Design Build:  
*Project Scope and Management Approach*

*Design Build Success Factors*

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Design Build: Project Scope and Management Approach

- Design Build Project Elements & Definition
  - Roles & Responsibilities
  - Project Definition
  - RFP, Procurement & Evaluation
  - Performance Requirements
  - Prequalification of Design Build Team & Sub Contractors

- Discussion: Parallels between New Buildings and Renovations

- Design Build Success Factors
  - Strategies for Implementation
  - Behavior – Human Dynamic
  - Innovation - Added Value
  - “Best Practices” & Lessons Learned
Strategy

• What is Important?
  – Project Space – More?
    • Flexibility of Space?
    • Other things more important…..?
  – Project Architecture/Image – How important…..?
    Green…..? Contextual…..? Sustainability…..?
  – Project Budget – (Base/Alternates/Innovation/Unit Cost)
    • Limited Funding Sources
  – Project Opportunities – Thinking outside box…..? How will Owner Evaluate Innovation?
  – Innovation
Strategy….cont’d

• Who is at the table during the confidential one-on-one?
  – Speaker, observer, documenter, “quarter-back”,
  – Designer, cost estimator
  – Who ask questions?…. who answers…..?

• Value of Technical Points
  – Communicating through points what project highest priority
  – Role of project design and quality
  – Project Performance Requirements

• Proposal…..
  – Graphics – Boards, Proposal Books, etc…..
  – Cost – Real and Perceived
  – Words (Good Words, Commitment Words, Typos, etc…)
  – Bid numbers…….risk!
Strategy….cont’d

• One-on-One Meetings
  – Verbal and non-verbal communications
  – Meeting minutes….. (Reflect comments carefully.)
  – How will the scoring committee evaluate the proposals?
    – *Important that both one-on-one committee and evaluation committee have knowledge of project goals, vision, requirements.*

• If points are close…..
  – Interview can make a difference
    • Now the mask is off (depending on the process)
    • What is the team chemistry?
  – Unit Cost now matters…..
  – Alternate Cost now matters
Strategy…cont’d

• Relationship vs Experience
  • Decision Making
  • Fairness
  • Communications
  • What happens in GRAY……?
• Documentation
  – Verbal vs Written
  – BOD vs Design Evolution
• Management Accessibility
• Other

• What is the Risk of Winning this Project
  • Market Place Risk
  • Owner Risk
  • Team Risk
Behavior – Human Dynamic
Behavioral Modifications

- Design Build is a paradigm that requires:
  - Design and Construction knowledge
  - Discipline of risk management
  - Rigor of collaboration
  - Communication
Merging Cultures & Philosophies

Owners

Transfer Risk

Regulatory Agencies

Adequate time for review

Contractors

Calculated Risk
Profit Motivated

Design Professionals

Risk-Averse

- Legal Issues and Pressures
- Cost Accountability

- Shifting Risk/Management Risk
- Separate Agendas
Communications

• #1 Concern - Decisions
• How will Design Evolution Decisions be Managed?
• Decisions Process
  • How are Decisions Made?
  • Are they Timely?
  • Decisions Change
• Verbal/Written
• Silent – Default
  (Refer to Contract)
• Body language - 93% non-verbal – UCLA Professor Mehrabian – Often disputed, but the point is a preponderance of communication is non-verbal

• What is the client telling you?
  – Poker
  – Facial
  – Move in chair
  – Etc......
Plans/Specs Warranty

• Design Builder warrants the sufficiency of the plans & specs to the Owner

  – Design Builder owns the “details” of Design
  – Design Builder liable for any “gaps” between plans & specs….and Owner’s requirements for performance
Quality & Testing

• On site Mock-Ups
• Professionals’ calculations
• Peer reviews of Design Builders product
• Systems & assemblies
• Field testing & verification
• Testing & inspections
• Manufactures’ warranties
• Quality assurance program
• Long-term guarantees & operations bonds

Must be Measurable & Quantifiable
Owner Approval of Design

• Participates/concurs without taking on liability
• “Reviews and acts upon” during the iterative design process
  – Meets and confer process
  – Shoulder to shoulder review process
• “Reviews and approves” the final construction drawings (Agrees that program/performance intent is met.)
  – Approval not to be construed as transferring liability
• Design decision log
• **Design Allowance - Critical**

Reference DBIA General Conditions, Document 535, Article 2.4
Active Client Involvement Balancing Act

- Overly Restrictive
- Micromanagement
- Unconstructive Criticism
- Conflict and Confrontation

- Supportive Client Oversight
- Realistic Requirements
- Constructive Peer Reviews
- Quality & Innovation
- Stay Engaged
- Co-Location

- No Client Oversight
- No Quality Control
- No focus on Project Goals
- The Wild West

Client, Design Professionals & Builder will Determine Outcome
Leverage the Process

• Know how Design Build works
  – How to give design input
  – How to manage post award design concerns, issues, field challenges, etc.

• What makes a DB Team perform
  – Owner
  – Designers
  – Contractors

• What do you contribute
  – Be Clear

• Allow creativity & flexibility
Defining Project Risks – 360

Typical Risk Targets

Legal Risk are in Addition to the items above.
Areas of Project Risk

- 360 Degree Project Elements Risks
  - Contract/Scope
  - Design
  - Construction
  - Quality

- Project Management Risks
- Executive Management Risks
- Legal Risks
- Other External Risks
“Best Practices” & Lessons Learned
Lessons Learned & Success Factors

Before You Start:

- Spend the Time Necessary:
  - Business Plan and Model – Can and Can’t
  - Campus Relationships
  - Clear Project Goals and Program
  - Budget
  - Design Criteria and Quality
  - Realistic Schedule
  - Performance Criteria
  - Communication Plan
Lessons Learned & Success Factors

• Design-Build experience and knowledge
• Partnerships – *Pre-qualifications*
• Applied lessons learned
• Utilize technology
• Early selection of equipment
• Budget and schedule management (including realistic alignment with scope expectations)
• Open Communication
• Clear Roles and Responsibilities
• Design Evolution and Appropriate Allowance within the Contract
Lessons Learned & Success Factors

Post Award

- PMO sooner than later
- Co-Location - PMO
- Maintain momentum after Major Owner Decisions
- Streamline Workflows to Accommodate Leadership schedules
- Engage Building & Safety upfront and pitch innovations early to ensure compliance
- It’s never too early to innovate or engage stakeholders, industry experts and subcontractors
- Develop trust early
- Transparency
- Collaborative Risk management Strategy
- Consider Risk Sharing
- **True understanding of Design to Budget requirements.**
- Adopt processes/ procedures & tools as a team
- Ensure Executive decisions and agreements are conveyed to the whole team
Processes: Active Owner Involvement
Informed Decision-Making Process

• Facilitate Decision Making
  • Explain Options and Trade-offs
  • Obtain Subject Matter Expert Support
• Plan Decision Dates Ahead
• Develop an Integrated Process workflow
  • Set Commitment Dates and Milestones
  • Integrate Processes with Schedule
  • Develop, Use and Revise Project Management Plan through Project
### Decision Making Matrix

**Active Owner Involvement**

**Best Practice Tools**

#### Project - WORK GROUP STRUCTURE

**Design Review and Decisions Guide**

ONLY PROJECT DECISIONS THAT MODIFY OR CHANGE THE DIRECTION FROM THE BASIS OF DESIGN ARE TAKEN TO EXECUTIVE MANAGEMENT.

#### 30% DOCUMENTATION

#### 60% DOCUMENTATION

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**UC Irvine**
Active Owner Involvement
Best Practice Tools

Integrated Design Development Workflow
Active Owner Involvement
Best Practice Tools

Collaborative Project Review and QA/QC Process
Benefits of Design Build

- Single point of responsibility for owner
- Drawing and specification ambiguities resolved by DB team without additional cost,
- Lowest project cost.
- A/E & contractor on same team, unified recommendations,
- Contractor & subcontractor provide innovation & savings.
- Provides for the shortest project schedule,
- Lowest project cost growth.
- No adversarial relationship between architect/engineer and contractor since both on same team.
- DB team can exceed sustainability goals.
- Cost commitment provided during design
- Project benefits from value engineering & innovation
Challenges to design build

- Owner must provide a RFP that clearly outlines requirements.
- Owner must provide appropriate proposal stipend.
- Clear **evaluation criteria** are required for timely successful award.
- Owners should have extensive experience in construction.
- Architect and contractor work under the same umbrella the checks and balances are lost.
- Design professionals are a commodity.
Top Critical Success Factors

Owner Factors:
1. Owner center leadership
2. Complete program requirements & design decisions
3. Program change policy
4. Director’s leadership role in design, budget and schedule management
5. Clear project governance structure and mechanism; clear locus of authority

Project Management Factors:
1. Design-Build experience and knowledge
2. Partnerships – *Pre-qualifications*
3. Applied lessons learned
4. Utilize technology
5. Early selection of equipment
6. Budget and schedule management (including realistic alignment with scope expectations)