

Advanced Design-Build Strategies for Architects

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American Institute of Architects
and
Design-Build Institute of America

AIA / DBIA Design-Build Educational Program

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AIA / DBIA Design-Build Program

- 7:30 am Continental Breakfast
- 8:00 An Architect's Perspective on Design-Build
- 8:30 The New 2004 AIA Design-Build Contracts
- 9:00 Design-Build Project Delivery – Refresher Course
- 9:30 How to Become a Leader in Design-Build
- 10:00 Break (15 minutes)
- 10:15 Teaming Between Architects and Contractors
- 11:00 Design Excellence through Design-Build
- Noon Buffet Luncheon
- 1:00 pm An Owner's Perspective on Design-Build
- 1:30 pm Owner's Initiatives and Objectives (Case Study)
- 2:30 Break (15 minutes)
- 2:45 Critical Success Factors
- 3:45 Lessons Learned & Best Practices
- 4:45 Q & A.
- 5:00 Adjourn

Your Speakers

Dorwin A.J. Thomas, FAIA, MRAIC, DBIA

Former Chairman

AIA Design-Build KC Advisory Group - 2004 / 2005

Chairman, DBIA Professional Designation Board

Architect / Design-Build Professional

Jeffrey T. Hooghouse, AIA, DBIA, AVS

Deputy Chief Architect of the Corps

US Army Corps of Engineers, HQ (Washington, DC)

AIA Public Architects KC Advisory Group - 2007 / 2008

DBIA Board of Directors



Welcome

An Architect's Perspective on Design-Build

Dorwin A.J. Thomas, FAIA, DBIA

Architect / Design-Build Professional

Chairman, AIA Design-Build Knowledge Community 2004/2005

Chairman, DBIA Professional Designation Board

AIA / DBIA Advanced Design-Build Strategies for Architects



Welcome

An Owner's Perspective on Design-Build

Jeffery T Hooghouse, AIA, DBIA, AVS

Deputy Chief Architect of the Corps
US Army Corps of Engineers, HQ (Washington, DC)

AIA Public Architects KC Advisory Group - 2007 / Present

DBIA Board of Directors - 2006 / Present

AIA / DBIA Advanced Design-Build Strategies for Architects

The Future of Design-Build

Design-Build continues to rise in both Public and Private Business Sectors. “By the end of year 2010 over 50% of all construction projects will be delivered by the Design-Build Method” *Engineering News Record*

“Architects must recognize that Design-Build is here to stay, therefore to take a Leadership Role they must look to Designer-Led Design-Build Project Delivery”
Robert Ivy, FAIA, Editor Architectural Record

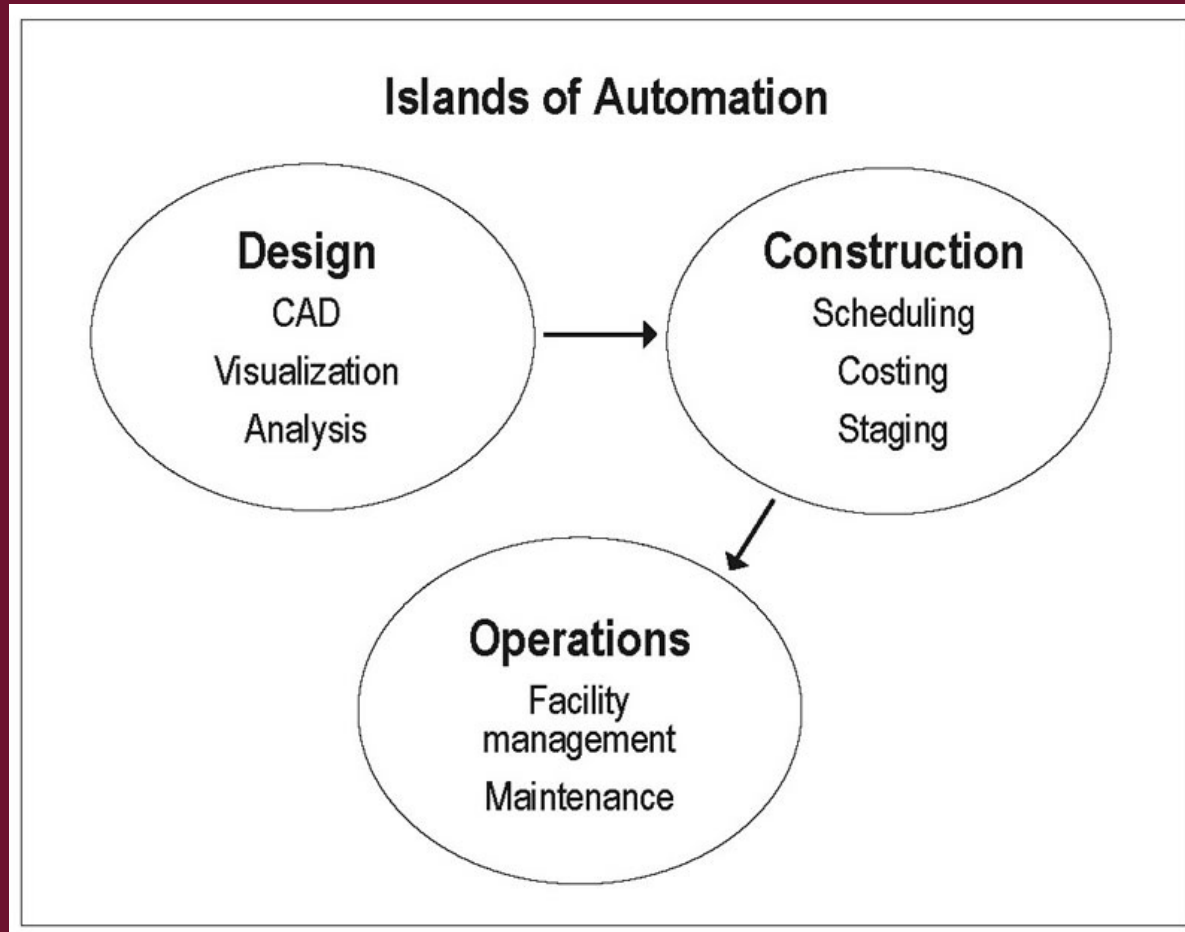
Architecture on the Edge



“If you want to survive, you’re going to change; if you don’t, you’re going to perish. It’s as simple as that.”

Thom Mayne, FAIA, 2005 Pritzker Prize Winner, during the Building Information Modeling Panel Discussion at the 2005 AIA national convention in Las Vegas

Integrated Practice Methodology



Integrated Practice

“I’m talking about the vision of creating an Integrated Practice, moving from traditional ways of doing business into fully collaborative, highly integrated, and productive teams that include all the stakeholders in a project’s lifecycle. It’s a vision of a building process where information flows freely and can be used where it is most needed. In integrated practice, projects are optimized for client outcomes, rather than for the individual business objectives of designers, constructors, and owners.”

Phillip Bernstein, FAIA - 2005

Integrated Practice

changeisnow

www.aia.org/ip

Integrated Practice

Traditional (Today)		Integrated Practice (Tomorrow)
<i>Fragmented, assembled on “just-as-needed” or “minimum-necessary” basis, strongly hierarchical, controlled</i>	Teams	<i>An integrated team entity composed of all project lifecycle stakeholders, assembled early in the process, open, collaborative</i>
<i>Linear, distinct, segregated; knowledge gathered “just-as-needed”; information hoarded</i>	Process	<i>Concurrent, multi-level, integrated; early contributions of knowledge and expertise; information openly shared</i>
<i>Individually managed, transferred to the greatest extent possible</i>	Risk	<i>Collectively managed, appropriately shared</i>
<i>Individually pursued; minimum effort for maximum return; (usually) first-cost based</i>	Compensation / Reward	<i>Team success tied to project success; value-based</i>
<i>Paper-based, 2 dimensional; analog</i>	Communications / Technology	<i>Digitally based, virtual, 4 dimensional; Building Information Modeling</i>
<i>Minimum effort for maximum return; minimize or transfer risk; don't share</i>	Agreements	<i>Encourage, foster, promote and support open sharing and collaboration, full integration</i>
<i>Individually focused, emphasis on composition</i>	Education	<i>Team-based, integrated, collaborative; technologically inclusive; materials and methods focus in addition to composition</i>

DEVELOPMENT PROCESS PARTICIPANTS

the Development Team

DEVELOPERS

INVESTORS AND LENDERS

ARCHITECT

ENGINEER

ATTORNEY

ACCOUNTANT

MARKET

REAL ESTATE

PUBLICISTS

GENERAL

SUBCONTRACTORS

MATERIALS

TRADESMEN

INSURERS

BRAIN HALVES AT WORK PLANNING A NEW DEVELOPMENT

the Government

MUNICIPAL AUTHORITIES

COUNTY AUTHORITIES

COSTS
TIMING
MARKET
CONTRACTS
CONSULTANTS
EQUITY
DEBT
CASH FLOW
PROFIT??



SITE PROGRAM
BUDGET
ZONING
STAGING
CLIENT
USERS
FUNCTIONS
FEES
COFFEE



REGULATIONS
PUBLIC OPINION
VOTES
TAXES
TRAFFIC
ACCOUNTABILITY
EARLY RETIREMENT

YOU KNOW,
I COULD BE
A DEVELOPER!

the Market

HOME BUYERS

TENANTS

CORPORATIONS

INSTITUTIONS

CONSUMERS



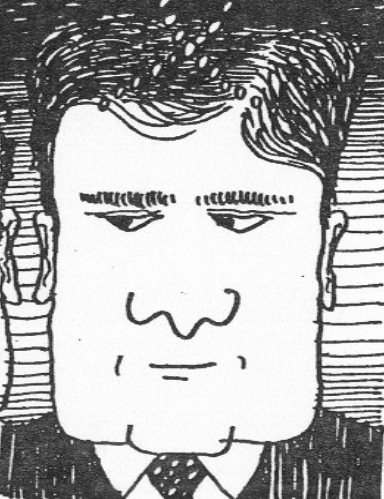
THE DEVELOPER



THE DESIGNER

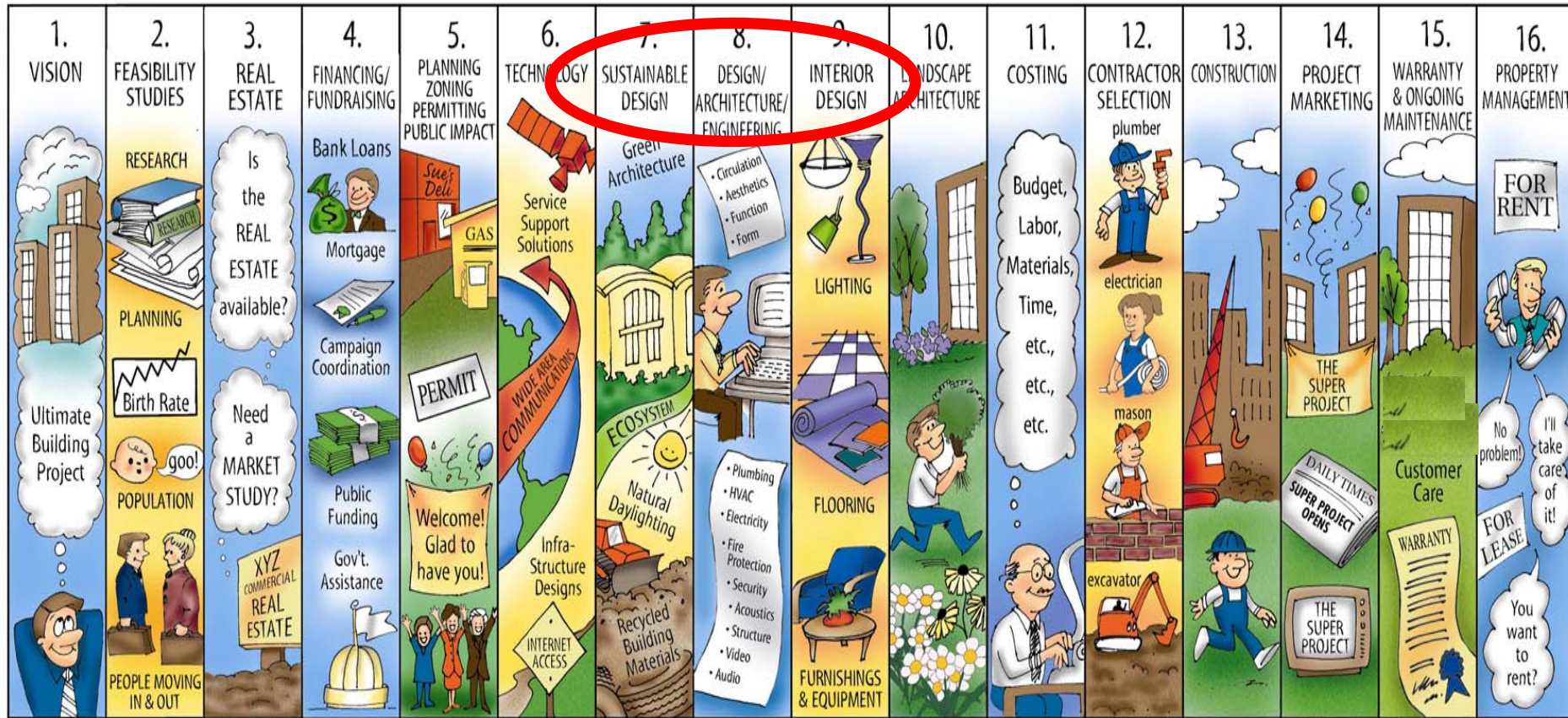


THE FINANCIER



THE PUBLIC OFFICIAL

Practice Management Methodology



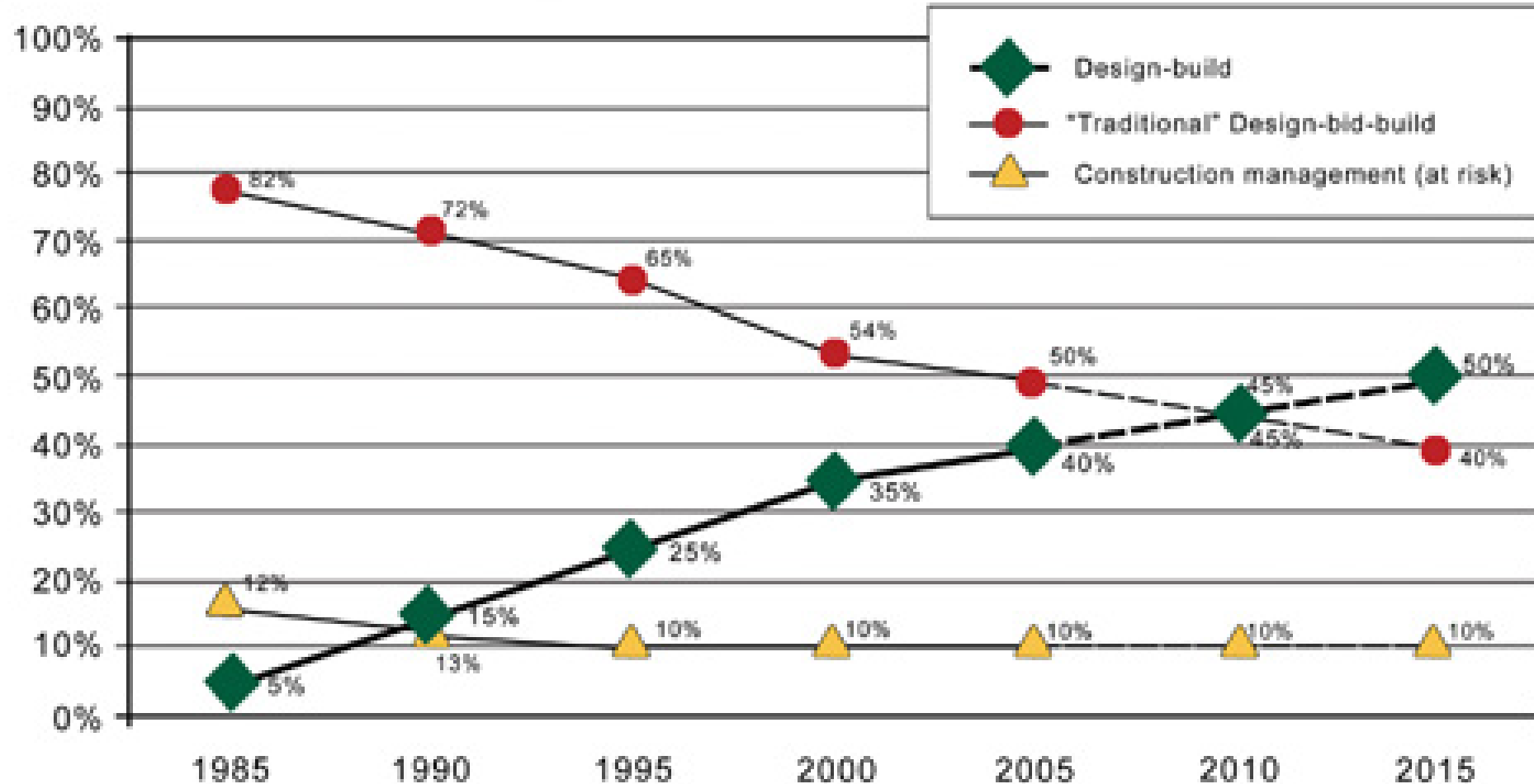
Forecasting

- ***“It's tough to make predictions, especially about the future.”***
– ***Yogi Berra***



The New York Times Photo Collection

Market Penetration of Major Project Delivery Systems



Where Will You Be In 2010?

Leader?

- **Joint Venturer?**
- **Subcontractor?**
- **Not Participating?**



The Fable of Boiling a Frog

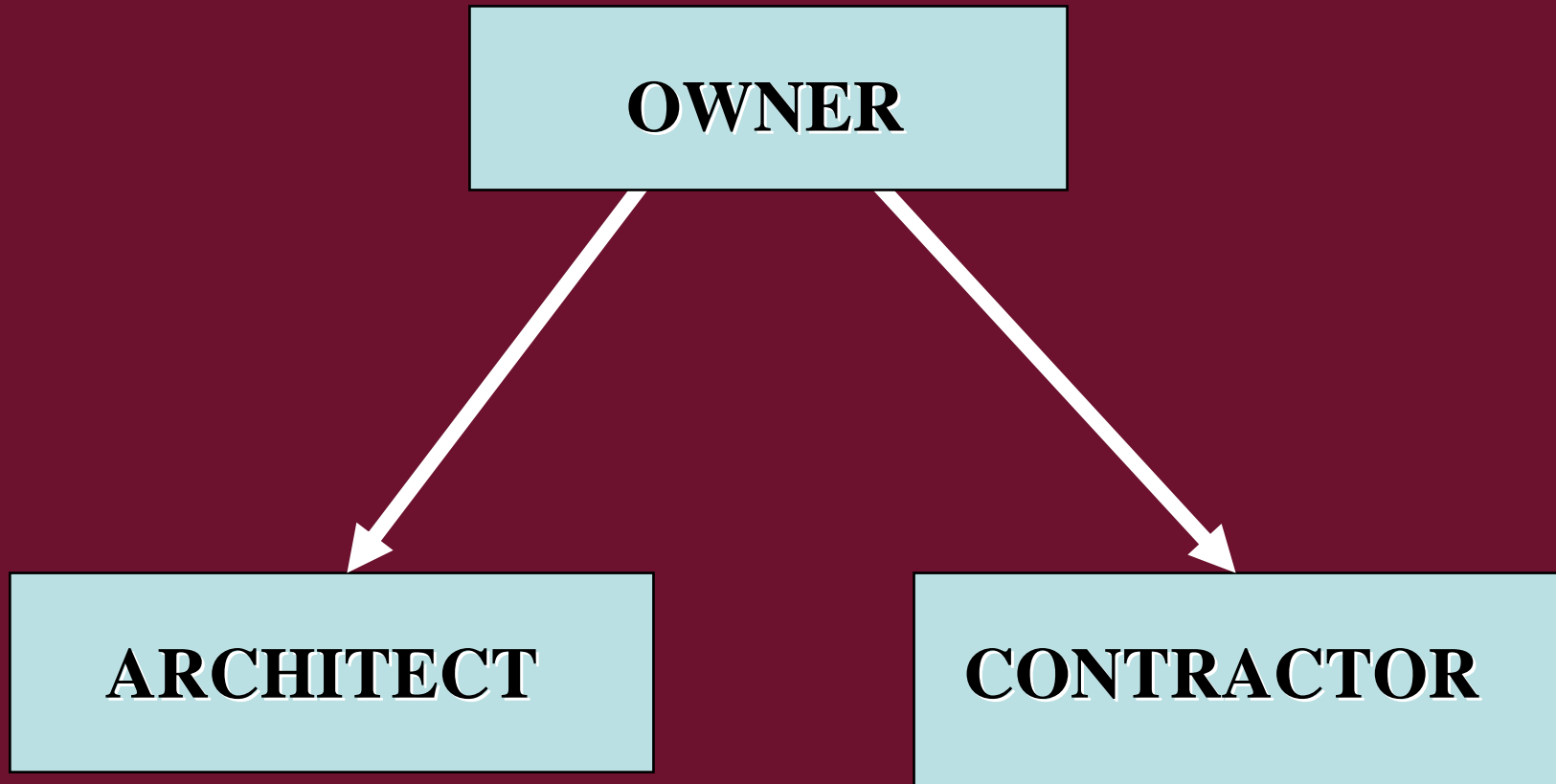


AIA / DBIA Advanced Design-Build Strategies for Architects

What is Design-Build?

- **Many variations:**
 - Turnkey
 - Design-Build
 - Design-Build - Operate - Maintain
 - Design-Build – Finance – Operate - Maintain
- **One thing in common**
- **= One Contract + Single Source Provider**

Traditional Construction

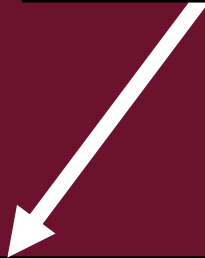


Design-Build

OWNER



DESIGN-BUILDER



DESIGN PROFESSIONALS

SUBCONTRACTORS



AIA's History on Design-Build

- **Founding of the AIA – 1857**
 - Distinct Profession of Architects
 - Separate from Contractors, Engineers, etc.
 - Separated from “Package Dealers”
 - Package Dealer was Synonymous with Design-Builder
- **Canon of Ethics**
 - Canon of Ethics discouraged Design-Build
 - Softening of Design-Build Restrictions in 1978

AIA Ethical Rule 404 (1977)

1909 – 1977 Unethical for architects to participate in D-B

“Members may not engage in building contracting where compensation, direct or indirect, is derived from profit on labor and materials furnished in the building process except as participating owners.”

AIA's Changing Attitude on D-B

- AIA Recognized the need for D-B in 1975
- 1975: AIA Publishes Design-Build-Bid Task Force.
- 1978: AIA allows members to do Design-Build
- 1985: AIA Publishes Design-Build Contracts
- 1991: AIA policy in favor of using Design-Build in Public Sector
- 1995: AIA includes Design-Build as a P.I.A.
- 2003: AIA publishes "The Architect's Guide to Design- Build Services"
- **2005: AIA Board says "Architects should be in lead role"**

AIA 2005 Policy on Design-Build

Position Statement No. 26 (Sept. 2005)

“The AIA maintains that projects can be effectively designed and constructed by a variety of delivery methods, including but not limited to design-bid-build, design-build, and negotiated select team. The AIA also believes an ***architect is the most qualified to lead alternative project delivery teams***, and advocates that ***architects should be retained in that role*** regardless of which delivery method is used.”

Samuel "Sambo" Mockbee

AIA Gold Medal 2004



Knowledge Communities



Member ID:

Password:

[AIA Home](#) :: [The Integrated Architect](#) -- [Journal of the Design-Build Knowledge Community](#) ::

Design-Build

- > [About Us](#)
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Knowledge Communities

- > [AIA Library](#)
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- > [Become a Member!](#)

Upcoming Events

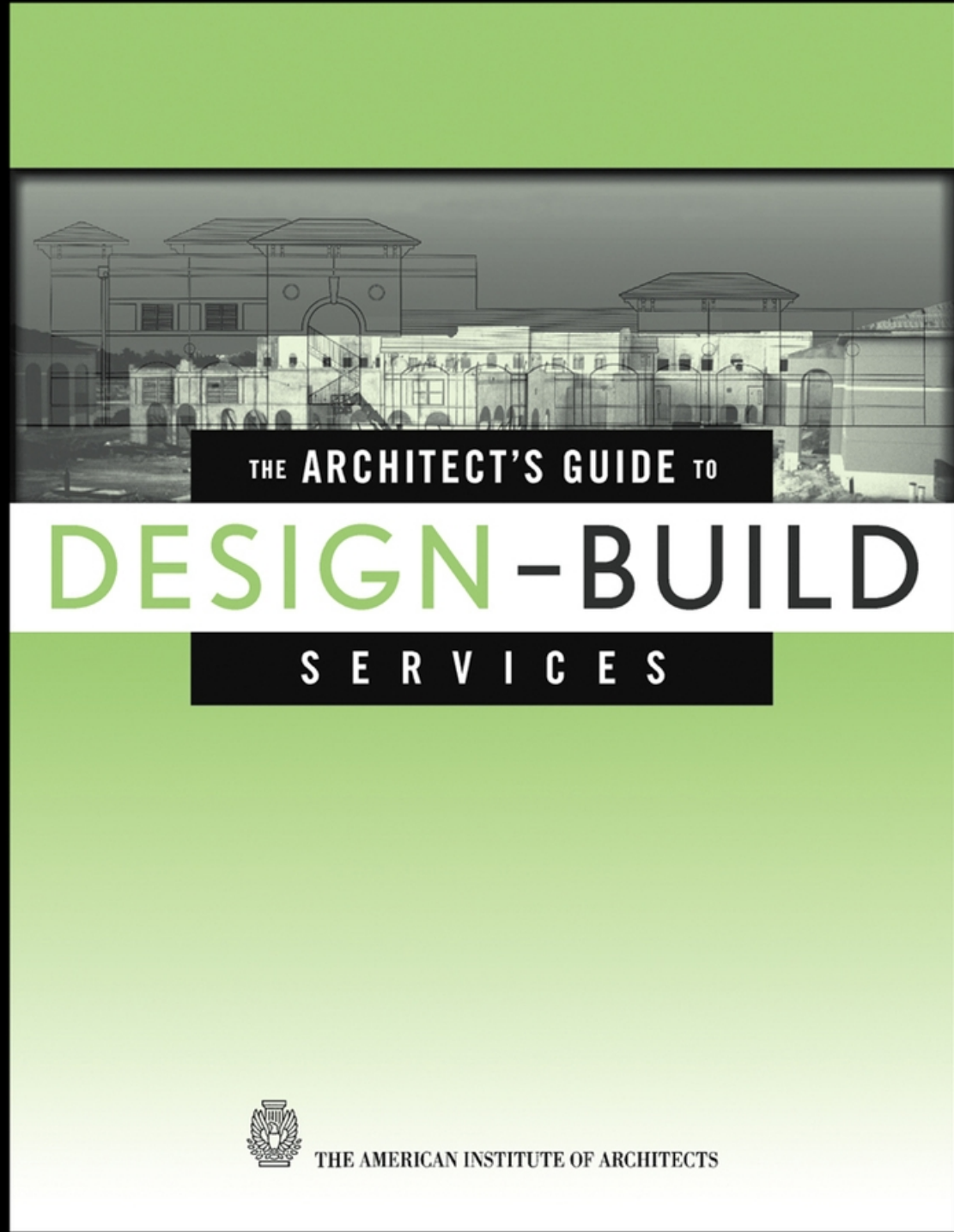
Design-Build

The Design-Build (DB) Knowledge Community is the recognized voice for the advancement of best practices related to the architect's role in the design-build process.

If you wish to become involved with the Design-Build Knowledge Community, call AIA's Member Services, 800-242-3837, and ask to designate Design-Build as one of your knowledge communities.

[About Us](#) | [Advisory](#)
Contact us: designbuild@aia.org

Available at:
www.aia.org



Design-Build KC



The New 2004 AIA Design-Build Contracts

What's New?

What's Changed?

What YOU Need to Know!



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The Old Forms

AIA Document A191

Standard Form of Agreement Between Owner and Design/Builder

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES. CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS USE, COMPLETION OR MODIFICATION.

This document comprises two separate Agreements: Part 1 Agreement and Part 2 Agreement. Before executing the Part 1 Agreement, the parties should reach substantial agreement on the Part 2 Agreement. To the extent referenced in these Agreements, subordinate parallel agreements to A191 consist of AIA Document A491, Standard Form of Agreements Between Design/Builder and Contractor, and AIA Document B901, Standard Form of Agreements Between Design/Builder and Architect.

PART 1 AGREEMENT

1996 EDITION

AGREEMENT

made as of the _____ day of _____ in the year of _____
(in words, indicate day, month and year.)

BETWEEN the Owner
(Name and address)

and the Design/Builder:
(Name and address)

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AIA DOCUMENT A191, PART 1 • OWNER-DESIGN/BUILDER AGREEMENT • SECOND EDITION • AIA® • ©1996 THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, NW, WASHINGTON, DC 20005-2094 • WARNING: Unlicensed photocopying violates U.S. copyright laws and is subject to legal prosecution.

A191—1996
Part 1—Page 1

1996 Edition:

A191 – Owner & D-B

A491 – D-B & Contractor

B901 – D-B & Architect

Two Parts:

Part 1 Agreement:

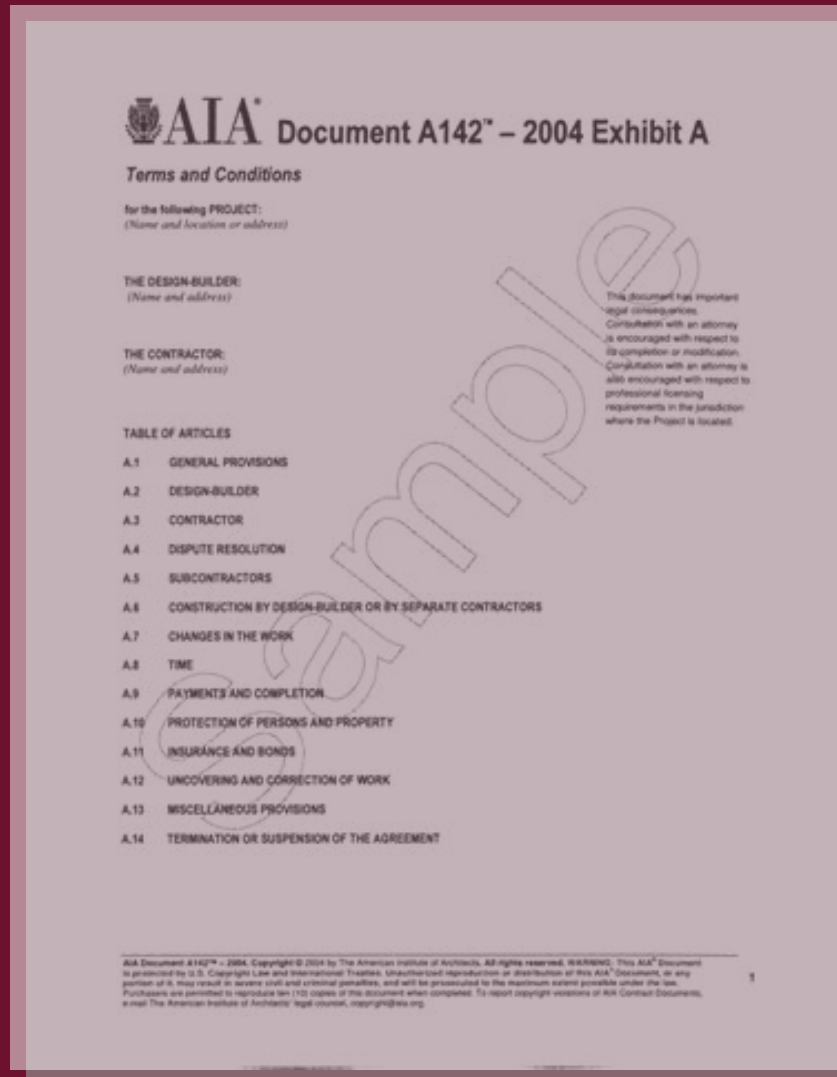
**Preliminary Design +
Estimating**

Part 2 Agreement:

**Final Design +
Construction**

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The New Forms



2004 Edition:

A141 – Owner & D-B

B142 – Owner & Consultant

A142 – D-B & Contractor

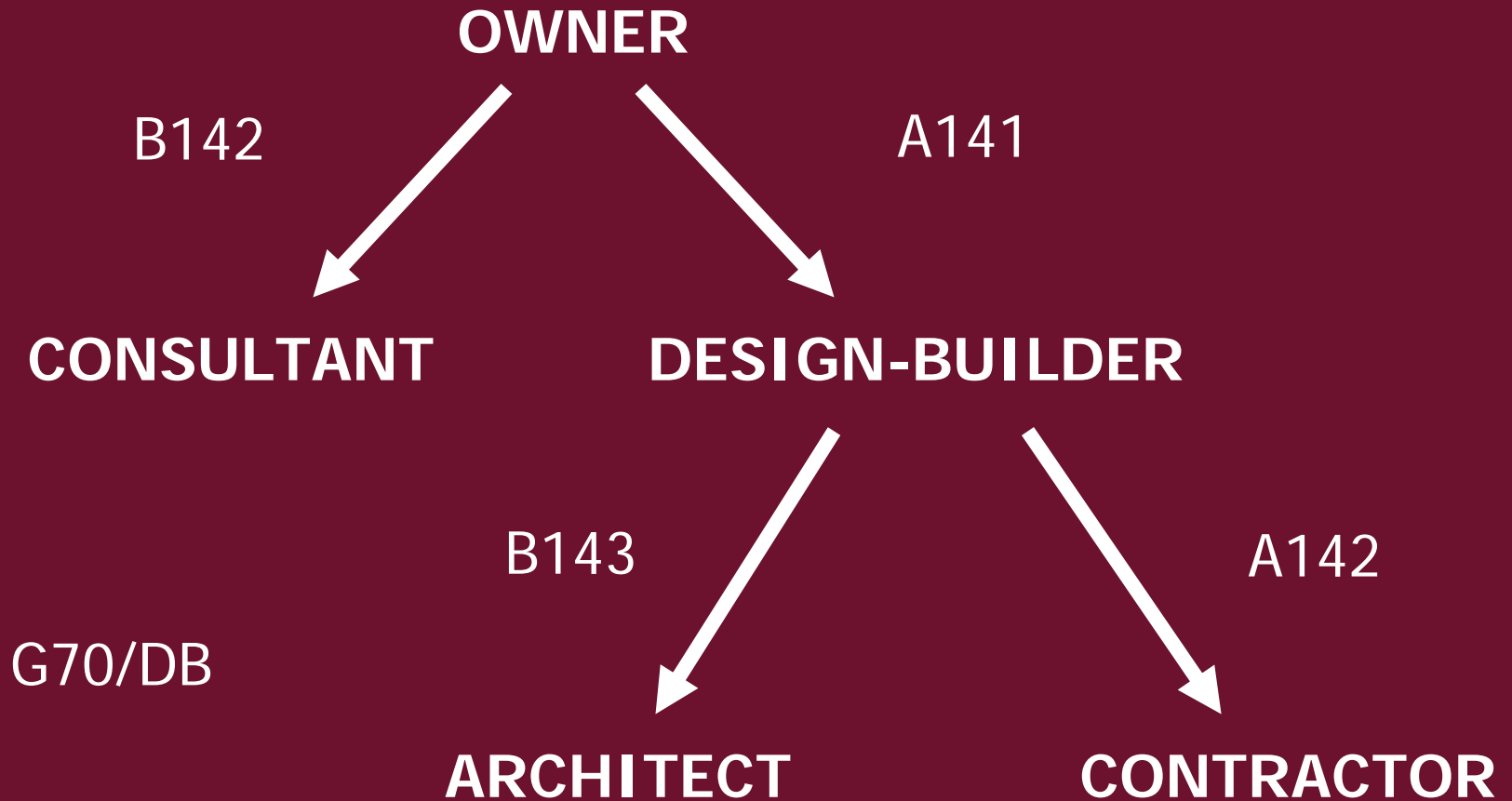
B143 – D-B & Architect

G704/DB Certif. of Subst. Completion

Lots of “Exhibits” on:

Scope, insurance, project criteria, etc.

The 2004 AIA Contracts



Major Changes in '04

- Two Parts No More
 - Just one contract
- New Dispute Resolution Options
 - Arbitration? or Litigation? or Others?
 - Project “Neutral”
- Multiple Exhibits
 - Do it yourself
- Payment Terms
 - Lump Sum? Cost Plus? GMP? You pick!

New Terms

- “Design-Build Documents”
 - instead of Contract Documents
 - used in the A141 only
- “Terms and Conditions”
 - instead of General Conditions
 - this is Exhibit A to the A141 form
- “Control Estimate”
 - used with Cost Plus (if no GMP)

New Opportunities

- Architect-Led Design-Build
- Architect can hold lead role
 - Either as itself
 - Or via a new corporation
 - Or as a joint venture
- Can subcontract back to itself; or,
- Just do it under one entity

New Risks?

- Who Owns the Docs? and Copyrights?
- A141 says D-B, D-B's Architect and others own copyrights in documents they “furnish”
- B143 says Architect and its consultants are authors and owners of all copyrights in their work
- Can Owner use them if D-B is fired?

Owner's Right to Use

- B143: If Architect is terminated “for cause”, D-B can give docs to a replacement to complete the Project
- A141/B143: If Owner terminates D-B
 - Owner can use them if:
 - A. Either assumes D-B duties to Arch & pays all amounts owed; OR
 - B. Indemnifies Arch from claims, expenses and attorney's fees

What to Watch For

New Certification to Owner/Consultants:

- By Architect
- And other Design Professionals
- That documents:
 - Are consistent with Project Criteria;
 - Comply with standards, laws & regs; and
 - Owner's consultants can rely on them
- *Does this increase liability to Owner?*

What to Watch For

Express Warranty of Design:

- Architects are not insured for express warranties or guarantees
- A141's "warranty" from D-B covers the "Work" – defined to mean:
 - "the design, construction and services"
 - will this flow through to Architect?
- *May need to clarify & disclaim warranty on "design"*

What to Watch For

Role of “Neutral”:

- Owner & D-B name a “Neutral” to decide disputes
 - Takes Architect out of conflict resolution
- Neutral can be Owner’s Consultant; the Architect; or a Third-Party
- But if none named, the Owner decides disputes!
 - Is the Owner a “Neutral” party?
- *Owner’s decision is “final and binding” but subject to mediation and other procedures*

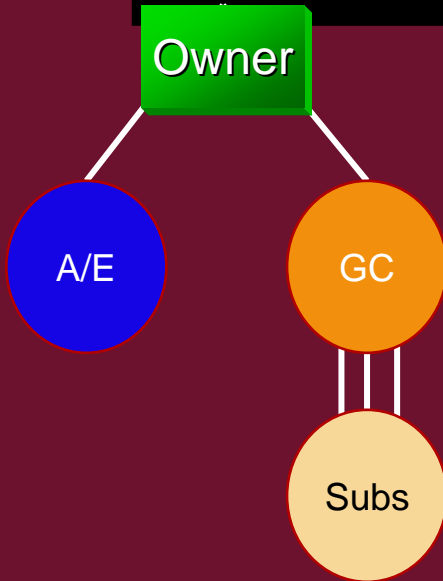
***Design-Build
Project
Delivery Method

Refresher Course***

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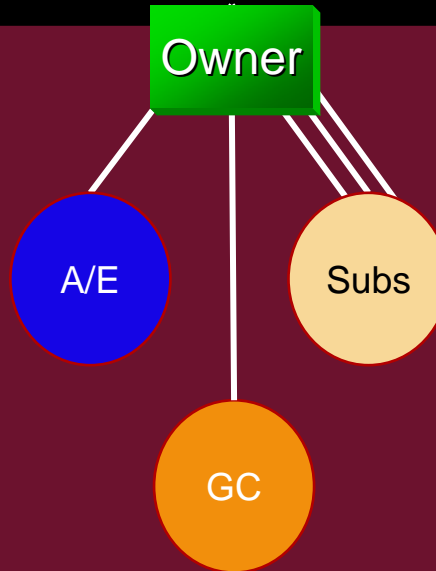
Project Delivery Methods

Traditional DBB



- Multi Source Responsibility
- Competitive Buyout (GC Level)
- Additive Phases

Agency CM



- Multi Source Responsibility
- Competitive Buyout (GC Level)
- Fast Track Process

Design/Build



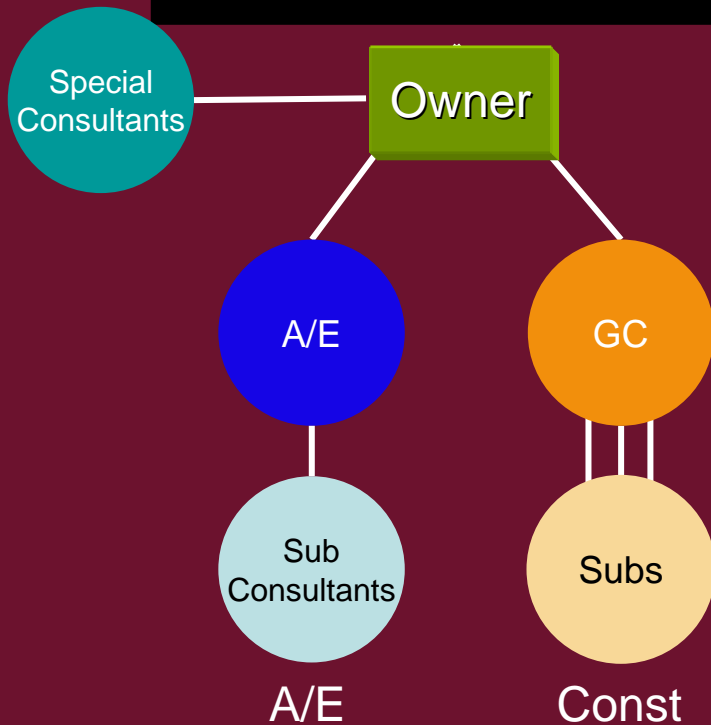
- Single Source Responsibility
- Competitive Buyout (Sub Level)
- Fast Track Process

Alternative Relationships of the Primary Team Members

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Relationship of the Contracting Entities

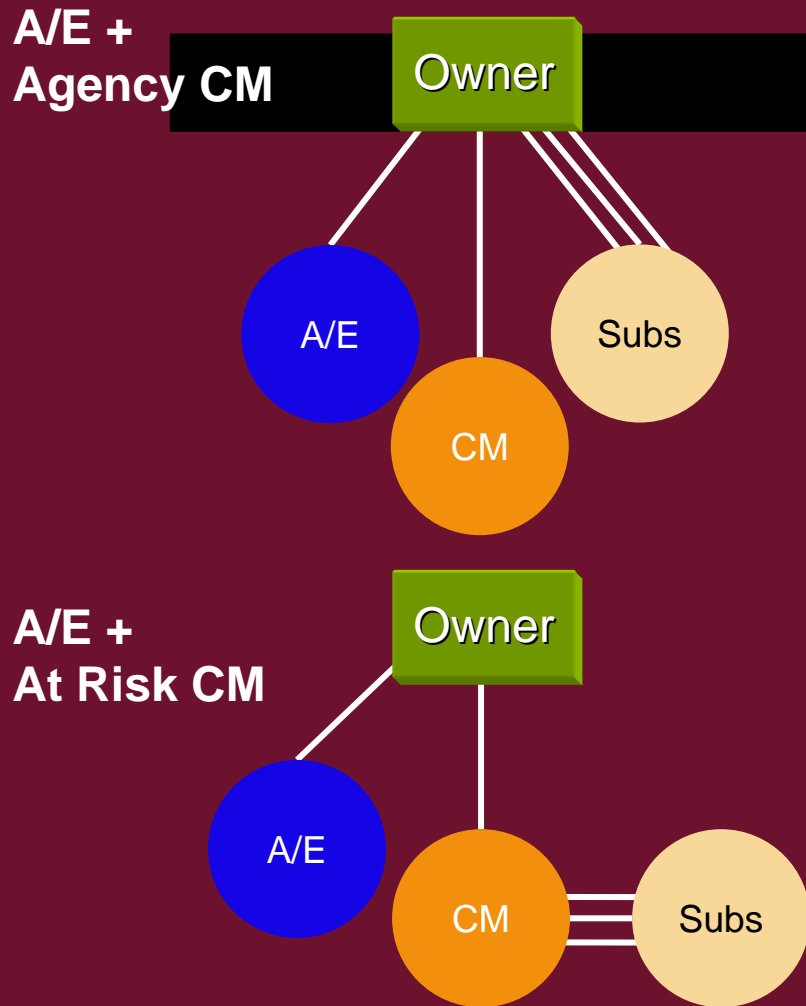
Design / Bid / Build – Traditional Method



- **Separate Contracts between**
 - Owner & AE
 - Owner & General Contractor
- **Subcontractors contract with General Contractor**
 - Not with Owner
- **Architect = Independent Professional**
- **Sets up adversarial relationships**
 - Change Orders
 - Architect E&O Claims
 - GC Claims

Relationship of the Contracting Entities

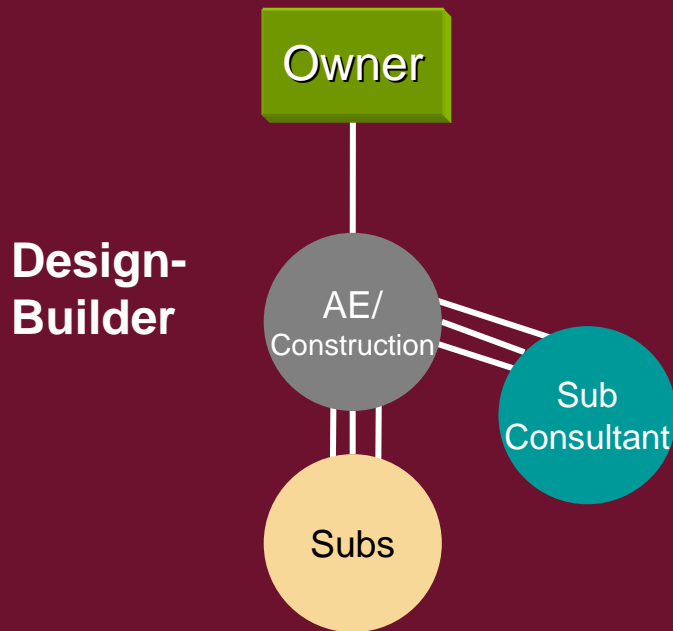
Construction Management



- General Contractor acts as “Professional” advisor
- General Contractor brought in earlier in process for:
 - Costing
 - Scheduling
 - Constructability Analysis
 - Value Engineering
- Agency CM:
 - Subs selected & Bid by CM
 - Contracts directly with Owner
 - Can receive professional fee
- CM at Risk:
 - CM holds all subcontracts
 - CM guarantees price or does cost plus

Relationship of the Contracting Entities

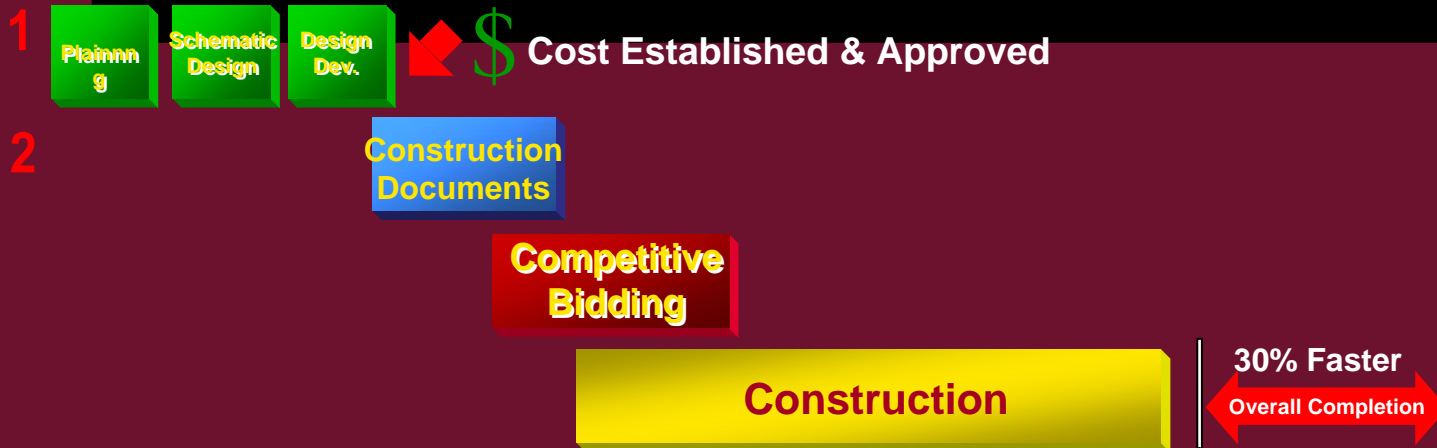
Design-Build



- **Single Source Responsibility AE & Construction**
- **Contract between Owner & Design-Builder (e.g. AIA B191)**
- **Models**
 - **Integrated AE/GC**
 - **Developer Lead**
 - **Project AE/GC Teaming**
 - **AE/GC Strategic Alliance**
 - **GC Lead**
 - **AE Lead**

Design-Build vs. Standard Process

Fast Track Design-Build

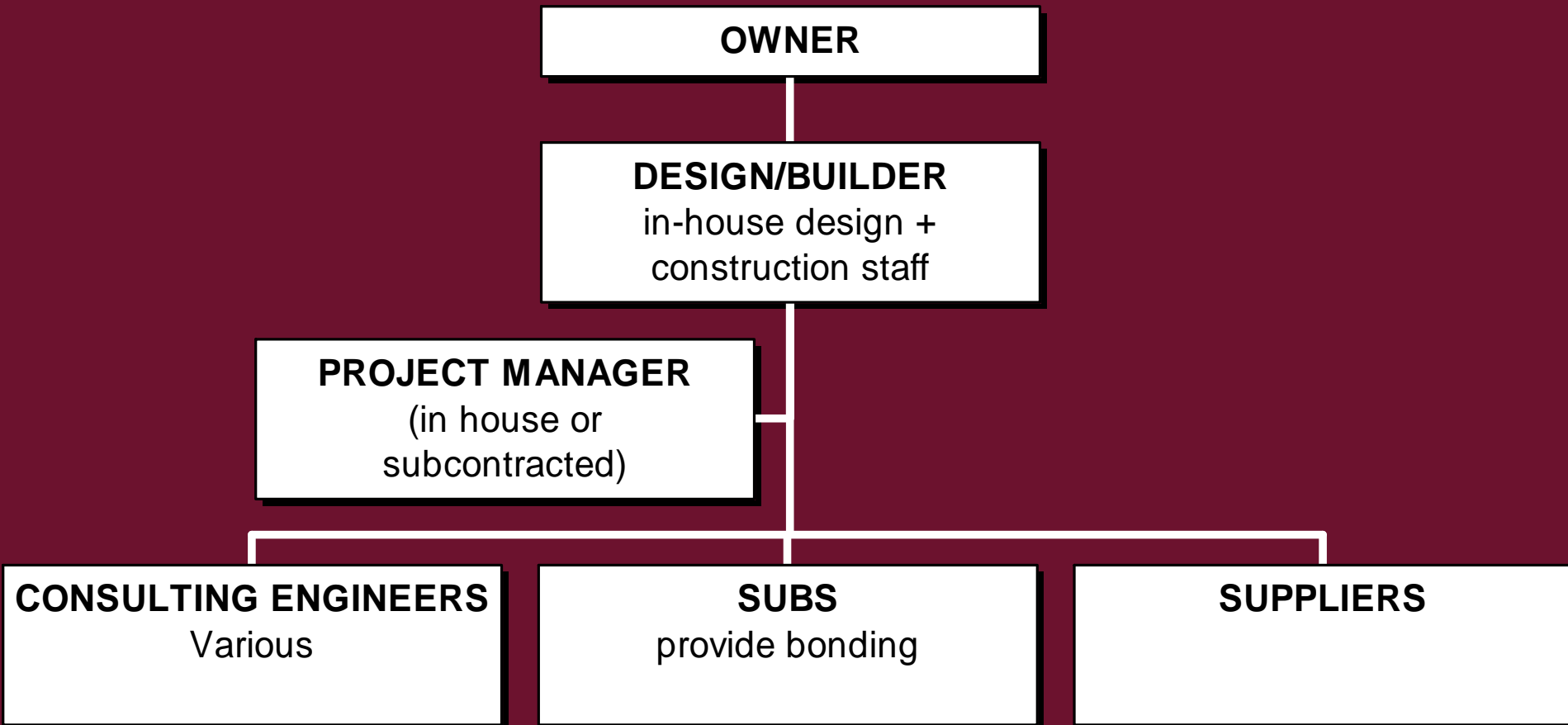


Sequential Architecture/Engineering/General Contracting



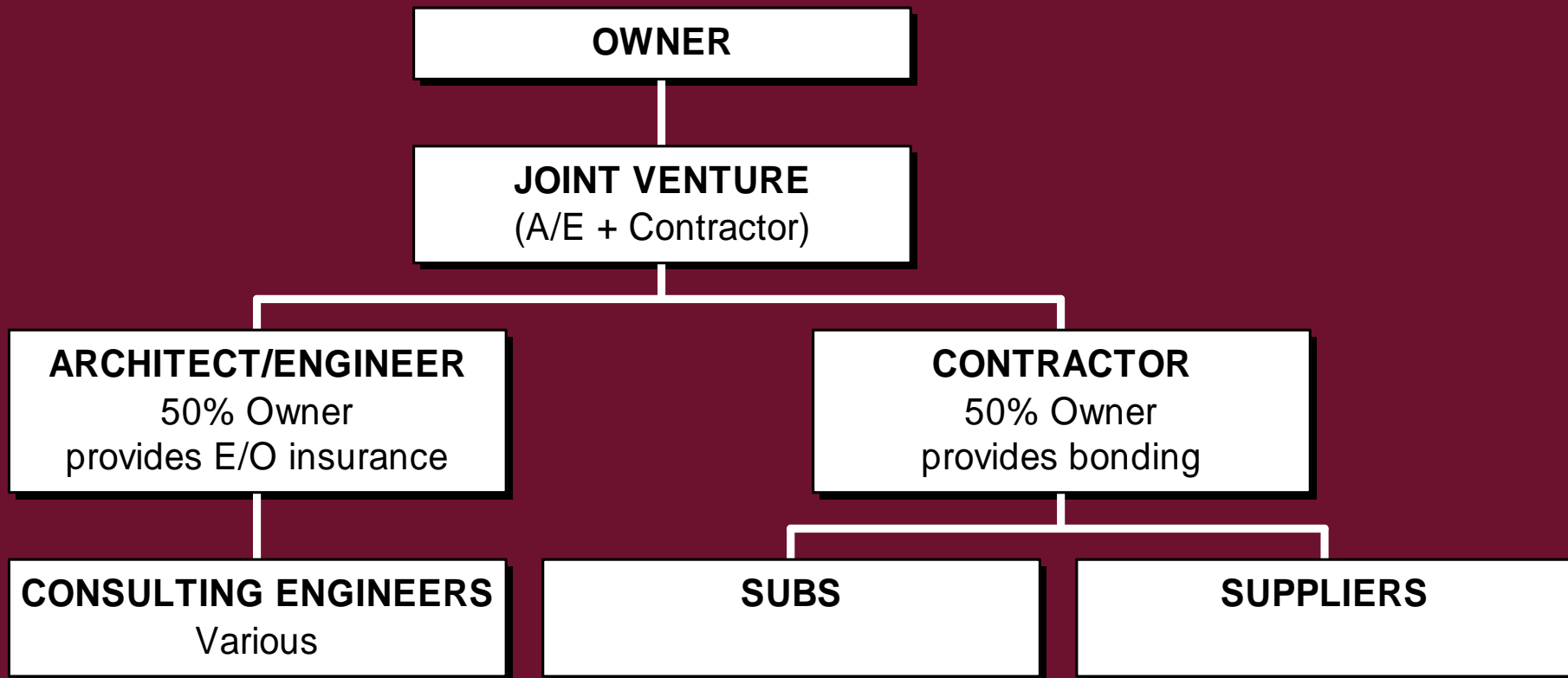
Project Team 1

Integrated Firm



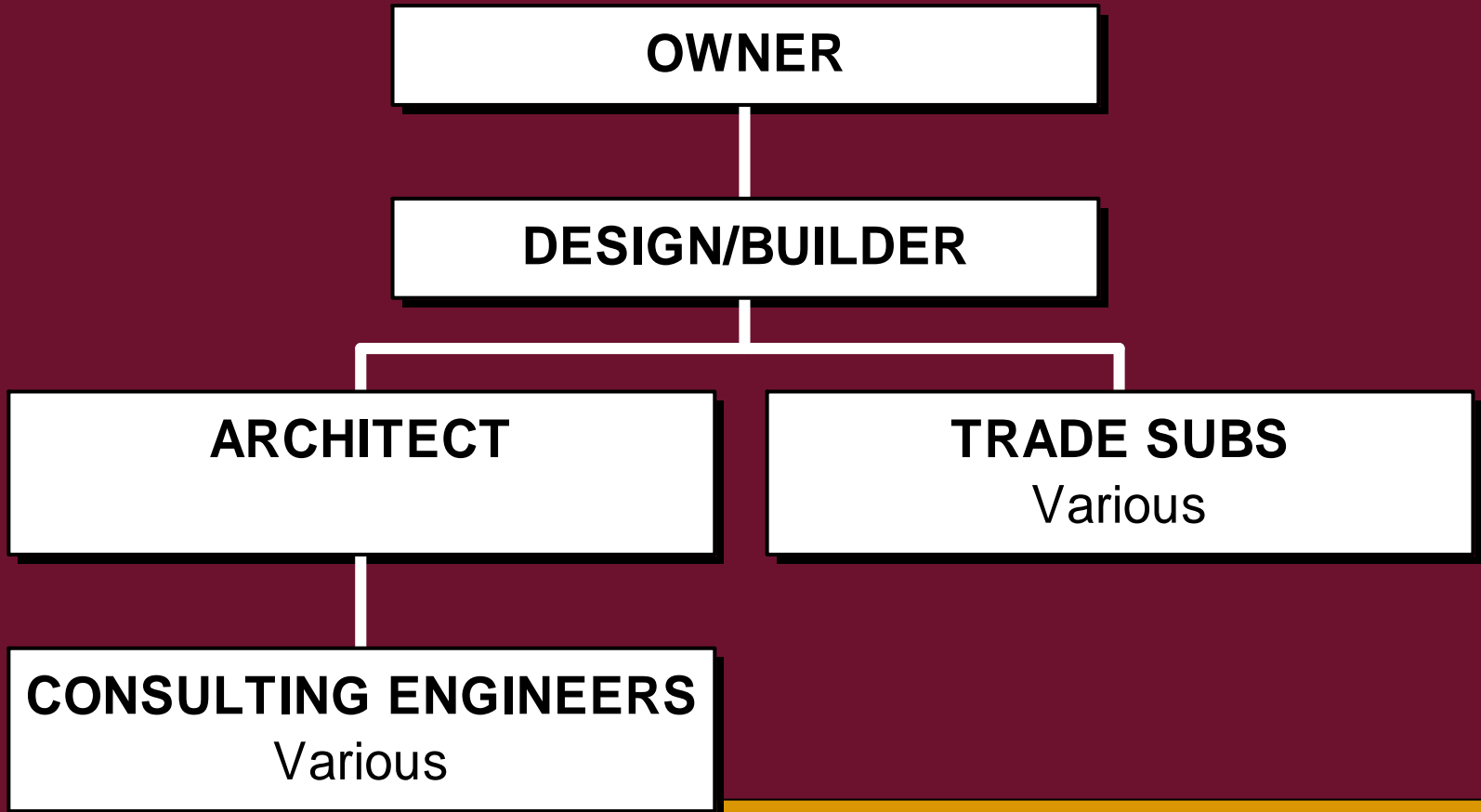
Project Team 2

Joint Venture



Project Team 3

Contractor Led



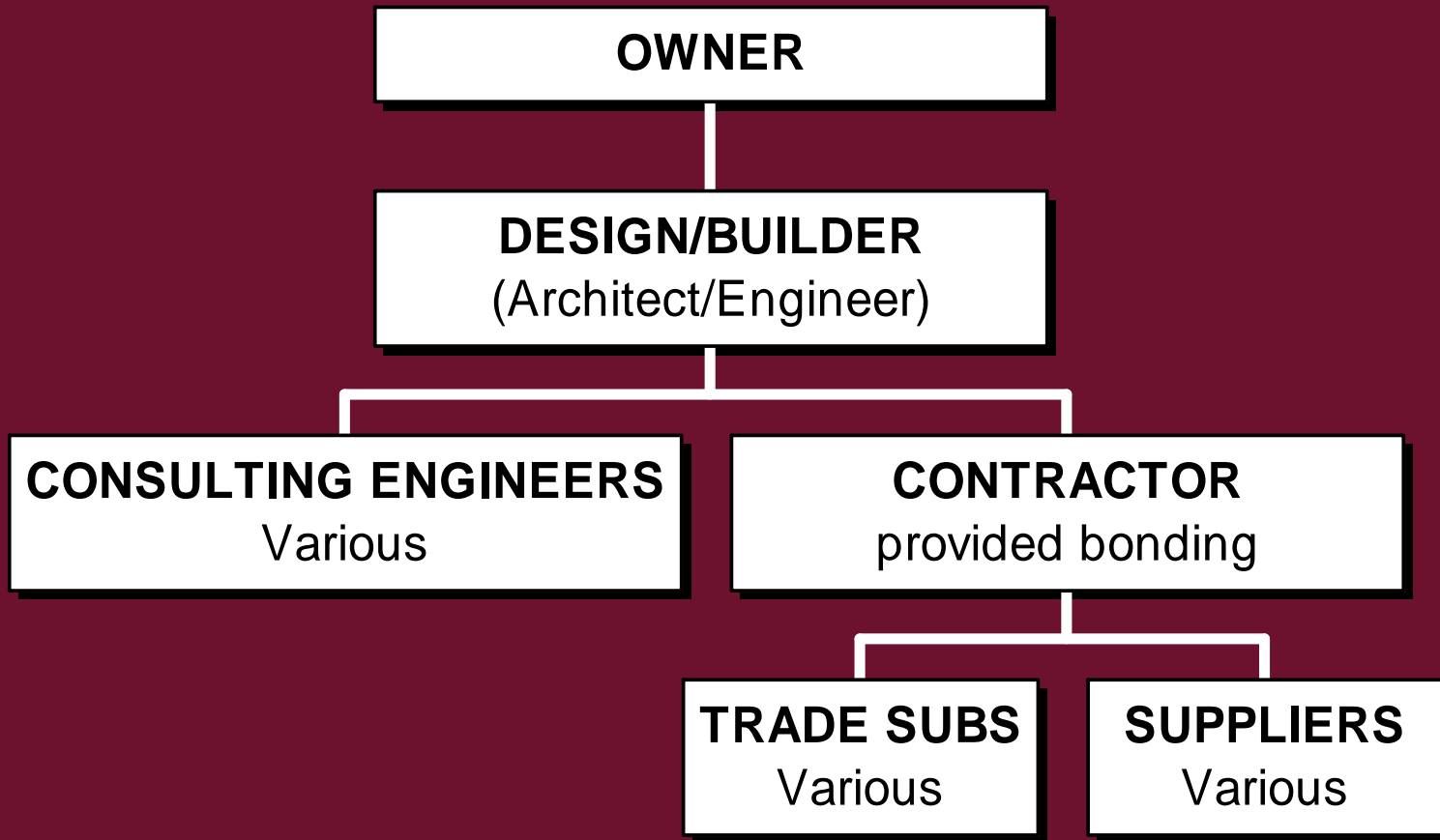
Is This Where You Want to Be?



AIA / DBIA Advanced Design-Build Strategies for Architects

Project Team 4

Architect/Engineer Led



Who's Leading in 2005?

- 1. Contractor-Led
Over 50% of D-B**
- 2. Integrated Firm
About 25%**
- 3. Designer-Led
Less than 25%**
- 4. Joint Ventures
Less than 3%**



Why Aren't Architects Leading?

Common Answers:

- 1) Conflict of interest
- 2) Insurance
- 3) Can't get bonding
- 4) Lack skill to manage subs and suppliers
- 5) No money
- 6) Risk adverse

Who Should Lead the Team?

Contractor-Led

- Superior construction experience
- Bonding capacity
- Fewer constructability issues
- More schedule driven

Designer-Led

- Less adversarial relationship with owners
- Better understanding of client strategic business objectives
- More sensitive to design considerations
- Value engineering expertise

Design-Build Pros & Cons for Designer-Led Teams

- **Pros:**

- **Better Control of the Process**
- **Ability to Select the Builder**
- **Potential for Increased Profit**
- **Reduced Conflict between Team Members**
- **Better Communication**
- **Earlier Information on Lifecycle and First Costs and Constructability**

Design-Build Pros & Cons for Designers

- **Cons:**
 - **Liability Issues**
 - **Business & Financial Risks**
 - **Different States' Licensing Laws**
 - **Conflict of Interest and Ethical Issues**
 - **Loss of Control if Subcontractor to Builder**
 - **Forced Partnerships Fare Poorly:**
 - *Penn State study found that “forced marriage design-build jobs ranked last in quality among all project types.”*

What Are the Implications?

- Need to define and commit to scope earlier
- Sooner decisions by entire team
- Out of sequence work, rework, and value engineering are continuous facts of life
- Document change tracking systems needed
- Collaborative behavior not just desirable – it's a necessity
- Client/owner leverage no longer available for internal AE v. GC issue resolution

What are the Opportunities?

- Lower Construction Documents costs if can be achieved via Shop Drawings
- Potential fee reallocation to spend more earlier & later in the process, less in CDs
- More early collaboration & decision-making information = better design information & results
- Architects can attain greater potential profits
- Higher involvement / energy / fulfillment / partnering
- Lead the entire process rather than being a subcontractor

Attitudes & Motivations

- Do You want to do it?
- Do Your Clients want to try it –
Are they open to the concept ?
- Does Your Firm want to do it?

Criteria

- Project characteristics
- Owner preferences
- Team resources & experience
- Cultural values
- Chemistry
- Makes sense: Win-Win

Roles & Responsibilities

- Who leads?
- Predesign services
- Design services
- Design coordination.
- Preconstruction services: scheduling, estimating & bidding.
- Construction: project management vs. construction administration.

Allocation of Risk

- Professional liability insurance.
- General Liability & Auto insurance.
- Workman's Compensation Insurance.
- Builder's Risk Insurance.
- Bonding.
- Taxes.

Other Risks:

- Cost control & price increases.
- Environmental & hidden conditions.
- Trade unions.
- Job safety & OSHA.
- Failure to perform.
- Indemnification clauses.

Financial Aspects:

- Project financing.
- Accounting.
- Tax liabilities.
- Cash flow.
- Rewards: who gets what and when?
- Performance incentives.
- Shared savings distribution.

Business Models:

- Prime contractor/subcontractor:
General Contractor or Designer leads?
- Joint venture
- Partnership
- Limited Liability Corporation
- Other

Legal Considerations:

- State laws & licensing
- Procurement laws
- Dispute resolution
- Claims process
- Termination provisions
- Confidentiality & Non-compete clauses

Common mistakes in Partnering

- Don't cut yourself to good a deal
- Lack of an exit strategy

THE DESIGN-BUILD PERMITTING PROCESS

- Local authorities have more requirements and more authority, but NO responsibility!
- The designer has less authority, but more responsibility!

EXAMPLES:

- Engineering: storm, traffic, lighting, landscaping, etc...
- A/E: structural calculations, shop drawings, special inspections, fire Marshall inspections, licensing of architects, engineers and general contractors.
- Performance VS prescriptive requirements.
- ADA, OSHA, NFPA....

PROCESS:

- Non-integrated Approach: complete construction docs, submit for permit, pan review & commentary, revisions to plans, resubmit, re-review....permit.
- Integrated approach: Preliminary design, Prelim. Plan review with City, identify key issues, construction documents, permit application, review & commentary, minor revisions to plans, resubmit, re-review...permit

FAST TRACK:

- Integrated approach
- Phased production/phased permitting:
 - Footings & foundations
 - Full building permit.

How to Get Started

- What is your risk tolerance?
- Do you want to lead the process – or be a sub?
- Do you want to be a true Partner to your clients – or stay in the corner of the process that is Design only?
- Are you prepared to rethink the Architect's role?
- Do you think construction – and leading the entire process – shouldn't just be for contractors?
- What are the alternatives?
- Lead, Follow, or Get Out of the Way!

Getting Started – Your Clients

- Strategic Business Objectives
Marketing Plan
- Public vs. Private Sector
Opportunities Some of the Best
Design-Build Projects often don't start
that way

Strategic Business Objectives

- Mission Statement
- Market Sector Targets
- Business Goals
- Core Competencies
- Current Situation Assessment
- Client Needs Overview
- Relevant Experience
- Marketing Strategies
- Potential Projects by Market Sector
- Local Competition –
A, AE, Prog Mgr, D-B
- Strategic Alliances
- Competitive Positioning
- Strengths & Weaknesses
- Marketing Challenges
- Operations Challenges
- Growth Plan

Marketing Plan

- Potential Target Clients
- Internal Marketing
- Marketing Collateral
- Seminars & Presentations
- e-Newsletters & White Papers
- Individual Staff Capabilities
- Industry Visibility
- Alliances

Public vs. Private Sector

- Public Sector Legal Issues re D-B
- Competitive Bidding
- Bonding Requirements
- Work-Arounds
- Qualification-Based Selection
- Negotiated Awards

Design-Build Project 'Evolution'

- Some of the best D-B Projects often don't start that way
- Relationships → Evolution to next step → Negotiated D-B Award
- Alliances – bring Construction Partner on board after Relationship in place
- AE(&C) Project Manager – the Critical Link

How to Get Your Firm Started

- Principals' Buy-in & Champions
- Business Plan
- Risk Management Plan & Considerations
- Separate LLC / D-B Construction Entity
- Contracts
- Insurance & Bonding
- Alliance Partners – Teaming & Subcontractors
- Personnel / Staffing
- Scope Management, Processes & Forms

How Do the Principals Feel?

- Testing the Water?
- Principals' Buy-in
- Champions
- Process of Endorsement
- Internal Selling
- Cross-Selling
- Wii-FM?

Business Plan

- Business Goals
- Staffing Costs
- Expenses
- Projected Utilization
- Markets & Potential Sales
- Profitability Potentials
- Return On Investment

Risk Considerations - Liability

- Liability Risks

- Liability Expands from Professional Liability & Standard of Care, to Strict Liability
- Involvement in Construction Supervision = Liability for Work Quality & Workplace Injuries
- No Recourse to Owner to Report Construction Problems
- A/E Insurance May Not Cover Added Exposures
- Insurance Coordination Issues
- Surety Bonds + Personal Indemnity or Guarantee May be Needed to Lead D-B Team

Risk Considerations - Financial

- Financial Risks
 - Traditional Errors & Omissions
 - Workplace Accidents
 - Specification Errors
 - Material Failures
 - Construction Errors & Delays
 - Upfront Costs Incurred Prior to Full Client Commitment
 - Exceeding a Guaranteed Cost through Mis-Estimating or Unanticipated Changes After Establishment of Fixed Contract Price

Risk Management

- Quality Control
- Safety Programs
- Scope Definition
- Adequate Contingency
- Change Management
- Refuse Liquidated Damages
- Insurance Awareness
- Standardized Process
- Legal & Insurance Support
- Contract Review
- Project Management

Contract Structure

- **Traditional Design / Bid / Build**
 - Typically negotiate fee with AE
 - Some “bidding” based on qualifications & proposals
 - General Contract usually a “Fixed Sum”
- **Construction Management**
 - AE same
 - General Contract (CM) Agency
 - Typically fixed fee or % fee
 - Subcontracts fixed sums (with owner)
 - General Contract (CM) at Risk
 - Fixed fee or % fee plus actual trade cost (Cost Plus)
- **Design-Build**
 - AE and GC in one contract
 - Usually set fee, general conditions, insurance as fixed amounts of % fees
 - Subcontract Trades are fixed amounts
 - GMAX or GMP – not to exceed price based on a given scope

Contractual Considerations

- **Each Team Member Needs Defined:**
 - Work Scope
 - Indemnification Clauses
 - Limitation of Liability
 - Construction Observation Requirements
 - Dispute Resolution Methods
- **AIA, DBIA, AGC Standard Contracts**
- **Teaming Agreement**
- **Indemnification**
- **Legal Advice**

D-B Contractual Issues

- Fees
 - Architecture & Engineering / Reimbursables
 - Construction
 - As Part of Cost of the Work
- Part I / Part II Contract
 - Part I - Scope Development to GMAX/GMP
 - Part II - Completion of AE & Construction
- General Conditions Costs
 - On Site and Off Site Staffing
 - Construction Reimbursable Expenses
- Pass Through Costs

Major Contractual Issues

- **Schedule for Beneficial Occupancy**
 - **Substantial Completion**
 - **Owner Driven Early Occupancy Dates**
 - **Partial Occupancies to allow expedited start of owner equipment installation**
- **Shared Savings: Incentives to Reduce Cost**
 - **Percentage of Savings Under GMAX/GMP**
 - **May Create Perception of Windfall Profits when compared to Cost-Plus with No Shared Savings**
- **Equipment Purchasing Responsibilities**

Additional Contractual Issues

- **Ownership of Plans**
- **Change Orders**
- **Indemnification**
- **Dispute Resolution**
 - **Arbitration**
 - **Mediation**
 - **Court**
- **Schedule**
 - **Identify Key Dates**
 - **Liquidated Damages**
 - **Bonus Clauses**
 - **Delays**

Insurance

- **General Liability for Construction**
- **All Team Members Must Carry Appropriate Insurance**
- **Named Insureds**
- **Surety Bonds – Performance & Payment**
- **Insurance Advice**
- **Builder's Risk – by Client**

Keys to Success

- Create Client and team relationships of mutual respect and trust
- Define process, scope & Client business goals
- Expand key professional role:
- Consultant →
- Problem-Solver →
- Client Advocate →
- Trusted Confidant & Steward of Client's Limited Resources

How Do We Need to Respond?

- Teamwork - Minimize Conflicting Goals
- Articulate Client Strategic Business Goals
- Professionalism – Create Environment of Mutual Trust & Respect
- Leadership - Not Just Management
- Partner - Not Just a Designer or a Builder

What Are Our Tools?

- Partnering & Alliances:
- Insure the Entire Team – including the Client – is ‘On the Same Page’
- Get All Team Members Involved Earlier
- Communication –
- Process of Endorsement
- Earlier Life Cycle & Construction Costs
- Constructability Analysis

Scope Definition / Scope Management

- Owner – understand what is being purchased
- Design-Builder – understand what is being provided
 - *Mutual understanding leads to*
 - *a successful project*
 - *therefore*

• SCOPE DEFINITION

- IS THE KEY TO A SUCCESSFUL PROJECT!

Scope Definition / Scope Management

- How is Scope Adequately Defined?
- GMAX / GMP Document Package Includes:
 - Drawings – usually at-but not the same as-DD level
 - Specifications – outline or performance specifications
 - Schedule – identify key delivery dates
 - Budget – identify values included, allowances, exclusions
- Important to Note Exclusions as well as Inclusions

AE Process vs. GMAX / GMP Scope Documents

- **Scope Documents are not necessarily the same as Schematic Design or Design Development Documents**
 - Scope Documents focus on what is Included
 - Scope Documents may include Notes on Drawings or simply Sketches to cost-effectively define scope & risk
 - Scope needs to be defined in Outline Specifications
 - Scope Documents do not necessarily define details
- **Schematic and Design Development are steps in the AE process – Not the Goals of GMAX/GMP Scope Documents**
 - All disciplines will likely not be equally developed
 - Developed details may not be relevant to scope definition
 - Deliverables need defined goals for Estimating & Client

AE Process vs. GMAX/GMP Scope Documents

- **GMAX / GMP does not necessarily mean the least expensive scope**
 - **GMAX scope can include whatever client accepts as appropriate in the design and level of quality**
 - **GMAX scope can be driven by function or aesthetics**
 - **GMAX scope can be driven by budget**
 - **GMAX scope can be driven by schedule**
- **GMAX / GMP Scope Documents define the contract obligations to the client to allow estimating and minimize risk for all parties**
 - **Focus on development of highest cost/highest risk items**
 - **Distill essence of scope descriptions, performance goals and indicate exclusions while eliminating boilerplate**

AE Process vs. GMAX / GMP Scope Documents

- **Project Manager needs to define AE Effort Required for GMAX / GMP Estimating**
 - **Up-front deliverables defined**
 - **Match the scope with accepted fees for Part I work**
 - **Match the schedule agreed to with client**
- **Construction GMAX / GMP Estimating**
 - **Internal estimating**
 - **Subcontractor input & commitments – with backups**
 - **Senior management review**

Project Phases

- **Project Initiation**
- **Technical Investigation**
- **Schematic Design**
- **Design Development**
- **Construction Documents**
- **Construction Administration – A&E**
- **Bidding & Award**
- **Construction**
- **Close-Out**

Project Initiation

- **Activities**

- Establish the project team
- Kick-off meetings (Owner & in-house)
- Coordination between disciplines defined
- Communication of risks, expectations & goals

- **Deliverables**

- Notice to proceed with design
- Initiation and Directory forms
- Objectives statement
- Information package

Technical Investigation

- **Activities**

- Obtain existing record documents
- Meet with local authorities
- Meet with owner's underwriter
- Obtain site data / investigations
- Confirm existing conditions
- Inventory the existing machinery & equipment

- **Deliverables**

- Project design basics
- Code analysis report
- Establish insurance requirements
- Soil Boring report with recommendations
- Plat map, topographic & utilities survey
- List age & condition of equipment

Schematic Design

- **Activities**

- Evaluate Alternatives
- Present Various Schemes
- Design Reviews
- Value Engineering

- **Deliverables**

- Area Tabulations & Program
- Preliminary Site Plan
- Estimating Package
- Schematic Design Drawings
- Outline Specifications
- MEP Recommendations
- Equipment Lists
- Order of Magnitude Estimate

Design Development

- **Activities**

- Document Production
- Refine Spatial Relationships
- Further Reviews
- Refine Engineering Options
- Interview Sub Partners
- Bidders Lists to Client

- **Deliverables**

- Develop Floor Plan Backgrounds
- Establish GMAX/GMP Price (with Subcontractor input & commitments)
- Constructability Reviews
- Issue & Obtain Client Approval of DD package

Construction Documents

- **Activities**

- **Coordinate Production**
- **Vendor Review Meetings**
- **Confirm Efficiency Layouts**
- **Obtain Building Permit**

- **Deliverables**

- **Permit Drawings & Application**
- **Pre-purchase Long Lead Item Package(s)**
- **Early Construction Package(s)**
- **Construction Documents @ 30%, 60% & 90%**
- **Final Construction Documents**
- **Specifications**
- **Specialty Consultant Plans & Specs**

Construction Administration - AE

- **Activities**

- Staging & Logistics Planning
- Sequencing of Equipment Deliveries
- Subcontractor Coordination
- Issue Resolution / Change Management
- Quality Assurance

- **Deliverables**

- General Conditions Budget
- Shop Drawing Log
- RFI / PCO / OCO logs
- Daily Logs & Inspection Reports
- Progress Payments

Bidding & Award

- **Activities**

- **Assemble Bid Documents**
 - **Plans**
 - **Specifications**
 - **Instructions to Bidders**
 - **General Conditions of Contract**
 - **Special Conditions**
- **Develop Bidders List**
 - **General Contractors - Standard Process**
 - **Subcontractors - CM & Fast Track**
- **Receive & Evaluate Bids-Interviews**
- **Recommend Award**

- **Major Deliverables**

- **Bid Packages**
- **Bidders List**
- **Bid Tabulation Summaries with Recommendation, Referencing GMAX Related Estimate Line Item Values**
- **Letter of Intent**

Construction

- **Activities**

- Obtain Insurance Certificate
- Award & Manage Subcontracts
- Provide Bonds (if required)
- Onsite Trade Work
- Change Management
- Material Orders
- Long Lead Advance Orders
- Beneficial Occupancy
- Substantial Completion
- Commissioning
- Training

- **Major Deliverables**

- Executed Contracts
- Bonds & Insurance Certificates
- Shop Drawings / Submittals
- Expediting Logs
- Schedule
- Application for Payment
- Change Orders / AWAs
- Onsite Field Orders
- Request For Information (RFI's)
- Safety Program
- Quality Program



**DBIA Award Winners
Design-Build Projects
Examples of
Public Sector Projects**

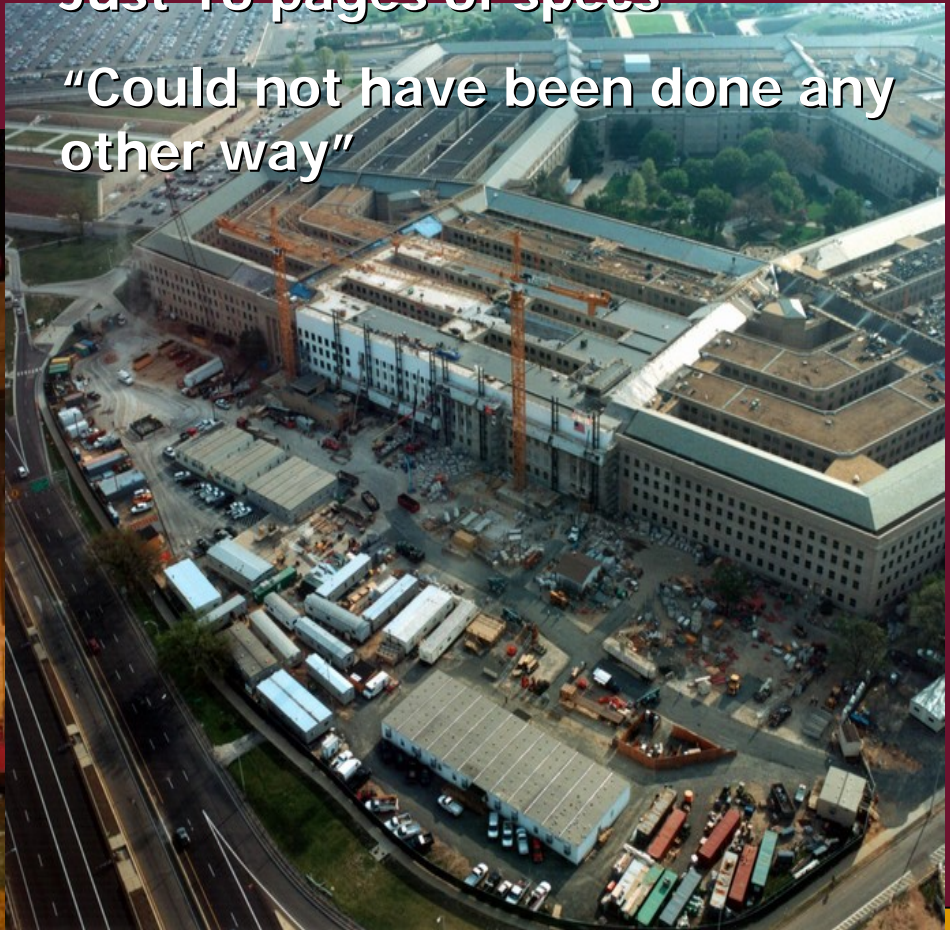
Pentagon Reconstruction

Washington, DC

Re-opened in 1 year

Just 16 pages of specs

“Could not have been done any other way”



AIA / DBIA Advanced Design-Build Strategies for Architects

Commonwealth of Massachusetts

1st Public Sector

Design-Build Project

Suffolk County Jail

1986 – 1989

The George Hyman Construction (Clark Construction)

Hugh Stubbins & Associates Inc.

Hyman-Stubbins Inc.

A Joint Venture

Dorwin A.J. Thomas, AIA

Project Director

The Stubbins Associates, Inc.

1986 - 1989 Suffolk County Jail, Boston, MA

Project Procurement: Design-Build Competition (Two Phase)

Program: Housing 453 beds - short term maximum security

Replacement of 140 year old jail - Oldest jail in US

To provide de-institutionalized, humane and safe environment for those awaiting trial, and those who work in the building.

Design to fit comfortably into urban neighborhood

Schedule - Program, Design and Construction - 30 Months

Design: Contemporary

Boston Brick and granite materials indigenous to the area

Public functions oriented toward the Charles River

Create a strong judicial image

Design-Build: Joint-Venture Team (Constructor & Architect)

George Hyman Construction Company - Constructor

The Stubbins Associates, Inc. - Architect

Process: 80% Construction Documents & Specifications

Weekly Meetings (Owner, Designer, Builder)

Budget: \$56 Million

A/E Fees: \$5 Million plus Reimbursable Exp.

AIA / DBIA Advanced Design-Build Strategies for Architects

Design-Build Project

Suffolk County Jail

Boston

Massachusetts

Design - Builder

Hyman-Stubbins, Inc. a J/V

**George Hyman Construction
Boston, MA**

**The Stubbins Associates, Inc.
Cambridge, MA**



Design-Build Project – 36 Months



Cell Wing – Recreation



Housing Wing – Recreation Court



Johnson County, Kansas Sunset Drive Office Building

- Qualifications-Based Selection
- 13 Teams Submitted
- Short-Listed to 3 Teams
- Detailed Performance Criteria Package (HDR prepared)
- Stipend of \$50,000 to Two Unsuccessful Teams
- Evaluation Criteria Shared With All Teams in Advance

Johnson County, Kansas Sunset Drive Office Building



AIA / DBIA Advanced Design-Build Strategies for Architects

Johnson County, Kansas Sunset Drive Office Building



AIA / DBIA Advanced Design-Build Strategies for Architects

Johnson County, Kansas Sunset Drive Office Building

- Building Facts
- 127,000 square feet
- \$30 mil. total project budget
- \$22.7 mil. design and construction
- 17-acre site
- LEED Gold Certified



DBIA National & AIA / KC
Award Winner

Johnson County, Kansas Sunset Drive Office Building

- Fabrics Made From Corn
- Bicycle Storage and Shower Facilities
- Alternative Fuel Vehicles
- Rate and Treatment of Stormwater
- Eliminate irrigation for landscaping



Johnson County, Kansas Sunset Drive Office Building

- Gray water system
- Optimized energy performance
- Eliminate use of ozone
- Local and Regional Materials



Johnson County, Kansas Sunset Drive Office Building

- Reusable Technology
- HVAC system flush out
- Low-emitting materials
- Movable walls
- Water based stains and lacquers



Johnson County, Kansas Sunset Drive Office Building

- Indoor air quality during construction
- Daylight and Views
- Building as environmental education
- Green housekeeping





**DBIA Award Winners
Design-Build Projects
Examples of
Private Sector Projects**

AIA / DBIA Advanced Design-Build Strategies for Architects



**DBIA Award Winner
Private Sector
Design-Build
Project
Orvis Retail
Flagship Store
Manchester,
Vermont**

**Breadloaf
Construction Const.
Design-Builder
Middlebury,
Vermont**

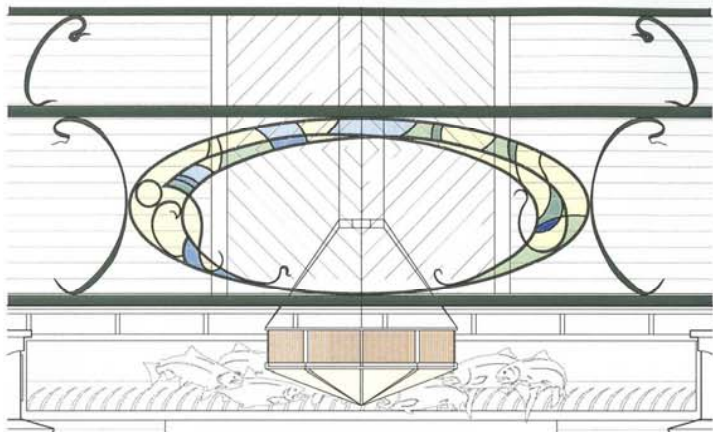
AIA / DBIA Advanced Design-Build Strategies for Architects



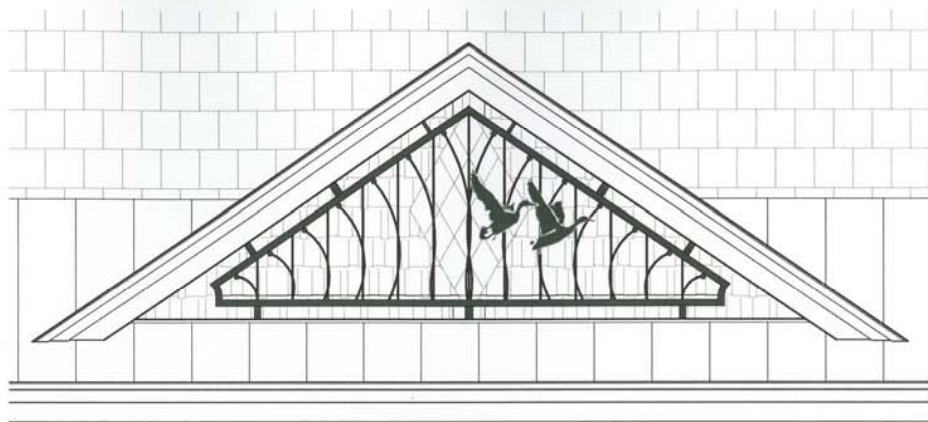
ORVIS







Detail at Forged Steel and Stained Glass



Detail at Forged Steel Porch Gables



South Elevation



Key:

- 1. Chelsea Stone
- 2. Hand split Red Cedar Shakes
- 3. Free Edge Pine Fitch Siding
- 4. Beveled Siding
- 5. Clear White Cedar Shingles
- 6. Shingle Roof with Snow Slide

The Orvis Company
Retail Flagship

Designer-Led Design Build Project - 5 months



Boat House
Muskoka Lakes
Ontario, Canada

Dorwin A. J. Thomas, MRAIC
Architect



Mountain Meadows
Golf-side Residences
Haystack Mountain, Vermont

Dorwin Thomas Architects



Mountain Meadows
Golf-side Residences
Haystack Mountain, Vermont
Dorwin Thomas Architects



Mountain Meadows
Golf-side Residences
Haystack Mountain, Vermont
Dorwin Thomas Architects

Note:

This presentation of “An Architect’s Perspective on Design-Build” was designed, and developed by, and shall remain the intellectual property of Dorwin A.J. Thomas, FAIA, DBIA

Questions and Closing Comments