

All changes are identified with left-side vertical bar.

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- A.** Specifications for this Project are arranged in accordance with the Construction Specifications Institute numbering system and format. Division and Section numbering is discontinuous and all numbers not appearing in the Table of Contents are not used for the portions of the Project described below.
- B.** The Construction Documents prepared by the Vaughn Collaborative address the Bidding, Contract, General Conditions and Architectural portions of this project. A separate set of Construction Documents, prepared by T&M Associates, address the Civil, Structural, Fire Protection, Plumbing, Mechanical and Electrical portions of this project. The Contractor must coordinate all of their work activities using both sets of Construction Documents.
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END OF SECTION 00 0001

All changes are identified with left-side vertical bar.

SECTION 00 3102 – BID PROPOSAL FORM

**THE CLUB AT WOODBRIDGE
INDOOR ICE RINK
WOODBRIDGE, NJ
(Single Prime Contract)**

for the
Township of Woodbridge
Woodbridge, Middlesex County, New Jersey 07095

Date _____

A. CHECK LIST FOR BIDDERS

See “Bid Document Checklist” form for list of required enclosures. The listed enclosures, properly completed in duplicate (one original and one copy), and (where required) signed and sealed, are required to be submitted with this bid.

B. BASE BID:

1. We, _____, the Undersigned, will furnish all labor, material, equipment and services including \$150,000 contingency allowance necessary for the complete construction, as defined in the Contract Documents for the Contract indicated below for The Club at Woodbridge, Indoor Ice Rink, 585 Main Street, Woodbridge, NJ in strict accordance with the Contract Documents and Addenda (if any) thereto as furnished by Woodbridge Township for the total sum of:

_____ Dollars (\$_____)

C. ADD ALTERNATE NO. 1: Air Handling Unit AHU-6 and associated system modifications. Refer to Specification Section 01-2300 “Alternates”; Paragraph 3.1.A for full description.

_____ Dollars (\$_____)

D. ADD ALTERNATE NO. 2: Air Handling Unit AHU-5 and associated system modifications. Refer to Specification Section 01-2300 “Alternates”; Paragraph 3.1.B for full description.

_____ Dollars (\$_____)

E. AGREEMENT: We, the Undersigned, agree, if awarded the Contract, to execute an agreement for the above stated work and compensation on the Woodbridge Township Contract form; and Waiver of Liens in such form as the Owner will direct.

F. SURETY: We, the Undersigned, agree, if awarded the Contract, to execute and deliver to the Owner, prior to the signing of the Contract, the Bonds as required by the Instructions to Bidders.

G. COMPLETION TIME: We, the Undersigned, agree, if awarded the Contract, to begin work within ten (10) days after Notice to Proceed and substantially complete the entire work to the satisfaction of the Owner and the Architect within the time stated below, as applicable.

Contract Completion: Three Hundred Sixty (360) calendar days after Notice To Proceed.

The Club At Woodbridge
**INDOOR ICE RINK
BID PROPOSAL FORM**

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H. LIQUIDATED DAMAGES: We, the Undersigned, agree, if awarded the Contract, to the Liquidated Damages of \$1,000.00 per calendar day if project completed beyond completion date.

I. SUBCONTRACTORS: List major subcontractors by trade with name, address, license number, if applicable, and submit a copy of their NJ license and NJ Business Registration with this bid. Site, Structural, Fire Protection, Plumbing, Mechanical, Electrical, Rink Refrigeration, and Ice Rink Dasher Board System.

Site: _____

Structural: _____

Fire Protection: _____

Mechanical: _____

Electrical: _____

Ice Rink Refrigeration System (including floor): _____

Ice Rink Dasher Board: _____

J. STATEMENT:

1. We, the Undersigned, acting through its authorized officers and intending to be legally bound, agree that this bid proposal shall constitute an offer by the Undersigned to enter into a Contract with the acts and things therein provided, which offer shall be irrevocable for sixty (60) calendar days with additional thirty (30) day extension, pursuant to N.J.S.A. 42A:11-24 from the date of opening hereof and that the Owner may accept this offer at any time during said period by notifying the Undersigned of the acceptance of said offer.

2. We, the Undersigned, a sole proprietor/partnership/corporation (circle one) created and existing under the laws of the State of _____, has its business address at

The Club At Woodbridge
**INDOOR ICE RINK
BID PROPOSAL FORM**

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Telephone (____) _____.

Dated _____

Signed by _____

Title _____

Attested by _____

Title _____

(SEAL)

END OF SECTION 00 3102

SECTION 01 1000 – PROJECT SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Phased construction.
 - 4. Work performed by Owner.
 - 5. Contractor's use of site and premises.
 - 6. Coordination with occupants.
 - 7. Work restrictions.
 - 8. Specification and Drawing conventions.
 - 9. Extended Contractor Maintenance.
- B. Related Requirements:
 - 1. Section 012300 "Alternates"; for full description of Alternate Bids.
 - 2. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
- C. This project includes select proprietary products. Those products are identified in Paragraph 1.2 of their respective Specification Section.

1.3 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

- A. The Club at Woodbridge is a health club with full membership, operating seven days a week. The portion of the building, where this project shall occur, previously contained four tennis courts, which the Owner has removed, including the asphalt court base.
 - 1. The project area has been cordoned off, prohibiting member access.
 - 2. Portions of the remaining building will require sporadic Contractor access. Coordinate with Owner, no less than 72 hours in advance, for access into member occupied spaces.
- B. Contract Duration: 360 days.

The Club at Woodbridge
INDOOR ICE RINK
PROJECT SUMMARY

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- C. Liquidated Damages: \$1,000.00 per day.
- D. Project Identification: Indoor Ice Rink at The Club at Woodbridge.
 - 1. Project Location: 585 Main Street, Woodbridge, New Jersey 07095.
- E. Owner: Township of Woodbridge.
 - 1. Owner's Representatives:
 - a. John Cook; General Manager; Phone: (732) 634-5000.
 - b. Amanda Kozub; Phone: (732) 634-5000.
 - c. John Rusbarsky; Maintenance Manager; Phone: (732) 634-5000.
- F. Architect: The Vaughn Collaborative; contact information is on the project manual front cover.
- G. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:
 - 1. Ice Rink Refrigeration Consultant: MacLaughlin Management & Design.
 - a. Representative: Terry MacLaughlin, President; Phone: (603) 686-0423.
- H. Consultant (Engineer) Directly Retained by Owner:**
 - 1. Civil, Structural, Fire Protection, Mechanical, Electrical & Plumbing Engineers:
 - a. T&M Associates, LLC.
 - b. 11 Tindal Road, Middletown, NJ 07748.
 - c. Phone: (732) 671-6400
 - d. Project Managers: Robert R. Keady, Jr., Robert Koochagian.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. Construct an NHL size hockey rink, ADA restrooms, and refrigeration pump room which shall also contain the ice resurfacing vehicle, within the existing building.
 - 2. Construct a new addition containing locker rooms and associated restrooms for player use.
 - 3. Contractor is required to "paint the field color and lines" on the initial ice sheet only.
 - a. Owner shall paint the logos on the initial ice sheet.
- B. Type of Contract: Project will be constructed under a single prime contract.
- C. Project consists of a Base Bid, and two Add Alternate Bids. Refer to Section 01-2300 "Alternates" for full Add Alternate Bid descriptions.

1.6 PHASED CONSTRUCTION

- A. The phased construction addresses the relocation of Existing Air Handling Unit 3 (AHU-3) and installation of Energy Recovery Ventilator 1 (ERV-1), upon the roof of the new addition. Construct the Work in phases, with each phase substantially complete as indicated below.
- B. Phase One:
 - 1. Construct addition from Column Line 12 to plan, right-side end wall.
 - 2. Provide temporary air handling unit, on grade, and connect to ductwork on existing roof.

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PROJECT SUMMARY

All changes are identified with left-side vertical bar.

3. Disconnect existing AHU-3, remove from grade location, and salvage for reinstallation.
- C. Phase Two:
1. Reinstall existing AHU-3 on addition roof, between Column Lines 12 and 13.
 2. Construct remainder of addition between Column Lines 11 and 12.
- D. Phase Three:
1. Reconnect existing ductwork to reinstalled AHU-3.
 2. Remove temporary air handling unit, and return to loaning vendor.

1.7 WORK PERFORMED BY OWNER

- A. Cooperate fully with Owner, so work may be carried out smoothly, without interfering with or delaying Work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
- B. The Owner has purchased an electric powered ice resurfacing vehicle, which shall be used exclusively at this facility. The Contractor shall be required to coordinate with the Owner, when said vehicle can be delivered to the facility and securely stored within its' designated storage room.
1. Contractor shall also be required to coordinate installation of a remote-control device onto the ice resurfacers vehicle dashboard. The remote-control device is paired with the indoor overhead coiling door.

~~C. Owner shall apply rink line markings.~~

1.8 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

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- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.9 COORDINATION WITH OCCUPANTS

- A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.10 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
 - 1. Weekend Hours: Requires prior Owner authorization.
 - 2. Early Morning Hours: Requires prior Owner authorization.
 - 3. Hours for Utility Shutdowns: Coordinate with Owner on per basis occurrence.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Smoking and Controlled Substance Restrictions: Use of tobacco products , alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- E. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- F. Employee Screening: Comply with Owner's requirements for drug screening of Contractor personnel working on Project site. Maintain list of approved screened personnel with Owner's representative.

All changes are identified with left-side vertical bar.

1.11 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements and Division 01 General Requirements apply to all Sections of the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.

1.12 EXTENDED CONTRACTOR MAINTENANCE

- A. Contractor shall perform maintenance, for a period of one visit every three (3) months, during a two (2) year period, on all components within the following systems:
 - 1. Refrigeration system.
 - 2. Dehumidification system.
 - 3. Mechanical system.
 - 4. Electrical system.
- B. Maintenance shall include verification that each system is operating within the parameters defined within the specification sections governing each system, and within manufacturer's written parameters and factory settings.
- C. Two (2) year maintenance period shall commence upon the date established on the Certificate of Substantial Completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1000

SECTION 01 2300 – ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other Work of the Contract.
- C. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

Entire Section is part of this Addendum.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Add Alternate No. 1: Air Handling Unit AHU-6 and associated system modifications.
 - 1. Demolition of existing AHU-WMN and associated supports, ductwork, controls, wiring, etc. where shown and as described on plans.
 - 2. Installation of AHU-6 on new concrete housekeeping pad outside on grade. Installation of all new ductwork as shown on the plans.
 - 3. Installation of new electric reheat VAV boxes and associated space temperature sensors.
- B. Add Alternate No. 2: Air Handling Unit AHU-5 and associated system modifications.
 - 1. Demolition of existing refrigerant piping, ductwork, controls, wiring, etc. where shown and as described on plans.
 - 2. Installation of AHU-5 on new concrete housekeeping pad outside on grade. Installation of all new ductwork as shown on the plans.
 - 3. Installation of new space temperature sensor for AHU-5

END OF SECTION 01 2300

SECTION 13 1816 – ICE RINK DASHER BOARD SYSTEM

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Comply with requirements of General and Supplementary Conditions, and Division 1, General Requirements.

1.02 SECTION INCLUDES

- A. The work of this Section shall include, but not be limited to, the following:
 - 1. Manufacturer, supply and installation of a complete factory prefabricated, arena board system with spectator shielding and gates, including team, penalty and officials' boxes with benches; and safety netting as indicated on the drawings and specified herein.

1.03 RELATED SECTIONS

- A. Section 03 3000 “Cast-In-Place Concrete” for construction of spectator area floor slab around perimeter of rink floor. (NOTE: This Section is included in a separate specification volume prepared by T&M Associates.)
- B. Section 13 1000 “Refrigerated Concrete Rink Floor” for construction of rink floor system and components.
- C. Final cleaning to be carried out as specified in Division 01, General Requirements.

1.04 COORDINATION

- A. Provide clear access into the rink area by forklift.
- B. Final cleaning to be carried out as specified in Division 1, General Requirements.

1.05 SUBMITTALS

- A. Shop Drawings
 - 1. Shop drawings shall be submitted by manufacturer. Drawings shall be submitted to Contractor, Engineer, Architect or Owner for approval prior to actual fabrication of materials.
 - 2. Shop drawings shall show, in appropriate scale, dimensions, details of arena board system, glazing assemblies, methods of joining, fastening, joint locations, methods of anchoring, sizes of anchorage's, glazing details and glazing methods, hardware, details of other pertinent components of the work, and adjacent constructions to which work of this Section will be attached.
 - 3. Shop drawings shall indicate dimensioned layout and placement drawings for installation of floor anchors.

The Club at Woodbridge
INDOOR ICE RINK
ICE RINK DASHER BOARD SYSTEM

All changes are identified with left-side vertical bar.

- B. Samples: Submit samples of materials, finishes and colors for review.
- C. Operation and Maintenance Data
 - 1. On completion of installation, supply three copies of instructions covering removal and replacement of panel system, reglazing, adjustments and other relevant operating and maintenance data.
 - 2. Provide "As Built" drawings showing overall layout of the boards and glass.

1.06 QUALITY ASSURANCE

- A. Qualifications
 - 1. All materials shall be manufactured and installed per plans and specifications. Any deviations to this specification, unless approved in writing by the owner, will be charged back to the supplier at the Owner's discretion.
- B. Manufacturers: The following manufacturers are acceptable:
 - 1. Athletica Sport Systems
554 Parkside Drive, Waterloo, Ontario, Canada N2L 5Z4
Phone: 519.747.1856 Toll-free 1.877.778.5911 Fax: 519.747.3659
- AND -
720 Innovation Dr, Shakopee Minnesota, USA 55379
Phone: 763.249.7465 Toll-free 1.800.809.7465 Fax: 763.249.7475
www.Athletica.com
 - 2. Other Approved Manufacturers:
Arena board system shall be provided by an approved manufacturing firm having satisfactory experience in manufacturing and installing arena boards, using persons trained and skilled in the type of work required for both manufacturing and installing. Firm must provide evidence of at least ten (10) installations identical in construction and features to the following specification, each with a minimum of five (5) years' operating successfully prior to bid date. A list of these installations including arena name, contacts, address and telephone numbers must be included with requests for prior approval. Where materials or suppliers have been named, the words "or approved equal" shall apply. Approval must be obtained from the Architect in writing prior to acceptance of an "equal". Requests for equivalent approval must be submitted in writing, no later than 10 days after award. If the submitted manufacturer is approved, the Contractor shall be responsible for all costs associated with the use of the "approved equal" component.
 - 3. Steel framed dasher board systems are not an acceptable alternate for this scope of work.

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ICE RINK DASHER BOARD SYSTEM

All changes are identified with left-side vertical bar.

1.07 WARRANTY

- A. Warrant the work of this Section against defects in materials and workmanship for a period of three (3) years from the date of substantial completion of the contract. Misuse, abuse and/or accident not caused by normal use is excluded. Glass breakage is excluded. Board misalignment from ice build-up underneath, excessive ice edge or ice thickness beyond 1-1/2" is excluded. Exclusions are considered maintenance requirements.

1.08 DELIVERY

- A. Contractor's construction schedule shall allow for sufficient manufacturing and installation time prior to the project completion date.

PART 2 – PRODUCT DESCRIPTION

2.01 SYSTEM DESCRIPTION FOR BASE REQUIREMENT

- A. Basis of design is the Athletica Sport Systems Inc. CrystaPlex® Series 6A Aluminum Prefabricated Dasher Board System. This facility is proposed to be 200 ft long by 85 ft wide, with 28' radius corners.
- B. Alternate Manufacturer includes Rink Systems Legacy Elite, aluminum dasher board system.

2.02 ARENA PANELS & FRAME

- A. Aluminum Extrusions: ASTM B221, 6005-T5 or T6 alloy and temper. Architectural aluminum is not acceptable.
- B. Dasher Panels shall be fabricated in demountable sections of nominal 8' (2400 mm) lengths. The design of all panels, whether straight section, curved section or a section in which a gate is located shall be fundamentally similar.
- C. Standard size of straight panels is to be 41" high by 96" long (1050 x 2400 mm).
- D. Standard size of curved panels is to be 41" high by 88" long. (1050 x 2200 mm).
- E. Aluminum is to be Structural alloy 6005A.-T6
- F. Aluminum components to meet ASTM B221 and Federal specification QQA200-9.
- G. Dasher frames are to be complete welded construction.
- H. Frames to be 6" wide.

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- I. For Seamless glass Sections: Base for Glass (horizontal) – 3-1/2” (88 mm) extruded aluminum U channel mounted into frame. The use of a plastic channel in lieu of the aluminum channel is not acceptable. The use of no channel is not acceptable.

2.03 ANCHORS

- A. Adjustable pre-cast anchors supplied and installed by Athletica Sport Systems Inc.
- B. Concrete pour to be supervised by Athletica Sport Systems Inc. to ensure integrity of anchors.
- C. Floor thickness to be 5” min.
- D. Expansion joint to be 1/2” wide located behind the dasher board system.
- E. The dashers are to be installed onto a concrete refrigerated floor.

2.04 GATES

- A. See drawing for location. Sizes and exact locations to be site verified.
- B. 4 player gates 30” wide.
- C. 2 penalty gates 30” wide.
- D. 4 access gate(s) 36” wide in the side of the rink.
- E. 1 double leaf machine gate(s) 120” wide in the radius of the rink.

2.05 THRESHOLDS

- A. All player/penalty and access gates shall be equipped with 1” thick natural HDPE skate threshold. The width shall be enough to cover the entire width of the door openings. Existing player/access gates that are to be re-used must receive new thresholds.
- B. Machine gates shall be equipped with 1-1/2” thick natural HDPE threshold. The width shall be enough to cover the entire width of the door openings.
- C. All threshold fasteners to be counter-sunk 1/2” deep.

2.06 HARDWARE

- A. All player and access gate hardware is to plated steel
- B. Machine gate hardware is to be plated steel

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- C. Each machine gate unit shall be equipped with adjustable heavy-duty spring-loaded casters, with the direction of travel fixed to the arc of the door.
- D. Machine gate closure bars to be 2" diameter solid steel and are to be a double bar sliding type.
- E. Provide a flush mounted push-button latch release in the cap rail on the ice entrance gates where shields would otherwise prevent latch operation. The push-button shall be designed to be simple to operate from both sides of the shielding (suitable for opening gates with hockey glove on hand), yet prevent accidental opening.
- F. All fasteners are to be zinc plated and are to be color matched where necessary

2.07 BOARD CLADDING

- A. .500" thick Stay-White polyethylene board facing.
- B. .500" thick x 8" high, polyethylene kick plate, and top edge routed to 3/8" radius.
- C. Color for the kick plate to be yellow.
- D. .500" thick polyethylene cap rail top edge, front and back, routed to 3/8" radius.
- E. Color for the cap rail to be dark blue.
- F. Official line markings, 1/2" x 12" red and blue, and 2" red goal lines shall be carried vertically from the ice to the bottom of the cap rail. Line markings to be in accordance with League Guidelines.
- G. Board cladding is to be applied with 1/4" – 20 Philips flat head color matched screws.
- H. Bottom row of fasteners in kick plate must be stainless steel.

2.08 GLAZING AND SUPPORTS

- A. 72" high x 5/8" thick tempered glass on two ends including radius sections.
- B. 48" high x 1/2" thick tempered glass on the player box side of the rink.
- C. 72" high x 1/2" thick tempered glass opposite the player box side.
- D. The shielding system is to be SEAMLESS* sides, ends and boxes.
- E. The shield supports are to be aluminum HDR Quick Release.
- F. The shield supports are to extend to within 13" (standard) of the top of the shielding.
- G. Shielding in front of the scorer's table shall have a 3 1/4" diameter speak hole.

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H. Heights are above cap rail.

*NOTES: For Seamless Glass Sections

1. Base for Glass (horizontal) – 3-1/2" (88 mm) extruded aluminum U channel mounted into frame. The use of a plastic channel or no channel in lieu of the aluminum channel is not acceptable. The use of no channel is not acceptable.
2. The gap between the glass, where there are no gates, shall be 1/4" to 3/8" (6 to 9 mm). There shall be a spring-loaded Lexan clip at the top of the glass to connect one piece of glass to the next. The use of non-spring-loaded clips is not acceptable. Plastic spacers will be provided at the base of the glass.

2.09 PLAYERS, PENALTY AND TIMEKEEPERS – BOXES

- A. Player boxes are to be 25 ft long and 6' deep with side walls.
- B. Penalty boxes are to be 8 ft long and 6' deep with side walls.
- C. Timers box is to be 8 ft long and 6' deep with side walls.
- D. 4 side walls are to be 4' long and 2 are to be 6' long.
- E. .375" thick half height backer panel and water bottle shelf to be included for the player's boxes.
- F. Penalty and timer's boxes are to be located on same side as the player bench side of the rink.
- G. 2 additional 30" wide gates are to be provided for each one of the player boxes in the end panel.
- H. 2 additional 30" wide gates are to be provided for each one of the penalty boxes in the end panel.
- I. 2 additional 30" wide gates are to be provided for each one of the timer's box in the side panel.

2.10 PLAYERS, PENALTY AND TIMEKEEPERS – SHIELDING

- A. 48" high x 1/2" thick tempered glass for the sides of the player's boxes.
- B. 48" high x 1/2" thick tempered glass for the front and sides of the penalty boxes.
- C. 48" high x 1/2" thick tempered glass for the front and sides of the timer's box.
- D. Heavy Duty bumper pads are to be provided on supports at shield's termination points.
- E. Tempered Safety Glass CAN/CGSB-12.1, Type 2, clear, colorless, fully toughened, heat tempered safety glass. The roll-wave distortion shall not exceed 0.127 mm (0.005") from peak to valley.
- F. Each piece of tempered glass shall bear the stamp of approval from the American National Standards Institute (ANSI), in a location that will be visible and legible after boards and shielding are installed.

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2.11 PLAYERS, PENALTY AND TIMEKEEPERS – FLOORS

- A. Floors for the players, penalty and timer's boxes are to be of wood framed construction with 3/4" plywood nailed to base. 1/2" black rubber flooring to be loose laid on top of plywood.
- B. Coach's walkway, 8" high by 30" wide to be provided for each player box.
- C. Plywood: CSA O121, Douglas Fir plywood, exterior waterproof type, Grade G/Solid (Canadian Standard), or Product Standard PS-1, Douglas Fir plywood, exterior waterproof type (American Standard).

2.12 PLAYERS, PENALTY AND TIMEKEEPERS – BENCHES

- A. Benches are 1/2" thick dark blue polyethylene top fastened to a 9 1/2" wide aluminum channel.
- B. Player box benches are to be 20 ft long.
- C. Benches in the penalty boxes are to be 8 ft long.
- D. Player and penalty benches are to be removable.
- E. Timekeepers Table with supports, 20" x full width of box, as shown on drawings, with bottom pencil holder.

2.13 BACKER PANEL

- A. .375" thick Stay white polyethylene Backer Panel for one complete end and spectator side (to machine door) with 1/4" type f screws.
- B. Backer panel to be white and full 41" height.

2.14 PERMANENT MOUNT PROTECTIVE NETTING

- A. Clear monofilament netting for two ends and spectator side of the rink to a height of 12 ft above the shielding.
- B. Netting hardware package to include beam clamps, cables and misc. hardware required for a complete installation.
- C. Netting to be attached to a conduit frame at the top which is suspended from the ceiling.
- D. Bottom of netting to be attached to shielding.

2.15 SPARE COMPONENTS

- A. Fifty additional painted screws of each color required for fastening of HDPE facings.

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- B. Two pieces of each size facing, cap rail and kick plate.
- C. Two extra pieces of shielding of each standard size required.
- D. 1 piece of 5' x 8' x .590 acrylic to use as spares for specials.

2.16 IMPACT AD PANELS

- A. 20 Blank Polycarbonate Panels 118" thick, 96"W x 33"H
- B. Panels to feature bullnose edging and rounded corners to minimize errant rebounds and potential player injury.
- C. Panels are supplied as predrilled and countersunk
- D. Includes Flathead screws with special hi-lo thread seat below the panel surface to provide a safe and secure attachment.

2.17 COMPLETE INSTALLATION

- A. Provide a complete installation of the board system by the manufacturer or manufacturer approved dealer in accordance with the drawings and specifications. Union Wages apply.

2.18 NOTES: For Seamless glass Sections

- A. Base for Glass (horizontal) – 3-1/2" (88 mm) extruded aluminum U channel mounted into frame. The use of a plastic channel in lieu of the aluminum channel is not acceptable. The use of no channel is not acceptable.
- B. The gap between the glass, where there are no gates, shall be 1/4" to 3/8" (6 to 9 mm). There shall be a spring-loaded Lexan clip at the top of the glass to connect one piece of glass to the next. Plastic spacers will be provided at the base of the glass.

END OF SECTION 13 1816