

PROGRESSIVE DESIGN-BUILD

Design-Build Procured with a Progressive Design & Price

A Design-Build Done Right™ Primer



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DESIGN-BUILD PROCURED WITH A PROGRESSIVE DESIGN & PRICE A DESIGN-BUILD DONE RIGHT™ PRIMER

BACKGROUND

Design-build has been used in the private sector for decades, particularly in the industrial and process industries (often known as EPC or engineering-procurement-construction). In executing their design-build projects, private sector owners typically contract with their design-builders early in the project's life. They not only want to take full advantage of the design-builder's expertise, but also want to work collaboratively with the design-builder to develop a design that meets the project's goals. Recognizing the benefits of having the best team working on their behalf, private sector owners typically select their design-builders primarily on qualifications. While most private sector owners ultimately expect their design-builders to provide price, schedule and performance commitments, they defer obtaining these commitments until after the design has been sufficiently defined — enhancing the opportunity for collaboration, teamwork and the likelihood of project success. Once the parties have negotiated and agreed upon the commercial terms of their relationship,

the owner can be more assured that the design-builder's commitments will be honored — the design-builder's continuum of involvement creates ownership and leads to reliable commitments. The concept here is that the design-builder helps create it and will therefore support it. This effort essentially aligns expectations up front before executing the work of design and construction, thus significantly reducing the misaligned expectations for scope, cost and schedule between the owner and design-builder.

Although public sector owners have embraced design-build since the late 1990s, they often approach their design-build relationships differently than most private sector owners. Public sector owners oftentimes require that a final project price be established at the time the design-builder is selected, demonstrating how they will meet the owner's requirements within the established budget.

DESIGN-BUILD PROJECT DELIVERY

In reviewing this primer keep in mind that **“project delivery” is a comprehensive process including planning, programming, design, construction and consideration of operations and maintenance required to execute and complete a building facility or other type of project.** When choosing **design-build project delivery**, an owner can choose from among various approaches for “procurement” and “contracting” as outlined on page 5. Design-build utilizing a “progressive” procurement and contracting approach is the basis of this primer.

Regardless of the design-build approach selected, industry studies have shown that projects delivered through design-build perform far better in terms of cost, quality and schedule than those using design-bid-build and construction management at-risk. Throughout this primer you'll see reference to the term **Design-Build**

Done Right™. This refers to design-build performed according to DBIA Best Practices, regardless of the procurement or contract approach.



Photo credit: Veterans Memorial Bridge in Martin County, Florida

Design-Build Project Delivery



WHAT IS PROGRESSIVE DESIGN-BUILD?

One application of design-build delivery is via a stepped, or progressive process (commonly referred to as Progressive Design-Build or PDB). PDB uses a qualifications-based or best value selection, followed by a process whereby the owner then "progresses" towards a design and contract price with the team (thus the term "Progressive").

While procurement laws vary for public owners, some have the flexibility to implement a PDB procurement approach that essentially replicates that used by private sector owners. PDB core features include the following:

- The design-builder is retained by the owner early in the life of the project and, in some cases, before the design has been developed at all.
- The design-builder is generally selected primarily, if not exclusively, on qualifications and the design-builder's final project cost/price and schedule commitment is not established as part of the selection process.
- The design-builder delivers the project in two distinct phases with: (a) Phase One including budget level

design development, preconstruction services and the negotiation of a firm contract price (either lump sum or guaranteed maximum price) for Phase Two; and (b) Phase Two including final design, construction and commissioning.

Phase One Services are also called **Preliminary or Preconstruction Services**. The design-builder first collaborates with the owner and its consultants to create or confirm the project's basis of design, programming requirements and then advances that design. Design and other project decisions are based on cost, schedule, quality, operability, life cycle and other considerations, with the design-builder providing ongoing, transparent cost estimates to ensure that the owner's budgetary requirements are being achieved. At the point in time where the design has been advanced to an appropriate level of definition that aligns with the owner's requirements, the design-builder will provide a formal commercial proposal (including the overall contract price) for Phase Two services. The proposal is often established when the design is approximately 40 to 60 percent complete, but it can occur anytime (including as

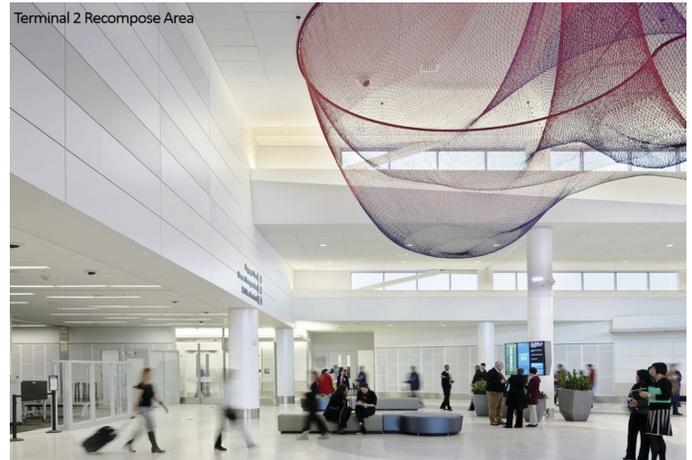
late as 90 to 100 percent design completion), depending on the amount of control the owner desires to maintain over the design definition.

Phase Two Services are also called **Final Design and Construction Services**. Once the owner and design-builder agree upon commercial terms (including the project's price and schedule), the design-builder will complete the design and construction of the facility in accordance with those commercial terms. The design-builder will also be responsible for any testing, commissioning, and other services that have been agreed upon.

If, for any reason, the parties cannot reach agreement on the Phase Two commercial terms, then the owner may consider an "off-ramp" option — where it can use the design and move forward with the project through another contract strategy.

As discussed more later, a PDB relationship can be established with the parties entering into two separate contracts for each phase of work or a single contract that covers both phases. Also, while there appears to be a

"bright line" between Phase One and Phase Two Services, the pragmatics of expediting project schedules often require that some Phase Two work be started before the commercial proposal has been agreed upon. As a result, many PDB projects allow the design-builder to proceed on "early work" packages for discrete elements of the physical work (e.g., procurement of long lead items, demolition or site work) before Phase Two authorization.



Terminal 2, San Francisco International Airport

WHY WOULD AN OWNER CHOOSE PDB?

Owners with flexibility as it relates to procurement laws may find the following value-added with PDB:

- Streamlines and simplifies the procurement process, which encourages competition and has a schedule benefit to the project — benefiting both the owner and the design-builder.
- Enables the owner to provide substantial input on the design and buyout decisions, as it collaborates with design-builder during design development and buyout (excluding key trade partners).
- Lessens pressure from the owner in terms of the time required to review and act upon design submittals, as this is typically being done during Phase One, before the contract's commercial terms (including contract price and schedule) have been guaranteed by the design-builder.
- Shortens the overall project schedule with a quicker procurement process and opportunity to use early work packages in phasing the work.
- GMP offers the owner transparency into the design-builder's proposal cost (including the pricing for risk and contingencies) and the ultimate cost for final design and construction.

- Offers the owner an "off-ramp" should the owner fail to accept the design-builder's price or other commercial terms.
- Provides a collaborative way to establish "single point of responsibility" and eliminate an owner's Spearin Doctrine liability risk.

While all the above attributes can be important, PDB is an excellent option when an owner wants to use design-build but remain actively involved in the design decisions.

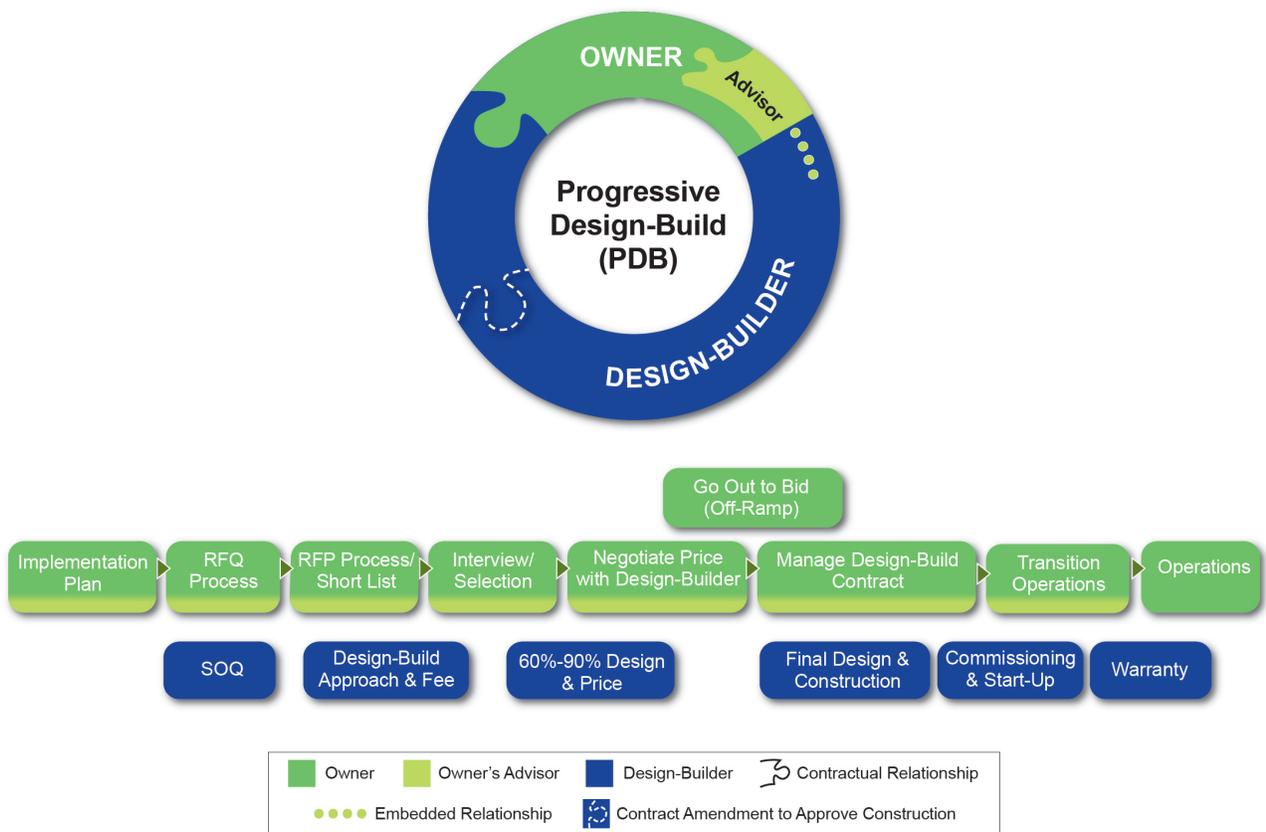
"One application of design-build delivery is via a stepped, or progressive process (commonly referred to as Progressive Design-Build or PDB). PDB uses a qualifications-based or best value selection, followed by a process whereby the owner then 'progresses' towards a contract price with the team (thus the term 'Progressive')."

POTENTIAL OBSTACLES TO PDB?

Despite the positive attributes, there are several reasons that a public owner may not be interested in, or even able to use, PDB. Among these reasons are the following:

- **Restrictive procurement regulations.** If the public authority has the ability to use qualifications-based selection (QBS), PDB can be an optimal choice. However, if the procurement regulations only allow for the typical two-phase best value source selection process, PDB may not be permissible.
- **Awarding without full competition on the overall design-build contract price.** PDB calls for the owner to select the design-builder largely on the basis of qualifications, without the benefit of price competition on the overall design-build contract price. Some owners find awarding a construction contract without full price competition to be politically impractical, and prefer to have price factored into the selection process. They may also feel uncomfortable in negotiating the commercial terms of the arrangement.
- **Exercising the “off-ramp”.** Owners may be uncomfortable in exercising the “off-ramp” in the event the parties cannot reach commercial agreement on the design-builder’s proposal.
- **Subcontractor procurement challenges.** Procurement regulations may require subcontractors to be procured competitively. This can limit collaboration and deprive the project of valuable subcontractor input during the design process.
- **Lack of interest in changing approaches.** Owners may feel that the best value design-build process works well and that there is no reason to try something different.

THE PDB PROCUREMENT PROCESS



THE PDB PROCUREMENT PROCESS

As with any variation of design-build, when an owner decides to use PDB, it should have a single fundamental procurement objective — select the right team, using a process that is as streamlined and simple as possible based upon applicable regulations. Who is the right team?

- The team that will work well and collaboratively with the owner.
- The team that offers the best chance to meet the owner's project goals and required outcomes.
- The team that the owner believes is trustworthy, fair, qualified and transparent.

In accomplishing this objective, an owner will either use pure QBS processes or best value selection processes, typically by looking at what is prescribed by its procurement regulations.

QBS is based solely on non-price selection factors, such as qualifications and past performance of the team members, key trade partners and key personnel, project approach and creativity. No price information is evaluated whatsoever. Under QBS, some owners may ask for price information on items like the Phase One compensation or the design-builder's fee. This information will be in a separate submission from the qualifications/technical proposal, but unlike a best value procurement, it will not be evaluated as part of the selection process. Instead, the owner will open this submission only after determining the winning design-builder, and will use this information for negotiating the contract with that design-build entity.

Best value selection chooses the design-builder based on both non-price and price factors. Because the entire design-build contract price is not under consideration, the types of price factors are limited — such as the Phase One compensation and design-builder's fee noted above. Because these are relatively small dollar values in relation to the ultimate design-build contract price, the weighting for the price factors is generally quite low (e.g., 5 to 20 percent or treated as a trade-off and not weighted at all as with the federal model) in comparison to the non-price factors.

There are several procurement decisions an owner needs to make, regardless of whether using QBS or best value selection. One is whether to conduct a one-step or two-step selection process. One-step can be quite efficient for QBS, particularly if there is little technical information being asked of the proposers. One-step is not appropriate if the deliverables required from proposers are substantial.

Two-step is more typical for QBS on complicated projects or best value selection, as proposers will be spending time and resources to respond with more detailed technical proposals and owners must thoroughly evaluate these proposals. The two-step process contemplates the development of a shortlist (typically the three most highly qualified teams), largely based on corporate qualifications and past performance, key trade partners and resumés of key personnel. The second step contemplates the submission of technical proposals, with the proposal focusing on what the owner needs to meet its objective of selecting the right team. Proprietary one-on-one meetings are often used in two-step processes. It is an excellent way to have confidential discussions about ideas developed by the proposers and get a sense of how proposers interact within their team, as well as with the owner's team.

Whether the owner uses a one-step or two-step process, there is a strong benefit in the owner conducting formal interviews. After all, because the point of all integrated design-build project delivery is to get the right team on board, the owner should have an ability to assess how that team presents itself.



Photo credit: Champion Petfoods Kentucky DogStar® Kitchens in Auburn, Kentucky

CONTRACT ISSUES UNIQUE TO PDB

There are some important differences with PDB contracts. The first difference is the form of contract. Some owners will start their contractual relationship with the design-builder with a Phase One Agreement which, as the name indicates, just covers the Phase One Services. They find that this streamlines getting the design-builder under contract. Such owners are comfortable with developing and negotiating another contract, for Phase Two Services, as part of the commercial proposal process. Other owners prefer to have a single design-build contract that addresses both Phase One and Phase Two Services and is signed at the start of their relationship with the design-builder. Among other benefits, this approach can make it easier to execute early work packages, as the terms and conditions related to procurement and construction are already covered by the contract. For example, DBIA's Document No. 545, *Progressive Design-Build for Water/Wastewater Projects*, uses a single design-build contract approach.

Regardless of which approach is used, the parties are advised to focus on the preliminary services part of the relationship, as elements of that work go to the heart of the PDB relationship. Topics that are commonly addressed include:

- **Scope of Phase One work, including cost modeling.** The contract (often through an exhibit) will specifically state what work the design-builder will perform for Phase One, including the extent and frequency of cost estimating and modeling.
- **Ability of the design-builder to use and rely upon owner-furnished information.** Because the design-builder is getting involved early in the design process, there is a question as to how to treat information obtained by the owner before the design-builder was involved (like geotechnical reports and technology decisions). Working collaboratively, most owners and design-builders make informed decisions about the cost-benefit of having the design-builder validate previously done studies and then treat findings appropriately in the contract.

- **Early work packages.** The contract should address the processes for developing and authorizing early work packages. This includes procuring subcontractors, evaluating self-performance of the design-builder and determining how to proceed if the owner exercises the "off-ramp."
- **Design-builder self-performance.** The contract will address the applicability of self-performance, particularly in relation to subcontractor procurement requirements.
- **Subcontractor and vendor procurement and their involvement in Phase One.** The contract should address how (and when) subcontractors and vendors will be procured and the owner's role in that process. This may be heavily influenced by statute. Likewise, the parties need to address the role that these parties may play in Phase One and how this relates, if at all, to their involvement in Phase Two.
- **Commercial proposal.** This important element of Phase One should be thoroughly addressed in the contract, particularly in terms of the form of the proposal and information that the design-builder is to submit.
- **Off-ramp.** The option for an owner to consider an "off-ramp" should be clearly addressed, including the rights of the owner to use Phase One information for subsequent procurements associated with the project.

Finally, the parties need to determine the process for obtaining performance and payment bonds from the design-builder. Work and prices are being established a number of different times — Phase One, early work packages and Phase Two. Often the bond will be provided once construction starts, although some owners will require a bond at the contract inception (Phase One) and have the penal sum increased as work is added. Parties should consult with legal counsel and bonding consultants on the best way to approach.

PREPARING TO IMPLEMENT PDB: HELPFUL TIPS

As with design-build, an owner should carefully consider what it needs to make the PDB process successful. A few suggestions are as follows:

1. **Assess the appropriateness of PDB for the project.** Owners should gain a full understanding of PDB and conduct a proactive/objective assessment of the characteristics of its project and determine if PDB is the appropriate delivery method for its project.
2. **Understand procurement limitations.** While some public sector owners have a clear ability to use QBS, most public sector owners are required to consider price within the source selection process. Likewise, many owners are required to comply with statutes that address subcontractor procurement. It is critical for the owner to fully appreciate its procurement opportunities and limitations in formulating a procurement plan, and engage experienced in-house or outside legal counsel to facilitate.
3. **Have a strong cost estimator on your design-build team.** Conceptual cost estimating is an important and difficult skill. The owner needs to ensure that the design-builder has competent resources in this regard, allowing seamless evaluation of the

reasonableness of the design-builder's cost modeling and price proposal.

4. **Make an early decision on subcontractor procurement and design-builder self-performance.** These issues can be major factors in determining whether organizations are interested in competing. Moreover, if the owner decides that it wants to have most, if not all, subcontractors competitively procured, this issue could influence the ability to obtain collaboration and design innovation, given that subcontractors are often the repository of such knowledge.
5. **Ensure that your team is willing and able to collaborate and trust.** While any form of design-build requires collaboration, flexibility and trust, these factors are often the very essence of why an owner has chosen PDB. The owner's team members should understand the importance of collaboration, and senior management needs to ensure that collaboration and integration is supported and carried out throughout performance of the project delivery process.

A WORD ABOUT DESIGN-BUILD DONE RIGHT™

As discussed above, the principles of Design-Build Done Right™ apply to all variations of design-build, including PDB. PDB is another "tool in the toolbox" for owners, and, consistent with Design-Build Done Right™ principles, the owner needs to make an informed decision as to which approach is most appropriate for its needs.

Regardless of which approach is used, experience shows that project success is predicated on the parties using the principles expressed in Design-Build Done Right™ such as: (a) selecting the most qualified team; (b) letting the design-builder use its ingenuity and experience to develop design solutions; (c) weighting price significantly less important than non-price factors; and (d) seeking best value solutions, such as energy efficiency, durability, sustainability and ease of maintenance.

Design-Build Done Right™ teaming philosophies of integration and collaboration, as well as environments based on trust and flexibility — characterized by integrity and honest communication and mutual respect for and appreciation of diverse perspectives and ideas, are also critical to design-build success.

Stated simply, if a project team can operate in accordance with Design-Build Done Right™ values, there is a significantly improved likelihood of superior project outcomes under design-build of any variation, including PDB.

DBIA endorses all variations of design-build when done according to best practices and not on a pure low-bid basis. The approach selected depends on the application and needs of the owner.

“DESIGN-BUILD DONE RIGHT™” AND CERTIFICATION

Certification provides the only measurable standard by which to judge an individual’s understanding of “design-build done right.”

DBIA certification in design-build project delivery educates owners as well as designers and builders on team-centered approaches to design and construction. Owners want successfully executed design-build projects and are looking for a demonstration of both relevant continuing education and experience — both of which can be gained through DBIA certification.

DBIA offers two types of Certification.



Attaining the DBIA™ requires from two to six years of hands-on experience of pre and post-award design-build. Credential holders who display “DBIA” after their names come from traditional design and construction backgrounds; they are private or public sector architects, engineers and construction professionals. Some attorneys and academic practitioners who specialize in design and construction generally and design-build specifically may also fulfill the DBIA™ requirements.



Unlike the DBIA™ credential, obtaining the Assoc. DBIA™ does not require hands-on field experience. Instead, this credential is focused on three key types of individuals who possess a different type of experience: (1) pre-award professionals focusing on critical aspects of the design-build process such as business development and acquisition/procurement; (2) seasoned professionals who are new to design-build project delivery, but not new to the design and construction industry; and (3) emerging professionals such as recent college graduates with relevant educational background in the AEC industry.

For more information, visit www.dbia.org/get-certified



ADDITIONAL RESOURCES

- DBIA Manual of Practice
- DBIA Standard Form of Contracts
- DBIA Universally Applicable Best Practices
- DBIA Sector Specific Best Practices
- Choosing A Project Delivery Method
- DBIA Position Statements

...and much more

Can be found at dbia.org





MISSION:

DBIA promotes the value of design-build project delivery and teaches the effective integration of design and construction services to ensure success for owners and design and construction practitioners.

VISION:

DBIA will be the industry's preeminent resource for leadership, education, objective expertise and best practices for the successful integrated delivery of capital projects.

VALUES:

- Excellence in integrated design-build project delivery, producing high value outcomes.
 - An environment of trust characterized by integrity and honest communication.
 - Mutual respect for and appreciation of diverse perspectives and ideas.
- A commitment to innovation and creativity to drive quality, value and sustainability.
 - Professionalism, fairness and the highest level of ethical behavior.



DESIGN-BUILD DONE RIGHT™

PRIMER

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Air Traffic Control Tower, San Francisco International Airport