EL VERANO COMMUNITY SCHOOL
MULTI-PURPOSE BUILDING

Utilizing Wood for Value and Versatility

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funded by WoodWorks or the Softwood Lumber Board.
EL VERANO COMMUNITY SCHOOL
• LOCATION: SONOMA, CA
• ELEMENTARY SCHOOL
• SONOMA VALLEY UNIFIED SCHOOL DISTRICT
• STUDENT POPULATION: 420

PROJECT GOALS
• AUDITORIUM SPACE FOR ENTIRE SCHOOL
• STAGE FOR PERFORMANCES
• SPORT COURTS
• INCREASED LUNCH AREA
• INDOOR/OUTDOOR CONNECTIONS
• CONNECTION TO EXISTING CAMPUS
• CREATING WELCOMING PRESENCE TO THE COMMUNITY
PROJECT OVERVIEW

EXISTING CONDITION
• INADEQUATE LUNCH AREA
• SPORTS AREA NOT EASY TO USE
• SECONDARY ENTRANCE TO THE CAMPUS IS UNINVITING

PROJECT IMPROVEMENTS
• AUDITORIUM SPACE FOR ENTIRE SCHOOL
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PROJECT OVERVIEW

MULTIPURPOSE BUILDING
• 7,500 S.F.

PROGRAM:
• MULTIPURPOSE ROOM,
• FULL SERVICE KITCHEN,
• INDOOR & OUTDOOR STAGES,
• LOBBY AND RESTROOMS
• SUPPORT SPACES
• RELOCATION OF 6 EXISTING MODULAR CLASSROOM BUILDINGS

SITE WORK:
• REPAVING EXISTING PARKING AREA
• REGRADING FOR NEW PARKING
• IMPROVEMENT OF EXISTING SITE DRAINAGE
• NEW SCHOOL GARDEN
• LAWN AREA FOR OUTDOOR STAGE
• OUTDOOR EATING AREA
PROJECT OVERVIEW

- Building 90 ft x 86 ft
- Multipurpose room 66 ft single span trusses, up to 30 foot high at north end
- Simplified design that could be modular
- Wood frame, steel columns, steel web trusses
- Exterior cement plaster and cement board with board and batten finish
- Aluminum windows and store front system
- Standing seam metal roof
- Tube steel canopies
- Materials selected with durability in mind
CODE COMPLIANCE

- BUILDING PERMITTED BY THE DIVISION OF THE STATE ARCHITECT.
- COUNTY HEALTH DEPT REVIEW OF KITCHEN
- MIXED OCCUPANCY: A-3, B, S-1 & S-2
- TYPE VB CONSTRUCTION
- OCCUPANT LOAD: 476 MP ROOM
- FULLY SPRINKLERED
- FIRE ALARM
- FULL FIRE DEPARTMENT ACCESS
- ACCESS COMPLIANCE FOR SITE AND BUILDING
TYPES OF CONSTRUCTION CONSIDERED

STEEL:
- FLEXIBILITY OF DESIGN.
- STEEL PRICES WERE HIGH AT TIME OF DESIGN.
- PROCUREMENT ISSUES.
- DSA REVIEW A POTENTIAL CHALLENGE.

MASONRY:
- DURABLE MATERIAL.
- LESS FLEXIBILITY FOR DESIGN,
- ROOF WOOD TRUSS OR STEEL.
- FURRED EXTERIOR WALLS FOR ENERGY RATING.
- STRUCTURE ABOUT 20% HIGHER THAN WOOD.

WOOD:
- FLEXIBILITY OF DESIGN,
- ENGINEERED STUDS AT MP ALLOWED FOR GREATER LENGTH,
- BETTER CONTROL OF SCHEDULE,
- SUBCONTRACTOR COORDINATE,
- DSA REVIEW MORE STRAIGHT FORWARD.
CONSTRUCTION METHOD

SITE BUILT VERSUS MODULAR CONSTRUCTION

- Modular would be panelized wood frames
- Modular building construction shorter schedule
- Construction was planned to be lease lease-back (LLB)
- Coordination challenge with LLB GC and modular contractor
- Modular - schedule challenge for design and bidding
- If all work done under LLB then mark up on modular construction
- If separate contracts then building would be bid separately from site work
- Ultimately building cost was the same for site built
- Wood framing made comparison of modular and site built easier
WOOD CONSTRUCTION

WALL FRAMING

- BALLOON FRAMED
- MP ROOM TALL WALLS PRIMARILY LAMINATED STRAND LUMBER (LSL), TRIMMERS NOMINAL, SOME NOMINAL POSTS
- LOBBY AND KITCHEN SHORTER WALLS PRIMARILY NOMINAL WOOD STUDS
- TUBE STEEL COLUMNS AT OPENINGS
- PLYWOOD SHEATHING FOR SHEAR
- HOLD DOWNS AS SHEAR WALLS AND OPENINGS
- WOOD PROVIDED FLEXIBILITY FOR PLACEMENT OF OPENINGS
- SHEAR WALLS IMPACT OPENING SIZES
- PARAPET ON LOWER ROOF 42” TO HELP SCREEN EQUIPMENT.
- CANTILEVER OF BALLOON FRAMING ELIMINATED BRACING
WOOD CONSTRUCTION

ROOF FRAMING MULTIPURPOSE ROOM

- OPEN WEB, PARALLEL CHORD TRUSSES
  - INCREASED DEPTH AND MEMBERS DUE TO SPAN, AND LOADS FOR FP, BASKETBALL HOOPS
  - TRUSS 64 FEET LONG AND 54 INCHES
  - LVL TOP AND BOTTOM CHORDS
  - METAL TUBE WEB CHORDS
  - TRUSS DESIGN INCLUDED IN PERMIT PACKAGE NOT DEFERED – DSA REQUIREMENT

KITCHEN AND LOBBY

- 2X NOMINAL WOOD FRAMING ROOF
- SEPARATE WOOD FRAMED CEILING

PLYWOOD ROOF SHEATHING
FRAMING DETAILING

- LSL AT TALL WALLS
- NOMINAL PT SILL PLATE
- NOMINAL DOUBLE TOP PLATE
- NOMINAL HEADERS
- NOMINAL WOOD TRIMMERS AT HSS STEEL COLUMNS
- STUDS AT 16” O.C.
- LSL VERSUS NOMINAL LUMBER (2X10 OR 9 ¾ LSL-CUSTOM DIM. WENT TO STANDARD 9 ½ WITH FURRING)

KITCHEN AND LOBBY

- SEPARATE FRAMED ROOF AND CEILINGS PROVIDED INTERSTITIAL SPACE FOR UTILITIES
- LOW ROOF LEDGERED TO BALLOON FRAMED WALLS

CANOPIES

- TIE RODS AND LEDGER ATTACHED BY STUDS WELDED TO STEEL POSTS
- **PRESSURE TREATED 2X SILL PLATE ON 6” CONC CURB TYPICAL (1A)**
- **NOMINAL 2X NAILERS AT STEEL COLUMNS (10)**
- **PARAPET AND LEDGER ON BALLOON FRAMED WALL AT LOW ROOF (5)**
- **OUTRIGGER FRAMING AND BLOCKING AT CANTILEVER EAVE RAKE (4 & 1)**
EXTERIOR FINISHES

- BOARD AND BATTEN CEMENT BOARD WALLS FOR MULTIPURPOSE ROOM
- STANDING SEAM METAL ROOF AND SOUTH WALL OF MULTI
- INTEGRAL COLOR AND PAINT EXTERIOR CEMENT PLASTER AT LOW SECTION
- TPO LOW ROOF
- PAINTED GALVANIZED ROOF CAP
- BRONZE ANDODIZED ALUMINUM WINDOWS AND STOREFRONT SYSTEM
- PAINTED METAL FRAMES AND DOORS.
- PAINTED TUBE STEEL AND CORRUGATED METAL AWNINGS
- GALVANIZED HAND RAILS
- CONCRETE WALKS, STAIRS AND RAMPS
INTERIOR FINISHES

- WALLS ARE PAINTED DRYWALL WITH WOOD BASE IN MP
- WOOD TRIM AT STAGE OPENING TO MATCH BASE
- TECTUM WALL ROOF PANELS FOR SOUND ABORPTION
- TOP AND BOTTOM CHORDS WERE PAINTED WHITE TO MATCH UndERSIDE OF ROOF
- WEB CHORDS AND SUPPLY DUCT WERE GALAVANIZED TO ACT AS COUNTER POINT TO PAINTED FINISHES
- WINDOWS AND DOORS BRONZE ANODIZED TO PROVIDE PUNCH TO OPENINGS
- FLUSH WOOD TRIM AT WINDOWS TO BLEND WITH DRYWALL AND TECTUM
- FLOORS SHEET VINYL WITH SPORTS STRIPING
- POWER ACTUATED SHADES TO COMPLIMENT WALLS TO DARKEN AUDITORIUM
FINISHES

- Wood framing allowed for detailing to be kept simple to accentuate basic geometry and so that accent elements stand out.
- Use of bright colors to accent building elements.
- Corrugated metal entry canopies.
- Lobby ceiling matches exterior.
- School name with stand off letters.
- School logo.
- Pre-engineered canopies at outdoor stage and lunch area.