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PROCUREMENT AND CONTRACTING DOCUMENTS GROUP

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CONTRACT & INVITATION TO BID UNDER SEPARATE COVER

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PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-plastic (HDPE) toilet compartments configured as toilet enclosures and urinal screens.

B. Related Requirements:

1. Section 10 28 00 "Toilet and Bath Accessories" for toilet tissue dispensers, grab bars, and similar accessories mounted on toilet compartments.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings: For toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of centerlines of toilet fixtures.
4. Show locations of floor drains.
5. Show overhead support or bracing locations.

C. Samples for Initial Selection: For each type of toilet compartment material indicated.

1. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

1. Each type of material, color, and finish required for toilet compartments, prepared on **3 inch (76 mm)** square Samples of same thickness and material indicated for Work.

E. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.3 CLOSEOUT SUBMITTALS

- ##### A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.4 PROJECT CONDITIONS

- ##### A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 75 or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Regulatory Requirements: Comply with applicable provisions in the U.S. Design Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Basis of Design: Accurate Partitions Corp.; ASI Group. Tough Texture.
 - 2. AJW Architectural Products.
 - 3. Scranton Products.
- B. Toilet-Enclosure Style: Overhead braced and Floor anchored.
- C. Urinal-Screen Style: Wall hung and Overhead braced and Floor anchored.
- D. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than **1 inch (25 mm)** thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.
 - 1. Hinges: Configure doors and pilasters to receive continuous hinges.
 - 2. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum or stainless-steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 3. Texture: Tough Texture.
 - 4. Color and Pattern: One color and pattern in each room as selected by Design Professional from manufacturer's full range.
- E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
- F. Brackets (Fittings):
 - 1. Full-Height (Continuous) Type: Manufacturer's standard design; extruded aluminum or stainless steel.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
 - 1. Material: Clear-anodized aluminum, or Stainless steel.
 - 2. Hinges: Continuous, cam type that swings to a closed or partially open position.

3. Latch and Keeper: Manufacturer's standard recessed surface-mounted latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Coordinate this with all accessories, adjust location of Coat Hook as required.

NOTE: Coordinate location and length of rubber-tipped bumper with depth of toilet paper dispenser.

5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.
 6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

- A. Aluminum Castings: ASTM B 26/B 26M.
- B. Aluminum Extrusions: **ASTM B 221 (ASTM B 221M)**.
- C. Brass Castings: ASTM B 584.
- D. Brass Extrusions: ASTM B 455.
- E. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- F. Stainless-Steel Castings: ASTM A 743/A 743M.
- G. Zamac: ASTM B 86, commercial zinc-alloy die castings.

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

- C. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- D. Door Size and Swings: Unless otherwise indicated, provide **30 inch (763 mm)** wide, in-swinging doors for standard toilet compartments and **36 inch (914 mm)** wide, out-swinging doors with a minimum **32 inch (813 mm)** wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: **1/2 inch (13 mm)**.
 - b. Panels and Walls: **1 inch (25 mm)**.
 - 2. Continuous Wall Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
- B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than **1-3/4 inches (44 mm)** into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
- C. Floor-Anchored Units: Set pilasters with anchors penetrating not less than **2 inches (51 mm)** into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
- D. Urinal Screens: Attach with anchoring devices to suit supporting structure with full-height brackets. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 10 21 13

SECTION 12 21 13 – HORIZONTAL LOUVER BLINDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Horizontal louver blinds with aluminum slats.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For horizontal louver blinds, include fabrication and installation details.
- C. Samples for Initial Selection: For each type and color of horizontal louver blind.
 - 1. Include Samples of accessories involving color selection.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For horizontal louver blinds to include in maintenance manuals.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver horizontal louver blinds in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Do not install horizontal louver blinds until construction and wet-work and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where horizontal louver blinds are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain horizontal louver blinds from single source from single manufacturer.

2.2 HORIZONTAL LOUVER BLINDS, ALUMINUM SLATS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Hunter Douglas Contract; CD88 Ultimate, de-Light™ aluminum blinds, with Dust Shield or equivalent.
 2. Levolor Contract; a Newell Rubbermaid company; Riveria Classic with Dustguard and LightMaster™ Blind.
 3. Springs Window Fashions; SWF contract; Bali S3000 Light blocking aluminum blind with Dust Shield or equivalent.
- B. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radius corners.
1. Width: 1 inch (25 mm) slats.
 2. Thickness: Not less than 0.008 inch (0.20 mm).
 3. Spacing: Every 18 mm for 16.7 slats or more per foot (18 mm).
 4. Finish: Ionized antistatic, dust-repellent, baked polyester finish.
 5. Features:
 - a. Lift-Cord Rout Holes: Minimum size required for lift cord and located near back (outside) edge of slat to maximize slat overlap and minimize light gaps between slats.
- C. Headrail: Formed steel or extruded aluminum; long edges returned or rolled. Headrails fully enclose operating mechanisms on three sides.
1. Capacity: One blind per headrail.
 2. Ends: Manufacturer's standard.
 3. Manual Lift-Operator and Tilt-Operator Lengths: Manufacturer's standard.
 4. Manual Lift-Operator and Tilt-Operator Locations: Manufacturer's standard.
- D. Bottom Rail: Formed-steel or extruded-aluminum tube that secures and protects ends of ladders and lift cords and has plastic- or metal-capped ends.
1. Type: Manufacturer's standard
- E. Lift Cords: Manufacturer's standard braided cord.
- F. Ladders: Evenly spaced across headrail at spacing that prevents long-term slat sag.
1. Type: Braided cord.
- G. Valance: No valance required.
- H. Mounting Brackets: With spacers and shims required for blind placement and alignment indicated.
1. Type: End and top-mounting where multiple sections of glass create the assembly. Cover the entire storefront assembly.

2. Intermediate Support: Provide intermediate support brackets to produce support spacing recommended by blind manufacturer for weight and size of blind.

I. Colors, Textures, Patterns, and Gloss:

1. Slats: As selected by Design Professional from manufacturer's full range.
2. Components: Provide rails, cords, ladders, and materials exposed to view matching with slat color.

2.3 HORIZONTAL LOUVER BLIND FABRICATION

- A. Product Safety Standard: Fabricate horizontal louver blinds to comply with WCMA A 100.1 including requirements for corded, flexible, looped devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
 1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which blind is installed less 1/4 inch (6 mm) per side or 1/2 inch (13 mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill dimension of opening in which blind is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).
- C. Concealed Components: Noncorrodible or corrosion-resistant-coated materials.
 1. Lift-and-Tilt Mechanisms: With permanently lubricated moving parts.
- D. Mounting and Intermediate Brackets: Designed for removal and reinstallation of blind without damaging blind and adjacent surfaces, for supporting blind components, and for bracket positions and blind placement indicated.
- E. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to brackets and adjoining construction; type designed for securing to supporting substrate; and supporting blinds and accessories under conditions of normal use.
- F. Color-Coated Finish:
 1. Metal: For components exposed to view, apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install horizontal louver blinds at all exterior windows in SRO OFFICER 302.
- B. Install horizontal louver blinds level and plumb, aligned and centered on openings, and aligned with adjacent units according to manufacturer's written instructions.
 - 1. Locate so exterior slat edges are not closer than 1 inch (25 mm) from interior faces of glass and not closer than 1/2 inch (13 mm) from interior faces of glazing frames through full operating ranges of blinds.
 - 2. Install mounting and intermediate brackets to prevent deflection of headrails.
 - 3. Install with clearances that prevent interference with adjacent blinds, adjacent construction, and operating hardware of glazed openings, other window treatments, and similar building components and furnishings.
 - 4. Do not attach to face or underside of storefront frame, side or top mount into CMU.

3.3 ADJUSTING

- A. Adjust horizontal louver blinds to operate free of binding or malfunction through full operating ranges.

3.4 CLEANING AND PROTECTION

- A. Clean horizontal louver blind surfaces after installation according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions in a manner acceptable to manufacturer and Installer that ensures that horizontal louver blinds are without damage or deterioration at time of Material Completion.
- C. Replace damaged horizontal louver blinds that cannot be repaired in a manner approved by Design Professional before time of Material Completion.

END OF SECTION 12 21 13

SECTION 13 34 16 - GRANDSTANDS AND PRESS BOXES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide engineering, material, freight to permanent grandstands as shown on the drawings and specified herein. Work shall include, but not limited to the following:
 1. Concrete foundations
 2. Galvanized steel understructure
 3. Fully closed interlocking aluminum deck with gutters
 4. Guardrail and handrail system.
 5. Egress stairs and ADA compliant access ramp.

1.02 RELATED DOCUMENTS

- A Drawings and general provisions of the contract, including general and special conditions and division 1 requirements, apply to this section.

1.03 RELATED SECTIONS

- A. Section 03 30 00 – Cast in Place Concrete
- B. Section 07 54 19 – Poly-vinyl Chloride (PVC) Roofing
- C. Section 32 13 13 – Concrete Pavement

1.04 REFERENCES

- A. ASTM A36 - Carbon Structural Steel.
- B. ASTM A123/A123M-02 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- C. ASTM A307/A325 - Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
- D. ASTM A325-07a Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.

1.05 DESIGN REQUIREMENTS

- A. Bleachers, grandstands and pressbox structures shall be designed by a professional engineer licensed in the state where the grandstand will be erected.
- B. Applicable Codes
 1. International Building Code, Latest Edition
 2. International Code Council standard on bleachers and grandstands, 2012 edition.
 3. American Concrete Institute ACI 318-08.
 4. American with Disabilities Act.
 5. Aluminum Association of America.
 6. AISC Manual of Steel Construction, Load and Resistance Factor Design, Second Edition.
- C. Design Loads
 1. Live load: 100 psf gross horizontal projection at Grandstand; 40 psf at Press box.
 2. Live load, seat planks: 120 plf.

3. Horizontal sway load: 24 plf parallel to seat planks.
4. Perpendicular sway load: 10 plf seat planks.
5. Treads: Minimum concentrated load of 300 pounds on 4 square inches
6. Guard Rail load:
 - a. Vertical load: 50 plf.
 - b. Horizontal load: 50 plf.
 - c. Concentrated load: 200 pounds.
7. Wind load: Per local building code.

1.06 SUBMITTALS

- A. Submittals shall comply with section 01 33 00 – Submittal Procedures: Submittal requirements
- B. Product Data:
 1. Manufacturers technical data and specifications.
 2. Storage and handling requirements.
 3. Installation instructions.
- C. Shop Drawings:
 1. Submit 6 copies of manufacturer's shop drawings, signed and sealed by a Professional Engineer licensed in the state where the grandstand will be erected, showing product dimensions, framing, deck configuration, railings, stairs, ramps and any other necessary items specified within this section.
 3. Material Samples: Submit samples of each product specified, depicting the appropriate style and color.
- D. Certificates:
 1. Submit manufacturers and installers liability, workers compensation and auto insurance certificates.
- E. Delegated-Design Submittal: For Grandstands and Bleachers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.07 QUALITY ASSURANCE

- A. Single Source Responsibility: Single manufacturer shall provide all components required to install the products specified in this section.
- B. Manufacturers Qualifications: Manufacturers must have 10 years of experience in the manufacturing of bleachers and grandstands of the type specified under the same corporate name. Any company that has been reorganized due to bankruptcy must have been in business for the 10 years to qualify. The steel fabricator must be AISC certified. All structural steel shall be fabricated in an AISC certified plant that is certified as "STD" at the time of the bid. The fabricator shall be listed on AISC's website as a certified fabricator.
- C. Engineering Qualifications: The Grandstand shall be designed and approved by a Licensed Professional Engineer registered within the state where the grandstand will be erected. All submittal drawings shall bear his seal.

- D. Product Liability: The Grandstand Manufacturer shall provide A Certificate of Product Liability Insurance in the minimum amount of \$1,000,000.00 for life of the product. This coverage shall be in lieu of and supersede all other insurance requirements referenced within the specifications.
- E. Any bid from any manufacturer/installer that has a demonstrated history of shoddy work, unsafe labor practices, failure to complete projects on time, been cited for violations of any state department of labor or has been disallowed from bidding on work in any state will be rejected.
- F. Installer Qualifications: Factory-trained and experienced in the proper installation of bleachers and grandstands.
- G. Welders: AWS certified.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site with manufacturer's labels clearly identifying the products and contractor or fabricator.
- B. Store materials in a clean, dry area, away from exposure to the weather until they are ready for installation.
- C. Protect materials while handling to avoid damage during installation.

1.09 SITE CONDITIONS

- A. Owner shall furnish soil tests as necessary to determine suitability for installation.
- B. Owner shall clearly mark all underground utilities and notify the appropriate parties prior to work commencement.
- C. Proceed with work only when current or forecasted weather allows.

1.10 WARRANTY

- A. The product shall be guaranteed for a period of **one year** after completion against defective materials Damages resulting from abnormal use, vandalism, or incorrect installation (if Installed by other than an authorized manufacture's installer) shall void this warranty. Mill finish staining and/or oxidation is specifically excluded by the warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis-of-Design: Subject to compliance with requirements, provide grandstands and press boxes by GT Grandstands, Inc, other available manufacturers offering acceptable equivalent products that may be incorporated into the Work include, but are not limited to, the following:
 - a. GT Grandstands, Inc., 2810 Sydney Road, Plant City, FL 33566; Toll Free Tel: 866-550-5511; Tel: 813-305-1415 (Basis of Design)
 - b. Southern Bleacher Company Inc. P.O. Box 1, Graham, Texas, Tel. 800-433-0912

- c. American Grandstands Inc. 8107 Chancellor Row, Dallas, Texas 75247 Tel. 214-638-7007
- B. Obtain all components of grandstand, bleacher, and press box from a single manufacturer

2.02 PERMANENT GRANDSTANDS

- A. Permanent Grandstands size:
 - 1. Grandstand Size: per the drawings:
 - 2. Stringer supports on 18' centers with angle bracing in alternating bays.
 - 3. Stringers shall be wide flange and placed at a maximum 6 feet on center.
 - 4. Decking rise: as required for project
 - 5. Tread depth: as required for project.
 - 6. Structural hardware: Meeting or exceeding requirements of ASTM A307.
 - 7. Entry stairs:
 - a. Stair rise: Maximum of 7 inches.
 - b. Stair tread: Minimum of 11 inches with a contrasting nosing strip.
 - c. Guard Rail: 42 inches above the leading edge of step with same construction as specified for the grandstand.
 - d. Handrails: Anodized handrails and handrail extensions shall be no less than 34 inches or more than 38" above the nosing of the treads or landings. Handrails shall be continuous with an obstructed handgrip area the full length of the stair. Handrails shall extend 12 inches beyond the bottom riser and 12 inches beyond the top riser in the direction of travel. Handrail ends shall be returned or terminate in newel posts or safety terminals.
 - e. Aisle tread nosing shall have a contrasting color.
 - 8. Ramps:
 - a. Slope: 1:12 maximum
 - b. Guard Rail: 42 inches above the leading edge of step with the same construction as specified in the Guard Rails specification section.
 - c. Handrails: Anodized handrails and handrail extensions shall be no less than 34 inches or more than 38" above the nosing of the treads or landings. Handrails shall be continuous with an obstructed handgrip area the full length of the stair. Handrails shall extend 12 inches beyond the bottom of the ramp and 12 inches beyond the top of the ramp in the direction of travel. Handrail ends shall be returned or terminate in newel posts or safety terminals.
 - 9. Aisles
 - a. Minimum Width: 54 inches for interior aisles and 36 inches for end aisles unless larger aisles are required by the applicable local code.
 - b. Aisles with seating on both sides must have a 34-38 inch high handrail with intermediate rail at approximately 22 inches above the tread.
 - c. Aisle tread nosing shall have a contrasting color.
 - d. Intermediate aisle steps: If required by the applicable code, shall be used to provide equal rise and run throughout the aisle. Each shall have an contrasting nosing.
 - 10. Accessible Seating:
 - a. Provide wheel chair spaces as required by the ADA.
 - b. Any adjacent riser area to be closed using intermediate construction.

2.03 Materials

2.03.1 Structural Steel

- A. All detailing, fabrication, and erection shall be in accordance with AISC Specifications, Load & Resistance Factor Design, 2nd Edition
- B. Structural steel shall be ASTM A572 multi-certified grade 50, Miscellaneous steel shall be ASTM A36.
- C. All bolts 5/8" diameter and larger shall be ASTM A325. All bolts 1/2" and smaller shall be ASTM A307. Threaded rod shall be ASTM A36.
- D. All welds shall conform to ANSI/AWS D1.1, latest edition. Electrodes shall be E70XX.
- E. Columns shall be angle shapes at 6' centers.
- F. Stringer shall be wide flange shape.
- G. Steel Finish

Structural steel shall be coated with a minimum of 2 oz. hot dipped galvanized in accordance with ASTM 123-A with a minimum galvanized film thickness of 3.3 mils. Zinc shall be 98% purity, certified with written test results based on samples taken from the tank.

2.03.2 Guardrail

- A. Guardrails shall be 204R1 mill finished aluminum extruded angle, 3" x 2" x 1/4" 6061-T6 alloy.
- B. Chain link fence shall be 2" mesh, 6 gauge black vinyl coated.
- C. All vertical angle guardrail supports shall be 2" x 3" minimum in size.

2.03.3 Handrail

- A. Two line center aisle handrails shall be anodized extruded aluminum pipe of 6061-T6 alloy, .145" thickness.
- B. Handrails shall provide a minimum 1-1/2" clearance from the guardrail material and shall extend 12" past the last riser with a return. Newel posts will not interrupt handrails. Handrails will not project more than 4.5" into the width of a stair or ramp.

2.03.4 Seating

- A. Seats shall be 6063-T6 extruded aluminum with a fluted surface and a minimum of 4 vertical support ribs. The seat plank is a nominal 2" x 10" aluminum plank. Aluminum seat plank shall be cleaned, pre-treated and clear anodized. End caps shall be cast aluminum and mechanically attached to seat board.
- B. Seatboards shall be attached to the system by riser "L" brackets.

2.03.6 Decking System

- 2.03.6.1 No penetration fully closed interlocking deck.
- A. Footboards shall be 6063-T6 extruded aluminum with a fluted surface with a minimum wall thickness of 0.078" between flutes. The minimum acceptable vertical height is 1.500". Footboards shall be mill finish. Mill finish aluminum when exposed to the atmosphere forms a transparent, protective oxide coating. Mill finish aluminum will stain and the stains can be erratic in nature and can vary in color from light bronze to black. The decking system is attached by concealed clips and galvanized hardware
 - B. Individual planks shall be interlocking design, nesting with adjacent planks.
 - C. The ends of decking system will be finished with one piece mill finish aluminum channel end cap.
 - D. Nose planks feature an extruded channel to receive the riser plank.
 - E. Nose planks shall allow for a 1" extruded channel to receive the riser plank.
 - F. Nose planks shall allow for a 1" extruded aluminum contrasting aisle tread nosespiece located at all vertical aisles and powder coated black.
 - G. Heel planks shall have a lip at the back to allow the overlapping of the riser plank.
 - H. No through bolting of any kind shall be permitted to secure "top side" components; no exceptions.
 - I. Riser: 6063 T-6 aluminum alloy, corrosion resistant, maintenance free interlocking riser. Riser shall be of sufficient height to completely close the deck and interlock with the deck extrusions directly above and below the respective rise. Riser shall have a 204 R1 clear anodized or powder coated finish selected from manufacturers standard color chart.

2.04: Press Box

A. FLOOR CONSTRUCTION

- 1) Bottom Board:
 - 1/2" CDX plywood (painted black)
 - Continuous aluminum vents on 8' centers. (min. of 2)
- 2) Insulation:
 - Min. R-19 fiberglass batts, with vapor barrier.
- 3) Joists:
 - 2" x 6" #2 SPF, on 16" centers, longitudinal framing.
 - #1 SYP as required
- 4) Decking:
 - 3/4" Sturdifloor, underlayment grade, tongue and groove fir plywood, (Index 24" O.C.).
- 5) Covering:
 - 1/8" Armstrong Excelon vinyl composition tile, Cottage Tan.

- 6) Molding:
4" Thermoplastic rubber base molding by Roppe.

B. WALL CONSTRUCTION

1. Studs:
2" x 4", #2 or better SPF, on 16" centers, IBC framing.
2. Bottom Plate:
2" x 4" #2 or better SPF.
3. Top Plates:
(2) 2" x 4" #2 or better SPF.
4. Headers:
As span and design load requires
5. Ceiling Height:
8'-0" x 7'10", front to back.
6. Covering:
5/8" vinyl-faced gypsum panels, Class A, F.S.R.
7. Insulation:
Min. R-11 fiberglass batts with vapor barrier.
8. Sheathing:
7/16" oriented strand board or 1/2" CDX plywood
as required.
9. Siding:
Mastic .048 vertical board and batten premium vinyl
siding panels or .026 gauge ribbed steel panels with Kynar 500 finish

10. ROOF CONSTRUCTION

- 1) Joists:
2" x 8", #2 SPF, 16" O.C. spacing or #1 SYP as required.
- 2) Overhang:
15-1/2" over front wall; 6" over rear wall.
.019 aluminum fascia with perforated aluminum soffit panels.
- 3) Ceiling:
5/8" gypsum board, taped and bedded with spray textured finish, Class A F.S.R.
- 4) Insulation:
Min. R-19 fiberglass batts with vapor barrier.
- 5) Decking:
3/4" tongue & groove plywood sheathing, span rated.

11. WINDOWS

- 1) Lindsay #3300 "Earthwise Series" AAMA LC25 Grade Light commercial vertical sliders with extruded vinyl frames, $\frac{3}{4}$ " insulated Low-E, argon filled tempered safety glass and removable insect screens.
 - 2) Interior windows to be $\frac{1}{4}$ " tempered safety glass fixed pane with stained jambs and casing
12. DOORS: (Exterior)
Masonite "Oakcraft" wood-grain textured insulated fiberglass entry door with solid vinyl jambs; 16" insulated/tempered lite, aluminum threshold, vinyl weather stops, stainless steel hinges and heavy-duty retention chain. Doors equipped with commercial lever-handled keyed locksets.
13. DOORS: (Interior)
1-3/8" solid-core stained Birch with stained birch wood jambs and casing and passage lever-handled hardware
14. ELECTRICAL
- 1) Service Entrance Panel:
Square D QO112M100 with Main Disconnect; rated at 120/240v, single phase, 100 amp capacity.
 - 2) Receptacles:
Pass & Seymour 125 volt/15 amp duplex, spec-grade, along the rear wall.

Wiremold 5400 Series two-piece multi-channel, dual voltage, non metallic surface raceway along front wall below scorer's counter, outlets on 48" centers.
 - 3) Lighting:
Lithonia M232PC1S 4-ft. 2-tube fluorescent strips with parabolic diffusers.

Exterior: Nuvo #77-749 light fixture with 23 watt fluorescent bulb and photo eye.

Emergency/Exit: Lithonia ECR-LED-HO emergency combination exit/flood light with 90 min. battery back-up and ECA-LED-WP remote emergency flood light
 - 4) Circuits:
All branch circuit wiring is minimum #12-2 W/G NM cable or THHN encased in EMT thinwall conduit or MC cable.
 - 5) HVAC
GE Zoneline 4100 series packaged terminal HVAC units with integral thermostats.
15. SCORER'S COUNTER
18" deep x $\frac{3}{4}$ " lauan grade plywood with 1-1/2" x 2" edge, surfaced with .060 plastic laminate, Nevamar Neutra Matrix.

16. CAMERA DECK:

- 1) Hatch:
Bilco Model NB50 2'6" x 4'6" aluminum roof hatch.
- 2) Ladder (Aluminum):
Alaco Model 370 70-degree ships ladder.
- 3) Roofing:
 - a. Coverboard:
J-M Invisa FR ¼" attached per manufacturer's written recommendations
 - b. Roof Membrane:
60 mil PVC fully adhered, refer to section 07 54 19 Polyvinyl Chloride (PVC) Roofing.
 - c. Drainage panels:
¼" nominal polyethylene drainage net with non-woven geotextile laminated both sides.
 - d. Pavers:
Lightweight concrete ballast pavers 2'-0" x 2'-0" 1 ¼" thick, 15 PSF. With slip resistant diamond texture on walking surface. Provide manufacturer's standard spacers between paver units.
- 4) Railing mounts:
1/2" galvanized threaded bolts & nuts through roof fascia on 48" centers along perimeter edge of roof.

2.05 GRANDSTAND FABRICATION

- A. Design Loads.
 1. Live load: 100 psf gross horizontal projection.
 2. Lateral sway load: 24 plf seat planks.
 3. Perpendicular sway load: 10 plf seat planks.
 4. Live load, seat and tread planks: 160 plf.
 5. Guard Rail load:
 - a. Vertical load: 100 plf.
 - b. Horizontal load: 50 plf.
 - c. Point load: 200 pounds.
 6. Wind load: Per local building code.
- B. Material/Finishes:
 1. Substructures:
 - a. Structural fabrication with ASTM A36 steel.
 - b. Shop connections are seal welds.
 - c. After fabrication all steel is hot-dipped galvanized to ASTM A123.
 2. Seating/Planking:
 - a. Seat planks, backrest, riser planks and railing are extruded aluminum alloy 6063-T6. Clear anodized 204R1, AA-M10C22A31, Class II.
 - b. Tread Planks: Extruded aluminum alloy, 6063-T6 mill finish.
 - c. Joint Sleeve Assembly: Extruded aluminum alloy, 6063-T6 mill finish.
 3. Accessories:

- a. Channel End Caps: Aluminum alloy, 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II.
- b. Aisle and Stair Nosing: Extruded aluminum alloy 6063-T6, non-skid black powder coated finish.
4. Hardware:
 - a. Bolts, Nuts: Hot-dipped galvanized.
 - b. Tie-Down Clip: Aluminum alloy 6061-T6.
 - c. Structural Hardware: Meeting or exceeding the requirements of ASTM-A307. No connections utilizing high strength bolts are classed as slip critical.
 - d. Concrete foundations and anchor bolts: See Section 03 30 0.
5. Factory Connections.
 - a. All connections made in shop to be welded shall conform to ANSI/AWS D1.1, latest edition.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Examine all soils and footings to ensure solid and secure footings.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Install concrete footings at all locations noted on the drawings and allow sufficient cure time prior to installation.
- C. Grade surrounding landscape prior to installation of benches or grandstands.
- D. Prepare surfaces using the methods recommended to achieve the best result based on project conditions.

3.03 CONCRETE FOUNDATIONS

- A. Design of foundations shall be performed by manufacturer's engineer. Design shall comply with IBC and all local codes. All concrete work and materials shall be in accordance with ACI 301 and ACI 318.
- B. Reinforcing steel shall be in accordance with ASTM A615 and Concrete Steel Reinforcing Institute (CSRI) manual of standard practice.
- C. Cast in place concrete shall a minimum compressive strength of 4,000 psi at 28 days.
- D. Exterior concrete shall be air entrained to 6%.
- E. Anchor bolts to be embedded in cast in place concrete.

3.04 INSTALLATION

- A. Installation shall be performed by manufacturers certified installation crew. Installer shall be experienced in similar installations to that indicated for this project.
- B. Follow all current application requirements for installation under conditions specific to the project.
- C. Where manufacturer's requirements and building codes are in direct conflict, the more restrictive method of application shall prevail.

3.05 PROTECTION AND CLEAN UP

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. Prior to final inspection, clean all surfaces in accordance with manufacturers' recommendations.
- D. Remove and dispose of all construction debris.

END OF SECTION

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Water closets.
- B. Urinals.
- C. Lavatories.
- D. Sinks.
- E. Mop sinks.
- F. Under-lavatory pipe supply covers.
- G. Electric water coolers.
- H. Showers.

1.2 REFERENCE STANDARDS

- A. ASHRAE Std 18 - Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration. 2013.
- B. ASME A112.18.1 - Plumbing Supply Fittings 2018, with Errata.
- C. ASME A112.19.2 - Ceramic Plumbing Fixtures 2018.
- D. ASME A112.19.3 - Stainless Steel Plumbing Fixtures 2017.
- E. ASSE 1070 - Performance Requirements for Water Temperature Limiting Devices 2015.
- F. NSF 61 - Drinking Water System Components - Health Effects 2019.
- G. NSF 372 - Drinking Water System Components - Lead Content 2016.

1.3 SUBMITTALS

- A. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- B. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.4 WARRANTY

- A. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.2 FLUSH VALVE WATER CLOSETS

- A. Water Closets: Vitreous china, ASME A112.19.2, floor mounted, siphon jet flush action, china bolt caps, designed for 1.28 gallon flush.
 - 1. Bowl: ASME A112.19.2; 15 inches high with elongated rim.
 - 2. Flush Valve: Exposed (top spud).
 - 3. Flush Operation: Manual, oscillating handle.
 - 4. Handle Height: 44 inches (1117 mm) or less.
 - 5. Color: White.
 - 6. Manufacturers:
 - a. American Standard, Inc: www.americanstandard-us.com/#sle.
 - b. Kohler Company: www.kohler.com/#sle.
 - c. Zurn Industries, Inc: www.zurn.com/#sle.
- B. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.

1. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
2. Manufacturers:
 - a. Delany Products: www.delanyproducts.com/#sle.
 - b. Sloan Valve Company: www.sloanvalve.com/#sle.
 - c. Zurn Industries, Inc: www.zurn.com/#sle.
- C. Seats:
 1. Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, without cover.

2.3 WALL HUNG URINALS

- A. Wall Hung Urinal Manufacturers:
 1. American Standard, Inc: www.americanstandard-us.com/#sle.
 2. Kohler Company: www.kohler.com/#sle.
 3. Zurn Industries, Inc; EcoVantage Z5798 High-Efficiency Urinal System: www.zurn.com/#sle.
- B. Urinals: Vitreous china, ASME A112.19.2, wall hung with side shields and concealed carrier.
 1. Flush Volume: 0.125 gallons (0.47 liters), maximum.
 2. Flush Style: Washout.
 3. Flush Valve: Exposed (top spud).
 4. Flush Operation: Manual, oscillating handle.
 5. Trap: Integral.
 6. Removable stainless steel strainer.
- C. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
 1. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
 2. Manufacturers:
 - a. American Standard, Inc: www.americanstandard-us.com/#sle.
 - b. Sloan Valve Company: www.sloanvalve.com/#sle.
 - c. Zurn Industries, Inc: www.zurn.com/#sle.
- D. Carriers:
 1. Manufacturers:
 - a. Jay R. Smith MFG. Co: www.jrsmith.com/#sle.
 - b. JOSAM Company: www.josam.com/#sle.

2.4 LAVATORIES

- A. Lavatory Manufacturers:
 1. American Standard, Inc: www.americanstandard-us.com/#sle.
 2. Kohler Company: www.kohler.com/#sle.
 3. Zurn Industries, Inc: www.zurn.com/#sle.
- B. Vitreous China Wall Hung Basin: ASME A112.19.2; vitreous china wall hung lavatory, 20"x18" minimum, with 4 inch (100 mm) high back, rectangular basin with splash lip, front overflow, and soap depression.
 1. Drilling Centers: 4 inch (100 mm).
- C. Supply Faucet: ASME A112.18.1; chrome plated combination supply fitting with open grid strainer, water economy aerator with maximum flow of 0.5 gallon per minute (low-flow) (1.9 liters per minute (low-flow)), and ADA compliant pushbutton metering faucet.
- D. Thermostatic Mixing Valve: Thermostatic mixing valve, ASSE 1070 listed, with combination stop, strainer, and check valves, and flexible stainless steel connectors.
- E. Accessories:
 1. Chrome plated 17 gage, 0.0538 inch (1.37 mm) brass P-trap with clean-out plug and arm with escutcheon.

2.5 **SINKS AND HAND SINKS**

- A. **Sink Manufacturers:**
 1. **Elkay**
 2. **Just**

- B. **Hand Wash Sink: 16"x17"x6" nominal dimensions, 20 gauge Type 304 stainless steel, wall hung with back splash punched for faucet with gooseneck spout and wrist blade handles. Provide matching stainless steel wall brackets, grid drain, 1-1/2" p-trap, and wheel handle angle supplies. Sink shall be NSF certified.**
- C. **Two Compartment Sink: 70"x25"x45" nominal dimensions, 16 gauge, Type 300 series stainless steel with stainless steel legs and adjustable feet. Faucet shall be foodservice 8" centerset wall mount faucet with double swing spout and wrist blade handles. Provide matching drains and wheel handle angle supplies. Sink shall be NSF certified.**

2.6 SHOWERS

- A. -- To specify the shower and valve separately, use the paragraphs below. --
- B. Shower Head:
 - 1. ASME A112.18.1; chrome plated vandal-proof institutional head with integral wall bracket, built-in 2.5 gpm (0.16 L/s) flow control.

2.7 BI-LEVEL, ELECTRIC WATER COOLERS

- A. Bi-level, Electric Water Cooler Manufacturers:
 - 1. Elkay Manufacturing Company: www.elkay.com/#sle.
 - 2. Murdock Manufacturing, Inc: www.murdockmfg.com/#sle.
 - 3. Oasis International: www.oasiscoolers.com/#sle.
- B. Water Cooler: Bi-level, electric, mechanically refrigerated; surface mounted, ADA compliant; stainless steel top, vinyl on steel body, elevated anti-squirt bubbler with stream guard, automatic stream regulator, push button, mounting bracket; integral air cooled condenser and stainless steel grille.
 - 1. Capacity: 8 gallons per hour (30.3 liters per hour) of 50 degrees F (10 degrees C) water with inlet at 80 degrees F (27 degrees C) and room temperature of 90 degrees F (32 degrees C), when tested in accordance with ASHRAE Std 18.
 - 2. Electrical: 115 V, 60 Hertz compressor, 6 foot (2 m) cord and plug for connection to electric wiring system including grounding connector.
- C. Bottle Filler: Materials to match fountain.

2.8 MOP SINKS

- A. Mop Sink Manufacturers:
 - 1. Acorn Engineering Company: www.americanstandard-us.com/#sle.
 - 2. Just Manufacturing Company: www.justmfg.com/#sle.
 - 3. Zurn Industries, Inc: www.zurn.com/#sle.
- B. Type: Rectilinear.
- C. Grid Strainer: Stainless steel; integral; removable.
- D. Accessories:
 - 1. 5 feet (1.5 m) of 1/2 inch (13 mm) diameter plain end reinforced plastic hose.
 - 2. Hose clamp hanger.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install components level and plumb.

3.2 INTERFACE WITH WORK OF OTHER SECTIONS

- A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.3 CLEANING

- A. Clean plumbing fixtures and equipment.

END OF SECTION

SECTION 32 31 00 – CHAIN LINK FENCES AND GATES

PART 1 – GENERAL

1.1 SCOPE:

The work under this heading includes the furnishing and installation of chain link fences and gates as specified herein and as shown on the Plans.

PART 2 – PRODUCTS

2.1 MANUFACTURER:

The fence, **gates, hardware, etc.** shall be the product of a manufacturer who has demonstrated by actual installations of a similar nature that its product is of the type required. The Contractor shall include all supplementary parts necessary or required for a complete and satisfactory installation within the true meaning and intent of the Plans. All runs of the fence shall present the same general appearance and the product of one manufacturer only will be accepted.

2.2 CHAIN LINK FENCING:

Fencing for chain link fence shall be as follows:

a) Fabric.

The chain link fence fabric shall conform to ASTM A392. The size of mesh shall be 2 inches and the wire shall be No. 9 Gauge Basic Open Hearth Steel, hot-dip-galvanized after weaving with a minimum of 1.20 ounces of zinc or 0.40 ounces of aluminum per square foot of uncoated wire surface. The wire shall be standard finish with the top selvage knuckled and the bottom selvage twisted and barbed. Fabric shall be coated with 22 mils of black PVC UV stable coating, bonded to core wire.

b) Wire Fabric Ties.

Wire fabric ties shall be No. 9 Gauge Hot-Dip Galvanized Steel Wire conforming to ASTM A112 and spaced 12 inches apart on all posts and 24 inches apart on all rails. Fabric ties shall be coated with 22 mils of black PVC UV stable coating, bonded to core wire.

c) Posts, Rails and Braces.

Space post no more than 8 feet on center. Line and brace posts shall be 2-3/8 inches O.D., 3.55 pounds per linear foot, hot-dip galvanized steel pipe. Corner and end posts shall be 2-7/8 inches O.D., 5.79 pounds per linear foot, hot-dip-galvanized steel pipe. The top rails and braces shall be 1-5/8 inches O.D., 2.27 pounds per linear foot, hot-dip galvanized steel pipe. Each brace section shall be a diagonally trussed with 3/8 inch round hot-dip-galvanized steel rod with truss tightener and fittings. All posts shall be furnished with tops and required fittings

for attaching fabric and rail. Fittings shall be of malleable iron or pressed steel. All framework shall be coated with "No-Mar" TGIC polyester black color coat at 2-3 mils.

-Footings supporting open chain link fence: 12-inch diameter concrete footings at posts up to 4-inch diameter; 16-inch diameter footings at posts over 4-inch diameter; minimum depth as listed below.

- 2'- 0" Deep Footings: At line and corner posts 4'-0" high or less.
- 3'- 0" Deep Footings: At line and corner posts over 4'-0" high up to 8'-0" high.
- 4'- 0" Deep Footings: At all gate posts, and posts over 8'-0" high up to 12'-0" high.

-Footings supporting chain link fence with privacy slats: 24-inch diameter concrete footings at posts up to 4-inch diameter; 30-inch diameter footings at posts over 4-inch diameter; minimum depth as listed below.

- 2'- 0" Deep Footings: At line and corner posts 4'-0" high or less.
- 5'- 6" Deep Footings: At line and corner posts over 4'-0" high up to 8'-0" high.
- 6'- 6" Deep Footings: At all gate posts, and posts over 8'-0" high up to 12'-0" high.

d) Gates:

Gate frames shall be tubular shaped 1.90 inches, outside diameter with welded or steel fitted corners. Braces and trusses shall be furnished as required to prevent sagging of the gate. Frames shall be covered with fabric as specified for the fence. All framework shall be coated with "No-Mar" TGIC polyester black color coat at 2-3 mils.

Gate posts shall be as follows:

Leaf Width	Post Diameter	Weight/Ft
Up to 6'	2-7/8" OD	5.79 lbs.
6'-13'	4" OD	9.11 lbs.
13'-18'	6-5/8" OD	18.97 lbs.
Over 18'	8-5/8" OD	28.55 lbs.

- *Posts, frames and fabric shall be hot-dipped-galvanized and coated as specified above.*

e) Miscellaneous Fittings and Hardware.

Miscellaneous fittings and hardware shall be of design standard with the manufacturer. Miscellaneous fittings and hardware shall be zinc-coated steel, and shall be equal to the materials specified in Federal Specifications RR-F-183. All miscellaneous fittings and hardware shall be coated with "No-Mar" TGIC polyester black color coat at 2-3 mils.

f) Exit Hardware.

BHMA A156.3, Grade 1, Type 1 (rim exit device), with push pad actuating bar, suitable for exterior use.

1. Function: 04 - Entrance by trim when latch bolt is released by key or set in a retracted position by key.
2. Coordinate Keying requirements with requirements in Section 08 71 00 "Door Hardware".
3. Mounting Channel: Bent-plate channel formed from 1/8-inch- thick, steel or aluminum plate. Channel spans gate frame. Exit device is mounted on channel web, recessed between flanges, with flanges extending 1/8 inch beyond push pad surface.
4. Color: match fence/gate.

g) Cane Bolts.

Provide lockable cane bolt for inactive leaf of pairs of gates. Fabricated from 1/2-inch- diameter, round steel bars, hot-dip galvanized after fabrication. Finish to match gates. Provide galvanized-steel pipe strikes to receive cane bolts in closed position. Provide provision for padlock.

~~f) h) Barbed Wire. — Not Applicable~~

~~Barbed wire shall be of 3 strands of galvanized No. 12 1/2 gaugewire conforming to ASTM A121 for copper bearing wire with zinc coating, meeting the requirements of Class 3. Barbs shall be of 14 gauge full round wire with 4 points, wound at 4 inch intervals.~~

~~g) i) Welding.~~

~~Structural members of gates which are in contact shall be fully welded by a method that will procure a continuous weld on all sides and faces of joints at exposed edges. Surplus welding material shall be removed. All welds shall be coated with a zinc rich exterior grade paint and top coated with a "No-Mar" TGIC polyester black color coat at 2-3 mils.~~

~~h) j) Privacy Slats. — Not Applicable~~

~~The Winged Slat shall be extruded from High Density Polyethylene (HDPE), include color pigments and ultra violet (UV) inhibitors, be specifically designed to retard the harmful effects of the sun and lengthen the life of the product. Winged Slats shall include Ethyl Vinyl Acetate (EVA), a softer plastic to keep the wings flexible~~

~~and resilient. Said HDPE material shall have a minimum tensile strength of 3,700 psi.~~

~~HDPE winged slats shall be resistant to: severe weather conditions, salt water, sand, road dirt, most acids, alcohol, alkaline, ammonia, petroleum distillates, and common environmental pollutants.~~

~~Slat Width: 1-1/4 inch~~

~~Slat Color: Approved by Architect — submit samples.~~

PART 3 – EXECUTION

3.1 INSTALLATION:

The site of the fencing shall be sufficiently cleared of obstructions, and surface irregularities shall be graded so that the fence will conform to the general contour of the ground. The bottom of the fence shall be placed a uniform distance above the ground, as shown on the Plans.

The tops of concrete bases shall be finished smooth slightly above the ground surface and sloped to drain away from the post.

After the posts have been installed and the concrete has set so that it will not be damaged, the rails and bracing shall be installed.

The fence fabric shall be tightly stretched and fastened to all rails and posts. Care shall be taken to not stretch the wire so tightly that it will break in cold weather or pull the posts out of line. Fastening to gate, end and corner posts shall be with stretcher bars, clamps and bolts. Top selvage shall be dressed flush with the top rail and the bottom shall be 1-1/2 inches above the ground. Provide a 9 gauge high carbon tension wire along the bottom. Fabric shall be spliced by pulling the ends together and twisting in a spiral connection link or picket so as to make a continuous piece of fabric between end, corner and gate posts, as the case may be.

The gates shall be hung level and plumb with gate fittings on braced gate posts, and shall be attached in such a manner that they cannot be lifted off the hinges. Gates shall be adjusted for easy and proper operation. Gate frames shall be of adequate size members for the gate openings shown. Welded construction may be used, in which case the frame shall be hot-dip galvanized after fabrication. Fabric shall be stretched tight across the frame and permanently and neatly secured. All gates shall be fitted with suitable hardware for locking with a padlock. Hinges shall permit the gates to swing back against the fence line. Provide catch fittings to hold gates and a plunger rod (cane bolt) and catch block in the center of the opening of the leaf gates. **Install exit hardware per manufacturer's specifications.** All framework, welds, tension wires, and miscellaneous fittings shall be coated with "No-Mar" TGIC polyester black color coat at 2-3 mils.

3.2 MEASUREMENT AND PAYMENT:

Measurement and payment for work under this section shall be included in overall project lump sum amount unless otherwise specified in Section 01 22 00.

END OF SECTION 32 31 00.