

SECTION 02500

GRADING AND SEEDING

PART 1 – GENERAL

1.01 SCOPE

This specification covers the material, method and inspection required by the Contractor to restore both public and private lawn areas (including City-owned terrace areas and lawn areas that are situated at the back edges of sidewalks, curb and gutters and along driveway approaches. The contractor shall provide all necessary labor, materials and equipment to complete the work as hereinafter specified or as directed by the Engineer.

1.02 DEFINITIONS

- A. Rough Grading – is to mean the work necessary to prepare the subgrade for topsoil application and shall be compatible with the surrounding landscape while making a smooth transition to existing undisturbed conditions.
- B. Subgrade – is to mean that level of earth below the topsoil layer.
- C. Compacted backfill – is to mean a compaction of 95 percent standard proctor density for that material.
- D. Tolerance – is to mean that amount above or below a given line.

PART 2 – MATERIALS

2.01 SELECT BORROW

- A. The Contractor will be required to supply backfill material to bring the work areas within three (3) inches of finished grade. The backfill shall be free of refuse and/or materials detrimental to plant growth. The maximum size of the material shall be one-half (½) inch in the greatest diameter.
- B. Rate of Application: as needed, compacted.

2.02 TOP SOIL MATERIAL

- A. The top soil shall be screened and shall conform to the New York State Department of Transportation Specification Section 713-01 “Top Soil”. The top soil shall be the surface layer of soil with no admixtures, free of refuse and/or any material detrimental to plant

growth. It shall be free of stumps, roots, brush, stones, clay lumps or similar objects no larger than one-half (1/2) inch in the greatest diameter.

- B. Rate of Application: Three (3) inch minimum, compacted.

2.03 SEEDS

- A. The standard of quality shall be as specified in the New York State Department of Transportation Specification 713-04 "Seeds," or as **HEREIN MODIFIED BY CITY ENGINEER. ALL SEED MIX SHALL BE APPROVED BY CITY ENGINEER PRIOR TO PROJECT START-UP. (SEE BELOW).**

Lakeside Sun & Shade Mix:

- 30% Uno Perennial Rye
- 20% Treasure II Chewings Fescue
- 20% Wendy Jean Creeping Red Fescue
- 20% Berkshire Hard Fescue
- 10% Raven Kentucky Blue Grass

Distributed by: Lakeside Sod, Clarence Center, NY

Reliable Mix:

- 50% Blend of Kokomo II, Paragon GLR & Pizzazz Perennial Ryegrass
- 25% Kenblue Kentucky Bluegrass
- 25% Boreal Creeping Red Fescue

Distributed by: Preferred Seed, Buffalo, NY

Kwik Green Mix:

- 50% Blend of Evening Shade, Patriot 4 & Paragon Perennial Ryegrass
- 20% Annual Ryegrass
- 15% Boreal Creeping Red Fescue
- 15% Kenblue Kentucky Bluegrass

Distributed by: Preferred Seed, Buffalo, NY

- B. Seed mix equals to be approved by City Engineer five (5) days prior to bid awarding.
- C. Rate of Application – 7 lbs. per 1000 square feet.

2.04 MULCH

Mulch material shall be straw: stalks of wheat, rye, oats or other approved crops, free from noxious weeds.

Hydro Seeding Mulch:

High grade 70% / 30% paper-wood mulch

Hydro Seeding Tackifier: shall be organic in composition: A non-asphaltic emulsion, psilium-based.

2.05 FERTILIZER

- A. Commercial 21-14-7 complete plant food, part of the elements of which are derived from organic sources. (18-24-12 shall be acceptable when approved by City engineer.)
- B. Rate of Application – 5 to 6 lbs per 1000 square feet.

PART 3 – EXECUTION

3.01 ROUGH GRADING

The Contractor shall grade the subbase, by knocking down high spots and/or by backfilling with approved select borrow material. Any backfill shall be compacted and placed to a grade able to receive top soil as specified. Compaction shall be equal to a 95 percent standard proctor density of material.

3.02 FINAL GRADING

After completion of rough grading, spread and rake approved top soil over the areas designated by the Engineer in charge to a uniform compacted depth of at least three (3) inches to bring to finish grade. All stones and debris in excess of one-half (1/2) inch in diameter shall be removed from area.

3.03 FERTILIZER

Work soil until well pulverized; apply approved fertilizer with a mechanical spreader approved by the Engineer in charge at the rate of 5 to 6 pounds per 1000 square feet, and work into soil.

3.04 METHOD OF SOWING: Hand-held mechanical broadcasting / sowing equipment:

- A. Grass seed shall be sown at the rate specified above and not less than three days after the fertilizer has been applied to the top soil. The seed shall be broadcast by approved sowing equipment in two applications; one-half seed shall be sown while the seeder is traveling at right angles to the first direction.
- B. After sowing has been completed, straw mulch shall be evenly applied over the entire surface of the seeded areas. The straw shall be in a moist condition at the time of placement or shall be sprinkled immediately after placing.
- C. The Contractor shall seed each area as soon as practicable after work thereon has been completed. The Contractor shall maintain the area sown with grass seed until all work under the contract has been completed and accepted by the Owner. The maintenance shall consist of refilling rain washed gullies, reseeding, re-mulching and watering to keep the soil moist and removal of large noxious weeds. The Contractor shall be responsible for maintaining the areas until a stand of grass, free of barren spots and large noxious weeds, is provided and approved by the Engineer.

3.04 METHOF OF SOWING: Hydro Seeding:

- A. Hydro seeding equipment shall be supplied by the contractor. Equipment used for application of slurry shall be commercial-type hydro-seeder and have a built-in agitation system with an operation capacity sufficient to agitate, suspend and homogenously mix the slurry.
- B. Water supply and acquisition thereof shall be the responsibility of the Contractor.
- C. Areas to receive hydro seeding treatments shall include all areas as shown on site plans (City Street maps/project plans) and may include supplemental areas as determined by Owner (City) prior to bid.
- D. The Contractor shall hydro seed each area as soon as practicable after work thereon has been completed. The Contractor shall maintain the hydro seeded area until all work under the contract has been completed and accepted by the Owner. The maintenance shall consist of refilling rain washed gullies, reseeding, re-mulching and watering to keep the soil moist and removal of large noxious weeds. The Contractor shall be responsible for maintaining the areas until a stand of grass, free of barren spots and large noxious weeds, is provided and approved by the Engineer.
- E. All hydro-seeded areas shall be inspected for failures and rescheduled for hydro seeding within the planting season as per recommendations made by City Engineer.
- F. A healthy, actively growing hydro seeded area shall provide at least a 95% coverage with no bare areas greater than 18 inches in diameter.
- G. Hydro Seeding Preparation:
 - 1. The Contractor, unless directed otherwise, shall be responsible for all site work preparation before hydro seeding is approved by City Engineer. All site work preparation shall include but not be limited to the following: Removal of project

construction debris such as large rocks, stones, concrete spoil and asphalt spoil; yolk raking; rough grading (cuts and fills); raking and leveling area to make smooth transition from restored areas to existing lawn areas; and application of screened topsoil. Topsoil shall be compacted and free of clumps.

2. All slurry preparation at the job site. Water, mulch, fertilizer, binder and other ingredients shall be added to the tank simultaneously so that the finished load is a homogenous mix of the specified ingredients.
 3. Seed shall be added last and shall be discharged within 2 hours. Loads held over 2 hours will be recharged with ½ the seed rate before application.
 4. Once fully loaded, the complete slurry shall be agitated for 3-5 minutes to allow for uniform mixing.
- H. All hydro seed applications are to be applied in a sweeping motion to form a uniform application and form a mat at the specific rates.
- I. Hydro Seeding Overspray: Installing Contractor is responsible for washing or otherwise cleaning excess material off all areas not intended to receive treatment. Therefore, avoid overspray onto sidewalks, driveways, streets, lined drainage channels, existing vegetation, fences, landscape yard ornaments/amenities and parked vehicles.
- J. All turf areas and staging areas shall be maintained in a neat and orderly condition. Keep paved area free of soil.

3.05 CLEANUP

A project will not be considered completed until all debris is hauled away and the sidewalk, curb and street are swept clean of dirt to the satisfaction of the engineer.

3.06 INSPECTION

Prior to the application of mulch to the landscaped area, the Contractor's designated superintendent shall notify the Engineer for final inspection. All stones shall be raked, all debris shall have been removed from the site before requesting an inspection. The engineer shall be notified a minimum of four (4) working hours before the mulch is applied. The Contractor's superintendent is to be present during inspection.

END OF SECTION