

SECTION 02 01 00

SITE PREPARATION

PART 1 – GENERAL

1.01 SUMMARY

- A. Provide site preparation including:
1. Protection of existing trees, vegetation, landscaping, and site improvements not scheduled for clearing which might be damaged by construction activities.
 2. Trimming of existing trees and vegetation as recommended by arborist for protection during construction activities.
 3. Clearing and grubbing of stumps and vegetation, and removal and disposal of debris, rubbish, designated trees, and site improvements.
 4. Topsoil stripping and stockpiling.
 5. Temporary erosion control, siltation control, and dust control.
 6. Temporary protection of adjacent property, structures, benchmarks, and monuments.
 7. Temporary relocation of fencing, and site improvements scheduled for reuse.
 8. Protection from natural resource damage.
 9. Removal and legal disposal of cleared materials.

1.02 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Use experienced workers.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Tree protection, erosion control, siltation control, and dust control materials suitable for site conditions.

PART 3 – EXECUTION

3.01 EROSION, SEDIMENTATION AND DUST CONTROL

- A. Erosion and sedimentation protection:
1. Slope drains: Temporary drains shall be provided to convey surface water down slopes. Slope drains shall be constructed of pipe, fiber mats, rubble, portland cement concrete, bituminous concrete, or plastic sheets stabilized with asphalt. Slope drains shall be provided with an apron at their tips to anchor them and direct water into them. Stone and rubble shall be placed at slope drain outlets to prevent scour at these points.
 2. Seeding and Mulching: Slopes shall be seeded and mulched with seed that will produce a fast growing cover resistant to erosion.
 3. Silt barriers: Sedimentation traps shall be constructed by the Contractor around all inlets and maintained throughout construction. Sediment accumulated behind silt barriers shall be removed when ponding capacity is reduced by one-half.
 4. Silt Fences: Silt fences shall be installed in the locations indicated on plans. Silt fences shall be installed prior to clearing operations. Silt fences shall be kept in good repair and maintained throughout construction. Sediment shall be removed when the ponding capacity is reduced by one-half.

5. Temporary Construction Entrance: Prior to the start of clearing and grubbing activities, contractor shall construct a temporary construction entrance if indicated on the drawings. Entrance shall consist of 6 inches minimum thickness of 2 to 3 inches washed stone over a geotextile fabric. Contractor may be required to wash vehicles exiting the site during wet weather conditions.
- B. Stream Damage: The Contractor shall exercise precautionary measures to prevent deposits of sedimentation, construction debris, waste from construction equipment, chemicals, petroleum product spills, or other materials which can be classified as detrimental to natural resources, from entering or causing damage to natural resources.
- C. Dust Control: The Contractor shall exercise precautionary measures to minimize dust emissions which will include, but shall not be limited to, periodic sprinkling or wetting of the site. The Contractor has the option of using a dust palliative.

3.02 CLEARING

- A. Prevent damage to existing improvements indicated to remain including improvements on and off site. Protect existing trees and vegetation indicated to remain. Do not stockpile materials and restrict traffic within drip line of existing trees to remain. Provide and maintain temporary guards to encircle trees or groups of trees to remain; obtain approval before beginning work.
- B. Existing Trees and Planting:
 1. Water vegetation as required to maintain health. Cover temporarily exposed roots with wet burlap and backfill as soon as possible. Coat cut plant surfaces with approved emulsified asphalt plant coating.
 2. Repair or replace vegetation that has been damaged or pay damages.
 3. Completely remove all improvements including stumps and debris except for those indicated to remain. Remove below grade improvements at least 12" below finish grade and to the extent necessary so as not to interfere with new construction. Remove abandoned mechanical and electrical work as required.
 4. Trees, 1-1/2" or more in diameter, designated to remain within the cleared areas shall be trimmed of branches to approximately 7 feet above finish grade. Remove all dead branches 1-1/2" or more in diameter. Limbs and branches to be trimmed shall be neatly cut close to the main trunk. Cuts more than 1-1/2" in diameter shall be painted with approved tree-wound paint.
- C. Topsoil:
 1. Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4". 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.
 2. Strip topsoil to depths encountered in a manner to prevent intermingling with the underlying subsoil or other objectionable material. Remove heavy growths of grass from areas before stripping. Where trees are indicated to remain, stop topsoil stripping a sufficient distance to prevent damage to main root system.
 3. Stockpile topsoil in storage piles in areas not to impede construction activities or encumber adjacent property. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent windblown dust.
- D. Disposal of waste materials:
 1. Burning on Owner's property is not permitted.
 2. Remove waste materials and unsuitable and excess topsoil from Owner's property and dispose of off site in a legal manner.

END OF SECTION

SECTION 02 21 00

AS-BUILT SITE SURVEY

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide services of a licensed Land Surveyor to perform an as-built site survey of the project constructed site conditions at substantial completion and as a prerequisites for final acceptance and project close out. It's recommended, but not required, to utilized services of Land Surveyor who performed original survey where provided.

1.02 SUBMITTALS

- A. Comply with Sections 01 33 00 and Section 01 20 00.
- B. Within Fourteen (14) days prior to substantial completion, submit for review and approval as-built survey in electronic AutoCAD DWG format and PDF format. Perform survey under direct supervision of a professional Land Surveyor licensed in the State where the project is located. Drawings shall be sealed, signed, dated, and authenticated as required by applicable state registration laws.
- C. Within Fourteen (14) days prior to substantial completion, submit photographic documentation of constructed site improvements.

1.03 QUALITY ASSURANCE

- A. Survey shall be performed based upon standards of practice and in compliance with State registration law where the project is located.
- B. Applicable American Land Title Association/American Congress on Surveying and Mapping (ALTA/ACSM) standards for services requested.

1.04 PHOTOGRAPHIC DOCUMENTATION

- A. Provide photographs of completed site construction as follows:
 - 1. Minimum of 24 photos documenting constructed conditions.
 - 2. Minimum acceptable resolution is approximately 1152 x 864. Maximum is 1400 x 1200.
 - 3. Set the photo quality and/or image resolution on the camera to the "fine" setting.
 - 4. Photos should be date stamped.
 - 5. Send photos as an e-mail attachment, not as embedded images.
 - 6. Photos should be submitted as a .jpg/.jpeg file format.

1.05 DRAWING FORMAT

- A. Sheets:
 - 1. Electronic Media: Provide in AutoCAD DWG format and PDF format.
 - 2. Drafting Standards: Adhere to the United States National CAD Standards (Current Edition) Uniform Drawing System (UDS). Graphics shall be placed in logical layering system with entities drawn by layer line type and color. X-Refs to be bound to single drawing file.
 - 3. Size: 24"x36" with left binding edge and Land Surveyor's title block information at right edge.
 - 4. Identification: Label sheet number as "AS-1" and title "AS-BUILT SITE SURVEY". Include Owner's three letter project code. Include property address and legal description. Include date survey performed and date drawing issued.
 - 5. Include legend of symbols and abbreviations used on the drawings.
 - 6. All information shall be included on the same drawing, unless prior written approval granted

by Owner.

- B. Site Orientation: Show site orientation to match layout indicated on civil construction drawings. Locate north direction.
- C. Dimensions and Elevations: Show dimensions and elevations in imperial units with format and scale to match civil construction drawings.

1.06 BOUNDARY SURVEY REQUIREMENTS

- A. Show property boundary lines, giving length and bearing (including reference or basis) on each straight line, interior angles, radius, point of tangency, and length of curved lines.
- B. Show locations and names of adjoining streets and highways.
- C. Show locations of structures (buildings, pavement, curbs, sidewalks, ramps, parking stripping, refuse areas, storm water control systems) on the property and include dimensions to boundary lines and other structures. Describe all structures.
- D. Dimension perimeters in feet and decimals to 0.05 feet.
- E. Describe fences and walls and show their locations with respect to nearest boundary lines.
- F. Show locations of trees and plantings 1 ½ inch diameter and larger at breast height within one foot tolerance. Identify tree species. Note lawn and landscape ground cover area types.

1.07 TOPOGRAPHICAL SURVEY REQUIREMENTS

- A. Note a minimum of one permanent benchmark on site and elevation to nearest 0.01 foot. Where available, use benchmark and elevation established on civil construction documents.
- B. Show contours at one (1) foot intervals.
- C. All spot elevations to be to nearest 0.01 foot.
- D. Note spot elevations at each intersection of twenty (20) foot grid covering the property.
- E. Note spot elevations at street intersections and at twenty (20) feet on center of curb, gutter, sidewalk, and edge of paving, including far side of paving.
- F. Show elevations of building floor, sidewalks at entrance openings, sidewalks at building perimeter, sidewalks along accessible routes at ten (10) feet intervals, accessible parking areas, and at locations matching civil construction documents.
- G. Show elevations and locations of drainage structures (catch basins, manholes, etc), pipes (include invert, size, type, and length), ditches, swales, any other improvements or features used for conveyance of storm water including critical roadway pavement, curb, sidewalk, or berm elevations which were designed to control overland drainage. Show final spot ground elevations of all detention basins including horizontal location and elevations along top and bottom of bank including changes of direction and twenty (20) foot intervals. Show location and elevations of any control structures, weirs, orifices, etc. (include crest elevations, crest length and orifice diameter, etc.) including all dimensions, widths and measurements of all detention outlet structures.

1.08 UTILITY SURVEY REQUIREMENTS

- A. Show locations of all existing and constructed utilities of electric, telephone, communications, water, gas, and sanitary sewer systems serving building and adjacent to site. Indicate sizes, elevations, inverts at sanitary sewer and storm water systems, service points of connection and building entrance points, meters, transformers, light poles, power poles, clean outs, manholes, fire hydrants, post indicator valves, and associated utility elements.

PART 2 – PRODUCTS – Not Applicable

PART 3 - EXECUTION

3.01 GENERAL

- A. Surveyor shall obtain and review Project Construction Documents for defined scope of work

- prior to performing As-Built Survey. Where required, contact Owner and/or Design Professional of Record for clarifications of design intent.
- B. Coordinate work and schedule with contractors to perform survey at period sufficient to document completed site construction.
 - C. Where necessary, obtain adjacent property owner approval for permission to access off site areas.
 - D. Surveyor shall conduct survey in accordance with requirements specified herein. Note discrepancies of field conditions from those indicated in Construction Documents.
 - E. Surveyor shall take reasonable precautions to prevent damage to the property and shall reasonably restore the site to conditions existing prior to the Surveyor's entry and performance of services.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

- A. Provide demolition work of existing conditions, complete, as indicated, specified, and required for new work, including removal and legal disposal of demolished materials and capping of existing utilities.
- B. Building and Site Demolition: (Where indicated)
 - 1. Demolition of building structures.
 - 2. Demolition of site improvements including paving, curbing, site walls, and utility structures.
 - 3. Demolition of below-grade foundations and site improvements to depth to avoid conflict with new construction or site work.
 - 4. Removal of hollow items or items which could collapse.
 - 5. Protection of site work and adjacent structures.
 - 6. Disconnection, capping, and removal of utilities.
 - 7. Pollution control during building demolition, including noise control.
 - 8. Removal and legal disposal of materials.
 - 9. Relocation of pipes, ducts, conduits, other mechanical work; refer Divisions 20, 21, 22, 23, 25 and 26.
- C. Selective Demolition: (Where indicated)
 - 1. Selective demolition of interior partitions, systems, and building components designated to be removed.
 - 2. Selective demolition of exterior façade, structures, and components designated to be removed.
 - 3. Protection of portions of building adjacent to or affected by selective demolition.
 - 4. Removal of abandoned utilities and wiring systems.
 - 5. Notification to Owner of schedule of shut-off of utilities which serve occupied spaces.
 - 6. Pollution control during selective demolition, including noise control.
 - 7. Removal and legal disposal of materials.

1.02 SUBMITTALS

- A. Where required by governing authority, submit documentation of proper disposal of demolition materials and terminating utilities.

1.03 QUALITY ASSURANCE

- A. Comply with governing codes and regulations for demolition of structure, safety of adjacent structures, dust control, service utilities, discovered hazards, and environmental requirements. Use experienced workers.

1.04 PROJECT CONDITIONS

- A. Immediate areas of work will not be occupied during selective demolition. Adjacent areas may be occupied by the public, including children.

PART 2 – PRODUCTS – Not Applicable To This Section

PART 3 – EXECUTION

3.01 DEMOLITION

- A. Do not damage building elements and improvements indicated to remain. Items of salvage value, not included on schedule of salvage items to be returned to Owner, shall be removed from structure. Storage or sale of items at project site is prohibited.
- B. Do not close or obstruct streets, walks, drives or other occupied or used spaces or facilities without the written permission of the Owner and the authorities having jurisdiction. Do not interrupt utilities serving occupied or used facilities without the written permission of the Owner and authorities having jurisdiction. If necessary, provide temporary utilities.
- C. Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.
- D. Provide adequate protection against accidental trespassing. Secure project after work hours.

END OF SECTION

SECTION 02 60 00

HAZARDOUS MATERIALS ABATEMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. Provide abatement work of existing asbestos and hazardous materials conditions, complete as indicated, specified, and required for new work, including removal, transportation and legal disposal of materials.
- B. Refer to Section 00 31 00 for Owner provided hazardous materials report indicating type and content of asbestos or hazardous materials in existing conditions.

1.02 SUBMITTALS

- A. Submit documentation of proper disposal of asbestos and hazardous demolition materials.

1.03 QUALITY ASSURANCE

- A. Comply with governing codes and regulations for demolition of structure, safety of adjacent structures, dust control, service utilities, discovered hazards, and environmental requirements.
- B. Contractor shall use experienced workers certified and licensed by governing agency having jurisdiction. Retain and submit documentation upon request for verification.

1.04 PROJECT CONDITIONS

- A. Immediate areas of work will not be occupied during selective demolition. Adjacent areas may be occupied by the public, including children.

PART 2 – PRODUCTS – Not Applicable To This Section

PART 3 – EXECUTION

3.01 DEMOLITION

- A. Follow the recommendations of report, industry standards, and government requirements for performance of the work.
- B. Do not damage building elements and improvements indicated to remain. Items of salvage value.
- C. Cease operations if public safety or remaining structures are endangered. Perform temporary corrective measures until operations can be continued properly.
- D. Provide adequate protection against accidental trespassing. Secure project after work hours.

END OF SECTION