

Design-Build, Public-Private Partnerships, and Risk Allocation on Major Subsurface Projects: Are We Progressing or Regressing?

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Presentation Focus

- Alternative Project Delivery Approaches
 - Design-Build
 - Public-Private Partnerships
- Risk Allocation Approaches
- Focus on Design and Construction Risks

Design Build and Public-Private Partnership

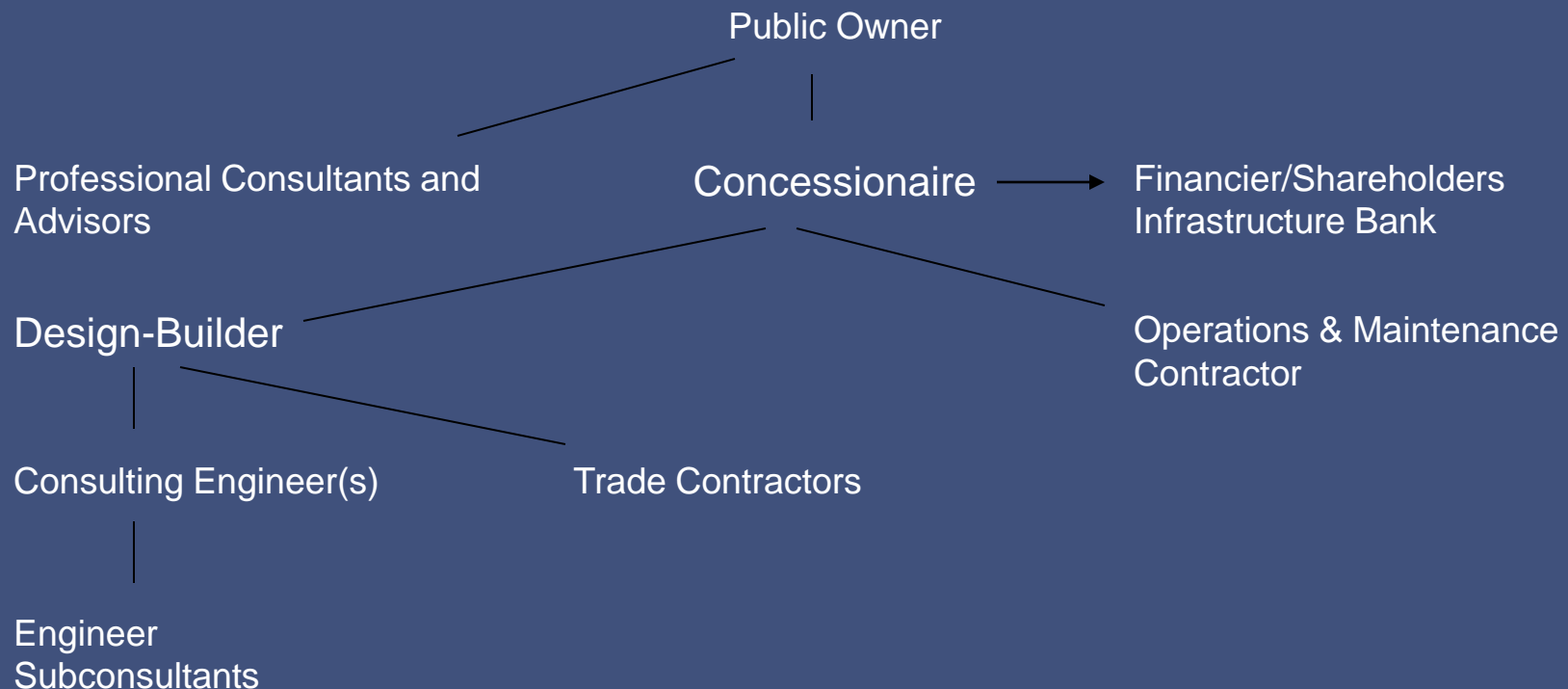
- Increasing Project Owner Interest in Design-Build and Public-Private Partnership Delivery Methods
- What accounts for Increasing Interest, Especially In Last 4 Years
- Risk Transfer Potential
- Cost “Overrun” and Risk Containment
- Reduced Accountability Pressures
- Present Economic Conditions
- Increasing Interest in, and Legislative Authorizations of, Public-Private Partnerships
- Virtually All PPPs Are Predicated Upon Design-Build Delivery Method
- Many Present and Planned Design-Build and Public-Private Partnership Infrastructure Projects May be Characterized as “Megaprojects”.

Public-Private Partnerships

- The Public-Private Partnership (“PPP”) is a Public Sector Project Delivery approach in which a governmental entity (i.e. the Public Partner) and at least one Private Sector Participant – the “Concessionaire” – by contract agree that the Concessionaire is obligated to develop, finance, design, construct, operate and maintain a public use project.
- PPP Approach: Operates by definition, only in Public Sector construction project context, and primarily utilizing the Design-Build Delivery Method.

Public-Private Partnerships

Basic Relationship Structure



State Legislation Authorizing PPPs

- 30 states have enacted statutes authorizing PPPs
- Many of those statutes allow for PPPs at Both State and Local Levels

Design-Build and PPPs: General Discussion of Risk Allocation

Risk Allocation Conceptual Underpinnings

- Objective and Essence: Single-Point Responsibility in One Entity – The Design-Builder – For The Design and Construction of the Project (“Single-Point Principle”)
- The Design-Builder Typically Assumes Significant Design and Construction Risk.
- The Design-Builder has (should have) Significant Control Over and Responsibility For the Development and Finalization of the Design
- Correspondingly, the Owner has (should have) Significantly Less Control of the Design Development and Finalization Process

Design-Build and PPPs: General Discussion of Risk Allocation

- Risk Allocation Approaches
 - Public Owners Have Risk Allocation Choices
 - Design-Build and PPPs Do Not Require Total or Disproportionate Risk Transfer from Public Owner to Private Sector
 - In Many Instances Public Owners Have Greater Risk Allocation Discretion and Options Than in Traditional Project Delivery Approaches
 - Risk Allocation Fairness Applies in Design-Build and PPPs
 - Contractual Flow Down to Consulting Engineer and Other Implications of Unfair Public Owner Risk Allocation on Professional Liability Risk of Consulting Engineers

Design-Build and PPPs: General Discussion of Risk Allocation

Public-Private Partnerships: Risk Allocation

- Project Owner Risk Allocation Objectives in PPPs
 - Maximization of Risk Transfer to Concessionaire
 - Evaluation in Concessionaire Selection Based on Value for Money Criterion
 - In PPPs, Value Translates to Risk Transfer Maximization; the greater the degree of Risk Transfer, the greater the satisfaction of the value criterion. As has been stated: “...[A] large component of the evaluation of the value for money concept is based on risk transfer to the private sector”*

*A. Chew, et al., “An Overview of Risk Allocation in Recent PPP Infrastructure Projects in Australia”, The International Construction Law Review (2005) 282, 289.

Design-Build and PPPs: General Discussion of Risk Allocation

Public-Private Partnerships: Risk Allocation

- Lender/Financier Risk Allocation Objectives in PPPs
 - Align with Project Owner Objectives
 - Failure to Maximize Risk Transfer to the Design-Build Team or to insurance may be financing “deal-breaker” or, at a minimum, increase financing cost or result in more onerous lending terms (affecting competitiveness of Concessionaire’s proposal).
 - Financier Influence on Risk Allocation: Minus, Plus, or Both

Design-Build and PPPs: General Discussion of Risk Allocation

Public-Private Partnerships: Risk Allocation

- Implications of These Project Owner and Lender/Financier Risk Allocation Objectives for Design-Build Team
 - Tremendous “Downstream” Risk Transfer Pressure
 - Design-Build+

Design-Build and PPPs: General Discussion of Risk Allocation

Public-Private Partnerships: Risk Allocation

- Risk Issues for Design-Build Team on PPPs
 - Non-Traditional Risk Assumption (e.g., differing site conditions, environmental conditions, permits and governmental approvals and variances, force majeure)
 - Traditional But Heightened Risk (e.g., warranty v. negligence-based standards)
 - Extended Duration of Contractual Warranty/Liability Exposure period
 - Not all Risk Transferred is Insurable
 - Imprudent Contractual Risk Allocation Decisions Not Rectified by Insurance

Design-Build and PPPs: General Discussion of Risk Allocation

Public-Private Partnerships: Risk Allocation

- Increased Consequential Damage Exposure

“...[U]nder the PPP structure, the Concessionaire is reimbursed the project costs including financing in one or two ways which repayment occurs over the life of the concession: (1) tolling revenues generated by the project or (2) a guaranteed revenue stream which is also frequently called shadow tolling. Repayment is typically tied to availability and condition of the infrastructure asset. If payments are reduced because of a defect in the asset, the Concessionaire will expect the Design-Builder to bear the risk of that lost revenue. As a result, in the financed PPP market the Design-Builder will assume an affirmative post-completion obligation for lost revenue (i.e., consequential damages) of the Concessionaire.” P. Varela, D. Follett, J. Debs and J. Onnembo, “Strange Bedfellows: How to Participate in a Public-Private Partnership Without Losing Your Shirt”, Construction SuperConference (Session E-11, December 7, 2006).

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

- Professional Standard of Care
- Problematic Terms
 - Heightened Standard
 - Fitness for Purpose Standard
 - Design Warranty
 - Design shall be “free from defects”
 - Completed Construction Work shall be “free of defects, including design defects, errors, or omissions”
- Contractual Objective
 - Negligence-Based Professional Standard of Care

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

- Disclaimer of Owner-Furnished Design, Information, Reference Documents
- Problematic Terms
 - Disclaimers and Non-Reliance Terms – especially when Design Build Team Does Not Have Adequate Time, Allocated Resources or Ability to Verify Owner-Furnished Materials, and when Owner-furnished design is significantly beyond the conceptual level
 - Provisions Imposing Professional Responsibility for Errors, Omissions, Inconsistencies or Other Defects in Work Product of Other Consultants Engaged by the Owner

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

- Flow Down Provisions
- Problematic Terms
 - Strict and Unqualified Flow Down of All Prime Contract Terms to Consulting Engineer Subconsultant
- Contractual Objectives
 - Qualify Flow Down
 - Becoming Part of Prime Contract Negotiation Process
- Indemnification
 - Problematic Terms
 - Defense Obligation
 - Indemnification for Deficiencies in Owner-Furnished Design, Data, Information, Reports or Other Materials.

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

- Subsurface Conditions Risk Allocation*
- Problematic Terms
 - No Differing Site Condition (“DSC”) Provision: Common Law Rule
 - Express Negation or Disclaimer of Entitlement to Equitable Adjustment for DSC: “The D/B Contractor shall be fully responsible for, and thus shall not receive a change order with respect to, any additional costs and delays due to Differing Site Condition”
 - Disclaimer of Right to Rely Upon Owner-Furnished Subsurface Data, Opinions or Reports
 - Provisions Undermining and Manipulating a Statutorily-Mandated DSC Provision
 - Owner provides no subsurface data, information, or other “indications” in the Contract Documents
 - Owner disclaims or negates the DB’s right to rely upon Owner-furnished subsurface data, information or reports

*For more detailed discussion, see Public-Private Partnerships: Opportunities and Risks for Consulting Engineers, to be published by ACEC in spring 2013), D. J. Hatem (ed.).

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

Subsurface Conditions Risk Allocation

- Common Law Rule – Contractor bears risk of subsurface conditions and associated performance and cost which are materially different from bid expectation unless Project Owner agrees otherwise.
- Contractual provisions reinforcing common law rule regarding risk allocation for subsurface conditions generally will be enforced unless federal or state statutes or regulations mandate otherwise.

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

Subsurface Conditions Risk Allocation

- Project Owners have Significant Choices and Discretion
- Project Owners on Design-Build and Public Private Partnership Projects often not constrained by contractual risk allocation (and other) provisions generally governing conventional Design-Bid-Build procurements
- Since 2008 financial crisis many Project Owners have demonstrated less willingness to sharing of subsurface condition risk

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

Subsurface Conditions Risk Allocation

- Use and Effectiveness of Disclaimers
- Reliance upon Owner-furnished design criteria and subsurface data and opinions
- Differing site condition contractual provisions
- Use of Geotechnical Baseline Reports – Basis of Design and Physical Conditions Variations
- Definition of “Contract Documents”
- Priority – Order of Precedence – Differential Status of Owner – Furnished Information
- Distinction between Information and Opinions

Design-Build and Public-Private Partnerships: Contractual Terms Relating to Risk Allocation

Subsurface Conditions Risk Allocation

- Alternative DSC Risk Allocation: Professional Liability Implications
 - Design/Builder Private Sector Retained Risk for DSCs
 - Alternating Risk Allocation Layers for Project Owner, Concessionaire and/or Design-Builder
 - Available Insurance Access/Exhaustion Requirement As Primary Funding Source for DSCs
 - Pragmatics: SPE Status of Concessionaire and Relevance to Professional Liability Risk of Consulting Engineer

Major Subsurface Projects: Professional Liability Risk Issues for Consulting Engineers

Subsurface Condition Risk Allocation: Port of Miami PPP Project

- Port of Miami is First Major U.S. PPP Subsurface Project*
- Project Owner, Florida Department of Transportation (“FDOT”)
- Project Utilized GBR in Conjunction with DSC Provision, and a Geotechnical Contingency Fund, to address added project costs and delays arising out of differing subsurface conditions encountered during construction
- \$180m Geotechnical Contingency Fund
 - First \$10m borne solely by Concessionaire
 - Next \$150m borne solely by FDOT
 - Last \$20m borne solely by Concessionaire
- DSC Costs In Excess of \$180m Deemed Extraordinary Geotechnical Events

*For general discussion of subsurface condition risk allocation in PPP projects, see D.J. Hatem Public-PrivatePartnerships: Opportunities and Risks for Engineers and Constructors Involved in SubsurfaceProjects, Design and Construction Management Professional Reporter; D.J. Hatem, “Public-PrivatePartnerships: Opportunities and Risks for Consulting Engineers Involved in Subsurface Projects”, GeoHalifax Conference, September 23, 2009.

Concluding Comments

- Many Unsettled Issues and Approaches to PPP Risk Allocation
- Expect Project Owners to “Push the Envelope” in Terms of Risk Allocation in PPPs
- Basic Principles of Fair and Balanced Risk Allocation Should Apply in PPPs
- Concessionaire’s Risk Allocation Interests and Perspectives May Not Align With Those Of The Design-Builder and Consulting Engineer Subconsultants.

Recommendations to Design-Build Team Members

- Be Attentive to Terms of “Upstream” Agreements and Collateral (Loan) Agreements that may Impact Risk Exposure.
- Do your best to secure a “Place at the Table” Before “Upstream” Agreements are Finalized.
- Understand the Potential Implications of Risk Allocation in “Upstream” Agreements on your Potential Risk Exposure.
- Conduct Project-Specific Risk Assessments
- Understand How Insurance May Provide Some “Risk Transfer” Protection.
- Consider Project-Specific Professional Liability Insurance

Questions & Comments

Article 5. Subsurface Construction Work

- 5.1 Changed Geotechnical Conditions
 - “5.1.1...The Geotechnical Baseline Report ... is the narrative description of geotechnical conditions expected to exist within the Project alignment as set forth in the Indicative Preliminary Plans and along any alternative Project alignment within the Tunnel Corridor Limits. For conditions identified in the Geotechnical Baseline Report, Concessionaire shall at its own cost undertake all activities necessary to perform the Design Work and the Construction Work in accordance with the Contract Documents”...

Should the Concessionaire contend that it has encountered a differing site condition, then under Section 5.1.6

“5.1.6...FDOT shall commence an investigation of the identified conditions to determine (a) whether the conditions are different from those described in the Geotechnical Baseline Report; or (b) whether the conditions are depicted or described in the Geotechnical Baseline Report, and if not, whether the materials actually encountered could have reasonably been anticipated by an experienced global civil works contractor under the circumstances; and (c) whether the means and methods and technical approach employed by Concessionaire in the vicinity of the conditions were compliant with the Subsurface Methods Plan (or FDOT-approved alternative plan) and were within the standard of care of an experienced global civil works contractor performing similar work on a similar scale in similar conditions”...

- 5.2 Risk Sharing

“5.2.1...FDOT and Concessionaire shall share in the risk of Extra Work Costs and Delay Costs incurred as the result of Changed Geotechnical Conditions occurring during the Construction Period. The amounts eligible for risk sharing as described in this Section 5.2 are (i) the Extra Work Costs and Delay Costs calculated as described in Section 5.1.7 and (ii) indirect costs calculated as described in Section 5.1.7.1 or Section 5.1.7.2. Such Extra Work Costs, Delay Costs and indirect costs (exclusive of insurance proceeds or any applicable deductibles as provided for in this Agreement) shall be allocated to the parties as follows:

- 5.2.1.1...The first \$10 Million of Extra Work Costs and Delay Costs arising out of Changed Geotechnical Conditions shall be borne solely by Concessionaire (the “Initial Concessionaire Tranche”);
- 5.2.1.2...The next \$150 Million of Extra Work Costs and Delay Costs arising out of Changed Geotechnical Conditions shall be borne solely by FDOT (“**FDOT Tranche**”) by means of direct compensation from the Contingency Reserve described in Section 10.5, but only to the extent funds in the Contingency Reserve are not expended for other purposes as described in Section 10.5. If funds are so expended for other purposes, FDOT shall compensate Concessionaire for the applicable portions of the FDOT Tranche in the same manner as described in Section 10.2 for Relief Events;

5.2.1.3...The next \$20 Million of Extra Work Costs and Delay Costs arising out of Changed Geotechnical Conditions as well as any other amounts required to be expended before Extraordinary Geotechnical Losses have occurred will be borne solely by Concessionaire (the “Ultimate Concessionaire Tranche”)

- 5.2.2...Extra Work Costs and Delay Costs for Changed Geotechnical Conditions that exceed an aggregate of \$180 Million shall be deemed Extraordinary Geotechnical Losses. Upon the expenditure of Extraordinary Geotechnical Losses, either Party may terminate this Agreement pursuant to Section 20.3.1.1. Alternatively, the Parties may also negotiate a mutually agreeable cost-sharing arrangement to complete the Project.”

- “5.2.3...Notwithstanding the foregoing, if Changed Geotechnical Conditions identified by either Party are likely to come Extraordinary Geotechnical Losses, either party may elect to exercise the “early discovery” termination option described in Section 20.3.1.2. Any dispute as to whether Changed Geotechnical Conditions are likely to become Extraordinary Geotechnical Losses may be submitted for resolution pursuant to the Dispute Resolution Procedures.”

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