

SECTION 31 10 00 - SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Protection of existing trees to remain.
 2. Removal of trees and other vegetation.
 3. Topsoil stripping and stockpiling.
 4. Clearing and grubbing.
 5. Removing above-grade improvements.
 6. Removing below-grade improvements.
- B. Related Sections: The following sections contain requirements that relate to this Section:
1. Division 2 Section "Excavation & Fill" for excavation and fill work.
 2. Division 2 Section "Seeding".

1.2 QUALITY ASSURANCE

- A. State and local code requirements shall control the methods used to clear site and procedures for disposal of removed materials.
- B. City of Ofallon Standards shall govern unless specifically indicated otherwise.
- C. Examine Contract Documents for all work required and coordinate and cooperate with others so as not to delay or interfere with the work of others. Contractor shall be responsible for obtaining a copy of the geotechnical report prepared for this project and performing all excavations or fills according to the recommendations of the report.
- D. Employ a licensed engineer or surveyor to stake out both horizontal and vertical control for all work prior to commencing any work operations.

1.3 PROJECT CONDITIONS

- A. Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or use facilities. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.
- B. Protection of Existing Improvements and Utilities: Provide protection necessary to prevent damage to existing improvements and utilities indicated to remain in place.
- C. Locate existing utilities with assistance of local utility companies and public agencies.
- D. Protect Improvements on adjoining properties and on Owner's property.
- E. Restore damaged improvements to their original condition and grades, as acceptable to property owners.
- F. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skimming of roots and branches, skimming or pruning of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Do not run heavy equipment over tree root systems. Maintain minimum trench widths near root systems so as to avoid unnecessary injury.
- G. Provide protection for roots over 1-1/2 inch diameter that are out during construction operations. Coat cut faces with an emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.
- H. Repair or replace trees and vegetation to remain which are damaged by construction operations, in a manner acceptable to Construction Manager and Owner's Rep.

1.4 EXISTING UTILITY INFORMATION:

- A. Information on the drawings relating to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.

PART 2 PRODUCTS

Not applicable

PART 3 EXECUTION

3.1 LAYOUT

- A. Stake out both horizontal and vertical control for all work prior to commencing work operations. Accurately locate and maintain location of all buildings, roads, paved areas, features, etc. Advise Owner's Rep. of any Contract Document discrepancies, prior to commencing work.
- B. Maintain benchmarks, monuments and other reference points. Re-establish benchmarks if disturbed or destroyed at no cost to Owner.

3.2 SITE CLEARING

- A. General: Locate and suitably identify trees and improvements to remain. Remove trees, shrubs, grass and other vegetation, rock/boulders, improvements, or obstructions as required to permit installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. "Remove" includes transporting off-site and legally disposing of removed non-salvageable material.
- B. Cut minor roots and branches of trees indicated to remain in a clean and careful manner, where such roots and branches obstruct installation of new construction.
- C. Trees to remain within cleared areas shall be trimmed of all dead branches 1-1/2 inches or more in diameter. Cut close to bole of tree and point with acceptable tree-wound paint.
- D. Strip topsoil in all building areas and all areas to be regraded, resurfaced, or paved within Contract Limit Lines, to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.
- E. Stockpile topsoil shall be free of trash, brush, rock/boulders over 1 inch diameter and other extraneous matter.
- F. Remove heavy growths of grass from areas before stripping.
- G. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.
- H. Stockpile topsoil in storage piles in areas indicated or directed. Construct storage piles to provide free drainage of surface water, maximum slope to be 3:1. Cover storage piles, if required, to prevent wind erosion.
- I. No topsoil shall be removed from the site, until after all topsoil requirements have been met.
- J. Dispose of unsuitable or excess topsoil same as required for disposal of waste material.
- K. Clearing and Grubbing: Clear site of trees, shrubs and other vegetation, except for those indicated to be left standing.
- L. Fall trees to be removed in a controlled safe manner. Trim branches from bole and cut bole into manageable sections.
- M. Cut off shrubs and other vegetation, to be removed, flush with original ground surface.
- N. Completely remove stump(s) and other debris protruding through ground surface and in area(s) of new foundations, or paved improvements.
- O. Remove organic and metallic debris to a depth of 3 feet below existing grade to remain or new finished grade whether lower or higher than existing grade.
- P. Use only hand methods for grubbing inside drip line of trees indicated to remain. Strip grass materials under tree canopies and carefully fill or scarify existing grading to a maximum depth of 1 inch.
- Q. Fill depressions caused by clearing and grubbing operations with satisfactory soil material according to the recommendations of the geotechnical report, unless further excavation or earthwork is indicated.
- R. Place fill material in horizontal layers not exceeding 8 inches loose depth, and thoroughly compact to a density as required per the geotechnical report.
- S. Removal of improvements: Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction.
- T. Remove abandoned utility poles within Contract Limit Lines. Relocate and reinstall designated utility poles. Coordinate and cooperate with local utility company.
- U. Removal of abandoned underground piping or conduit interfering with construction is included under this Section. Record existing utility termination points before disconnecting. Close abandoned piping with 8 inch thick concrete plug(s) or mortar jointed masonry bulkhead.
- V. Remove existing sidewalks, curbs, and paving, including all base material to subgrade, as required to accommodate new construction, as shown on drawings. Cut existing sidewalks, curbs, and paving in neat, straight lines to provide uniform, even transition from new to adjacent existing work. Cut back existing paving a sufficient distance to permit forming and installation of new work.
- W. Remove, temporarily relocate during construction, and reinstall final location street signs, mail boxes, and other designated items as shown on Drawings. Coordinate the work with applicable governing authorities. Comply with all requirements concerning temporary installation and permanent reinstallation.
- X. Raise or lower existing catch basin, inlet and manhole structures and valve box covers to accommodate new grade elevations at paved and lawn areas where indicated on Drawings. Extend structures as required, reuse existing catch basin, inlet and manhole frames, and covers, unless noted otherwise.

3.3 DISPOSAL OF WASTE MATERIALS

- A. Removal of Owner's Spill Area: Transport non-combustible waste materials and unsuitable topsoil materials to designated spill areas on Owner's property and dispose on-site at direction of Construction Manager or as required by governing agencies having jurisdiction of this project.

3.4 CLEANING

- A. Upon completion of site preparation work, clean areas within contract limits, remove tools, and equipment. Provide site clear, clean, and free of materials and debris and suitable for site work operations.

END OF SECTION 31 10 00

SECTION 31 23 16 - EXCAVATION

PART 1 GENERAL

- Note: the geotechnical report shall be considered part of these specifications. The contractor is responsible for obtaining a copy of the report which shall be used as the basis for construction means and methods.

1.1 SECTION INCLUDES

- A. Excavating for footings, slabs-on-grade, paving, site structures, and utilities within the building.

1.2 RELATED REQUIREMENTS

- A. Section 01 7000 – Execution and Closeout Requirements: General requirements for dewatering of excavations and water control.
- B. Section 31 2200 – Grading: Soil removal from surface of site.
- C. Section 31 2200 – Grading: Grading.
- D. Section 31 2323 – Fill: Fill materials, filling, and compacting.
- E. Section 31 2316.13 – Trenching: Excavating for utility trenches outside the building to utility main connections.
- F. Section 33 4600 – Subdrainage: Filter aggregate and filter fabric for foundation drainage systems.
- G. Section 01575 – Temporary Erosion and Sedimentation Control: Slope protection and erosion control.

1.3 PRICE AND PAYMENT PROCEDURES

- A. Excavating Soil Materials:
1. Measurement method: By the cubic yard.
 2. Includes: Excavating to required elevations, loading and removing from site.
 3. Does Not Include Over-Excavation: Payment will not be made for over excavated work nor for replacement materials.
- B. See Section 31 2323 – Fill, for measurement and payment provisions related to fill.

1.4 PROJECT CONDITIONS

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. Protect plants, lawn, trees, and other features to remain.
- C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

- 3.1 PREPARATION
1. Identify required lines, levels, contours, and datum locations.
 2. See Section 312200 for additional requirements.

3.2 EXCAVATING

- A. Excavate to accommodate new structures and construction operations.
- B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- D. Do not interfere with 45 degree bearing spay of foundations.
- E. Cut utility trenches wide enough to allow inspection of installed utilities.
- F. Hand trim excavations. Remove loose matter.

- G. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.
- H. Grade top perimeter of excavation to prevent surface water from draining into excavation.

- I. Remove excavated material that is unsuitable for re-use from site.
- J. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2305. Limited area on-site may require excavated materials to be hauled off in some instances and should be coordinated with construction manager.
- K. Remove excess excavated material from site.

3.3 FIELD QUALITY CONTROL

- A. See Section 01 4000 – Quality Requirements, for general requirements for field inspection and testing.
- B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

3.4 PREVENTION

- A. Protect displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

END OF SECTION 31 23 16

SECTION 31 23 16.13 - TRENCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Backfilling and compacting for utilities outside the building to utility main connections.

1.2 RELATED REQUIREMENTS

- A. Refer to Geotechnical Report for information regarding bore hole locations and findings of subsurface materials.
- B. Section 31 2200 – Grading: Site grading.
- C. Section 31 2316 – Excavation: Building and foundation excavation.
- D. Section 31 2323 – Fill: Backfilling at building and foundations.
- E. Section 33 4600 – Subdrainage: Filter aggregate and filter fabric for foundation drainage systems.

1.3 PRICE AND PAYMENT PROCEDURES

- A. Excavating Soil Materials:
1. Measurement method: By the cubic foot.
 2. Includes: Excavating to required elevations, loading and placing materials in stockpile.
 3. Does Not Include Over-Excavation: Payment will not be made for over-excavated work nor for replacement materials.

B. General Fill:

1. Measurement Method: By the cubic foot.
2. Includes: Excavating existing soil, stockpiling, scarifying substrate surface, placing where required, and compacting.

C. Structural Fill:

1. Measurement Method: By the cubic foot.
2. Includes: Excavating existing soil, stockpiling, scarifying substrate surface, placing where required, and compacting.

D. Granular Fill:

1. Measurement Method: By the cubic foot
2. Includes: Excavating existing material, stockpiling, scarifying substrate surface, placing where required, and compacting.

E. Aggregates:

1. Measurement Method: By the cubic foot.
2. Includes: Excavating existing material, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.4 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: Indicated on drawings.
- C. Subgrade Elevations: 4 inches below finish grade elevations indicated on drawings, unless otherwise indicated.
- D. Finish Grade Elevations: 4 inches above subgrade elevations indicated on drawings, unless otherwise indicated.

1.5 REFERENCES

- A. AASHTO T 180 – Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2009.
- B. ASTM C 136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2006.
- C. ASTM D 698 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft³ (600 kN-m/m³)); 2007.
- D. ASTM D 1556 – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- E. ASTM D 1567 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (68,000 ft-lb/ft³ (2,700 kN/m³)); 2009.
- F. ASTM D 2167 – Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2008.
- G. ASTM D 2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2006.
- H. ASTM D 3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2005.
- I. ASTM D 4318 – Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2005.
- J. ASTM D 6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

1.6 SUBMITTALS

- A. See Section 01 3000 – Administrative Requirements, for submittal procedures.
- B. Samples: 10 lb (4.5 kg) sample of each type of fill, submit in air-tight containers to testing laboratory.
- C. Materials Sources: Submit name of imported materials source.
- D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- E. Compaction Density Test Reports.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
1. Separate differing materials with dividers or stockpile separately to prevent intermingling.
 2. Prevent contamination.
 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. Refer to Section 31 2000 Earth Moving for general fill materials.

2.2 ACCESSORIES

- A. Geotextile Fabric: Non-biodegradable, woven fabric.

2.3 SOURCE QUALITY CONTROL

- A. See Section 01 4000 – Quality Requirements, for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. Where fill materials are specified by reference to a specific standard, testing of samples for compliance will be provided before delivery to site.
- D. If tests indicate materials do not meet specified requirements, change material and retest.
- E. Provide materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 2200 for additional requirements.
- C. Locate, identify, and protect utilities that remain and protect from damage.
- D. Notify utility company to remove and relocate utilities.
- E. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- F. Protect plants, lawn, rock outcroppings, and other features to remain.

3.3 TRENCHING

- A. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- C. Do not interfere with 45 degree bearing spay of foundations.
- D. Cut trenches wide enough to allow inspection of installed utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
- G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.
- H. Remove excavated material that is unsuitable for re-use from site.
- I. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.
- J. Remove excess excavated material from site.

3.4 PREPARATION FOR UTILITY PLACEMENT

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.
- 3.5 BACKFILLING
- A. Backfill to contours and elevations indicated using unloose materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to obtain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.

1. Thrust bearing surfaces: Fill with concrete.
2. Other areas: Use general fill, flush to required elevation, compacted to minimum 98 percent of maximum dry density.
- J. Compaction Density Unless Otherwise Specified or Indicated:
1. Under paving, slabs-on-grade, and similar construction: 100 percent of maximum dry density.
 2. At other locations: 95 percent of maximum dry density unless otherwise indicated or as directed by the geotechnical engineer.
- K. Reshape and re-compact fills subjected to vehicular traffic.

3.6 BEDDING AND FILL AT SPECIFIC LOCATIONS

- A. Use general fill unless otherwise specified or indicated.
- B. Utility Piping, Conduits, Duct Banks:
1. Bedding: Blended aggregate fill.
 2. Cover with general fill.
 3. Fill up to subgrade elevation.
 4. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.
- C. At Pipe Culverts:
1. Bedding: Use general fill or as specified by the Metropolitan St. Louis Sewer District for storm and sanitary sewers.
 2. Place filter fabric specified in Section 33 0513 over compacted bedding.
 3. Cover with general fill.
 4. Fill up to subgrade elevation.
 5. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.
- D. Over Subdrainage Piping at Foundation Perimeter and Under Slabs:
1. Drainage fill and geotextile fabric: Section 33 4600.
 2. Cover drainage fill with general fill.
 3. Compact to 95 percent of maximum dry density.
 4. At French Drains:

E. At French Drains:

1. Use granular fill.
2. Fill up to 8 inches below finish grade.
3. Compact to 95 percent of maximum dry density.

3.7 TOLERANCES

- A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.8 FIELD QUALITY CONTROL

- A. See Section 01 4000 – Quality Requirements, for general requirements for field inspection and testing.

- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D3017, or ASTM D6938.
- C. Evaluate results in relation to compaction curve determined by testing un-compacted material in accordance with ASTM D 698 ("standard Proctor"), or AASHTO T 180.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- E. Frequency of Tests: as directed in the geotechnical report.

3.9 CLEANING

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION 31 23 16.13

SECTION 31 23 23 - FILL

PART 1 GENERAL

- Note: the geotechnical report shall be considered part of these specifications. The contractor is responsible for obtaining a copy of the report which shall be used as the basis for construction means and methods.

1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for footings, slabs-on-grade, paving, site structures, and utilities within the building.

1.2 RELATED REQUIREMENTS

- A. Section 31 2200 – Grading: Removal and handling of soil to be re-used.
- B. Section 31 2316 – Excavation: Removal and handling of soil to be re-used.
- C. Section 33 4600 – Subdrainage: Filter aggregate and filter fabric for foundation drainage systems.
- D. Section 01 5713 – Temporary Erosion and Sedimentation Control: Slope protection and erosion control.

1.3 PRICE AND PAYMENT PROCEDURES

- A. General Fill:
1. Measurement Method: By the cubic yard.
 2. Includes: Supplying fill, stockpiling, scarifying substrate surface, placing where required, and compacting.

B. Structural Fill:

1. Includes: Excavating existing soil, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.4 REFERENCE STANDARDS

- A. ASTM D 698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft³ (600 kN-m/m³)); 2007.
- B. ASTM D 1556 – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.
- C. ASTM D 2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2006.

1.5 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.
- B. Subgrade Elevations: 6 inches below finish grade elevations indicated on drawings, unless otherwise indicated.

1.6 SUBMITTALS

- A. See Section 001 3300 – Construction Submittals, for submittal procedures.
- B. Materials Sources: Submit name of imported materials source.
- C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- D. Compaction Density Test Reports.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Provide sufficient quantities of fill to meet project schedule and requirements.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
1. Separate differing materials with dividers or stockpile separately to prevent intermingling.
 2. Prevent contamination.
 3. Protect stockpiles from erosion and deterioration of materials.
- C. Verify that survey bench marks and intended elevations for the Work are as indicated.

PART 2 PRODUCTS

2.1 FILL MATERIALS

- A. General Fill: Subsoil excavated on-site and conforming to the following unless otherwise indicated by the geotechnical engineer:
1. Low-plasticity, cohesive type.
 - a. Liquid Limit: Refer to geotechnical report or directly with geotechnical engineer.
 - b. Plasticity Index: Refer to geotechnical report or directly with geotechnical engineer.
2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
3. Conforming to ASTM D 2487 Group Symbol CL.
- B. Blended Aggregate Fill:

- C. Granular Drainage Fill: Angular crushed washed stone; open-graded, processed aggregate; free of silt, clay, friable material and debris, and conforming to the following:
1. ASTM C33, Class Designation 25; coarse aggregate for concrete.
 - a. Minimum size: No.8 sieve; 0 to 5 percent passing.
 - b. Maximum size: 3/4 inch.
- D. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.
1. Grade in accordance with ASTM D 2487 Group Symbol SW.
- E. Topsoil: See Section 31 2200.

2.2 ACCESSORIES

- A. Filter Fabric: Polypropylene type, black non-biodegradable, non-woven, needle punched, "ADS-6600" manufactured by Advanced Drainage Systems, Inc..

2.3 SOURCE QUALITY CONTROL

- A. See Section 01 4000 – Quality Requirements, for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.
- D. Provide materials of each type from same source throughout the Work.

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2.10 ACCESSORIES

- A. Filter Fabric: Polypropylene type, black non-biodegradable, non-woven, needle punched, "ADS-6600" manufactured by Advanced Drainage Systems, Inc..

- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

- I. Correct areas that are over-excavated.
1. Load-bearing foundation surfaces: Use blended aggregate fill, flush to required bearing elevation, compacted to 100 percent of maximum dry density.
2. Other areas: Use general fill, flush to required elevation, compacted to minimum 98 percent of maximum dry density unless otherwise directed by the geotechnical engineer.