

**SECTION 02110
CLEARING AND GRUBBING**

PART 1 GENERAL

1.1 REQUIREMENTS, CODES

- A. All applicable portions of Division 1 - General Requirements shall be considered as included with this section.
- B. The following are minimum requirements and shall govern except that all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.

1.2 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this Section.

1.3 SUMMARY

- A. Clearing the land within the limits of construction and appurtenant designated areas which are a part of the contract, of trees, bushes, grass, and other plant life, building debris, brush piles, wood piles, rubbish and all objectionable material as indicated or directed and in strict accordance with the contract documents. Not included under this is building demolition and removal and road pavement removal which shall be included under the appropriate items in these Specifications.

The limits of clearing and grubbing shall be staked in the field by the Contractor and the limits shall be approved by the Engineer prior to beginning clearing and grubbing operations.

- B. Protection of existing structures, trees, or vegetation indicated on the Construction Drawings to remain.
- C. Protection of existing trees and shrubs designated to remain.
- D. Topsoil Stripping
- E. Stake-out of site layout and grading.
- F. Clearing, tree cutting: tree removal, grubbing and removal of other vegetation in areas so designated.
- G. Disposal of existing site material not otherwise stockpiled, stored or salvaged.
- H. Temporary erosion and sedimentation control measures in accordance with Section 02115.

1.4 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damaged caused by site clearing.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Construct temporary erosion control systems as shown on Construction Drawings to protect adjacent properties and water resources from erosion and sedimentation.

1.6 RELATED SECTIONS

- A. Division 2 Section 02112 Restoration for repair of damages caused by Clearing and Grubbing activities.
- B. Division 2 Section 02115 Erosion and Sedimentation Control for temporary erosion and sedimentation control procedures.
- C. Division 2 Section 02200 General Earthwork for soil materials, excavating, backfilling and site grading.
- D. Division 2 Section 02931 Lawn for finish grading including preparing and placing soil mixes and testing of topsoil material.

1.7 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.8 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.
- B. Testing and Inspection Service: Owner will employ and pay for a qualified testing and inspection laboratory or USDA laboratory to perform topsoil testing and inspection service during earthwork operations.
- C. Surveys: The Contractor shall engage a licensed professional survey engineer to do the staking out of the work through the construction period.

1.9 DEFINITIONS

- A. Topsoil: Topsoil is defined as friable loam surface soil found in a depth of not less than 3". Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 2" in diameter, and without weeds, roots and other objectionable material.

1.10 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining pavements, basket ball court, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct basketball court, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary or permanent erosion and sedimentation control measures are in place

PART 2 PRODUCTS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section 02200 "General Earthwork."
1. Obtain approved borrow soil material off-site when satisfactory soil materials are not available on-site.

PART 3 EXECUTION

3.01 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly flag trees and vegetation to remain during construction.
- C. Protect existing site improvements to remain from damage during construction.
1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.02 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control Drawings.
- B. Inspect, repair and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.03 CLEARING AND GRUBBING

- A. The Contractor shall provide and maintain staking throughout the construction period required for accurate construction of each stage of the work, adequate for Engineers inspection.
1. Stake out the limits of grading at 50-foot intervals and trail construction area limits, building corners and wall ends and angle points and changes of direction along roadways.
 2. Provide grade stakes to determine the finish grade and subgrade elevations for rough and finish grading areas. In general, these shall occur at intervals no more than 50' apart and at closer intervals as required at all high and low points, prominent grade breaks, toes and shoulders of slopes, and drainage lines.
 3. Set top or base elevations as required for trail walk construction, and other improvements to be constructed or installed.
 4. At completion of the stake out, the Engineer reserves the right to adjust the location of the layouts to minimize damage to trees, shrub or other features to remain and areas to be left undisturbed.
 6. Prior to commencing clearing and grubbing operations, the Contractor shall walk the job with the Engineer in order to determine and mark the extent of clearing and grubbing and to determine what specific trees are to be preserved.
- B. Construction
1. Remove within the excavation and fill lines all trees, except otherwise noted on contract drawings, cut off trees, and remove stumps and root systems.
 2. Remove all debris and portions of crushed stone as necessary within the limits of construction indicated.
 3. Dispose of all timber, stumps, woodchips and vegetation offsite at Contractors expense or as directed by the Engineer. Asphalt, concrete, etc. shall be disposed of off site in a satisfactory manner. Remove all rubbish and refuse to such a point off the site as may be directed. Secure offsite disposal permits from regulatory agencies at no expense to Owner. Do not allow vegetation stumps, etc. to be consolidated within fill material or buried.
 4. Salvage any items indicated on the Contract Drawings and store. Dismantle without damage and store in a location directed by the Owner. These items shall remain the property of the Owner. The Contractor shall transport items to be salvaged to a location directed by the Owner.
 5. Protect existing trees, shrubs, vegetation, fences etc. to remain outside the work area and within the work area not to be affected by trail construction, or earthwork construction activity. Protection shall include barricades, construction fencing, silt fences, and other means as ordered and approved by the Engineer and as specified herein or as indicated on the Construction Drawings. Remove protection devices once construction activity has terminated within the work area. If trees or shrubs designated to remain are removed erroneously or damaged beyond satisfactory repair, they shall be replaced with species approved and

planted where directed. Replacement shall be appropriately sized to replace damaged plant.

6. Conduct operations with minimum interference to public or private accesses and facilities. Maintain ingress and egress at all times and clean or sweep walkways daily as required by governing authority.

3.04 TOPSOIL STRIPPING

- A. Topsoil shall consist of organic surficial soil found in depth of not less than 6-inches. Satisfactory topsoil shall be reasonably free of subsoil, clay lumps, stones and other objects over 2-inches in diameter, weeds, roots, and other objectionable material.
- B. Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.

Remove heavy growths of grass from areas before stripping.

- C. Stockpile topsoil in storage piles in areas shown, or where directed. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent wind-blown dust.
 1. Do not stockpile topsoil within tree protection zones.
 2. Dispose of excess topsoil as specified for waste material disposal.
 3. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.05 SITE IMPROVEMENTS

- A. Remove existing above and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.

3.06 DISPOSAL

- A. Disposal: Remove surplus soil materials, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
 1. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 02110