

DOWN WITH BRIDGING DOCUMENTS

Up with Project Efficiencies and Greener Design Elements

GREEN CALIFORNIA COMMUNITY COLLEGE SUMMIT
October 18, 2011



AEDIS Architecture & Planning
San Jose, CA



BLACH Construction
Santa Clara, CA

San Jose City College Multi-Disciplinary & Fine Arts Building

- Seminar Overview
 - Project Description
 - Non-Bridging Design Build – True Design Build – Pure Design Build
- Process
 - Design Build Selection
 - Programming and Design Process
 - Sustainability Process
- Contractor's Involvement
 - Improved Constructability
 - Use of advanced technologies - Building Information Modeling (BIM) and Virtual Design and Construction (VDC)
 - Budgeting and Scheduling benefits



San Jose City College Multi-Disciplinary & Fine Arts Building

- The Project



- 54,500 sq. ft.
- Multi- Disciplinary (Math, Tutoring & Faculty Offices)
- Fine Arts (Music, Art, Dance & Gallery)

San Jose City College Multi-Disciplinary & Fine Arts Building

- Non Bridging Design Build Benefits to the Owner
 - One Contract - Guaranteed Maximum Price
 - Guaranteed Delivery Date
 - No Contractor initiated Change Orders
 - Any Cost Savings Benefit the Project



Non-Bridging Design Build Selection Process

- Conventional vs. Non Conventional Design Build
 - Traditional
 - Non-Bridging
- What is Non-Bridging Design Build?
 - Based on Best Value
 - No Bridging Team (Architect, Engineers, etc.)
 - One contract



Non-Bridging Design Build Selection Process

- District's Perspective
- Legalities of Non-Bridging Design Build?
 - AB1000 – Sept. 2002
 - CA Education Code, Section 81703
 - Council's interpretation



Non-Bridging Design Build Selection Process

- Benefits to the District
 - Consistent Team
 - End Users are happier
 - Any cost savings are enhancements to the project
 - Shared Governance endorsements



Design Process

- SJECCD's Sustainability Policy – November 2010 – Minimum LEED Silver
- Teaming approach- All Team members brought in during Schematic Design
- LEED Charette held in Schematic Design
- DSA Collaborative Process



The Design-Build/User Partnership

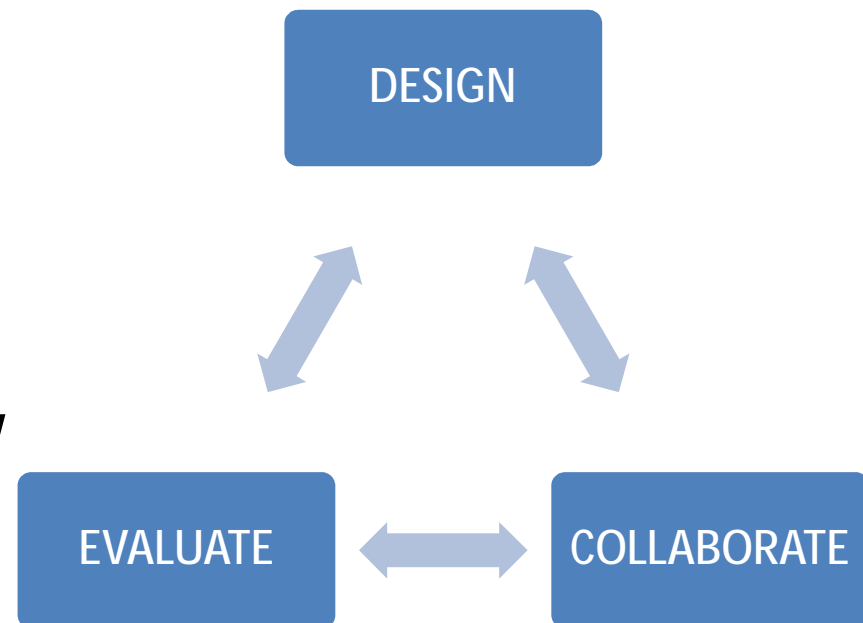
Design-Build / User Team

- College President
- Director of Facilities
- District's Project Manager
- District's IT department
- Instructor's from each department
- Blach/AEDIS Design/Build Team

The Design-Build/User Partnership

Successes of the Process

- Decisions made collaboratively
- Same group of people throughout the project development
- Programming and Schematic Design developed concurrently
- User committee had and active influence in Design



The Design-Build/User Partnership

LEED CHARETTE DEFINED PROJECT'S SUSTAINABILITY GOALS

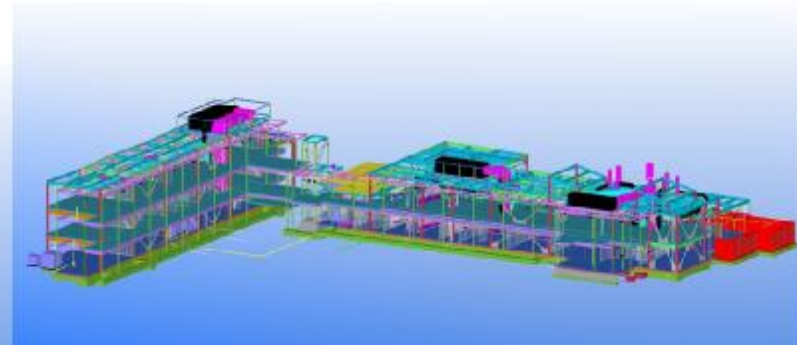
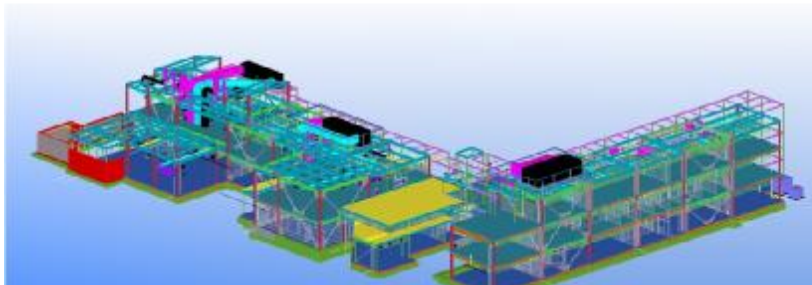
- Highest LEED certification feasible
- Flexibility/adaptability of spaces
- Maximum use of day lighting
- Maximize Savings by Design incentive
- Good indoor air quality
- Good Acoustics
- Reduce operational cost

The screenshot shows the LEED ONLINE interface for a project named 'SJCC Multidisciplinary - Arts Building'. The page displays project details, including the location 'San Jose CA 95128 US' and the registration date '3/4/2010'. A progress bar indicates the project is 'Successful'. Below this, a table provides a detailed breakdown of LEED credits, categorized by type (Prerequisite, Mandatory, or Optional) and their status (Attempted, Anticipated, Pending, or Denied).

| Category | # | d/c | RP | Credit Name | Attempted | Anticipated | Pending | Denied | Status | Changed | Assignee | Form Version |
|----------|------|-----|----|--|-----------|-------------|---------|--------|--------|---------|--------------|--------------|
| Pr | 01 | | | Minimum Program Requirements | Y | | | | ✓ | N | Ramon Gomez | V01 |
| Pr | 02 | | | Project Summary Details | Y | | | | ✓ | N | Alice Song | V01 |
| Pr | 03 | | | Contract and Order Sets | Y | | | | ✓ | N | Ramon Gomez | V01 |
| Pr | 04 | | | Schedule and Construction Documents | Y | | | | ✓ | N | Ramon Gomez | V01 |
| SS | 01 | | | Construction Activity Pollution Pre... | Y | | | | ✓ | N | Bryce Carril | V01 |
| SS | 03 | | | Site Selection | 1/1 | | | | ✓ | N | KIRAN SHAI | V01 |
| SS | 02 | | | Development Density and Community C... | 5/5 | | | | ✓ | N | KIRAN SHAI | V01 |
| SS | e4.1 | | | Alternative Transportation: Public Tr... | 6/6 | | | | ✓ | N | KIRAN SHAI | V01 |
| SS | e4.2 | | | Alternative Transportation: Parking ... | 1/1 | | | | ✓ | N | KIRAN SHAI | V01 |
| SS | e4.4 | | | Alternative Transportation: Parking ... | 2/2 | | | | ✓ | N | Rody Razo | V01 |
| SS | e5.1 | | | Site Development: Project on Brown... | 0/1 | | | | ✓ | N | Erik Razo | V01 |
| SS | e5.2 | | | Site Development: Maximum Open Spac... | 2/1 | | | | ✓ | N | Rody Razo | V02 |
| SS | e6.1 | | | Stormwater Design: Quality Control | 1/1 | | | | ✓ | N | Bryce Carril | V01 |
| SS | e6.2 | | | Stormwater Design: Quality Control | 0/1 | | | | ✓ | N | Erik Razo | V01 |

The Design-Build/User Partnership

- Design Development and Beyond
 - Seamless transition from Schematic Design to Design Development
 - User committee members divided up by department.
 - Design-Build/User team carried over the collaborate design process into the space planning and design



The Design-Build/User Partnership

SOLUTIONS

- Smart Classrooms
- Classrooms are acoustically treated
- All instructional spaces are day lit
- Exterior corridors
- Enhanced Indoor/outdoor relationship
- Main Music classroom can double as a lecture hall
- LEED Silver minimum



The Design-Build/User Partnership

MAJOR SUSTAINABLE FEATURES

- Operable Windows
- Maximize day lighting
- 29% better than T24
- 35% water usage reduction
- Compact building footprint
- Reduced heat island effect



The Design-Build/User Partnership

MAJOR SUSTAINABLE FEATURES

- Low VOC, high recycled content, regional materials
- Enhanced Commissioning
- 95% Construction Waste Recycling
- PV ready
- Material Reuse & Urban Lumber Recovery

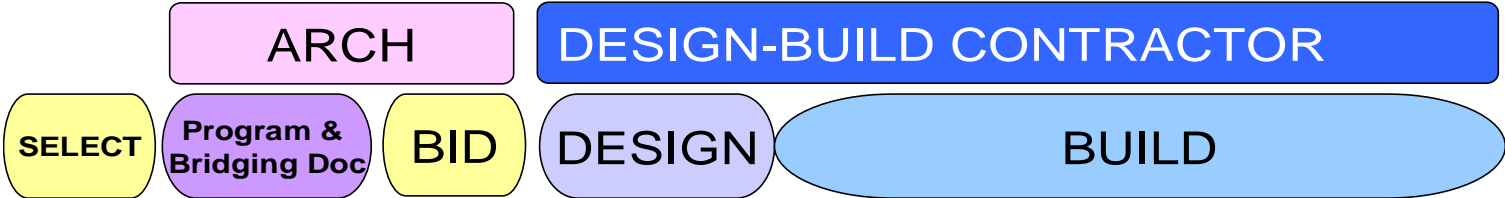


The Design-Build/User Partnership

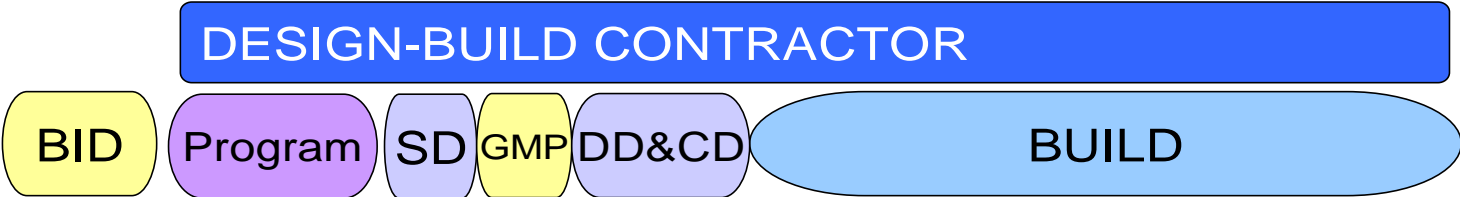


BRIDGING VS NON- BRIDGING BUILD PROCESS

DESIGN-BUILD: BRIDGING

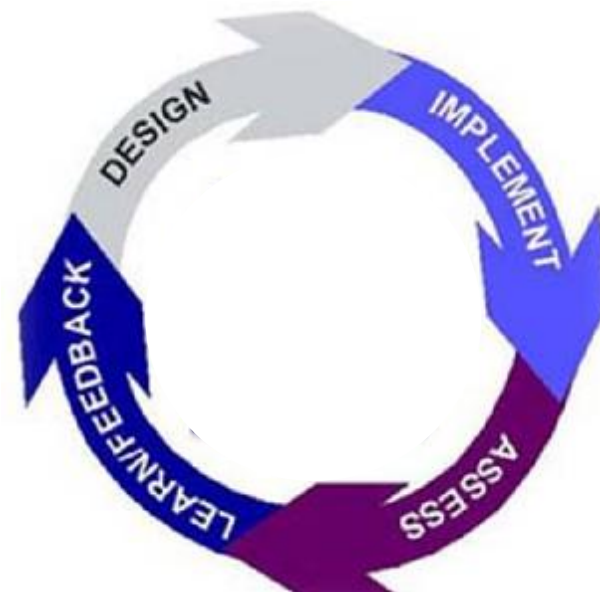


DESIGN-BUILD:NON-BRIDGING



THE "BUILD" IN DESIGN BUILD

- Contractor's Involvement
 - Programming & Schematic Phases
 - Resource
 - » Cost Evaluations
 - » System Evaluations
 - Listening
 - Develop GMP/Budget



THE "BUILD" IN DESIGN BUILD



Schematic Design Scenarios March 26, 2009



Scenario 1

- Four separate structures linked by covered walkways
- Curved, 3-story math wing
- Upgraded exterior finishes (Rain Screen System)
- Tall ceilings throughout with maximum natural lighting
- Sunken amphitheater
- Music rooms depressed below grade to increase ceiling height
- Maximum site development (up to Building "B")
- Minimum sustainability
- Rough Budget: \$25.3 MM



Scenario 2

- Three separate structures with reduced covered walkways
- Curved, 3-story math wing
- Moderate exterior finishes
- Tall ceilings throughout with maximum natural lighting
- No sunken amphitheater
- Buildings constructed at grade
- Minimal site development (based on original scope in RFP)
- Minimum sustainability
- Rough Budget: \$22.0 MM



Scenario 3

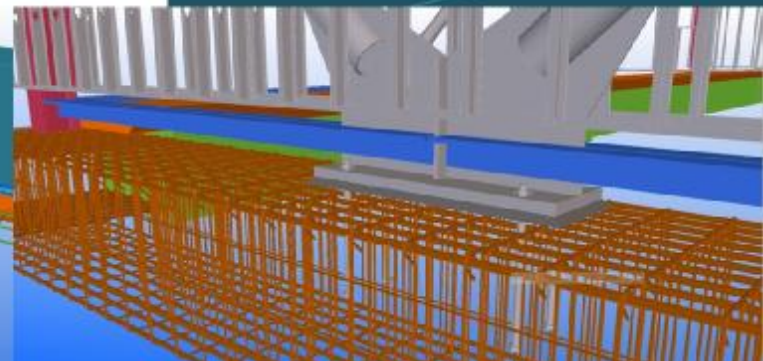
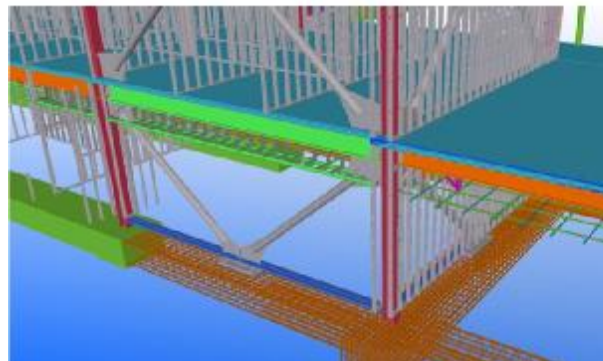
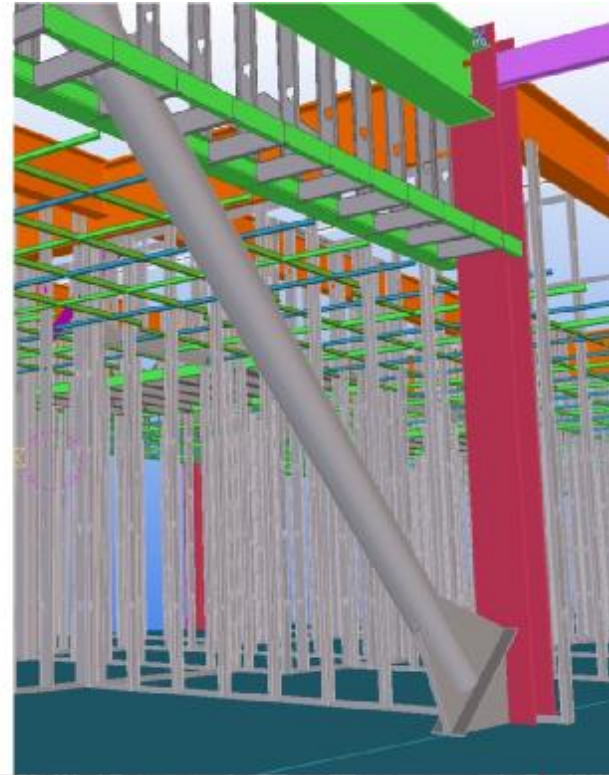
- Two rectilinear structures with minimal covered walkways, which severely reduces natural lighting
- Basic exterior finishes
- Lower ceilings throughout
- Minimal site development (based on original scope in RFP)
- Less efficient building systems
- Minimum sustainability
- Rough Budget: \$20.9 MM



THE "BUILD" IN DESIGN BUILD

DD & CD Phase

- Facilitates Collaborative Design
- Executive Decision Making
- Estimating
- Scheduling
- Constructability Reviews
- Construction Model Coordination



THE “BUILD” IN DESIGN BUILD

- Benefits of Contractor’s Involvement
 - Budget Management VS. Budget Speculation
 - Collaboration of Design & Construction Expertise
 - Constructible Design
 - System interfaces resolved during design
 - Pre-fabricated elements
 - Conflict Avoidance vs. Clash Detection
 - Reduces Construction RFI’s
 - Contract Documents: Virtually coordinated
 - Efficient Construction/Improved Schedule



THE “BUILD” IN DESIGN BUILD

- SUSTAINABLE BENEFITS
 - Pre-fabrication
 - Efficient Construction
 - Minimal Waste
 - Reduced Paper Usage
 - Improved Schedule
 - » Reduces carbon footprint



THE “BUILD” IN DESIGN BUILD

- Advanced Technologies
 - 3-D Modeling
 - Concept Modeling
 - Virtual Design & Construction Modeling
 - Digital Theodolite /Survey Confirmation
 - Improved Quality Control
 - Accurate Construction – Reduces Rework
 - Well Planned & Efficient Construction Process



San Jose City College Multi-Disciplinary & Fine Arts Building

- Importance to the Client
- Key advantages to Non-Bridging Design Build



Questions

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