

## **James Park Athletic Lighting**

## Bid # 21-40

## ADDENDUM No. 1

## **DECEMBER 17, 2021**

Any and all changes to the Contract Document are valid only if they are included by written addendum to all potential respondents, which will be mailed, emailed and/or faxed prior to the proposal due date to all who are known to have received a complete bid document. Each respondent must acknowledge receipt of any addenda by indicating on the Bid Form. Each respondent, by acknowledging receipt of any addenda by addenda, is responsible for the contents of the addenda and any changes to the bid proposal therein. Failure to acknowledge receipt of any addenda may cause the proposal to be rejected. If any language or figures contained in this addendum are in conflict with the original document, this addendum shall prevail.

This addendum consists of the following:

1. Addendum Number One (1) is attached and consists of a total of twenty-one (21) pages including this cover sheet. Any changes to the drawings or specifications noted within Addendum Number One (1) will be reflected in subsequent drawing issues.

Please feel free to call (847-866-2910) or email (<u>lithomas@cityofevanston.org</u>) with any questions or comments.

Sincerely,

Linda Thomas Purchasing Specialist

## James Park Athletic Lighting

## Bid # 21-40

## ADDENDUM No. 1

## **DECEMBER 17, 2021**

This addendum forms a part of the Specifications and Bid Documents for Bid #21-40 and modifies these documents. This addendum consists of the following:

### **Specifications**

1. Bid Opening Date – the bid opening date has been extended. The revised bid opening date is:

2:00 P.M., Tuesday, January 11, 2022

As a result of this date change, the deadline for contractor questions is December 30, 2021 and the last date of addendum issuance is January 4, 2022.

- 2. Bid Form replace the bid form provided in the original bid documents with the attached update.
- 3. Section 01 01 00 replace the section provided in the original bid documents with the attached update.
- 4. Section 32 92 00 add the attached specification which clarifies restoration requirements.

Note: Acknowledgment of this Addendum is required in the Bid.

EXHIBIT A – BID FORM For James Park Athletic Lighting

(BID #21-40)

1.01 BID TO:

# THE CITY OF EVANSTON

2100 Ridge Avenue Evanston, Illinois 60201

Hereinafter called "OWNER".

1.02 BID FROM:

(Hereinafter call "BIDDER")

Address

**Telephone Number** 

Fax Number

#### 1.03 BID FOR: JAMES PARK ATHLETIC LIGHTING

### 1.04 ACKNOWLEDGEMENT:

A. The Bidder, in compliance with the Invitation for Bids, having carefully examined the Drawings and Project Manual with related documents and having visited the site of the proposed Work, and being familiar with all of the existing conditions and limitations surrounding the construction of the proposed project, including the structure of the ground, subsurface conditions, the obstacles which may be encountered, local restrictions, and all other relevant matters concerning the Work to be performed, hereby PROPOSES to perform everything required to be performed, and to provide all labor, materials, necessary tools and equipment, expendable equipment, all applicable permits and taxes and fees,

EXHIBIT A

and provide all utility and transportation services necessary to perform and complete in a workmanlike manner the Project in accordance with all the plans, specifications and related Contract Documents as prepared by the City of Evanston.

B. The undersigned hereby acknowledges receipt of Invitation of Bids, Instruction to Bidder, the Project Manual, Drawings, and other Contract Documents and acknowledges receipt of the following Addenda:

Addendum No.	 Dated	
Addendum No.	 Dated	
Addendum No.	 Dated	

### 1.05 GENERAL STATEMENTS

- A. The undersigned has checked all of the figures contained in this proposal and further understands that the Owner will not be responsible for any errors or omissions made therein by the undersigned.
- B. It is understood that the right is reserved by the Owner to reject any or all proposals, to waive all informality in connection therewith and to award a Contract for any part of the work or the Project as a whole.
- C. The undersigned declares that the person(s) signing this proposal is/are fully authorized to sign on behalf of the named firm and to fully bind the named firm to all the conditions and provisions thereof.
- D. It is agreed that no person(s) or company other than the firm listed below or as otherwise indicated hereinafter has any interest whatsoever in this proposal or the Contract that may be entered into as a result thereof, and that in all respects the proposal is legal and fair, submitted in good faith, without collusion or fraud.
- E. It is agreed that the undersigned has complied and/or will comply with all requirements concerning licensing and with all other local, state and national laws, and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him, and/or in the prosecution of the Work required hereunder.
- F. To be considered a bona fide offer, this proposal must be completed in full and accompanied by a bid deposit or a bid bond when required by Contract Documents or Addenda.

### 1.06 ALTERNATES

A. When alternate proposals are required by Contract Documents or Addenda thereto, the undersigned proposes to perform alternates for herein stated additions to or deductions from hereinbefore stated Base Bid. Additions and deductions include all modifications of Work or additional Work that the

EXHIBIT A

undersigned may be required to perform by reason of the acceptance of alternates.

- 1.07 ALLOWANCE
  - A. The allowance is intended to address items not able to be precisely determined prior to bidding including unforeseen conditions that are discovered during the course of construction. At the end of the project, unspent allowance shall be credited to owner via change order. See Section 01 21 00 Allowances for additional information.

### 1.08 AGREEMENT

- A. In submitting this Bid, the undersigned agrees:
  - 1. To hold this Bid open for sixty (60) days from submittal date.
  - 2. To enter into and execute a Contract with the Owner within ten (10) days after receiving Notice of Award from the Owner.
  - 3. To accomplish the work in accordance with the Contract Documents.
  - 4. To complete the work by the time stipulated in the General Conditions
- B. The Owner reserves the right to reject any and all Bids and to waive any informalities in Bidding.
- 1.09 SCHEDULE
  - A. See General Conditions for required schedule of completion dates.

### 1.10 PROPOSED PRICES

A. The Bidder hereby proposes to furnish all labor, materials, equipment, transportation, construction plant and facilities necessary to complete, in a workmanlike manner and in accordance with the contract documents, the contract of work bid upon herein for compensation in accordance with the following prices:

BASE BID AMOUNT:	\$ 
ALLOWANCE (ADDITIONAL WORK – GENERAL):	\$ +25,000
TOTAL BASE BID AMOUNT:	\$ 

### ALTERNATE 1 – TENNIS COURT LIGHTING SYSTEM

This work includes the complete installation of athletic and security lighting at James Park's six tennis courts as described in the bid documents. The ADD/DEDUCTLUMP SUM PRICE, if awarded to the undersigned, shall be:

### ALTERNATE 1 AMOUNT:

\$\_\_\_\_\_

### **ALTERNATE 2 – DIRECTIONAL BORING**

This work includes the installation of all underground conduit via directional boring in lieu of open trenching as described in the bid documents. The ADD/DEDUCTLUMP SUM PRICE, if awarded to the undersigned, shall be:

### ALTERNATE 2 AMOUNT:

\$\_\_\_\_\_

### ALTERNATE 3 – ELECTRICAL NON METALLIC CONDUIT (PVC)

This work includes the use of PVC in lieu of rigid steel for all underground conduit. Junctions where change in direction occurs (such as 90 degree bends and steel stubs up to poles and power centers) shall remain rigid steel. PVC burial depth shall meet NEC requirements but not exceed 24" depth. Backfill around PVC conduit shall be clean, compacted fill such as CA-7. The ADD/DEDUCT LUMP SUM PRICE, if awarded to the undersigned, shall be:

### ALTERNATE 3 AMOUNT:

\$\_\_\_\_\_

### 1.11 BID SECURITY

If required by the bid documents, a scanned copy of the bid bond must be included with the bid electronic submission. The City is currently not able to accept a certified check, bank cashier's check or electronic bid bond at this time.

- A. The City of Evanston Civic Center is unable to receive in person drop-off and it is closed to the public. The original bid bond must be mailed within ten (10) days after the due date, to the City of Evanston Purchasing Department, 2100 Ridge Avenue Room 4200 Evanston, Illinois 60201 Attention Purchasing Manager using the USPS (certified or priority), UPS or FedEx mail options in order to have a tracking number.
- B. Accompanying this electronic submittal is a scanned copy of a bank draft, bid bond, Cashier's check or Certified check as surety in the amount of not less than five percent (5%) of the Total Bid payable to the City of Evanston.

The amount of the check or draft is: \$\_\_\_\_\_

If this bid is accepted and the undersigned shall fail to execute a contract and contract bond as required it is hereby agreed that the amount of the check or draft or bidder's bond substituted in lieu thereof, shall become the property of the City and shall be considered as payment of damages due to delay and other causes suffered by the City because of the failure to execute said contract and contract bond; otherwise said check or draft shall be returned to the undersigned.

In the event that one check or draft is intended to cover two or more bids, the amount must be equal to the sum of the project proposal guarantees of the individual sections covered.

If the check or draft is placed on another project proposal, state below where it may be found, as follows: The check or draft will be found in the project proposal for:

### 1.12 PERFORMANCE/PAYMENT BOND

The undersigned bidder agrees to provide Performance Bond and Payment Bond executed in accordance with Contract Performance Bond form furnished by and acceptable to the Owner written with \_\_\_\_\_\_

in the amount of 100% of the Contract Sum (Total Base Bid and all accepted alternatives and adjustments) the cost of which is included in the Bid.

Cost of bond for change order is \_\_\_\_\_\_ percent of change order cost.

### 1.13 LIQUIDATED DAMAGES

The undersigned Bidder understands and agrees to the provisions stated under "LIQUIDATED DAMAGES" in the General Conditions and shall be assessed at the specified daily rate for each calendar day or partial calendar day until completion as defined herein.

### 1.14 MATERIAL SUBSTITUTION SHEET

The following is a schedule of substitute materials I propose to furnish on this job, with the difference in price being added to or deducted from the Base Bid. The Base Bid is understood to include only those items which are definitely specified by trade names or otherwise.

I understand that if no price difference is indicated, then the selection of materials is optional with the Owner, and approval or rejection of the substitution below will be indicated prior to signing of Contracts.

PRODUCT NAME AND/OR MANUFACTURER	ADD	<u>DEDUCT</u>

A.	SOLE PROPRIETOR Signature of Bidder:		
	SUBSCRIBED AND SWORN to before me this day of, 20		
	Notary Public		
	Commission Expires:		
В.	PARTNERSHIP Signature of All Partners:		
	Name (typed or printed)		
	Name (typed or printed)		
	SUBSCRIBED AND SWORN to before me this day of, 20 Commission Expires:		
	Notary Public		
C.	CORPORATION Signature of Authorized Official:		
	Title:		
	Name above (typed or printed):		
	(If other than the president, attach a certified copy of that section of corporate by-laws or other authorization by the Corporation which permits the person to execute the offer for the Corporation.)		
	(Corporate Seal)		
	Attest: Secretary		
	SUBSCRIBED AND SWORN to before me this day of, 20		
	Commission Expires:		
	Notary Public		

### 1.16 DISCLOSURE

A. The undersigned duly sworn deposes and says on oath that the bidder has withheld no disclosures of ownership interest and the information provided herein to the best of its knowledge is current and said undersigned has not entered into any agreement with any other bidder or prospective bidder or with any other person, firm or corporation relating to the price named in said proposal or any other proposal, nor any agreement or arrangement under which any person, firm or corporation is to refrain from bidding, nor any agreement or arrangement for any act or omission in restraint of free competition among bidders and has not disclosed to any person, firm or corporation the terms of this bid or the price named herein.

Bidder:	
Business Address:	
Telephone Number:	

### 1.17 CONTACTS

A. In the event the Evanston City Council approves this bid response, list the name, address, telephone, and fax number of the person to be contacted:

Bidder:		
Address:		

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

## 1.18 REFERENCES

A. Provide three (3) references for which your firm has completed work of a similar scope in the past.

1.	Name:
	Address:
	Contact Person:
	Phone:
	Contract Value:
	Contract Dates:
2.	Name:
	Address:
	Contact Person:
	Phone:
	Contract Value:
	Contract Dates:
3.	Name:
	Address:
	Contact Person:
	Phone:
	Contract Value:
	Contract Dates:

#### SECTION 01 01 00

#### SUMMARY OF WORK

#### PART 1 – GENERAL

#### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project Manual and accompanying drawings are intended to cover the work necessary to construct the various headings of work as described in detail herein.
- B. The work to be performed under this contract shall consist of the furnishing of all materials, equipment, supplies, labor and transportation, and performing all work as required to strictly conform to the provisions of the specifications, schedules and drawings, all of which are made a part herein, together with such detail drawings as may be furnished by the Owner from time to time during the prosecution of the work in amplification of said drawings and specifications.

#### 1.2 RELATED WORK

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all other Divisions of the Project Manual, apply to this section.

#### 1.3 CONTRACT ORGANIZATION

A. This Construction Project is organized under a single contract between the Owner and the Contractor. The Contractor is responsible for all plans and specification sections as presented in this project manual.

#### 1.4 WORK SEQUENCE

- A. All work and sequence of operations shall be as scheduled in conjunction with all subcontractors, and the Owner in such a manner as not to hinder or delay any other contractors in the progress of their work, and to an end that will expedite the work to completion at the earliest possible date.
- B. Both Contractor and Subcontractor shall cooperate to execute their work as scheduled to minimize the delays to each other and to cause the least inconvenience to the Owner and the public.

#### 1.5 CONTRACTORS' USE OF PREMISES

- A. The Contract shall limit his use of the premises for work and for storage to allow for:
  - 1. Work by other contractors
  - 2. Owner occupancy
  - 3. Public use
- B. Coordinate the use of the premises under direction of the Owner. Stage work so as to avoid disruption to Owner's operation.
- C. Assume full responsibility for the protection and safekeeping of products under this Contract, which are stored at the project site or on the Contractor's property.

- D. Move any stored products, under Contractor's control, which interfere with operation of the Owner or separate contractor.
- E. Obtain and pay for the use of additional storage or work areas needed for operations.

#### 1.6 OWNER OCCUPANCY

- A. The Owner and public will occupy the entire park site during construction.
- B. The City and the public will maintain 24 hour access to all areas of the property at all times.

#### 1.7 LINES, LEVELS AND LAYOUT OF WORK

A. The Contractor shall establish and guarantee all lines, levels, etc. called for on the drawings, including the lines, levels, etc. of all Subcontractors.

#### 1.8 DESCRIPTION OF SITE

A. The 45.6 acre site is a City of Evanston public park bounded by Oakton Street to the north, the CTA Purple Line to the south, Dodge Avenue to the east and a PACE Bus facility to the west. The existing site contains mature trees, lawn, recreation areas, two recreation buildings, a sled hill, and two parking lots.

#### 1.9 WORK HOURS

A. Work hours are 7:00 am to 7:00 pm, Monday through Friday and 8:00 am to 5:00 pm on Saturday. No work is allowed on Sundays. Access to the site will not be allowed outside of normal work hours.

#### 1.10 CONTRACTOR'S DUTIES

- A. Except as specifically noted, provide and pay for:
  - 1. Labor, materials and equipment.
  - 2. Tools, construction equipment and machinery
  - 3. Water, heat, and utilities required for construction or the Contractor's operations.
  - 4. Other facilities and services necessary for proper execution and completion of work, including traffic control and temporary work.
- B. Promptly submit written notice to the Owner of any observed variance of the Contract Documents from legal requirements. It is not the Contractor's responsibility to make certain that the Drawings and Specifications comply with codes and regulations.
  - 1. Appropriate modifications to the Contract Documents will adjust the necessary changes.
  - 2. The Contractor shall assume responsibility for work known to be contrary to such requirements, and performed without such notice.
- C. Enforce strict discipline and good order among employees. Do not employ on work:

#### JAMES PARK ATHLETIC LIGHTING CITY OF EVANSTON ADDENDUM 1

- 1. Unfit persons
- 2. Persons not skilled in assigned task
- D. Existing Conditions
  - 1. The Contractor shall be responsible for obtaining and verifying all dimensions. Any dimension give in the Drawings referring to existing construction were taken from the original construction documents and are provided for information only.
  - 2. Where conditions are uncovered that are not anticipated by the Drawings and Specifications, the Contractor shall notify the Engineer and Owner's Representative immediately, before any modification or other work is initiated.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION 01 01 00

#### SECTION 32 92 00

#### TURF AND GRASSES

#### 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. Seeding
  - 2. Fertilizing

#### 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. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include 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. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Section 32 91 13 "Soil Preparation" and drawing designations for planting soils.
- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- F. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

#### 1.4 REFERENCE STANDARDS

A. ASTM C602 - Standard Specification for Agricultural Liming Materials; 2013a.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, Fabricator, Manufacturer and Testing agency.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and

percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

- C. Product Certificates: For fertilizers, from manufacturer.
- D. Warranty: Written Manufacturer's warranty
- 1.6 DELIVERY, STORAGE, AND HANDLING
  - A. Protect materials against weather-related damage or other injuries occurring during transit and job storage in such manner that their effectiveness will not be impaired.
  - B. Deliver fertilizer to site in unopened, original containers, each bearing name and address of manufacturer, name brand, or trademark, and manufacturer's guaranteed analysis. Do not use fertilizer which becomes caked or otherwise damaged. Do not expose fertilizer to weather prior to delivery on site and after delivery until used. Protect fertilizer and do not store in direct contact with ground.
  - C. Deliver products to achieve the shortest duration of storage time as practicable.
  - D. Protect and maintain during transit or storage on-site as necessary to ensure vigorous growth after placement.
  - E. Inform Landscape architect 24 hours in advance of laying of seed. Each shipment shall be accompanied by an invoice from vendor giving quantity and certifying that seed received meets requirements as contained in these specifications, together with analysis of seed. Provide copy of invoice to Architect/Engineer of Record upon delivery of seed.
  - F. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.

#### 1.7 PROJECT CONDITIONS

- A. Planting Season for Seed Installation: March 15 to June 15 OR August 15 to November 15.
  - 1. Weather conditions within season shall govern actual planting periods.
  - 2. Seasons may be extended upon approval by Landscape Architect, however, such time extensions shall not change Contractor's responsibility for establishing healthy appearing and vigorous growing turf.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

#### PART 2 - PRODUCTS

- 2.1 SEED
  - A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
  - B. Seed Species:

#### JAMES PARK ATHLETIC LIGHTING

CITY OF EVANSTON ADDENDUM 1

- 1. Quality: State-certified seed of grass species as listed below for solar exposure.
- 2. Quality: Seed of grass species as listed below for solar exposure, with not less than 85 percent germination, not less than 95 percent pure seed, and not more than 0.5 percent weed seed:
- 3. Full Sun: Kentucky bluegrass (Poa pratensis), a minimum of three cultivars.
- 4. Sun and Partial Shade: Proportioned by weight as follows:
  - a. 50 percent Kentucky bluegrass (Poa pratensis).
  - b. 30 percent chewings red fescue (Festuca rubra variety).
  - c. 10 percent perennial ryegrass (Lolium perenne).
  - d. 10 percent redtop (Agrostis alba).
- 5. Shade: Proportioned by weight as follows:
  - a. 50 percent chewings red fescue (Festuca rubra variety).
  - b. 35 percent rough bluegrass (Poa trivialis).
  - c. 15 percent redtop (Agrostis alba).
- C. Fertilizer: Prior To Seeding (6-24-24); recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:
  - 1. Nitrogen: 6 percent.
    - a. One-quarter of nitrogen shall be in form of nitrates, one-quarter in form of ammonia salts, and one-half in form of organic nitrogen.
  - 2. Phosphoric Acid: 24 percent.
    - a. Available phosphoric acid shall be derived from super-phosphate having minimum guaranteed analysis of 20% available phosphate or bone meal.
  - 3. Soluble Potash: 24 percent.
    - a. Potash shall be in form of sulphate of potash.
  - 4. Make up balance of fertilizer of nonharmful materials normally present in such product and free from dust, sticks, sand, stone or other harmful debris.
- D. Fertilizer: After Seeding (18-5-9); recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:
  - 1. Nitrogen: 18 percent.
  - 2. Phosphoric Acid: 5 percent.
  - 3. Soluble Potash: 9 percent.
- E. Limestone: ASTM C602, class T agricultural limestone containing a minimum 80% total carbonates, by weight. Limestone shall be graded within following limits: 99% passing Sieve Size No 8; 75 % passing Sieve Size No 60.
- F. Aluminum Sulfate: Commercial grade, unadulterated and delivered in containers with material and manufacturer, names and weight of contents.

G. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass. Existing water supply from hose bibs at the project building may be used for all planting operations. Provide hose and equipment necessary for proper watering of plant material.

#### 2.2 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- C. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
- D. The use of plastic netting is prohibited.

#### 2.3 IMPORTED TOPSOIL

- A. Imported Topsoil definition: Fertile, friable soil containing less than 5% total volume of the combination of debris including subsoil, refuse, roots larger than 1 inch diameter, heavy or stiff clay, stones larger than 2 inches in diameter, noxious seeds, sticks, brush, litter, or any substances deleterious to plant growth. The percent (%) of the above objects shall be controlled by source selection not by screening the soil.
- B. Topsoil shall be suitable for the germination of seeds and the support of vegetative growth. Imported Topsoil shall not contain weed seeds in quantities that cause noticeable weed infestations in the final planting beds. Imported Topsoil shall meet the following physical and chemical criteria:
  - 1. Soil texture: USDA loam, sandy clay loam or sandy loam with clay content between 15 and 40%. And a combined clay/silt content of no more than 75%.
  - 2. pH value shall be between 5.5 and 7.5.
  - 3. Percent organic matter (OM): 2.0-8.0%, by dry weight.
  - 4. Soluble salt level: Less than 2 mmho/cm.
  - 5. Soil chemistry suitable for growing the plants specified.
  - 6. Imported Topsoil shall not contain quack-grass rhizomes, Agropyron Repens, and the nutlike tubers of nutgrass, *Cyperus Esculentus,* and all other primary noxious weeds seeds in quantities that cause noticeable weed infestations in the final planting beds.
- C. Imported Topsoil shall be a harvested soil from fields or development sites. The organic content and particle size distribution shall be the result of natural soil formation. Manufactured soils where Coarse Sand, Composted organic material or chemical additives has been added to the soil to meet the requirements of this specification section shall not be acceptable. Retained soil peds shall be the same color on the inside as is visible on the outside.

#### PART 3 - EXECUTION

#### 3.1 EXAMINATION

A. Verify location of underground utilities with appropriate sources. Contact J.U.L.I.E. at least 48 hours before commencing with construction. Repair damaged utilities.

- B. Verify that prepared soil base is ready to receive the work of this section. Do not begin site preparation until boulders, debris, and similar materials have been removed; depressions and ruts filled; and entire area has been shaped, trimmed and finished uniformly to lines, grades, and cross-sections shown on drawings.
- C. Confirm that no adverse drainage conditions are present.
- D. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of sub-grade and the Contractor will be held responsible for the satisfactory execution and results of the finished work.

#### 3.2 PREPARATION

- A. Protect existing property and improvements within this site and adjacent property.
  - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
  - 2. Protect grade stakes set by others until directed to remove them.
- B. Place topsoil to a depth of 6 inches in all areas to be restored. Compact each lift to the extent necessary to prevent settlement.
- C. Finish Grading:
  - 1. Provide smooth continual grades without dips and pockets where water may stand.
  - 2. Correct surface irregularities produced by preceding operations or by any other cause.
  - 3. Finish grades and earth mounds shall be approved by Landscape Architect prior to lawn construction.
- D. Tilling:
  - 1. Prepare areas to depth of approximately 3 in. by disking, harrowing or other approved means.
  - 2. Areas shown on drawings which are too small to make these operations practicable shall receive special scarification prior to final tilling.
  - 3. Continue tilling until soil condition is suitable for lawn construction.
  - 4. After completion of tilling operations, clear surface of stones, stumps, roots, brush, wire, grade stakes, construction materials, and other objects which hinder planting, installation, and maintenance operations.
- E. Keep adjacent paved areas clean.

#### 3.3 FERTILIZING

- A. Apply fertilizer per manufacturer instructions.
- B. Apply after smooth raking of topsoil and prior to installation of seed.
- C. Apply fertilizer with mechanical spreader no more than 48 hours before hydroseeding. Spread uniformly in two passes at right angles to each other.
- D. Mix thoroughly into upper 2 inches of topsoil by disking, harrowing or other methods which produce similar results.
- E. Lightly water to aid the dissipation of fertilizer.

#### 3.4 SEEDING

- A. Hydroseeding: Mix specified seed, slow-release fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
  - 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
  - 2. Spray-apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre (15.6-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
  - 3. Spray-apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre (5.2-kg/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre (10.4 kg/92.9 sq. m).
- B. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre (42 kg/92.9 sq. m) to form a continuous blanket 1-1/2 inches (38 mm) in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
  - 1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
  - Bond straw mulch by spraying with asphalt emulsion at a rate of 10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m). Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- C. Protect seeded areas from hot, dry weather or drying winds by applying planting soil within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch (4.8 mm), and roll surface smooth.

#### 3.5 TURF RENOVATION

- A. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment, trenching operations, excavation, and movement of vehicles.
  - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
  - 2. Install new planting soil as required.
- B. Remove lawn and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- C. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
- D. Mow, dethatch, core aerate, and rake existing turf.
- E. Remove weeds before seeding by hand. Do not use herbicides.
- F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches (150 mm).

- H. Apply soil amendments and initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches (100 mm) of topsoil. Install new planting soil to fill low spots and meet finish grades.
- I. Apply seed and protect with straw mulch as required for new turf.
- J. Water newly planted areas and keep moist until new turf is established.

#### 3.6 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
  - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
  - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: keep turf uniformly moist to a depth of 4 inches (100 mm).
  - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
  - 2. Water turf with fine spray at a minimum rate of 2 inch (50 mm) per week during establishment unless rainfall precipitation is adequate.
- C. Mowing: The contractor shall cut grass starting when the grass becomes 3-inches high, and once a week thereafter, or as often as necessary to maintain the grass height at 3", without removing more than 1/3 of the leaf blade at any cutting.
  - 1. Included in the cutting of grass shall be the cutting and trimming required around trees, drainage structures, curbs and all areas that grass abuts, as required or directed by the engineer.
  - 2. The contractor shall maintain a height of not less than 3 inches.
  - 3. The contractor shall be responsible for at least three cuttings prior to final inspection.
- D. Turf Postfertilization: Apply slow-release fertilizer after initial mowing and when grass is dry.
  - 1. Use fertilizer that provides actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to turf area.

#### 3.7 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Landscape Architect:
  - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm).

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

#### 3.8 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established. "NEWLY SEEDED" or other appropriate approved warning placards shall be posted until all work under the contract is completed and accepted.
- D. Remove nondegradable erosion-control measures after grass establishment period.

#### 3.9 MAINTENANCE

- A. The contractor shall supply water from his own source at no extra expense to the Owner. The contractor shall furnish the hose and proper equipment for watering purposes.
- B. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.
- C. Neatly trim edges and hand clip where necessary.
- D. Immediately remove clippings after mowing and trimming.
- E. Water to prevent grass and soil from drying out.
- F. Fertilize after completion of second mowing with 15 lbs of active ingredients per 1,000 sq ft. Use mechanical spreader to spread uniformly in two passes at right angles to each other.
- G. Immediately replace lawn to areas that show deterioration or bare spots.
- H. Protect seeded areas with warning signs during maintenance period.
- I. Repair damage created by operations prior to Preliminary Acceptance.
- J. Final Acceptance will be granted upon conformance with following:
  - 1. Turf shall be reasonably free from weeds, diseases, or other visible imperfections.
  - 2. Turf shall display uniform color, quality, and coverage.
  - 3. Performed three mowings.
  - 4. Performed fertilizing operation after mowing.

#### END OF SECTION