



Embracing the Design-Build Model To Improve Your Bottom Line and Your Culture

Stewart G. Osgood, P.E.
President/CEO, DOWL HKM

Clarification

- Not a DB expert
- Compilation of experiences
- Observed many models and approaches
- Made many mistakes
- Had some successes
- Have a recipe and guiding principles
- You may not agree with the conclusions



Why?

- DB is likely to gain in popularity. . . we are not going back
- Value added compensation (you asked for it, you got it)
- Bigger, sexier projects
- Helps develop staff
- You can make (and lose) money



Summary

- We have done more than 50 DB projects between 1999 and 2014 (military, school district, corrections, utilities, DOT, private)
- They are all different . . . Really!
- No set formula for risk and reward and cost sharing
- Non-exclusivity is fraught with problems
- Pick your partners carefully – and stick with them
- Owners tend to perform too much up-front design
- Must remain financially strong to be able to ante up
- Your staff's experience is richer as a result of DB turbulence

Summary

(cont'd)

- Stipends complicate matters
- Contractors can teach us much about money and risk
- Common themes
 - Firm fixed price design contracts
 - Built in award fee for engineer based on:
 - Level of risk
 - Time invested
 - Level of disruption
 - Most of our experience with several regional and national Contractors
- Must have a stomach for big wins and big losses
- It comes down to price (almost always)!

Many roles for engineers

- On the main DB team, or:
 - Preparing RFP
 - Initial geotechnical/survey/environmental services
 - Independent quality firm (engineering, environmental, and CMT&I)
- My comments and observations are directed toward being on main DB team
- There are ways to participate even after you have “lost”



Profile of DOWL HKM

- \$65M in revenue
- Headquartered in Anchorage, AK
 - 23 offices in 8 western states
- Full service civil firm
 - Environmental
 - Water
 - Transportation
 - Civil and Mining
 - Geo-Construction
- 60% public, 40% private
- 40+ managing owners



Key points: We are not huge. We are playing with our own money. We have a diverse client base.

Profile of DOWL HKM



Goose Creek Correctional Facility

- Owner: State of Alaska – Department of Corrections
- Client: KPB Architects/Neeser Construction
- Scope: 1,534 inmate, medium security prison
- Project size: 450,000 square feet on the 80-acre site
- Cost: \$250M



Glenn-Bragaw Interchange

- Owner: State of Alaska Department of Transportation
- Client: Granite Construction
- Scope: Grade separated interchange to accommodate 60K VPD
- Costs: \$31M



Dena'ina Convention Center

- Client: Neeser Construction
- Owner: Municipality of Anchorage
- Scope: 5 story facility occupying one city block, plus parking structure
- Cost: \$33.8M



Alaska Military Housing

(Fort Wainwright and Richardson, and Elmendorf AFB, AK)

- Client: Watterson Construction
- Owner: United States Army Corps of Engineers
- Project size: 17 projects
- Fee: \$3+M design revenue
- Hit rate: 65%
- Risk Investment: ~15% of fee



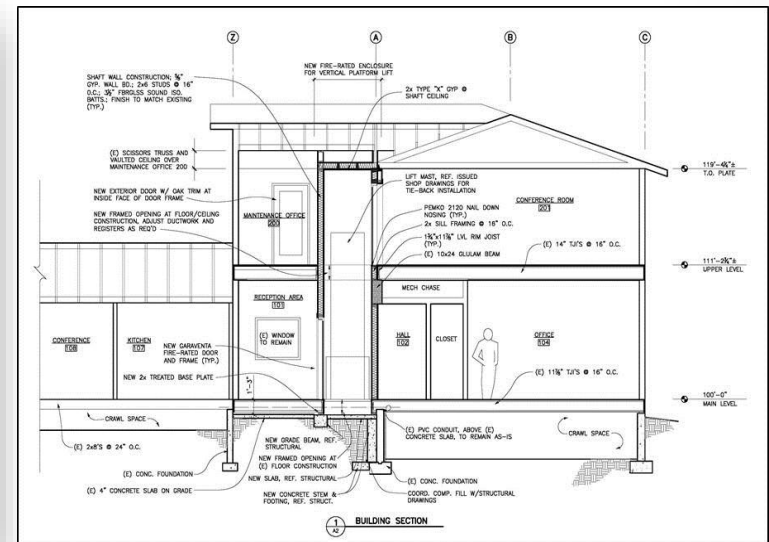
MAFB Shooting Range

- Client and Owner: Malmstrom Air Force Base, Great Falls, MT
- Project size: Scope: 80 foot x 80 foot target range
- Cost: \$3.3M (\$250,000 fee)



NPS DB IDIQ

- Client: Bairco Construction
- Owner: National Park Service
- Multiple projects: Golden Spike Water Treatment Upgrades, Afterbay and 3-Mile Boat Launch, Retrofit Admin Building Accessibility



Judith River Trestle

- Client: COP Construction
- Owner: Montana DOT
- Scope: design/repairs 1,955 foot x 140 foot replacement trestle



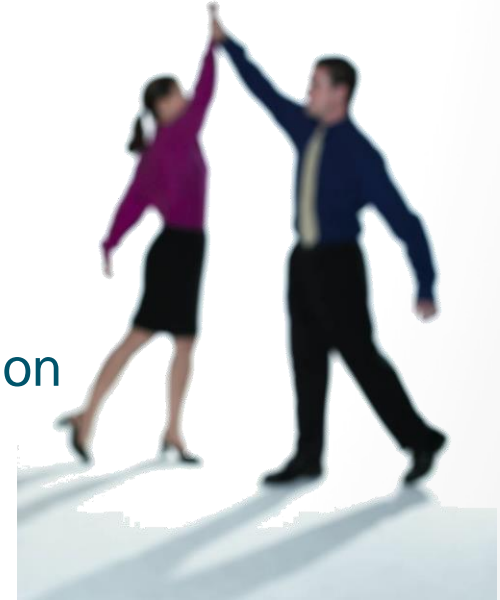
Alaska Native Primary Care

- Client: KPB Architects/Neeser Construction
- Owner: Southcentral Foundation
- Scope: Site civil design Primary Care facility in Wasilla, AK
- Project size: 90,000 SF
- Design Fee: \$160,000



Alaska DOT DB

- Five in Alaska – two wins (40% hit rate)
- Wins
 - Glenn-Bragaw Interchange; Granite Construction
 - Mt. Edgecombe Road; S&S Construction
- Losses
 - Akutan Airport; Granite Construction
 - Glenn Highway; Granite Construction
 - Deweyville Highway to Neck Lake; Southeast Roadbuilders



Three Basic Models

1. Public – State Government
 2. Public – Federal Government/Military
 3. Private
- Many models (DB, CMGC, CMAR, CMGM, etc.)
 - Much experimenting being done
 - One common characteristic – Contractor and Engineer work together to deliver product to Owner
 - Owners control and involvement after award should be minimized
 - Hand me the keys on this date!

Model 1 – State Government

- 2 step process
 1. Qualifications and a shortlist
 - Based on a project description
 - \$20M to \$100M project size
 - Assemble team and provide resumes/experience
 - 6 week duration, shortlist of 2 to 5 teams
 2. Best value selection (e.g. 50% technical, 50% price)
 - Preliminary design/specifications
 - Geotech., survey, ROW and permitting, and utility relocation “started”
 - Include an Independent Quality Firm for QC
 - Technical proposal scored first
 - Public opening of cost proposal
 - 3 to 4 month duration
 - Loser(s) get a stipend (\$50K to \$150K)

The Math. . .

- **Step 1**

- Simple “Exclusive Dealing Agreement” that discusses confidentiality and exclusivity
- Contractor and Engineer cover their own costs



The Math. . .

(cont'd)

- **Step 2**

- Teaming Agreement lays out roles and responsibilities, deliverables, schedule, budget and compensation
- Contractor reimburses Engineer:
 - 1.4 to 2.0 times direct labor, with a cap
 - Monthly invoice
- Provide Contractor with overall FFP design fee, if team is successful
- Add Investment or Success Fee
 - Investment is 3.3 times direct labor, minus the amount paid by Contractor for Step 2
 - Negotiate a multiple on the investment (say 3 to 5) to compensate for risk
 - This amount gets added to your design fee
 - Contractor includes this amount in the mobilization line item
 - If you are not successful – no sharing in stipend by Engineer
 - If you are successful – success fee gets paid within 30 days of NTP

Simple Example

- \$30M railroad crossing of arterial
- Typical design and environmental fee might be \$1.0M
- Contractor wants a 30% design to bid from (say \$300K typical design fee)
- Engineer agrees to take a multiplier of 1.65 on labor for Step 2 design
- Overall billing to Contractor is \$150K, and thus the “investment” by Engineer is \$150K
- Multiply investment by 4.0 to compensate you for statistical risk and disruption = \$600K
- Provide Contractor with a FFP to finish design, post award – that is \$700K in this case
- Add the success fee to that, and the overall design fee on bid day is \$1.3M

Model 2 – Federal Government

- Similar to State process, except
- Longer schedule for Step 1 and Step 2
- Often competition is limited to small or disadvantaged businesses
- More design completed and things are “locked down”
 - Less innovation
- Selection is heavily weighted toward price
- Less transparency on the selection
- Smaller or non-existent stipends
- Like to use DB for “cookie cutter” projects

Model 3 – Private

- Sometimes (oftentimes) no competitive selection
- Entity becomes comfortable with a team and you become the “trusted builder”
- Three legged stool?
 - Owner brings ideas and capital
 - Contractor brings construction expertise
 - Engineer brings experience with permits, design, technical solutions
- Iterative design process to see if idea “pencils”
 - Various sites
 - Raise and lower grade
 - Negotiate on permits and environmental clearance
 - Finally owner makes go-no go decision
 - Cap your exposure on this effort (e.g. \$20K)
- Must make enough on winners to pay for the no-go’s

“What if” and Contractual Concerns

- What if:
 - Owner cancels solicitation (project) prior to award?
 - Contractor pulls out of competition during Step 2?
 - Contractor submits a bid that is clearly uncompetitive?
 - Designer pulls out of competition during Step 2?
- Contractual Concerns:
 - Standard stuff re. indemnification, ownership of documents, standard of care, subrogation, etc.
 - Increased PLI limits (\$10M is routinely required)
 - Request for project specific insurance quotations
 - Careful with warranting and guaranteeing environmental permits, ROW access, meeting schedules you don't control, utilities, etc.

Suggestions for Owners

- Pre-perform survey and geotech. and provide to all the teams without reliance qualifiers
- Less up front design work
 - Must give up control
 - Take some risk and trust your development partners
- No stipend – complicates the process
- Keep shortlists short (2 to 3 teams)
- Don't burden the process with multiple layers of oversight
- Select the best team with a positive history of working together
- Trust, but verify

Suggestions for Contractors

- Don't delay – every day counts
- Everyone makes money
- Don't treat designers as sub-contractors
- Live up to commitments made in proposal
- Lead the team and stay engaged
- Reasonable agreements, in writing
- Lump sum fee
- Meet the schedule



Suggestions for Engineers

- Remember who your client is
- Look for ways to add value
 - Utilities
 - Grading
 - Balancing site
 - Right-of-Way
- Innovation, not “that’s the way we always do it”
- Schedule must be met!
- Use the “A” team



Suggestions for Engineers

(continued)

- Choose construction partners carefully
- Written agreements
- Be prepared for disruption during Step 2 process
- Senior level engagement
- Insist on input to Construction Cost Proposal
- Lump sum design fees with adequate success fees
- Mine the RFP for cost savings – must do less work
- Crisp weekly meeting with clear assignments

Staff Development

- Become a student and a teacher
 - Contractors have much to teach the engineering profession
- Learn to deal with pressure
 - Much money at risk
- Thicker Skin
 - Take criticism
 - Expand your vocabulary
- Innovation
 - Explore and welcome “bad ideas”
 - Concentrating on what matters
 - Do less work, do less work, do less work
- Teamwork
 - In the trenches
 - Late at night
 - Under pressure



Where have we been burned?

- Utilities
- Working for consultants
- Construction schedule slips a year
- Spex: “Should and May” versus “Must”
- Document conflicts and hierarchy (RFP, plans, specs, references)
- Multiple losses with a quality team
- Non-aggressive pricing by Contractor
- Multiple RFP amendments
- Subcontractors that were not truly exclusive



Is DB successful?

- Faster – yes
- Cheaper – sometimes
- Better – no



Where do they live up to their billing?

- Where the Owner is willing to give up control for faster and cheaper
- When the Owner selects a reputable team that they are comfortable with
- When the Owner truly is okay with “best value” selection

Parting Message

- Embrace DB
- Team up with reputable Contractors
- Consider the financial and staff development benefits
- If you lose, don't give up on working on the project
- Where should you play?
 - Up front work – no risk, standard fees
 - During construction – some risk, standard fees
 - As lead design team – much risk, much reward and ability to be compensated on value



Stewart G. Osgood, P.E.

President, DOWL HKM

4041 B Street
Anchorage, AK 99503

907-562-2000
sosgood@dowlhkm.com

