



# **THE DESIGN / BUILD / OPERATE PROJECT DELIVERY METHOD**

A How to Seminar  
For Industries and Municipalities

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# *Defining the Approaches*

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# Traditional D/B/B/O Approach

- *Design/Bid/Build/Operate [D/B/B/O]*
  - Selection of engineer to permit, plan & design project
  - 100% contract documents issued for bid
  - Selection of general contractor to construct project
  - Selection of Engineer to provide construction management services
  - Finance project through SRF / GO / Revenue bonds if Municipality
- *Operation of Facilities by Municipality / Industry*



# Design/Build Approach

- *Design/Build [D/B]*
  - Entity issues RFEI / RFP for design/build services
  - Entity evaluates proposals & selects vendor
  - Entity negotiates contract with vendor
  - Vendor designs & constructs project
  - Entity provides construction management services
  - Entity finances project through SRF/GO/Revenue bonds
- *Operation of Facilities by Municipality / Industry / Vendor*



# Design / Build / Operate Approach

- Design/Build/Operate [D/B/O]
  - Entity issues RFEI / RFP for design/build/operate services
  - Entity evaluates proposals & selects vendor
  - Entity negotiates service contract with vendor
  - Vendor designs, constructs & operates project
  - Entity provides construction management services
  - Entity provides contract monitoring
  - Entity finances project through SRF/GO/Revenue bonds



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*Why Consider  
D/B or D/B/O ?*

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# Why Consider D/B or D/B/O ?

- Lower Project Costs - Construction & Operation
- Stabilize Payments / User Fees Over the Long Term
- Reduce and/or Transfer:
  - Technical, Environmental and Business Risks
- Eliminate Corporate / Municipal Responsibility for Wastewater / Water Treatment
- Transfer the Wastewater / Water Asset Management to Streamline Internal Operation





# Why Consider D/B or D/B/O ? (cont)

- Avoid the Disadvantages of the Conventional Procurement
- Solicit the "Better Idea"
- Implement the Option for Quality Over Price
- Achieve Cost Competition
- Select Vendor Offering "Best Value" Based on:
  - ✉ Quality of Competitive Design
  - ✉ Quality of Technical Proposal Submittals
  - ✉ Financial Strength of Parent Company (Guarantor)
  - ✉ Business Merit of Contract Proposal



# Where Are the Savings ?

- Savings in Time and Money Due to Single Point of Responsibility -- Quicker Response
- Inefficiencies of the Conventional Design / Bid / Build Process Reduced -- Filed Sub-bids, Negotiation
- Capital Construction Cost Savings
- Operation and Maintenance Cost Savings
  - ✉ Labor Through Natural Attrition
  - ✉ Power and Chemicals
  - ✉ Repair and Replacement -- Proactive Approach



# Risk Allocation

- Single Point of Performance Guarantee
- Single Point of Asset Management Responsibility
- Engineering Permitting and Design Guarantee
- Fixed Price for Construction
- Fixed O&M Service Fee
- Guaranteed Schedule for Design, Construction, Acceptance
- Guaranteed Performance Over Flow and Loading Criteria



# Project Risk Allocation

<u>Risk</u>	<u>D/B/B/O</u>	<u>D/B</u>	<u>D/B/O</u>
Schedule	Municipality Industry	Vendor	Vendor
Construction Cost	Municipality Industry	Vendor	Vendor
O&M Cost	Municipality Industry	Municipality Industry	Vendor
Project Permitting	Municipality Industry	Municipality Industry/Vendor	Vendor



# Project Risk Allocation

<u>Risk</u>	<u>D/B/B/O</u>	<u>D/B</u>	<u>D/B/O</u>
Environmental Compliance	Municipality Industry	Municipality Industry	Vendor
Force Majeure	Municipality Industry	Municipality Industry	Municipality Industry
Change of Law	Municipality Industry	Municipality Industry	Municipality Industry



# Why D/B or D/B/O Are Not Considered?

- Perceived Loss of Control Over Management of Assets
- Concern for Provider Cutting Corners to “Make a Profit”
- Concern for Reduced Maintenance / Upkeep by Vendor
- Perceived Inferior Design and Construction Criteria
- Concern for a Reduction in Service Level
- Potential Loss of Jobs, Wages and Benefits



# Concept of Asset Management?

- Full Service Operation and Maintenance of the Designated Facilities
- Full Responsibility for all “Inside the Fence” Activities
- Full Responsibility to Permit, Design, and Construct New Facilities or Make Needed Capital Improvements
- Detailed Capital Repair and Replacement Program
- Full Provisions “In-force” Until Last Day of Contract



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# *Procurement of D/B -- D/B/O Services*

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# How Do I Get Started?

- Need a “Champion” With Vision to Initiate the Process
- Preparation of “Baseline Analysis” or “Benchmark”
  - ✉ Forms Basis of Comparison
  - ✉ Details the Impacts of Continuing with “Status Quo”
- RFEI Document Prepared and Issued
- Issue Request For Qualifications
- Issue Request For Proposals



# Investigating the Approach - Testing the Waters

- Identify Objectives
- Review Facility Condition, Compliance History, Required Capital Improvements
- Conduct Preliminary Analysis -- Are There Savings to be Realized?
- Assess Your Own Ability to Effect the Required Change
- Conduct Economic Analysis -- Benchmarks From Others
- Decision to Proceed



# Objectives of D/B - D/B/O Services Procurement

- Elicit Competition Among Service Provider Firms
- Attract Proposals From Qualified / Responsive Providers
- Obtain Terms of Agreement that Meet Established Objectives
- Develop a Win - Win Contract That Serves Both Parties
- Provide an Environment for the Development of Attractive Business Relationships
- Demonstrate a Fair and Even Playing Field



# Recommended Procurement Steps

- Redefine Objectives
- Issue RFI -- Generate Vendor Interest (Test the Market)
- Define Key Business Terms & Conditions
- Develop and Issue RFP -- Main Procurement Instrument
- Evaluate Proposals & Conduct Interviews
- Select Service Provider
- Negotiate Contract
- Monitor Contract



# Content of Typical RFP

- Background and Objectives of Procurement
- Description of Facilities
- Scope of Services --- Construction & Operation
- Performance Specifications
- Schedule Requirements



# Content of Typical RFP (cont)

- Draft Contract, Key Contract Terms
- Structure of the Deal
- Procurement Process Description
- Proposal Submission Guidelines and Criteria
- Evaluation Process and Comparison Criteria
- Cost Submission Guidelines and Procedures



# Evaluation of Proposals

- Establish a Selection Committee
- Conduct Technical Proposal Review
- Conduct Cost Proposal Review
- Contact References / Visit Referenced Facilities
- Perform Value Analysis
- Develop Short-List / Conduct Interviews
- Select Vendor



# Technical Evaluation of Proposals

- Completeness Review
- Conformance to Technical and Schedule Requirements
- Review of Exceptions Taken
- Conformance with Minimum Technical Scope Items
- Qualifications and Experience of Firm / Project History
- Qualifications and Experience of Professionals Assigned
- Merits of Technical Approach
- Conformance with Technical Contract Principles





# Economic Evaluation of Proposals

- Total Present Value Cost Analysis
  - ☐ Capital Costs & Operation and Maintenance Costs
- Fair Representation of Future Costs
- Life Cycle Financial Model Developed
- Projected Annual Debt Service - Representation Capital
- Comparison to the Conventional Approach Benchmark
- Sensitivity Analyses Conducted for Bracketing
- Make Valid Comparisons



# Evaluation of Proposers' Financials

- Short Term Perspective / Long Term Perspective
- Quality vs Quantity of Financials
- Strength of Firm
  - ✉ Strong Firm Made Weak -- Special Purpose Company
  - ✉ Weak Firm Made Strong -- Solid Parent Guarantee
- Talk with Credit Analyst / Talk with a Rating Agency
- Work with Source Materials



# Project Financial Analysis

- Public Entity Financing
- Sources of Public Sector Capital
  - ✉ General Obligation Debt
  - ✉ Revenue Debt
  - ✉ Concession Payments
- Revenue Procedure 97 - 13
  - ✉ Maximum 20 Year Term, Renewals Allowed
  - ✉ Minimum 80% Fixed Fee
- Credit Strength of Proposers/Vendors



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# *D/B/O Contracts*

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# Elements of Solid Contracts

- Well-defined Scope of Service
- Highly Specific Performance Standards and Attainable Performance Guarantees
- Necessary Sureties -- Construction and Operation
  - ✉ Labor and Material Payment Bonds
  - ✉ Performance Bonds
  - ✉ Bid Bond
  - ✉ Letter of Credit
  - ✉ Vendor Parent Guarantee



# Elements of Solid Contracts - II

- Review / Oversight of Design and Construction
- Well-Defined Acceptance Testing Requirements
- Information and Reporting Requirements
- Periodic Testing Provision
- Annual Operations Review by Independent Engineer
- Well-Defined Arbitration / Dispute Resolution Provisions



# Elements of Solid Contracts - III

- Protection For Existing Employees
  - ✉ All Employees Offered jobs
  - ✉ Equal or Better Pay / Benefits
  - ✉ No Lay-offs for Life of Contract -- Except for Cause
  - ✉ Recognition of Existing Unions
  - ✉ No Loss of Seniority
  - ✉ No Involuntary Transfer to Off-site Position
  - ✉ Ability to Stay in the Public Pension System
  - ✉ Ability to Remain Public Employees



# Elements of Solid Contracts - IV

- "Make Whole" Provision
- Termination Provisions
  - ✉ Cause
  - ✉ Convenience After the Fifth Anniversary
  - ✉ Excessive Increase in the Service Fee
  - ✉ Excessive Future Capital Modification Costs
  - ✉ Inability for Entity to Pay
  - ✉ Non-appropriation





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# *Frequently Asked Questions*

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# Municipal Procurement of D/B and D/B/O

- How do municipalities procure D/B or D/B/O services in Massachusetts (MA)?
  - Current MA procurement laws do not allow for the procurement of D/B or D/B/O services
  - Municipality would be required to prepare, submit and obtain special "Home Rule" legislation
  - Legislation forms the framework for D/B or D/B/O procurement & controls procurement methodology
  - Examples of municipalities that have obtained legislation include; GLSD, Gardner, LWSC, Plymouth, SWSC, Taunton



# Industrial Procurement of D/B and D/B/O

- How do industries procure D/B or D/B/O services in Massachusetts (MA)?
  - Current MA procurement laws do not impact the procurement of industrial D/B or D/B/O services
  - Special "Home Rule" legislation not required
  - Procurement based on ensuring competition among vendor firms in responding to the RFP process
  - Examples of industries that have or are implementing D/B or D/B/O services: Epic, Inc., CPF, Inc., Polaroid,



# Typical Results

- What are the typical results of a D/B/O procurement?
  - A better design for a WWTP
  - Significant savings in construction costs and O&M costs
  - A reduction in the number of responsible parties: down to a single vendor
  - Design and construction proceeds more quickly
  - Multiple proposals & ideas from several engineering firms, not one
  - Competition from various vendors resulting in cost savings to the municipality



# Typical Results

- What are the typical results of a D/B/O procurement (continued)?
  - Ability to negotiate, per special legislation, the proposed scope of services and cost with the selected vendor
  - Ability to select higher cost alternative to gain higher quality product which may provide lower long-term O&M costs
  - Transfer of certain risks from the municipality to vendor
  - Provision for the protection of current labor force as identified in special legislation



# Ensure Quality Facility

- How would municipality / industry ensure that a quality facility is designed and constructed?
  - Describe proposed capital improvements in the RFP
  - Require the vendor to obtain/comply with all permits
  - Describe the design standards to be used for the capital improvements - detailed specifications
  - Describe the construction standards to be used for construction - detailed specifications
  - Provide for monitoring, testing and observation during the conduct of the work



# Ensure Quality Facility

- How would municipality / industry ensure a that quality facility is designed and constructed (continued)?
  - Define the shop and field testing required along with the standards of testing
  - Define the level of QA/QC during the conduct of the work
  - Define the start-up and acceptance testing guidelines to be implemented



# Security in Transaction

- How would municipality / industry protect itself in the contract?
  - Carefully defined scope of services
  - Requirements for a Letter of Credit, Performance Bond, Labor & Materials Payment Bond for both the construction of capital improvements and O&M services
  - Well-defined performance standards for every phase of project activities through the operating term
  - Requirements for parent company guarantee which provides for standing by the commitments made in the vendor proposal





# Security in Transaction

- How would municipality / industry protect itself in the contract (continued)?
  - Provisions for contract termination for convenience
  - Provisions to arbitrate disputes
  - Defined procedures to be implemented in the event that future capital improvements are required due to regulatory mandates, change of law, or force majeure
  - Provide for “make-whole” provisions
  - Provide for capital repair & replacement escrow
  - Provide for independent contractual oversight



# Due Diligence

- What level of municipal / industrial due diligence is required to ensure a successful D/B/O project?
  - Provide for detailed design & construction document review procedures
  - Require shop and field testing with appropriate standards
  - Active monitoring of design & construction functions
  - Establish a QA/QC program during design and construction
  - Conduct regularly scheduled meetings with the vendor



# Due Diligence

- What level of municipal / industrial due diligence is required to ensure a successful D/B/O project (continued)?
  - Provide for detailed start-up testing and acceptance testing guidelines
  - Active monitoring of the service contract
  - Ensure the municipality has access to the WWTP on demand
  - Provide for the correction of service problems



# Asset Protection

- How can municipality / industry ensure that its assets will be in decent condition at the end of the 20-year contract?
  - Initial contract system inventory via written and video media
  - Provision for computer maintenance management system
  - Provision for full compliance of all permits and performance requirements
  - Provision for MADEP approved staffing plans
  - Requirements for training of WWTP personnel



# Asset Protection

- How can municipality / industry ensure that its assets will be in decent condition at the end of the 20-year contract (cont)?
  - Provision for 24 hour, 7 day per week access of municipal representatives
  - Requirements to perform all preventative, corrective and predictive maintenance required for the facility
  - Provision for the control of odors and noise with the appropriate penalties for non-compliance
  - Provision to respond to emergencies within 2 hours or less



# Protection of Municipal Employees

- How can municipality protect its existing wastewater employees in the special legislation?
  - All employees maintain employment
  - Equal or better pay and comparable benefits
  - Opportunity for advancement
  - Employee leasing agreement possible
  - Staff reductions due to natural attrition