

MODULAR CLASSROOM BUILDINGS
SECTION 13 34 23

PART 1 GENERAL

1.01 SUMMARY

- A. This section describes prefabricated, clear span, permanent modular structures. The prefabricated modular structure shall be erected at the designated site within the State of California, complete and ready for use by Owner. All costs for regulatory approvals, transportation to and installation at the site are to be included in the Bid Amount.
- B. Extent of Prefabricated Modular Structure is shown on drawings and specified herein.
- C. Definitions:
 - 1. Owner: Sierra Sands Unified School District.
 - 2. Architect: The entity contracted with the Owner to design the site grading, and utility extensions as well as provide the schematic design and specifications of the modular building.
 - 3. Contractor: The entity contracted with the Owner to provide final, structural design of the foundations and modular buildings as well as factory- manufacture the buildings and install the buildings on Owner's site.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division-1 apply to work of this section.

1.03 QUALITY ASSURANCE

- A. Qualifications:
 - 1. The bidder must have a current, valid California Class B Contractor's license to perform the work of this contract.
 - 2. Bidders shall give evidence of at least ten (10) consecutive years of experience in the construction of modular school buildings in California.
 - 3. All workers shall be skilled and qualified for work which they perform. All material used, unless otherwise specified, shall be new and of the type and grades specified. The Contractor shall, if requested, furnish evidence satisfactory to the architect that such is the case. Contractor's crews assigned to any work performed under this contract shall include one competent and fully experienced person designated as the responsible person in charge.
 - 4. Welding shall be performed only by qualified welders approved by the welding inspector.

B. Quality Control:

1. **Governing Codes:** All work and materials shall comply with the requirements of California Code of Regulations Title 24, 2019 Editions (including supplements) of Parts 1-6, Part 11 - CalGreen Code (where applicable), regulations of the State Fire Marshall, and any other applicable state or local laws, ordinances, and regulations.
2. Modular building plans shall be stamped by a professional engineer registered in the State of California, or as otherwise required by governing agency. Structural calculations shall be stamped by a structural engineer registered in the State of California, or as otherwise required by governing agency.
3. The legal entity that manufactures the building modules shall also be their installer; no subcontracting of final installation allowed.
4. **Factory Inspection:** Inspection of in-plant fabrication and erection work shall be provided as required by the Division of the State Architect.

1.04 SUBMITTALS

- A. **General:** Submit the following according to conditions of contract and Division-1 Specifications Sections.
1. **Pre-Bid Product Data:** Submit cut sheets for all products intended for Prefabricated Modular Structure.
 2. **Progress Drawings:** Submit Pre-Check (PC) drawings for Prefabricated Modular Structure two weeks after given Notice to Proceed by Owner complete with dimensions and other information needed to verify conformance with design criteria and specifications. Minimum drawings required include floor plans, ceiling plans and exterior elevations.
 3. **Samples:** For all products or materials involving choices of color, pattern or texture, submit manufacturer's full-range color cards, or actual samples where feasible, for selection by Owner.

1.05 WARRANTY

- A. Contractor unconditionally guarantees that work will be done in accordance with requirements of contract and remain free of defects in workmanship and materials for a period of one (1) year from date of acceptance. Contractor agrees to repair or replace any and all work that may prove to be not in accordance with requirements or contract or that may be defective in workmanship or material within guarantee period, without any expense whatsoever to the district, ordinary wear and tear and abuse or neglect excepted.

- B. Contractor agrees that within fourteen (14) calendar days after being notified in writing by the Owner of any work requiring repair or replacement under warranty, they will commence and prosecute with due diligence all work necessary to fulfill terms of this warranty, and to complete the work within a reasonable period of time.

1.06 BUILDING DESIGN REQUIREMENTS

A. Building Type:

1. Extent of work is shown on drawings.
2. Modular buildings shall consist of all new prefabricated modules, including roof, walls, windows, finishes, electrical, plumbing, fire protection and mechanical services. Each module shall be slab-on-grade construction and be engineered by the Contractor as follows:
 - a. Building design shall be based upon a current Pre-Check PC design approved by Division of the State Architect (DSA).
 - 1) A structural steel moment frame and wood shear panel framing system (light gauge, cold-formed primary frames not allowed).
 - 2) Dimensions as shown on plans may deviate slightly in order to accommodate an approved structural system.
 - 3) Each module shall be capable of resisting all vertical and lateral loads during transportation.
3. Arrange modules as shown on drawings. Components must conform to architectural design appearance shown on plans and requirements specified hereinafter. When modules are assembled, joints shall be covered with same materials as adjacent construction, blended and finished to make joints invisible or inconspicuous.
4. The building contractor shall provide drawings and calculations acceptable to the Architect, meeting the provisions of the California Code of Regulations. Building Contractor shall bear all costs for production of drawings and associated structural calculations. Building Contractor shall make all revisions and corrections to those documents required by DSA and shall resubmit to Architect as required to obtain approvals.
5. The Architect's decisions regarding design aesthetics shall be binding on the Contractor. Basic design loads, as well as auxiliary and collateral loads, are as follows:
 - a. Exterior walls shall be designed to withstand wind loads perpendicular to wall plane equivalent to "Exposure B, 115 mph". This requirement applies to all exterior walls of building section even though configuration of building may be such that some walls are not exposed to wind.
 - b. Roofs: Design live load of 20 psf plus ground snow load of 80 psf. All roofs shall be designed as diaphragms for resisting applied horizontal loads. Building roof shall be sloped for drainage as indicated on plans. Roof framing shall be designed to withstand wind loads equivalent to "Exposure B; 115 mph".

- c. Design each member to withstand stresses resulting from combinations of loads that produce maximum percentage of actual to allowable stress in that member.
- B. Fabrication Criteria:
 - 1. Provide Modular Buildings as produced by a Contractor who is regularly engaged in fabrication and erection of Modular Structures of type and quality indicated.
 - 2. Design prefabricated components and necessary field connections required for erection to permit easy assembly.
- C. Energy Requirements: Manufacturer shall be responsible for providing and submitting complete energy compliance documentation and calculations as required by the California Code of Regulations, Title 24, Part 6: 2019 California Energy Code as established by the Energy Efficiency Standards for Buildings as prescribed by the California Building Standards Commission.
- D. Foundations: The building will be erected on a concrete slab foundation as shown on the drawings, designed by Modular Building Contractor and constructed by the Modular Building Contractor.
- E. Plan Approval Agency Submittal:
 - 1. Contractor's building drawings, standard details, structural calculations and specifications for building assemblies manufactured hereunder shall be submitted to architect for submittal to governing authorities in compliance with governing codes, rules and regulations
 - 2. Contractor shall assist architect as necessary to obtain stamped approval by Division of the State Architect (DSA).
 - 3. Additional drawings and instructions deemed necessary to carry out the work included in Contract shall be supplied to or by the Contractor or so prepared as to be consistent with the Contract Documents.

PART 2 PRODUCTS

2.01 GENERAL

- A. Refer to the following outline specification for product/technical information.
 - 1. Manufacturer shall provide written breakdown for costs (unit costs) of components for the building for potential additional costs.

2.02 MATERIALS

- A. DIVISION 2: SITEWORK
 - 1. No work.

B. DIVISION 3: CONCRETE

1. Section 03 21 00, Reinforcing Steel
 - a. Reinforcing for structural concrete.
 - b. Steel shall conform to ASTM A-615 grade 60.
 - 1) #4s & smaller shall be grade 40.
2. Section 03 31 00, Structural Concrete Work
 - a. Foundations: $f'c = 3000$ p.s.i.
 - b. Slabs: $f'c = 3000$ p.s.i.
 - 1) 0.45 maximum water-to-cement ratio.
 - 2) Membrane vapor barrier over 2" crushed rock over minimum 12" compacted fill.
 - 3) Under slab treated for termite control.
 - 4) Provide sealer & curing compound.
 - 5) Maximum slump shall be 4".
 - c. Portland cement: Conform to ASTM C150, Type V.
 - d. Aggregate: Conform to ASTM C33.

C. DIVISION 4: MASONRY

1. No Work

D. DIVISION 5: METALS

1. Section 05 12 00, Structural Steel Framing
 - a. Structural framing hardware.
 - b. Structural beams, columns, and braces.
 - c. Conform to:
 1. Rolled shapes: ASTM A-36.
 2. Pipe: ASTM A53, type E or S, grade B.
 3. Tubes: ASTM A 500 grade B.
 4. Electrode: ASTM A233, E70XX series.
 5. Bolts & anchors: ASTM A 307 grade A.

E. DIVISION: 6 WOOD

1. Section 06 10 00, Rough Carpentry
 - a. Quality Assurance
 - 1) Regulatory Compliance:
 - a) Conform to DSA Interpretation of Regulations and policies.
 - i) Timber Connectors and Fasteners shall be per requirements of CBC Section 2304.9.
 - 2) Grade Marking:
 - a) All timbers, lumber, or other dimensional structural wood products shall be grade-stamped by an agency certified by the Board of Review of the American Lumber Standards Committee (ALS) and manufactured in accordance with current product standard PS 20 as published by the Department of Commerce.
 - b) Plywood shall be manufactured under the specifications and provisions of US Product Standard PS 1-07.

3. Section 06 19 20, Manufactured Wood Chord Joists
 - a. Division of the State Architect approved pre-designed wood chord joists (I-joists).
 - b. Acceptable manufacturers are as follows:
 - 1) Truss-Joist McMillan.
 - 2) Standard Structures, Inc.
4. Section 06200, Finish Carpentry
 - a. Installation of hollow metal frames; provide additional jamb anchor 6" above bottom of door

F. DIVISION 7: THERMAL & MOISTURE PROTECTION

1. Section 07 21 00, Insulation
 - a. Fiberglass Batt Thermal Insulation:
 - 1) Wall insulation:
 - a) Exterior walls: R-19
 - 2) Roof insulation:
 - a) Rafters: R-38
 - b. Semi-rigid Mineral Fiber Sound Attenuation Batt:
 - 1) Sound batt installed where indicated on Drawings.
 - a) Sound walls: R-11
2. Section 07 41 13, Metal Roof Panels
 - a. 24-gauge preformed metal roofing (minimum):
 - 1) Minimum five (5) year weather tightness guarantee is required from the installation contractor.
 - 2) Work shall conform to the standards set forth in the SMACNA Architectural Sheet Metal Manual.
 - 3) Finish:
 - a) Oven cured, 1 mil thick, fluoropolymer coating.
 - i) KYNAR 500 or equal.
 - ii) Custom color as selected by Architect.
 - b. Warranty:
 - 1) Manufacturer:
 - a) Twenty (20) year paint finish guarantee.
 - 2) Installation Contractor:
 - a) Five (5) year weather tightness guarantee.
3. Section 07 6 20, Sheet Metal Flashing and Trim
 - a. Quality Control – Field Testing:
 - 1) Running or standing water testing may be required of the work of this Section to demonstrate water tightness of work.
 - 2) Use full lengths of material to minimize the number of joints.
 - 3) Sheet metal and accessories shall be left free of dirt, grease, acids, or other compounds which may inhibit the proper bonding of paint finishes.

4. Section 07 92 00, Joint Sealants
 - a. Material
 - 1) Building related sealant and caulking
 - a) Sealant around door, window, and louver frames
 - 2) Joint primer and filler
 - 3) Interior sealant and/or caulking required to prevent passage of moisture into wall assemblies or behind fixtures and built-in furnishings
 - a) Caulking of wall openings around all toilet accessories.
 - 4) Acoustical Sealant
 - 5) Intumescent fire stopping:
 - a) Intumescent material for sealing holes or voids in fire rated floors and walls.
 - b) Joint sealing system for sealant joints in fire rated concrete walls.
 - b. Quality Assurance
 - 1) Warranty:
 - a) Provide a written guarantee to maintain sealant/caulking in a watertight condition for a minimum period of 2 years.
 - 2) Qualifications:
 - a) Installer shall be thoroughly trained and experienced in the necessary skills required to perform this work.
 - 3) Delivery, Storage, and Handling:
 - a) Deliver materials to the jobsite in original, unopened containers with labels intact.
 - b) Store only under conditions recommended by the manufacturers.
 - i) Remove and dispose of material that has exceeded the shelf life recommended by its manufacturer.

G. DIVISION 8: DOORS AND WINDOWS

1. Section 08 11 13, Hollow Metal Doors & Frames
 - a. Materials- Doors:
 - 1) 16-gauge steel extra heavy-duty seamless doors.
 - a) Exterior doors shall be prepped for painting.
 - b) Reinforced with internal channels:
 - i) 12 gauge at top of door for closer.
 - ii) 16 gauge at sides and bottom of door.
 - b. Materials- Frames
 - 1) Exterior; 14-gauge steel welded corner frames
 - a) Exterior frames shall be galvanized.
 - b) Heavy-duty anchor clips. Provide extra clip 6" from bottom of hollow metal doors.

- 2) Interior; 16-gauge steel welded corner frames
 - a) Interior frames shall be primed for field painting
 - b) Heavy-duty anchor clips. Provide extra clip 6" from bottom of hollow metal doors.
- c. Warranty:
 - 1) Steel doors and frames supplied with a one (1) year warranty against defects in materials and workmanship.
2. Section 08 14 16, Wood Doors
 - a. General
 - 1) Wood doors will be used on interior openings only.
 - a) Doors shall be premium quality, 1-3/4" thick, flush type, particleboard core.
 - i) Stiles shall be 1-1/2" wide hardwood or fire treated Douglas Fir.
 - ii) Rails shall be 2-1/4" wide.
 - aa) 3/4" minimum shall be hardwood.
 - iii) Core adhesive shall be type II minimum.
 - iv) Face adhesive shall be type I minimum.
 - b) Veneer shall be plain sliced AWI grade-1 facing veneer of natural book matched White Birch.
 - i) Provide veneer with minimal color variation throughout.
 - aa) Premium quality, solid core.
 - bb) Stain grade natural birch veneer.
 - ii) Finish shall be factory applied stain finish.
 - b. Quality Assurance
 - 1) General:
 - a) Wood door supplier to be a qualified direct distributor of products to be furnished. In addition, the distributor is to have in their regular employment an AHC/CDC, or person of equivalent experience, who is to be made available at reasonable times to consult with the Architect, Contractor, and/or Owner regarding any matters affecting the wood doors in this project.
 - b) When hanging doors, do not subject them to extremes of heat and/or humid conditions. Relative humidity shall not be less than 30% or more than 60%.
 - 2) Conformance:
 - a) Obtain doors from a single manufacturer to ensure uniformity in quality of appearance and construction. All material supplied for this project to conform to NWWDA/WDMA IS 1-A for premium grade wood doors.
 - b) Installation shall meet the minimum standards set forth in WI Manual of Millwork, as modified by this Section.
 - i) Provide a WI Certified Compliance Certificate for Installation at the completion of project installation.
 - 3) Warranty:
 - a) Wood Doors:
 - i) Submit written warranty on manufacturer's standard form

- signed by an official of the door manufacturer agreeing to repair or replace defective doors which have:
- aa) Delamination in any degree.
 - bb) Warp or twist of 1/4 inch or more in any 3 foot 6 inch by 7 foot plane of door face.
 - cc) Telegraphing of stile, rail, or core through face to cause surface variation in excess of 1/100 inch in any 3 inch span.
 - ii) Warranty to be in effect for life of the original installation.
 - iii) Warranty to include refinishing and reinstallation that may be required due to repair or replacement of defective doors.
 - iv) Warranty not to be in effect for any field-finished doors not having been sealed properly on all edges and faces.
- b) Installation:
- i) Contractor shall warranty door installation for a period of one (1) year.
3. Section 08 31 13, Access Doors and Frames
- a. Factory finished steel access doors.
 - 1) Use master key compatible key lock on exterior access doors.
 - 2) Use cam lock for interior access doors.
 - 3) Mount door on 175-degree minimum swing hinges with removable pins.
 - 4) Doors shall receive a baked-on factory primer coat.
 - 5) Final finish shall be field applied as specified in Section 09 91 23 Painting.
4. Section 08 51 13, Aluminum Windows
- a. Manufacture/Model:
 - 1) Torrance Aluminum 2000 series with 1" outside glazing unit.
 - 2) Columbia C-2050 series (projected) and C-2000 series (fixed)
 - b. Window Type:
 - 1) Nail-in aluminum window frames with 1" double pane thermal glazing.
 - 2) Frames shall have integral plaster stop where applicable.
 - 3) Horizontal sliders and fixed windows.
 - c. Warranty:
 - 1) One year guarantee of thermal and physical integrity of insulated glass units.
5. Section 08 71 00, Finish Hardware
- 1) Finish Door Hardware- Refer to Drawing, Sheet SD-1, "Floor Plan" for detailed hardware sets.

2) Section 08 81 00, Glass and Glazing

a. Quality Assurance

1) Regulatory Compliance:

- a) Fire-rated glass shall comply with the requirements of the California Building Code (CBC) and Division of the State Architect (DSA) including, but not limited to, the following:
- b) CBC Section 2406.1 - Human Impact Loads:
 - i) Individual glazed areas in hazardous locations, including glazing used in fire assemblies shall pass the test requirements of CPSC 16 CFR Part 1201, or CBC Table 2406.2(2).

b. Materials

1) Double Pane Glazing (1" insulated glazing Low E unit): Visual light transmission of 35%, Solar Heat Gain Coefficient (SHGC) of the glazing assembly shall be 0.24 or less:

a) Exterior Glazing:

- i) Polished Plate Glass PPG Solargray with Solarban 60 on airspace side. Visual light transmission of 35%, Solar Heat Gain Coefficient (SHGC) when measured at the center of the glazing assembly shall be or less.
- ii) Tempered or non-tempered as indicated on Drawings.
- iii) Air Space shall be 1/2" sealed.

b) Interior Glazing:

- i) Polished 1/4" Clear Float Plate Glass.
- ii) Tempered or non-tempered as indicated on Drawings.

c) Perimeter Seal:

- i) Butyl primary seal on each side of metal spacer with structural adhesive grade silicone secondary seal.

H. DIVISION 9 FINISHES

1. Section 09 21 16, Gypsum Board Assemblies

- a. Interior gypsum board finishes and backing boards.
- b. Type "X" in areas requiring fire rated construction.
- c. Abuse-resistant gypsum fiber panels where indicated on Drawings.
- d. Manufacturers:

- 1) US Gypsum Co.;
- 2) Gold Bond;
- 3) Georgia-Pacific
- 4) Other approved equal.

Setting bed for 3/4" Cement Plaster
ceramic tile

WRB, Paper and
Expanded Metal Lath

2. Section 09 51 00, Acoustical Ceilings
 - a. Quality Assurance
 - 1) Regulatory Compliance:
 - a) Materials must meet the standard set by the State of California for environmental protection and hazardous material content.
 - b) Comply with all requirements of Division of State Architect (DSA).
 - i) DSA Interpretation of Regulations (IR)25-5.
 - ii) Qualified ICC-ER/ESR reports of submitted systems.
 - b. Materials
 - 1) Suspended acoustic ceilings shall be heavy duty T-bar grid.
 - a) Standard white color.
 - 2) Acoustical panels shall be 2'x 4' fissured typical.
 - c. Manufacturers:
 - 1) Suspension System:
 - a) Chicago Metallic
 - b) Donn
 - c) Armstrong Ceiling and Wall Solutions.
 - d) Substitutions must demonstrate structural equivalency and must be submitted as a no cost change order and must be approved by the Division of the State Architect, Structural Safety Section, and the Structural Engineer of Record.
 - 2) Acoustic Panels:
 - a) Armstrong Ceiling and Wall Solutions.
 - b) USG;
 - c) Or approved equal.
3. Section 09 65 00, Resilient Floor Covering (Provided and installed by District)
4. 09 68 10, Tufted Broadloom Carpeting (Provided and installed by District)
5. 09 91 13, Exterior Painting
 - a. Quality Control
 - 1) Tolerances:
 - a) No holidays, sags, runs, crawls, brush marks, or other blemishes.
 - b) All primers and finish coats shall be applied at manufacturer's recommended spread rates to produce manufacturer's recommended dry film thickness per coat.

- b. Paint Schedule (Based on Dunn-Edwards Paints, or Glidden Professional)
 - 1) Wood Work:
 - a) Painted Satin Finish:
 - i) 1st coat:
 - (1) Smooth/Rough Sawn Wood and Siding,
 - (a) Exterior Acrylic Wood Primer, EZ Prime Premium (EZPROO); Glidden 6001 Hydrosealer)
 - (2) Synthetic Wood and Siding:
 - (a) Multi-Purpose Acrylic Primer, Ultra-Grip Premium (UGPROO); Glidden 6001 Hydroseal
 - ii) 2nd coat: Acrylic Low Sheen Paint, D.E. Spartashield (SSHL40); Glidden 2402V
 - iii) 3rd coat: Acrylic Low Sheen Paint, D.E. Spartashield (SSHHL40); Glidden 2402V
 - 2) Metal Work:
 - a) Ferrous Metal (structural steel and uncoated ferrous metals):
 - i) 1st coat (shop primed): Red Oxide Alkyd Primer by Section 05740.
 - ii) 1st coat: Bloc-Rust Premium (BRPOO) alkyd primer, or Devflex 4020PF
 - iii) 2nd coat: Exterior 100% Acrylic Semi-Gloss, DE Spartashield (SSHL50), Glidden 2406V.
 - iv) 3rd coat: Exterior 100% Acrylic Semi-Gloss, Spartaglo (W 7500V).
 - b) Metal Trim and Hollow Metal Doors and Frames:
 - i) 1st coat: Galvanized per section 08110
 - ii) 2nd coat: Galvanize etching per section 08110.
 - iii) 3rd coat: Alkyd Primer by Section 08110.
 - (1) When "Shop Primed," only touch up primer, Devoe 4020PF.
 - (2) Onsite solvent cleaning per SSPC-SP 1 requirements
 - iv) 4th coat: DTM Acrylic Enamel Semi-Gloss, Carboline Carbocrylic #3359 MC, Devflex 4216L S/G.
 - v) 5th coat: DTM Acrylic Enamel Semi-Gloss, Carboline Carbocrylic #3359 MC; Devflex 4216L S/G.
 - c) Galvanized Metal Work:
 - i) 1st coat: Chemical Etch, Galv-Etch (GE 123).
 - ii) 2nd coat: Epoxy Ester, Galv-Alum Premium (GAPROO) Interior/Exterior Non-Ferrous Metal Primer, Devoe 4020 PF.
 - iii) 3rd coat: Exterior 100% Acrylic Semi-Gloss, Carboline Carbocrylic #3359 MC; Devflex 4216L S/G.
 - iv) 4th coat: Exterior 100% Acrylic Semi-Gloss, Carboline Carbocrylic #3359 MC; Devflex 4216L S/G.

- d) Mechanical Equipment:
 - i) Duct Work and Miscellaneous Equipment:
 - (1) As per Ferrous or Non-Ferrous metal listed above, as applicable.
- 6. Section 09 91 23, Interior Painting:
 - a. Quality Control
 - 2) Tolerances:
 - a) No holidays, sags, runs, crawls, brush marks, or other blemishes.
 - b) All primers and finish coats shall be applied at manufacturer's recommended spread rates to produce manufacturer's recommended dry film thickness per coat.
 - b. Paint Schedule (Based on Dunn-Edwards Paints, or Glidden Professional)
 - 1) Wood Work:
 - a) Painted Finish:
 - i) 1st coat: Interior Acrylic Enamel Undercoat, INTER-KOTE (W 6325); Glidden 1000 or 3210.
 - ii) 2nd coat: Acrylic Low Sheen Paint, Spartashield SSSL40; Glidden 1403V.
 - iii) 3rd coat: Acrylic Low Sheen Paint, Spartashield SSSL40; Glidden 1403V.
 - 2) Metal:
 - a) Metal Trim, Metal Doors, and Frames:
 - i) Same as for exterior painting above
 - 3) Gypsum Board:
 - a) Wall and Ceiling Finishes - General Use Areas (eggshell):
 - c. Manufacturers:
 - 1) Dunn Edwards
 - 2) Benjamin Moore
 - 3) Sherwin Williams
 - 4) Glidden Professional

I. DIVISION 10 SPECIALTIES

- 1. Section 10 11 00, Visual Display Surfaces
 - a. Materials
 - 1) Liquid Marker System Boards:
 - a) Face Sheet: 24 magnetized gauge porcelain enameled sheet metal finish.
 - b) Core Material: 3/8" Particle Board.
 - c) Panel Backing: 0.005" Aluminum Foil Panel.
 - d) Frame with extruded aluminum channel trim:
 - i) 0.50 thick with 5/8" legs.
 - ii) Miter corners.
 - iii) Clear anodized.

- e) Panel Size: 4'-0" high x 8'-0" long typical unless noted otherwise on Drawings.
 - 2) Tackboard:
 - a) Tackboard Surface: Vinyl fabric on 7/32" cork underlay with 1/4" hardboard back.
 - b) Frame with extruded aluminum channel trim:
 - i) 0.50 thick with 5/8" legs.
 - ii) Miter corners.
 - iii) Clear anodized.
 - c) Panel Size: 4'-0" high x 8'-0" long typical unless noted otherwise on Drawings.
 - d) Panel Color: Vinyl covering shall match the covering listed in the Vinyl Covered Fiberboard (VCF) section of these specifications in areas with VCF, and/or shall match the Vinyl Wallcovering in its section of these specifications to match the corresponding surrounding areas.
 - e) Design Standard:
 - i) Claridge Factory Built Tackboards.
 - b. Manufacturers:
 - 1) Liquid Marker Boards and Tackboards:
 - a) Polyvision
 - b) Lemco
 - c) Claridge
 - d) Or approved equal.
2. Section 10 44 00, Fire Protection Specialties
- a. Fire extinguishers shall be dry chemical type as shown.
 - 1) FE1 Recessed 4A:60B:C
 - b. Fire extinguisher cabinets shall be constructed of 18-gauge minimum thickness material.
 - 1) Cabinet, flange and door construction shall be welded with welds ground smoothly.
 - 2) Factory finish white baked on enamel.
 - 3) Cabinet doors shall be clear acrylic type with hollow steel frame.
 - a) Use continuous piano hinge assembly.
 - b) Door shall be open 180 degrees
 - c. Manufactures:
 - 1) Potter-Roemer
 - 2) Standard Fire-West
 - 3) J.L. Industries
 - 4) Larsen's Manufacturing Co.
 - 5) Or equal

J. DIVISION 11 EQUIPMENT

1. No Work

K. DIVISION 12 FURNISHINGS

1. No Work

L. DIVISION 13 SPECIAL CONSTRUCTION

1. No Work

M. DIVISION 14 CONVEYING SYSTEMS

1. No Work

N. DIVISION 23 MECHANICAL

1. Section 23 00 00, General Mechanical Requirements

- a. Codes and standards:

- 1) Comply with applicable codes.
- 2) Comply with the requirements of local utility companies.

- b. Permits and Fees:

- 1) Contractor to pay for required permits & fees.

- c. Definitions:

- 1) Piping
- 2) Equipment

- d. Guarantees:

- 1) Submittal of manufacturer's warranties.

- e. Coordination of Trades:

- 1) Electrical Work.

- f. Cleaning, Testing and Adjusting:

- 1) Contractor shall pay for all required testing and adjustments required.

2. 20 80 00 Heating, Ventilation, and Air Conditioning

- a. Scope of Work.

- 1) Materials:

- a) Ductwork and accessories:

- i) General:

- (1) Construction per CMC Chapter 10 and SMACNA manuals.

- ii) Rectangular Ducts:

- (1) Fabricated and supported per CMC tables 10A and 10E.
- (2) Ells shall have air foil type turning vanes.

- iii) Round Ducts:

- (1) Galvanized:

- (a) United McGill "Uni-Rib" spiral lockseam.
- (b) 8" diameter or less - use Noll or Young snap-lock.

- iv) Duct Joints:

- (1) Rectangular:

- (a) "S & Drive" clips.
- (b) Ducts 18" and larger - "Ductmate 25/35" factory fabricated duct joints.

- (2) Round:
 - (a) Male - Female slip joints with a minimum of (3) sheet metal screws.
 - v) Flexible Duct:
 - (1) Limited to last seven feet of branch duct run-outs.
 - (a) J.P. Lamborn Type APF-07
 - (b) Thermaflex M-RE.
 - b) Grilles and Diffusers.
 - c) Insulation.
 - d) Vibration isolators:
 - i) Spring rail curb type, DSA pre-approved.
 - 2) Equipment:
 - a) Rooftop-mounted dual pack heating & air-conditioning units.
 - i) High efficiency type with economizers.
 - ii) "Lennox" (District standard).
 - 3) Installation:
 - a) Ductwork
 - b) Equipment
 - c) System air balance
- 3. Section 23 09 23, HVAC Control System
 - a. Scope of Work:
 - 1) Control HVAC systems & equipment.
 - 2) Remotely monitored and changeable.
 - 3) System shall be compatible with districts current EMS system.
 - b. Materials.
 - c. Installation.

O. DIVISION 26 ELECTRICAL

- 1. Section 26 01 00, Basic Electrical Requirements
- 2. Section 26 05 00, Basic Electrical Materials and Methods
- 3. Section 26 10 00, Service and Distribution
 - a. Electrical power distribution system.
 - b. All connections shall be made above ground level.
- 4. Section 26 51 20, Exterior Lighting
 - a. Exterior- Energy Efficient LED
- 5. Section 26 51 50, Interior Lighting
 - a. Classrooms - Energy Efficient LED:
 - 1) Motion detector, photocell and dimmer controlled.
 - b. Lighting control panel automatic controls.

P. DIVISION 27 COMMUNICATIONS

- 1. Section 27 50 00, Distributed Communications and Monitoring Systems
 - a. Provide conduit, boxes, and backboards for security alarm system that will be provided and installed by owner.

Q. DIVISION 28 ELECTRONIC SAFETY AND SECURITY

1. Section 28 31 11, Building Intrusion Detection
 - a. Provide conduit, boxes, and backboards for intrusion alarm system that will be provided and installed by owner.
2. Section 28 46 00, Fire Detection and Alarm
 - a. Provide conduit, boxes, and backboards for fire alarm system that will be provided and installed by owner.

PART 3 – EXECUTION

3.01 COORDINATION AND EXAMINATION

- A. It is the Contractor's responsibility to make all necessary prior arrangements with the Owner's authorized representative for access to building site and removal of obstructions, if necessary. Contractor shall bear all costs related to delivery of building modules to site. Provide Owner with a plan of proposed property entry point and path of travel to the building site for approval at least two weeks prior to delivery. Notify Architect and Owner at least 48 hours prior to delivery of modules on site.
- B. The Contractor shall verify that the building site and foundation is ready to receive the building prior to transportation of any modules by visiting and inspecting the site.
- C. Report any unacceptable conditions to the Architect. Do not deliver any building modules until unacceptable conditions have been corrected.
- D. Coordinate and cooperate with the Site Contractor to prevent conflicts between the separate portions of work.

3.02 PROTECTION

- A. Protect Owner's property, facilities and utilities from damage during transportation and erection of building modules. Repair or replace any damage to satisfaction of Owner.

3.03 INSTALLATION AT SITE

- A. Site Construction: Once delivery of modules is made, erection shall commence immediately and be pursued in a timely and continuous manner until complete. All modules called for at that site shall be scheduled for delivery and erection in one continuous time frame.

- B. Construction Progress: The Contractor shall furnish materials, articles and equipment in ample quantities and at such times as to assure uninterrupted progress of the work. Failure to provide adequate working force, or material of proper quality, or failure in any other respect to prosecute the work with diligence and force specified herein are grounds for declaring a default on the contract.
- C. Set building modules plumb, level and square; straight and true to line with foundation.
- D. Site Security: Security of the buildings against vandalism is the sole responsibility of the Site Contractor until completion and structures have been accepted by the Owner.
- E. On-site Inspection: Arrange for inspections of work on-site by DSA as required by that agency. Submit copies of inspection reports to Architect and Owner.

3.04 CLEAN UP AND ADJUSTING

- A. The adjacent site and the structures shall be cleaned and made ready for occupancy prior to acceptance by the Owners.
- B. Test and adjust controls and operating functions as required by appropriate specification section. Repair or replace any damaged or malfunctioning hardware, fixtures, equipment or controls.

3.05 UTILITY HOOK-UPS

- A. Utility Connections: All utility connection points shall be located per the approved drawings to accommodate hook-ups provided at the site. Unless otherwise noted, extend utility connections (five) 5 feet from building and terminate with appropriate temporary closures. Final utility connections are by the Site Contractor.

3.06 OWNER INSTRUCTION AND DOCUMENTATION

- A. Provide instruction to Owner's designated personnel in operation and maintenance of all equipment, fixtures and utilities included in the modular building as stipulated in appropriate specification sections.
- B. Deliver operating manuals, parts lists and warranties for all equipment and fixtures in modular building to Owner or as stipulated by commissioning agent.

C. Provide Owner with final certificate of occupancy from authorities having jurisdiction.

END OF SECTION 13 34 23

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Sierra Sands Unified School District
DSA Application No. Pending

MODULAR CLASSROOM
BUILDING