How to Structure a Successful Design Build Team

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How to Structure a Successful Design Build Team

1. An owner's perspective on what would constitute an ideal Design-Build Team
2. A general contractor's perspective on how a strategic design-build team is assembled and what specific qualifications/attributes they seek from the design partner(s)
3. An architect's perspective on which general contractor and sub-consultants they would want to team with and why
4. The future trend of this design-build and why it is the preferred delivery method.
5. Team considerations/qualities between Bridging and Design-Build Teams

Skyline College

Student Support & Community Services Center

Campus Administration, Cosmetology, &
General Classroom Building

Owner's Perspective

What an Owner Looks for in a Design Build Team

San Mateo County CCD

- Three Campuses (1.4M GSF / 346 Acres)
  - Cañada College – Redwood City - 1968
  - Skyline College – San Bruno - 1969
  - College of San Mateo – San Mateo – 1963
  - District Office – San Mateo – 1978
- 25,000 Students / 1,000 Staff / Adjuncts
- $900M Capital Improvement Program
  - Multiple Funding Sources
  - Multiple Delivery Methods

SMCCCD's Experience with Design Build: New/Modernization

- CAN Vista 60-unit Faculty & Staff Housing -$13M
- CAN Gateways - $7.6
- CSM College Heights 44-unit Faculty & Staff Housing - $8M
- CSM CIP 2 ($172.5)
  - CSM 5, Health & Wellness Building - $41M
  - CSM 10, College Center - $60.5M
  - CSM Site Work / Electrical Infrastructure/Chiller/Parking - $71M
- CSM 9,15,17 & 34, Hillsdale Parking (Hike Project) - $10M
- CSM 36, Science Building with Planetarium & Observatory - $19.5M
- SKY CIP 2 ($57M)
  - SKY 4, Cosmetology, Administration & Wellness Center - $33M
  - SKY 11, Automotive Transmission Lab Building - $6M
  - SKY Site Work / Electrical Infrastructure/Parking - $18M
- SKY 6, Student & Community Center & SKY 7, Science Building - $21.5M
- DW Athletic Fields - $18M
- DW Energy Efficiency -$18M

Why Design Build?

- To Owner
  - Faster to market
  - Increased value
  - Know what they are getting for available dollars
  - Quality Product

- To Builder
  - Early involvement to allow for design and budget input
  - Early project planning to encourage creative solutions
  - Subjective contract award – lowest final cost objective

- To Architect
  - Mutual relationship with builder
  - Opportunity to learn with builder
  - Design experience vs. project type deep experience
  - Beneficial economics (if you're good at it)

Why Design Build?

- One team with common goals
- Single Responsibility
  - No finger pointing
  - Eliminates legal triangle
- Continuity of team across entire project
- Increased collaboration
- Active client participation
- Enhanced open and honest communication
- Increased value

Why Design Build?

- Cost Control – Stipulated Sum
  - Fixed limit of construction costs
  - Feedback for better design and construction documents
- Better Technology
  - Learn from the people who make and install building systems
  - Designer participation in practical application
  - Flexibility to get the most current technology
  - Perfect Design Build Team
    - Knows design
    - Knows the builder
- Project Specific
  - What one persons knows is available to all
  - Contractor isn't plotting for claims and change orders
  - Communications, documentation & costs are transparent
- Compressed Schedule: move-in sooner
- Satisfying Relationship between Owner / Architect / Builder
- Unforeseen Conditions in Renovations: Flexibility & Quick Response
- Price Certainty

District Guidelines/Process

- The Design Build Road Map
  - Selecting a Project for Design Build Delivery
  - BOT Resolution
  - CCCO Project Approval / Notification Process
  - Bridging/Criteria
  - Public Notification
  - Prequalification
  - Request for Qualification (RFQ)
  - Request for Proposal (RFP) – Stipulated Sum Best Value
    - Confidential Meetings (x3)
    - Site Surveys
  - RFP Interviews
  - Selection
  - Stipend
  - Award

Lessons Learned: Prequalification

- Who
  - General Contractor
  - Architect(s) of Record
  - Principal Engineer(s)
  - Major Design Build Subcontractors
- Criteria
  - Construction Experience
  - Contractor's License
  - Work History
  - Litigation and Arbitration History
  - Disqualification from Previous Projects
  - Compliance with Statutory Requirements and Safety
  - Prevailing Wage Requirements
  - Project Personnel
  - Insurance Requirements
  - Bonding Information
  - Financial Information

Lessons Learned: Bridging/Criteria Process

- Budget should be understood by ALL
- Bridging/Criteria Architect
  - Educational Master Plan*
  - Facilities Master Plan
  - Owner
  - User Group
- Decision Making (Deliberate & Collegial)
  - Owner
  - End User
  - Contractor/Designer
- How Detailed?
  - Criteria vs. SD's vs. DD's
- Confidential Meetings (x3)1

Lessons Learned: Confidential Meeting

- Mini Interview – Evaluation Continuity
- Programming
- RFP Deliverables
- Design Intent – How Far
- Elevations/Floor Plans
- Price
- Constraints
- Exceptions
- Alternates (Voluntary/Unsolicited)
- Life Cycle Cost Analysis
- Bid Form Evaluation
- Academic Calendar VS. DBE Schedule
- Schedule Milestones/Phasing

Lessons Learned: RFP Evaluation

- Assemble Review Team
  - Administrators / Faculty / M&O / CM Firm
- Allow Sufficient Review Time
- Clearly Identify Evaluation Criteria
- Develop Scoring Matrix (Keep It Simple)
  - Price (Stipulated Sum)/Design Competition
    - Alternates
    - Exceptions
    - Architectural Aesthetics and Design Innovation
    - Program Requirements
  - Technical Expertise
  - Life Cycle Costs
  - Skilled Labor Force
  - Acceptable Safety Record
  - Project Management Plan
    - Logistics (Occupied Campus)
    - Design Management Plan
    - Construction Management Plan
    - Schedule
    - Legal and Other Program Requirements
    - Risk Management Plan

RFP: Evaluation Matrix

DBE	Price/Design (Max 40 Points)	Technical Expertise(Max 10 points)	Life Cycle Costs(Max 5 points)	Skilled Labor Force Availability (Max 10 points)	Acceptable Safety Record (Max 10 points)	Project Management Plan (Max 25 points)	Total
DBE 1	35	8	5	9	4	19	80
DBE 2	39	8	5	8	9	23	92
DBE 3	33	2	5	4	4	12	60
DBE 4	37	9	5	10	9	23	93
DBE 5	37	4	5	4	6	5	61

RFP: Evaluation Matrix

DBE	Price/Design	Technical Expertise	Life Cycle Costs	Skilled Labor Force Availability	Acceptable Safety Record	Project Management Plan	TOTAL
DBE 1	20	18	5	10	2	10	65
DBE 2	35	5	5	8	9	20	82
DBE 3	15	5	2	2	2	8	34
DBE 4	25	23	5	10	6	22	91
DBE 5	30	5	5	2	2	0	44

Lessons Learned: Owner/College

- Program changes
- Fixed schedule
- Campus decision – making
- Budget for know and unknown
- Unforeseen conditions
- Coordinate FF&E with DBE
- Accelerated occupancy
- Plan view vs. reality

Lessons Learned: Design Standards/Documentation

- Design Standards
  - Communications
  - Materials
  - Fixtures
  - Hardware
  - Color Palette
  - Plant Species
  - BMS Controls
  - Flooring, Etc.
- LEED
- Commissioning
  - Design
  - Construction
  - Post Occupancy – 12 Mos.
- Documentation
  - Design Build Contract
  - Division OO & O1
  - Outline Specifications
  - Room Data Sheets
  - Meeting Notes
    - Distribution
- CM Software – “IMPACT”
  - RFIs
  - Submittals
  - Meeting Notes
  - Change Orders
- IEQ (prior to move in)

Lessons Learned: Schedule

- Ambitious vs. Conservative
  - Fast-Track
  - Normal Schedule
- Academic Calendar
  - Start of Classes
  - Spring Break
  - Finals
  - Commencement
  - Special Events
- Owner / End User Wild Card
  - Added Scope
- Owner Requirements Pre-Turnover
  - Surplus/Salvage Process
  - Hazmat Removal
  - Infrastructure As-Builts
    - Not Reliable
    - Physical Inspection
    - X-Ray

Lessons Learned: DBE & DSA

- DSA Buy-In Approach
  - Include District (Owner) participation
  - Establish a contact person at DSA
  - Schedule early and appropriate meetings
  - Establish firm agreed upon DSA submittal dates
  - Document meetings and agreed upon discussions with attendees
  - Describe incremental or phase submittals & deliverables & obtain buy-in
  - Involve structural engineer and other key consultants
  - Follow requested procedure and information for submittals
  - Clearly identify documents requiring approval
  - Provide sufficient reference CDs for reviewer information

Lessons Learned: Partnering Session

- Who
  - Owner / Key End Users
  - Contractor
  - Designers
  - IOR
- What
  - Understand Each Other's Interest
  - Agreed upon Rules of Engagement
    - Establish Chain of Command
    - Establish Forms of Communication
    - Establish Decision & Approval Process

Lessons Learned: Influence

- District Able to Influence
  - Design Builder Relationship
  - Alignment of Scope with Stipulated Sum
  - Initial Schedule
  - Effective Qualification Process
  - Extent & Depth of Control – Bridging Documents
- District Challenged to Influence & Control
  - Dynamics of DSA Process
  - Construction Schedule
  - Changing Market Conditions
  - Constituents
  - Owner / End User Scope Creep
- No Influence
  - Weather
  - Materials Cost

Lessons Learned: Architect

- Architect's non traditional role
- More disclosure of project costs throughout the process is helpful to ensure best value
- Additive alternates should be developed early on in the design process and documented to address potential escalation and de-escalation issues
- Consistency in partnering agreements throughout the process
- Clear, consistent direction from the client regarding programming and committee input

General Contractor Lessons Learned: Owner Client Obligation & Behavior

- Accuracy of the survey
- Perform comprehensive evaluation of existing conditions. Don't use historical data.
  - Soils
  - Civil
  - Infrastructure
  - Hazardous Materials
- Impact of dotted line
  - Project boundaries

Lessons Learned: Not a Panacea

- Owner Sophistication
- Owner Indecision
- Dynamics of an Occupied Campus
- Construction Schedule Inflexibility
  - Academic Constraints
  - Weather Constraints
- Interpersonal Dynamics
- Market Conditions

Summary

- Design Build is working
  - Partner / Team Approach
  - Management of Constituent & DBE Expectations
- Communicate, Communicate, Communicate
  - Owner / End User
  - Contractor
  - Designer
  - IOR
  - Permitting Agencies

Future Projects 2013-2014

- CAN 1 Fitness Center & Aquatics - $30M
  - Demolition & New Construction

- CSM 8 Fitness Center - $25M
  - Demolition & New Construction

Contractor's Perspective

Picking Your Partners

Right Owner-Right Project-Right Contract

Owner Selection

- Have we worked with this owner before?
- Is there a CM and if so have we worked with them?
- Has the owner done a major design build project before?
- What does the contract look like?
- Does the project have a Design-Build champion?
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Right Owner-Right Project-Right Contract

Project Selection

- Is this a market we have been successful in?
- Do we have the people available that will resume well?
- Is the project large enough to limit some competition?
- Is there any unique or complex elements help us?
- What does the contract look like?
- Where is it located geographically?
- Who is competition?
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Right Owner-Right Project-Right Contract

Contract Review

- What type of design build project is it?
- What is the selection criteria?
- What is the work product requirements for the RFP?
- What is the budget?
- Is there a stipend and how much is it?
- What are the LD's?
- How does the contract deal with contract completion and warranties?
- What are the scheduling requirements?
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Selecting the Right Design Partners

Selecting the Designer and Engineer

- Does the owner have a preference?
- What architects specialize in this market?
- Who is already teamed up other contractors?
- What has our past experience been?
- What has the past product quality been?
- Does this project fit using a team of designers?
- Are there any unique specialties we need from the designer?
- Picking WRNS and Steinberg for Skyline

Selecting the Right Subcontractor Partners

Selecting Your Design Build Subcontractors

- Have we prequalified this subcontractor?
- Is there advantage to having the design completed prior to subcontracting?
- What is subcontractor experience in this market?
- What is our frequency and success experience with this subcontractor?
- Does the subcontractor understand the proposal phase product requirements?
- Will the subcontractor be exclusive?
- Does the subcontractor truly understand design build?
- Picking subcontractors for the Skyline team

Architect's Perspective

Design Build Competitions - Advantages to Builder, Owner, and Architect

Why is a Design-Build Competition Attractive?

- To Owner
  - Faster to market
  - Increased value
  - Know what they are getting for available dollars
- To Builder
  - Early involvement to allow for design and budget input
  - Early project planning to encourage creative solutions
  - Subjective contract award – lowest final cost objective
- To Architect
  - People we like working with – mutual relationship
  - Opportunity to team with builder
  - Design experience vs. project type deep experience
  - Beneficial economics (if you're good at it)

Why is a Design-Build Competition Attractive?

- One team with common goals across all entities
- Single source contact and accountability
- Continuity of team across entire project
- Increased collaboration
- Active client participation
- Enhanced open and honest communication
- Increased value

When is A Design-Build Competition Appropriate

	Design Build Competition Candidate?	Comments / Issues
Garages	Yes	Simple program, systems
Student Housing	Yes	Easier to define standards, cost competitive
Student Services	Yes	Typically simple program, good design opportunity
Recreation	Yes	More complex, but still a good candidate, good design opportunity
Academic Buildings	Maybe	Depends on complexity of program
Laboratory Buildings	Maybe	Programmatically complex, systems complexity, heavy user involvement
Medical Buildings	Sometimes	Depends on complexity of program
New Construction	Yes	Fewer constraints
Renovations	Maybe	Too many issues / unknowns to define in criteria BOD

Design-Build Competition Vs. Bridge Elements of the Process

	Design Build Competition	Bridge
RFP	O	O
Basis of Design	O	Specifications
Program	O	O
Plans	O	From Complete Schematics to Design Development
Conceptual Design	Sometimes	O

Design-Build Competition Vs. Bridge Time Comparison

	Design Build Competition	Bridge
Stipend	○	○
Length of RFP Time	45-90 days	30-45 days
Overall Time	Accelerated	Traditional
Length of Time to Produce RFP	60-90 days	90-150 days

Design-Build Competition Vs. Bridge Required Elements

	Design Build Competition	Bridge
Bid Price / Stipulated Sum / Maximum Allowable Cost	O	O
Technical Criteria	O	O
Schematic Plans / Elevations	O	O
Design Narrative	O	O
Models / Renderings	O	O

Design-Build Competition Vs. Bridge Schedule Comparison

	Design Build Competition	Traditional Delivery
RFQ Preparation	8 weeks	8 weeks
Programming	12 weeks	12 weeks
Issue RFP	4 weeks	4 weeks
Design (To Bid/Award)	12 weeks	52 weeks
Design-Build Award	4 weeks	0 weeks
Agency Review / Permits	8 weeks (agency review/permits post award/during construction)	8 weeks
Bid/Award Period	0 weeks	8 weeks
Design After Award – Pre-Construction	8 weeks (Early construction start after completion of design development)	0 weeks
Design After Award – During Construction	12 weeks	0 weeks
Construction	48 weeks (construction expedited with early subcontractor involvement)	52 weeks
Commissioning and Occupancy	4 weeks	4 weeks
Total Time in Weeks	100 weeks (not all durations are additive)	148 weeks
Total Time in Months	23 months	34 months

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