to its use. Under these items, the Contractor shall spread topsoil obtained from stockpiles produced in accordance with the latest NYSDOT Standard Specifications, Section 713-01, or other Section which may supersede Section 713-01 in a later edition of the NYSDOT Standard Specifications.

3. Preparation of Surfaces. After all construction has been completed, including shaping of shoulders and slopes, the surfaces of the areas to be covered with topsoil shall be graded to the proper elevations below the finished grades as shown on the Plans and/or as directed. The areas shall then be raked or otherwise satisfactorily prepared to insure proper bond, after which the topsoil shall be spread and raked to a uniform thickness and lightly compacted by tamping or rolling with a roller weighing not less than 4-1/2 and not more than 5-1/2 pounds per linear inch. The finished surface shall be smooth and even, and shall conform to the designated lines and grades. The Contractor shall use such means as necessary to hold in place topsoil deposited on a side slope. Until final acceptance of the work, any damage to the natural or prepared surfaces already covered with topsoil shall be repaired by the Contractor at his own expense.

4. Placing and Spreading of Topsoil. Topsoil in an unworkable condition due to excessive moisture, frost or other conditions shall not be placed until it is suitable for spreading. Topsoil shall be placed on the designated area and spread to the specified thickness. After the topsoil is spread, all large stiff clods, rocks, roots or other foreign matter shall be cleared and disposed of by the Contractor as approved so that the finished surface will be acceptable for subsequent work such as seeding, sodding, mulching or planting.

5. Material. Topsoil shall consist of fertile, friable, natural earth of loamy character, without admixture of subsoil, uniform in quality, and free of refuse of any nature, hard clods, stiff clay, sods, hard pan, pebbles larger than 3/4 inch in diameter, coarse sand, noxious weeds, sticks, brush, and other rubbish.

The Contractor shall submit samples from the proposed source of topsoil intended for use on the Contract and no topsoil shall be brought on to the site until the results of testing are known and found satisfactory. The topsoil shall conform to the following requirements:

The topsoil shall contain not less than 2% or more than 20% organic matter, as determined by loss on ignition of samples thoroughly oven-dried to constant weight at a temperature of 221°F. The pH value shall be not less than 5.5 and not more than 7.6.

All the material of an oven-dried sample shall pass a one-inch square sieve and the results of a sieve analysis shall conform to the following requirements:

Sieve Size	Percent Passing by Weight
2"	100
1"	85-100
¾"	65-100
No. 200	20-80

Topsoil furnished and placed under this item which fails to conform with the above requirements shall be removed and replaced with acceptable material by the Contractor at his own expense.

Natural topsoil may be amended to meet the above requirements.

6.Method of Measurement. The quantity to be paid for under this item will be the number of cubic yards of topsoil material measured in place, compacted to the depth shown on the Plans or ordered. All topsoil existing in stockpiles on the site shall be placed and compacted before any material is supplied from offsite sources.

7.Basis of Payment. The price bid per cubic yard for each item shall include, where applicable and unless otherwise shown on the Plans, the cost of all necessary excavation, furnishing, hauling, storing, treating, rehandling, spreading in final position, shaping and rolling and all labor, equipment, and all other materials and amendments necessary to satisfactorily complete the work.

Under Items 9 or 9R the cost of all fees, leases and other charges, and the cost of all labor, material and equipment used in procuring the topsoil shall be included in the price bid for this item.

**ITEM 141: AERIAL BUCKET TRUCK WITH OPERATOR FOR EMERGENCIES**  
**ITEM 143: BOOM TRUCK WITH OPERATOR FOR EMERGENCIES**  
**ITEM 144: BRUSH CHIPPER FOR EMERGENCIES**  
**ITEM 145: TREE TRIMMER FOR EMERGENCIES**  
**ITEM 147: FORESTRY TRUCK WITH OPERATOR FOR EMERGENCIES**

1. DESCRIPTION:

Under these items the contractor shall provide emergency equipment and personnel to any location within the County of Nassau designated by the engineer. The applicable requirements of the Special Conditions of this contract shall also apply.

2. OPERATIONS AND MATERIALS:

- a. All emergency work shall be performed under the supervision of a County representative. Under emergency conditions, the County reserves the right to deploy emergency equipment and personnel as it deems necessary in the best interest of the County. The County further reserves the right to provide supplementary labor and equipment if emergency conditions warrant such action.
- b. With each emergency crew formed, the contractor shall furnish at least three (3) suitable chainsaws plus miscellaneous small tools (handsaws, axes, ropes, chains, ladders, etc.) as needed. All equipment and tools shall be in first class condition. The contractor shall provide all necessary fuel and maintenance as required. The cost of this equipment and tools shall be included in the unit prices bid.
- c. The following are some requirements for the equipment and personnel to be provided:
  - i. Item 141-The aerial bucket truck shall have a minimum working height of fifty (60) feet and be in first class working condition. The contractor shall provide all necessary fuel and maintenance. The operator shall be experienced in the use of equipment and in tree removal and related work.
  - ii. Item 143-The boom truck shall consist of a truck-mounted boom capable of loading large logs directly from the ground to the bed of the truck for hauling off site. The contractor shall provide all necessary fuel and maintenance. The operator shall be experienced in the use of the equipment and the required work.

- iii. Item 144-The brush chipper shall be capable of reducing reasonable size tree limbs to chips for possible use as mulch, ground cover, etc. The contractor shall provide all necessary fuel and maintenance.
- iv. Item 145-The trimmer shall be a person who is well experienced in the work of tree removal and related work.
- v. Item 147-The forestry truck shall be an adequate size to accept a large quantity of wood chips and assure efficient removal from the work site. Prices bid for the forestry truck shall include an experienced operator.

3. METHOD OF MEASUREMENT:

The quantity to be paid for under these items shall be a number of hours, computed as specified in the SPECIAL CONDITIONS of this contract.

4. BASIS OF PAYMENT:

The unit price bid for each item shall include all costs necessary to furnish each item for one (1) hour as specified. Unit prices bid for Item 143-Boom Truck and Item 147-Forestry Truck shall also include all costs for removal and disposal of wood and chips from the site.

## ITEM 150-TREE CLIMBER

### 1. DESCRIPTION:

Under this item the contractor shall provide a top rated tree climber to perform tree removal, pruning, cutbacks, and related activities at any location when directed by the county representative. The tree climber will generally be utilized for off-road forestry type work in instances where conventional equipment cannot gain access to the work site location(s).

### 2. OPERATIONS AND MATERIALS:

It shall be the contractor's responsibility to provide all equipment including climbing spikes, saddles, lowering lines, pull lines, pull ropes, handsaws, chainsaws, wedges, and all other necessary equipment to complete the work under this item. Transportation shall be included to and from the work site(s).

### 3. MEASUREMENT AND PAYMENT:

The unit price bid for this item shall include all costs necessary to provide a top rated tree climber, transportation, and all associated equipment for one (1) hour.

**ITEM 361 - PLANTING TREES AND SHRUBS**

**(NOTE: SECTION IX REQ'D)**

**ITEM 361A-2 DECIDUOUS MAJOR TREE 2" - 2-1/2" CALIPER**

**ITEM 361B-3 DECIDUOUS MINOR TREE 2" - 2-1/2" CALIPER**

**ITEM 361C-2 DECIDUOUS SHRUBS 2' - 3' HEIGHT**

**ITEM 361D-4 EVERGREEN TREES 6' - 7' HEIGHT**

**ITEM 361E-2 EVERGREEN SHRUBS UPRIGHT 2' - 3' HEIGHT**

1. Scope of Work.

- a. Under these items the Contractor shall excavate all tree pits including saw cutting asphalt; removal of asphalt from tree pits and shall furnish, plant, dig, transplant, transport, maintain and replace all plant materials specified in the following plant schedule in accordance with the Specifications or as directed by the Landscape Architect. In Excavating tree pits, the Contractor shall remove and dispose of all concrete footings, pavements, pipe, conduit and rubble. The pavement, therefore, shall be included in the price bid for each tree. Also included in the price bid shall be the removal and resetting of the stone block as specified under Item No. 39-4/39-8 Paving Stones on Aggregate Base or 40-4, 40-8 - Stone Block Pavement on Aggregate Base. The Contractor shall be liable for any damages caused by planting and/or transplanting operations and all areas and construction disturbed shall be restored to their original condition to the satisfaction of the Landscape Architect.
- b. The Contractor shall remove and dispose of all dead trees up to and including four (4) inches in caliper for tree replacements. Included shall be the removal and disposal of roots, stumps, trunks, and branches and all topsoil shall be restored to the existing finished grade (6" deep). Also, all damaged sidewalks, curbs, road pavements and grass shall be restored to the satisfaction of the Engineer. The Contractor shall remove and dispose of all dead trees over 4" in caliper, including sawing the tree flush with the ground and disposing of trunks and branches and plant the new tree as close as possible to the removed tree. Payment for removal and disposal of existing dead trees shall be included in the price bid for each new tree.



2. Operations. For description of contract materials and methods of work see "Detailed Specifications, Section IX - Planting of Trees and Shrubs".

3. Maintenance and Protection of Traffic.

a. Under these items the Contractor shall protect the public from all damage to person and property for the duration of the contract. Vehicular traffic shall be maintained for duration of the contract. The Contractor shall generally provide a travel way suitable for maintaining a minimum of one lane of traffic continuous in each direction at all times.

b. The Contractor is placed on notice that the maintenance and protection of traffic during construction is considered as important and necessary as the tree planting itself. The Contractor shall at all times conduct operations in a manner to insure the safety of not only the motorist but also the pedestrian and the Contractor's own employees.

c. The Contractor shall protect the public from damage to person and property by reason of all tree planting operations by such protective devices or methods as are approved by the Landscape Architect.

d. All temporary warning and guiding devices shall be as specified under Item 102 Maintenance and Protection of Traffic (except for payment) and/or as approved by the Landscape Architect.

e. The Contractor shall conduct operations to insure a minimum of delay to traffic. The Contractor shall keep the travel ways in safe condition whenever work is not in progress.

Prior to the beginning of work on the Contract the Contractor shall submit to the Landscape Architect for approval a "Method of Work" which shall indicate the Contractor's plan for maintaining and protecting the flow of vehicular and pedestrian traffic.

4. Plant Material - Type & Description.

Item 361A - Deciduous Major

- a. Trees shall be Acer cultivars, Fraxinus cultivars, Ginkgo in variety, Gleditsia cultivars, Liquidambar in variety, Platanus in variety, Pyrus calleryana cultivars, Quercus in variety, Tilia cordata cultivars, Ulmus in variety, Zelkova serrata cultivars.
- b. Unless otherwise specified trees are to be suitable for planting as street trees and are to be free of branches to a point about 50% of their height. The trunk shall be reasonably straight with leader intact and a well-balanced symmetrical branching habit. Ball size and height shall conform to A.A.N. standards, all trees to be nursery grown.

Item 361B - Deciduous Minor

- a. Trees shall be Amelanchier in variety, Betula in variety, Carpinus, Cercis, Cornus in variety, Crataegus in variety, Magnolia in variety, Malus in variety, Populus in variety, Prunus serrulata cultivars, Prunus cerasiflua cultivars, Salix in variety, Sophora japonica cultivars.
- b. Trees shall be multi-stem or single stem as selected. The head shall be full and symmetrical, conforming to Type 3 and Type 4 of the A.A.N. standards. Ball size and height shall also conform to A.A.N. standards. All trees to be Nursery Grown.

Item 361C - Deciduous Shrubs

- a. Shrubs shall be Aronia in variety, Clethra, Cornus in variety, Cotoneaster in variety, Euonymus in variety, Forsythia in variety, Myrica, Rhamnus in variety, Rosa in variety, Syringa in variety, Vaccinium in variety, Viburnum in variety, Weigela in variety.
- b. Shrubs shall conform in height and number of canes as specified in the A.A.N. standards (Type 1 through 6). Plants shall show signs of pruning for compactness and be free of insect and disease injury. Diameter of ball or container shall conform to A.A.N. standards. All shrubs to be Nursery Grown.

Item 361D - Evergreen Trees

- a. Trees shall be Juniperus chinensis in variety, Juniperus virginiana cultivars, Picea in variety, Pinus in variety, Pseudotsuga taxifolia, Thuja in variety, Tsuga canadensis.
- b. Trees shall be compact, bushy to the ground, with a single central leader, reasonably straight. Trees shall be free from insect and disease injury and show no signs of winter damage. Diameter of ball shall conform to A.A.N. standards. All trees to be Nursery Grown.

Item 361E - Evergreen Shrubs Upright

- a. Shrubs shall be Berberis julianae, Euonymus in variety, Ilex in variety, Kalmia latifolia, Pieris in variety, Pyracantha in variety, Rhododendron catawbiense in variety, Buxus in variety, Taxus in variety.
- b. Shrubs shall be compact, well furnished to the ground. The width shall be in proportion as typical of its type. Plants shall be free of insect and disease injury, and show no signs of winter injury. Diameter of ball or container shall conform to A.A.N. standards. All shrubs to be Nursery Grown.

Item 361F - Evergreen Shrubs Spreading

- a. Azalea evergreen in variety, Contoneastar in variety, Juniperus spreading in variety, Leucothoe in variety, Taxus spreading in variety.
- b. Shrubs shall be compact, well furnished to the ground. The height shall be in proportion to the width as typical of its type. Plants shall be free of insect and disease injury, and show no signs of winter injury. Diameter of ball or container shall conform to A.A.N. standards. All shrubs to be Nursery Grown.

5. Method of Measurement and Basis of Payment.

- a. The quantity of trees to be paid for under these items

shall be the number of trees furnished, planted, transplanted and maintained in accordance with the Plans, Specifications and directions of the Landscape Architect.

b. The price bid shall be a unit price per tree as specified in the PLANT SCHEDULE and

shall include the cost of excavating plant pits, including removal and disposal of existing dead trees for the tree replacements, removal and sawcutting of asphalt from tree pits, disposal of excess subsoil, removal and resetting stone block, furnishing plants, transplanting plants, digging and transporting trees from nurseries, furnishing and placing topsoil for pits, inspecting, planting, pruning, staking, guying, anchoring, wrapping, watering, restoration, replacing and maintaining all trees, incorporating superphosphate with the topsoil, distributing fertilizer over plant pits and all other work, incidental thereto in accordance with the Specifications to the satisfaction of the Landscape Architect.

c. In all locations where utilities are located, the Contractor shall dig the tree pits by hand where required, which shall be included in the price bid.

NOTE: The Contractor may be required to certify to the County the patented varieties of trees specified in this contract.

1. SECTION IX - DETAILED SPECIFICATIONS - PLANTING TREES AND SHRUBS

a. Trees and Shrubs

1. Quality and Condition:

2. All trees and shrubs shall be nursery grown, (except where otherwise noted), shall conform to the dimensions specified and shall present a balanced proportion of height and spread for the particular

specimen desired. Each tree or shrub shall show a normal habit of growth, free of any insect and disease, injury, or physical damage. Plants shall be typically characteristic of the particular species and variety. Plantation grown trees and evergreens will not be acceptable without consent by the Landscape Architect. The Contractor may be required to certify to the County the patented varieties of trees specified in this contract.

3. Digging:

- a. In digging the trees and shrubs with a rootball, the minimum lateral diameter of the rootball shall be as specified. The rootball shall be of sufficient depth to include all lateral roots. All roots encountered during digging operations shall be cut flush to the side of the ball with sharp loping or pruning sheers. The rootball shall be firm and compact, tightly and adequately bound with burlap wrapping. Platforms will be required for the balls over six (6) feet in diameter to assure solidity of the ball. If trees are unloaded by a bucket loader machine of the sufficient size, platforms may be eliminated with the approval of the Landscape Architect. Under no circumstances shall the rootball be artificially manufactured to meet size requirements and none will be accepted in a loose, broken or lopsided condition.
- b. All trees and shrubs required by the proposal, specifications or plans to be moved with ball and burlap will be measured across the minimum lateral diameter of the rootball. The rootballs shall be wrapped and laced as shown in the latest American Standard for Nursery Stock. Rope shall be a minimum of 3-ply sisal or approved equal.

- c. All trees and shrubs that are required by the proposal, specifications or plans to be dug bare root shall have all fine fibrous roots preserved. After digging, the bare root plants shall be puddled in a heavy mixture of clay, mud, and packed with straw or salt hay, held in a moist condition until planted.

#### 4. Transportation and Delivery

- a. The tops of trees and shrubs shall be tied in with heavy twine to protect branches from being broken during loading, shipping, and unloading. Utmost care shall be taken to protect the trunks of trees during transit. All trees with broken terminal leaders shall be rejected.
- b. A burlap cover shall be tightly secured on the tops of all trees and shrubs during shipment.
- c. Any balls of the trees or shrubs delivered to the site in a loose, broken or dried condition will be rejected.
- d. Plants delivered to the contract site shall be planted within 72 hours from time of delivery. All others will be rejected and promptly removed from the site. If, due to no fault of the Landscape Contractor, he is unable to plant in a specified area, such as other contractor's operations, wet soil conditions, or inclement weather, the Landscape Contractor shall take the necessary steps to heel in the plant material with wood chips or salt hay, to the satisfaction of the Landscape Architect.

#### 5. Inspection

- a. All trees and shrubs shall be subject to inspection and approval and marking at the growing site, but approval and marking at

the growing site shall not obligate the County of Nassau to pay for any tree or shrub until it has been delivered and planted at the planting site in a satisfactory condition. In all instances where it is deemed necessary by the County to make physical inspections of nursery stock or other materials, the Contractor shall pay to the County the Inspector's expense of transportation, meals, and lodging incurred by the Inspector or Inspectors in traveling beyond the confines of Nassau County from the County Seat at Mineola, New York, to the place of inspection. The removal of nursery stock rejected at the planting site shall be at the expense of the Contractor and replacement in compliance with specifications shall be made at no extra cost to the County.

b. The County reserves the right to inspect and seal plant materials for replacement which have died during the maintenance and guarantee period. The above standards shall apply.

6. Measurement. Measurement of sizes for various trees required by the proposal shall be in accordance with those specified in the publication "American Standard for Nursery Stock" by the American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, D.C., 20005-4914, approved as USA Standard Z60.1-latest by American National Standards Institute, Inc.
7. Names - Plant names shall agree with the nomenclature of "Standardized Plant Names" as adopted by the American Joint committee on Horticultural Nomenclature 1942 Edition: Size and grading standards shall conform to those of the American Association of Nurserymen unless otherwise specified. No substitution shall be permitted except by written permission of the landscape Architect.

## 8. Abbreviations

- Cal. - indicates the caliper of the trunk of the tree
- B.R. - indicates the plants to be dug with bare roots
- B&B - indicates plants to be balled and burlapped
- B&P - indicates plants to be balled and platformed
- C.G. - indicated container-grown plants.

## 2. Materials.

### a. Bracing Stakes

1. Bracing stakes shall be of white cedar, chestnut, or other approved wood with bark attached. Underground deadmen shall be at least four inches by four inches by four feet long. All stakes shall be free from insects and fungi.
2. The length shall be as specified; the diameter at the middle shall be not less than two (2) inches nor more than two and three quarter ( $2\frac{3}{4}$ " ) inches; the diameter at the top shall be not less than one and three-quarters ( $1\frac{3}{4}$ " ) inches and the diameter at the butt shall not exceed three (3) inches. They shall have a maximum allowable deflection of ten (10%) percent. Stakes shall be pointed.

b. Wire - wire shall be galvanized steel wire, No. 14 and 12 A.S. and W. gauge through as specified.

c. Hose - Hose shall be fiber centered remnants or suitable second hand material of one half inch, five-eighths or three quarter inch diameter, weighing approximately one-half pound per linear foot, or other suitable material. The hose shall be black or any color, as approved by the Landscape Architect.

d. Jute Burlap - Jute Burlap shall weigh eight ounces per



square yard.

- e. Twine - the tying material used in the balling of trees shall be sisal rope or approved equal, not less than 3-ply for trees 4½" or less in diameter, and 4-ply for trees over 4½" in diameter.
- f. Fertilizer and Superphosphate - Superphosphate (18% -20% phosphorous acid) shall be incorporated with the topsoil at the time of planting, at the following rates:
  - Two (2) pounds per 1" of caliper of tree.
  - One (1) pound per two (2) feet height of shrub.
  - Twenty (20) pounds per 1,000 square feet of ground cover bed.

Just prior to mulching of the plant materials, fertilizer (10-10-10, 50% organic nitrogen) shall be evenly distributed over the plant pit at the rate of one (1) pound per 1" of caliper of tree, one-half (1/2" pound per two (2) feet height of shrub and twenty (20) pounds per 1,000 square feet of ground cover bed.

- g. Wood Chip Mulch - Wood chips shall be obtained from green hardwood, and shall be 1/8 inch nominal thickness with 50% having an area of not less than 1 square inch nor more than 6 square inches, and shall be free of leaves, twigs, shavings and bark and any foreign materials which are injurious to plant growth.
- h. Topsoil - Topsoil shall conform to Item 9 - Topsoil of the this Specifications, which shall be included in the price bid for the plant and at no additional cost to the County.
- i. Spraying with Anti-Desiccant - The Contractor shall spray all plant material with an anti-desiccant, using an approved power sprayer to apply an adequate film over trunks, branches, twigs and/or foliage, as directed by the Engineer. The anti-desiccant shall be an emulsion which will provide a protective film over plant surfaces, permeable enough to permit transportation. The anti-desiccant shall be "WILT-PROOF" supplied by Nursery Specialties Products, Inc.,

Croton Falls, N.Y., "VANEX" supplied by Vansul & Co., 193 William Street, Englewood, N.J., or approved equal. Anti-desiccants shall be delivered in the containers of the manufacturer and shall be mixed according to the directions.

- j. Green Plastic Tie - Green plastic tie shall be a minimum of 1/2 inch in width. It shall have a smooth surface, with the ability to stretch as the tree grows. Green plastic tie shall be used to secure the burlap wrap to major trees as described in the specifications or as directed by the Landscape Architect.

### 3. Planting Operations.

#### a. Layout

- 1. Each tree shall be planted at the stake and location as determined by the Landscape Architect. All necessary grades shall be furnished by the Landscape Architect or Engineer.
- 2. The Contractor shall be responsible for placing the proper variety of tree or shrub at the locations as shown on the plans or in the distribution schedule of the proposal. If an error is determined by the County as described above, the Contractor shall replace the tree or shrub with the proper plant in the next succeeding planting season and maintain and guarantee that tree for 1 year from date of replacement.
- 3. The Contractor shall be responsible for locating all utility lines including traffic conduits, PSE&G installations, irrigation systems, etc. The Contractor shall be responsible for repairing all damage to utilities.

#### b. Size of Pits

- 1. The pit diameter shall be twice the root spread for plants up to and including a two-

foot root spread; pit diameter equal to root spread plus two feet for root spread of two to four feet; pit diameter one and one half times the root spread for spread of roots over four feet. The depth of pits shall be adequate to permit a minimum of six inches to topsoil backfill under all roots or balls.

2. Larger pits may be required, if so specified in the plans or specifications.
  3. When designated on the plans as a planting bed, the depth of the bed for shrubs shall be 18" deep and the bed for ground covers shall be 12" deep. Depth of beds shall be taken from surrounding existing grades.
  4. In grass areas, the tree pits along various county roads will be a minimum of 48" long and the widths shall be from the back of the curbs to the edge of the sidewalk, or where room allows the width shall be a minimum of 48" wide.
  5. In concrete and asphalt paved areas, the tree pits along various county roads shall be a minimum length of 48". The width shall be 36" wide.
- c. Disposal of Excavated Materials - Topsoil and subsoil excavation from tree pits and planting beds shall be disposed of off the site by the Contractor. Existing topsoil shall not be used for planting unless so described in the Addendum.
- d. Partial Payment for Excavation and Backfill. due to the seasonal requirements of tree and shrub plantings, a partial payment of (20%) twenty percent of the price bid per item. shall be paid to the Contractor if he so elects to pre-dig and backfill with topsoil and amendments, tree pits and shrub beds, according to plans and specifications and as directed by the Landscape Architect.

## e. Planting Procedures

### 1. General

- i. All trees and shrubs shall be set plumb and at such a level that after settlement they are recessed four (4") inches below existing grade, forming a natural saucer. All trees and shrubs shall be backfilled to the crown with topsoil, supplied as specified in Item 9 - Topsoil these Specifications. Topsoil shall be thoroughly and properly settled by tamping and by watering.
- ii. The unit price bid for each plant, shall include the furnishing, by the Contractor of all topsoil necessary for planting operations.
- iii. All trees and shrubs planted on slopes which are 1:4 or greater shall be set to the grade of the center line of the tree pit and as directed by the Landscape Architect. A saucer 4" deep shall be constructed around and on the low side of the tree pits. A portion of the excavation from the tree pit may be used to build the saucer as described above. A three inch (3") layer of topsoil shall be spread over the saucer and seeded with Mixture "A" Section X of the Seeding specifications. The unit price bid shall include the cost of all topsoil and grass seed.

### 2. Pruning

- i. The pruning of all plants shall be done on the job site, or as otherwise specified or approved by the Landscape Architect. All plants pruned without previous approval shall be rejected.
- ii. Deciduous trees and shrubs shall be pruned

to reduce the vegetative growth by 1/3 of its total branching. Wood removed shall be inferior branches, competing branches, crossing branches and dead and damaged wood. The natural branching habit of the plant shall be adhered to at all times.

- iii. Trees used in street tree plantings, parking areas, and playground areas shall have all branches removed up to a height of six (6) feet.
  - iv. The center leader of all major trees will be straight, healthy and unimpaired in any way. Damaged leaders will not be acceptable.
  - v. Pruning will be done by competent workmen in accordance with accepted horticultural practices, and as directed by the Landscape Architect.
- 3. Balled Plants - Balled plants (B. & B., B. & P.) shall be backfilled with topsoil carefully tamped around and under the base of each ball to fill voids. Platforms shall be removed. All burlap, wires, ropes, etc., shall be removed from the tops of all balls, but no burlap or wrapping shall be pulled out from under the balls.
  - 4. Bare-root Plants - roots of bare-root (B.R.) plants shall be properly spread out in a natural position and topsoil shall be worked in among them by watering. All broken and frayed roots shall be cleanly cut off.
  - 5. Container grown plants - shall have been grown in pots, tubs or boxes for a minimum of six (6) months and a maximum of two (2) years. Plants shall have sufficient roots to hold the earth together, intact after removal from containers, without being root bound. The sizes for containers shall conform to the largest size container specified in the "American Standard for Nursery Stock" by the

American Association of Nurserymen, Inc.

6. Fertilizer and Superphosphate - Fertilizer as described under "Materials" Paragraph 6, shall be placed just prior to mulching each plant.

The placing of superphosphate after tree or shrub planting will not be permitted. All planting will cease until superphosphate becomes available for use.

f. Guying and Staking

Tree Size		Stakes		
<u>Major Trees</u>	<u>Number</u>	<u>Length</u>	<u>Minimum Diameter</u>	<u>Wire Size</u>
10'-2½" Cal.	2	8'	2"	#14
2½" - 3" Cal.	2	8'	2"	#12
3" to 4" Cal.	3	8'	2"	#12
4" - 5" Cal.	3	10'	2"	#12
<u>Minor Trees</u>				
6' - 8' Ht.	2	2	5' max. 1½"	#14
8' - 12' Ht.	2	6' max.	2"	#14
over 12' Ht.	2	8' Max.	2"	#12
<u>Evergreen Trees</u>				
2' - 7' Ht.	2	½ Ht. of tree + 1½'	in proportion	#14
7' - 8' Ht.	2	½ Ht. of tree + 1'	in proportion	#14
8' - 10' Ht.	3	½ Ht. of tree + 1½'	in proportion	#12
10' - 12' Ht.	4	½ Ht. of tree + 1'	in proportion	#12

1. Stakes shall be placed directly adjacent to the ball of the tree and driven a minimum of (1'-0") one foot below the depth of the ball.
2. single strand of #14 or #12 galvanized wire shall be used to secure each stake to the tree. The wire shall be passed around the trunk of the tree and both ends of the wire secured to the stake as directed by the landscape Architect or a representative of the Architect. A piece of reinforced rubber hose 8" to 14" long shall be used to protect the wire from damaging the trunk of the tree. The height of attachment of the tree to the stake shall be as indicated in the above chart, and as directed by the Landscape Architect.
3. After staking and wiring has been completed, the tops of all stakes shall be cut approximately two inches (2") above the wires.
4. All guy wires shall be maintained tight by the Contractor for the duration of the Contract.
5. All staking and wiring operations shall be complete for each tree within 24 hours after planting. No new or additional planting will be allowed by the County until all wiring and staking has been satisfactorily completed by the Contractor.

g. Water and Mulch

1. A shallow saucer the entire size of the pit, capable of holding water, shall be formed about each plant by building a circular dike four (4") inches above grade.
2. The entire saucer at each tree or shrub will be filled with wood chip mulch so that it meets the existing grade at time of final inspection.
3. All shrub beds shall be completely covered with four (4") inches of wood chip mulch.

4. At the time of planting, the soil around each plant shall be saturated with 25 gallons of water for each square yard of planting area. All trees and shrubs will be watered at least once per week, unless otherwise directed by the Engineer until final acceptance.

h. Wrapping

1. All trees shall have a burlap wrapping around the trunk from the ground level to the first set of branches.
  2. Trees of two inches (2") caliper and up shall be wrapped with a six inch (6") new burlap bandage securely tied at the top and bottom and at two foot (2') intervals along the trunk. Burlap shall be secured by using green plastic tie as described under "Materials." The burlap bandage shall cover the entire surface of the trunk from the base to the first set of branches. The burlap bandage shall overlap approximately 1/3 of its width. Burlap shall be maintained in place.
- i. Edging of Planting Areas - The Contractor shall establish a neat edge where Planting Areas meet grass areas as shown on the plan or as directed by the Landscape Architect. Edging shall be done by competent mechanics in a workmanlike manner with spade or edging tool immediately after all planting and seeding is completed. Particular care shall be exercised in edging to establish good flowing curves as shown on the plans or as directed by the Landscape Architect. Edging shall be maintained by the Contractor for the duration of the contract.
- j. Protection of work - For the duration of the contract, the Contractor shall, at no additional expense to the County, erect all barricades, signs, fences, etc., and provide watchmen as might be necessary for the protection of all trees until the contract has been accepted.



4. General.

a. Access to all Operations for Inspection - The Contractor shall furnish such facilities and give such assistance for reasonable inspections as the Landscape Architect or Engineer may request, and shall secure free access to all sites where the plant material is located or work is in progress.

b. Time of Planting

1. The planting seasons for deciduous materials shall be from March 1st to May 15th, and from October 15th to December 1st. Evergreen material shall be planted from March 15th to May 15th, and from August 15th to October 15<sup>th</sup>.

2. Upon written request by the Contractor to the Landscape Architect, an extension of the deciduous planting season for winter planting may be granted. Extension will be determined by the Genus of trees to be planted and soil conditions.

c. Restoration - All pavements, sodded and planted areas, structures and sub-structures not specifically provided for in the Contract, disturbed by the Contractor during the execution of the work shall be restored by the Contractor, in a manner satisfactory to the Landscape Architect to their original conditions at no additional cost to the County.

d. Guarantee and Maintenance - The Contractor shall guarantee the life of all plants in this contract for a period of one year after final acceptance of planting as specified in the following:

1. Any plant which is damaged, destroyed or dies from whatever cause except theft or vandalism during the above period shall be replaced within fifteen days upon written notice to the Contractor by the County.

2. It should be noted that due to planting seasons, the Contractor will be required to replace any dead plant within the two planting seasons, during the one year guarantee period which may entail replacing the same plant twice after final acceptance.
3. The Contractor shall be responsible for all work required to maintain the trees properly and make necessary replacements during the guarantee period, including watering, mulching, pruning, restaking and replanting.
4. He shall maintain during this period a sufficient labor force at all times to maintain the plants in a proper manner and perform all necessary operations efficiently and expeditiously.
5. The Contractor shall be required to water all plant material a minimum of six (6) times during the maintenance and guarantee period. Work shall be performed when plants are in active vegetative growth. If in the opinion of the Landscape Architect, unseasonable dry conditions exist, additional watering may be required as directed by him.
6. Each plant shall receive 25 gallons of water for each square yard of pit area.
7. At the end of the one-year guarantee, the Contractor shall remove and dispose of all stakes, wire, hose, burlap and twine from all trees as approved by the Landscape Architect. Also, all holes left due to removal of stakes shall be filled with topsoil to the existing grade.

8. The cost of maintenance, replanting operations and removal of staking and wrapping shall be included in the plant bid price.
  9. The Contractor shall furnish the County a maintenance bond for one year in the amount equal to the total bid price for the plants.
- e. Final Inspection - When, in the opinion of the Contractor, the work is complete and ready for final inspection, he shall notify the Landscape Architect who will arrange to give the entire work a thorough inspection. Before final payment will be made, any dead plants, defects or omissions noted on the inspection must be rectified by the Contractor without additional compensation.

#### **ITEM 362 - TRIPLE SHREDDED MULCH**

1. Description. This item is for separate and or larger mulch beds than those included under Item 361, where directed by the Landscape Architect.
2. Materials. Triple Shredded Wood Mulch - Wood Mulch shall be obtained from green hardwood, and shall be 1/8 inch nominal thickness with 50% having an area of not less than 1 square inch nor more than 3 square inches, and shall be free of leaves, twigs, shavings and bark and any foreign materials which are injurious to plant growth.
3. Method. A 4" depth bed will be installed and raked smooth.
4. Measurement and Basis of Payment. The quantity measured and paid for under this item will be the number of cubic yards of Triple Shredded Mulch installed.

Even if this material is used in accordance with other work in this contract including but not limited to Item 361, there will be no additional payment.

## ITEM 363-GRASS SEEDING

### 1. DESCRIPTION:

Under this item, the contractor's work shall include the furnishing and placing of the grass seed, ground limestone, commercial fertilizer and related work, complete as directed by the engineer and as specified herein.

### 2. PREPARATION OF SURFACES:

- a. Clearing and rough grading of seed bed. The area to be seeded shall be cleared of all vegetative growth (weeds, grass, etc.), all washouts or other surface irregularities shall be repaired, and the surface shall be roughly graded to the proper elevation before application of lime or fertilizer.
- b. Liming and fertilizing: Ground limestone as specified herein, shall be evenly distributed at the rate of one pound per 27 SF and worked into the top three (3) inches of the soil. Commercial fertilizer (10-6-4) as specified herein shall be evenly distributed at the rate of one pound per 27 SF and shall be lightly worked into the top three (3) inches of soil.
- c. Final preparation of seed bed-After the application of fertilizer the seed bed shall be prepared for grass seeding.
  - i. The area shall be cleared of sticks, stones one inch and larger, and other objectionable materials. It shall then be smoothly graded to the proper surface elevation, free from all unsightly ridges, depressions, or undue irregularities, and all soft or loosely filled areas shall be thoroughly compacted by means of an approved lawn roller. If the bed surface is in an excessively compact condition it shall be lightly harrowed or otherwise cultivated or loosened to a depth of three (3) inches to place it in a suitable condition for immediate application of the grass seed.
  - ii. If the operation of grass seeding is delayed longer than thirty (30) days after fertilizing, the Contractor will be required to re-fertilize and re-prepare the seed bed in accordance with these specifications.
- d. Grass seeding
  - i. Grass seed shall be sown evenly at the rate of one pound per 300 SF. All seeding is to be done

on dry or moderately dry soil and at times when the wind does not exceed a velocity of five (5) miles per hour.

- ii. The grass seed shall be covered to the proper depth by raking or other suitable means meeting with the approval of the architect or engineer. After seeding and raking, the soil surface is to be rolled with an approved roller weighing at least two hundred (200) pounds.
- e. Maintenance of grass: Any areas which have been damaged or fail to show a uniform stand of grass shall be re-fertilized and re-seeded with the original mixture at the Contractor's expense until all the designated areas are covered with grass.

### 3. MATERIALS:

#### a. Grass seed

- i. Grass seed shall be fresh, re-cleaned seed of the latest crop, consisting of the mixture as specified and in conformity with the following proportions by weight and meeting with the following standards of seed content. The tolerance for germination shall be those called official and tabulated on page 5, U.S. Department of Agriculture Bulletin No. 480.
- ii. The mixture of the seed shall be as follows:

Proportions of Mixture -----	Mixture Tolerance		Germination Tolerance	
	Minus -----	Plus -----	Germination -----	Minus -----
85% Chewing Fescue	3%	5%	90%	6%
15% Perennial Rye Grass	3%	5%	88%	7%

- iii. The purity of the mixture is to be a minimum of 97.25%.

- b. Commercial fertilizer: The commercial fertilizer shall have the following composition by weight: Nitrogen ten (10) percent; Phosphoric acid (P205) six (6) percent; Potash four (4) percent. The nitrogen shall be fifty (50) percent inorganic. The elements shall be available according to the methods adopted by the Association of Official Agricultural Chemists.

c. Ground limestone: The ground limestone (calcium carbonate) shall have the following analysis: At least fifty (50) percent shall pass a 200 mesh sieve; at least seventy (70) percent shall pass a 100 mesh sieve; and one hundred (100) percent shall pass a 10 mesh sieve. Total carbonates shall not be less than eighty (80) percent or 44.8% calcium oxide equivalent; for purposes of calculation, total carbonates shall be considered as calcium carbonate.

4. METHOD OF MEASUREMENT:

Seeding shall be measured in square feet of surface areas which have been acceptably seeded.

5. BASIS OF PAYMENT:

Seeding shall be paid for at the unit price bid per square foot. Payment shall constitute full compensation for furnishing all labor, materials, equipment and incidentals necessary to complete and care for the work as specified.

ITEM 364B: TREE PRUNING 6"-<12" CALIBER  
ITEM 364B-OR: OFF-ROAD TREE PRUNING 6"-<12" CALIBER  
ITEM 364C: TREE PRUNING 12"-<24" CALIBER  
ITEM 364C-OR: OFF-ROAD TREE PRUNING 12"-<24" CALIBER  
ITEM 364D: TREE PRUNING 24"-<36" CALIBER  
ITEM 364D-OR: OFF-ROAD TREE PRUNING 24"-<36" CALIBER  
ITEM 364E: TREE PRUNING 36"-<48" CALIBER  
ITEM 364E-OR: OFF-ROAD TREE PRUNING 36"-<48" CALIBER  
ITEM 364E: TREE PRUNING 36"-<48" CALIBER  
ITEM 364E-OR: OFF-ROAD TREE PRUNING 36"-<48" CALIBER  
ITEM 364F: TREE PRUNING OVER 48" CALIBER  
ITEM 364F-OR: OFF-ROAD TREE PRUNING OVER 48" CALIBER

1. DESCRIPTION:

Within the County of Nassau, work covered by this item consists of Class II, Medium Pruning. The trees to be pruned shall be located along county roads, drainage easements, recharge basins, parks, buildings, and as directed by the engineer or his representative. Any tree located 20 feet or more beyond the point of access for equipment shall be considered an off-road (OR) tree. The point of access shall be determined by the engineer.

2. OPERATIONS AND MATERIALS:

- a. Workman shall not be permitted to climb trees with climbing spurs; they shall employ accepted tree climbing methods. All tools used and methods employed shall be approved.
- b. The cutting surfaces of all tools, ladders, ropes, soles of workman's shoes, and other objects coming into contact with the tree, shall be washed with an approved disinfectant in order to prevent the spread of plant diseases. This will be done prior to beginning any work on a tree.
- c. The designated trees shall be pruned of undesirable wood, and the resulting crown shaped to the natural habit of the tree as approved. Any and all branches interfering with or hindering the healthy growth of the tree shall be removed.

- d. All diseased and dead branches one inch or more in diameter shall be removed. Any branch which may be partly dead yet has healthy lateral branches at least one-third the diameter of the parent branch, shall be removed beyond the healthy branch. All branches interfering with the overhead clearance of vehicles or with sight distance shall be removed as directed. All stubs or improper cuts resulting from former pruning shall be removed.
- e. All cuts shall be cleanly made with sharp tools, leaving a smooth surface with no jagged edges or torn bark. Cuts are to be made back to the parent branch or trunk just outside of the Branch Bark Collar. Lateral cuts shall be made halfway between the Branch Bark Ridge and a line from the crotch, perpendicular to the branch to be removed. All large bark wounds shall be scar traced to the satisfaction of the engineer. All nails, spikes, wire, or other materials driven into or fastened to the trunk or branches, shall be removed, or if approved, they shall be cut flush in a manner to permit complete healing.

3. MEASUREMENT AND PAYMENT:

Payment for tree pruning shall be measured by the number of trees of each group size that have been satisfactorily pruned. Measurement shall be made four and one-half feet above ground, commonly referred to as DBH (Diameter Breast High). The unit price bid for this item shall include all labor, materials, tools, equipment, removal and disposal of wood and chips from the site, and incidentals necessary to satisfactorily complete the required work.



### **ITEM 371 - PEAT MOSS**

1. Description. Under this Item the Contractor shall furnish and incorporate peat moss in accordance with the Plans and Specifications, or as directed by the Engineer.

2. Materials.

Peat moss - The peat moss bales shall be standard six (6) cubic foot bales, as approved by the Landscape Architect. The peat moss shall be of the shredded type, compressed in bales. The pH shall not be over 4 and the ash content not over 3%. The peat moss shall be capable of absorbing water 8 to 20 times its own weight.

The Landscape Architect may inspect the peat moss before delivery, but he reserves the right to reject on and after delivery any material which does not, in his opinion meet these specifications. The price bid shall include the cost of inspection and laboratory test when required by the Landscape Architect. When peat moss is stored on the job, it shall be done as directed by the Landscape Architect.

3. Method. The Peat moss shall be thoroughly mixed with the topsoil and the subsoil that has been excavated from the tree pits for Items 161. One bale of peat moss shall be evenly distributed for six (6) trees. The method of mixing Peat moss and topsoil shall be approved by the Landscape Architect before work commences.

4. Method of Measurement and Basis of Payment.

a. The quantity of peat moss to be paid for under this item shall be the number of bales of peat moss, furnished and incorporated in accordance with the Plans and Specifications to the satisfaction of the Landscape Architect.

- b. The unit price bid per bale shall include the cost of all labor, materials, equipment and the performance of all operations to complete the required work, including furnishing bales of peat moss, and incorporating the peat moss into the top-soil, and all other work incidental thereto, in accordance with the Plans and Specifications to the satisfaction of the Landscape Architect.

## WORK ITEM SPECIFICATIONS

ITEM 372B: TREE REMOVAL 6"-<12" CALIBER  
ITEM 372B-OR: OFF-ROAD TREE REMOVAL 6"-<12" CALIBER  
ITEM 372C: TREE REMOVAL 12"-<24" CALIBER  
ITEM 372C-OR: OFF-ROAD TREE REMOVAL 12"-<24" CALIBER  
ITEM 372D: TREE REMOVAL 24"-<36" CALIBER  
ITEM 372D-OR: OFF-ROAD TREE REMOVAL 24"-<36" CALIBER  
ITEM 372E: TREE REMOVAL 36"-<48" CALIBER  
ITEM 372E-OR: OFF-ROAD TREE REMOVAL 36"-<48" CALIBER  
ITEM 372F: TREE REMOVAL OVER 48" CALIBER  
ITEM 372F-OR: OFF-ROAD TREE REMOVAL OVER 48" CALIBER

### 1. DESCRIPTION:

- a. The work covered by this item consists of removing dead, diseased or hazardous trees on county owned lands, which shall include, but not limited to, roads, drainage easements, preserves, parks, buildings and recharge basins.
- b. The work shall include the disposing of all wood and debris, and may require topping, stump grinding, and other work as directed by the engineer. Upon acceptable completion of tree removal, all paved areas adjacent to and surrounding the designated site shall be blown off with backpack blowers as directed by the engineer. All trees for removal shall be specified by the engineer or his representative.

### 2. OPERATIONS AND MATERIALS:

- a. The size range for trees to be removed shall be 6" DBH (diameter breast height) to over 48" DBH.
- b. The materials for the backfilling of stump grinding and for establishing grass or sod on stump hole areas shall be specified under items 9-Topsoil and 363-seeding.
- c. No tree specified for removal shall be cut until it is approved by the engineer or his representative. All work involving public utilities shall be coordinated by the contractor with the respective utility company.
- d. All trees shall be "topped" and "limbed" previous to felling unless otherwise approved. All branches lying on the ground within a fifty-foot radius of the trees shall also be removed.

- e. Stumps will not be removed unless otherwise specified. Stumps shall be cut flush with the adjacent grades, unless otherwise directed.
- f. If, in the opinion of the engineer or his representative, unsafe tools, methods, or unsatisfactory maintenance of traffic is employed, work shall be stopped until such unsafe practices have been corrected.
- g. The contractor shall protect all plants, curbs, pavements, walls, buildings, structures, utilities, and other features on the roads and paths of the adjacent properties.

3. MEASUREMENT AND PAYMENT:

- a. Payment for tree removal shall be measured by the number of trees of each group size which have been satisfactorily removed. All trees shall be measured as they are cut. Measurement shall be made four and one-half feet above the ground, commonly referred to as DBH (diameter breast height). Any tree located 20 feet or more beyond the point of access for equipment shall be considered an off-road tree. The point of access shall be determined by the engineer.
- b. Tree removal will be paid for at the unit price bid per tree for each group size as set fourth in the contract proposal. Payment shall constitute full compensation for all labor, materials, equipment, disposal of wood and branches, and maintenance of traffic, to complete work as specified.
- c. No tree shall be removed without prior approval and directions of the engineer. Any tree removed without such approval shall not be counted for payment. Any tree which is damaged or removed by the contractor and which would not otherwise have required removal, shall be replaced by a six-inch caliber tree, selected by the engineer and replaced at the contractor's expense.

ITEM 374B: STUMP GRINDING 6"-<12" DIAMETER  
ITEM 374C: STUMP GRINDING 12"-<24" DIAMETER  
ITEM 374D: STUMP GRINDING 24"-<36" DIAMETER  
ITEM 374E: STUMP GRINDING 36"-<48" DIAMETER  
ITEM 374F: STUMP GRINDING OVER 48" DIAMETER

1. DESCRIPTION:

- a. The work covered by this item consists of grinding down tree stumps on County owned lands, which shall include, but not limited to, roads, drainage easements, preserves, parks, buildings, and recharge basins.
- b. Stumps to be ground shall be designated by the engineer or his representative.

2. OPERATIONS AND MATERIALS:

- a. The size range for stumps to be ground shall start at 6" diameter to over 48" diameter. Measurement for stump grinding shall be taken at ground level. The stumps designated to be ground shall be cut a minimum of 6" below adjacent existing curbs, sidewalks, pavements, grass areas, and as directed by the engineer.
- b. The contractor shall be held responsible for the protection of all plant materials, curbs, sidewalks, pavement, walls, structures, and utilities. Any damage or injury to adjacent property herein shall be the sole responsibility of the contractor and he shall be held liable for the repair or damage.
- c. All shavings and/or chips derived from the grinding operation shall be removed from the site during the day, unless otherwise approved. Upon acceptable completion of stump grinding, all paved areas adjacent to and surrounding the site shall be blown off with backpack blowers as directed by the engineer. Topsoil will be placed in the void left from the grinding operation.
- d. Restoration shall include placing of topsoil and seeding as directed by the engineer or his representative. Payment shall be made under Item 9-Topsoil and Item 363-Seeding.

3. MEASUREMENT AND PAYMENT:

- a. Payment for stump grinding shall be measured by the number of stumps of each group size that have been satisfactorily ground.
- b. The unit price bid for this item shall include all labor, materials, tools, equipment, removal of chips, restoration of area and incidentals necessary to satisfactorily complete the required work.

## **ITEM 450-SELECTIVE CLEARING**

### **1. DESCRIPTION:**

The work covered by this item consists of removing saplings, briars, shrubs, and overgrown vegetation at various county locations as directed by the engineer, protecting trees and shrubs which are to be preserved, and finishing the work as specified. This item may be used to gain access to areas where tree trimming and/or removal work must be undertaken, in instances when vegetation overgrowth must be cleared at a specified location or as otherwise directed by the engineer.

### **2. OPERATIONS AND MATERIALS:**

The following materials shall be removed from the areas and disposed off-site as ordered by the engineer or his representative:

- a. Trees less than six (6) inches DBH which are dead, dying, leaning, hazardous, in poor condition, in poor location, or crowding more desirable species of vegetation which are to be preserved.
- b. Stubs and stumps shall be cut at ground level.
- c. Fallen woody debris up to six (6) inches in diameter.
- d. Shrubs which are in poor condition shall be cut at base and removed.
- e. Vines growing into trees shall be cut at base and removed.
- f. Vegetation encroaching upon and/or growing within the limits of the work area.

All woody debris to be disposed of under this item shall be removed and disposed of off the contract site at the contractor's expense. Upon request, the contractor may be allowed to use a wood chipper, and the chips may be blown into existing wooded areas and used as mulch.

All trees and shrubs to be removed will be designated by the engineer or his representative either by separate marking, marking in sample areas, or otherwise, to guide the contractor on the scope and detail of the work.

Care shall be taken in the felling of trees and the operation of equipment to prevent injury to trees and shrubs which are to be preserved. All injuries to

limbs, bark, and roots of such plants shall be repaired as directed by the engineer.

The surface of the ground in areas for selective clearing shall be left in a condition which is reasonably consistent with the surroundings. The contractor is advised that selective clearing may be necessary prior to grass mowing (by contractor or others) at particular areas. In such instances, the ground surface shall be prepared to be free of obstructions (tree stumps, root systems, protruding objects, etc.) that could interfere with any and all mowing equipment, or as otherwise directed by the engineer.

This item will apply to areas overgrown with brush, briars, heavy vegetation, woody vines and saplings. As appropriate, tree removal will be paid under Item 110-Tree Removal.

3. MEASUREMENT AND PAYMENT:

Selective clearing shall be measured by the number of square yards satisfactorily completed as computed to the nearest tenth thereof.

Selective clearing will be paid for at the unit price bid per square yard, which payment shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work as specified.



### ITEM 510-FORCE ACCOUNT WORK

1. DESCRIPTION:

The intent of this item is to perform tree maintenance and removal work, vegetation control functions, and supply materials and/or equipment, as required, which has not been covered specifically by items in this contract.

2. MATERIALS:

It shall be the contractor's obligation to have available all personnel, materials, and equipment to complete the work called for under this item.

3. MEASUREMENT AND PAYMENT:

Payment for the work directed to be performed under this item shall be made for actual time and materials incorporated into the work, or supplied, in accordance with the provisions of Nassau County Standard Specifications for the construction of Highways and Bridges, pages 14-16, Article 2, (1)-(6) inclusive, for all items NOT covered by specific items in this proposal. In the case of emergency work, not specified by items in this contract, payment for the contractor personnel shall begin from time of notification to the contractor until completion of the work. The maximum payment for time of notification to start of work shall be two (2) hours. All other payment under this item shall be for actual time spent working at the site, plus costs of materials supplied and/or installed.

This is a force bid item and therefore the contractor must bid the amount shown in the proposal. The actual value of the item may be equal to, less than, or greater than the force bid amount specified in the proposal.