

SECTION 116833
ATHLETIC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes the football system, soccer system, basketball system, lacrosse system, and field hockey system.
- B. Related Sections:
 - 1. Section 321216 "Asphalt Paving" for surfacing under and around equipment.
 - 2. Section 321223 "Asphalt Pavement Colorcoating" for pavement markings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Football System.
 - 2. Soccer System.
 - 3. Basketball System.
 - 4. Lacrosse System.
 - 5. Field Hockey System.
 - 6. Add Alternate: Scoreboard
- B. Qualification Data: For qualified Installer ,manufacturer and testing agency.
- C. Warranty: Sample of special warranty.
- D. Shop Drawings: Scoreboard footing engineering calculations that are designed and sealed by a PA licensed Professional Engineer.

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1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For equipment and finishes to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: To be approved by Philadelphia Parks and Recreation.
- B. Installer Qualifications: An employer of workers approved by manufacturer.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of equipment that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures.
 - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ATHLETIC EQUIPMENT

- A. Football System: Subject to compliance with requirements, provide products by JayPro Sports, LLC., 976 Hartford Turnpike, Waterford, CT 06385, 1 (800) 243-0533, or approved equal.
 - 1. Football Goal Post: Max-1 Football Goal Post, Model #FBGP-520, 6 5/8" O.D. round pole with 6'-7" offset, Model #FBSLV8 Semi-Permanent Ground Sleeve, Model #FBGPAF-1 Access Frame, Model #PPP-800 Safety Padding: 6" Protector Pads.
 - 2. Goal Post Finish: Standard Yellow Powdercoat. Safety Padding, color TBD.
- B. Soccer System: Subject to compliance with requirements, provide products by JayPro Sports, LLC., 976 Hartford Turnpike, Waterford, CT 06385, 1 (800) 243-0533, or approved equal.
 - 1. Soccer Goal: Nova Premier Adjustable Goal, Model #SGP-600AXPKG, 8'H x 24'W x 10'D with Soccer/Football Anchor Kit, Model #SFGA-6, Wheel Kit, Model #NSGWK, and Anchors, Model #SGA-50
- C. Basketball System: Subject to compliance with requirements, provide products by Bison Inc., 603 L Street, Lincoln, NE, 68508, 1 (800) 247-7668, or approved equal.
 - 1. Basketball System: Ultimate Polycarbonate Playground Basketball System – Model



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Number BA873U-BK. 6” Sq. Pole with 60” Play Safe Area – 42”x 72” Unbreakable Polycarbonate Breakaway Style Goal, Orange Rim/Nylon Net, and Edge/Protector Padding.

- D. Lacrosse System: Subject to compliance with requirements, provide products by JayPro Sports, LLC., 976 Hartford Turnpike, Waterford, CT 06385, 1 (800) 243-0533, or approved equal.
 - 1. Lacrosse Goal: Official Goal, Model #LG-1XPKG, 6’W x 6’H x 80”D.
- E. Field Hockey System: Subject to compliance with requirements, provide products by JayPro Sports, LLC., 976 Hartford Turnpike, Waterford, CT 06385, 1 (800) 243-0533, or approved equal.
 - 1. Field Hockey Goal: Official Goal, Model #FHG-2ALPKG, 12’W x 7’H x 4’D with Wheel Kit, Model #FHG-1WKS.
- F. ADD ALTERNATE Scoreboard: Subject to compliance with requirements, provide products by Daktronics, 201 Daktronics Drive, PO Box 5128, Brookings, SD 57006, 1 (800) 325-8766, or approved equal.
 - 1. FB-4005 for all sports listed above, White digits, size as indicated on drawings, Control Console: All Sport 5000 Wireless, with horn, with advertising panels,

2.2 CAST-IN-PLACE CONCRETE

- A. Concrete Materials and Properties: Comply with requirements in Section 033000 "Cast-in-Place Concrete" to produce normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3500 psi (20.7 MPa), 3-inch (75-mm) slump, and 1-inch- (25-mm-) maximum-size aggregate, or as recommended by equipment manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, site surface and subgrade drainage, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Verify locations of perimeter and pathways. Verify that equipment layout complies with requirements for each type and component of equipment.

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3.3 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of mini-pitch system where required.
- B. Unless otherwise indicated, install mini-pitch after asphalt top coat has been completed, but before color coating has been installed.
- C. Install basketball equipment in footings as per manufacturer's recommendations.
- D. Install equipment level, plumb, true, and **securely anchored** at locations indicated on Drawings, and as per Manufacturer.

END OF SECTION 116833

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SECTION 321223
ASPHALT PAVEMENT COLORCOATING

PART 1 - GENERAL

1.1 SUMMARY

A. Asphalt pavement colorcoating for the basketball courts. The Contractor shall furnish all labor, materials and equipment required for the complete leveling/patching and surfacing of all areas indicated on the plans to the satisfaction of the Owner or Owner's Representative.

A. Related Sections:

1. Section 116833 "Athletic Equipment" for basketball systems.

1.2 SUBMITTALS

A. Product Data: Provide manufacturer's data on colorcoating.

B. Provide full range of standard color options for review and selection by Owner and Landscape Architect.

C. Instructions: Provide manufacturer's application instructions.

1.3 QUALIFICATIONS

A. Applicator: Company specializing in performing the work of this section with minimum two years' experience.

1.4 TEST MATERIALS

A. The Owner reserves the right to sample materials both as delivered to the job site in unopened drums and after dilution and mixing prior to application. Such testing shall be by an independent laboratory of the Owner's choice to assure that the materials meet the standards set by this specification.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Do not apply colorcoating when ambient air temperature is less than 50 degrees F, nor during fog, rain, or other unsuitable conditions. Do not apply when surface temperature is below 40 degrees F or in excess of 140 degrees F.

B. Surfacing system shall be asbestos free.

1.6 SUBSTITUTIONS

A. Under provisions of Division One Specification Sections.

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ASPHALT PAVEMENT COLORCOATING

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: California Products Corporation, Plexipave Fortified, 150 Dascomb Rd., Andover, MA 01810, (978) 623-9980, <https://www.californiasportssurfaces.com/>, or approved equal.

2.2 MATERIALS

- A. Acrylic Patching System: Shall be court patch binder conforming to manufacturer's specifications.
- B. Crack Filler: Shall be a fortified acrylic type filler for use in fine cracks (less than 3/16" wide) conforming to manufacturer's specifications.
- C. Acrylic Resurfacer: Shall be a 100% acrylic emulsion binder conforming to manufacturer's specifications.
- D. Finish Coating: Shall be a pre-mixed, undiluted, textured surface system, conforming to manufacturer's specifications, color TBD during submittal process.
- E. Line Paint: Shall be a pre-mixed, undiluted, textured surface system, conforming to manufacturer's specifications, color White for basketball court.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that existing paving surface is ready to receive work.
- B. Beginning of colorcoating application means acceptance of existing conditions.

3.2 PREPARATION

A. Surface Preparation

- 1. The asphalt paving surface shall be thoroughly cleaned, removing all loose dirt, oil, grease, leaves, and drippings and scrub with a detergent and water. Remove all traces of detergent.

B. Holes and Cracks

- 1. Where asphalt paving surface cracks occur, they shall be milled to remove all asphalt humps, cleared of all debris, dirt, and vegetation, sprayed with an approved soil sterilant, and filled with court patch binder as recommended by colorcoating manufacturer. Hairline fissures will not be considered as surface cracks.

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2. Where open joints or cracks occur (more than 3/8 inch wide and less than 1 inch wide), they shall be milled to remove all debris, dirt, and vegetation. Spray with an approved soil sterilant, backfill with crushed stone, and seal with bituminous paving.
3. Where open joints or cracks occur (1 inch wide or greater), they shall be milled to remove all debris, dirt, and vegetation. Spray with an approved soil sterilant, backfill with No. 8 coarse aggregate, and seal with 1 1/2" of bituminous paving.

C. Depressions

1. Depressions holding enough water to cover a five cent piece shall be filled with court patch binder patching mix, as recommended by the surface colorcoating manufacturer.

D. Curing

1. New asphalt concrete surface should be allowed to cure a minimum of 10 to 14 days prior to application of colorcoating.

3.3 APPLICATION

A. General

1. All areas to be colorcoated shall be clean, free from sand, clay, grease, dust, salt, or other foreign matters. The Contractor shall obtain the Owner's approval, prior to applying any surface treatment. The storage of materials, mixing, and surface preparation shall be in accordance with the manufacturer's instructions.
2. The Contractor shall arrange for a representative of the surfacing material manufacturer to be present at the start of the work, to check installation conditions, and to instruct the applicators as to proper methods and procedures, and also as may be necessary during the course of the work, to insure a satisfactorily completed installation.
3. The application shall be done by thoroughly experienced and skillful workmen, in strict accordance with the manufacturer's instructions.

B. Filler Coat

1. Filler coat (acrylic resurfacer) shall be applied to the clean underlying surface in two applications to obtain a total quantity of not less than 15-20 yards per gallon based on the material prior to any dilution. Apply filler coat as recommended by the surface colorcoating manufacturer.
2. Allow filler coat to dry thoroughly. Scrape off all ridges and rough spots prior to any subsequent application of acrylic resurfacer or color surface system.

C. Finish Coating

1. The Contractor shall apply two (2) coats of Fortified Plexipave reinforced acrylic finish coating.
2. Each finish coat shall be applied at a rate of 0.4 - 0.5 gallons per square yard. Allow each coat to dry thoroughly prior to any subsequent applications of color surface system.

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3. Apply the second coat at a 90 degree angel to the previous coat.
 4. The finished surface shall have a uniform appearance and be free of ridges and tool marks.
- 3.4 PROTECTION
- A. Protect finished application under provisions of Section 01500.
 - B. Do not permit traffic over pavement for 24 hours.

END OF SECTION

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SECTION 329200

LAWN AND FINE GRADING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Reseeding of existing lawns disturbed during construction.
- 2. Seeding of new lawns.
- 3. Maintenance of lawn areas until acceptance.

- 4. Deduct Alternate: Sod in lieu of artificial turf at multi-sport field and maintenance of sod until acceptance.

B. Related Sections:

- 1. Division 2 Section "Planting".
- 2. Division 2 Section "Soil Preparation".

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Topsoil: Native or Imported topsoil. See Soil Preparation section.

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- E. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.

1.4 SUBMITTALS

- A. Submit prior to delivery of materials to site.
 - 1. Submit seed mixes for review.
 - B. Certifications: Submit certificate with names of materials and manufacturer.
 - 1. Ground limestone: Include guaranteed analysis, and weight for packaged material.
 - 2. Commercial fertilizers: Include guaranteed analysis.
 - 3. Seed: include origin of seed.
 - 4. Sod: include identification of source and name of supplier.
 - C. Product data: Submit product literature or tear sheets with name of product, and manufacturer.
 - 1. Commercial fertilizer, including type and application rate.
 - D. Source of supply: Submit in writing all proposed sources.
 - E. Test reports: Submit test reports at least three (3) weeks prior to delivery of materials to site.
 - 1. Seed: Test for purity, proportion by weight, weed seed content and germination percentage of all seed mixture proposed for use. No seed shall be delivered until the test reports are approved. All seed shall be tested within six (6) months immediately preceding date of sowing. Seed must comply with all Commonwealth of Pennsylvania seed certifications.
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- A. Qualification Data: For qualified landscape Installer.
 - B. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required initial maintenance periods.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
 - 1. Experience: Five (5) years' experience in turf installation in projects of similar complexity in addition to requirements in Division 1 Section "Quality Requirements."
 - 2. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 3. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.
 - 4. Pesticide Applicator: State licensed, commercial.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packaged materials: Deliver packaged materials in clearly marked containers showing net weight, guaranteed analysis and name of manufacturer. Specified requirements for packaged materials apply to bulk shipments. Protect materials from deterioration during delivery and during storage at site.
1. Deliver fertilizer and limestone in waterproof bags.
 2. All seed shall be labeled to show compliance with requirements of governmental agencies having jurisdiction. All bag tags of seed used shall be retained and if requested, submitted to Owner. Seed shall be kept in dry storage away from contaminants, insects and rodents.

B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

C. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

1.7 PROJECT CONDITIONS

- A. Protection of existing conditions adjacent to and within construction zone:
1. All necessary precautions for safety including barricades and other protection measures shall be taken during all work.
 2. All heavy equipment shall be driven or parked on the site only where approved by Owner.
 3. Existing pavements, lawns, structures, walls, etc. damaged or disturbed during construction shall be repaired or replaced to the satisfaction of the Owner.
 4. Repair and replace all active utility lines, above and below grade, damaged in the course of construction operations.
 5. Avoid damaging existing trees. Damage includes but is not limited to: cutting, breaking, skinning or compacting of roots, skinning and bruising of bark and breaking of branches and limbs.
 - a. Contractor shall not park or store equipment and supplies within four (4) feet of trunk of existing trees to remain.

B. Environmental requirements:

1. Seed and lay sod only between April 1 - May 15 and September 1 - October 15, unless otherwise permitted by the Owner.
2. Do not seed during adverse weather, windy conditions or on wet or frozen ground.

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LAWN AND FINE GRADING

PART 2 - PRODUCTS

2.1 SEED

- A. Fresh, clean, new seed. Seed shall be packed in sealed 50 lb. bags showing net weight, composition of mix, date of germination tests and supplier's name. Germination test must be done within a nine-month period prior to sale of the seed.
 - 1. Seed shall not contain in excess of 0.1% by weight weed seed, no more than 1.5% inert matter, and no more than 0.1% other crop seed and no noxious weed seed or undesirable grass species. Comply with state laws governing noxious weeds. Seed containing prohibited or restricted noxious weeds shall not be accepted.
 - 2. Seed shall be Pennsylvania certified and blue tagged.
- B. Seed mixture: areas of permanent turf grass shall adhere to the following mixture ratios, unless otherwise approved by the Landscape Architect or Parks and Recreation.

| Seed Type | Proportion by Weight | Minimum Purity | Minimum Germination |
|---|----------------------|----------------|---------------------|
| Turf-Type Tall Fescue (3 Varieties Min.) | 60% | 95% | 80% |
| Perennial Rye Grass | 30% | 95% | 85% |
| Kentucky Blue Grass | 10% | 90% | 80% |

2.2 LIMESTONE

- A. In accordance with soil test recommendations, provide ground, high magnesium limestone containing not less than 85% total carbonates, 95% passing a 20 mesh sieve, 40% passing a 60 mesh sieve and a minimum of 30% percent passing a 100 mesh sieve.

2.3 MULCH

- A. Mulch shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state. Wood cellulose fiber mulch shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. The fiber mulch, including dye, shall contain no germination or growth inhibiting factors. The mulch material shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with other additives to form a homogenous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- B. Mulch shall contain no elements or compounds at concentration levels that will be phytotoxic. Wood cellulose fiber must conform to the following physical requirements:
 - 1. fiber length to be approximately 10 mm
 - 2. diameter approximately 1 mm
 - 3. pH range of 4.0 to 8.5
 - 4. ash content of 1.6% maximum
 - 5. water holding capacity of 90% minimum

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- C. Slope stabilization: in areas where erosion may occur, use an organic tackifier such as CONTACT or an erosion fabric or approved equal, in accordance with manufacturer's instructions.

2.4 WATER

- A. Potable, clean fresh and free from harmful materials. Contractor shall provide all means of conveyance including hoses, sprinklers, tank trucks or other means which may be required to water lawns until accepted by Owner.

2.5 FERTILIZER

- A. A standard complete slow release fertilizer. At least 50% by weight of the nitrogen content of the fertilizer shall be derived from organic materials with the remainder in urea form or equivalent. Fertilizer shall contain percent nitrogen, phosphorous, and potash by weight of ingredients dictated by the topsoil test results.

- 1. Fertilizer shall be in bags showing weight, analysis, and manufacturer's name

2.6 PESTICIDES

- A. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent and Post-Emergent Herbicides (Selective and Non-Selective) shall only be used with written authorization by the Owner.

2.7 TURFGRASS SOD

- A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Turfgrass Species: Sod of grass species as follows, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:
 - 1. Kentucky bluegrass (*Poa pratensis*), a minimum of three cultivars.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint

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thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.

2. Do not work soil in frozen, wet, or muddy conditions.
3. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Owner and replace with new planting soil as specified in Division 2 Section "Soil Preparation".

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

A. Grass seed shall be applied to all disturbed areas a result of this project.

B. Preparation of surface for seeded areas (except within root zones of existing trees):

1. Vertically aerate soil if it has become compacted as a result of construction activities.
2. Prior to applying soil amenities, roll lawn area with a filled water roller. Correct any surface irregularities to prevent formation of low spots.
3. If required by soil test, evenly distribute ground limestone at the recommended rate. Work lightly into the top four (4) inches of topsoil at least one full week prior to applying fertilizer.
4. Spread starter fertilizer uniformly, at the rate determined by soil test for new lawns. Add organic matter 1" deep, if required by soil test.
5. Go over the entire area with a spike drag or rototiller and loosen surface at least 3" deep and then hand rake to a smooth, even surface.

C. Seeding

1. As soon as ground has been properly prepared, sow grass seed at the rate of 6 lbs. per 1,000 sq. ft. total. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.
 - a. Use suitable mechanical seeder to sow by hand for small areas.
2. Cover seed with a thin layer of topsoil by light raking.
3. Roll seed in both directions very lightly with an empty water roller.
4. After seed application, apply mulch at a net dry weight of 1,500 lbs. per acre. Mulch shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water. Use a slope stabilizing device in areas where erosion may occur.

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5. Water with a fine spray immediately after seeding operations are completed.
 - a. Water all newly installed seeded areas as necessary to keep lawn healthy. Apply water in sufficient quantities so it penetrates four (4) inches into planting soil without puddling. Continue watering until seeded areas are accepted by the Owner.
6. Protect all newly seeded lawn areas from damage.
7. When seeding occurs after acceptable seeding dates, over winter protection shall consist of applying five bales clean straw per 1,000 sq. ft. and anchor mulch by commercial mulch netting or 20 lbs./1,000 sq. ft. cellulose fiber. Asphalt emulsion anchoring is not permitted.

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D. Sodding

1. Lay sod within 24 hours of harvesting [unless a suitable preservation method is accepted by Architect prior to delivery time]. Do not lay sod if dormant or if ground is frozen or muddy.
2. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - a. Lay sod across slopes exceeding 1:3.
 - b. Anchor sod on slopes exceeding 1:6 with wood pegs [or steel staples] spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
3. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.4 TURF MAINTENANCE

- A. Begin maintenance immediately after each lawn area is restored.
 1. All lawn areas shall be watered and kept moist to maximize germination.
 - a. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch.
 - b. Seed: Water seeded areas as often as required to keep the top 1-inch of soil moist until the seed germinates. Avoid excessive water that will cause the seeds to rot. Once seedlings have germinated and established reduce watering frequency and increase volume for deeper watering. Continually adjust irrigation system until intervals have been stretched to the greatest extent practical.
 - c. Sod: Water sodded areas as often as required to keep the sod alive. Continually adjust irrigation system until intervals have been stretched to the greatest extent practical.
 2. All areas and spots which do not show a prompt catch of grass shall be reseeded and this operation repeated until complete coverage is obtained.
 3. When the area does not need to be reseeded, it shall be thoroughly wetted every time the surface shows evidence of drying out and this shall continue through entire period of maintenance.

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4. When the average height is 3-4" and the lawn areas are fully germinated, firmly rooted and secure in place, grass shall be cut to 2-3" or 1/3 of the grass blade. Any depressions or irregularities in the lawn surface shall be leveled off and reseeded.
5. Maintenance shall cease after the third mowing, provided all grass areas are properly established and free of washouts, depressions, bare spots, weeds and large off-color areas. If seeding is done in the autumn, the Contractor shall complete the three mowings in the following spring.
6. All lawns shall show a uniform, thick, well-developed stand of grass. If the grass stand is unsatisfactory, the Contractor's maintenance responsibility shall continue until an acceptable stand of grass is achieved.

3.5 SATISFACTORY LAWN AND DEDUCT ALTERNATE SOD

- A. Seed installations and deduct alternate sod shall meet the following criteria as determined by Owner:
 1. Satisfactory Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
 2. Provide at minimum three (3) mowings in accordance with grass height requirements.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.6 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.
- C. Notification signage must be posted at every entrance in a highly visible location at least five (5) days in advance of application and maintained five (5) business days following application, or as recommended by the manufacturer's instructions, whereby it is then removed from the site.
 1. Notification Signage shall be brightly colored, laminated and at least 8.5" by 11" format including the following information:
 - a. Date of Notification.
 - b. Date of Application.
 - c. Name of Chemical.
 - d. Reason for Chemical Application.
 - e. Information informing as to the precautions that must be taken including humans and pets.

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3.7 CLEANUP AND PROTECTION

- A. Do not allow soil and debris created by turf work onto permeable unit paving areas. Promptly clean up any soil or debris on impervious paving areas, such as concrete sidewalk or roadway paving. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Protection of newly planted lawn areas is critical to healthy establishment. Erect temporary protection fencing and warning signs to protect newly planted areas from traffic. Maintain fencing throughout initial maintenance period. Remove protection fencing only after lawn areas have become well established and are able to tolerate regular use. Install temporary protection fencing and signage in accordance with the following:
 - 1. Temporary Protection Fencing
 - a. Fencing shall cordon off the entire perimeter of lawn area to prevent access.
 - b. Fencing shall be supported securely as required to remain erect for duration of site protection. Utilize heavy-duty 12 gauge minimum metal fence posts spaced at 6 to 8 feet on center, or as required. Posts shall be driven into the soil sufficient depth to support fencing against heavy wind load.
 - c. Fencing shall be at least 4-foot high. Secure fencing to posts at the top and bottom and in at least one location in the middle with zip or cable ties. Fencing may also be woven through each post and secured at the top only with a zip tie.
 - 2. Signage: Notification signage shall be brightly colored, laminated and at least 8.5” by 11” format attached to fencing every 10 to 12 feet, including the following information.
 - a. “Please keep off lawn areas. Lawn will be available once protection fencing has been removed.”
- C. If utilized, remove non-degradable erosion-control measures after grass establishment period.

END OF SECTION 329200

Russo Park
32 92 00-9
LAWN AND FINE GRADING