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SECTION 033000 - CAST-IN-PLACE CONCRETE

1.1 QUALITY ASSURANCE

- A. Quality Standard: ACI 301.

1.2 PRODUCTS

- A. Form facing materials.

- B. Steel Reinforcement:

- 1. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- 2. Reinforcing Bars: Deformed.
- 3. Welded Wire Reinforcement: Plain.

- C. Concrete Materials:

- 1. Portland Cement: ASTM C 150, Type [I] [II] [I/II] [III] [V], gray, supplement with fly ash, as indicated on structural drawings.
- 2. Blended Hydraulic Cement: ASTM C 595, Type [IS] [IP] [I (PM)] [I (SM)].
- 3. Silica fume.
- 4. Aggregate: Normal weight.
- 5. Water.

- D. Mixing: Ready mixed.

1.3 CONCRETE MIXTURES

- A. Portland Cement Replacement: Use fly ash, ground granulated blast-furnace slag, and silica fume to reduce portland cement by 40 percent.

- B. Compressive Strength (28 Days):

- 1. Footings: 3000 psi .
- 2. Foundation Walls: 3000 psi .
- 3. Slabs-on-Grade: 3000 psi .
- 4. Building Frame Members: 3000 psi .

1.4 INSTALLATION

- A. Formed Finishes: Smooth.

- B. Floor and Slab Finishes:

- 1. Scratch: Surfaces to receive mortar setting beds for bonded cementitious floor finishes.

2. Trowel: Surfaces exposed to view or to be covered with resilient flooring, ceramic or tile quarry tile set over a cleavage membrane, [paint] [thin-film-finish coating system].
3. Broom: Exterior concrete garage and ramps.

1.5 FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged agency.
- B. Special Inspections: By Owner-engaged special inspector.

END OF SECTION 033005

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

1.6 QUALITY ASSURANCE

- A. Quality Standard: ACI 301 .

1.7 MATERIALS

- A. Formwork.
- B. Steel Reinforcement:
 1. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than **25**.
 2. Reinforcing Bars: Deformed steel.
 3. Welded Wire Reinforcement: Plain steel.
- C. Concrete Materials:
 1. Portland Cement: ASTM C 150, as indicated on structural drawings
 2. Aggregates: Normal weight.
 3. Synthetic Fiber: Polypropylene fibers.
- D. Admixtures: As indicated on structural drawings.
- E. Vapor Retarder: Polyethylene, 6-mil- thick sheet.
- F. Curing Materials: As called for on structural drawings.

1.8 CONCRETE MIXTURES

- A. Portland Cement Replacement: Use fly ash, ground granulated blast-furnace slag, and silica fume to reduce portland cement by 40 percent.
- B. Normal-Weight Concrete: Compressive Strength (28 Days): 3000 psi .
- C. Mixing: Ready mixed.

1.9 INSTALLATION

- A. Formed-Surface Finish: Smooth.
- B. Unformed-Surface Finish: AS indicated.

1.10 FIELD QUALITY CONTROL

- A. Testing: By Owner-engaged agency.

END OF SECTION 033053

SECTION 040110 - MASONRY CLEANING

1.11 QUALITY ASSURANCE

- A. Written program for cleaning.
- B. Mockups for cleaning each type of masonry and surface condition.

1.12 PRECONSTRUCTION TESTING

- A. Chemical-cleaner manufacturer(s) to test-clean masonry surfaces.

1.13 EXECUTION

- A. Contractor to employ preapproved masonry-cleaning specialist firm.
- B. Protection: Remove downspouts and reinstall when cleaning is complete. Provide temporary rain drainage during work.
- C. Preliminary cleaning to remove plant growth and extraneous substances that are resistant to cleaning methods used.
- D. Paint removal with [**alkaline paste**] [**covered or skin-forming alkaline**] [**solvent-type paste**] [**covered, solvent-type paste**] paint remover.
- E. Clean masonry using the following:
 - 1. Cold-water soaking.
 - 2. **Cold** -water washing.
 - 3. Steam cleaning.
 - 4. Detergent.
 - 5. Mold, mildew, and algae remover.
 - 6. Nonacidic gel cleaner.
 - 7. Nonacidic liquid cleaner.
 - 8. Mild-acid cleaner.

9. Acidic cleaner.
10. One-part limestone cleaner.
11. Two-part chemical cleaner.

END OF SECTION 040110

SECTION 042000 - UNIT MASONRY

1.14 PERFORMANCE REQUIREMENTS

- A. Net-Area Compressive Strengths of Structural Unit Masonry: As indicated.
- B. Determine net-area compressive strength of masonry by unit-strength method.

1.15 QUALITY ASSURANCE

- A. Preconstruction Testing: Owner engaged.
- B. Mockups of typical wall areas.

1.16 MATERIALS

- A. Concrete Masonry Units (CMUs):
 1. Manufactured within 100 miles of Project site from aggregates and cement extracted and manufactured within 100 miles of Project site.
 2. Units made with integral water repellent for exposed units].
 3. CMUs: Normal weight.
 4. Concrete Facing Brick: Normal-weight units
 5. Concrete Building Brick: Normal weight.
- B. Concrete and Masonry Lintels: precast or formed-in-place concrete or prefabricated or built-in-place CMU lintels.
- C. Brick: Face brick
- D. Retain subparagraph below for LEED-NC, LEED-CS, or LEED for Schools Credit MR 5; before retaining, verify availability of materials that comply.
 1. Manufactured within 500 miles of Project site from materials extracted within 500 miles of Project site.
 2. Finish: Smooth.
- E. Reinforcement: Uncoated steel reinforcing bars.
- F. Masonry Joint Reinforcement:
 1. Interior Walls: Hot-dip galvanized, carbon steel.

2. Exterior Walls: Hot-dip galvanized steel.
- G. Ties and Anchors: Galvanized steel.
1. Corrugated metal ties.
 2. Individual wire ties.
 3. Adjustable anchors for connecting to structural steel framing.
 4. Adjustable anchors for connecting to concrete.
 5. Partition top anchors.
 6. Rigid anchors.
- H. Embedded Flashing:
1. All Flashing: Copper.
 2. Partially Exposed Flashing: Copper.
 3. Concealed (Flexible) Flashing: Copper laminated .
 - a. Used with drip edge sealant stop.
 4. Single-Wythe CMU Flashing System: Polyethylene flashing pans and interlocking web covers.
- I. Weep/Vent Holes: Wicking material.
- J. Cavity drainage material.
- K. Reinforcing bar positioners.
- L. Masonry-Cell Insulation: molded-polystyrene units.
- M. Cavity-Wall Insulation: Polyisocyanurate board.
- N. Mortar:
1. Aggregates, cement, and lime extracted and manufactured within of Project site.
 2. Portland cement-lime masonry cement mortar unless otherwise indicated.
- 1.17 INSTALLATION
- A. Match existing masonry coursing, bonding, color, and texture.
 - B. Bond Pattern: Running bond with header course. As indicated.
 - C. Cavity face of backup wythe parged.
 - D. Clean masonry waste recycled as fill material.
- 1.18 FIELD QUALITY CONTROL
- A. Testing Agency: Owner engaged.

- B. Inspections: special inspections according to the "2023 Florida Building Code."
- C. Testing: One set of tests for each 5000 sq. ft. of wall area.

END OF SECTION 042000

SECTION 042113 - BRICK MASONRY

1.19 QUALITY ASSURANCE

- A. Sample panels.

1.20 MATERIALS

- A. Concrete Brick:

1. Manufactured within 500 miles of Project site from aggregates and cement extracted and manufactured within 500 miles of Project site.
2. Units made with integral water repellent.

- B. Brick: Face brick.

1. Manufactured within 500 miles of Project site from materials extracted within 500 miles of Project site.
2. Finish: Smooth.

- C. Ties and Anchors: Galvanized steel.

1. Corrugated metal ties.
2. Adjustable anchors for connecting to structural steel framing.
3. Adjustable anchors for connecting to concrete.
4. Adjustable Masonry-Veneer Anchors: Screw attached.

- D. Embedded Flashing:

1. All Flashing: Copper.
2. Partially Exposed Flashing: Copper.
3. Concealed (Flexible) Flashing: elastomeric thermoplastic or EPDM.
 - a. Used with copper drip edge sealant stop.

- E. Weep/Vent Holes: Wicking material.

- F. Cavity drainage material.

- G. Mortar:

1. Aggregates extracted and manufactured within 500 miles of Project site.
2. Portland cement-lime masonry cement mortar unless otherwise indicated.

3. Colored aggregate mortar for exposed mortar joints selected by owner.

1.21 INSTALLATION

- A. Match existing masonry coursing, bonding, color, and texture.
- B. Bond Pattern: Running bond with header course as indicated on plans.
- C. Clean masonry waste recycled as fill material.

1.22 FIELD QUALITY CONTROL

- A. Testing Agency: Owner engaged.
- B. Inspections: Level 1 special inspections according to the "International Building Code."

END OF SECTION 042113

SECTION 042200 - CONCRETE UNIT MASONRY

1.23 PERFORMANCE REQUIREMENTS

- A. Net-Area Compressive Strengths of Structural Unit Masonry: As indicated.
- B. Determine net-area compressive strength of masonry by unit-strength method.

1.24 QUALITY ASSURANCE

- A. Preconstruction Testing: Owner engaged.
- B. Sample panels for exposed masonry assemblies.

1.25 MATERIALS

- A. Concrete Masonry Units (CMUs):
 1. Manufactured within 100 miles of Project site from aggregates extracted and manufactured within 100 miles of Project site.
 2. Units made with integral water repellent for exposed units.
 3. CMUs: Normal weight.
 4. Concrete Building Brick: Normal weight.
- B. Concrete and Masonry Lintels: prefabricated or built-in-place CMU lintels.
- C. Reinforcing Steel: Uncoated steel reinforcing bars.
- D. Masonry Joint Reinforcement:

1. Interior Walls: Hot-dip galvanized, carbon steel.
 2. Exterior Walls: Hot-dip galvanized, carbon steel.
- E. Ties and Anchors: Galvanized steel.
1. Adjustable anchors for connecting to structural steel framing.
 2. Adjustable anchors for connecting to concrete.
 3. Partition top anchors.
 4. Rigid anchors.
- F. Embedded Flashing:
1. All Flashing: Copper.
 2. Partially Exposed Flashing: Copper.
 3. Concealed (Flexible) Flashing: elastomeric thermoplastic or EPDM.
 - a. Used with drip edge sealant stop.
 4. Single-Wythe CMU Flashing System: Polyethylene flashing pans and interlocking web covers.
- G. Reinforcing bar positioners.
- H. Masonry-Cell Insulation: molded-polystyrene units.
- I. Mortar:
1. Aggregates extracted and manufactured within 500 miles of Project site.
 2. Portland cement-lime masonry cement mortar unless otherwise indicated.
- 1.26 FIELD QUALITY CONTROL
- A. Testing Agency: Owner engaged.
 - B. Inspections: special inspections according to the "2023 Florida Building Code."
 - C. Testing: One set of tests for each 2000 sq. ft. of wall area.
- 1.27 MASONRY WASTE DISPOSAL
- A. Clean masonry waste recycled as fill material.

END OF SECTION 042200

SECTION 051200 - STRUCTURAL STEEL FRAMING

1.28 SUMMARY

- A. Structural steel as classified by AISC 303.

- B. Prefabricated building columns.
- C. Grout.
- D. See Section 13, Metal Building Systems for steel framing.

1.29 QUALITY ASSURANCE

- A. Fabricator Qualifications: AISC-Certified Plant, Category STD.
- B. Installer Qualifications: AISC-Certified Erector, Category [ACSE] [CSE].
- C. Shop-Painting Applicator Qualifications: AISC's Sophisticated Paint [Endorsement P1] [Endorsement P2] [Endorsement P3] or SSPC-QP 3.
- D. Quality Standards: AISC 303[, AISC 341, AISC 341s1,] and AISC 360.

1.30 PERFORMANCE REQUIREMENTS

- A. Fabricator to select or complete simple shear connections, including engineering analysis by a qualified professional engineer, to withstand design loads.

1.31 MATERIALS

- A. Recycled Content of Steel: Postconsumer plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Structural-Steel Shapes: AS indicated on structural drawings.
- C. Steel castings.
- D. Steel forgings.
- E. Bolts, Nuts, and Washers: High strength.
- F. Anchor Rods: rods, nuts, plate washers, and washers.
- G. Connectors: As indicated.
- H. Structural slide bearings.
- I. Primer: Comply with painting Sections Fabricator's standard, non asphaltic.
 - 1. Primers comply with LEED for Schools Credit IEQ 4.2.
- J. Grout: Nonmetallic, shrinkage resistant.
- K. Prefabricated Building Columns:
 - 1. Fire-Resistance Rating: As indicated.

1.32 FABRICATION

- A. Shop Connections:
 - 1. High-Strength Bolts: Snug tightened Slip critical.
 - 2. Welded connections.
- B. Surface Preparation: [SSPC-SP 2] [SSPC-SP 3] [SSPC-SP 7/NACE No. 4] [SSPC-SP 11] [SSPC-SP 14/NACE No. 8] [SSPC-SP 6/NACE No. 3] [SSPC-SP 10/NACE No. 2] [SSPC-SP 5/NACE No. 1] [SSPC-SP 8].
- C. Galvanize: Lintels shelf angles and welded door frames located in exterior walls.

1.33 SOURCE QUALITY CONTROL

- A. Testing Agency: Contractor engaged.

1.34 INSTALLATION

- A. Field Connections:
 - 1. High-Strength Bolts see structural drawings for field connections.
 - 2. Welded connections.

1.35 FIELD QUALITY CONTROL

- A. Special Inspector: Owner engaged.
- B. Testing Agency: Owner engaged.

END OF SECTION 051200

SECTION 055000 - METAL FABRICATIONS

1.36 PRODUCTS

- A. Materials: [Steel plates, shapes, and bars] [Stainless-steel plates, shapes, and bars] [Steel tubing] [Steel pipe] [Slotted channel framing] [Iron castings] [Aluminum] .
 - 1. Recycled Content of Steel: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
 - 2. Low-Emitting Primer: Primer complies with LEED for Schools Credit IEQ 4.2.
- B. Miscellaneous Framing and Supports: Galvanized where indicated.
 - 1. Steel framing and supports for ,ceiling-hung toilet compartments, overhead doors, overhead grilles, countertops, mechanical and electrical equipment, [applications where framing and supports are not specified in other Sections.

2. Elevator machine beams, hoist beams.
 3. Steel shapes for supporting elevator door sills.
- C. Prefabricated Building Columns: 2-hour fire-resistance rating.
- D. Shelf angles galvanized at exterior walls.
- E. Metal Ladders Including Elevator Pit Ladders: Steel.
1. Primed ladders using zinc-rich primer.
- F. Elevator pit sump covers.
- G. Structural-Steel Door Frames:
1. Galvanized exterior frames.
 2. Primed exterior frames using zinc-rich primer.
- H. Abrasive Metal Nosings Treads
- I. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts cast into concrete or built into unit masonry.
- J. Steel weld plates and angles not specified in other Sections, for casting into concrete.

END OF SECTION 055000

SECTION 055113 - METAL PAN STAIRS

1.37 SUMMARY

- A. Preassembled steel stairs with concrete-filled treads.
- B. Steel tube railings attached to metal stairs.
- C. Steel tube handrails attached to walls adjacent to metal stairs.
- D. Railing gates at the level of exit discharge.

1.38 PERFORMANCE REQUIREMENTS

- A. Engineering design of steel stairs and railings as indicated on drawings by Contractor.

1.39 MATERIALS

- A. Recycled Content of Steel: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Abrasive Nosings: Extruded aluminum.

- C. Low-Emitting Primer: Primer complies with LEED for Schools Credit IEQ 4.2.

1.40 STEEL-FRAMED STAIRS

- A. Stair Standard: NAAMM AMP 510, "Metal Stairs Manual," Commercial Class.
- B. Stringers: Steel channels.
- C. Metal Pan Stairs: Galvanized steel sheet.
- D. Steel Tube Railings:
 - 1. Rails and Posts: 1-1/2-inch- square top and bottom rails and 1-1/2-inch- square posts.
 - 2. Picket Infill: 3/4-inch- square pickets spaced less than 4 inches clear.
 - 3. Expanded-Metal Infill: Expanded-metal panels edged with U-shaped channels made from steel sheet.
 - 4. Perforated-Metal Infill: Perforated-metal panels edged with U-shaped channels made from metal sheet.
 - 5. Mesh Infill: Woven wire mesh crimped into steel channel frames.
 - 6. Handrail Rails: 1-1/2 inch- (41-mm-) diameter.

END OF SECTION 055113

SECTION 055213 - PIPE AND TUBE RAILINGS

1.41 SUMMARY

- A. Steel tube railings.
 - 1. Recycled Content of Steel: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.

1.42 PERFORMANCE REQUIREMENTS

- A. Engineering design of railings by Contractor.

1.43 FABRICATION

- A. Changes in Direction of Members: By bending or by inserting prefabricated fittings.
- B. Connections: Welded.
- C. Infill Panels: Welded-wire mesh.

1.44 FINISHES

- A. Low-Emitting Materials: Paints and coatings comply with LEED for Schools Credit IEQ 4.2.

- B. Steel 12 gage welded wire mesh: Galvanized after fabrication, shop painted with high-performance coating.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

1.45 MATERIALS

- A. Wood Products, General: Retain first option and delete list that follows if all rough carpentry must be certified wood.
 - 1. Rough carpentry materials FSC-certified. Dimension lumber framing.
 - a. Timber.
 - b. Laminated veneer lumber.
 - c. Parallel strand lumber.
 - d. Prefabricated wood I-joists.
 - e. Rim boards
 - f. Miscellaneous lumber.
 - 2. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness
- B. Wood-Preservative-Treated Lumber:
 - 1. Preservative Treatment: AWPA U1; Use Category UC2, but Use Category UC3b for exterior construction and Use Category UC4a for items in contact with the ground.
 - a. Preservative Chemicals: Containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 - 2. Application: Items indicated and as follows:
 - a. Items in contact with roofing or waterproofing.
 - b. Items in contact with concrete or masonry.
 - c. Floor plates installed over concrete slabs-on-grade.
- C. Dimension Lumber Framing:
 - 1. Non-Load-Bearing Interior Partitions: Construction No. 2 grade.
 - a. Application: All interior partitions.
 - b. Species: southern yellow or white pine.
 - 2. Load-Bearing Partitions: No. 2 Construction grade.
 - a. Application: Exterior walls.
 - b. Species: Southern yellow pine

3. Load-Bearing Partitions: Modulus of elasticity of 1,500,000 psi and extreme fiber stress in bending of 1,200 psi for 2-inch nominal thickness and 12-inch nominal width for single-member use.
 - a. Application: Exterior walls.
 4. Ceiling Joists: Construction or No. 2 grade.
 - a. Species: mixed southern pine.
 5. Joists, Rafters, and Other Framing: No. 2 grade.
 - a. Species: mixed southern pine.
 6. Joists, Rafters, and Other Framing: Machine stress-rated lumber
 7. Joists, Rafters, and Other Framing: Modulus of elasticity of 1,600,000 psi and extreme fiber stress in bending of 1,200 psi for 2-inch nominal thickness and 12-inch nominal width for single-member use.
 8. Exposed Framing: Hand-selected for appearance and freedom from decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
 - a. Application: Exposed exterior framing.
 - b. Species and Grade: As indicated for load-bearing construction.
 - c. Species: southern pine.
 - d. Grade: No. 2 grade.
- D. Timber: No. 1 southern pine.
- E. Engineered Wood Products: parallel-strand lumber and wood I-joists.
- F. Miscellaneous Lumber:
1. Dimension Lumber: Construction or No. 2
 2. 19 percent maximum moisture content.
 3. Concealed Boards: 15 percent maximum moisture content.
 - a. Mixed southern pine, No. 2.
- G. Plywood Backing Panels: Interior.
1. Comply with low-emitting materials requirements of LEED for Schools.
- H. Fasteners: Hot-dip galvanized and Stainless steel where exposed to weather, in ground contact, in contact with treated wood, or in area of high relative humidity.
- I. Metal Framing Anchors:
1. Hot-dip galvanized steel for interior locations.

2. Hot-dip, heavy-galvanized steel for treated lumber and where indicated.
3. Stainless steel for exterior and where indicated.
4. Types: Joist hangers, post bases, joist ties, rafter tie-downs (hurricane or seismic ties), floor-to-floor ties, and hold-downs.

J. Miscellaneous Materials:

1. Sill-Sealer :Waterproofing caulking.

1.46 INSTALLATION

- A. Furring to Receive Gypsum Board: 2-by-4-inch nominal-size at 16 inches o.c.
- B. Exterior Wall Framing: 2-by-6-inch nominal-size.
- C. Interior Partitions Framing: 2-by-4-inch nominal-size .
- D. Bracing: Let-in diagonal wood corner bracing.

END OF SECTION 061000

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

1.47 MATERIALS

A. Wood Products, General:

1. Lumber and Plywood: FSC-certified.
2. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness.

B. Wood-Preservative-Treated Materials:

1. Preservative Treatment: AWPA U1; use Category UC2 except use Category UC3b for exterior construction and use Category UC4a for items in contact with the ground.
 - a. Preservative Chemicals: Containing no arsenic or chromium Retain first option in "Application" Subparagraph below and delete subparagraphs if total treatment is required; otherwise, retain second option and appropriate subparagraphs.
2. Application: All miscellaneous carpentry.
 - a. Items in contact with roofing or waterproofing.
 - b. Items in contact with concrete or masonry.
 - c. Floor plates installed over concrete slabs-on-grade.

C. Fire-Retardant-Treated Materials:

1. Exterior type for exterior locations and where indicated.
2. Interior Type A, High Temperature (HT) for enclosed roof framing and where indicated.

3. Interior Type A unless otherwise indicated.
4. Application:
 - a. Framing for raised platforms.
 - b. Concealed blocking.
 - c. Roof framing and blocking.
 - d. Items in contact with roofing.

D. Dimension Lumber Framing:

1. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade mixed southern pine.
2. Other Framing: Construction or No. 2 grade mixed southern pine.

E. Miscellaneous Lumber:

1. Dimension Lumber: Construction or No. 2 grade, mixed southern pine.
2. Utility Shelving: 15 percent maximum moisture content.
 - a. Mixed southern pine, **No. 2**.
3. Concealed Boards: 15 percent maximum moisture content.
 - a. Mixed southern pine, No. 2.

F. Plywood Backing Panels: Exterior, C-C Plugged.

1. Complies with low-emitting materials requirements of LEED for Schools.

G. Fasteners: Hot-dip galvanized steel where exposed to weather, in ground contact, in contact with treated wood, or in area of high relative humidity.

H. Metal Framing Anchors:

1. Metal: Galvanized steel hot-dip heavy galvanized steel for wood-preservative-treated lumber and where indicated.

I. Adhesives: Low VOC

1.48 INSTALLATION

- A. Furring to Receive Plywood or Hardboard Paneling: 1-by-3-inch nominal-size furring at 24 inches o.c.
- B. Furring to Receive Gypsum Board: 1-by-2-inch nominal-size furring at 16 inches o.c.

END OF SECTION 061053

SECTION 061063 - EXTERIOR ROUGH CARPENTRY

1.49 LUMBER, GENERAL

- A. Lumber milled within 500 miles of Project site from wood harvested within 500 miles of Project site.
- B. FSC-certified wood.
- C. Maximum Moisture Content:
 - 1. Boards: 19 percent.
 - 2. Dimension Lumber ; 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness.

1.50 LUMBER

- A. Dimension Lumber: **No. 2** grade, mixed southern pine.
- B. Retain one of two "Boards" paragraphs below, or retain both and indicate what each applies to. Grades in first paragraph have higher-quality appearance than grades in second paragraph.
- C. Boards: Finish grade southern pine.
- D. Boards: Common grade mixed southern pine.

1.51 POSTS

- A. Dimension Lumber Posts: No. 1 grade.
- B. Timber Posts: No. 1 grade.

1.52 PRESERVATIVE TREATMENT

- A. Boards and dimension lumber treated according to AWPA U1.
- B. Timber treated according to AWPA U1.
- C. Poles treated according to AWPA U1.

1.53 FASTENERS

- A. Hot-dip zinc coated unless otherwise indicated.
- B. Stainless-steel for preservative-treated wood and decking..

END OF SECTION 061063

SECTION 061600 - SHEATHING

1.54 QUALITY ASSURANCE

- A. Forest certification by a Forest Stewardship Council-accredited certification body for the following:
 - 1. Plywood.
 - 2. Oriented strand board.
 - 3. Fiberboard wall sheathing.
 - 4. Particleboard underlayment.
 - 5. Hardboard underlayment.

1.55 MATERIALS

- A. Wood Products, General:
 - 1. The following products FSC-certified:
 - a. Plywood.
 - b. Oriented strand board.
 - c. Fiberboard wall sheathing.
 - d. Particleboard underlayment.
 - e. Hardboard underlayment.
 - 2. Wood panel products comply with low-emitting materials requirements of LEED for Schools.
- B. Preservative-Treated Plywood:
 - 1. Preservative Treatment: AWWPA U1; Use Category UC2, but Use Category UC3b for exterior construction and Use Category UC4a for items in contact with the ground.
 - 2. Preservative Chemicals: Containing no arsenic or chromium.
 - 3. Application: Treat plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.
 - a. .
- C. Wall Sheathing:
 - 1. Plywood: Exterior, 5/8 inch thick.
 - 2. Paper-Surfaced Gypsum: Regular, 5/8 inch, Type X, 5/8 inch thick.
 - 3. Cementitious backer units.
- D. Roof Sheathing:
 - 1. Plywood: Exterior, 5/8 inch thick.
- E. Subflooring and Underlayment:
 - 1. Plywood Underlayment for Resilient Flooring: Exterior B-C 3/4 inch thick, tongue and groove.

2. Plywood Underlayment for Ceramic Tile: Exterior B-C 3/4 inch thick, tongue and groove.
- F. Fasteners: Hot-dip galvanized or Stainless steel where exposed to weather, in ground contact, in contact with treated wood, or in area of high relative humidity.
- G. Miscellaneous Materials:
1. Sealant for gypsum sheathing.
 2. Sheathing tape.
 3. Adhesives: Low VOC.

1.56 INSTALLATION

- A. Gypsum Sheathing:
1. Screw to wood framing.
- B. Fiberboard Sheathing:
1. Nail to wood framing.

END OF SECTION 061600

SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

1.57 SUMMARY

- A. Wood trusses.
- B. Wood truss bracing.
- C. Metal truss accessories.

1.58 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that participates in a quality-assurance program that complies with TPI 1 with third-party inspection acceptable to Architect and authorities having jurisdiction and is FSC-certified for chain of custody.

1.59 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Fabricator to design metal-plate-connected wood trusses.
1. Design Loads: As indicated.
 2. Maximum Vertical Deflection, Roof Trusses: as indicated on structural drawings.
 3. Maximum Vertical Deflection, Floor Trusses: as indicated on structural drawings.

1.60 MATERIALS

- A. Trusses and bracing produced from FSC-certified wood.
- B. Permanent Bracing: Comply with Section 061000 "Rough Carpentry", Section 061053 "Miscellaneous Rough Carpentry."
- C. Metal Connector Plates:
 - 1. Hot-dip galvanized steel.
 - 2. Hot-dip heavy galvanized steel for wood-preservative-treated lumber and where indicated.
 - 3. Stainless steel for exterior and where indicated.
- D. Metal Truss Accessories:
 - 1. Hot-dip galvanized steel.
 - 2. Hot-dip heavy galvanized steel for wood-preservative-treated lumber and where indicated.
 - 3. Stainless steel for exterior and where indicated.
 - 4. Types: Truss tie-downs (hurricane or seismic ties), Floor truss hangers and roof truss bracing/spacers.

1.61 SOURCE QUALITY CONTROL

- A. Owner will engage a qualified special inspector.

1.62 INSTALLATION

- A. Truss Spacing: As indicated.

END OF SECTION 061753

SECTION 062013 - EXTERIOR FINISH CARPENTRY

1.63 WARRANTY

- A. Cellular PVC Trim: 25 years.
- B. Factory-Applied Finish on Hardboard Siding and Trim: five years.
- C. Hardboard Siding (Excluding Finish): 25 years.

1.64 MATERIALS

- A. Regional Materials: Extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
 - 1. Exterior trim.
 - 2. Exterior lumber, plywood siding.
 - 3. Exterior plywood soffits.

- B. Preservative Treatment by Pressure Process: All exterior lumber and plywood exposed.

Exterior Standing and Running Trim:

1. Lumber Trim for Painted Finish: White pine or other white softwoods.
2. Moldings for Painted Finish: PVC or hardi trim pieces.
 - a. Molding Types:
 3. Exterior Grade MDO plywood trim.
 4. Primed hardboard trim.
 5. Cellular PVC trim.
 6. Foam plastic moldings.
 7. Railings, Balusters, and Newel Posts: Pressure-preservative-treated southern pine.

- C. Wood Columns:

1. Shafts: Southern yellow pine, pressure treated No. 1 grade.
2. Base: wood.

- D. Fasteners: As indicated.

1.65 INSTALLATION

- A. Lumber and moldings for painted applications; primed, including both faces and edges.

END OF SECTION 062013

SECTION 062023 - INTERIOR FINISH CARPENTRY

1.66 WARRANTY

1.67 MATERIALS

- A. Regional Materials: Extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
1. Interior trim.
 2. Fire-rated interior door frames.
 3. Shelving.
 4. Interior stairs and railings.
 5. Interior ornamental wood columns.
- B. FSC-Certified Wood:
1. Interior trim.
 2. Fire-rated interior door frames.
 3. Shelving.

4. Interior stairs and railings.
 5. Interior ornamental wood columns.
- C. Composite Wood Materials: Urea-formaldehyde free.
- D. Adhesives: Low VOC.
- E. Preservative Treatment by Pressure Process: Where indicated.
- F. Fire-Retardant-Treated Materials: Where indicated.
- G. Interior Standing and Running Trim:
1. Lumber Trim for Opaque Finish (Painted): white pine.
 2. Moldings for Opaque Finish (Painted): White pine.
 3. PVC-wrapped moldings.
 4. Foam plastic moldings.
- H. Fire-Rated Interior Door Frames:
1. Species: Metal.
 2. Fire Rating: 60 minutes, As indicated.
- I. Hardwood Veneer Plywood Paneling:
1. Face Veneer Species: Rotary-cut white birch.
 2. Thickness: 1/8 inch
 3. Factory finished.
- J. Shelving: Particleboard with wood edge.
- K. Clothes Rods: Chrome-plated steel tubes.
- L. Stairs and Railings:
1. Stairs: Metal
 2. Railings: Metal
 3. Balusters: As indicated.
 4. Newel Posts: As indicated.

1.68 INSTALLATION

END OF SECTION 062023

SECTION 064113 - WOOD-VENEER-FACED ARCHITECTURAL CABINETS

1.69 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.
- B. Mockups for typical architectural wood cabinets.

1.70 WOOD CABINETS FOR OPAQUE FINISH

- A. Grade: Premium
- B. Manufactured within 500 miles (800 km) of Project site[from materials extracted and manufactured within 500 miles (800 km) of Project site.
- C. FSC-certified wood products.
- D. Type of Construction: Face frame.
- E. Cabinet and Door and Drawer Front Interface Style: Reveal overlay.
- F. Cabinet Interior: Thermoset decorative panels.

1.71 MATERIALS

- A. Composite Wood Products: Urea formaldehyde free.
- B. Recycled Content of Medium-Density Fiberboard and Particleboard: Postconsumer plus one-half of pre-consumer recycled content not less than 15 percent.
- C. Adhesives: Urea formaldehyde free.
- D. Cabinet Hardware:
 - 1. Hinges: concealed.
 - 2. Pulls: Back mounted.
 - 3. Adjustable shelf supports.
 - 4. Exposed Hardware Finishes: Brushed Nickel.

1.72 SHOP FINISHING

- A. Grade: Same grade as woodwork.
- B. Grade: Premium for opaque finish.
- C. Extent: All cabinets shop finished.
- D. Finishing Materials: Low-emitting materials for LEED for Schools.

END OF SECTION 064113

SECTION 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

1.73 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.

- B. Mockups for typical plastic-laminate cabinets.

1.74 PLASTIC-LAMINATE-FACED CABINETS

- A. Grade: Premium.
- B. Manufactured within 500 miles of Project site.
- C. FSC-certified wood products.
- D. Type of Construction: Face frame.
- E. Cabinet and Door and Drawer Front Interface Style: Reveal overlay.
- F. Laminate Cladding for Exposed Surfaces:
 - 1. Horizontal Surfaces: Grade HGS
 - 2. Postformed Surfaces: Grade HGP.
 - 3. Vertical Surfaces: Grade HGS
- G. Cabinet Interior: Thermoset decorative panels.

1.75 MATERIALS

- A. Composite Wood Products: Urea formaldehyde free.
- B. Recycled Content of Medium-Density Fiberboard and Particleboard: Postconsumer plus one-half of pre-consumer recycled content not less than 15 percent.
- C. Adhesives: Urea formaldehyde free.
- D. Cabinet Hardware:
 - 1. Hinges: concealed.
 - 2. Pulls: Back mounted.
 - 3. Adjustable shelf supports.
 - 4. Exposed Hardware Finishes: Brushed Nickel.

END OF SECTION 064116

SECTION 064219 - PLASTIC-LAMINATE-FACED WOOD PANELING

1.76 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.
- B. Mockups for typical paneling.

1.77 PANELING, GENERAL

- A. Manufactured within 500 miles of Project site.

1.78 PLASTIC-LAMINATE-FACED WOOD PANELING

- A. Grade: Premium.
- B. FSC-certified wood products.
- C. Faces: Grade HGS.

1.79 MATERIALS

- A. Composite Wood Products: Urea formaldehyde free.
- B. Recycled Content of Medium-Density Fiberboard and Particleboard: Postconsumer plus one-half of pre-consumer recycled content not less than 10 percent.
- C. Adhesives: Urea formaldehyde free.

END OF SECTION 064219

SECTION 064600 - WOOD TRIM

1.80 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.
- B. Mockup for typical wood trim.

1.81 EXTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

- A. Grade: Economy.
- B. Manufactured within 500 miles of Project site from materials extracted and manufactured within 500 miles of Project site.
- C. FSC-certified wood.
- D. Wood Species: Pressure treated southern yellow pine No. 1 grade.

1.82 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

- A. Grade: Premium.
- B. Manufactured within 500 miles of Project site.

- C. FSC-certified wood.
- D. Wood Species: Eastern white pine.

1.83 CLOSET AND UTILITY SHELVING

- A. Grade: Economy.
- B. Shelf Material: 3/4-inch veneer-faced panel product with solid-lumber edge .
- C. Wood Specie: Match species indicated for other types of woodwork located in same area of building unless otherwise indicated Eastern white pine, sugar pine, or western white pine.

1.84 MATERIALS

- A. Composite Wood Products: Urea formaldehyde free.
- B. Adhesives: Urea formaldehyde free.
Installation Adhesives and Sealants: Low VOC.

END OF SECTION 064600

SECTION 064800 - WOOD FRAMES

1.85 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.

1.86 INTERIOR FRAMES AND JAMBS FOR OPAQUE FINISH

- A. Grade: Economy.
- B. Manufactured within 100 miles of Project site from materials extracted and manufactured within 100 miles of Project site.
- C. FSC-certified wood.
- D. Wood Species: Eastern white pine, sugar pine, or western white pine.
- E. Fire-Rated Frames and Jambs: 20-minute rating.

1.87 MATERIALS

- A. Composite Wood Products: Urea formaldehyde free.
- B. Adhesives: Urea formaldehyde free.

1.88 SHOP FINISHING

- A. Grade: Same grade as woodwork.
- B. Grade: Economy for opaque finish.
- C. Extent: Indicated wood frames shop finished; other wood frames to be field finished opaque-finished wood frames field finished.
- D. Finishing Materials: Low-emitting materials for LEED for Schools.

END OF SECTION 064800

SECTION 066400 - PLASTIC PANELING

1.89 PLASTIC SHEET PANELING

- A. Fiberglass Reinforced Paneling:
 - 1. Glasliner 4x8 sheets .090 FRP wall panels.
 - 2. Flame-Spread Index: as per 2023 Florida Building Code..
 - 3. Surface Finish: Molded pebble texture
 - 4. Color: White

1.90 ACCESSORIES

- A. Trim Accessories: Vinyl extrusions.
 - 1. Color: Match panels.
- B. Adhesive: As recommended by paneling manufacturer.
 - 1. VOC Limit: 50 g/L.
 - 2. Low emitting for LEED for Schools.
- C. Sealant: Mildew-resistant, neutral-curing silicone
 - 1. VOC Limit: 250 g/L.
 - 2. Low emitting for LEED for Schools.

1.91 INSTALLATION

- A. Installation Method: Adhesive and concealed mounting splines.
- B. Manufacturers recommend the use of sealant in high-moisture or wet areas.
 - 1. Fill grooves in trim accessories with sealant.
 - 2. Maintain uniform space between panels and fill space with sealant.

END OF SECTION 066400

SECTION 071113 - BITUMINOUS DAMPPROOFING

1.92 MATERIALS

- A. Cold-Applied, Cut-Back Asphalt: VOC of 300 g/L or less.
- B. Cold-Applied, Emulsified Asphalt: VOC of 30 g/L or less.
- C. Primer: Emulsified asphalt.
- D. Protection Course: Extruded-polystyrene board insulation.
- E. Molded-Sheet Drainage Panels: Molded-plastic drainage core.

1.93 INSTALLATION

- A. Cold-Applied, Cut-Back-Asphalt Dampproofing:
 - 1. Concrete Foundations: Two brush or spray coats or one trowel coat.

END OF SECTION 071113

SECTION 071900 - WATER REPELLENTS

1.94 SUMMARY

- A. Water-repellent treatments for the following:
 - 1. Cast-in-place concrete.
 - 2. Precast concrete.
 - 3. Cast stone.
 - 4. Concrete unit masonry.
 - 5. Clay brick masonry.
 - 6. Natural stone.
 - 7. Portland cement plaster (stucco).

1.95 PERFORMANCE REQUIREMENTS

- A. Water Absorption: Minimum 90 percent reduction.
- B. Water-Vapor Transmission: Maximum 10 percent reduction.
- C. Water Penetration and Leakage through Masonry: Minimum 90 percent reduction in leakage rate.
- D. Chloride-Ion Intrusion in Concrete: 80 percent reduction.

1.96 MATERIALS

- A. Penetrating Water Repellent: **Siliconate**.
 - 1. Solids: 10 percent or more.
 - 2. VOC Content: 400 g/L or less.
 - 3. VOC Content: [**600 g/L**] [**400 g/L**] or less.
- B. MPI-Approved Water Repellent: clear.

1.97 APPLICATION

- A. Manufacturer's Field Service: Factory-authorized service representative to inspect substrate and instruct Applicator.
- B. Application Method: roller or brush.

1.98 FIELD QUALITY CONTROL

- A. Testing: By Contractor.

END OF SECTION 071900

SECTION 072100 - THERMAL INSULATION

1.99 MATERIALS

- A. Insulation:
 - 1. Polypropylene-Scrim-Kraft-Faced, Glass-Fiber Blanket: Type II, Class A; Category 1.
 - 2. Kraft-Faced, Glass-Fiber Blanket: Type II, Class C; Category 1.
 - 3. Foil-Faced, Glass-Fiber Blanket: Type III, Class B; Category 1.
 - 4. Closed-Cell Spray Polyurethane Foam: Type II, minimum density of 1.5 lb/cu. ft. (24 kg/cu. m).
 - 5. Polypropylene formed cell insulation.
- B. Vapor Retarders: Polyethylene.
- C. Auxiliary Insulating Materials:
 - 1. Eave ventilation troughs.
 - 2. Insulation fasteners.

END OF SECTION 072100

SECTION 072726 - FLUID-APPLIED MEMBRANE AIR BARRIERS

1.100 QUALITY ASSURANCE

- A. Installer Qualifications: Trained and approved by manufacturer[**and ABAA certified**].
- B. Mockups of wall assembly[**for preconstruction testing**].

1.101 PRECONSTRUCTION TESTING

- A. Mockup testing for [**qualitative air leakage**] [**quantitative air leakage**] [**and**] [**adhesion**].

1.102 MATERIALS, GENERAL

- A. VOC Content: [**250**] <Insert value> g/L or less.
- B. Low emitting for LEED for Schools.

1.103 PERFORMANCE REQUIREMENTS

- A. Air-Barrier Assembly Air Leakage: Maximum [**0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa)**] <Insert value>.

1.104 MEMBRANE AIR BARRIER

- A. Fluid-Applied, [**Vapor-Retarding**] [**Vapor-Permeable**] Membrane: [**Elastomeric, modified bituminous**] [**or**] [**synthetic polymer**] membrane, with maximum [**0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa)**] <Insert value> air permeance.

1.105 INSTALLATION

- A. Membrane Thickness: Total [**dry film thickness as recommended in writing by manufacturer to meet performance requirements, but not less than 40-mil (1.0-mm) dry film thickness**] [**40-mil (1.0-mm) dry film thickness**] [**45-mil (1.1-mm) dry film thickness**] <Insert dimension>, applied in [**one coat**] [**two equal coats**] [**one or more equal coats**].

1.106 FIELD QUALITY CONTROL

- A. Testing and Inspecting: By Owner-engaged agency for [**qualitative air leakage**] [**quantitative air leakage**] [**and**] [**adhesion**].

END OF SECTION 072726

SECTION 074113.13 - FORMED METAL ROOF PANELS

1.107 QUALITY ASSURANCE

- A. Portable roll-forming equipment allowed.
- B. Metal Building System Section.

1.108 WARRANTY

- A. Finishes: 20 years.

1.109 PERFORMANCE REQUIREMENTS

- A. Solar Reflectance Index: Not less than 78 according to ASTM E 1980.
- B. Energy Performance:
 - 1. ENERGY STAR low slope.
 - 2. Aged Solar Reflectance Index of 0.64 when tested according to CRRC-1.
- C. Structural Performance: ASTM E 1592.
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- D. Air Infiltration: ASTM E 1680 or ASTM E 283.
- E. Water Penetration: ASTM E 1646 or ASTM E 331.
- F. Hydrostatic-Head Resistance: ASTM E 2140.
- G. Wind-Uplift Resistance: UL 580.
 - 1. Uplift Rating: UL 90.
- H. FM Global listed.
 - 1. Fire/Windstorm Classification: Class 1A-150>.

1.110 PRODUCTS

- A. Exposed-Fastener, Lap-Seam Metal Roof Panels:
 - 1. Profile: 5V crimp
 - 2. Material: galvalume sheets.
 - 3. Exterior Finish: Galvalume.

- B. Accessories:
 - 1. Flashing and trim.
 - 2. Gutters.
 - 3. Downspouts.

1.111 MATERIALS

- A. Self-adhering, high-temperature sheet underlayment over entire roof.
- B. Felt underlayment.
- C. Slip sheet.

1.112 INSTALLATION

- A. Watertight Installation: Sealant or tape at side laps.

1.113 FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged agency.

END OF SECTION 074113.13

SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

1.114 QUALITY ASSURANCE

- A. Portable roll-forming equipment allowed.
- B. Mockups.

1.115 WARRANTY

- A. Finishes: 20 years.
- B. Weathertightness: 20 years.

1.116 PERFORMANCE REQUIREMENTS

- A. Solar Reflectance Index: Not less than 78 according to ASTM E 1980.
- B. Energy Performance:
 - 1. ENERGY STAR low slope.
 - 2. Aged Solar Reflectance Index of 0.64 when tested according to CRRC-1.

- C. Structural Performance: ASTM E 1592.
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings .
- D. Air Infiltration: ASTM E 1680 or ASTM E 283.
- E. Water Penetration: ASTM E 1646 or ASTM E 331.
- F. Hydrostatic-Head Resistance: ASTM E 2140.
- G. Wind-Uplift Resistance: UL 580.
 - 1. Uplift Rating: UL 90.
- H. FM Global listed.
 - 1. Fire/Windstorm Classification: Class 1A-150.

1.117 PRODUCTS

- A. Standing Seam Metal Roof Panels:
 - 1. Profile: Integral standing seam.
 - 2. Material: Galvalume sheets.
- B. Accessories:
 - 1. Flashing and trim.
 - 2. Gutters.
 - 3. Downspouts.

1.118 MATERIALS

- A. Self-adhering, high-temperature sheet underlayment over entire roof.
- B. Felt underlayment.
- C. Slip sheet.

1.119 INSTALLATION

- A. Watertight Installation: Sealant or tape at joints.

1.120 FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged agency.

END OF SECTION 074113.16

SECTION 074213.13 - FORMED METAL WALL PANELS

1.121 QUALITY ASSURANCE

- A. See Metal Building Systems
- B. Mockups.

1.122 WARRANTY

- A. Finishes: 20 years.

1.123 PERFORMANCE REQUIREMENTS

- A. Structural Performance: ASTM E 1592.
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- B. Air Infiltration: ASTM E 283.
- C. Water Penetration: ASTM E 331.
- D. Fire-Resistance Rating: ASTM E 119 and UL listed.

1.124 PRODUCTS

- A. Concealed-Fastener, Lap-Seam Metal Wall Panels:
 - 1. Profile: selected by owner from metal building system manufacturer.
 - 2. Material: Metallic-coated steel sheet.
- B. Accessories: Flashing and trim.

1.125 INSTALLATION

- A. Watertight Installation: Sealant or tape at joints.

1.126 FIELD QUALITY CONTROL

- A. Testing: By factory-authorized service representative.

END OF SECTION 074213.13

SECTION 074213.53 - METAL SOFFIT PANELS

1.127 QUALITY ASSURANCE

- A. Portable roll-forming equipment allowed.

1.128 WARRANTY

- A. Finishes: 20 years.

1.129 PERFORMANCE REQUIREMENTS

- A. Structural Performance: ASTM E 1592.
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- B. Air Infiltration: ASTM E 283.
- C. Water Penetration: ASTM E 331.

1.130 PRODUCTS

- A. Solid Metal Soffit Panels:
 - 1. Profile: Reveal joint.
 - 2. Material: Aluminum sheet.
 - 3. Exterior Finish: Two-coat fluoropolymer.
- B. Accessories: Flashing and trim.

1.131 INSTALLATION

- A. Watertight Installation: Sealant or tape at joints.

END OF SECTION 074213.53

SECTION 076200 - SHEET METAL FLASHING AND TRIM

1.132 PERFORMANCE REQUIREMENTS

- A. Sheet Metal Standard for Flashing and Trim: NRCA's "The NRCA Roofing Manual", SMACNA's "Architectural Sheet Metal Manual.
- B. FM Approvals Listing: For roof edge flashings for windstorm classification, Class 1-150 .

1.133 MATERIALS

- A. Sheet Metals:
 - 1. Galvalume Sheet:
- B. Underlayment: Self-adhering, high-temperature sheet.

1.134 PRODUCTS

- A. Manufactured Reglets with counterflashing.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

1.135 QUALITY ASSURANCE

- A. Mockups of typical roof edge.

1.136 WARRANTY

- A. Roofing-System Warranty: Roof specialties included in warranty provisions of roofing Section.
- B. Special Warranty on Painted Finishes: 20 years.

1.137 PERFORMANCE REQUIREMENTS

- A. Copings: FM Approvals listed.
 - 1. FM Windstorm Classification: Class 1-150.
- B. Roof-Edge Flashings: FM Approvals listed, SPRI ES-1 tested.
 - 1. FM Windstorm Classification: Class 1-150.

1.138 PRODUCTS

- A. Copings: Formed aluminum.
- B. Roof-Edge Specialties:
 - 1. Roof-Edge Fascia: Formed aluminum.
- C. Roof-Edge Drainage Systems:
 - 1. Gutters: Formed aluminum.
 - 2. Downspouts: Formed aluminum.

- D. Reglets and Counter flashings:
 - 1. Reglets: Formed aluminum.
 - 2. Counter flashings: Formed aluminum.
- E. Finishes: Galvalume finish.

END OF SECTION 077100

SECTION 077200 - ROOF ACCESSORIES

1.139 WARRANTY

- A. Painted Finishes: 10 years.

1.140 PRODUCTS

- A. Gravity Ventilators:
 - 1. Low-Profile, Cylindrical Style: **Zinc-coated (galvanized) steel.**
- B. Preformed Flashing Sleeves: Exhaust vent flashing and vent stack flashing fabricated from galvalum sheet.

END OF SECTION 077200

SECTION 078446 - FIRE-RESISTIVE JOINT SYSTEMS

1.141 QUALITY ASSURANCE

- A. Installer Qualifications: An FM Global-approved firestop contractor or a UL-qualified firestop contractor.

1.142 FIRE-RESISTIVE JOINT SYSTEMS

- A. Joints in or between Fire-Resistance-Rated Construction: ASTM E 1966 or UL 2079.

1.143 INSTALLATION

- A. Identification: Preprinted metal or plastic labels.

1.144 FIELD QUALITY CONTROL

- A. Inspection of Installed Firestopping: By Owner-engaged agency according to ASTM E 2393.

1.145 FIRE-RESISTIVE JOINT SYSTEMS SCHEDULE

- A. Floor-to-Floor, Fire-Resistive Joint Systems
 - 1. Assembly Rating: 1 hour.
 - 2. Nominal Joint Width: As indicated.
 - 3. Movement Capabilities: Class I.
- B. Wall-to-Wall, Fire-Resistive Joint Systems
 - 1. Assembly Rating: 2 hours .
 - 2. Nominal Joint Width: As indicated.
 - 3. Movement Capabilities: Class I.
- C. Floor-to-Wall, Fire-Resistive Joint Systems
 - 1. Assembly Rating: 1 hour.
 - 2. Nominal Joint Width: As indicated .
 - 3. Movement Capabilities: Class I

END OF SECTION 078446

SECTION 079100 - PREFORMED JOINT SEALS

1.146 WARRANTY

- A. Installer Warranty: Two years.
- B. Manufacturer's Warranty: Five years.

1.147 PRODUCTS

- A. Preformed, foam joint seals.
- B. Extruded-silicone joint seals.

END OF SECTION 079100

SECTION 079200 - JOINT SEALANTS

1.148 WARRANTY

- A. Installer Warranty: Two years.
- B. Special Manufacturer's Warranty: Five years.

1.149 JOINT SEALANTS

- A. VOC Content of Interior Sealants:

1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Silicone joint sealants.
- C. Nonstaining silicone joint sealants.
- D. Urethane joint sealants.
- E. Immersible joint sealants.
- F. Silyl-terminated polyether joint sealants.
- G. Mildew-resistant joint sealants.
- H. Polysulfide joint sealants.
- I. Butyl joint sealants.
- J. Latex joint sealants.
- K. Joint-sealant backing.
- 1.150 FIELD QUALITY CONTROL
- A. Field-adhesion testing.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

- 1.151 INTERIOR DOORS AND FRAMES
- A. SDI Standard Duty: ANSI/SDI A250.8, Level 1. Uncoated, cold-rolled steel sheet.
1. Thickness: 1-3/8 inches .
 2. Edge Construction: Model 1, Full Flush.
 3. Core: Manufacturer's standard.
 4. Frames: Knocked down and Slip-on drywall.
 5. Exposed Finish: Prime.
- 1.152 EXTERIOR DOORS AND FRAMES
- A. SDI Heavy Duty: SDI A250.8, Level 2. Metallic-coated, cold-rolled steel sheet.
1. Edge Construction: Model 1, Full Flush.
 2. Core: Manufacturer's standard.
 3. Frames Knocked down.

4. Exposed Finish: Prime.
- B. HMMA Hollow Metal: NAAMM-HMMA 860. Metallic-coated, cold-rolled steel sheet.
 1. Edge Construction: Continuously welded with no visible seam.
 2. Core: Vertical steel stiffener.
 3. Frames: Knocked down and Slip-on drywall.
 4. Exposed Finish: Prime.
 - C. Accessories:
 1. Louvers: Sight proof steel.
 2. Mullions and transom bars.
- 1.153 INSTALLATION
- A. Metal-Stud Partitions and Concrete Walls: Frames filled with insulation.
 - B. Masonry Walls: Frames filled with grout.

END OF SECTION 081113

SECTION 081213 - HOLLOW METAL FRAMES

- 1.154 INTERIOR FRAMES
- A. SDI Standard Duty: ANSI/SDI A250.8, Level 1. Uncoated, steel sheet.
 1. Construction: Knocked down or Slip-on drywall.
 2. Exposed Finish: Prime.
 - B. HMMA Hollow Metal: NAAMM-HMMA 860. Uncoated, steel sheet.
 1. Construction: 0.053 inch thickness. Knocked down or Slip-on drywall.
 2. Exposed Finish: Prime.

END OF SECTION 081213

SECTION 081416 - FLUSH WOOD DOORS

- 1.155 QUALITY ASSURANCE
- A. Manufacturer and Vendor: FSC certified for chain of custody.
 - B. Manufacturer: Certified participant in AWI's Quality Certification Program.

1.156 DOOR CONSTRUCTION, GENERAL

- A. Quality Standard: Architectural Woodwork Standards.
 - 1. AWI Quality Certification Labels.
- B. Low-Emitting Materials: Made with adhesives and composite wood products that do not contain urea formaldehyde.
- C. Low-Emitting Materials: Made with adhesives and composite wood products that comply with requirements of LEED for Schools.
- D. WDMA I.S.1-A Performance Grade:
 - 1. Heavy Duty unless otherwise indicated.
 - 2. Standard Duty: Closets (not including janitor's closets).

1.157 DOORS FOR OPAQUE FINISH

- A. Interior Solid-Core Doors :
 - 1. Grade: Premium.
 - 2. Faces: Hardboard or MDF.
 - 3. Core: Structural composite lumber.
 - 4. Construction: Five plies, bonded.
 - 5. WDMA I.S.1-A Performance Grade: Heavy Duty.
- B. Interior Hollow-Core Doors:
 - 1. Grade: Custom.
 - 2. Faces: Hardboard or MDF.
 - 3. WDMA I.S.1-A Performance Grade: Standard Duty.

1.158 LIGHT FRAMES AND LOUVERS

- A. Light-Opening Frames:
 - 1. Wood beads.
- B. Louvers: Wood.
 - 1. Fire-Door Louvers: Galvanized steel with fusible links.

1.159 PRIMING/FINISHING

- A. Shop Priming:
 - 1. Doors for Opaque Finish: One coat of wood primer.
 - 2. Doors for Transparent Finish: Stain (if required) and first coat of finish.

- B. Factory Finishing: All doors.
- C. Finishing Materials: Low-emitting materials for LEED for Schools.
 - 1. .
- D. Opaque Factory Finishes:
 - 1. Grade: Premium.
 - 2. Finish: UV curable, water based or catalyzed polyurethane.

END OF SECTION 081416

SECTION 083313 - COILING COUNTER DOORS

- 1.160 COUNTER DOOR ASSEMBLY As indicated.
 - A. Counter Door: Door curtain of aluminum.
 - B. STC Rating: 26.
 - C. Hood: Galvanized steel.
 - D. Integral Frame, Hood, and Fascia: Galvanized steel.
 - E. Sill Configuration: No sill.
 - F. Manual door operator.
- 1.161 INSTALLATION
 - A. Factory-authorized representative to train Owner's personnel.

END OF SECTION 083313

SECTION 083323 - OVERHEAD COILING DOORS

- 1.162 PERFORMANCE REQUIREMENTS
 - A. Operability under specified wind load is required.
 - B. Air-infiltration limit for exterior doors.
 - C. Windborne-debris impact-resistance performance.
 - D. Seismic performance.

- 1.163 DOOR ASSEMBLY As indicated.
- A. Insulated Service Door: Door curtain of galvanized steel.
 - B. Design Wind Load: 150 mph.
 - C. STC Rating: 26.
 - D. Hood: Galvanized steel.
 - E. Manual door operator.
 - F. Electric Door Operator: Standard duty, with emergency manual[push-up chain.
 - 1. Obstruction-detection device.
- 1.164 INSTALLATION
- A. Factory-authorized representative to perform startup service and testing.

END OF SECTION 083323

SECTION 083326 - OVERHEAD COILING GRILLES

- 1.165 PERFORMANCE REQUIREMENTS
- A. Seismic Performance: ASCE/SEI 7.
- 1.166 CLOSED-CURTAIN GRILLE ASSEMBLY As indicated.
- A. Operation Cycles: 20,000.
 - B. Aluminum countertop grille with solid aluminum panels.
 - C. Hood: Galvanized steel.
 - D. Manual grille operator.
- 1.167 MAINTENANCE SERVICE
- A. Initial Maintenance Service: 12 months.
- 1.168 DEMONSTRATION
- A. Factory-authorized representative to train Owner's personnel.

END OF SECTION 083326

SECTION 084413 - GLAZED ALUMINUM CURTAIN WALLS

1.169 WARRANTY

- A. Materials and Workmanship: 10 years.
- B. Finish: 10 years.

1.170 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Contractor to design glazed aluminum curtain walls.
- B. Windborne-Debris-Impact Resistance: As indicated, Wind Zone 3.

1.171 SYSTEM COMPONENTS

- A. Framing Members:
 - 1. Construction: Non-thermal.
 - 2. Glazing System: Gaskets on four sides.
 - 3. Glazing Plane: Front.
- B. Glazing: Section 088000 "Glazing."

1.172 ALUMINUM FINISHES

- A. Aluminum Finishes: Class I, clear anodic .

1.173 SOURCE QUALITY CONTROL

- A. Testing Agency: Contractor engaged.

1.174 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor engaged.

END OF SECTION 084413

SECTION 085313 - VINYL WINDOWS

1.175 WARRANTY

- A. Windows: 10 years from date of Substantial Completion.

- B. Glazing Units: 10 years from date of Substantial Completion.

1.176 WINDOW PERFORMANCE REQUIREMENTS

- A. Product Standard: AAMA/WDMA/CSA 101/I.S.2/A440.
 - 1. Minimum Performance Class: As indicated on Drawings .
 - 2. Minimum Performance Grade: As indicated on Drawings.
- B. Solar Heat-Gain Coefficient: 0.30 maximum.
- C. Sound Transmission Class: 30 minimum.
- D. Windborne-Debris Resistance: Passing ASTM E 1886 and requirements of authorities having jurisdiction.

1.177 VINYL WINDOWS

- A. Finish: Integral color, white.
- B. Glass: Clear, insulating, with low-E coating, Impact resistant.
- C. Accessories: Dividers (false muntin's).
- D. Insect Screens: At each operable exterior sash, with aluminum frames and without wickets.

1.178 FIELD QUALITY CONTROL

END OF SECTION 085313

SECTION 087100 - DOOR HARDWARE

1.179 SUMMARY

- A. Mechanical door hardware for swinging doors.
- B. Cylinders for door hardware specified in other Sections.
- C. Electrified door hardware.
- D. Door hardware furnished as part of Door Hardware Allowance.
- E. Door Hardware to be approved and coordinated with Ft. Walton Beach Parks Department.

1.180 WARRANTY

- A. Materials and Workmanship: Three years.

1.181 MAINTENANCE SERVICE

- A. Full-Maintenance Service: Six months.

1.182 PRODUCTS

- A. Scheduled Door Hardware: Products scheduled in "Door Hardware Schedule" produced by Ft. Walton Beach Parks Department.

1.183 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Contractor-engaged to perform inspections.
- B. Occupancy Adjustment: After six months.

END OF SECTION 087100

SECTION 088000 - GLAZING

1.184 SUMMARY

- A. Glass for windows, doors, storefront framing] glazed curtain walls.
- B. All glazing to be Impact resistant and Low "E" insulated.

1.185 QUALITY ASSURANCE

- A. Mockups for aluminum-framed entrances and storefronts.

1.186 WARRANTY

- A. Coated-Glass Products: 10 years.
- B. Laminated Glass: 10 years.
- C. Insulating Glass: 10 years.

1.187 PERFORMANCE REQUIREMENTS

- A. Engineering design of glass by Contractor.
- B. Windborne-Debris-Impact Resistance of Exterior Glazing: Wind Zone 3.
- C. Impact resistant as indicated.

1.188 MATERIALS

A. Silicone Glazing Sealants: Neutral curing, Class 100/50.

1. Sealants: Low VOC.

1.189 LAMINTED GLASS SCHEDULE

A. Glass Type [GL-<#>]: Clear laminated glass; **[annealed] [heat-strengthened] [fully tempered] [ultraclear annealed] [ultraclear heat-strengthened] [ultraclear fully tempered]** float glass.

B. Glass Type [GL-<#>]: Antireflective-coated clear laminated glass; **[annealed] [heat-strengthened] [fully tempered] [ultraclear annealed] [ultraclear heat-strengthened] [ultraclear fully tempered]** float glass.

C. Glass Type [GL-<#>]: Tinted laminated glass; **[annealed] [heat-strengthened] [fully tempered]** float glass; outer ply tinted, inner ply clear.

D. Glass Type [GL-<#>]: Tinted laminated glass; **[annealed] [heat-strengthened] [fully tempered]** float glass; clear; tinted interlayer.

E. Glass Type [GL-<#>]: Ceramic-coated, laminated vision glass **[heat-strengthened] [fully tempered]** float glass.

F. Glass Type [GL-<#>]: Reflective-coated, laminated vision glass; **[heat-strengthened] [fully tempered]** float glass; inner ply clear.

G. Glass Type [GL-<#>]: Low-E-coated, laminated vision glass; clear **[annealed] [heat-strengthened] [fully tempered]** float glass.

H. Glass Type [GL-<#>]: Reflective-coated, laminated spandrel glass; **[heat-strengthened] [fully tempered]** float glass; inner ply clear.

1.190 INSULATING-LAMINATED-GLASS TYPES

A. Glass Type : Low-E-coated, tinted, insulating laminated glass.

1. Outdoor Lite: Tinted heat-strengthened float glass.

2. Indoor Lite: Clear laminated glass with two plies of heat-strengthened float glass.

B. Glass Type: Low-E- tinted, insulated tempered glass, clear fully tempered float glass.

END OF SECTION 088000

SECTION 088300 - MIRRORS

1.191 WARRANTY

A. Warranty: Five years.

1.192 PRODUCTS

- A. Glass Mirrors: ASTM C 1503
- B. Annealed Monolithic Glass Mirrors: Mirror Glazing Quality, clear.
 - 1. Nominal Thickness 1/4 inch thick.
- C. Tempered Glass Mirrors: Clear.
 - 1. Nominal Thickness: 1/4 inch thick.
- D. Film backing for safety mirrors.
- E. Mirror Mastic: Low VOC.
- F. Mirror Hardware: Mirror clips.
- G. Mirror Edges: Flat polished.

END OF SECTION 088300

SECTION 089119 - FIXED LOUVERS

1.193 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Contractor to design louvers.
- B. Wind Loads: Indicated on Drawings.
- C. Windborne-Debris-Impact Resistance: Louvers located within 30 feet of grade pass basic-protection, large-missile testing requirements for Wind Zone 3.

1.194 PRODUCTS

- A. Fixed, Extruded-Aluminum Louvers:
 - 1. Horizontal, Drainable-Blade Louver:
 - a. Depth: As indicated on opening schedule.
 - b. Blade Profile: Blade with center baffle.
 - c. Mullion Type: Semi recessed.
 - 2. Horizontal Wind-Driven-Rain-Resistant Louver: as indicated on opening details.
 - 3. Vertical Wind-Driven-Rain-Resistant Louver: as indicated on opening details.
 - 4. Horizontal, Sight proof, Drainable-Blade Louver:
 - 5. Vertical, sight proof, Louver:
- B. Louver Screens:
 - 1. Provided at each exterior louver.
 - 2. Screening Type: Insect screening.

- C. Blank-Off Panels: Uninsulated.
- D. Finishes:
 - 1. Aluminum: Baked enamel or powder coat .

END OF SECTION 089119

SECTION 092400 - CEMENT PLASTERING

1.195 SUMMARY

- A. Portland cement plasterwork on metal lath.

1.196 MATERIALS

A. Metal Lath:

- 1. Expanded-Metal Lath: Flat diamond mesh with hot-dip galvanized zinc coating.
- 2. Welded-Wire Lath: Self-furring.
- 3. Vapor- retardant paper backing .

B. Accessories:

- 1. Foundation Weep Scream: Hot-dip galvanized-steel sheet.
- 2. Plastic bead and joint trim.
- 3. External-Corner Reinforcement: Metal lath with hot-dip galvanized zinc coating.

C. Fiber for base coat.

D. Bonding compound.

E. Sound attenuation blankets.

F. Eifs synthetic stucco finish coat with integral color.,

G. Plaster Mixes:

- 1. Base-Coat Mixes for Use over Metal Lath: For scratch and brown coats of three-coat plasterwork.
- 2. Eifs Finish-Coat Mix: For float trowel-textured finish..

END OF SECTION 092400

SECTION 092900 - GYPSUM BOARD

1.197 QUALITY ASSURANCE

- A. Mockups for the following:
 - 1. Levels of gypsum board finish for use in exposed locations.
 - 2. Smooth texture finishes.

1.198 MATERIALS

- A. Gypsum Board, General:
 - 1. Manufactured within 500 miles of Project site.
- B. Interior Gypsum Board:
 - 1. Gypsum wallboard.
 - 2. Gypsum board, Type X.
 - 3. Moisture- and mold-resistant gypsum board.
- C. Exterior Gypsum Board for Ceilings and Soffits:
 - 1. Exterior gypsum soffit board in Concession Area.
- D. Tile-Backing Panels:
 - 1. Cementitious backer units.
- E. Trim Accessories:
 - 1. Interior.
 - 2. Exterior.
- F. Texture finishes:
 - 1. Smooth finish.

END OF SECTION 092900

SECTION 093013 - CERAMIC TILING

1.199 QUALITY ASSURANCE

- A. Sample for each type of floor and wall tile installation.

1.200 TILE PRODUCTS

- A. Tile Type Restroom Walls Glazed ceramic tile.

1. Basis-of-Design Product: Florida Tile Co.
2. Composition: Porcelain.
3. Size: 12 by 18 inch tile.
4. Description : As indicated on interior elevations.
5. Trim Shapes: [Base cove] [Bead (bullnose) base cap] [Surface bullnose base cap] [Bead (bullnose) wainscot cap] [Surface bullnose wainscot cap] [Bead (bullnose) external corner] [Surface bullnose external corner] [Coved internal corner] [Tapered transition].

B. Tile Type Concession and Coffee Splash Glazed ceramic tile.

1. Basis-of-Design Product: Florida Tile Co.
2. Composition: Porcelain.
3. Size: 3x6 inch tile.
4. Description : As indicated on interior elevations.
5. Trim Shapes: Bead (bullnose) base cap, Surface bullnose base cap.

C. Tile Type Concession Floor Unglazed quarry tile.

1. Size: 8 by 8 inches .
2. Description: Nonslip Quarry Floor Tile
3. Trim Shapes: Coved base.

D. Tile Type Foyer unglazed non-slip floor tile.

1. Basis-of-Design Product: Non-slip glazed floor tile, restrooms.
2. Size: 4 by 4 inches .
3. Description: non-slip floor tile.
4. Trim Shapes: Base.

E. Tile Type Foyer Floor porcelain tile.

1. Basis-of-Design Product: non-slip glazed porcelain floor tile.
2. Size: 24x24 inch tile.
3. Face Size Variation: Rectified.
4. Description: Floor tile

1.201 ACCESSORY MATERIALS

- A. Thresholds: Marble.
- B. Tile Backing Panels: Cementitious backer units.
- C. Waterproof Membrane: Urethane waterproofing and tile-setting adhesive.
- D. Crack Isolation Membrane: Fluid-applied membrane.
- E. Installation Adhesives: Low VOC.
- F. Metal edge strips.

1.202 INTERIOR TILE INSTALLATION SCHEDULE

A. Interior Floors on Concrete:

1. TCNA F111: Cement mortar bed with cleavage membrane. [**Sand-portland cement**] [**Standard**] [**High-performance**] grout.
2. TCNA F112: Cement mortar bed bonded to concrete. [**Sand-portland cement**] [**Standard**] [**High-performance**] grout.
3. TCNA F113: Thinset mortar. [**Sand-portland cement**] [**Standard**] [**High-performance**] [**Water-cleanable epoxy**] grout.
4. TCNA F114: Cement mortar bed with cleavage membrane, epoxy grout.
5. TCNA F115: Thinset mortar, epoxy grout.
6. TCNA F122: Thinset mortar on waterproof membrane. High-performance grout.

B. Interior Walls, Masonry or Concrete:

1. TCNA W202: Thinset mortar. High-performance grout.
2. TCNA W211: Cement mortar bed bonded to substrate. High-performance grout.

C. Interior Walls, Wood or Metal Studs or Furring:

1. TCNA W221: Cement mortar bed **over cement board over waterproof membrane** on solid backing. Standard grout.
2. TCNA W222: One-coat cement mortar bed **over waterproof membrane** on solid cement backing. Standard grout.

D. Bathtub/Shower Walls, Wood or Metal Studs or Furring:

1. TCNA B422: Thinset mortar on waterproof membrane with integrated bonding flange for bonded membranes. High-performance grout.

END OF SECTION 093013

SECTION 095123 - ACOUSTICAL TILE CEILINGS

1.203 SUMMARY

- A. Acoustical tiles and concealed suspension systems.

1.204 PRODUCTS

- A. Acoustical Ceiling Tiles: ASTM E 1264.
 1. Type, Form, and Pattern: Lay-in, semi reveal, Armstrong, Optima - Tegular
 2. LR: Not less than 88.
 3. NRC: Not less than .090.
 4. CAC: Not less than 26.
 5. AC: Not less than 190.
 6. Thickness: 3/4 inch .
 7. Modular Size: 24 by 24 inches, As indicated on Drawings.

- B. Acoustical Ceiling Tiles: Fire-resistance rated: ASTM E 1264.
 - 1. Type, Form, and Pattern: lay-in, square edge, Armstrong, Optima.
 - 2. LR: Not less than 0.88.
 - 3. NRC: Not less than 0.95.
 - 4. CAC: Not less than N/A.
 - 5. AC: Not less than 190.
 - 6. Thickness: 3/4 inch .
 - 7. Modular Size: 24 by 24 inches, As indicated on Drawings.
- C. Metal Suspension Systems: ASTM C 635.
 - 1. Wire hangers, braces, and ties.
 - 2. Hanger rods.
 - 3. Angle hangers.
 - 4. Seismic struts and clips.
 - 5. Direct Hung, Double Web, Fire Rated.
- D. Metal Edge Moldings and Trim: Roll-formed sheet metal.
- E. Acoustical Sealants: Low VOC.
- F. Installation Adhesive: Low VOC.

1.205 INSTALLATION

- A. Installation: ASTM C 636.

1.206 FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged agency to test acoustical tile ceiling hanger attachment devices.

END OF SECTION 095123

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

1.207 PRODUCTS

- A. Resilient Base: Thermoset rubber.
 - 1. Style and Location:
 - a. Cove: In areas with resilient flooring.
 - b. Butt to: In areas indicated.
 - 2. Minimum Thickness: 0.125 inch (3.2 mm).
 - 3. Height: 4 inches , As indicated on Drawings.
 - 4. Outside Corners: Preformed.
 - 5. Inside Corners: Job formed or preformed.
- B. Resilient Accessories: Rubber.

1. Cap for cove resilient flooring.
2. Nosing for resilient flooring.
3. Reducer strip for resilient flooring.
4. Transition strips.

C. Installation Materials:

1. Trowelable leveling and patching compounds.
2. Adhesives: Low VOC.

END OF SECTION 096513

SECTION 096519 - RESILIENT TILE FLOORING

1.208 PRODUCTS

- A. Flooring System: Floor-Score compliance.
- B. Solid Vinyl Floor Planking: Surface-decorated vinyl planking.
 1. Surface: Embossed.
 2. Thickness: 0.220 inch (5.5 mm) .
 3. Size: 9 by 48 inches.
 4. Seamless-Installation Method: floating interlock on slip sheet.

END OF SECTION 096519

SECTION 099113 - EXTERIOR PAINTING

1.209 QUALITY ASSURANCE

- A. Mockups for each color and finish.

1.210 PAINT, GENERAL

- A. Products MPI listed.

1.211 SOURCE QUALITY CONTROL

- A. Testing: By Owner-engaged agency.

1.212 EXTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Nontraffic Surfaces:
 1. Latex system.

- B. Concrete Substrates, Traffic Surfaces:
 - 1. Latex floor paint system.
- C. CMU Substrates:
 - 1. Latex over alkali-resistant primer system.
- D. Steel Substrates:
 - 1. Quick-drying enamel system.
- E. Galvanized-Metal Substrates:
 - 1. Water-based light industrial coating system.
- F. Wood Substrates: Including [wood trim] [architectural woodwork] [doors] [glued-laminated construction] [exposed joists] [exposed beams] .
 - 1. Latex over alkyd primer system.
 - 2. Alkyd system.
- G. Wood Substrates, Traffic Surfaces: Including lumber decking, handrails.
 - 1. Latex over alkyd primer system.
- H. Portland Cement Plaster Substrates:
 - 1. Latex over alkali-resistant primer system.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

1.213 QUALITY ASSURANCE

- A. Mockups for each color and finish.

1.214 PAINT, GENERAL

- A. Products MPI listed.
- B. VOC Content: Complying with LEED-CS Credit EQ 4.2.
- C. VOC Content and Chemical Components: Complying with LEED-CI Credit EQ 4.2.
- D. Low-Emitting Materials: Complying with LEED for Schools Credit EQ 4.

1.215 SOURCE QUALITY CONTROL

- A. Testing: By Owner-engaged agency.

1.216 INTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Nontraffic Surfaces:
 - 1. High-performance architectural latex system.
- B. Concrete Substrates, Traffic Surfaces:
 - 1. Water-based clear sealer system.
- C. CMU Substrates:
 - 1. High-performance architectural latex system.
- D. Steel Substrates:
 - 1. Latex over alkyd primer system.
- E. Galvanized-Metal Substrates:
 - 1. High-performance architectural latex system.
- F. Aluminum Substrates:
 - 1. High-performance architectural latex system.
- G. Wood Substrates: Including [wood trim] [architectural woodwork] [doors] [glued-laminated construction] [exposed joists] [exposed beams] .
 - 1. Latex over alkyd primer system.
- H. Wood Substrates, Traffic Surfaces:
 - 1. Alkyd floor enamel system.
- I. Gypsum Board Substrates:
 - 1. Latex system.
- J. Spray-Textured Ceiling Substrates:
 - 1. Latex (flat) system.

END OF SECTION 099123

SECTION 101300 - DIRECTORIES

1.217 CHANGEABLE-LETTER DIRECTORIES

- A. Enclosed-Face, Changeable-Letter Directories:
 - 1. Perimeter Frame: Aluminum.
 - a. Aluminum Finish: Clear anodic
 - 2. Cover: Hinged doors.
 - 3. Header Panel: Nonilluminated.
 - 4. Illumination system.

5. Letterboard: Vinyl.
6. Mounting: Surface.

END OF SECTION 101300

SECTION 101423 - PANEL SIGNAGE

1.218 SIGNS

A. Panel Sign: Sign with exposed edges.

1. Laminated-Sheet Sign: Photopolymer sheet with raised graphics.
 - a. Graphics: Vinyl film to meet ADA requirements.
2. Composite Phenolic-Core Sign: Solid phenolic core with subsurface graphic image.
3. Laminated Polycarbonate-Sheet Sign: Polycarbonate face sheet laminated to phenolic base sheet.
 - a. Graphics: Vinyl film
4. Engraved Plastic-Laminate Sign: Graphics engraved through plastic-laminate face sheet to expose contrasting phenolic core
5. Mounting: Surface mounted with concealed anchors or adhesive.

B. Room-Identification Sign : Sign with exposed edges.

1. Laminated-Sheet Sign: Photopolymer sheet with raised graphics.
 - a. Graphics: Vinyl film to meet ADA requirements.
2. Mounting: Surface mounted with adhesive Retain "Text and Typeface" Subparagraph below unless signs are not required to be accessible.
3. Text and Typeface: Accessible raised characters and Braille.

1.219 MATERIALS AND ACCESSORIES

- A. Adhesives: VOC content of 70 g/L or less.
- B. Adhesives: Comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

END OF SECTION 101423

SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

1.220 SUMMARY

- A. Solid-plastic toilet compartments configured as indicated on plans, toilet enclosures, and urinal screens.
 - 1. Toilet-Enclosure Style: Overhead braced.
 - 2. Urinal-Screen Style: Wall hung, flat panel.

1.221 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: ASTM E 84.
 - 1. Flame-Spread Index: **75** or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Recycled content of solid-plastic components.
- C. Regulatory Requirements: Comply with applicable provisions in U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

1.222 COMPONENTS

- A. Door, Panel and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material with homogenous color and pattern throughout thickness of material.
 - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
 - 2. Heat-Sink Strip: Manufacturer's standard continuous, stainless-steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 3. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range.
- B. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets, stainless steel.
 - 2. Full-Height (Continuous) Type: Stainless steel.

1.223 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Clear-anodized-aluminum.

END OF SECTION 102113.19

SECTION 102116 - SHOWER AND DRESSING COMPARTMENTS

1.224 SUMMARY

- A. **[Steel] [Stainless-steel] [Phenolic-core] [Solid-polymer]** shower compartments with **[matching] [plastic-laminate-faced]** dressing compartments**[/b>; and shower receptors].**
1. Enclosure Style: **[Overhead braced] [Floor and ceiling anchored]**.

1.225 QUALITY ASSURANCE

- A. Flame-Spread Index: **[25] [75] [200]** or less.

1.226 COMPONENTS

- A. Phenolic-Panel Cores: **[Dark-color] [Through-color matching face sheet]**.
- B. Solid-Polymer Panels**[and Doors]**: HDPE; with **[clear-anodized extruded-aluminum] [stainless-steel]** heat-sink strip at exposed bottom edges**[, and with integral hinges]**.
- C. Plastic-Laminate-Panel Cores: Particleboard **[made without urea formaldehyde] [is low emitting for LEED for Schools]**.
- D. Brackets (Fittings):
1. Full-Height (Continuous) Type: **[Clear-anodized aluminum] [Polymer]**.
2. Stirrup Type: **[Clear-anodized aluminum] [Stainless steel] [Chrome-plated brass]**.
3. Dressing-Compartment Brackets: Match toilet-compartment brackets.
- E. Shower Receptors: Prefabricated terrazzo.
- F. Hardware and Accessories: **[Clear-anodized aluminum] [Stainless steel] [Chrome-plated brass]**.
- G. Shower Compartment Openings: Provide with **[doors] [headrail with hooks] [curtain rod with hooks] [headrail with hooks and curtain] [curtain rod with hooks and curtain]**.
- H. Seats: **[Fixed] [Folding]** benches mounted on **[enclosure panel] [wall] [or] [floor]**.

END OF SECTION 102116

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

1.227 WARRANTY

- A. Silver Spoilage for Mirrors: 10 years.

1.228 PRODUCTS

A. Public-Use Washroom Accessories:

1. Toilet Tissue Dispenser: -roll toilet tissue.
2. Paper Towel Dispenser: Folded towels.
3. Combination Towel Dispenser/Waste Receptacle: Folded towels.
4. Multipurpose soap/towel dispenser unit.
5. Liquid-soap dispenser.
6. Grab bar, as indicated on plans.
7. Vendor: Sanitary napkin
8. Sanitary-napkin disposal unit.
9. Seat-cover dispenser.
10. Fold-down purse shelf.
11. Mirror unit 24x36.

B. Public-Use Shower Room Accessories:

1. Shower curtain rod.
2. Shower curtain.
3. Folding shower seat.
4. Soap dish.

C. Warm-air dryers.

D. Childcare Accessories:

1. Diaper-changing station.

E. Under lavatory guards.

F. Custodial Accessories:

1. Utility shelf.
2. Mop and broom holder.
3. Paper Towel Dispenser: Folded towels.
4. Liquid-soap dispenser.

END OF SECTION 102800

SECTION 104413 - FIRE PROTECTION CABINETS

1.229 PRODUCTS

A. Fire-Protection Cabinets:

1. Type: Fire extinguisher
2. Cabinet Construction: Nonrated
3. Mounting: Semi-recessed.
4. Door Style: Fully glazed panel with frame

5. Door Glazing: Tempered float glass (clear).
6. Finish:
 - a. Steel: Baked enamel or powder coat.

END OF SECTION 104413

SECTION 104416 - FIRE EXTINGUISHERS

1.230 SUMMARY

- A. Owner-Furnished Material: [**Hand-carried**] [**Wheeled**] fire extinguishers.

1.231 WARRANTY

- A. Materials and Workmanship: [**Six**] <Insert number> years.

1.232 PERFORMANCE REQUIREMENTS

- A. Fire Extinguishers: Complying with NFPA 10[**and approved, listed, and labeled by FM Global**].

1.233 PRODUCTS

- A. Portable Hand-Carried Fire Extinguishers:
 1. Stored-pressure water type.
 2. Stored-pressure antifreeze water type.
 3. Stored-pressure water-mist type.
 4. Pressurized, AFFF-foam type.
 5. Pressurized, FFFP-foam type.
 6. Wet-chemical type.
 7. Regular dry-chemical type.
 8. Multipurpose dry-chemical type.
 9. Purple-K dry-chemical type.
 10. Carbon dioxide type.
 11. Dry-powder type.
 12. Halon type.
 13. Clean-agent type [**HCFC Blend B**] [**HFC blend**].
- B. Mounting brackets.
- C. Wheeled Fire Extinguishers:
 1. Pressurized, FFFP-foam type.
 2. Regular dry-chemical type.
 3. Multipurpose dry-chemical type.

4. Purple-K dry-chemical type.
5. Carbon dioxide type.
6. Dry-powder type.
7. Clean-agent type HCFC Blend B.

END OF SECTION 104416

SECTION 105113 - METAL LOCKERS

1.234 PRODUCTS

A. Knocked-Down Corridor Lockers:

B. Welded Corridor Lockers:

1. Doors: 14 gage sheet steel.
 - a. Type: Security vents.
2. Tops, Bottoms, Sides, and Shelves: 14 gage steel.
3. Backs: 14 gage steel.
4. Hinges: Manufacturer's standard.
5. Door Handle and Latch: Recessed, single point.
6. Equipment: Hooks and coat rods.
7. Accessories: legs with closed base, continuous sloping tops, recess trim, filler panels, and boxed end panels.
8. Material: Cold-rolled steel sheet.

C. Locker Benches:

1. Bench Tops: Laminated clear hardwood.
2. Fixed Pedestals: Tubular steel.
3. Freestanding Pedestals: Aluminum.

END OF SECTION 105113

SECTION 113100 - RESIDENTIAL APPLIANCES

1.235 WARRANTY

- A. Materials and Workmanship: Full warranty including parts and labor.

1.236 APPLIANCES

- A. [Refrigerator/Freezer 26 CF cabinet depth stainless steel faced LG: Freestanding .

1. ENERGY STAR labeling.
2. Front Panel(s): Manufacturer's standard .

1.237 FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged, factory-authorized service representative.

END OF SECTION 113100

SECTION 114000 - FOODSERVICE EQUIPMENT

1.238 SUMMARY

- A. Section Includes:
 1. Fabricated equipment.
 2. Food waste machines.
 3. Food warming equipment.
 4. Self-contained refrigeration equipment.
 5. Food-preparation equipment.
 6. Serving equipment.
 7. Utility distribution systems.
- B. Owner-Furnished Equipment Installed by Contractor:

1.239 QUALITY ASSURANCE

- A. Sanitation: Equipment certified for compliance with NSF standards by NSF or UL.
- B. Electric and Fuel-Burning Equipment: UL listed.
- C. Steam Equipment: Complies with ASME Boiler and Pressure Vessel Code.
- D. Seismic Restraints: Complies with SMACNA's details.

1.240 WARRANTY

- A. Refrigeration Compressors: Five years.

1.241 MATERIALS

- A. NSF certified.
- B. Elastomeric Joint Sealant: Complies with FDA's regulations for food-contact areas.

END OF SECTION 114000

SECTION 122113 - HORIZONTAL LOUVER BLINDS

1.242 PRODUCTS

- A. Horizontal Louver Blinds, Polymer Slats:
 - 1. Flame-Resistance Rating: Complying with NFPA 701.
 - 2. Slat Width: 2 inches (51 mm)].
 - 3. Perforated Slats: Openness factor of 6 to 7 percent.
 - 4. Operating Mechanisms: Manual.
 - 5. Tilt: Positive stop or lockout limits tilt angle.
 - 6. Ladders: Braided cord.
 - 7. Valance.
 - 8. Mounting: Overhead.
- B. Product Safety Standard: WCMA A 100.1.
- C. Unit Sizes: Between (Inside) jamb installation.

1.243 DEMONSTRATION

- A. Factory-authorized service representative to provide training services for adjusting, operating, and maintaining motorized systems.

END OF SECTION 122113

SECTION 123530 - RESIDENTIAL CASEWORK

1.244 CABINETS

- A. Quality Standard: KCMA A161.1.
- B. FSC-certified wood.
- C. Face Style: Reveal overlay.
- D. Cabinet Style: Face frame.
- E. Door and Drawer Fronts: Solid-wood stiles and rails with wood panels.
- F. Face Frames: Solid wood.
- G. Exposed Cabinet End Finish: Wood veneer.
- H. Cabinet Interiors: decorative panels.

1.245 MATERIALS

- A. Composite wood products and adhesives do not contain urea formaldehyde.
- B. Adhesives and composite wood products are low emitting for LEED for Schools.
- C. Exposed Wood Species: Manufacturer's standard domestic hardwood species, for painted finish.
- D. Hardware:
 - 1. Hinges: Concealed butt hinges.
 - 2. Pulls: Surface-mounted decorative pulls.

END OF SECTION 123530

SECTION 123623.13 - PLASTIC-LAMINATE-CLAD COUNTERTOPS

1.246 QUALITY ASSURANCE

- A. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program.

1.247 PLASTIC-LAMINATE COUNTERTOPS

- A. Grade: Premium.
- B. FSC-certified wood products.
- C. High-Pressure Decorative Laminate: General-purpose type.
- D. Core Material: Exterior-grade plywood.
- E. Core Material at Sinks: exterior-grade plywood.
- F. Core Thickness: 3/4 inch .

1.248 MATERIALS

- A. Fire-retardant-treated materials.
- B. Adhesives: Urea formaldehyde free.

END OF SECTION 123623.13

SECTION 123640 - STONE COUNTERTOPS

1.249 QUALITY ASSURANCE

- A. Samples

1.250 STONE TYPES

- A. Granite:
 - 1. Description: Fine to Medium-grained, color selected by Owner.
 - 2. Finish: Polished, and to match sample.

1.251 STONE COUNTERTOPS

- A. Thickness: 1-1/4 inches .
- B. Edge Detail: Radius with apron.
- C. Joints: Epoxy grouted.
- D. Splashes: 3/4-inch- (20-mm-) thick backsplashes and end splashes.
 - 1. Height: 4 inches (100 mm).
- E. Edges at Undercounter Fixtures: Bullnose.

1.252 INSTALLATION

- A. Install on supports with epoxy adhesive.
- B. Adhere splashes to countertops and wall.
- C. Apply stone sealer to countertops.

END OF SECTION 123640

SECTION 133419 - METAL BUILDING SYSTEMS

1.253 QUALITY ASSURANCE

- A. Manufacturer: IAS AC472 accredited.
- B. Dean Steel Building Inc. or approved equal.

1.254 WARRANTY

- A. Metal Panel Finishes: 25 years.
- B. Weathertightness for Standing-Seam Metal Roof Panels: 25 years.

1.255 METAL BUILDING SYSTEMS

A. Description:

1. Primary-Frame Type: Rigid clear span.
2. Secondary-Frame Type: Exterior-framed (bypass) girts.
3. Eave Height: Manufacturer's standard height, as indicated by nominal height on Drawings.
4. Bay Spacing: 25 feet as per architectural floor plans.
5. Roof Slope: 2 inches per 12 inches Manufacturer's standard for frame type required.
6. Roof System: Vertical rib, standing seam.
7. Exterior Wall System: see specification information on sheet A1.1.

1.256 METAL BUILDING SYSTEM PERFORMANCE

A. Delegated Design: By a qualified professional engineer.

B. Structural Performance:

1. Design Loads: As indicated on Drawings, MBMA's "Metal Building Systems Manual".
2. Deflection Limits: To accommodate deflection of primary building structure.
3. Lateral Drift Limits: Maximum 1/200 of the building height.

1.257 COMPONENTS

A. Structural-Steel Framing:

1. Frame Configuration: Single gable One-directional slope.
2. Exterior Column Type: Uniform depth.
3. Rafter Type: Tapered.
4. Purlins: C- or Z-shaped sections .
5. Girts: C- or Z-shaped sections.
6. Canopy Framing: Straight-beam, eave type.

B. Metal Roof Panels:

1. Material: Prolok 24" panels, 24 gage steel galvalume aluminum-zinc.
2. Finish: Two-coat Kynar finish

C. Metal Soffit Panels: As indicated on Drawings.

D. Thermal Insulation: see sheet A1.1 insulation for wall and roof insulation.

E. Doors and Frames:

1. Steel Doors: With polyurethane foam core.
2. Steel Frames: Knocked down for field assembly.
3. Hardware.
4. Finish: Factory primed.

F. Horizontal-Sliding Doors: Door panels matching metal wall panels.

- G. Vinyl Windows: Single-hung and fixed units.
 - 1. Insect screens.
 - 2. Glazing: Impact resistant and low "E" insulated Safety glass.
 - 3. Finish: White vinyl.

- H. Accessories:
 - 1. Flashing and trim.
 - 2. Gutters.
 - 3. Downspouts.
 - 4. Roof Ventilators:
 - 5. Entry canopy.

1.258 SOURCE AND FIELD QUALITY CONTROL

- A. Testing: By Contractor-engaged testing agency.

END OF SECTION 133419

SECTION 142400 - HYDRAULIC ELEVATOR

1.259 SUMMARY

- A. Hydraulic Passenger Elevators.

1.260 WARRANTY

- A. Elevator Work: Standard Otis Elevator Warranty.

1.261 ELEVATOR

- A. Elevator : Otis, HydroFit 2100, HTD-2110-MRL as shown on Drawings.
- B. Cylinder Type: Holeless, beside the car.
- C. Rated Load: 2100 lb .
- D. Rated Speed: 100 fpm .
- E. Operation System: Single elevator.
- F. Auxiliary Operations:
 - 1. Standby power operation.
 - 2. Nuisance call cancel.
 - 3. Independent service for service elevator.
 - 4. Loaded-car bypass.

- G. Security Features: Keypad operation] and Car-to-lobby feature.
- H. Car Enclosures: Enameled steel with removable wall panels and removable roof].
 - 1. Inside Width: 69 inches .
 - 2. Inside Depth: 53 inches .
 - 3. Inside Height: 88 inches .
 - 4. Front Walls (Return Panels): Stainless steel.
 - 5. Side and Rear Wall Panels: Plastic laminate.
 - 6. Doors: Stainless steel.
 - 7. Ceiling: Luminous ceiling.
 - 8. Handrails: Stainless steel.
 - 9. Floor: Porcelain tile to match lobby.
 - 10. Floor: Prepared to receive stone or ceramic tile.
- I. Hoistway Entrances:
 - 1. Width: 36 inches .
 - 2. Height: 84 inches .
 - 3. Type: Single-speed side sliding.
 - 4. Frames on the First Floor, Stainless steel.
 - 5. Frames on Other Floors: Stainless steel.
 - 6. Door on the First Floor: Stainless steel.
 - 7. Door on Other Floors: Stainless steel.
- J. Hall Fixtures on First Floor: Stainless steel.
- K. Hall Fixtures on Other Floors: Stainless steel.

1.262 SYSTEMS AND COMPONENTS

- A. Pump Units: Mounted on oil tank in steel enclosure.
 - 1. Motor: Solid-state starting
- B. Hydraulic Fluid: Manufacturer's standard.
- C. Cylinder Protection: PVC or HDPE pipe casing.

1.263 SIGNAL EQUIPMENT

- A. Car-Control Stations: Semi recessed or recessed type.
- B. Firefighters' two-way telephone communication service.
- C. Fire-command-center annunciator panel.

1.264 MAINTENANCE

- A. Full Maintenance Service: 10 years.

END OF SECTION 142400

SECTION 2200 PLUMBING

1.265 ALL PLUMBING ITEMS AND REQUIREMENTS ARE LOCATED ON DRAWINGS.

END OF SECTION 2200

SECTION 2300 – MECHANICAL-HVAC

1.266 ALL HVAC ITEMS AND REQUIREMENTS ARE LOCATED ON DRAWINGS.

END OF SECTION 2300

SECTION 265100 - INTERIOR LIGHTING

1.267 QUALITY ASSURANCE

- A. Quality Standard for Fixtures in Hazardous Locations: FM Global.
- B. Quality Standard for Emergency Fluorescent Power Units: UL 924.

1.268 WARRANTY

- A. Emergency Lighting Unit Batteries: 10 years.

1.269 PRODUCTS

- A. As indicated on Electrical Drawings all products and performance requirements.

END OF SECTION 265100

SECTION 2600 - ELECTRICAL

1.270 ALL ELECTRICAL ITEMS AND REQUIREMENTS ARE LOCATED ON DRAWINGS.

END OF SECTION 2600 – **END OF DOCUMENT**