



STATE OF NEW YORK  
OFFICE OF GENERAL SERVICES  
DESIGN AND CONSTRUCTION GROUP  
THE GOVERNOR NELSON A. ROCKEFELLER  
EMPIRE STATE PLAZA  
ALBANY, NY 12242



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**ADDENDUM NO. 2 TO PROJECT NOS. 44167**

**CONSTRUCTION AND ELECTRICAL WORK  
REPLACE WATER STORAGE TANKS  
FISHKILL CORRECTIONAL FACILITY  
BEACON, NY**

February 21, 2013

**NOTE:** This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

**CONSTRUCTION CONTRACT**

**DRAWINGS**

1. DRAWING G-102 (GENERAL NOTES AND LEGENDS)
  - a. GENERAL NOTES section: Add note 14 that states: "Earth work required for underground electrical and signal wiring to be executed as part of the E-contract, all other earth work related to this project to be executed as part of the C-contract."
2. DRAWING C-103 (PHASE 1 CONSTRUCTION SITE PLAN)
  - a. CONSTRUCTION SEQUENCE NOTES: PHASE 1 – REPLACE TANK No. 2 section : Add to end of note 11: "NOTE CORRECTION - Pump Control wiring will be done under E-contract."
3. DRAWING C-107 (HAZARDOUS MATERIAL ABATEMENT)
  - a. GENERAL LEAD NOTES: section: Remove Last Sentence of Note 1 and replace as follows: "SEE LEAD CONTAMINATED SOIL REMOVAL SECTION 028335."

**ELECTRICAL CONTRACT**

**PROJECT MANUAL**

**SPECIFICATIONS**

1. Add the following to the end of Specifications Group:  
  
Add "SITE AND INFRASTRUCTURE SUBGROUP"

## **ADDENDUM NO. 2 TO PROJECT NO. 44167-C & E**

Add "DIVISION 31 – EARTHWORK"

Add the following specifications

310000 Earthwork

310101 Site Restoration

312513 Erosion And Sediment Control

### **DRAWINGS**

#### 1. DRAWING G-102 (GENERAL NOTES AND LEGENDS)

- a. GENERAL NOTES section: Add note 14 that states: "Earth work required for underground electrical and signal wiring to be executed as part of the E-contract, all other earth work related to this project to be executed as part of the C-contract."

#### 2. DRAWING E-101 (ELECTRICAL SITE PLAN)

- a. Add: "GENERAL NOTES – 1. All Earth work related to underground electrical and signal wiring will be done under E-contract. Refer to Specifications, E-105 Standard Electrical Details for Ductwork Detail and C-103 Phase I Construction Site Plan - Yard Work Piping Notes (Notes 1-3) for additional requirements. "

**END OF ADDENDUM**

James Dirolf, P.E.  
Director of Design

## SECTION 310000

### EARTHWORK

#### PART 1 GENERAL

##### 1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Site Restoration: Section 310101.

##### 1.02 DEFINITIONS

- A. The following terms shall have the meanings ascribed to them in this Article, wherever they appear in this Section.
1. Earth Excavation: The removal of all surface and subsurface material not classified as rock (as defined below).
  2. Rock: Limestone, sandstone, shale, granite, and similar material in solid beds or masses in its original or stratified position which can be removed only by blasting operations, drilling, wedging, or use of pneumatic tools, and boulders with a volume greater than 1.0 cu yd. Concrete building foundations and concrete slabs, not indicated, with a volume greater than 1.0 cu yd shall be classified as rock.
    - a. Limestone, sandstone, shale, granite, and similar material in a broken or weathered condition which can be removed with an excavator or backhoe equipped with a bucket with ripping teeth or any other style bucket shall be classified as earth excavation.
    - b. Masonry building foundations, whether indicated or not, shall be classified as earth excavation.
  3. Subgrade Surface: Surface upon which subbase or topsoil is placed.
  4. Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.
  5. Foundation Bearing Grade: Grade/elevation at which the bottom-of-footings are constructed.
  6. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Standard Proctor).
  7. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
  8. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
  9. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by the Director's Representative.
  10. Grading Limit Line (Shown on Drawings): Limits of grading, excavations and filling required for the work of this contract. Unless specifically noted otherwise, the Grading Limit Line and Contract Limit Line shall be considered the same.

##### 1.03 SUBMITTALS

- A. Product Data:
  - 1. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.
  
- B. Samples: Submit samples as follows. Take the samples in the presence of the Director's Representative, and submit to the Director's Representative the laboratory test results for gradation, proctors and soundness tests, when required. These tests shall be performed in accordance with ASTM standards, shall be performed and signed by a certified soils laboratory, and shall be submitted as part of the original submittal. At a minimum the samples taken shall be of the following quantities:
  - 1. Select Granular Material: 50 - 60 lb. (Two Samples).
  - 2. Subbase Course Type 2: 50 - 60 lb. (Two Samples).
  - 3. Selected Fill: 40 - 50 lb.
  - 4. Cushion Material: 30 lb.
  - 5. Crushed Stone: 30 lb
  - 6. Pea Gravel: 40 - 50 lb.
  
- C. Quality Control Submittals:
  - 1. Excavation Procedure: Submit a lay out drawing or detailed outline of intended excavation procedure for the Director's information. This submittal will not relieve the Contractor of responsibility for the successful performance of intended excavation methods.
  - 2. Subbase Materials: Name and location of source and the DOT Source Number. If the material is not being taken from an approved DOT Source the results of the gradation and soundness tests performed by an ASTM certified soils laboratory will be required.
  - 3. Other Aggregates: Name and location of source and soil laboratory test results.

#### **1.04 PROJECT CONDITIONS**

- A. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants indicated to remain within the grading limit line with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.
  
- B. Cold Weather Requirements: When freezing temperatures are predicted, do not excavate to final required elevations for pipe, conduit or equipment requiring concrete work unless concrete can be placed immediately. Retain enough earth over the bottom elevation of excavations to prevent frost penetration.
  
- C. Cold Weather Requirements:
  - 1. Excavation: When freezing temperatures are anticipated, do not excavate to final required elevations for concrete work unless concrete can be placed immediately.
  - 2. Backfilling: If backfill is being placed during freezing temperatures the backfilling operations shall be monitored by the Director's Representative and the following procedures shall be followed:

- a. Frozen ground shall be removed in its entirety from beneath and five feet beyond the area of fill placement.
- b. The fill material placed shall consist of Selected Fill and shall be free of all frozen chunks that exceed four inches in size. The material transported to the project site shall only consist of material excavated from below the frost depth.
- c. At the end of the work day, the area of fill placement shall be covered with insulated blankets, or left unprotected. Other means of protection (hay, wood chips, etc.) may also be used for protection provided it is approved by the Director's Representative.
- d. Following work day, remove the insulated blankets and/or strip the area of all frozen material as specified previously.
- e. Upon establishing the subgrade elevations, protect the grades with insulated blankets or place additional material that will adequately insulate the exposed earth surface from frost. This additional fill or protective material shall be stripped just prior to pouring concrete.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	30-65
No. 40	0.425	5-40
No. 200	0.075	0-10

- 1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
- 2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
- 3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

- B. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	25-60

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
No. 40	0.425	5-40
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

- C. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
4 inch	101.6	100
No. 40	0.425	0-70
No. 200	0.075	0-15

- D. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat shall be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.
- E. Cushion Material: Shall consist of clean, hard, durable, uncoated particles, free from lumps of clay and all deleterious substances and shall meet the following gradation requirements:

Sieve Size		Percent Passing
Sieve Size	Size opening (mm)	
1/4 inch	6.35	100
No. 60	0.25	0-35
No. 100	0.15	0-10

- F. Rip Rap: Fine, Light, Medium or Heavy Stone Filling that complies with DOT Article 620-2.02 for stone filling.

- G. No. 2 Coarse Aggregate: Crushed Stone that complies with material requirements of DOT Article 703-02 and meets the following gradation.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	90-100
1/2 inch	12.7	0-15

- H. Marker Tape: FL Industries Blackburn/Holub's Type YT6, or Seton Nameplate Corporations Type 6 ELE, imprinted with message suited to item buried below.

## 2.02 GEOTECHNICAL FABRICS

- A. Filter Fabric (GeoTextile)
1. Drainage and Erosion Control: Amoco 1199 & 2019, Maccaferri MacTex MX140 & MX155, Mirafi 140N & 160N, Fiberweave 403 & 404 or equivalent.
  2. Separation for foundation drains, underdrains, undercuts: GeoTex 801, Contech Construction Products Inc. C-180, Synthetic Industries Geotex 250ST & 315ST, Mirafi Geolon HP570 & HP1500 or equivalent.
  3. Separation/Stabilization beneath pavements: Amoco 4551, Bonded Fibers Products PN080, Maccaferri Gabions MacTex MX275 & 340, Mirafi 160N & 180N or equivalent.

## 2.03 BRICK AND MORTAR

- A. Manhole Brick: Standard size, ASTM C 32, Grade MS.
- B. Mortar Materials: Dry packaged, proportioned for Type M unit masonry mortar, complying with ASTM C 387.

## PART 3 EXECUTION

### 3.01 CLEARING AND GRUBBING

- A. Clear and grub the site within the Grading Limit Line (GLL) of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.
- B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

### **3.02 UNDERGROUND UTILITIES**

- A. Locate existing underground utilities prior to commencing excavation work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.
- B. Do not interrupt existing utilities that are in service until temporary or new utilities are installed and operational.
- C. Utilities to remain in service: Shall be re-routed as shown on the Contract Drawings.
- D. Utilities abandoned beneath and five feet laterally beyond the structure's proposed footprint shall be removed in their entirety. Excavations required for their removal shall be backfilled and compacted as specified herein.
- E. Utilities located outside the limits specified above may be abandoned in place provided their ends are adequately plugged as described below.
  - 1. Permanently close open ends of abandoned underground utilities exposed by excavations, which extend outside the limits of the area to be excavated.
  - 2. Close open ends of metallic conduit and pipe with threaded galvanized metal caps or plastic plugs or other approved method for the type of material and size of pipe. Do not use wood plugs.
  - 3. Close open ends of concrete and masonry utilities with concrete or flow-able fill.

### **3.03 EXCAVATION**

- A. Excavate earth as required for the Work.
- B. Install and maintain all erosion and sedimentation controls during all earthwork operations as specified on the Contract Drawings or as directed by local officials. If the erosion and sedimentation controls specified by the local officials are more stringent than those specified on the Contract Drawings contact the Director's Representative.
- C. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).
  - 1. Trenches: Deposit excavated material on one side of trench only. Trim banks of excavated material to prevent cave-ins and prevent material from falling or sliding into trench. Keep a clear footway between excavated material and trench edge. Maintain areas to allow free drainage of surface water.
- D. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by the Director's Representative.
- E. Excavation for Structures: Conform to elevations, lines, and limits indicated. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.

- F. Footings and Foundations: The foundation bearing grade shall be established just prior to constructing the concrete foundations when concrete is to bear on undisturbed soil.
- G. Concrete Slabs, Floors and Bases: Excavate to the following depths below bottom of concrete for addition of select granular material:
  - 1. Interior Floors: 6 inches unless otherwise indicated.
  - 2. Exterior Slabs and Steps: 12 inches unless otherwise indicated.
- H. Pipe Trenches and/or Bell and Spigot Pipe Trenches: Open only enough trench length to facilitate laying pipe sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wide plus the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe.
  - 1. Trench in Rock or Concrete: Excavate an additional 6 inches below bottom of pipe for bed of cushion material under the piping.
- I. Conduit, Cable, Tubing and Piping (other than Bell and Spigot): Provide sufficient trench width for installation and to accommodate special backfill when specified.
- J. Open Ditches: Cut ditches to cross sections and grades indicated.
- K. Pavement: Excavate to subgrade surface elevation.
- L. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by the Director.
  - 1. Unauthorized excavations under structural Work such as footings, foundation bases, and retaining walls shall be reported immediately to the Director before any concrete or backfilling Work commences.
- M. Notify the Director's Representative upon completion of excavation operations. Do not proceed with the Work until the excavation is inspected and approved. Inspection of the excavation by the Director's Representative will be made on 3 working days notice.

### **3.04 DEWATERING**

- A. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.
- B. Do not allow water to accumulate in excavations or trenches. Remove water from all excavations immediately to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Furnish and maintain pumps, sumps, suction and discharge piping systems, and other system components necessary to convey the water away from the Site.
- C. Convey water removed from excavations, and rain water, to collecting or run-off area. Cut and maintain temporary drainage ditches and provide other necessary diversions

outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

- D. Provide temporary controls to restrict the velocity of discharged water as necessary to prevent erosion and siltation of receiving areas.

### **3.05 PLACING FILTER FABRIC**

- A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown.
- B. Cover tears and other damaged areas with additional filter fabric layer extending 3 feet beyond the damage.
- C. Do not permit traffic or construction equipment directly on filter fabric.
- D. Backfill over filter fabric within two weeks after placement. Backfill in accordance with the fabric manufacturer's instructions and in a manner to prevent damage to the fabric.

### **3.06 PLACING FILL AND BACKFILL**

- A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Remove all asphalt pavement in its entirety from areas requiring the placement of fill or break up old pavements to a maximum size of four inches. Prior to placement of fill, smooth out and compact areas where wheel rutting has occurred due to stripping or earthwork operations.
- B. Excavations: Backfill as promptly as practicable, but only after approval by the Director's Representative. Do not backfill with excavated material unless it meets the requirements of this Section.
- C. Place backfill and fill materials in layers not more than 8 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.
  - 1. Place fill and backfill against foundation walls and in confined areas (such as trenches) not easily accessible by larger compaction equipment, in maximum six inch thick (loose depth) layers.
- D. Prevent wedging action of backfill against structures by placing backfill uniformly around structure to approximately same elevation in each layer. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place.
- E. Under Exterior Concrete Slabs and Steps:
  - 1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
  - 2. Subbase Material: Place 12 inches of select granular material over subgrade surface.

- F. Under Interior Concrete Slabs:
  - 1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
  - 2. Subbase Material: Place six inches of select granular material over subgrade surface.
  
- G. Under Pavements and Walks:
  - 1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
  - 2. Subbase Material: Place as indicated.
  
- H. Landscaped Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over four inches in diameter within the top 12 inches of suitable material.
  
- I. Plastic Pipe in Trenches: Place cushion material a minimum of six inches deep under pipe, 12 inches on both sides, and 12 inches above top of pipe. Complete balance of backfill as specified.
  
- J. Copper Tubing in Trenches: Place cushion material a minimum of six inches deep under pipe, six inches on both sides, and 4 inches over top of pipe. Complete balance of backfill as specified.
  
- K. Rigid Non-Metallic Conduit: Except where concrete encasement is required, place cushion material a minimum of four inches deep under conduit, four inches on both sides, and 12 inches over top of conduit. Complete balance of backfill as specified.

### **3.07 COMPACTION**

- A. All materials with exception of open graded stone (No. 2 Crushed Stone, No. 1 Crushed Stone, Item B-12, etc.):
  - 1. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to obtain the required densities, but at not less than three percent drier or more than two percent wetter than the optimum content as determined by ASTM D 698 (Standard Proctor).
    - a. Structures (entire area within ten feet outside perimeter): 95 percent.
    - b. Concrete Slabs and Steps: 95 percent.
    - c. Landscaped Areas: 90 percent.
    - d. Pavements and Walks: 95 percent.
    - e. Pipes and Tunnels: 95 percent.
    - f. Pipe Bedding: 95 percent. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be re-compacted and retested. If compaction cannot be achieved the material/layer will be removed and replaced. No additional material may be placed over a compacted layer until the specified density is achieved

- B. Open graded Stone (Item B-12, No. 1 crushed stone, etc): Place material in maximum twelve inch lifts. Each lift shall be raked smooth and compacted through several passes of a walk behind vibratory roller. Compaction Testing is **not** required.

### **3.08 GRADING**

- A. Rough Grading: Trim and grade area within the Grading Limit Line and excavations outside the limit line, required by this Contract, to a level of four inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.
- B. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:
  - 1. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.
  - 2. Walks and Pavements: Place and compact subbase material as specified. Shape surface of areas to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.
  - 3. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified to within 1/4 inch above or below required subbase elevation.
- C. Spread approved topsoil directly upon prepared subgrade surface to a depth measuring 4 inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Place to greater depth when necessary to adjust grades to required elevations.
  - 1. Approved existing topsoil within the Grading Limit Line may be used. Provide additional topsoil from outside sources as required.
- D. Finish topsoil surface free of depressions which will trap water, free of stones over 1 inch in any dimension, and free of debris.

### **3.09 RESTORATION**

- A. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.
- B. Topsoil and seed or sod damaged lawn areas outside the GLL and new lawn areas inside the GLL. Water as required until physical completion of the Work.

### **3.10 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS**

- A. Remove from State property and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements.

### **3.11 FIELD QUALITY CONTROL**

- A. Compaction Testing: Notify the Director's Representative at least 3 working days in advance of all phases of filling and backfilling operations. Compaction testing will be

performed by the Director's Representative to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by the Director's Representative. If a compacted layer fails to meet the specified percentage of maximum density, the layer shall be re-compacted and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

### **3.12 PROTECTION**

- A. Protect graded areas from traffic and erosion, and keep them free of trash and debris.

**END OF SECTION**

**SECTION 310101**  
**SITE RESTORATION**

**PART 1 GENERAL**

**1.01 QUALITY ASSURANCE**

- A. Provide prepackaged seed readily available to the public with quality and purity equal to product of O.M. Scotts and Son, Marysville, OH 43041. On-the-job or made-to-order mixes will not be accepted.

**1.02 DELIVERY STORAGE AND HANDLING**

- A. Deliver fertilizer in manufacturer's standard size bags or cartons showing weight, analysis, and the name of the manufacturer. Store as approved by Director's Representative.
- B. Store all seed at the site in a cool dry place as approved by the Director's Representative. Replace any seed damaged during storage.

**1.03 SCHEDULING**

- A. Time For Seeding: Sow grass seed between April 1 and May 15th or between August 15th and October 15th, except as otherwise approved in writing by the Director.

**PART 2 PRODUCTS**

**2.01 TOPSOIL**

- A. Provide topsoil conforming to the following:
  - 1. Original loam topsoil, well drained homogeneous texture and of uniform grade, without the admixture of subsoil material and entirely free of dense material, hardpan, sod, or any other objectionable foreign material.
  - 2. Containing not less than 4 percent nor more than 20 percent organic matter in that portion of a sample passing a 1/4 inch sieve when determined by the wet combustion method on a sample dried at 105 degrees C.
  - 3. Containing a Ph value within the range of 4.5 to 7 on that portion of the sample that passes a 1/4 inch sieve.
  - 4. Containing the following gradations:

<b>SIEVE DESIGNATION</b>	<b>PERCENT PASSING</b>
1 inch	100
1/4 inch	97 - 100
No. 200	20 - 65 (of the 1/4 inch sieve)

**2.02 FERTILIZER**

- A. Fertilizer: Mixed commercial fertilizers shall contain total nitrogen, available phosphoric acid and soluble potash in the ratio of 10-6-4 (50% N/UF). 50% of total nitrogen shall be derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN). The balance of the nitrogen shall be present as methylene urea, water-soluble urea, nitrate and ammoniacal compounds.
- B. Other fertilizers meeting DOT Specification Section 713-03 Fertilizer can be used.

**2.03 SEED**

- A. Furnish fresh, clean, new-crop seed mixed in the proportions specified for species and variety, and conforming to Federal and State Standards.
- B. Acceptable material in a seed mixture other than pure live seed consists of nonviable seed, chaff, hulls, live seed of crop plants and inert matter. The percentage of weed seed shall not exceed 0.1 percent by weight.
- C. All seed will be rejected if the label indicates any noxious weed seeds.
- D. Provide seed mixture equal to Scotts Pure Premium Sun and Shade North Grass Seed Mixture, comprised of the following:

<b>SEED MIXTURE</b>			
<b>AMOUNT BY WEIGHT IN MIXTURE</b>	<b>SPECIES OR VARIETY *</b>	<b>PERCENTAGE</b>	
		<b>PURITY</b>	<b>GERMINATION</b>
30 PERCENT	FENWAY RED FESCUE	97 PERCENT	80 PERCENT
30 PERCENT	ABBEY KENTUCKY BLUEGRASS BLEND	95 PERCENT	80 PERCENT
20 PERCENT	DEVINE PERENNIAL RYE	98 PERCENT	85 PERCENT
20 PERCENT	ENCHANTED PERENNIAL RYE	98 PERCENT	85 PERCENT
100 PERCENT			
*Variety may be altered depending on availability of seed from manufacturer.			

**2.04 MULCH**

- A. Dry Application, Straw: Stalks of oats, wheat, rye or other approved crops that are free of noxious weed seeds. Weight shall be based on a 15 percent moisture content.

## **PART 3 EXECUTION**

### **3.01 GRADING**

- A. Rough Grading: Trim and grade lawn areas within the Contract Limit to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.
- B. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:
  - 1. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.

### **3.02 SPREADING TOPSOIL**

- A. Perform topsoil spreading operations only during dry weather.
- B. To insure a proper bond with the topsoil, harrow or otherwise loosen the subgrade to a depth of 3 inches before spreading topsoil.
- C. Spread topsoil directly upon prepared subgrade to a minimum depth measuring 4 inches after natural settlement in areas to be seeded. Smooth out unsightly variations, bumps, ridges, and depressions that will hold water. Remove stones, litter, or other objectionable material. Finished surfaces shall conform to the contour lines and elevations indicated on the drawings or fixed by the Director's Representative.

### **3.03 PREPARATION FOR SEEDING**

- A. Seed Bed: Scarify soil to a depth of 2 inches in compacted areas. Smooth out unsightly variations, bumps, ridges, and depressions that will hold water. Remove stones, litter, or other objectionable material.

### **3.04 FERTILIZING**

- A. Apply 10-6-4 fertilizer evenly at the rate of 40 pounds per 1000 sq ft.

### **3.05 SEEDING**

- A. Assume all risks when seed is sowed before approval of seed analysis.
- B. Do not seed when the wind velocity exceeds 5 miles per hour.
- C. Application Rate: 8 pounds per 1000 sq ft.
- D. Dry Application: Sow seed evenly by hand or seed spreader on dry or moderately dry soil.

### **3.06 MULCHING**

- A. Dry Application: Within 3 days after seeding, cover the seeded areas with a uniform blanket of straw mulch at the rate of 50 pounds per 1000 sq ft of seeded area.

**3.07 LAWN ESTABLISHMENT**

- A. Maintain the grass at heights between 2-1/2 inches and 3-1/2 inches and include a minimum of 2 mowings.
- B. Water and protect all seeded areas until final acceptance of the lawn.

**3.08 FINAL ACCEPTANCE**

- A. Final acceptance of seeded areas will be granted when a uniform stand of acceptable grass is obtained, with a minimum of 95 percent coverage. Portions of the seeded areas may be accepted at various times at the discretion of the Director's Representative.
- B. Unacceptable seeded areas, dry application: Reseed as specified and fertilized at one-half the specified rate.
- C. Once accepted, the State will assume all maintenance responsibilities.

**END OF SECTION**

## SECTION 312513

### EROSION AND SEDIMENT CONTROL

#### PART 1 GENERAL

##### 1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 310000.

##### 1.02 REFERENCES

- A. Erosion and Sediment Control Guidelines: Conform to the latest edition of “NEW YORK STANDARDS and SPECIFICATIONS for EROSION and SEDIMENT CONTROL” by NYS Department of Environmental Conservation DOW (i.e., Bluebook). Refer to these guidelines for construction and maintenance of all items (Temporary and Permanent Structural, Vegetative and Biotechnical) included in the Storm Water Pollution and Prevention Plan (SWPPP).
- B. Storm Water Management: Conform to the latest edition of “NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL” prepared by Center for Watershed Protection for NYS Department of Environmental Conservation.

##### 1.03 RESPONSIBILITY

- A. During construction conduct operations in such a manner as to prevent or reduce to a minimum any damage to any water body from pollution by debris, sediment, chemical or other foreign material, or from the manipulation of equipment and/or materials in or near a stream or ditch flowing directly to a stream. Any water which has been used for wash purposes or other similar operations which become polluted with sewage, silt, cement, concentrated chlorine, oil, fuels, lubricants, bitumens, or other impurities shall not be discharged into any water body.
- B. In the event of conflict between these specifications and the regulation of other Federal, State, or local jurisdictions, the more restrictive regulations shall apply.
- C. The Contractor shall adhere to all requirements of the Storm Water Pollution Prevention Plan as presented on Drawing No(s).C-108. Comply with all applicable NYSDEC regulatory requirements.
- D. The Contractor will submit copies of certificates documenting that on-site workers have completed a NYS Department of Environmental Conservation endorsed Erosion & Sediment Control training as required by General Permit GP-0-10-001.

##### 1.04 DESCRIPTION

- A. The Work shall consist of furnishing, installing, inspecting, maintaining, and removing soil and erosion control measures as shown on the contract documents or as ordered by

the Director's Representative during the life of the contract to provide erosion and sediment control.

- B. Temporary structural measures provide erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion. These are used during construction to prevent offsite sedimentation. Temporary structural measures shall include check dams, construction road stabilization, stabilized construction entrance, dust control, earth dike, level spreader, perimeter dike/swale, pipe slope drain, portable sediment tank, rock dam, sediment basin, sediment traps, silt fence, storm drain inlet protection, straw/hay bale dike, access waterway crossing, storm drain diversion, temporary swale, turbidity curtain, water bars or other erosion control devices or methods as required.

#### **1.05 DEFINITIONS – TEMPORARY STRUCTURAL MEASURES**

- A. Stabilized Construction Entrance: A stabilized pad of aggregate underlain with geotextile where traffic enters a construction site to reduce or eliminate tracking of sediment to public roads.
- B. Silt Fence: A barrier of geotextile fabric installed on contours across the slope to intercept runoff by reducing velocity. Replace after 1 year.
- C. Storm Drain Inlet Protection: A semi-permeable barrier installed around storm inlets to prevent sediment from entering a storm drainage system.

### **PART 2 PRODUCTS**

#### **2.01 COMPANIES-TEMPORARY STRUCTURAL**

- A. Mirafi, 365 South Holland Drive, Pendergrass, Ga, 30567, (888) 795-0808, [www.mirafi.com](http://www.mirafi.com).
- B. North American Green, 14649 Highway 41 North, Evansville, IN 47725, (800) 772-2040, [www.nagreen.com](http://www.nagreen.com).

## **PART 3 EXECUTION**

### **3.01 WORK AREAS**

- A. The Director's Representative has the authority to limit the surface area of erodible earth exposed by earthwork operations and to direct the Contractor to provide immediate temporary or permanent erosion measures to minimize damage to property and contamination of watercourses and water impoundments. Under no circumstances will the area of erodible earth material exposed at one time exceed 50,000 sq. ft. The Director's Representative may increase or decrease this area of erodible earth material exposed at one time as determined by his analysis of project, weather and other conditions. The Director's Representative may limit the area of clearing and grubbing and earthwork operations in progress commensurate with the Contractor's demonstrated capability in protecting erodible earth surfaces with temporary, permanent, vegetative or biotechnical erosion control measures.
- B. Schedule the work so as to minimize the time that earth areas will be exposed to erosive conditions. Provide temporary structural measures immediately to prevent any soil erosion.
- C. Provide temporary seeding on disturbed earth or soil stockpiles exposed for more than 7 days or for any temporary shutdown of construction. In spring, summer or early fall apply rye grass at a rate of 1 lb/ 1000 sq.ft. In late fall or early spring, apply certified Aroostook Rye at a rate of 2.5 lbs./ 1000 sq. ft. Apply hay or straw at a rate of 2 bales/ 1000 sq. ft. or wood fiber hydromulch at the manufacturer's recommended rate. Hay or straw shall be anchored.
- D. Coordinate the use of permanent controls or finish materials shown with the temporary erosion measures.
- E. All erosion and sediment control devices must be maintained in working order until the site is stabilized. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, re-seeding, or re-mulching, must be performed immediately.
- F. After final stabilization has been achieved temporary sediment and erosion controls must be removed. Areas disturbed during removal must be stabilized immediately.

**END OF SECTION**