

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 31 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 31 Section "Site Clearing," during earthwork operations.
- D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

3.02 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches by providing adjacent dewatering trenches as required.
 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
 3. It is anticipated that the groundwater will be perched within existing fill and/or underlying lower plasticity residual lean clay soils. Temporary perimeter drainage ditches, sumps, and pumps will be needed for removal of the perched water from open excavations and for the removal of additional surface rain water.

3.03 EXPLOSIVES

- A. Explosives: No explosives are allowed.

3.04 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 1. If excavated materials intended for fill and backfill include unsuitable soil materials and rock, replace with approved engineered fill materials.
 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs on grade.
 - f. 6 inches beneath pipe in trenches.
 3. Care should be exercised during excavation/undercut of the soils adjacent to the existing building to avoid possible influence on the existing structure. The bearing materials of the foundation supporting the adjacent building should be protected during excavation.

3.05 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 1. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.
 2. Fat clay soils under the proposed building and other structures shall be undercut to a level of at least 18 inches below finished subgrade level and replaced with approved lower plasticity structural fill. All proposed building areas shall have a minimum of 18 inches undercut to allow for placement of properly compacted and approved lower plasticity structural fill.
 3. Overexcavation of soft clay soils shall extend 8 inches beyond the edges of the footing for each foot of undercut depth.

3.05 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.06 SUBGRADE INSPECTION

- A. Notify Engineer when excavations have reached required subgrade.
- B. If Architect or Engineer determines unsatisfactory soil is present based on the geotechnical engineer's recommendations, continue excavation and replace with compacted backfill or fill material as directed. Loose and disturbed materials, shall be removed from the subgrade before placing the geogrid. The subgrade shall be free of standing water when the geogrid is placed. Soil subgrades that become unstable due to inadequate construction dewatering or excessive subgrade disturbance shall be corrected by the contractor at no additional cost to the owner.
- C. Pavement Areas - After stripping and completing any cuts, the exposed clay soils shall be scarified to a minimum depth of 8 inches, moisture conditioned to within a range of 2 percent below to 2 percent above the optimum moisture content and recompacted to at least 95% of the material's maximum dry density (ASTM D 698)
- D. Following moisture conditioning and recompaction the exposed subgrade shall be proofrolled. Proof-roll subgrade under the observation of the geotechnical engineer, with a loaded, tandem-axle dump truck weighing at least 25 tons, to locate any zones that are soft or unstable. The proofrolling should involve overlapping passes in mutually perpendicular directions. Where rutting or pumping is observed during proof-rolling, the unstable soils shall be over-excavated and replaced with low volume change soils. The project geotechnical engineer or a qualified representative shall observe the proofrolling operations. All unstable and/or soft materials identified during the subgrade evaluation need to be removed prior to the placement of fill or construction of building and pavements.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.07 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

3.08 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated on-site suitable soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.09 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 1. Construction below finish grade including, where applicable, sub-drainage, damp-proofing, waterproofing, and perimeter insulation.
 2. Surveying locations of underground utilities for Record Documents.
 3. Testing and inspecting underground utilities.
 4. Removing concrete formwork.
 5. Removing trash and debris.
 6. Removing temporary shoring and bracing, and sheeting.
 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 1. Under grass and planted areas, use engineered fill or on-site material.
 2. Under walks and pavements, use engineered fill or on-site material
 3. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.
- D. Existing slopes steeper than 5 horizontal to 1 vertical (5:1) and located in fill areas shall be benched prior to fill placement. Benches shall be cut as the fill placement progresses and shall have a maximum bench height of 2 to 3 feet.

3.11 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within range of 2 percent above to 2 percent below the material's optimum moisture content, determined in accordance with ASTM D-698, (standard Proctor procedure).
 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.
 3. Both density and moisture requirements shall be met.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers between 8 and 12 inches in depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 :
 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 8 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent and 95 percent for pavement areas.
 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

3.13 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Lawn or Unpaved Areas: Plus or minus 1 inch.
 2. Walks and Pavements: minus 1/2 inch.

3.2 BASE COURSES

- A. Place base course on subgrade free of mud, frost, snow, or ice.
- B. On prepared subgrade, place base course under pavements and walks as follows:
 1. Shape base course to required crown elevations and cross-slope grades.
 2. Place base course in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 3. Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D-698.

3.3 DRAINAGE COURSE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 1. Place drainage course in compacted thickness shown on plans in a single layer.
 2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry relative density according to ASTM D 698.

3.20 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Contact Engineer for subgrade proofrolling.
- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- E. Perform Atterberg limits tests on fly ash and cement kiln dust treated fill/backfill materials placed in the building area for the low volume change fill layer at frequency of at least 1 test per 5,000 SF of area with at least 2 test per lift. Intent or Atterberg limits testing is to determine if the soil has been effectively treated.
- F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.
- G. Density and moisture test shall be performed on each lift prior to placement of subsequent lifts.

3.21 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion prior to placement of subsequent base course, paving, or foundations above. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove waste material, including unsuitable soil, trash, and debris, and legally dispose of it off Owner's property.
- B. Transport surplus engineered fill to designated storage areas on Owner's property.

END OF SECTION
SECTION 31 2500
EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes
 1. Installation of temporary and permanent erosion and sedimentation control systems.
 2. Installation of temporary and permanent slope protection systems.
- B. Related Sections
 1. Section 31 10 00 - Site Clearing
 2. Section 31 20 00 - Earth Moving

1.02 ENVIRONMENTAL REQUIREMENTS

- A. Protect adjacent properties; any identified endangered or threatened species or critical habitat, any identified cultural or historic resources, and receiving water resources from erosion and sediment damage until final stabilization.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Sediment control devices as specified on the Construction Drawings.
- B. Temporary and permanent outfall structures as specified on the drawings.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Review the drawings and Storm Water Pollution Prevention Plan.
- B. Revise SWPPP as necessary to address potential pollution from site.
- C. Conduct storm water preconstruction meeting with Site Contractor, all ground-disturbing subcontractors, site engineer of record or someone from their office familiar with the site and SWPPP.

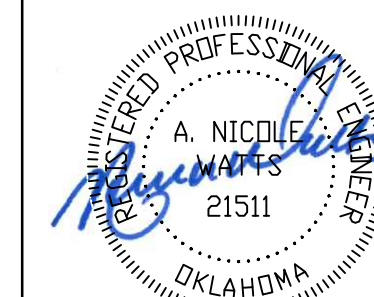
3.02 EROSION AND SEDIMENTATION CONTROL AND SLOPE PROTECTION IMPLEMENTATION

- A. Place erosion and sediment control systems in accordance with the drawings and Storm Water Pollution Prevention Plan or as may be dictated by site conditions in order to maintain the intent of the specifications and permits.
- B. Deficiencies or changes on the drawings or Storm Water Pollution Prevention Plan shall be corrected or implemented as site conditions change. Changes during construction shall be noted in the Storm Water Pollution Prevention Plan and posted on the drawings (Erosion Control Plans).
- C. Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct Contractor to provide immediate permanent or temporary pollution control measures.
- D. Maintain temporary erosion and sedimentation control systems as dictated by site conditions, indicated in the construction documents, or as directed by governing authorities or Owner to control sediment until final stabilization. Contractor shall respond to maintenance or additional work ordered by Owner or governing authorities immediately, but in no case, within not more than 48 hours if required at no additional cost to the Owner.
- E. Contractor shall incorporate permanent erosion control features, paving, permanent slope stabilization, and vegetation into project at earliest practical time to minimize need for temporary controls.
- F. Unless required within a shorter timeframe by the applicable General Permit for Storm Water Discharges Associated with Construction Activity, disturbed areas that will not be graded or actively worked for a period of 14 days or more, shall be temporarily stabilized as work progresses with vegetation or other acceptable means. In the event it is not practical to seed areas, slopes must be stabilized with mulch and tackifier, bonded fiber matrix, netting, blankets or other means to reduce the erosive potential of the area.

END OF SECTION



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8/29/2024

GREASY BALL FIELD

35.666668, -94.695143
BUNCH, ADAIR COUNTY, OKLAHOMA 74931

REV	DATE	DESCRIPTION	ADDENDUM #01
1	07.12.2024		

DATE: 07.12.2024
PROJECT NO.: 2340325
SHEET NAME: SPECIFICATIONS SHEET 2A
SHEET NO.: C801A

ORIG SIZE: 24" X 36"

PLOT: 8/29/2024 7:28:59 AM

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