

**TENNIS COURT REHABILITATION  
WINDSOR HIGH SCHOOL  
WINDSOR, CT**

**ADDENDUM NO.1**

**April 14, 2020**

**ADDITIONS AND REPLACEMENTS:**

**Bid documents have been revised to include an additional bid alternate for replacement of existing lighting system matching existing locations and pole height (35 feet). Bid Alternate No. 1 remains unchanged except to specify that maximum pole height is 50 feet. The Town will select either Add Alternate No. 1 or Add Alternate No. 2 based on Planning and Zoning approvals to be determined before the Notice to Proceed is issued.**

**REPLACE: Project Requirements (Pages 4-6)**

**Revised** Bid Alt No. 1:

*1. e. Maximum fixture height of 50 feet.*

**Add** Bid Alt No. 2:

- 1. Furnish and install new LED tennis court lighting.
  - a. R&D existing tennis court light pole, fixtures, and concrete bases.*
  - b. Provide an LED lighting system that:
    - i. provides a minimum of 50-ft (max. output) candle over entire playing surface.*
    - ii. can be remote controlled through use of cellular phone/tablet applications.*
    - iii. is dimmable and have a min. 3 light level options.**
  - c. Furnish and install one (1) waterproof dual gfci electrical outlet per light pole base.*
  - d. Provide all necessary conduit, cable and electrical connections as needed for new lighting system.*
  - e. Maximum fixture height of 35 feet (match existing height and location).*
  - f. Light pole locations shall match existing.**

**REPLACE: Bid Proposal Form (Pages 7-12)**

**Revised** Add Alternate Bid Items to include Bid Alt. No. 2

**Revised** Bid Schedule of Values to include Bid Alt. No. 2

**REPLACE: Technical Specification 500: Tennis Court Lighting (Page 158 - 161)**

**Revised** 1.2B Mounting Heights to differentiate between Bid Alt. No. 1 and 2.

**QUESTIONS FROM CONTRACTORS/SUBCONTRACTORS AND CORRESPONDING ANSWERS:**

**None.**

**Attachments**

1. RFP Submittal Requirements (4 pages)
2. Bid Proposal (6 pages)
3. Technical Specification 500 (4 pages)

## **Windsor High School Tennis Court Reconstruction**

**50 Sage Park Road**

**Windsor, Connecticut 06095**

**March 2020**

### **RFP Submittal Requirements:**

- ASBA Certified Tennis Court Builder certification
- Post-Tensioning Institute certification
  - PTI Level 1 Certification documentation
- Minimum Five (5) comparable project references with owner contact information
- Narrative describing project approach
- Construction schedule identifying critical steps and project milestones
- Proposed design and project components
- Identify any subcontractors
- Identify any substitutions, alternative construction methods, voluntary upgrades etc.
- Total project cost Base-Bid
- Total project cost Bid Alternate

### **Base Bid:**

1. Provide submittals for all project components for review and approval by Owner.
2. Mobilization
3. Existing Conditions Survey
4. Site Protection
  - a. It shall be the Contractor's responsibility to secure the project site and all equipment throughout the duration of construction activities.
  - b. Protect existing light poles to remain.
5. Install Sediment & Erosion (S&E) Controls
  - a. S&E controls shall be installed and maintained as needed to protect all existing storm drainage systems, athletic fields and parking lots adjacent to the project site from potential runoff contamination throughout the duration of construction activities.
6. Demolition & Disposal
  - a. R&D all chain link fence including chain link fabric, posts, rails, hardware, and concrete footings.
  - b. R&D all tennis net posts, center strap anchors and concrete footings.
  - c. Remove acrylic and bituminous concrete tennis court surfacing.
    - i. Surface may be milled and reclaimed for reuse on new courts.
  - d. R&D bituminous concrete walkways from adjacent parking lot to courts.
7. Proposed Improvements:

- a. Design and install six (6) post-tensioned (PT) concrete tennis courts.
  - i. Courts shall meet or exceed ASBA and PTI construction guidelines.
  - ii. Courts sized per ASBA/USTA/NFHS regulation dimensions.
  - iii. Courts shall have a minimum 0.83% and maximum 1.0% cross-pitch in a single direction.
  - iv. Maximum three (3) courts per PT concrete slab.
  - v. PT concrete slab shall be a min. of 5" thick.
  - vi. PT concrete slab shall have a min. 8" thick haunch at the perimeter.
  - vii. Submit PT cable drawings and details signed and sealed by a licensed CT professional engineer.
  - viii. Install a 3-coat color acrylic (non-cushioned) tennis court surfacing.
  - ix. Courts shall be two color (from vendor's standard color choices) with white painted lines.
  - x. Furnish and install new tennis net posts.
    - 1. 2-7/8" OD round 8-gauge steel post, with welded lacing rods, die-cast zinc caps and gear housings, baked on polyester powder coat finish, color: black. Gears shall be stainless steel. Posts shall be installed in ground sleeves. Provide ground sleeve caps for when posts are removed.
  - xi. Furnish and install new center strap anchors.
    - 1. Anchors shall be 1-5/8" diameter, 12" long steel tubing and include an attaching pin at the open end.
  - xii. Furnish and install new net and center straps.
    - 1. The net shall have double headband of 24 ounce per square yard vinyl-coated polyester, 3-millimeter netting braided polyethylene with side pockets with dowels. The cable shall be vinyl-coated minimum breaking strength of 2,000 pounds. Net shall have min. 4-year limited warranty.
    - 2. Center strap shall be 100% polyester with double stitched seams and heavy-duty, non-corrosive steel zinc buckles and solid brass grommets.
- b. Furnish and install new 10' height chain link fence and gates not integral to the PT concrete slab.
  - i. There shall be six (6) 4' wide by 7' tall single lockable swing gates.
  - ii. There shall be one (1) 10' wide full height dual swing gate.
  - iii. All fencing, gate framework, fabric and hardware shall have a Class 2b thermally fused and bonded PVC color coating, color: black.
  - iv. All framework shall be fabricated utilizing Schedule 40 pipe min.
    - 1. Posts shall be 3" diameter min.
    - 2. Rails and mid-rails shall be 1-5/8" diameter min.
    - 3. Gate Frame Works shall be 2"diameter min.

- v. Chain link fabric shall be 9-gauge core and have a 1-3/4" mesh size.
- vi. All gate hinges shall be commercial grade and restrict gates from swinging into the courts.
- c. Reconstruct three (3) 5' wide concrete walkways connecting the new tennis courts to the existing parking lot.
  - i. Concrete walk construction shall conform to the Town of Windsor engineering department design standards.
  - ii. Walks shall have a maximum running slope of 5.0%.
  - iii. Walks shall have a maximum cross slope of 2.0%.
  - iv. Provide score joints for every 5' linear feet of walk.
  - v. Walks shall have detectable warning strips located on the parking lot end, starting 6" from the end of the walk. Detectable warning strips shall be 4' wide by 2' deep.
- 8. Site Restoration
  - a. Restore all adjacent lawn and parking areas to original condition.
- 9. Provide a post-construction as-built survey of all new improvements.
  - a. Provide both paper and electronic (.dwg and .pdf) copies of the survey to the Owner.

**Bid Alt No. 1:**

- 1. Furnish and install new LED tennis court lighting.
  - a. R&D existing tennis court light pole, fixtures, and concrete bases.
  - b. Provide an LED lighting system that:
    - i. provides a minimum of 50-ft (max. output) candle over entire playing surface.
    - ii. can be remote controlled through use of cellular phone/tablet applications.
    - iii. is dimmable and have a min. 3 light level options.
  - c. Furnish and install one (1) waterproof dual gfci electrical outlet per light pole base.
  - d. Provide all necessary conduit, cable and electrical connections as needed for new lighting system.
  - e. Maximum fixture height of 50 feet.

**Bid Alt No. 2:**

- 1. Furnish and install new LED tennis court lighting.
  - a. R&D existing tennis court light pole, fixtures, and concrete bases.
  - b. Provide an LED lighting system that:
    - i. provides a minimum of 50-ft (max. output) candle over entire playing surface.

- ii. can be remote controlled through use of cellular phone/tablet applications.
  - iii. is dimmable and have a min. 3 light level options.
- c. Furnish and install one (1) waterproof dual gfcı electrical outlet per light pole base.
- d. Provide all necessary conduit, cable and electrical connections as needed for new lighting system.
- e. Maximum fixture height of 35 feet (match existing height and location).
- f. Light pole locations shall match existing.

**BID PROPOSAL**

To: Mr. James Bourke  
Director of Finance  
Town of Windsor  
275 Broad Street  
Windsor, CT 06095

Proposal of:

Contractor Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, Zip Code \_\_\_\_\_

Having carefully examined the Specifications, including the Information for Bidders, General Conditions, Special Conditions, Technical Provisions and Drawings for the various categories of work, the undersigned hereby proposes to complete the below listed work for the lump sum and unit prices for the work in place for the following items and quantities listed under each category of work. In case of discrepancy, the amount shown in words will govern.

The Town of Windsor reserves the right to eliminate from the contract any of the Bid Items of work shown on the bid form in the event it deems it to be in the best interest of the Town. Items with quantities bid as non lump sum will be paid at the unit bid price submitted whether or not the quantity used differs from the Estimated Quantity by any amount, significant or otherwise.

The undersigned further declares that the bidder is:

- a. A CORPORATION organized under the laws of the State of having its principal office at

\_\_\_\_\_

The principal officers of said corporation with their respective titles and address are as follows:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- b. A LLC organized under the laws of the State of having its principal office at

\_\_\_\_\_

The principal officers of said corporation with their respective titles and address are as follows:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- c. A PARTNERSHIP consisting of the following individuals (with their addresses).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- d. An INDIVIDUAL, by the name of \_\_\_\_\_ and doing business as

\_\_\_\_\_

The bidder is required to state below what work of a similar character to that included in the proposed contract he/she has done and give reference that will enable the Town to judge his experience, skill and business standing. Minimum of five (5) comparable project references are required.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



The bidder is required to give a brief description of the plan and general methods proposed for carrying on the work indicating there in whether the plan and equipment are owned or to be hired by the bidder.

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**BID PRICES**

**INSTRUCTIONS:** Bidder is to write his lump sum bid price in words in the blank spaces provided at the end of the description.

The Bidder is advised that the description is only a summary. The lump sum bid shall include all of the items as specified in detail in the contract document.

In case of discrepancies between amounts shown in words and amount shown in figures, BIDDER agrees that amounts shown in words will govern.

**BID SCHEDULE**

**BIDDER'S NAME:**

\_\_\_\_\_

**PROPOSAL NUMBER:**

\_\_\_\_\_

**LUMP SUM BASE PRICE BID**

Pursuant to and in full compliance with the solicitation, the undersigned bidder, having visited the site or property if applicable, and having thoroughly examined each and every document comprising the solicitation, including any addenda, hereby offers and agrees as follows:

To provide the products and/or services specified in, and upon the terms and conditions of, the solicitation for the total sum of \_\_\_\_\_  
\_\_\_\_\_/100 Dollars (write out in words) (\$ \_\_\_\_\_).

**ADD ALTERNATE BID ITEMS:**

No. 1 LED Tennis Court Lighting System

Lump Sum Price of:

\_\_\_\_\_  
Written Figures and No/100 Cents

\_\_\_\_\_  
Dollars

No. 2 LED Tennis Court Lighting System

Lump Sum Price of:

\_\_\_\_\_  
Written Figures and No/100 Cents

\_\_\_\_\_  
Dollars

The following addenda for this contract were received:

<u>Addendum Number</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____

Dated at \_\_\_\_\_, \_\_\_\_\_  
(Town) (State)

This \_\_\_\_\_ day of \_\_\_\_\_, 2020

Signed \_\_\_\_\_  
(Bidder)

By: \_\_\_\_\_

Business Address:  
\_\_\_\_\_  
\_\_\_\_\_

**NOTE:**

Bidder is reminded that in addition to completing and signing the above proposal and bid form, he/she shall also complete and return with the bid:

- Bid Security
- Non-Collusion Affidavit
- Legal Status Form
- Statement of Bidder's Qualifications
- Hold Harmless and Indemnification Agreement
- ASBA Certified Tennis Court Builder certification
- Post-Tension Institute certification
  - PTI Level 1 Certification documentation
- Construction schedule identifying critical steps and project milestones
- Proposed design and project components
- Identify any subcontractors
- Identify any substitutions, alternative construction methods, voluntary upgrades, etc.

## BID SCHEDULE OF VALUES

April 14, 2020

ITEM	DESCRIPTION	SCHEDULE OF VALUE
1	Mobilization	
2	Existing Conditions Survey	
3	Site Protection	
4	Sediment & Erosion Controls	
5	Demolition & Disposal	
6	Design and Submittals	
7	Materials Testing	
8	Post-Tension Concrete Courts (6)	
9	Tennis Court Equipment	
10	Tennis Court Surfacing	
11	Chain Link Fence with Gates and Hardware	
12	Walkways	
13	Site Restoration	
14	Post-Construction As-Built Survey	
	<b>BASE BID SUB-TOTAL</b>	
15	Remove and Dispose of Ex. Lighting	
16	LED Tennis Court Lighting System	
17	Light Pole Bases	
	<b>ADD ALTERNATE NO.1 SUB-TOTAL</b>	
18	Remove and Dispose of Ex. Lighting	
19	LED Tennis Court Lighting System (Match Existing)	
20	Light Pole Bases	
	<b>ADD ALTERNATE NO. 2 SUB-TOTAL</b>	
	<b>TOTAL</b>	

**TECHNICAL SPECIFICATION 500**  
**TENNIS COURT LIGHTING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the lighting system performance and design standards for Windsor Tennis Courts using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following venue:
  - 1. Tennis
- D. The primary goals of this sports lighting project are:
  - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed to not drop below specified target values for a period of 25 years.
  - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors. The LED design should provide better control than a good HID design.
  - 3. **Control and Monitoring:** To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle.

**1.2 LIGHTING PERFORMANCE**

- A. **Illumination Levels and Design Factors:** Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period.

<b>Area of Lighting</b>	<b>Average Target Illumination Levels</b>	<b>Maximum to Minimum Uniformity Ratio</b>	<b>Grid Points</b>	<b>Grid Spacing</b>
Tennis	50FC	2.0:1	90	20' x 20'

- B. **Mounting Heights:**

<b>Add. Alt. No.</b>	<b># of Poles</b>	<b>Pole Designation</b>	<b>Pole Height</b>
1	6	T1 – T6	50'
2	6	T1 – T6	35'

**1.3 ENVIRONMENTAL LIGHT CONTROL**

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.
- B. Compliance: The design shall be in compliance with IDA Community Friendly Sports Lighting Guidelines.
- C. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following.

Spill Guidelines 150' from edge of courts	Average
Horizontal Footcandles	0.0 FC
Max Vertical Footcandles	0.0 FC

- D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be taken at 30-foot intervals along the boundary line.

**PART 2 – PRODUCT**

**2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION**

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.
- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.
- C. System Description: Lighting system shall consist of the following:
  - 1. Galvanized steel poles and cross-arm assembly.
  - 2. Non-approved pole technology:
    - a. Square static cast concrete poles will not be accepted.
    - b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long term performance concerns.
  - 3. Lighting systems shall use concrete foundations. See Section 2.3 for details.
    - a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
    - b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-inforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
  - 4. Manufacturer will supply all drivers and supporting electrical equipment
    - a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include

drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Any voluntary alternate, which proposes drivers atop the poles, must include climbing steps, safety cables and service platforms.

5. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2\_2002.

6. Manufacturer shall provide lightning grounding as defined by NFPA

## **2.2 ELECTRICAL**

A. Electric Power Requirements for the Sports Lighting Equipment:

1. Electric power: TBD

2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

B. Energy Consumption: The kW consumption for the field lighting system shall be 20 kW, or less.

## **2.3 STRUCTURAL PARAMETERS**

A. Wind Loads: Wind loads shall be based on the 2015 International Building Code. Wind loads to be calculated using ASCE 7-10, an ultimate design wind speed of 130mph and exposure category C.

B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. If no geotechnical report is available, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2009 IBC Table 1806.2.

D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

## **2.4 CONTROL**

A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.

B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.

C. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute "early off" commands by phone. Scheduling tool shall be capable of setting curfew limits.

D. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).

E. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

1. Cumulative hours: shall be tracked to show the total hours used by the facility
  2. Report hours saved by using early off and push buttons by users.
- F. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25 years.

### **PART 3 – EXECUTION**

#### **3.1 SOIL QUALITY CONTROL**

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:
1. Providing engineered foundation embedment design by a registered engineer in the State of Connecticut for soils other than specified soil conditions;
  2. Additional materials required to achieve alternate foundation;
  3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

#### **3.2 DELIVERY TIMING**

- A. Delivery Timing Equipment On-Site: The equipment must be on-site 6-8 weeks from receipt of approved submittals and receipt of complete order information.

#### **3.4 WARRANTY AND GUARANTEE**

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.
- B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.