About DBIA & Design-Build

- DBIA is the only organization that defines, teaches and promotes best practices in design-build.

- Design-build is an integrated approach that delivers design and construction services under one contract with a single point of responsibility.

- Owners select design-build to achieve best value while meeting schedule, cost and quality goals.
About DBIA & Design-Build


- Membership includes over 4,000 organizations and individuals who are leaders in the design and construction industry including:
  - Architects
  - Engineers
  - Public and private owners
  - General and specialty contractors
  - Manufacturers and suppliers
  - College and university faculty and students
  - Legal and financial professionals

- Members are committed to utilizing design-build and integrated project delivery methods to achieve high performance projects.
2.0

What is Design-Build
Emphasis on Compliance: **You are buying a Product**

The “Traditional” Way – Design-BID-Build

**Design-Bid-Build**
Two contracts are used to accomplish design and construction.

- **Contract with Architect**
- **Low Bid**
- **Contract with Constructor**

**Pluses** + **Contract** + **Low Bid** = **Contract**

**THIS IS WHERE THE COST COMPETITION TAKES PLACE**
The “Better” Way – Design-Build

Design-Build…
a single contract is used to accomplish design and construction.

Emphasis on Behavior: **You are buying a Service**
Federal Agencies using Design-Build 75%+: 

- Navy Facilities Engineering Command
- Army Corps of Engineers
- State Department
- Bureau of Prisons
Other Federal Agencies Using Design-Build

- General Services Administration
- Veterans Administration
- Department of Agriculture
- Department of Interior
3.0 Advantages of Design-Build
Design-Build Meets Your Requirements

- Significantly Faster Completion Time
- Lower Cost
- Higher Quality
- Greater Owner Satisfaction
- Reduces litigation, change orders and cost growth
- Meets budget constraints
- Puts people to work faster, finishes work faster, costs less
Design-Build Performance
(Comparison of Design-Build vs. CM-at-Risk vs. Design-Bid-Build)

- 6% Lower Cost
- 12% Faster Construction Time
- 33% Faster Project Completion
- Higher quality in all measured categories

SOURCE: Construction Industry Institute (CII)/Penn State Research comparing 351 projects ranging from 5K to 2.5M square feet. Projects were of various types and from various industries.
## Comparison of Project Delivery Methods (CII/Penn State Study)

<table>
<thead>
<tr>
<th>Metric</th>
<th>DB vs. DBB</th>
<th>CM@R vs. DBB</th>
<th>DB vs. CM@R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit Cost</strong></td>
<td>6.1% lower</td>
<td>1.6% lower</td>
<td>4.5% lower</td>
</tr>
<tr>
<td><strong>Construction Speed</strong></td>
<td>12% faster</td>
<td>5.8% faster</td>
<td>7% faster</td>
</tr>
<tr>
<td><strong>Delivery Speed</strong></td>
<td>33.5% faster</td>
<td>13.3% faster</td>
<td>23.5% faster</td>
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<tr>
<td><strong>Cost Growth</strong></td>
<td>5.2% less</td>
<td>7.8% more</td>
<td>12.6% less</td>
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<tr>
<td><strong>Schedule Growth</strong></td>
<td>11.4% less</td>
<td>9.2% less</td>
<td>2.2% less</td>
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<tr>
<th>Parameter</th>
<th>Research Study</th>
<th>CII Penn State (US) DB vs. DBB</th>
<th>Reading DB Forum (UK) DB vs. DBB</th>
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<td>30% Faster</td>
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Making the Design-Build Decision

Relative Importance of Factors Considered in Deciding Whether to Use Design-Build

- Federal Program Initiatives: 3
- Lack of In-House Resources: 3.6
- State Program Initiatives: 3.9
- Quality: 3.9
- Cost of Project: 4
- Opportunity for Risk Transfer: 4.2
- Opportunity for Innovation: 4.6
- Urgency of Project: 5.6

DB Program Survey: Q #1, 29 responses
US Census Bureau Headquarters
Suitland, MD

Construction Start Date: 9/15/2003
Construction End Dates: 12/15/2006
Total project cost: $315,000,000.00
Jag R. Bhargava, Deputy Director, GSA

“With only four years between groundbreaking and full occupancy, we had to find a way of doing it. The only method I could think of was design-build.” On the new Census building.

Pete Swift, Deputy Chief, Design and Construction Branch

“We at the Federal Bureau of Prison have been doing design-build since the FAR regulations changed. Our primary reasons back then were that we would eliminate a lot of the claims we were getting and we had a large workload. Over the years we have not had a claim on any design-build project we have done.”
Pentagon Renovation
Arlington, VA

Construction Start Date: 9/14/2011
Construction End Dates: 2/7/2011
Total project cost: $1,662,000,000.00
What are Federal Officials Saying about Design-Build?

- **Joseph Gott, Chief Engineer and Director of Capital Improvements, NAVFAC**
  
  “At NAVFAC, we do about 75 percent of new construction design-build. The largest reason we select a project for the design-build delivery vehicle is the single point of accountability and responsibility. We have an A/E and a design-build constructor on the same team and have a contract with one company.”

- **Paul Parsoneault, Construction Management Team Leader, Military Programs Branch, USACE**
  
  “There was no way possible to execute an historically large mission using the traditional delivery system. We determined that, in terms of the Army, the default delivery system is designed-build… Primarily because we can deliver more quickly, we can leverage the innovation of industry to provide us with the most cost effective solutions to our requirements.”
Design-Build at the State Level
Making the Design-Build Decision

Relative Importance of Factors Considered in Deciding Whether to Use Design-Build

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DB Program Survey: Q #1, 29 responses
Urgency of Project

35-W Bridge Minneapolis, MN

Rte. 42 Catskill Mountains, NY
Urgency of Project

Harrison County/US Highway 90 Bridge Replacement
Harrison County, MS

St. Bernard Parish Pump Station Rehabilitation
New Orleans, LA
Urgency of Project

Lincoln Road/I-15 Interchange
Safety Improvement Project
Lewis and Clark County, MT
Construction Started: March 15, 2005
Construction Completed: September 8, 2005
Opportunity for Innovation

U.S. 17 Washington Bypass
Chocowinity, NC

Inter-County Connector (ICC)
Montgomery County/Prince George’s County, MD
Upper Blackfoot Mining Complex Water Treatment System
Lincoln, MT

Construction Start Date: 04/01/2008
Completion Date: 01/15/2009
Total Project Cost: $4,444,000.00
Opportunity for Cost and Time Savings

Sea-to-Sky Highway
W. Vancouver to Whistler, BC

US Hwy 52 (ROC 52)
Rochester, MN
Opportunity for Cost and Time savings

I-229 Corridor
Sioux Falls, SD
Quality on a Tight Budget

Mineta San Jose International Airport
San Jose, CA

Cost: $13,400,000.00
Quality on a Tight Budget

The Ramsey County Maplewood Library
Maplewood, MN
Final proposals for Tappan Zee Bridge will create more than 45,000 jobs. The state is using the design-build process to speed the construction timeline approved by New York state lawmakers last December.
Where is the Industry Headed?
Market Share of Design-Build by Building Categories for last 5 years by Dollar Value

Analysis by RSMeans Business Solutions a div of Reed Construction Data
• All state agencies, Metropolitan Sports Commission, and Hennepin and Ramsey counties are authorized to use design-build. (MSA §§ 383B.158 - 383B.1585)

• The University of Minnesota may use design-build on projects with an estimated cost greater than $2 million. MSA - 4 16.C.33; §§16.B.31)

• The Minnesota State Colleges and Universities System are authorized to use design-build. (MSA - 4 16.C.33; §§16.B.31)

• Metropolitan Council is authorized to use design-build. (Minn. Stat. § 473.3995)

• Counties and Cities may use design-build on up to 10 transportation projects as part of a pilot program.

• State agencies, the Metropolitan Sports Commission, Board of Regents and State College and University System are authorized to use CM@Risk.

• Metropolitan counties are authorized to use CM@Risk on Solid Waste Facilities
Design-build is authorized for all public agencies. (SDCLA § 15-18b-20)
Design-Build in Montana

- Alternative project delivery contracts (design-build, construction management and contractor management) are authorized for state, county, municipal construction projects, airports, counties, and sewer districts. (MCA § 18-2-501-503)

- Design-build is authorized for DOT contracts. (MCA § 60-2-111-112; 60-2-137)
• All state, city, county, and local governments are authorized to use design and construction management delivery methods. (Wyo. Stat. § 6.6.101-107)
6.0 Why Does North Dakota Need Design-Build?
The Design-Build Advantage

- Significantly Faster Completion Time
- Lower Cost
- Higher Quality
- Greater Owner Satisfaction
- Reduces litigation, change orders and cost growth
- Meets budget constraints
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Design-Build Delivers for North Dakota’s Conditions

Short Construction Seasons  Historic Floods
The Energy Boom In North Dakota presents both opportunities and challenges.
The Energy Boom Has Presented Opportunities

- Increased Oil Production (500% since 2006)
- Nation’s 2nd largest Energy Producer
- Increased Tax revenues
- Increased Wages
- Low Unemployment
And Challenges

Increased Pressure On Infrastructure

- Roads
- Bridges
- Schools
- Water
- Waste Water
- Housing
- Jails
Transportation Infrastructure Challenges

- Traffic has increased by 300% in some counties
- 50% of the traffic in these areas are heavy trucks
- Roads and bridges are deteriorating faster
- Some counties face severe capacity challenges
The Cost of a Booming Economy - Williston

- $150 Million – Regional Water System
- $150 Million – Upgrading Airport
- $100 Million – Four Lane Truck Route
- $90 Million – Waste Water Treatment

- Typical Design-Build Cost Savings $30-50 Million
Rising Construction Costs Compound Infrastructure Problems

- Construction Costs Increased 12% 2001-2010
- Construction Costs Increased 23% in 2011
Design-Build Savings of $3-7 Million
Does North Dakota Need Design-Build?

If you have infinite supply of time, money and attorneys you probably don’t need design-build...
7.0

The Road to Design-Build
Design-Build in North Dakota

- The DOT is authorized to use design-build on one signal light and one box culvert project. (NDCC 24-02-47)
- The state water Commission is authorized to use design-build for construction of the Devils Lake Outlet. (NDCC 61-02-23.2)
- Municipalities and political subdivisions are authorized to combine price and technical evaluation selection process. They must choose the lowest and best bid. NDCC 44-08-01.1
- North Dakota has virtually no authorization for the use of design-build
The Road to Design-Build

- Changing the current bidding laws
  - Build a Design-Build Coalition
  - Find the Right Model

- Industry & owners making the transition
  - Identify a Point Person within DOT Now
  - Technical Support
  - Training Contractors and Consultants
  - Training For Key DOT Personnel
Questions ?
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“Integration is Our Foundation"