



IFMATM Airport Facilities
Council
International Facility Management Association

Job Order Contracting

For Airports



Schema: A Delivery Method Ahead of Its Time

An affinity with progressive delivery methods that are altering the facilities landscape today

- Integrated team
- Early collaboration
- Best value or QBS
- Pricing transparency
- Performance incentives
- Inherently LEAN

Applies the same principles to small projects portfolios

- Design-Build *Lite*
- CM At-Risk *Lite*
- Integrated Project Delivery *Lite*
- Performance-based Contracting *Lite*



*“Great service,
less change orders?”*

*“Everything you ever wanted
in a construction project?”*



JOC is . . .

- Job Order Contracting (aka SABER, TOC, DOC)
- A long-term, indefinite delivery indefinite quantity (IDIQ) contract focused on facility renovation and repair
- Reliant on a Unit Price Book (UPB) and competitively-tendered coefficient (adjustment factor, multiplier) to establish **pricing** structure
- Executed through a series of project-specific delivery orders using a well-defined **process** that is fair to owner and contractor
- A way to enable a facilities **partnership** focused on repetitive upgrade tasks and continuous improvement



JOC Advantages for Owners

focus your personnel on mission critical and priority needs
improved **quality** of project delivery and end results
achieve **small, local and disadvantaged business**
goals

a **contractor partner** who knows your facility as well as
you do

flexibility, matching scope to budget

reduced change orders and increased response to
warranty issues

saves **time**

more **cost-effective**, value-added service





Additional Advantages for Airport Owners

consolidate compliance with **security** protocols

minimize **disruption** to ongoing operations

expedite **revenue-generating** projects

alternative for **punchlist** completion of capital projects

emergency response





JOC Advantages for Contractors

remove your company from the low capture ratio and low return world of hard bid
achieve financial **reward** for effort and service
fully engaging the **expertise** of your staff
a **cooperative, long-term relationship** with your customer
predictable work flow
fewer higher **profit** and less **risk**
weather downturns in construction **economic cycle**





In House Trades/
T&M Contracts
\$0 - \$50,000



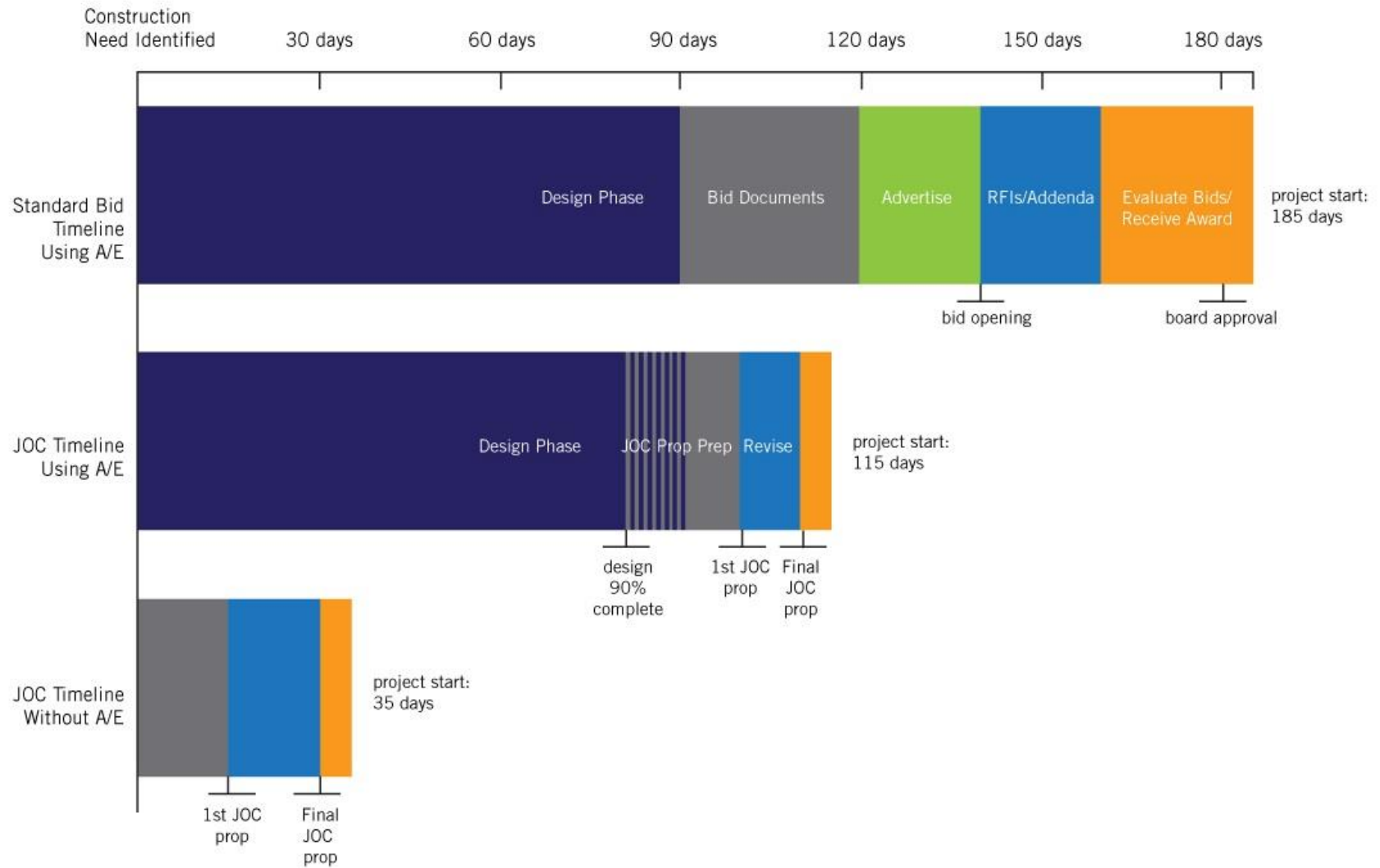
JOC
\$25k
to
\$1.5m

Capital
Projects
\$1m and up

Where JOC Fits



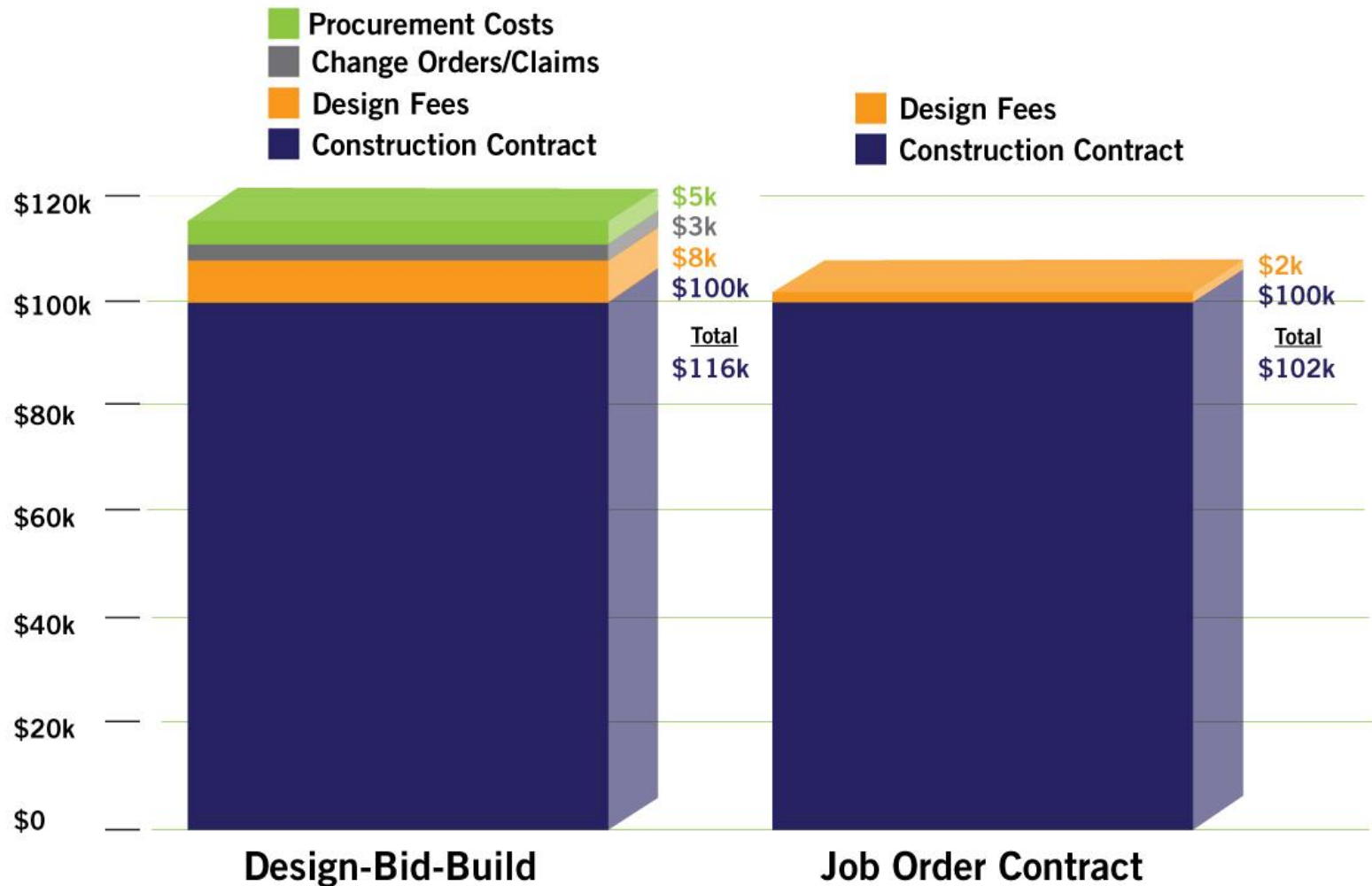
Our insight in every decision



JOC Time Savings



Our insight in every decision



JOC Cost Savings

JOC Research

- ✓ Faster project delivery (3-9 months less)
- ✓ Streamlined engineering and design
- ✓ Assurance of cost reasonableness
- ✓ Better contractor performance
- ✓ Partnering relationship
- ✓ More opportunities for local small and disadvantaged business
- ✓ Effective use of year-end funds

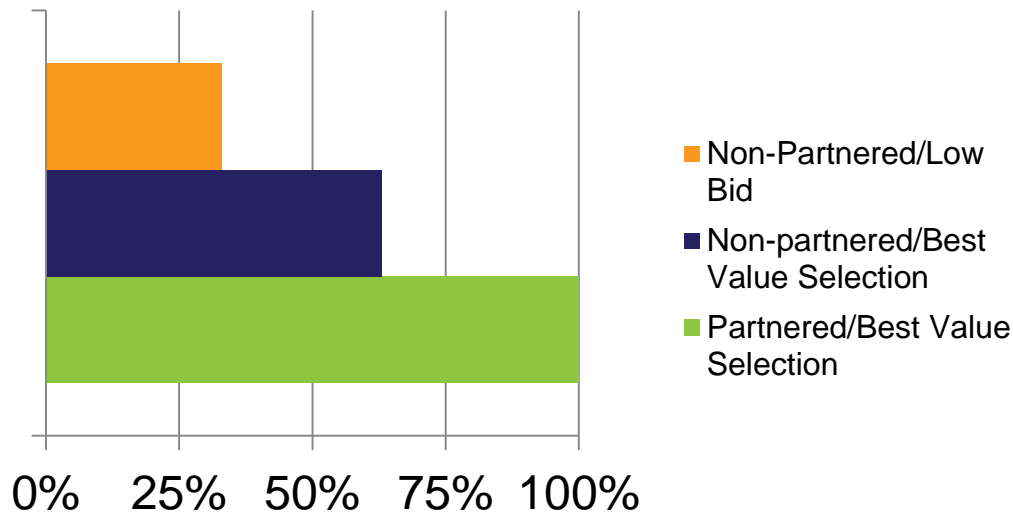


Cassell, Jordan W., and Linda T. Gilday. *Improving the Army's Job Order Contracting Program*. Logistics Management Institute, September 1997.



JOC Research

- Different JOC contracts judged based on a variety of performance factors:
- Overall Satisfaction:



Factors Studied:

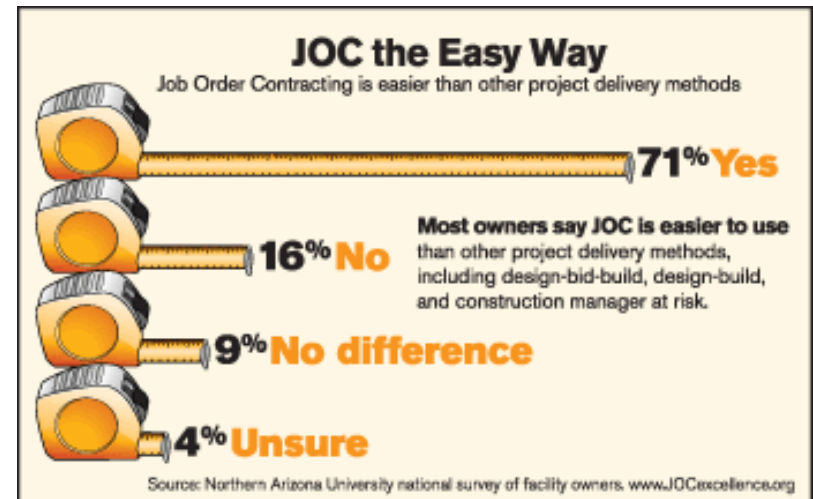
- Quality
- Safety
- On-Time Completion
- Scheduling and Performance of Subs
- Warranty Service
- Responsiveness of Support
- Innovation and Value Engineering
- Responsiveness to Client Needs
- Preventing and Solving Problems
- Contractors Management Effectiveness
- Dispute Resolution
- Level of Trust
- Communication

Mulcahy, Francis S. *The Effectiveness of Partnering and Source Selection in Job Order Contracting*. Master's Thesis, University of Washington, 2000.

JOC Research

Qualitative Study of Owners

- ✓ 75% Say JOC Requires Less Time To Start Up A Project
- ✓ 57% Say JOC Requires Less Time To Design A Project
- ✓ 63% Say JOC Requires Less Time To Close Out A Project
- ✓ 71% Say JOC Is Easier To Use



Ohrn, Greg. *The Influence of Job Order Contracting as a Construction Project Delivery Method on Owner Satisfaction*, PhD Dissertation Indiana State University – 2009.



Sampling of Owners Using JOC Today

Federal Government

- Army
- Navy
- Air Force

Healthcare

- University of Washington Hospital System
- MD Anderson
- UT Medical Branch

Transportation

- Metropolitan Atlanta Regional Transportation Authority
- DFW Airport
- Los Angeles World Airports

State

- State of Washington GA
- Commonwealth of Massachusetts

Municipalities

- City of Phoenix
- City of Houston
- City of Mesa, AZ

Higher Ed

- University of Arkansas
- University of Texas
- University of California System

K-12 Districts

- Prince George's County Public Schools

The Competitive Pricing Component of JOC

Pricing structure relies on a **Unit Price Book**.

Competitively-bid **coefficient** is applied to the UPB and establishes pricing at the outset of the contract.

Coefficient includes **all costs** for installed unit of measure including materials, labor, overhead, profit, and sometimes bond and tax.

Location modifier is also typically applied unless UPB is customized.

Establishes **contractual unit pricing** for a broad range of construction activities at procurement.

Example:

09 29 10 – Gypsum board, 5/8” thick, on walls, taped and finished (level 4 finish)	\$1.06
City Cost Index (Seattle) 1.038	+ .04
Coefficient 1.07	+ .07
Contractual Price	\$ 1.17

RSMeans
Facilities
Construction
Cost Data



More than 23,000 completely updated unit price items

2014



Delivery Order Pricing

Delivery orders are ***firm fixed price, lump sum***

UPB is an estimating and pricing tool, not a billing tool.

Unit price proposals represent contractor's committed price—it converts to lump sum.

Change orders rare, and with consistent pricing structure.

Different from other on-call contracts like Time and Materials

Brings CM/T&M advantages to smaller projects but in an efficient way with an at-risk incentive to perform.

No surprises!





JOC Process

After the JOC is awarded, projects are delivered by a pre-defined job order process. The reiterative nature of the process allows for continuous improvement in delivery results and relationship over time.







Notice of Work Requirement

Level of owner scope preparation varies according to:

- Owner preference and skillset
- Owner people resources available
- When in planning cycle project was identified for JOC



Range of Owner Preparation



Joint Scope Development Site Visit



- Demo / dispose of 3 existing lights Reuse existing circuit for new lights.

- Remove & replace 2 existing HVAC grilles

- Install gyp ceiling at 8' 8" with 4 new surface mounted explosion proof lights. Relocate existing smoke detector to new ceiling

- Demo CMU for 42" opening min. (exist opening +/- 36")

- Demo & dispose of existing metal partitions and replace with new 4" CMU covered completely with ceramic tile, with one block scupper at bottom of each

- Remove and reinstall existing 3 urinals and 2 commodes

- Demo ceramic tile, floors and walls, (exist ceramic on walls is approx. 8'-0" high)



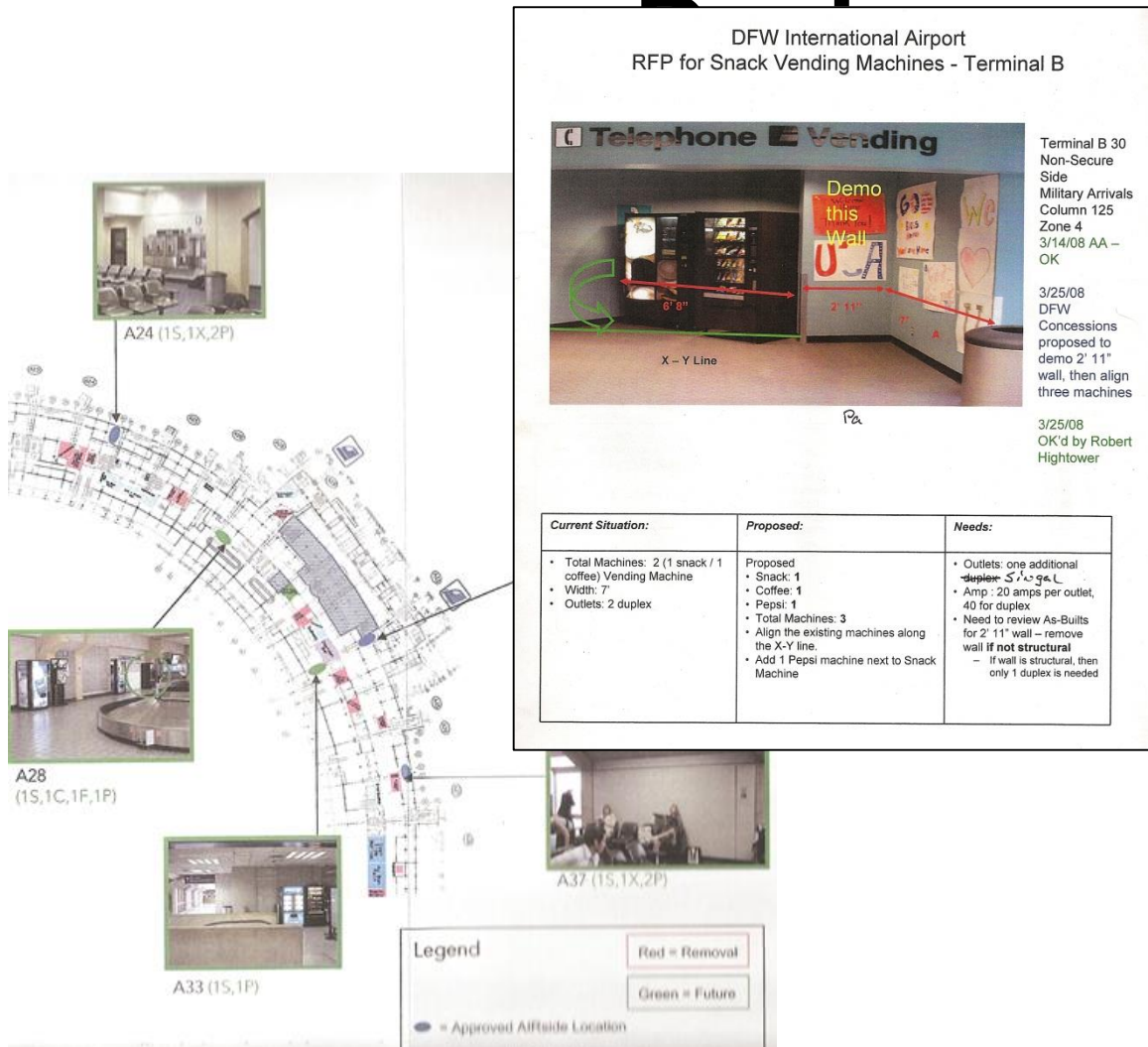
Site Visit Discussions

- Necessary refinements for CONTRACTOR-furnished scope requirements
- Methods and alternatives for accomplishing the work
- Requirements for plans, sketches, drawings, etc., including professional A/E requirements
- Access to the facility/project site, work hours, etc.
- User impacts
- Phasing or work sequence
- Security requirements
- Utility outages
- Permits, Excavation
- Temporary protection of property
- Debris and trash disposal
- Fire protection and alarm scope
- Noise and dust control
- Environmental Impacts/Asbestos, Lead, PCB, SWPPP Special Requirements specific to project such as applicable codes and regulations
- Coefficient(s) to apply
- Alternate pricing mechanisms
- Any other requirements

Contractor Opportunity to Define Owner Needs and Expectations and Offer Proactive Solutions



Targeted or Incidental



Performed in-house
Included in coefficient

Will engage design professional when needed

(line item fee or separate coefficient)

- Major building system engineering
- Structural
- Life-safety





Proposal Package

Project Outline:

- Project Synopsis (description);
- The proposed method of accomplishing the work;
- Proposed construction drawings;
- Type of site field verification performed;
- User impacts;
- Protection of property during construction;
- Estimated construction time, illustrated by a brief critical path bar chart schedule.
- Subcontractor Listing

RSMeans®-based line item proposal.

- Electronically and in hard copy pdf with the other Proposal deliverables.
- The Line Item Estimate shall include detailed notes that will coordinate with the Scope of Work to clarify work items, quantities, breakdown by room or area, etc.

Subcontractor bids (3) for any Non-Prepriced Items, with summary.

Design package



Proposal Package Contents



Estimate Details Labor - Material - Equipment

UCSF Mission Bay Studio - 101SA

Estimate Details

09 Womens bathroom finishes

Estimator:

UCSF Mission Bay Studio Painting

Project Scope: Standard Painting scope of work

Division Summary (MF04)

01 - General Requirements	
02 - Existing Conditions	
03 - Concrete	
04 - Masonry	
05 - Metals	
06 - Wood, Plastics, and Composites	
07 - Thermal and Moisture Protection	
08 - Openings	
09 - Finishes	\$875.89
10 - Specialties	
11 - Equipment	
12 - Furnishings	
13 - Special Construction	
14 - Conveying Equipment	
21 - Fire Suppression	
22 - Plumbing	
23 - Heating, Ventilating, and Air-Conditioning (HVAC)	\$17.10

26 - Electrical	\$22.82
27 - Communications	
28 - Electronic Safety and Security	
31 - Earthwork	
32 - Exterior Improvements	
33 - Utilities	
34 - Transportation	
35 - Waterway and Marine Transportation	
41 - Material Processing and Handling Equipment	
44 - Pollution Control Equipment	
46 - Water and Wastewater Equipment	
48 - Electric Power Generation	
Alternates	
Trades	
Assemblies	
MF04 Bare Total (Without totalling components)	\$915.81

Totalling Components

RSMeans Subtotal	\$915.81
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Material, Labor, and Equipment Totals (No Totalling Components)

Material:	\$104.60
Labor:	\$811.23
Equipment:	\$0.00
Other:	\$(0.02)
Laborhours:	18.48
Green Line Items:	\$0.00

Priced/Non-Priced

Total Priced Items:	34	\$915.81	
Total Non-Priced Items:	0	\$0.00	0.00%
	34	\$915.81	

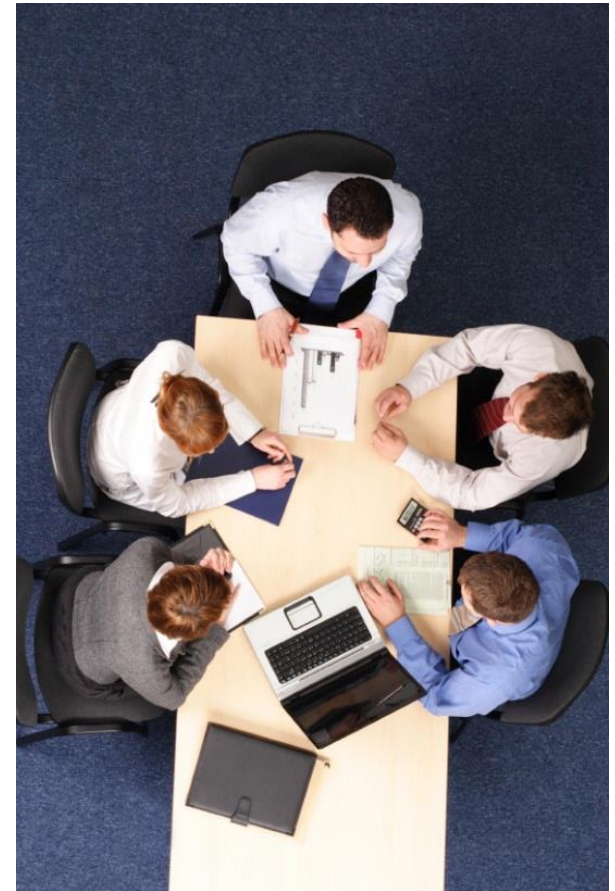
Grand Total \$915.81

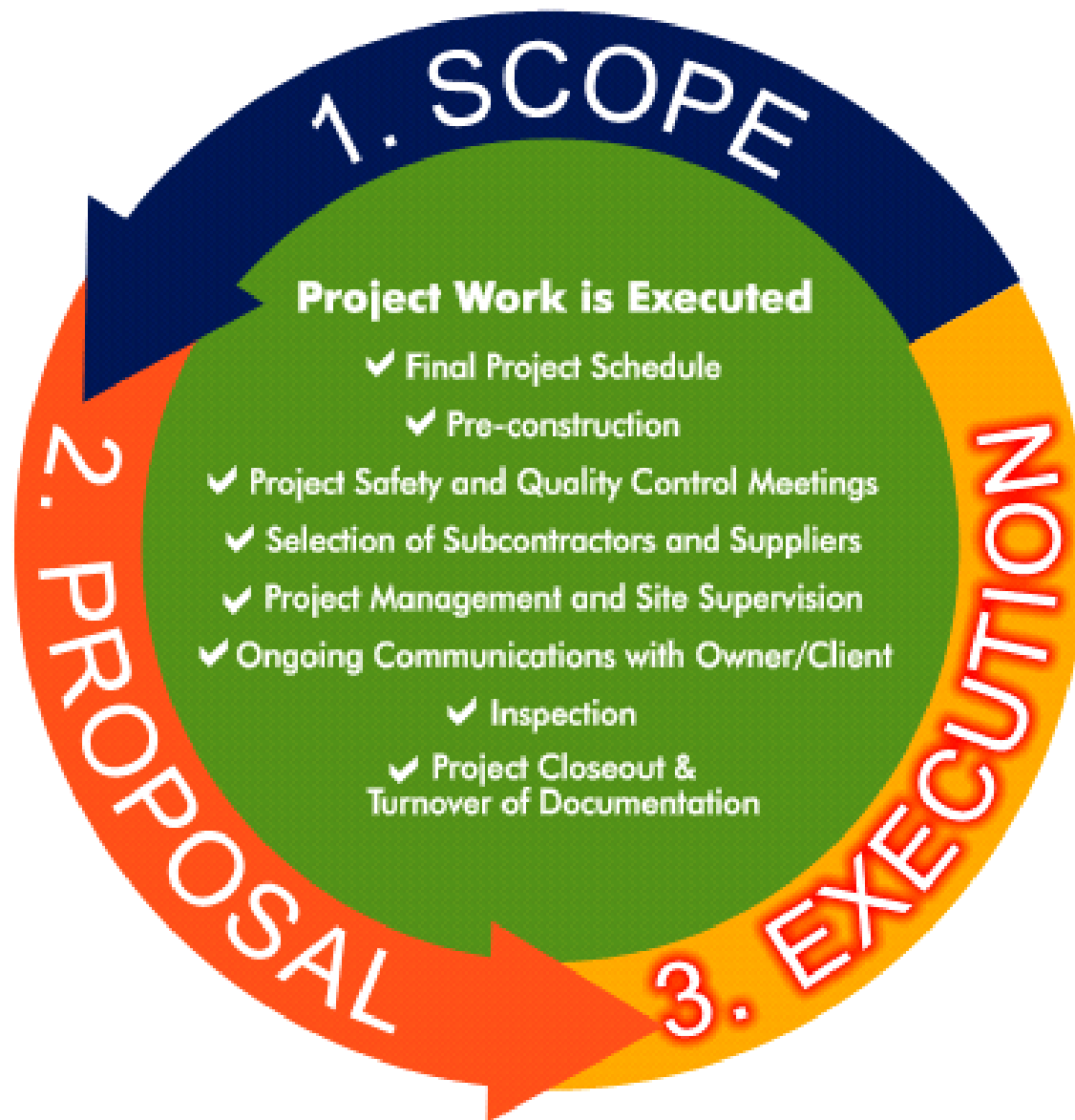
Equipment	Unit Cost	Total
0.00	\$12.90	\$43.60
0.00	\$2.05	\$132.23
0.00	\$0.54	\$21.60
0.00	\$0.37	\$14.80
0.00	\$0.66	\$26.40
0.00	\$0.52	\$20.80
0.00	\$0.42	\$473.78
0.00	\$0.01	\$11.28
0.00	\$32.50	\$97.50
\$0.00		\$11,569.76
0.00	\$503.00	\$1,006.00
0.00	\$345.50	\$345.50
0.00	\$360.50	\$360.50
0.00	\$350.00	\$350.00



Negotiations

- Assurance of a fair price:
 - Are the line items appropriate?
 - Are the quantities correct?
- Negotiations should be limited to quantities and line item selection. Price of line items are not be negotiated.
- Owner fiduciary responsibility to carefully review line item estimate.







Case Study: DFW Airport

- Using JOC since 2005, approximately \$3m/yr.
- Have completed three contracts, two contractors , 2+3 structure
- Primarily focused on projects from \$300k
- Initially focused on work within building envelope; recently added civil JOC
- Best Value Selection Process
 - Past performance
 - Proposed Personnel and Project Management Ability
 - Affirmative Action and M/WBE Participation Plan
 - Price (coefficient)
- Last contract term:
 - Amount of work issued \$10,869,848.88
 - 181 projects including
 - 272 Delivery Orders (DO) issued
 - Average DO amount is \$39,962.68





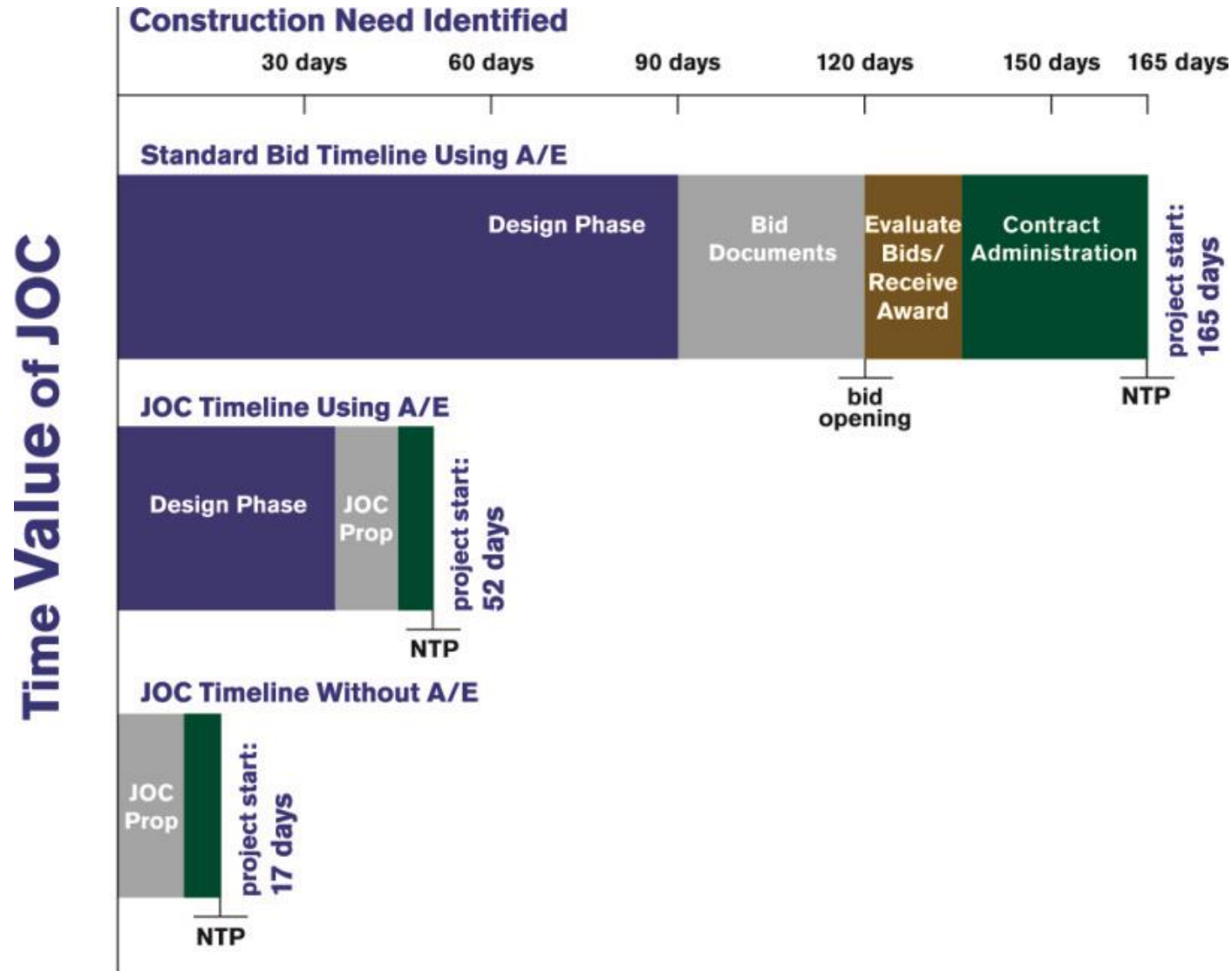
DFW Top Ten Projects

- Corporate Aviation Facility Renovations, \$934,902
- SkyLink Elevators Cab Upgrade, \$478,304
- SkyLink Entry Mats, \$382,833
- Terminal E Checkpoint Consolidation – Remodel, \$374,079
- Terminal E UA Relocation, \$340,737
- TRIP Office Trailer Modifications, \$273,802
- Delta Airlines Carpet Replacement, \$242,296
- Rental of 8 Portable Jet Bridge Cooling Units, \$197,079
- Modify RAC Bus Maintenance Facility, \$195,303
- Speaker Installation for PA/VE in Restrooms Terminals A, B, C, & E, \$188,919
- Asbestos Abatement of Sky Chef In-Flight Kitchen, \$177,197
- Terminal C Parking Garage C Valet Parking Enhancements, \$176,628





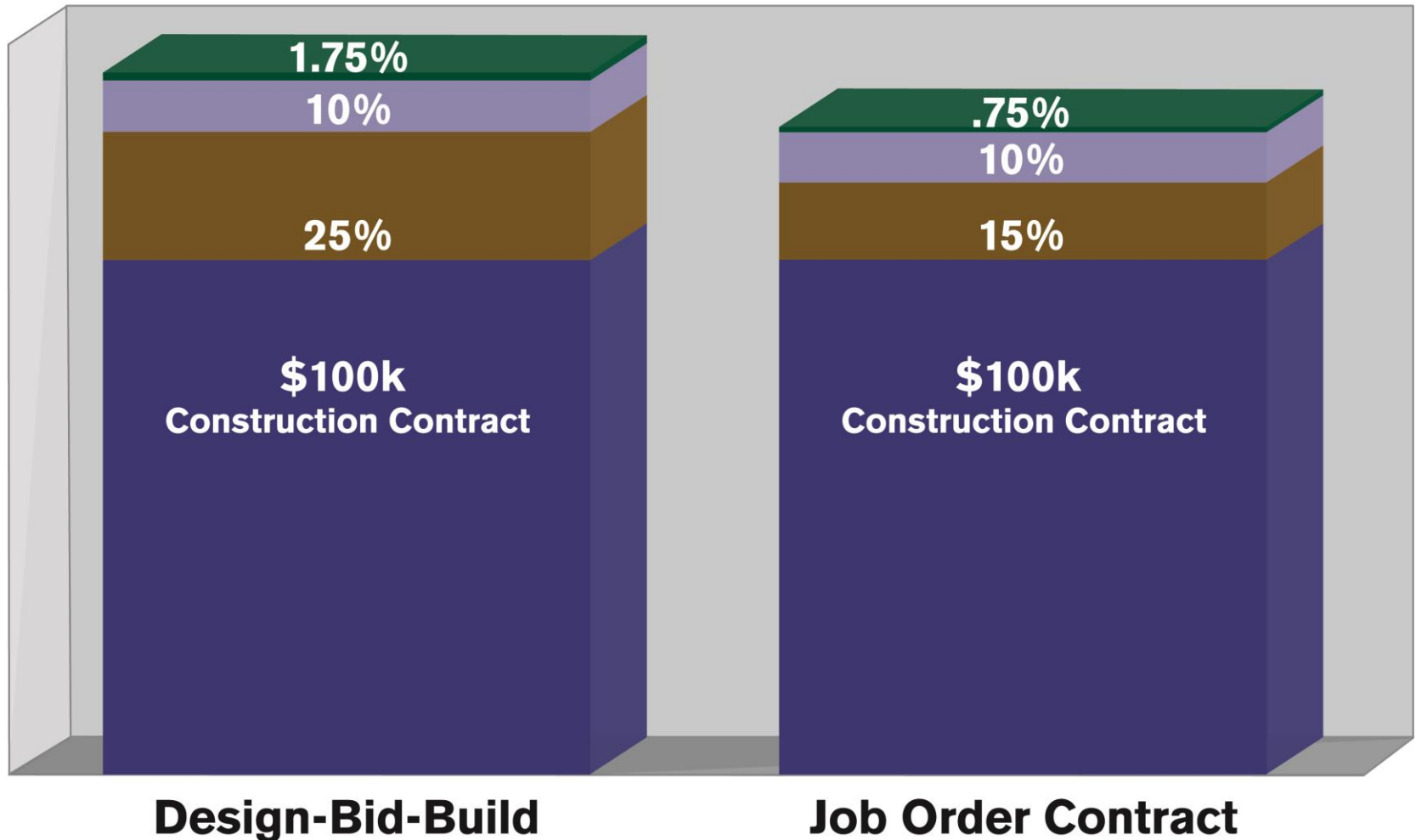
Time Value of JOC





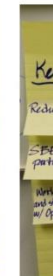
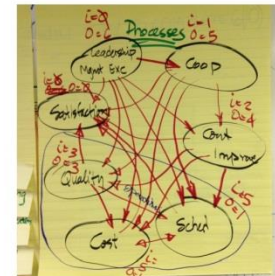
Cost Savings of JOC at DFW

■ Construction Contract ■ Soft Costs ■ Contingency ■ Change Orders



Case Study: LAWA JOC Implementation

- Pilot program authorized by Board of Supervisors
- \$3M max contract value
- Best Value Selection Process, including sample proposal deliverables
- Airport-specific Coefficient Scheme
 - Standard Hours
 - Non-Standard Hours
 - Secure Area Standard Hours
 - Secure Area Non-Standard Hours
 - Non-Priced Line Items
- Focus on integration with in-house construction crews
 - Training
 - Strategic Alignment



Job Order Contract Launch Inventory

For the following 13 issues, rate each on a scale of 1 to 5; 1 indicating strong disagreement, and 5 indicating strong agreement. Circle only one number for each of the issues.

This survey is conducted for the XXXXX project. "Project" refers to everyone involved in the program, not just your sub-group. Please indicate your sub-group.

Sub-group: — XXXX
— XXXX
— XXXX

JOC Assumptions

1. JOC will allow us to expedite project delivery	1 2 3 4 5
2. JOC produces quality construction comparable to other delivery methods.	1 2 3 4 5
3. JOC will allow my organization to be a better construction provider.	1 2 3 4 5
4. JOC will allow for better conflict management and decision making processes.	1 2 3 4 5
5. JOC is a significant improvement over "business as usual."	1 2 3 4 5
6. JOC will make projects easier.	1 2 3 4 5
7. JOC will take jobs from in-house construction crews.	1 2 3 4 5
8. The coefficients for this contract are realistic.	1 2 3 4 5
9. JOC will be less expensive than other options for getting small projects done, all things considered.	1 2 3 4 5
10. The selection criteria used for this contract accurately reflects the kind of JOC partner XXXXX needs.	1 2 3 4 5

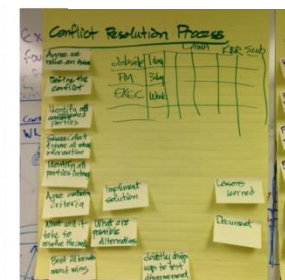
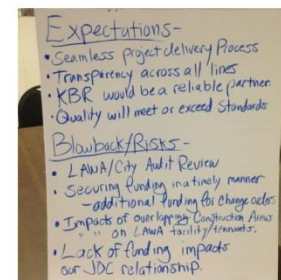
Leadership Participation

1. Senior leadership in my organization openly encourages and supports productive JOC culture.	1 2 3 4 5
2. Senior leadership in my organization delegates authority to optimize JOC at the project level.	1 2 3 4 5

Project Execution

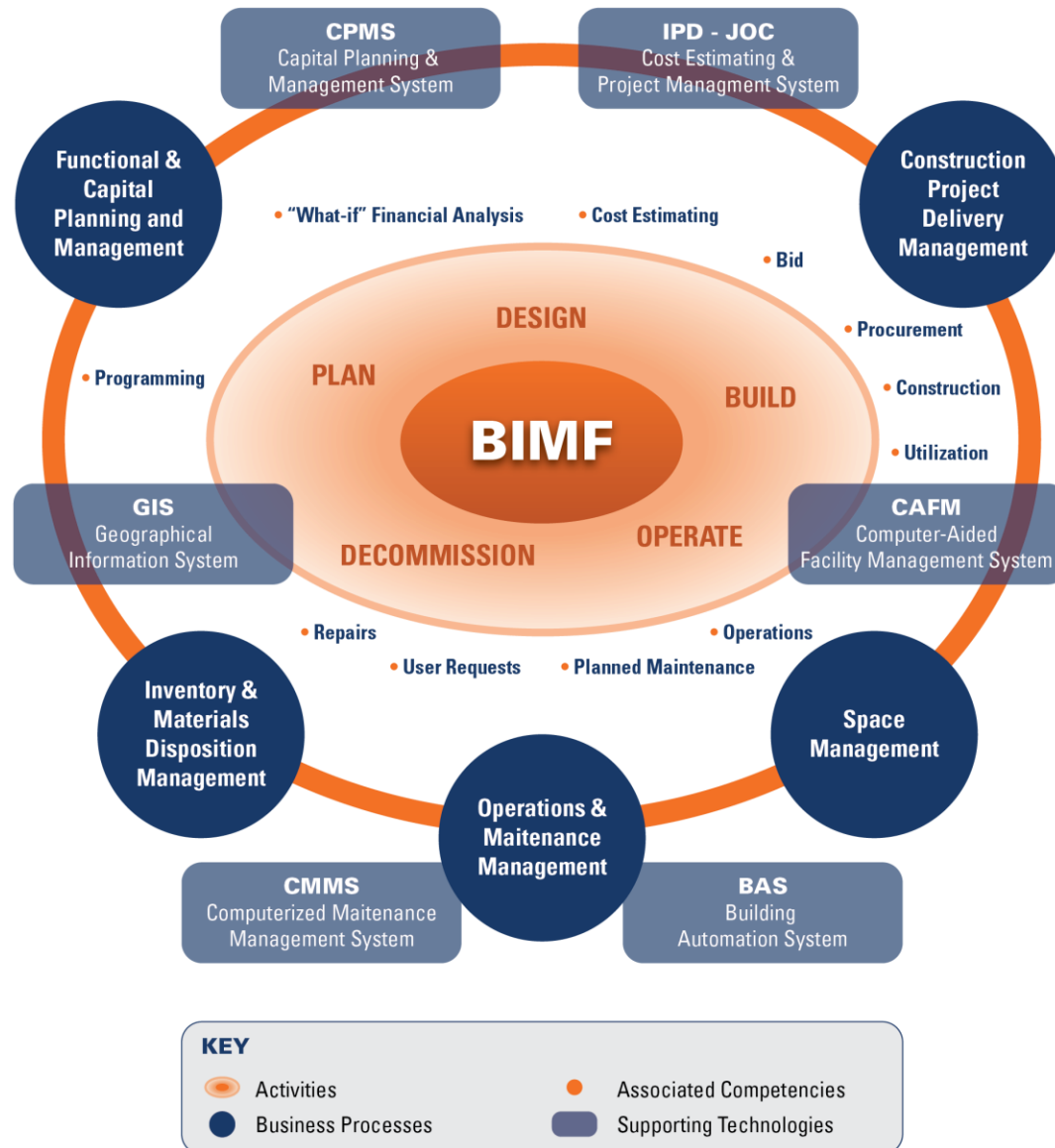
3. XXXXX should have strong input into the selection of subcontractors.	1 2 3 4 5
4. The contractor should take the lead in scoping projects.	1 2 3 4 5

Data Collection Process





BUILDING INFORMATION MANAGEMENT FRAMEWORK – BIMF



JOC is about Performance!

Faster Delivery of Projects

Overall Higher Quality

Maximizing construction
budgets

Making contractors and
owners more efficient

Controlling Costs

