

## OFFICIAL NOTICE



**Date:** 23 February 2010

**TO:** Plan Holders  
LA PATA PARK – PHASE 1B  
City Project No. 18142-A

**FROM:** Tim Shaw, Landscape Architect  
shawt@san-clemente.org

**SUBJECT:** Addendum No. 2 – Changes to Plans and Specifications  
City Project No. 18142-A

Transmitted herewith is Addendum No. 2

The attached changes for the above project are provided for bidder consideration.

**The Contractor shall sign this page as acknowledgment of receipt of Addendum No. 2 and attach it to the bid proposal. Bids without this form completed and included will be deemed non-responsive**

We acknowledge receipt of Addendum No. 2 for the above-mentioned project and hereby accept its terms and conditions as part of our bid.

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Signature

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Date

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Contractor's Name

### Contents

Modifications to Plans and Specifications (5 pages)

Bid Schedule A & B (*Addendum 2*) (9 pages)

Sports Field Lighting Specifications 16526 (7 pages)

Synthetic Turf Lettering Exhibit (4 pages)

TOTAL: 26 pages (including this page, 5 pages of plan and specification modifications, 9 page updated bid schedules, 7 pages for the new specification and the 4 page synthetic turf lettering exhibit).

## **ADDENDUM No. 2**

TO THE SPECIFICATIONS, CONTRACT DOCUMENTS,  
AND PLANS FOR THE CONSTRUCTION OF:

### **LA PATA PARK – PHASE 1B, Project No. 18142-A**

The Bidder shall execute the certification at the end of this Addendum and shall attach the certification to the documents submitted with the bid proposal. The following additions, modifications, corrections, deletions, and clarifications are hereby made to the Contract Documents, Plans and Specifications for the subject project.

#### **GENERAL**

Period for questions to be submitted ends on Thursday, February 25. All questions must be received by 5:00 PM on this date.

The language from the advertisements for La Pata / Vista Hermosa Sports Park - Phase 1B raised a question for us as to whether this is a General Contractor bid or a multi-prime bid. To clarify, there are two projects which are General Contractor Bid:

1. La Pata Park – Phase 1B (City Project No. 18142-A), which requires a Class 'A' California State Contracting License in good standing.
2. La Pata \ Vista Hermosa Park Aquatic Center (City Project No. 18142-B), which requires a Class 'B' California State Contracting License in good standing.

As outlined in the specifications, no substitutions will be accepted at this time. Substitution requests can be submitted by the winning bidder after award of the project. All product approvals will occur after the contract is approved.

Existing utilities are provided on site. Stubs are located throughout the project site as noted on the plans.

The bid form cannot change for last minute deductions.

No coastal permits are required as part of this project.

Anticipated ground breaking is mid-to-late May, 2010.

There are no DBE or MBE requirements.

It is too late to get specified for materials.

Funds are allocated for this project.

Combination bids are not acceptable.

List of documents required with each bid on bid day is per the Specifications.

The contact information for Little Tykes Commercial, suppliers of the major playground equipment within the Courtney's Sand Castle playground

- Brett Martin @ Pacific Design Concepts
- 1-714-846-4885

The "Castle" themed and "Ship" themed play structures shall be sole source items with no approved equal.

Synthetic Turf Lettering shall be per the Exhibit attached to this addendum.

## **SPECIFICATIONS**

Mobilization (page 52 of the specifications, paragraph three). Add the following.

The Contractor shall provide at own expense an on-site **Class A 50'x10'** trailer facility..."

Mobilization (page 52 of the specifications, paragraph four). Revise the following.

The Contractor shall provide at own expense an E-Z-GO ST Sport # **2+2 four seater** golf cart for use by City personnel while visiting the construction site. Golf cart to be given to City **become City property** at the completion of construction. **Contractor responsible for maintenance and charging of vehicle.**

Mobilization (page 52 of the specifications, paragraph five). Add the following.

**Current temporary fencing is owned by the City. The Park Contractor is to maintain the fencing during construction.** The Contractor shall remove and dispose of existing perimeter construction fencing and gawk blocks in an appropriate manner **at the conclusion of construction.**

For the "List of Subcontractors" it calls for the Subcontractor name, subcontractor address, license number, Bid item, Percent of bid item and percent of total bid. All requested information must be provided with bid.

To clarify Specification Section 02792, 1.02, A, 2, resumes of the project manager and turf foreman are required at bid time and cannot be submitted after award or after the bid opening.

To clarify Specification Section 02792, 1.02, A, 3, a list of projects with similar installations is required at bid time and cannot be submitted after award or after the bid opening.

To clarify Specification Section 02792, 1.02, B, 1, detailed specifications and other descriptive literature is required to be submitted at bid time and cannot be submitted after award or after the bid opening.

To clarify Specification Section 02792, 1.02, B, 2, a product sample is required to be submitted at bid time and cannot be submitted after award, after the bid opening or during the submittal process.

To clarify Specification Section 02792, 1.02, B, 3, a sample copy of the manufacturers warranty is required to be submitted at bid time and cannot be submitted after award or after the bid opening.

To clarify Specification Section 02792, 1.02, B, 2, a product sample is required to be submitted at bid time and cannot be submitted after award, after the bid opening or during the submittal process.

To clarify Specification Section 02792, 1.02, B, 3, a sample copy of the manufacturers warranty is required to be submitted at bid time and cannot be submitted after award or after the bid opening.

Bid Item #170: Exterior Lighting – Sports Lighting. City to provide MUSCO light standard appurtenances (including bases, poles, fixtures, pole-length wire harnesses, lamps, control-link lighting control system (inclusive of lighting contractors), 25-year warranty, and freight to job site. The Contractor is responsible for unloading the equipment and the installation of the MUSCO materials and electrical systems (including, but not limited to, conduit, wire, and switch-gear).

To clarify Specification Section 01500, item 3.16 Project Identification calls for a project sign, this sign is still required.

Contractor is to provide bid bond form.

On the "List of Subcontractors", the "Bid Item No.(s)" is the item number listed on the bid form. All "Item No." must be listed. The "Percent of bid item" is the percent the subcontractor is going to self perform for that individual "Item No."

Item 140 of the Park Bid Form calls for "Construct Way Finding Column Design Build per Detail 6 on Sheet CD-12" and has a unit cost of \$15,000 provided on the bid form. The bidders are to carry an allowance of \$15,000 for this item.

A bid item for the sod for the two soccer field is to be added to the bid schedule, see Bid Item 148. A revised bid schedule has been issued as part of this addendum.

Revise page 46 within the Landscape Irrigation System heading, Maintenance and Plant Guarantee sub-heading, under the Inspection for Acceptance of Plantings Section, to read: *"Acceptance of the Start of the Maintenance Period: The Contractor shall notify the landscape architect in writing at completion of landscaping construction. Within 15 days after completion of work, an inspection for acceptance by the Owner and Landscape Architect shall be made to determine the start of the ~~one (1) year~~ **90 day** maintenance period. When the work is accepted, the maintenance period will begin and continue until acceptance."*

Bid Item B-2 corresponds to the east soccer field; Bid Item B-3 corresponds with the east soccer field. A revised bid schedule has been issued as part of this addendum

No separate bid item will be provided for grading.

Bid item #12 and #13 has a total quantity of 35,755 sf. Construction drawings have 53,000 sf of type 1 per finish schedule of paving. The amount on the bid form is correct.

Specifications Section 02875: Delete Section 1.3 Submittals.

## **PLANS**

Sheet S1.2 Detail C and the foundation plan on S2.2 show two different foundation plans for the restroom buildings. Both apply. Plan S1.2 is for slab and grade beam references.

Sheet S1.2, Details A and B (foundation plans for the Aquatic Center and Pool Equipment Room) are not a part of the La Pata Park – Phase 1B Scope.

Sheets CSC-17 and CSC-19: The planting and irrigation shown outside the limit of work line is not to be included in the Courtney's Sand Castle alternate Bid Item B-4. The limit of work line has been corrected and the parkway work outside of Courtney's Sand Castle is covered by the La Pata Park – Phase 1B Scope. Plans to be reissued as part of the next addendum, Addendum 3.

Sheet CD-5, Details 1 and 3 (Shade Structure details for the Aquatic Center Complex) are not a part of the La Pata Park – Phase 1B Scope.

15" PVC (Schedule 40) is not a manufactured size of pipe. All Plastic Storm Drain Pipe < 12" Diameter to be SDR 35. All Plastic Storm Drain Pipe > 12" Diameter to be HDPE N-12 (or approved equal). Bid Items 53 thru 64 revised as part of this addendum

Sheets LC-4 & LC-9, N.A.P. removed. Restrooms are a part of phase 1B (City Project No. 18142-A)

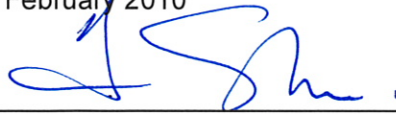
Sheet A5.1R is not a part of set.

For the irrigation of the medians on Avenida Vista Hermosa, Contractor to re-use existing irrigation and provide new irrigation to insure full coverage of the proposed landscaping.

All erosion control per sheets 24-26 is to be part of this bid.

END OF ADDENDUM No. 2

DATED: 23 February 2010



By: Mr. Tim Shaw  
Landscape Architect  
City of San Clemente

BIDDER'S CERTIFICATION

I acknowledge receipt of the foregoing Addendum No. 2 and accept all conditions contained herein.

DATED: \_\_\_\_\_

BIDDER: \_\_\_\_\_  
(Company Name)

BY: \_\_\_\_\_  
(Signature)

The following Bid Schedule of estimated quantities is included for convenience of bidding and a basis for comparison of bids only, and the City does not, expressly, or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the Work, or to delete portions of the Work, as may be deemed necessary or advisable by the City.

**Bid Schedule B includes items that may or may not individually or in total be included in the project and the City has the option to include or exclude from the construction of the project. Any general items including, but not limited to, mobilization, surveying and staking, clearing and grubbing, erosion control, unclassified excavation, and As-built plans that may be needed to construct the items listed in Schedule B shall be included in the amount bid for that item and no additional compensation will be allowed. The lowest bid will be determined by the lowest total of the sum of the two Bid Schedules A and B.**

**LA PATA PARK - PHASE 1B**  
**Project No. 18142-A**  
**SCHEDULE A (Addendum 2)**

| Item No.                         | Description   | Quantity | Unit | Unit Cost | Total |
|----------------------------------|---|----------|------|-----------|-------|
| <b>GENERAL WORK SECTION</b>      |   |          |      |           |       |
| 1                                | Mobilization (including Demobilization) (5% max. Per Section 7-10.4).   | 1        | LS   | \$        | \$    |
| 2                                | Surveying, Construction Staking and Leveling  | 1        | LS   | \$        | \$    |
| 3                                | Traffic /Pedestrian Control   | 1        | LS   | \$        | \$    |
| 4                                | Traffic Signing and Striping  | 1        | LS   | \$        | \$    |
| 5                                | Erosion Control per Storm Water Pollution Prevention Plan and NPDES General Construction Permit, including implementation, maintenance, management, and compliance.   | 1        | LS   | \$        | \$    |
| 6                                | Waste Management Plan   | 1        | LS   | \$        | \$    |
| <b>PCC/CONCRETE WORK SECTION</b> |   |          |      |           |       |
| 7                                | Construct PCC Curb per City of San Clemente Std. Plan ST-6, Type A1-8, CF=8"  | 2,245    | LF   | \$        | \$    |
| 8                                | Construct Rolled Curb & Gutter per Detail 17 on Sheet AVH-10, Page 142.   | 24       | LF   | \$        | \$    |
| 9                                | Construct Rolled Curb Transition per Detail 18 on Sheet AVH-10, Page 142.   | 63       | LF   | \$        | \$    |
| 10                               | Construct PCC Curb & Gutter per APWA Std. Plan 120-1, Type A3, CF=6", W=12"   | 410      | LF   | \$        | \$    |
| 11                               | Construct A1-6 Curb per City of San Clemente STD. ST-6  | 50       | LF   | \$        | \$    |
| 12                               | Construct 5" Thick PCC sidewalk with (2) #4 Longitudinal Rebar Reinforcement at Mid-Height Adjacent to Buffer Strip. Width Per Plan. See Landscape Detail 11, Sheet CD-1.   | 29,375   | SF   | \$        | \$    |
| 13                               | Construct 5" Thick PCC sidewalk with (2) #4 Longitudinal Rebar Reinforcement at Mid-Height over 4" CMB Relative Compaction over Pre-Soaked Subgrade to 140% Opt. M/C to a Depth of 12" Adjacent to Curb. Width Per Plan. See Landscape Detail 11, Sheet CD-1. | 6,380    | SF   | \$        | \$    |
| 14                               | Construct 5" Thick PCC sidewalk with #3 Longitudinal Rebar Reinforcement at 24" On-Center, Both Ways over 4" Thick Aggregate Base. See Landscape Plans Detail 1, Sheet CD-1.  | 23,175   | SF   | \$        | \$    |
| 15                               | Construct Brick Paving 'Ole Hanson' Style Replicated Brick Paver. See Landscape Plans Detail 3, Sheet CD-1. Single Source: Steve Caulking (949-498-7636)  | 6,400    | SF   | \$        | \$    |
| 16                               | Install 4" Thick Decomposed Granite Parkway per Detail 8 on Sheet CD-1. Apply Spray-On Binder to Finish Surface per Specifications.   | 31,970   | SF   | \$        | \$    |
| 17                               | Install 4" Thick Polypave Mix-In Application with Native per Manufacturers Specifications.  | 19,400   | SF   | \$        | \$    |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                                 | Description   | Quantity | Unit | Unit Cost | Total |
|--|---|----------|------|-----------|-------|
| 18                                       | Vehicular Fire Access Minimum Concrete Section Shall Include 560-C-3250 Type V PCC at 8" Thickness with #4 Bars at 12" O.C. Both Ways at Mid-Height over Crushed Aggregate Base at 6" Thickness | 1,245    | SF   |           |       |
| 19                                       | Construct Type 1 Access Ramp per SCSD ST-1 with Truncated Domes by WAUSAU Tile Model #FDX2008 – Gray w/ Wash Finish (or Approved Equal) per OCPW STD. Plan 1115, SHT 10 of 10                   | 8        | EA   | \$        | \$    |
| 20                                       | Construct Access Ramp per Detail 87 on Sheet 4 with Truncated Domes by WAUSUA Tile Model #FDX2008 – Gray w/ Wash Finish (or Approved Equal) per OCPW STD. Plan 1115, SHT 10 of 10.              | 4        | EA   | \$        | \$    |
| 21                                       | Construct Access Ramp per Detail 92 on Sheet 4 with Truncated Domes by WAUSUA Tile Model #FDX2008 – Gray w/ Wash Finish (or Approved Equal) per OCPW STD. Plan 1115, SHT 10 of 10.              | 3        | EA   | \$        | \$    |
| 22                                       | Construct Gray Truncated Domes by WAUSAU Tile Model #FDX2008 – Gray w/ Wash Finish (or Approved Equal) per OCPW STD. Plan 1115, SHT 10 of 10.   | 2        | EA   | \$        | \$    |
| <b><u>AC PAVING WORK SECTION</u></b>     |   |          |      |           |       |
| 23                                       | Construct 6" Asphalt Concrete (AC) Base Coarse, Type B-AR4000   | 540      | TON  | \$        | \$    |
| 24                                       | Construct Compacted Crushed Aggregate Base Material (CAB)   | 1,140    | CY   | \$        | \$    |
| 25                                       | Install GlasPave25 Paving Mat Under Sawcut, Grind & Overlay Area  | 830      | SY   | \$        | \$    |
| 26                                       | Construct 1" Asphalt Concrete Surface Coarse in Park  | 1,925    | TON  | \$        | \$    |
| 27                                       | Construct 2" Asphaltic Rubber Hot Mix (ARHM) Surface Coarse, Type C3-AR4000   | 180      | TON  | \$        | \$    |
| 28                                       | Grind 2" of Existing Asphalt Concrete Pavement and Overlay with 2" of ARHM  | 2,890    | SF   | \$        | \$    |
| <b><u>WATER SYSTEMS WORK SECTION</u></b> |   |          |      |           |       |
| 29                                       | Relocate Irrigation Valve and Valve Box per City of San Clemente Std. W-4   | 1        | EA   | \$        | \$    |
| 30                                       | Furnish and Install 1/2" Copper Pipe (ASTM B88 Type L) Encased in Polyethylene Wrap   | 380      | LF   | \$        | \$    |
| 31                                       | Furnish and Install 2" Copper Pipe (ASTM B88 Type L) Encased in Polyethylene Wrap.  | 285      | LF   | \$        | \$    |
| 32                                       | Furnish and Install 2" Water Meter per City of San Clemente STD W-2.  | 2        | EA   | \$        | \$    |
| 33                                       | Furnish and Install 2" Backflow Preventer Assembly Device (FEBCO 825YA or Equal).   | 2        | EA   | \$        | \$    |
| <b><u>SEWER WORK SECTION</u></b>         |   |          |      |           |       |
| 34                                       | Furnish and Install 4" PVC Sewer (SDR 35) Lateral.  | 245      | LF   | \$        | \$    |
| 35                                       | Furnish and Install 6" PVC Sewer (SDR 35) Lateral.  | 275      | LF   | \$        | \$    |
| 36                                       | Furnish and Install Sewer Cleanout per City of San Clemente STD. S-9.   | 7        | EA   | \$        | \$    |
| 37                                       | Remove End Cap, Connect to Existing Sewer Lateral   | 2        | EA   | \$        | \$    |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                        | Description   | Quantity | Unit | Unit Cost | Total |
|---------------------------------|---|----------|------|-----------|-------|
| <b>STORM DRAIN WORK SECTION</b> |   |          |      |           |       |
| 38                              | Adjust Existing Cleanout to Finish Grade  | 1        | EA   | \$        | \$    |
| 39                              | Install Pipe Reducer per Detail 65 on Sheet C-5.  | 11       | EA   | \$        | \$    |
| 40                              | Construct Storm Drain Manhole Per APWA STD Plan 321-1.  | 3        | EA   | \$        | \$    |
| 41                              | Construct Grate Inlet within Elliptical Brow Ditch per Detail 61 on Sheet C-9.  | 13       | EA   | \$        | \$    |
| 42                              | Construct 18" CSP Flared Inlet per APWA STD Plan 351-1, Case 2  | 1        | EA   | \$        | \$    |
| 43                              | Construct 6" Encasement With 560-C-3250 Type V PCC on Top and Sides of Pipe per Concrete Encasement Detail on Sheet 21.   | 30       | LF   | \$        | \$    |
| 44                              | Furnish and Install 12"x12" Square Area Drain Per Detail 55 on Sheet C-4.   | 35       |      | \$        | \$    |
| 45                              | Furnish and Install 12"x12" Square Area Drain Per Detail 55 on Sheet C-4.   | 5        | EA   | \$        | \$    |
| 46                              | Furnish and Install 12" Square Atrium Area Drain or Approved Equal per Detail 42 on Sheet C-4.  | 4        | EA   | \$        | \$    |
| 47                              | Furnish and Install 12" Precast Grate Inlet or Approved Equal per Detail 54, 66, 67 on Sheet C-4.   | 2        | EA   | \$        | \$    |
| 48                              | Furnish and Install 18" x 18" Precast Grate Inlet Per Detail 67 on Sheet C-4.   | 16       | EA   | \$        | \$    |
| 49                              | Furnish and Install 24" x 24" Precast Grate Inlet Per Detail 54 on Sheet C-4  | 15       | EA   | \$        | \$    |
| 50                              | Furnish and Install 18" x 18" Square Area Drain per Detail 55 on Sheet C-4.   | 27       | EA   | \$        | \$    |
| 51                              | Furnish and Install 30" x 30" Precast Storm Drain Inlet per Detail 66 on Sheet C-4.   | 3        | EA   | \$        | \$    |
| 52                              | Furnish and Construct Grating Catch Basin Per APWA Std Plan 305-2   | 4        | EA   | \$        | \$    |
| 53                              | Furnish and Install 4" PVC (SDR 35) Drain Pipe.   | 20       | LF   | \$        | \$    |
| 54                              | Install 4" Perforated PVC (SDR 35) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 18" Minimum Depth with 12" Deep ¾"-1" Drain Rock with Non-Woven 140N Mirafi Filter Fabric (or Approved Equal) in 20" SE>30 Sand Backfill. | 2,105    | LF   | \$        | \$    |
| 55                              | Furnish and Install 6" PVC (SDR 35) Drain Pipe.   | 1,025    | LF   | \$        | \$    |
| 56                              | Furnish and Install 6" PVC (SDR 35) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 1' Minimum Separation from 4" Perforated PVC, Clayey Soil Backfill and 4" Thick Bedding.   | 82       | LF   | \$        | \$    |
| 57                              | Furnish and Install 8" PVC (SDR 35) Drain Pipe.   | 260      | LF   | \$        | \$    |
| 58                              | Furnish and Install 8" PVC (SDR 35) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 1' Minimum Separation from 4" Perforated PVC, Clayey Soil Backfill and 4" Thick Bedding.   | 265      | LF   | \$        | \$    |
| 59                              | Furnish and Install 10" PVC (SDR 35) Drain Pipe.  | 530      | LF   | \$        | \$    |
| 60                              | Furnish and Install 10" PVC (SDR 35) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 1' Minimum Separation from 4" Perforated PVC, Clayey Soil Backfill and 4" Thick Bedding.  | 530      | LF   |           |       |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                               | Description  | Quantity | Unit | Unit Cost | Total |
|--|--|----------|------|-----------|-------|
| 61                                     | Furnish and Install 12" HDPE ADS-N12 (or Approved Equal) Drain Pipe.   | 280      | LF   | \$        | \$    |
| 62                                     | Furnish and Install 12" HDPE ADS-N12 (or Approved Equal) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 1' Minimum Separation from 4" Perforated PVC, Clayey Soil Backfill and 4" Thick Bedding. | 545      | LF   | \$        | \$    |
| 63                                     | Furnish and Install 15" HDPE ADS-N12 (or Approved Equal) Drain Pipe.   | 965      | LF   | \$        | \$    |
| 64                                     | Furnish and Install 15" HDPE ADS-N12 (or Approved Equal) Drain Pipe per Drainage Section Under Swale Detail 53 on Sheet C-5. Including (but Not Limited to) 1' Minimum Separation from 4" Perforated PVC, Clayey Soil Backfill and 4" Thick Bedding. | 95       | LF   | \$        | \$    |
| 65                                     | Furnish and Install 18" HDPE ADS-N12 (or Approved Equal).  | 1,830    | LF   | \$        | \$    |
| 66                                     | Furnish and Install 24" HDPE ADS-N12 (or Approved Equal).  | 650      | LF   | \$        | \$    |
| 67                                     | Construct Brow Ditch Per Section P-P on Sheet C-9 of Plans. Mow Curb per Separate Bid Item.  | 1,430    | LF   | \$        | \$    |
| 68                                     | Construct Brow Ditch per Brow Ditch Detail on Sheet C-29.  | 155      | LF   |           |       |
| 69                                     | Connect to Existing Catch Basin  | 3        | EA   | \$        | \$    |
| 70                                     | Connect to Existing Storm Drain  | 5        | EA   | \$        | \$    |
| 71                                     | Furnish and Install Junction Structure Type 1 per OCPW Std. Plan 1310.   | 2        | EA   | \$        | \$    |
| 72                                     | Remove Existing Concrete Plug and Connect to Existing Storm Drain Pipe With Concrete Pipe Collar per OCPW Std. Plan 1317.  | 5        | EA   | \$        | \$    |
| <b><u>STRIPING WORK SECTION</u></b>    |  |          |      |           |       |
| 73                                     | Install Final Signing & Striping on Avenida Vista Hermosa.   | 1        | LS   | \$        | \$    |
| 74                                     | Install Final Signing & Striping in Park   | 1        | LS   | \$        | \$    |
| <b><u>ARCHITECTURE SECTION</u></b>     |  |          |      |           |       |
| 75                                     | Construct 1,271 ft +/- Restroom Buildings Complete and In Place per Sheets 118-132 and Specifications  | 1        | LS   | \$        | \$    |
| 76                                     | Construct 1,271 ft +/- Restroom Buildings Complete and In Place per Sheets 118-132 and Specifications  | 1        | LS   | \$        | \$    |
| <b><u>LANDSCAPING WORK SECTION</u></b> |  |          |      |           |       |
| 77                                     | Install Concrete Median Paving per PF&RD Std. Detail 1807  | 3,600    | SF   | \$        | \$    |
| 78                                     | Furnish and Install Median Trees: 15 Gallon  | 10       | EA   | \$        | \$    |
| 79                                     | Furnish and Install Median Trees: 24" Box  | 16       | EA   | \$        | \$    |
| 80                                     | Furnish and Install Median Shrubs: 1 Gallon  | 1,700    | EA   | \$        | \$    |
| 81                                     | Furnish and Install Median Irrigation per City's Direction   | 1        | LS   | \$        | \$    |
| <b><u>HARDSCAPE</u></b>                |  |          |      |           |       |
| 82                                     | Construct 12" Color Concrete Band with Light Wash  | 4,025    | SF   | \$        | \$    |
| 83                                     | Construct Standard Face Concrete Steps (Natural Color Concrete) per Detail 7 on Sheet CD-1 with Handrail per Detail 10 on Sheet CD-1.  | 605      | LF   | \$        | \$    |
| 84                                     | Construct Depressed Mow Curb per Detail 19 on Sheet C-10   | 6        | EA   | \$        | \$    |
| 85                                     | Construct 6" Natural Grey Concrete Mow Curb per Detail 6 on Sheet CD-1.  | 14,510   | LF   | \$        | \$    |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                        | Description   | Quantity | Unit | Unit Cost | Total |
|---------------------------------|---|----------|------|-----------|-------|
| <b>WALL &amp; FENCE</b>         |   |          |      |           |       |
| 86                              | Lodgepole Fence per Detail 2 on Sheet CD-8.   | 450      | LF   | \$        | \$    |
| 87                              | Construct 18" High Seatwall with Fence Post at Dugout per Detail 10 on Sheet CD-2.  | 110      | LF   | \$        | \$    |
| 88                              | Construct 6' High Splitface Pilaster with Splitface Cap to Match  | 7        | EA   | \$        | \$    |
| 89                              | Furnish and Install 42" High Tubular Aluminum Guardrail Fence   | 60       | LF   | \$        | \$    |
| 90                              | Construct Masonry Retaining Wall per Wall Schedule on Sheet S-3 and Details and Wall Data Table on Sheet C-27, Including (but not Limited to) Waterproofing.                                | 1,612    | SF   | \$        | \$    |
| 91                              | Furnish and Install Pedestrian Protective Railing Per Detail 99 on Sheet C-5 and Wall Data Table on Sheet C-27.   | 249      | LF   | \$        | \$    |
| 92                              | Construct Masonry Retaining Wall per Wall Schedule on Sheet S-3 and Details and Wall Data Table on Sheet C-28, Including (but not Limited to) Waterproofing.                                | 1,829    | SF   | \$        | \$    |
| 93                              | Furnish and Install Pedestrian Protective Railing Per Detail 99 on Sheet C-5 and Wall Data Table on Sheet C-28.   | 189      | LF   | \$        | \$    |
| 94                              | Construct Masonry Retaining Wall per Wall Schedule on Sheet S-3 and Details and Wall Data Table on Sheet C-29, Including (but not Limited to) Waterproofing.                                | 940      | SF   | \$        | \$    |
| 95                              | Furnish and Install Pedestrian Protective Railing Per Detail 99 on Sheet C-5 and Wall Data Table on Sheet C-29.   | 75       | LF   | \$        | \$    |
| 96                              | Construct Free-Standing Wall per Detail 5 on Sheet S-3 and Wall Data Table on Sheet 29.   | 301      | SF   | \$        | \$    |
| 97                              | Furnish and Install Pipe Handrail for Ramp per Detail 98 on Sheet C-5 and Wall Data Table on Sheet C-29.  | 64       | LF   | \$        | \$    |
| 98                              | Furnish and Install 4" Perforated PVC (SCH 40) Retaining Wall Subdrain Pipe per Detail 1 on Sheet S-1.  | 785      | LF   | \$        | \$    |
| 99                              | Furnish and Install 6' High Chainlink Fence around Solar Array (Includes 2 Gates)   | 870      | LF   | \$        | \$    |
| <b>BASEBALL DIAMOND - LARGE</b> |   |          |      |           |       |
| 100                             | Furnish and Install Backstop per Detail 2 on Sheet CD-4 at Large Baseball Diamond   | 1        | EA   | \$        | \$    |
| 101                             | Furnish and Install Netting for Backstop per Detail 2 on Sheet CD-4   | 1        | EA   | \$        | \$    |
| 102                             | Furnish and Install Sideline Chainlink Fencing: 30' High to 8' High per Detail 11 on Sheet CD-4, including Batting Cages and Warm-Up Area Fencing per Sheet CD-7 at Large Baseball Diamond. | 1        | LS   | \$        | \$    |
| 103                             | Construct 12" Concrete Mow Curb under Fencing per Detail 12 on Sheet CD-1 and Detail 4 on Sheet S-2 at Large Baseball Diamond   | 1,600    | LF   | \$        | \$    |
| 104                             | Furnish and Install Dugout Benches per Detail 5 on Sheet CD-3 at Large Baseball Diamond   | 4        | EA   | \$        | \$    |
| 105                             | Furnish and Install Bat rack per Detail 4 on Sheet CD-3 at Large Baseball Diamond   | 2        | EA   | \$        | \$    |
| 106                             | Furnish and Install Pitching Plate and Bases per Detail 12 on Sheet CD-3 at Large Baseball Diamond  | 1        | LS   | \$        | \$    |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                               | Description  | Quantity | Unit | Unit Cost | Total |
|--|--|----------|------|-----------|-------|
| 107                                    | Furnish and Install Netting for Dugouts per Detail 10 on Sheet CD-3.   | 1        | LS   | \$        | \$    |
| 108                                    | Furnish and Install Foul Ball Pole per Detail 3 on Sheet CD-4 at Large Baseball Diamond  | 1        | Pair | \$        | \$    |
| 109                                    | Install Brick Dust Infield per Master Finish Schedule Sheet FS-1.  | 14,775   | SF   | \$        | \$    |
| <b><u>BASEBALL DIAMOND - SMALL</u></b> |  |          |      |           |       |
| 110                                    | Furnish and Install Backstop per Detail 2 on Sheet CD-4 at Small Baseball Diamond  | 2        | EA   | \$        | \$    |
| 111                                    | Furnish and Install Netting for Backstop per Detail 2 on Sheet CD-4.   | 2        | EA   | \$        | \$    |
| 112                                    | Furnish and Install Sideline Chainlink Fencing: 24' High to 8' High per Detail 11 on Sheet CD-4, including Batting Cages and Warm-Up Area Fencing per Sheet CD-7 at Small Baseball Diamonds. | 1        | LS   | \$        | \$    |
| 113                                    | Construct 12" Concrete Mow Curb under Fencing per Detail 12 on Sheet CD-1 at Small Baseball Diamond  | 2,360    | LF   | \$        | \$    |
| 114                                    | Furnish and Install Dugout Benches per Detail 5 on Sheet CD-3 at Small Baseball Diamond  | 8        | EA   | \$        | \$    |
| 115                                    | Furnish and Install Bat rack per Detail 4 on Sheet CD-3 at Small Baseball Diamond  | 4        | EA   | \$        | \$    |
| 116                                    | Furnish and Install Pitching Plate and Bases per Detail 12 on Sheet CD-3 at Small Baseball Diamond   | 1        | LS   | \$        | \$    |
| 117                                    | Furnish and Install Netting for Dugouts per Detail 10 on Sheet CD-3.   | 1        | LS   | \$        | \$    |
| 118                                    | Furnish and Install Foul Ball Pole per Detail 3 on Sheet CD-4 at Small Baseball Diamond  | 2        | Pair | \$        | \$    |
| 119                                    | Install Brick Dust Infield per Master Finish Schedule Sheet FS-1.  | 29,875   | SF   | \$        | \$    |
| 120                                    | Furnish and Install 3 Row Aluminum Bleachers per Detail 3 on Sheet CD-3 at Small Baseball Diamond  | 5        | EA   | \$        | \$    |
| <b><u>AMENITIES</u></b>                |  |          |      |           |       |
| 121                                    | Furnish and Install 5 Row Aluminum Bleachers w/ Guardrail (located at Large Baseball and Soccer) per Detail 2 on Sheet CD-3.   | 18       | EA   | \$        | \$    |
| 122                                    | Furnish and Install Trash Enclosure Complete in Place Including Slab per Sheet S-4.  | 3        | EA   | \$        | \$    |
| 123                                    | Furnish and Install Soccer Goal - Portable per Detail 9 on Sheet CD-3.   | 6        | EA   | \$        | \$    |
| 124                                    | Furnish and Install Canvas Double Cantilever Shade Structure at Soccer Area - To Include Design, Engineering, Permits and Installation per Detail 5 on Sheet CD-4.                           | 1        | LS   | \$        | \$    |
| 125                                    | Furnish and Install USA Shade Canvas Wrap-around Shade Structure at Baseball Field - To Include Design, Engineering, Permits and Installation per Detail 6 on Sheet CD-5, or Approved Equal. | 1        | LS   | \$        | \$    |
| 126                                    | Furnish Daktronics Scoreboard Model# MS-918 (Includes painting on back of scoreboard) per Detail 9 on Sheet CD-4, or Approved Equal.   | 6        | EA   | \$        | \$    |
| 127                                    | Install Daktronics Scoreboards per Specifications.   | 1        | LS   | \$        | \$    |
| 128                                    | Furnish and Install Concrete Picnic Table Complete in Place including Slab per Detail 4 on Sheet CD-4.   | 6        | EA   | \$        | \$    |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                        | Description  | Quantity | Unit  | Unit Cost | Total    |
|---------------------------------|--|----------|-------|-----------|----------|
| 129                             | Furnish and Install Concrete Bench per Detail 3 on Sheet CD-6.   | 6        | EA    | \$        | \$       |
| 130                             | Furnish and Install Barbecue per Detail 5 on Sheet CD-6.   | 6        | EA    | \$        | \$       |
| 131                             | Furnish and Install Trash Container per Detail 12 on Sheet CD-6.   | 9        | EA    | \$        | \$       |
| 132                             | Furnish and Install Recycle Container per Detail 15 on Sheet CD-6.   | 7        | EA    | \$        | \$       |
| 133                             | Furnish and Install Hot Coals Container per Detail 12 on Sheet CD-6.   | 6        | EA    | \$        | \$       |
| 134                             | Furnish and Install Drinking Fountain per Detail 6 on Sheet CD-4.  | 2        | EA    | \$        | \$       |
| 135                             | Furnish and Install Looped Bike Rack per Detail 1 on Sheet CD-3.   | 3        | EA    | \$        | \$       |
| 136                             | Furnish and Install Tree Grate - Brushed Steel Finish per Detail 12 on Sheet CD-2.   | 7        | EA    | \$        | \$       |
| <b>MONUMENTATION</b>            |  |          |       |           |          |
| 137                             | Construct Entry Monumentation - Primary; 8' High curved wall; Stucco veneer and brick cap with 8' high terminal pilasters per Detail 12 on Sheet CD-9.                               | 2        | EA    | \$        | \$       |
| 138                             | Construct Entry Monument (Interior)- Secondary; 8' High wall; Stucco veneer and brick cap with 8' high terminal pilasters per Detail 9 on Sheet CD-8.                                | 1        | EA    | \$        | \$       |
| 139                             | Construct Corner Monument - 8' High wall; Stucco veneer and brick cap with 8' high terminal pilasters per Detail 9 on Sheet CD-8. Plus all other items to complete per plans & specs | 2        | EA    | \$        | \$       |
| 140                             | Construct Way Finding Column Design Build per Detail 6 on Sheet CD-12.   | 1        | Allow |           | \$15,000 |
| <b>LANDSCAPE AND IRRIGATION</b> |  |          |       |           |          |
| 141                             | Weed Abatement   | 1        | LS    | \$        | \$       |
| 142                             | Meadow Mix (Open Area wly. of Soccer Fields)   | 1        | LS    | \$        | \$       |
| 143                             | Meadow Mix   | 1        | LS    | \$        | \$       |
| 144                             | Sod (Entire Park Except for Ball fields)   | 119,756  | SF    | \$        | \$       |
| 145                             | Sod (Football Field)   | 78,850   | SF    | \$        | \$       |
| 146                             | Sod (Baseball Field Small)   | 46,300   | SF    | \$        | \$       |
| 147                             | Sod (Baseball Field Large)   | 70,500   | SF    | \$        | \$       |
| 148                             | Sod (Soccer Fields)  | 164,550  | SF    | \$        | \$       |
| 149                             | Hydroseed @ Detention Basin  | 1        | LS    | \$        | \$       |
| 150                             | 2" Deep Organic Bark Mulch   | 273,560  | SF    | \$        | \$       |
| 151                             | Automatic Irrigation - Includes meter, controllers, mainline, lateral lines & sleeving. Plus all other items to complete per plans & specs   | 1        | LS    | \$        | \$       |
| 152                             | 20' Long linear root barrier   | 80       | EA    | \$        | \$       |
| 153                             | 90 Day Maintenance Period  | 1        | LS    | \$        | \$       |
| 154                             | Furnish and Install 48" Box Tree   | 16       | SF    | \$        | \$       |
| 155                             | Furnish and Install 36" Box Tree   | 211      | EA    | \$        | \$       |
| 156                             | Furnish and Install 24" Box Tree   | 568      | EA    | \$        | \$       |
| 157                             | Furnish and Install 15 Gallon Tree   | 28       | EA    | \$        | \$       |
| 158                             | 20' BTH Phoenix dactylifera  | 149      | EA    | \$        | \$       |
| 159                             | 18' BTH Washingtonia filifera  | 78       | EA    | \$        | \$       |
| 160                             | Furnish and Install 15 Gallon Shrub  | 562      | EA    | \$        | \$       |
| 161                             | Furnish and Install 5 Gallon Shrub   | 38,716   | EA    | \$        | \$       |
| 162                             | Furnish and Install 1 Gallon Shrub   | 3,530    | EA    | \$        | \$       |

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE A** (Addendum 2)

| Item No.                       | Description   | Quantity | Unit | Unit Cost | Total |
|--------------------------------|---|----------|------|-----------|-------|
| <b>ELECTRICAL WORK SECTION</b> |   |          |      |           |       |
| 163                            | Furnish and Install Signal at Intersection of Avenida Vista Hermosa & Park Main Entry per Sheet AVH-11. | 1        | LS   | \$        | \$    |
| 164                            | Relocate Dual Mast-Arm Street Light & Pull box in Median per San Clemente Std. ST-19                    | 4        | EA   | \$        | \$    |
| 165                            | Relocate Pull box in Median per San Clemente Std. ST-19   | 1        | EA   | \$        | \$    |
| 166                            | Underground Electrical  | 1        | LS   | \$        | \$    |
| 167                            | Interior Restroom Building Electrical and Communications  | 1        | LS   | \$        | \$    |
| 168                            | Interior Restroom Building Lighting   | 1        | LS   | \$        | \$    |
| 169                            | Exterior Lighting - Non-Sports Lighting   | 1        | LS   | \$        | \$    |
| 170                            | Exterior Lighting - Sports Lighting Installation (See Addendum No. 2)                                   | 1        | LS   | \$        | \$    |
| 171                            | Switchgear and Controls   | 1        | LS   | \$        | \$    |

**SCHEDULE 'A' TOTAL**

**\$** \_\_\_\_\_ **-**

**TOTAL SCHEDULE 'A' IN WORDS:** \_\_\_\_\_

**LA PATA PARK - PHASE 1B**

Project No. 18142-A

**SCHEDULE B** (addendum 2)

| <b>Item No.</b> | <b>Description</b>   | <b>Estimated Quantity</b> |    | <b>Unit Cost</b> | <b>Total</b> |
|-----------------|--|---------------------------|----|------------------|--------------|
| B-1.            | Football Field Synthetic Turf Upgrade:<br>Excavate, Compact and Grade Subgrade Base and Dispose of Soil.<br>Furnish, Compact, Roll and Fine Grade 2" Thick Structural Soil Base.<br>Furnish and Install Brock Underlayment Material.<br>Furnish and Install Synthetic Turf as specified per Brock Synthetic Turf Detail 50 on Sheet C-5 and Sheet C-15 and Sheet C-20 of the Plans and Specifications. Modify Drainage per Sheet C-20 and Irrigation                     | 1                         | LS | \$               | \$           |
| B-2.            | East Soccer Field Synthetic Turf Upgrade (One Field Only):<br>Excavate, Compact and Grade Subgrade Base and Dispose of Soil.<br>Furnish, Compact, Roll and Fine Grade 2" Thick Structural Soil Base.<br>Furnish and Install Brock Underlayment Material.<br>Furnish and Install Synthetic Turf as specified per Brock Synthetic Turf Detail 50 on Sheet C-5 and Sheet C-13 of the Plans and Specifications. Modify Drainage per Sheet C-19 and Irrigation per Sheet IR-1 | 1                         | LS | \$               | \$           |
| B-3.            | West Soccer Field Synthetic Upgrade (One Field Only):<br>Second Field as Specified in Line B-2.  | 1                         | LS | \$               | \$           |
| B-4.            | Courtney's Sand Castle in Place per Plans and Specifications.  | 1                         | LS | \$               | \$           |

**SCHEDULE 'B' TOTAL** \$ -

**TOTAL SCHEDULE 'B' IN WORDS:** \_\_\_\_\_

**SCHEDULE 'A' AND 'B' TOTAL** \$ -

**TOTAL SCHEDULE 'A' AND 'B' IN WORDS:** \_\_\_\_\_

For Synthetic Turf Upgrades in Schedule 'B', the Bid Price should reflect a premium to upgrade from Sod to Synthetic Turf as specified in the plans and specifications. Contractor will receive 100% payment of items in the base bid (i.e. grading, drainage, irrigation) per the line items to complete the field in Sod.

**SPORTS FIELD LIGHTING SPECIFICATION 16256**

## **SECTION 16526 – SPORTS FIELD 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 performance and design standards for Avenida Vista Hermosa / Avenida La Pata Park in San Clemente, California. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth by the criteria set forth in these specifications.
- C. The sports lighting will be for the following fields:
1. Soccer 1 – 5
  2. Football
  3. Softball 1 – 2
  4. Baseball
  5. Big Pool
  6. Small Pool
- D. The primary goals of this sports lighting project are:
1. Life Cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated, and the field(s) should be proactively monitored to detect fixture outages over a 25 year life cycle. 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.
  2. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore the lighting system shall be designed such that the light levels are guaranteed for a period of 25 years.

#### **1.2 LIGHTING PERFORMANCE**

- A. Performance Requirements: Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for 25 years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Measured average illumination level shall be +/- 10% of predicted mean in accordance with IESNA RP-6-01, and measured at the first 100 hours of operation.

| Area of Lighting        | Average Constant Light Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|-------------------------|-------------------------------|-------------------------------------|-------------|--------------|
| Soccer 1<br>360' x 225' | 30 footcandles                | 2.5:1.0                             | 96          | 30' x 30'    |
| Soccer 2<br>360' x 225' | 30 footcandles                | 2.5:1.0                             | 96          | 30' x 30'    |
| Soccer 3<br>280' x 180' | 30 footcandles                | 2.5:1.0                             | 60          | 30' x 30'    |
| Soccer 4<br>280' x 180' | 30 footcandles                | 2.5:1.0                             | 60          | 30' x 30'    |
| Soccer 5<br>280' x 115' | 30 footcandles                | 2.5:1.0                             | 40          | 30' x 30'    |
| Football                | 30 footcandles                | 2.0:1.0                             | 72          | 30' x 30'    |
| Softball 1 Infield      | 50 footcandles                | 2.0:1.0                             | 25          | 20' x 20'    |

|                     |                |         |    |           |
|---------------------|----------------|---------|----|-----------|
| Softball 1 Outfield | 30 footcandles | 2.5:1.0 | 73 | 20' x 20' |
| Softball 2 Infield  | 50 footcandles | 2.0:1.0 | 25 | 20' x 20' |
| Softball 2 Outfield | 30 footcandles | 2.5:1.0 | 73 | 20' x 20' |
| Baseball Infield    | 50 footcandles | 2.0:1.0 | 25 | 30' x 30' |
| Baseball Outfield   | 30 footcandles | 2.5:1.0 | 91 | 30' x 30' |
| Big Pool High       | 60 footcandles | 2.0:1.0 | 36 | 20' x 20' |
| Big Pool Mid        | 30 footcandles | 3.0:1.0 | 36 | 20' x 20' |
| Big Pool Low        | 15 footcandles | 3.5:1.0 | 36 | 20' x 20' |
| Small Pool          | 20 footcandles | 2.0:1.0 | 21 | 20' x 20' |

- B. Mounting Heights for “A” Poles on Softball 1 & 2 and Soccer 3 & 4: To ensure proper aiming angles for reduced glare and to provide better playability, the minimum pole mounting heights from the playing field surface shall be 60’.
- C. Mounting Heights for “B” Poles on Softball 1 & 2, Soccer 1 & 2, “A” & “C” Poles on Baseball, Soccer 5, Football, and Pools: To ensure proper aiming angles for reduced glare and to provide better playability, the minimum pole mounting heights from the playing field surface shall be 70’.
- D. Mounting Heights for “B” Poles on Baseball: To ensure proper aiming angles for reduced glare and to provide better playability, the minimum pole mounting heights from the playing field surface shall be 80’.

**1.3 LIFE CYCLE COSTS**

- A. Energy Consumption: The average kWh consumption for the ball fields lighting system shall be 338.0 or less and the big/small pools lighting system shall be 32.0 or less.
- B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide 25 years of operation based upon 500 usage hours per year.
- C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25 years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.
- 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 manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).
- E. 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.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. Management Tools: Manufacturer shall provide a web-based database of actual field usage and provide reports by facility and user group.
- G. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25 years.
- H. 25-Year Life Cycle Cost: Manufacturer shall submit 25-year life cycle cost calculations as follows. Equipment price and total life cycle cost shall be entered separately on bid form.

|    |  |   |  |
|----|--|---|--|
| a. | <b>Luminaire energy consumption</b><br># luminaires x ___kW demand per luminaire x \$0.05 kWh rate x 500 annual usage hours x 25 years   |   |  |
| b. | <b>Cost for spot relamping and maintenance over 25 years</b><br>Assume 7.5 repairs at \$500 each if not included with the bid  | + |  |
| c. | <b>Cost to relamp all luminaires during 25 years</b><br>500 annual usage hours x 25 years / <u>lamp replacement hours</u> x \$125 lamp & labor x # fixtures if not included with the bid | + |  |
| d. | <b>Extra energy used without base bid automated control system</b><br>\$ Energy consumption in item a. x 10% if control system not included with the bid                                 | + |  |
|    | <b>TOTAL 25-Year Life Cycle Operating Cost</b>   | = |  |

#### 1.4 **WARRANTY AND GUARANTEE**

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations.

#### 1.5 **DELIVERY TIMING**

- A. Equipment On-Site: The equipment must be on-site 4 to 6 weeks from receipt of approved submittals and receipt of complete order information.

#### 1.6 **PRE-BID SUBMITTAL REQUIREMENTS**

- A. Approved Product: Musco's Light-Structure Green™ System is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- B. Design Approval: The owner / engineer will review pre-bid shop drawings from the manufacturers to ensure compliance to the specification. If the design meets the design requirements of the specifications, a letter will be issued to the manufacturer indicating approval for the specific design submitted.

#### 1.7 **ALTERNATE SYSTEM REQUIREMENTS**

- A. Compliance to Specifications: Acceptance of a bid alternate does not negate the contractor and lighting manufacturer's responsibility to comply fully with the requirements of these specifications. Any exceptions to the specifications must be clearly stated in the prior approval submittal documents.
- B. Light Level Requirements: Manufacturer shall provide computer models guaranteeing light levels on the field over 25 years. If a constant light level cannot be provided, a maximum Recoverable Light Loss Factor of 0.70 shall be applied to the initial light level design to achieve the maintained light levels specified in Section 1.2A. For alternate systems, scans for both initial and maintained light levels shall be submitted.
- C. Revised Electrical Distribution: Manufacturer shall provide revised electrical distribution plans to include changes to service entrance, panel, and wire sizing.

## **PART 2 – PRODUCT**

### **2.1 LIGHTING SYSTEM CONSTRUCTION**

- A. System Description: Lighting system shall consist of the following:
1. Galvanized steel poles and crossarm assembly. Direct burial steel poles and concrete poles are not acceptable.
  2. Pre-stressed concrete base embedded in concrete backfill allowed to cure for 12-24 hours before pole stress is applied. Alternate may be an anchor bolt foundation designed such that the steel pole and any exposed steel portion of the foundation is located a minimum of 18 inches above final grade. The concrete for anchor bolt foundations shall be allowed to cure for a minimum of 28 days before the pole stress is applied.
  3. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
  4. Manufacturer will remote all ballasts and supporting electrical equipment in aluminum enclosures mounted approximately 10' above grade. The enclosures shall include ballast, capacitor and fusing for each luminaire. Safety disconnect per circuit for each pole structure will be located in the enclosure.
  5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
  6. Controls and Monitoring Cabinet to provide on-off control and monitoring of the lighting system, constructed of NEMA Type 4 aluminum. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules for 30, 60, and 100 amps, labeled to match field diagrams and electrical design. Manual Off-On-Auto selector switches shall be provided.
- B. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, ballast and other enclosures shall be factory assembled, aimed, wired and tested.
- C. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed steel shall be hot dip galvanized per ASTM A123. All exposed hardware and fasteners shall be stainless steel of at least 18-8 grade, passivated and polymer coated to prevent possible galvanic corrosion to adjoining metals. All exposed aluminum shall be powder coated with high performance polyester. All exterior reflective inserts shall be anodized, coated with a clear, high gloss, durable fluorocarbon, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All wiring shall be enclosed within the crossarms, pole, or electrical components enclosure.
- D. Lightning Protection: All structures shall be equipped with lightning protection meeting NFPA 780 standards. Contractor shall supply and install a ground rod of not less than 5/8" in diameter and 8' in length, with a minimum of 10' embedment. Ground rod should be connected to the structure by a copper main down conductor with a minimum size of #2 for poles with less than 75' mounting height and 2/0 for poles with more than 75' mounting height.
- E. Safety: All system components shall be UL Listed for the appropriate application.
- F. Electric Power Requirements for the Sports Lighting Equipment:
1. Electric power: 480 Volt, 3 Phase
  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.

### **2.2 STRUCTURAL PARAMETERS**

- A. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, bases, anchorages and foundations shall be determined based on the 2007 Edition of the California Building

Code, Wind Speed of 85 MPH, Exposure Category C and an Importance Factor of 1.0. Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming alignment.

- B. Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.
- C. Soil Conditions: The design criteria for these specifications are based on soil design parameters as outlined in the geotechnical report. If a geotechnical report is not provided by the owner, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2007 CBC, Table 1804.2.

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:

- a) Providing engineered foundation embedment design by a registered engineer in the State of California.
  - b) Additional materials required to achieve alternate foundation.
  - c) Excavation and removal of materials other than normal soils, such as rock, caliche, etc.
- 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.

### **PART 3 – EXECUTION**

#### **3.1 FIELD QUALITY CONTROL**

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-01, Appendix B.
- B. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be liable to any or all of the following:
  - 1. Manufacturer shall at his expense provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by a licensed structural engineer that the existing poles will withstand the additional wind load.
  - 2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of \$1,000.00 (one thousand dollars) for each additional fixture required.
  - 3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications.

## SUBMITTAL INFORMATION

### Design Submittal Data Checklist and Certification

*All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements after contract award*

| Included | Tab      | Item                          | Description   |
|----------|----------|-------------------------------|---|
|          | <b>A</b> | Letter/ Checklist             | Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.   |
|          | <b>B</b> | On Field Lighting Design      | Lighting design drawing(s) showing:<br>a. Field Name, date, file number, prepared by, and other pertinent data<br>b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), or homeplate for baseball/softball fields. Illuminance levels at grid spacing specified<br>c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics<br>d. Height of meter above field surface<br>e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance and uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor.<br>f. Alternate manufacturers shall provide both initial and maintained light scans using a maximum 0.70 Light Loss Factor to calculate maintained values. |
|          | <b>C</b> | Life Cycle Cost calculation   | Document life cycle cost calculations as defined in the specification. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 25 Years.   |
|          | <b>D</b> | Luminaire Aiming Summary      | Document showing each luminaire's aiming angle and the poles on which the luminaires are mounted. Each aiming point shall identify the type of luminaire.   |
|          | <b>E</b> | Structural Calculations       | Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of California.   |
|          | <b>F</b> | Control and Monitoring        | Manufacturer shall provide written definition and schematics for automated control system to include monitoring. They will also provide examples of system reporting and access for numbers for personal contact to operate the system.   |
|          | <b>G</b> | Electrical distribution plans | If bidding an alternate system, manufacturer must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of California.  |
|          | <b>H</b> | Performance Guarantee         | Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed per specification for 25 years.   |
|          | <b>I</b> | Warranty                      | Provide written warranty information including all terms and conditions.  |
|          | <b>J</b> | Project References            | Manufacturer to provide a list of project references of similar products completed within the past three years.   |
|          | <b>K</b> | Product Information           | Complete set of product brochures for all components, including a complete parts list and UL Listings.  |
|          | <b>L</b> | Non-Compliance                | Manufacturer shall list all items that do not comply with the specifications.   |
|          | <b>M</b> | Compliance                    | Manufacturer shall sign off that all requirements of the specifications have been met at that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in item N – Non-Compliance  |

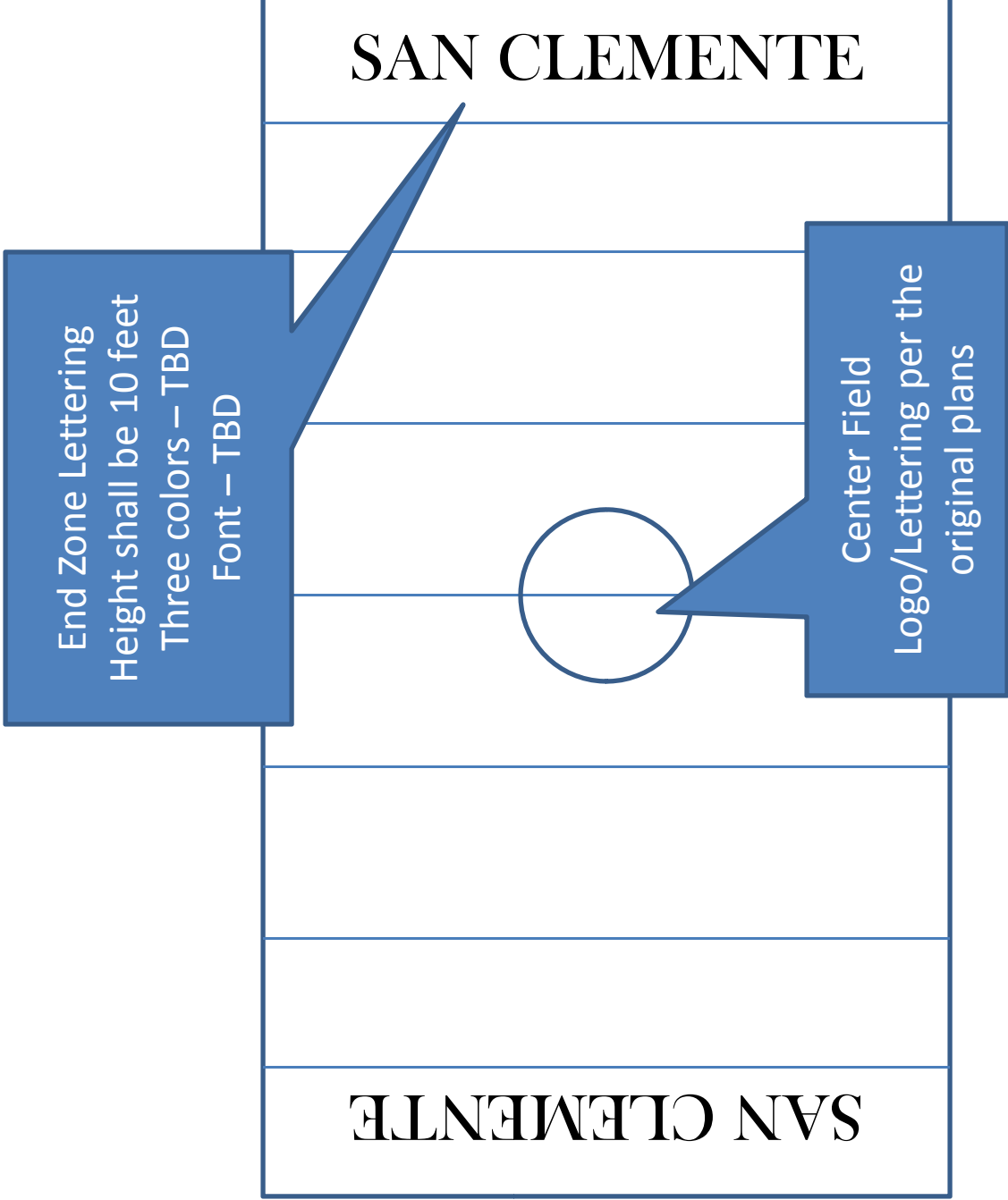
**Manufacturer:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Date:** \_\_\_\_/\_\_\_\_/\_\_\_\_

**SYNTHETIC TURF LETTERING EXHIBIT**

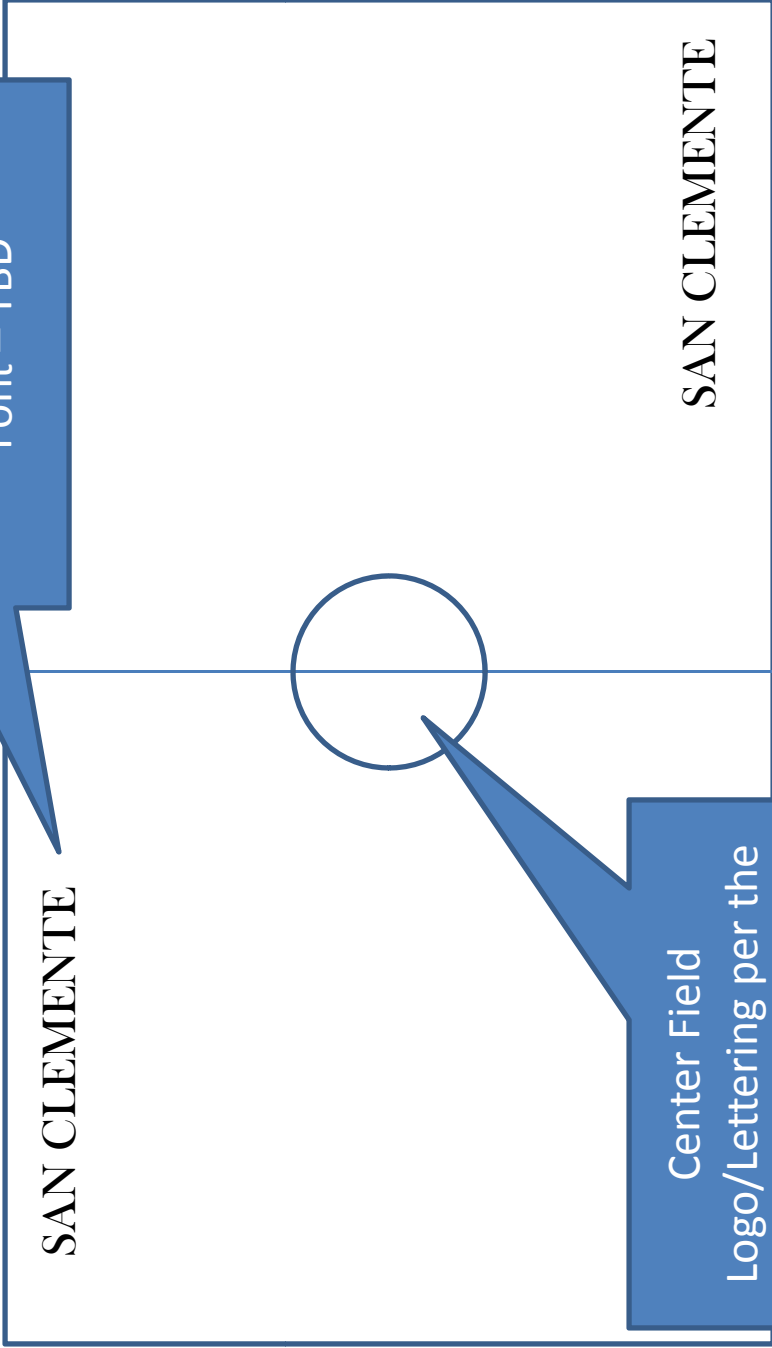


End Zone Lettering  
Height shall be 10 feet  
Three colors – TBD  
Font – TBD

Center Field  
Logo/Lettering per the  
original plans

Football Field

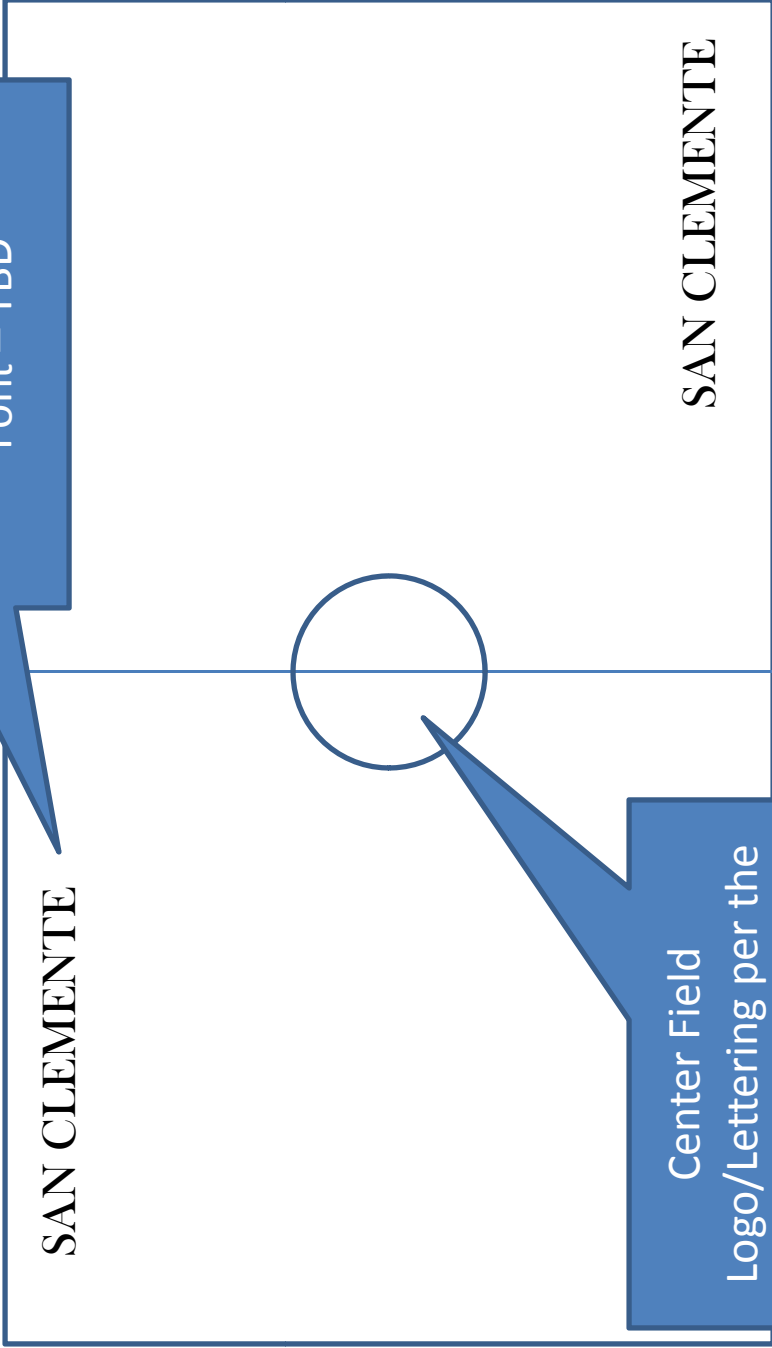
Cross Field Lettering  
Height shall be 10 feet  
Three colors – TBD  
Font – TBD



Center Field  
Logo/Lettering per the  
original plans

Soccer Field #1

Cross Field Lettering  
Height shall be 10 feet  
Three colors – TBD  
Font – TBD



**SAN CLEMENTE**

**SAN CLEMENTE**

Center Field  
Logo/Lettering per the  
original plans

Soccer Field #2