



The Architect as Master Builder for Residential Projects

An introduction to the practice of an
Architecture-led Design-build project
delivery system.

James A. Walbridge, A.I.A.
Tekton Architecture
Artisan Builders Corporation

Introduction

- Who do we have here today?
 - Fools rush in!
 - Goals for today
 - Residential vs. Commercial
 - Q & A at end of Presentation
-
- Evaluation Sheets

A Brief History Lesson

■ “Master Builder”

- Mathematician
- Musician
- Philosopher
- Mason
- Carpenter

■ “Architect”

- archi* + *tekon* = chief + carpenter

■ Artist + Mechanic = Master Builder

- The mechanic invents the means by which the art is achieved

Design-Build Statistics

- Design-Build project delivery will account for 50% of all commercial projects in 2004-2005
- 90% of these projects are developer/contractor led
- Less than 10% of all current residential projects are completed with a Design-Build project delivery system

Design-Build Perception (facts?)

- Design-Build has a bad rap in the Architectural Community
- Emphasizes speed and budget over quality of design and construction
- Architects are not driving the bus
- Architects are getting small piece of the pie
- Design-Build has not caught on in the residential market

Residential Market Players

- Owners/Clients
- Architects
- General Contractors
- Construction Managers
- Kitchen & Bath Designers
- Interior Designers
- Landscape Architects
- Engineers (MEP)
- Subcontractors
- Material Suppliers

A Different Point of View

- What is the skill set required to see a project through from design inception to completion of construction?
- Which player in the residential market possesses the most core competence of this skill set?
- Who do you think can do this?

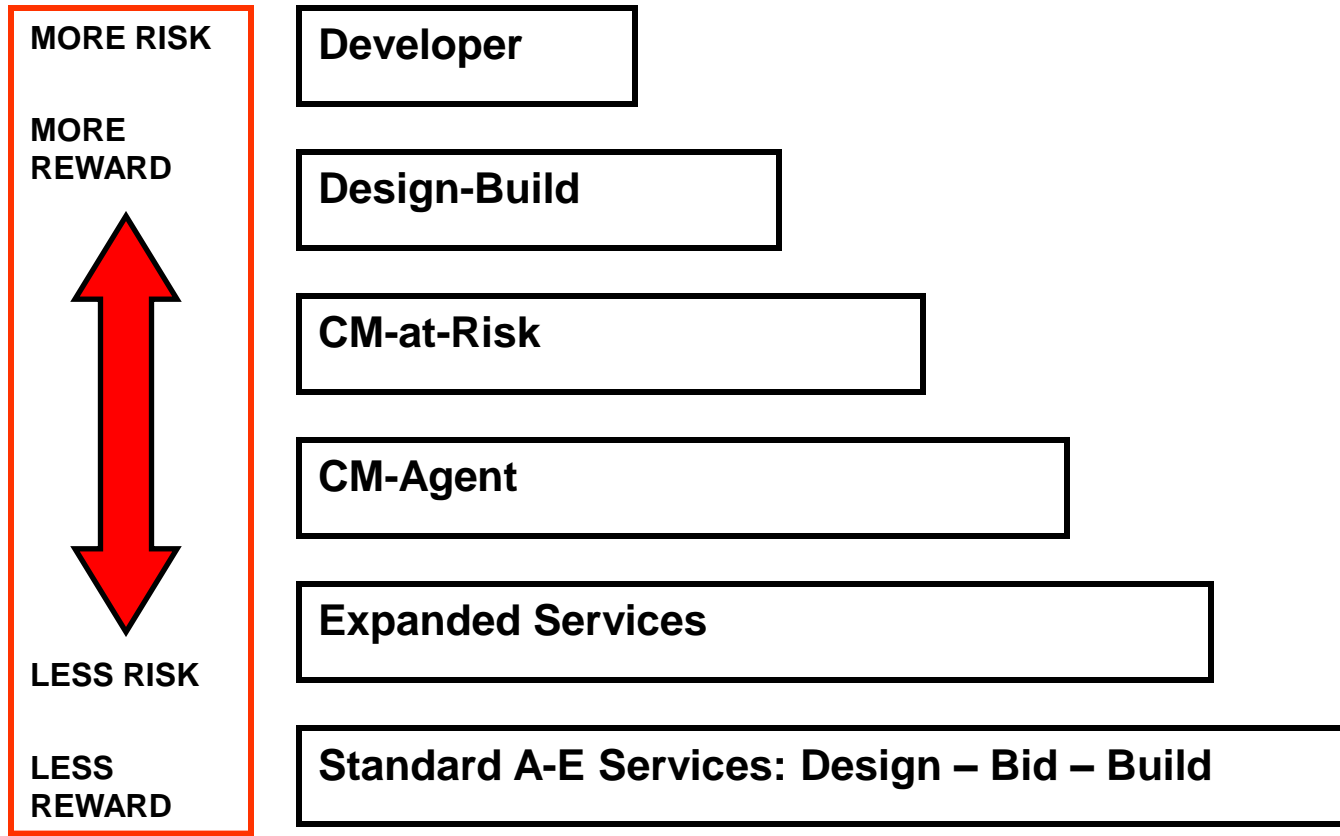
Questions to be Answered

- What are the licensing requirements in your state for General Contracting?
- Professional Liability – What will you need to practice CM and/or general contracting?
 - Review this with your insurance carriers!
 - What is the liability crossover if any?
- What is the residential building permit acquisition protocol in your market area?

Analyze – Is this right for you?

- What is your firm's core competence?
- What are the strengths of your firm?
- Is this part of your Strategic Plan?
- Risk / Comfort Factor - what's yours?
 - Small Steps = Small Risk = Small Reward
 - Large Steps = Large Risk = Large Reward

Risk – Reward Matrix



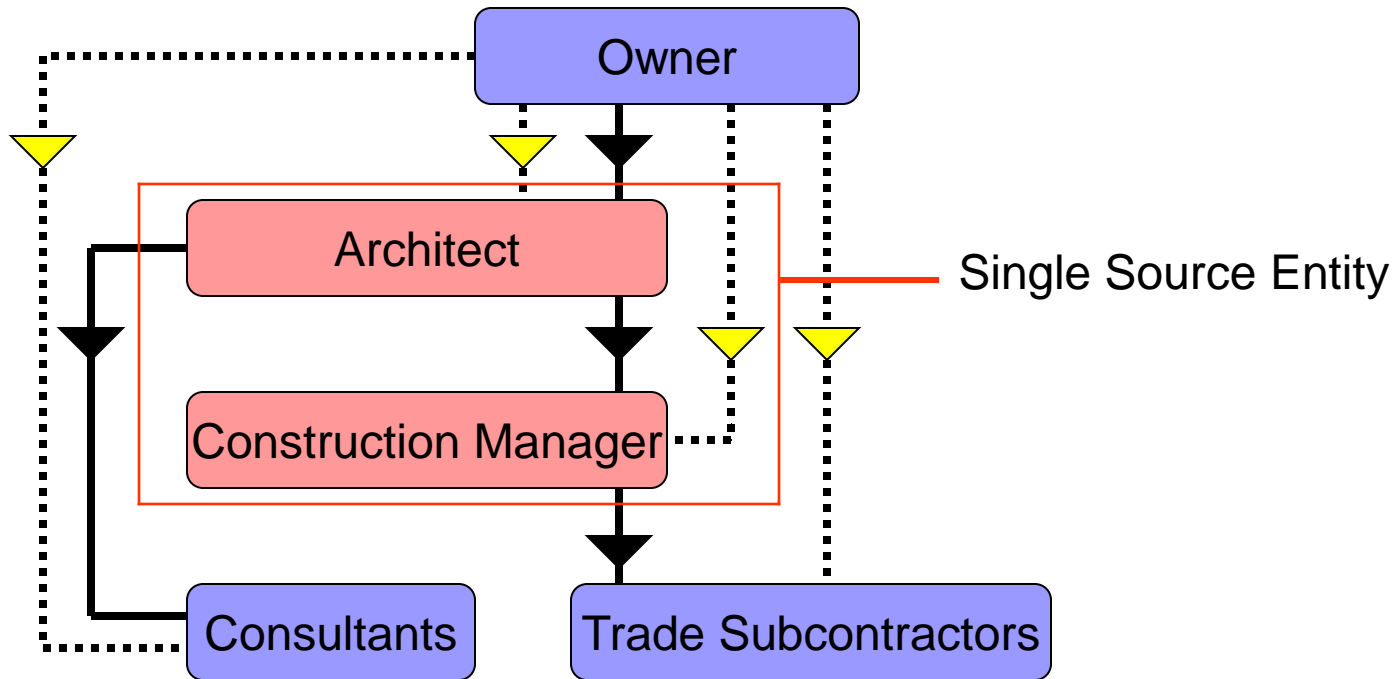
Architecture-Led Project Delivery Systems Review

- Architect-led CM-Agent
 - Architect-led CM-At-Risk
 - Architect-led Design-Build
-
- All these systems are *Single-Source* entities
 - All evidence a *Single-Point* of responsibility

Architect-led CM-Agent

Solid Lines are Chain-of-Command

Dashed lines are Financial Stream – Owners owns contracts with Trade Subs



Architect-led CM-Agent

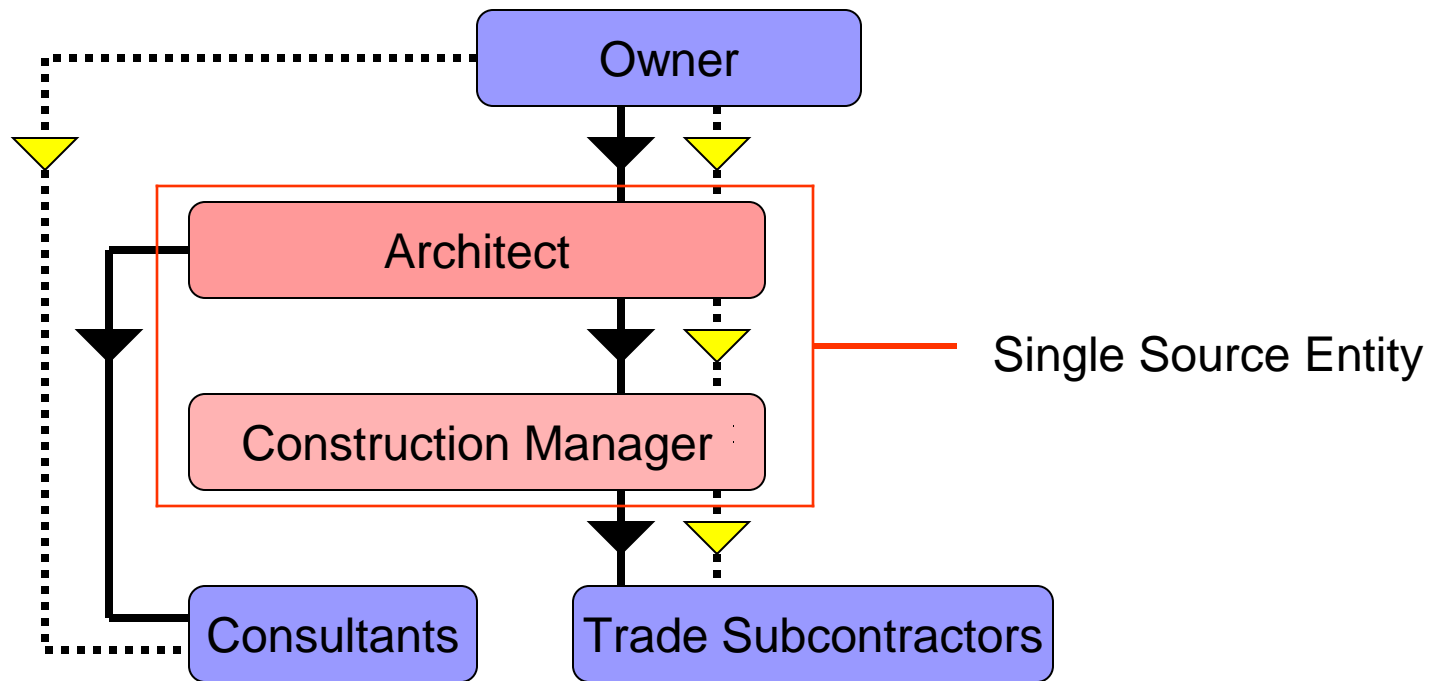
- Architecture Firm retains single legal business entity
- Risk to Architecture Firm is minimal
- Owner assumes financial risk with Trade Subcontractors – Owner pulls permit
- **Gross Revenue Potential**

- Design Services = 10% of Const. Hard Costs
- CM Services = 5% of Construction Labor & Material Costs (varies)

Architect-led CM-At-Risk

Solid Lines are Chain-of-Command

Dashed lines are Financial Stream – CM owns contracts with Trade Subs



Architect-led CM-At-Risk

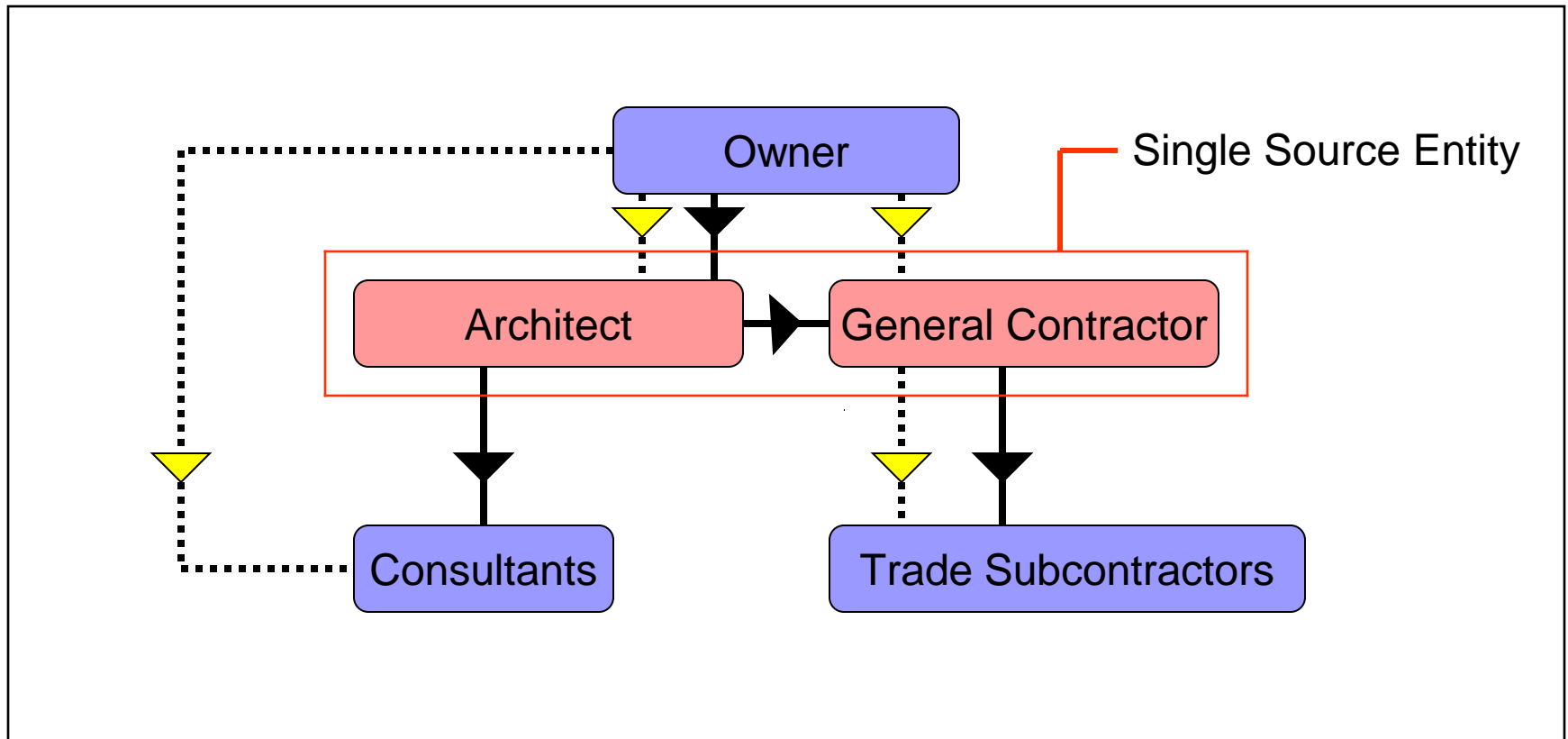
- Architecture Firm
 - Retains Single Legal Entity
 - Creates a second legal entity as CM Firm
- Risk to Architecture/CM Firm is greater
- Architecture/CM Firm assumes financial risk with Trade Subcontractors – Owner pulls permit
- **Gross Revenue Potential**

- Design Services = 10% of Construction Hard Costs
- CM Services = 5% of Construction Labor & Material Costs (varies)
- Risk = 6% of Construction Hard Costs

Architect-led Design-Build

Solid Lines are Chain-of-Command

Dashed lines are Financial Stream – GC owns contracts with Trade Subs



Architect-led Design-Build

- **Architecture Firm**

- Creates a second legal entity as General Contractor
- Partners with existing General Contractor

- **Risk to Architecture/GC Firm is greatest**

- **GC Firm assumes financial risk with Trade Subcontractors – GC pulls permit**

- **Gross Revenue Potential**

- Design Services = 10% of Construction Hard Costs
- GC Supervision = 5% of Const. Labor & Material Costs (*varies*)
 - Part of General Conditions in Construction Contract
- GC Overhead & Profit = 15% of Construction Hard Costs

Construction Supervision Reality

- Each 1.5 million of construction cost volume requires one man for “bags-off” CMS, (Construction Management Supervision)
- First 800K averages at 5% of construction labor & material costs for CMS
- Second 400K – averages at 8% of construction labor & material costs for CMS
- Final 300K averages at 10% of construction labor & material costs for CMS

The Construction Manager & The General Contractor

- Providing Construction Management Only
 - Low overhead across the board with both
 - CM entity has no P & O fee - the Owner saves this additional 15% on the job vs. a GC entity
 - General Liability Insurance is harder to get if you create a separate CM/GC entity because subcontractor's perform the work
 - "Paper Contractor" stigma...can work for you as well against you

General Contractor

- Provides both Construction Management and On-site Workforce (labor)
 - More employees = greater overhead
 - Requires solid on-site management skills dealing with employees
 - Requires more field and office administrative time – workman's compensation administration is heavy!
 - Greater potential for Gross Income Stream
 - Hourly profit above labor burden adds up quickly

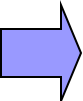
Tekton Architecture & Artisan Builders Corporation

- **Architecture-Led Design-Build Project Delivery**
- Design Services average 12-15% of construction hard costs – *no consultant fees included*
- Construction Management averages 10- 12% of construction costs (*labor + materials*)
 - Part of General Conditions in Construction Contract - billed at \$85.00 per hour
- GC Overhead & Profit averages 15-18% of construction hard costs (*labor + materials + CM services*)
- Total Gross Income Stream = 37-45% of construction hard costs

Tekton Architecture Artisan Builders Corporation Sample Project

Assumed Construction Costs: Labor + Materials (L + M) = \$1,000,000.00
(6-months design services & 8-months construction time)

- CM Supervision at 8% of (L + M) + \$80,000.00
- Contractor's Overhead at 9% of (L + M) + CM + \$97,200.00
- Contractor's Profit at 6% of (L + M) + CM + \$64,800.00
- Gross Project Revenue (HC) for ABC = \$1,242,000.00
 - *This gross revenue represents the construction "Hard Costs"*
- Design Services at 12% of (HC) for Tekton Arch. + \$149,040.00

- 
- Gross Revenue – (L + M) for Tekton & ABC = \$391,040.00
 - Total Project Overhead for Tekton & ABC = \$214,000.00
 - Total Net Profit on \$391K Gross Income = \$177,040.00
 - Profit as % of Gross Revenue = 45.3%
 - Profit as % of Construction Hard Costs = 14.25%

Architectural Contracts

- Each Project & Owner is Unique
- Develop Hybrid Contracts – B141 1997 is the “parent”
- Breakdown contracts into distinct Phases
 - *Each Phase becomes a Contract Attachment to B141-1997*
- Contracts take time to assemble – use “pre-lims”
 - *i.e. – Preliminary Range-of-Cost Estimate for Phase...*
- Describe the deliverables for each Phase in the Con. Att.
- Move towards lump-sum contracts vs. T & M
- Develop a Critical Path for the design process and production of CD’s as required

Construction Costing & Estimating as an Architect/CM

- Include construction costing & estimating as a deliverable in your Architectural contracts
 - These fees could be offset out of the P & O if a GC
- Develop a line-item spreadsheet for costing
 - Use CSI divisions – keep it simple
- Cultivate relationships with subcontractors and create your A-list, B-list & C-list
- Develop a critical path schedule for construction

Construction Contracts in Design-Build General Contracting

- Develop an Open-Book Cost-Plus contract
- Include copies of all subcontractor bids and material costs with original estimate and each invoice
- Don't forget supervision is part of General Conditions and is included in hard costs
- Show Profit & Overhead on each invoice
- Your company is not a bank, pre-bill for services and materials
- Limit retainer to 5% and bill for remainder of P & O on each invoice

Specific Tools for the Job

- Financial accounting software for Architecture, Construction Management & General Contracting
 - *QuickBooks* or similar
- Critical Path Management Software
 - *Fast Track Scheduler* or similar
- Develop a construction costing database
 - Use previous projects, subcontractors and material suppliers to help you develop this
 - Use CSI divisions for costing

Client - Owner Interface

- Be a good listener – “*seek first to understand rather than be understood*”
- Three questions:
 - What do you want
 - What do you need
 - What do you expect
- Involve your clients – be proactive
- Follow-up, follow-up, follow-up!
- Clients have responsibilities – make sure they know what you require of them
 - You cannot be responsible for your Client’s competence

Understanding the “Master Builder”

- The “Master Builder” concept is not just about expanded services – *“architecture is about the art of building”...Alberti* – believe in it!
- It is about SERVICE – 360 degrees, all directions, cradle-to-grave project delivery
- You have to be a chameleon to do this – it involves street theatre playing many roles
- Know your competition inside and out to see where you can fit it

The Almighty Triad

AKA “The Brutally Honest Dissertation”

- Three factors governing every project:
 - Budget
 - Quality
 - Time
- Pick two and throw the other one out the window
 - This dissertation should be part of your contract
- Construction is a fluid environment...adapt, improvise & overcome – the Owner needs to understand this carefully
- Remember to under-promise & over-deliver

Selling the “Master Builder”

- This is not just design...it is a process
 - Sell the hell out of the process
 - We are not selling our time – this is a qualitative process, not quantitative
 - It will not be cheaper than traditional design-bid-build
- Emphasize single point of responsibility
- Take the time to explain & educate the Client
 - Review the “Almighty Triad”
- Position your firm as being peerless

The Benefits of the “Master Builder”

- Controlling the project from start-to-finish will allow you to meet the expectations of the Owner more easily making happy clients = ***more referrals***
- Creates a higher degree of resolution for the design integrity of the project = ***design gets respect***
- Income stream potential is far greater than adding just expanded services = ***growth + profits***
- Receive compensation for work currently performed in standard A/E services = ***its about time***
- Positions the Architect in the place where he should be in this business – near the top of the food chain doing what he did historically before = ***history repeats itself***

Thirty Seconds – “to sell your business”

In January Of 2003, the Tekton Architecture & Artisan Builders Corporation team had a strategic planning retreat to formulate our big picture planning and review our current marketing agenda. This little “ditty” evolved from that team meeting and is the foundation for our marketing direction.

We are the leading edge of project delivery in architecture and construction. Because we are an enigma – we’re the whole enchilada wrapped up into one complete system. We orchestrate “paper-to-paint”. What we have here is not a new concept. You see the original role of the architect was “chief-carpenter” which meant, he envisioned the project, he designed the project, he built the project. He was both artist and mechanic, he was the “master-builder”. We have embraced this tradition and philosophy as the foundation for our business culture. Remember “paper-to-paint”? We provide architecture, project management, and construction. Its seamless.

Contact Information

- James A. Walbridge, A.I.A.
 - Principal - Tekton Architecture
 - President – Artisan Builders Corporation
 - 771 Clementina Street
 - San Francisco, CA 94103
 - (415) 863-2232
 - Email: jwalbridge@tektonarchitecture.com

References

- American Institute of Architects – Design-Build PIA
- American Institute of Architects California Council
- Design Build Institute of America
- Christopher Widener, FAIA, Widener Riechard Group
- Frank Stasiowski, FAIA, PSMJ Resources, Inc.
- Susan Murphy, Murphy Motivation
- Scott Simpson, FAIA, The Stubbins Associates, Inc.
- James R. Franklin, FAIA, California Polytechnic State University
- Michael Strogoff, AIA, Strogoff Consulting
- Chet Widom, FAIA, Past National President of The AIA

Further Reading

- A Theory For Practice, Bill Hubbard Jr.
- Now, Discover Your Strengths, M. Buckingham & D.O. Clifton, Ph.D.
- Professional Practice 101, Andy Pressman, AIA
- The Executive Architect, J.E. Harrigan, Ph.D. & Paul R. Neel, FAIA
- Staying Small Successfully, Frank A. Stasiowski, FAIA
- Management for the Small Design Firm, Jim Morgan
- Architect's Professional Practice Manual, James Franklin, FAIA
- A Theory of Practice, Dana Cuff
- Handbook of Project Delivery, AIA California Council