Job Order Contracting: Getting More Done with Less

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Hank Traeger, Associate Director, ACE (Retired)
Alliance for Construction Excellence (ACE)

Del E. Webb School of Construction

School of Sustainable Engineering and the Built Environment

Ira A. Fulton Schools of Engineering

Arizona State University
ACE – working objectively within the construction industry with owners and contractors to create a “win-win-win” future

- Objective industry advocate
- Provide educational programs
- Maintain a forum for collaboration
Agenda

- Trends in Pricing
- Job Order Contracting (JOC) History
- Project Delivery Methods Comparison
- How JOC Works
- Representative Projects
- Keys for Success
- 2010 Legislation
- Closing Comments
Bidding Below Market

Commodity Prices

- Reduced Fee
- Change Orders & Claims

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### Table 1: Changes in Consumer, Producer & Construction Prices

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<th>BLS Series ID</th>
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<th>2007</th>
<th>2008</th>
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Percentage Change in Producer Price Indexes (PPIs) for Construction Materials, Structure Types & Subcontractors, 2003-2011

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### Percentage Change in Producer Price Indexes (PPIs) for Construction Materials, Structure Types & Subcontractors, 2003-2011

**BLS Series ID**

#### Table 3: Changes in PPIs for Specific Construction Inputs

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### Percentage Change in Producer Price Indexes (PPIs) for Construction Materials, Structure Types & Subcontractors, 2003-2011

**Table 4: Changes in PPIs for Basic Inputs Important to Construction**

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How Can We Shift Some Risk?
Job Order Contracting (JOC)
History
JOC History

- Originated in the Military Services (1980’s)
  - Needed to do many, smaller jobs “fast”
  - Federal procurement too cumbersome & slow
  - Small jobs took disproportional time & effort
  - Not cost effective
  - Quality not up to standards

- Tested at West Point & Air Force Academy

- Moved into the public sector (1990’s)

- Widespread public use (1997 to present)
Larger Public Entities Began Using JOC
- City of Chicago
- Baltimore Housing Authority
- State of New York
- The World Bank

States Began Changing Procurement Laws
Enabling Legislation In-place in Many States
More Public Agencies Procuring JOC’s
Cooperatives Procuring for Their Members
Project Delivery Method Comparison
Design - Bid - Build

**Typical Operational Characteristics**

- Single project
- Design then construction
- Contractor
  - Low bid selection
  - No involvement in pre-construction
- Adversarial by nature

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Job Order Contracting

Contracting

Owner

J.O.C.*

Sub’s

Sub’s

Sub’s

Self Perform

Contract

Collaboration

* May include design services

Job Order Contracting Project Delivery Method Characteristics
Contractor performs multiple projects
Participates in pre-construction
Qualifications based selection (contractor & subs)
A “requirements” contract

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Job Order Contracting – With Design

Job Order Contracting Project Delivery Method Characteristics
Contractor performs multiple projects for the Owner
Participates in pre-construction
Qualifications based selection (contractor & subs)
A “requirements” contract

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How JOC Works
How JOC Works

- Single procurement
- Usually multiple years
- Multiple projects “requirements” scenario
- One or a small number of Contractors
- Performance based selection
- Relationship based
- Collaborative *win-win-win* atmosphere
How JOC Works

- **Nature of JOC:**
  - Many individual projects
  - Usually multiple years
  - An overall program (JOC Program)
    - A process for mass production
    - A complex, detail-rich environment
How JOC Works

- Each Job Order project is initiated and managed independently.
- Each **Job Order** (project) has its own separate:
  - Preconstruction activities
  - Scope of work
  - Price
  - Job Order document
How JOC Works

End user calls JOC for work → Site visit by JOC and end user → JOC prepares scope and end user approves

JOC prepares formal proposal w/ estimate and submits to end user for review → End user reviews and negotiates the proposal with JOC

End user issues job order to JOC
JOC Timeline - Preconstruction

- **60 Days**: Standard design-bid-build timeline using A/E
  - 185 days to contract

- **120 Days**: JOC timeline using A/E
  - 116 days to contract

- **180 Days**: JOC timeline w/o A/E design
  - 35 days to contract
How JOC Works

- Job Order document – a standard form
  - Jointly-developed detailed scope of work
  - Coefficient
  - Price (fixed price)
  - Any drawings and specifications or a list
  - Schedule
How JOC Works

- **Job Order price**
  - Use unit price book
    - Individual items of work
    - Number of units of each item
    - Unit price of each item
    - Total price for all units of each item
    - Sum of total prices of all items of work
  - Coefficient – a multiplier
  - Good estimating is critical

If you don’t use a unit price book and coefficient how do you justify the costs? How do you fulfill your fiduciary responsibility?
How JOC Works

- Management Tools for Mass Processing:
  - A “champion” for each party
  - Rigorous process & procedures
  - Excellent communications
  - Relationship building atmosphere (Collaboration)
  - “Solutions/fixes-focused” decision making
  - “Whatever-it-takes” approach
  - Project results tracking
  - Lessons learned and continuous improvement
Representative Projects
Representative JOC Project

Nadaburg USD – Sports Complex

**Project Description:** Design – build delivery order for sports complex on a 7-acre site

**Scope of work:**
- Design & build to budget (max. $1M)
- Baseball field - complete
- Softball field - complete
- Utility field (football & soccer)
- Running track
- Parking lot
- Ramada
- Perimeter fence

**Change orders:** None

**Cost:** $967,000

**Schedule:** 6 months
Representative JOC Project

Town of Clarkdale – Street Improvements

Project Description: Design – build
New curbs & apply new chip seal on existing streets

Scope of work:
• Design & build new ribbon curbs
• Design & install new chip & seal treatment
• Repair “soft spots” in existing streets
• Grade all adjacent areas to match new
• Coordinate all local traffic & schedule
• Pave existing intersections

Change orders: 1 - Client added scope

Cost: $290,000

Schedule: 3 months

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Fountain Hills USD – New Bus Loop

**Project Description:** Design – build new bus loop for existing Middle School

**Scope of work:**
- Design & build new paving, curb & gutter
- 375 feet of new 5’ wide sidewalk
- Two complete town street entrances
- Relocate existing utilities
- New ADA ramps at entrances
- New, lockable gates & wrought iron fencing
- One section of new retaining wall

**Change orders:** None

**Cost:** $530,000

**Schedule:** 3 months (over Summer break)
Representative JOC Project

Prescott USD – New Science Laboratory

**Project Description:** Build new science lab in existing Middle School building

**Scope of work:**
- Demolish entire existing area
- Rework existing utilities & add new
- Upgrade electrical system
- Furnish & install new lab furniture & equip.
- Rework existing HVAC system for fumes

**Change orders:** None

**Cost:** $65,000

**Schedule:** 2-1/2 months
Representative JOC Project

City of Phoenix, AZ – 100KW Solar Electrical System

Project Description: Design and Build new photo voltaic electrical system on an existing building in downtown Phoenix

Scope of work:
• Design & build “best value” P-V system
• Furnish and install all electrical equipment
• Tie new P-V system into the existing syst.
• Furnish & install a “system monitor” kiosk

Change orders: None

Cost: $850,000

Schedule: 4 months
Representative JOC Project

Tombstone USD – New Culinary Kitchen

Project Description: Design and Build new Culinary teaching kitchen in an existing High School

Scope of work:
• Design & build a new culinary arts kitchen
• Demolish existing area and refinish for use
• Upgrade existing HVAC & electrical systems
• Furnish and install new exhaust system
• Furnish and install new Ansul fire system
• Furnish & install all new kitchen equipment
• Furnish & install new closed circuit TV sys.

Change orders: None

Cost: $526,000

Schedule: 4 months
Representative JOC Project

Nadaburg USD – New Well & Water Storage Tank

Project Description: Design and Build a new drilled well and water storage tank for irrigation water

Scope of work:
• Design & install new water well
• Design and install new electrical service
• Design and furnish an new 65,000 gal. tank
• Design and install piping systems
• Furnish and install new security fence
• Test, balance and put new system on-line

Change orders: None

Cost: $296,000

Schedule: 4 months
Representative JOC Project

Various Projects – Valley Metro Light Rail System

Project Description: Design and build 28 individual projects, adjacent to 20 miles of the new light rail system, for four individual clients, in Phoenix, Tempe and Mesa, AZ

Scope of work:
- Install temporary fencing at 5 locations
- Miscellaneous electrical work at 5 locations
- Cut and reface on 2 existing buildings
- Miscellaneous sign work at 4 locations
- Install new storm water drywell
- Miscellaneous site work at 6 locations
- Miscellaneous other work at 5 locations

Change orders: None

Total Cost: Approximately $370,000

Overall Schedule: +/- 18 months
Representative JOC Projects

Representative Projects Summary:

- Types of projects vary greatly
- Value of the work reflects the variety of jobs
- Vertical and horizontal work
- Multiple Owners using various contracts
- No contractor driven change orders
- No claims and no litigation
- 100% owner satisfaction
- 100% repeat clients
Keys for Success

Advance  Collaborate  Enrich
Keys Success Factors

- **Basic Initial Requirements**
  - Owner has a sufficient number and dollar amount of projects
  - Owner has an internal “Champion” assigned
  - Process & procedures in place
  - Adequate supply of qualified contractors
  - Well written request for qualifications (RFQ)
  - Well written request for proposal (RFP)
  - Meaningful, functional selection process
Key Success Factors

- **Common Goals**
  - Collaborative environment
  - Win-win-win
  - Obtain optimum benefits for all participants

- **Well Defined Process (JOC Program)**
  - Simple
  - Efficient
  - Effective

- **Dedicated People**
  - Qualified and committed
  - Know and follow the process
Keys for Success

- Thorough pre-planning
  - Setting up the JOC Program
  - Training participants

- Good Communication

- Collaboration
  - Win-win-win
  - Team thinking

- Performance feedback and continuous improvement
Keys for Success

- **Each Job Order (project)**
  - Owner initial accurate determination
    - Needs
    - Resources
  - Preconstruction activities
  - Good cost management (estimating is key)

- **Focus on customer satisfaction**
  - Not in construction business - Contractor
  - Not in project management business - Owner
Key Success Factors

- **Benefits for Owner:**
  - Steady flow of projects
    - Timely completion
    - Better quality work
    - Fair and reasonable prices
    - No Contractor initiated change orders or claims
  - Less money and time (primarily upfront soft costs)
  - Owner clients happy
Benefits for Contractor & Subcontractors:

- A steady flow of work (small projects)
- Fair and reasonable fees & profit
- No contractor or subcontractor change orders or claims
- Work, income and profits for subcontractors in the local area
Assure Fairness, Transparency and Learning

- Notify losing competitors
- Mandatory records
  - Submittal winning competitor
  - Final list
  - Selection criteria and relative weights
  - List showing
    - Each competitor
    - Its final overall score
  - Document showing
    - Each competitor
    - Its final score on each criterion.
Assure Fairness, Transparency and Learning

- Disclosure of information
  - Restriction: Until contract award or termination of the procurement
    • Only the name of each person or firm on the final list
  - Mandatory disclosure:
    • After that, **at least** all required records
Protest policy and procedures:

- Request for Qualifications must include **EITHER:**
  - Location of the public owner’s protest policy
  - Statement that the Arizona Department of Administration protest policy applies

- To avoid application of ADOA protest policy:
  - Public owner must have a *formally adopted and published* protest policy.
Multiple Contracts In A Single Procurement

- Retains authority for:
  - Professional services
  - Similar job order contracting construction services

- Eliminates authority for:
  - Construction manager at risk
  - Design build
Contractor Self-Performance

- Public owner option
- Contractor competitively bid self-performed work:
  - Permitted
  - Not required
- Authorizes use of alternative methods to evaluate fairness and reasonableness of contractor’s price
Reorganization and Clarification
(A.R.S. Titles 34 & 41)

- Reorganization and clearer wording of provisions to be more user friendly:

  - A.R.S. Sections 34-603 and 41-2578 – procurement of a single contract for professional services or construction services.

  - A.R.S. Sections 34-604 and 41-2579 – procurement in a single procurement of multiple contracts for professional services or for similar job order contracting construction services.

  - A.R.S. Sections 34-605 and 41-2580 - requirements applicable to professional services and construction services after the procurement is completed.
Closing Comments
JOB ORDER CONTRACTING

- A great tool for every Owner’s toolbox
- A growing delivery for public Owners
- *Saves time and effort in the procurement process*
- Procurements are complex because of requirements of statutes different than Procurement Rules
- Cost effective solution for smaller projects
- Improves quality over design-bid-build
- High incentive for contractor performance
- *Requires a collaborative work environment*
- Delivers win-win-win-win results
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