# QUALIFICATIONS-BASED SELECTION

## The Best Practice for Procurement of Engineering Services

February, 2015

**Overview:**

Selecting a consulting engineer is one of the most important decisions a client makes. To a great degree, the success of a project depends on securing the engineering firm with the most experience and expertise that fits the project. Experience shows that selecting a consulting engineer through Qualifications-Based Selection (QBS) ultimately provides the best value for money.

The QBS process sees clients select a consultant based on their technical competence, experience on similar projects, managerial ability, and personnel to be dedicated to the project, local knowledge, industry reputation and integrity.

The client's choice is made on these qualifications with fees negotiated only after the consulting engineer is selected.

The main advantage of the process is that the engineer and client work collaboratively to maximize the quality, value, cost effectiveness and usefulness of the final product. Engineers believe strongly that their services should be selected on the basis of qualifications and competence. QBS is used by the United States Federal government and 44 of 50 states. It provides for vigorous and open competition among design firms, assuring the client they are selecting the most capable professionals, while at the same time obtaining a price that is "fair and reasonable."

**What is Qualifications-Based Selection?**

QBS was codified as part of the *Brooks Act*, passed into law by the United States Congress in 1972, to protect the interests of taxpayers. Over the life of a project, engineering-related services account for approximately one and one-half percent of total costs. Yet these services play a major role in determining the other 98.5 percent of the project's life-cycle costs, as well as the quality of the completed project; QBS puts these costs in the proper context.

The *Brooks Act* requires a competitive process in which engineers submit their qualifications to the project owner; the owner assesses the relative expertise of the competing firms; and the most qualified firm is selected for the development of scope of work and cost negotiation. During negotiation, the scope of the project is further defined. If the negotiation does not result in an agreement on project scope, schedule and budget, the owner then negotiates with the second-ranked firm. The cost of the engineering services is a major factor in the procurement, just not the only factor.

**Why QBS is important to public procurement:**

Supporting Ontario's infrastructure accounts for a significant investment of tax dollars. Upfront procurement decisions have a significant impact on not only the cost and quality of the design and construction phase, but on operations and maintenance of infrastructure assets over their entire design life.

To ensure the best possible outcome and the best possible value for taxpayers, eligibility for public infrastructure funding should be conditional upon use of best practices for procurement.

**QBS is the Recommended Best Practice of the design industry**

To ensure the best possible outcome and the best possible value for taxpayers, eligibility for public infrastructure funding should be conditional upon recipients adopting QBS.

**How the Best Practice works**

**Selecting the right team for the right project at the right price**

The best practice encourages the selection of the most qualified team who will work with the owner to jointly develop the required project scope of work and the appropriate schedule and fees. QBS identifies the proponent that will provide the most value to the client and help it achieve its objectives, and then negotiate terms of engagement. If the owner and the preferred team cannot come to terms on scope and fees (e.g. project budget), the client is free to proceed to the next-preferred team.

**The Benefit to Ontarians:**

a) **Better value for taxpayers**

QBS encourages innovation and provides better value for Ontario taxpayers on their infrastructure investments. It provides accountability by ensuring that fees will directly correspond to the level of service and the value of deliverables to be provided. QBS also results in more realistic and predictable budgets and schedules for capital expenditures.

b) **Significant life-cycle savings**

QBS maximizes the value of the engineer's contribution to a project while reducing the project's life cycle costs. Design engineering typically accounts for only about one and one-half percent of the life cycle cost of infrastructure, but dramatically impacts the cost and quality of the remaining 98.5%. A recent American Public Works Association study shows that using QBS for engineering reduces construction cost overruns from an average of 10% to less than 3% - equivalent to a savings of up to $700K on a $10M capital project. These savings are often greater than the original design fees.

QBS emphasizes quality, fosters innovation, and generates real savings in construction, operations and maintenance, saving taxpayer dollars while optimizing public safety and welfare.

c) **A transparent and competitive process**

QBS is a competitive process – the cost of engineering services is a factor in the procurement, but it is finalized after the most suitable firm for the project has been selected.

**d) Benefits small firms**

QBS helps small firms compete by providing them a process through which to demonstrate the advantages that they often have over larger firms, including a greater degree of niche market expertise, greater knowledge of the local market and greater involvement of senior level management in the execution of the project.

**e) Promotes communication and technical innovation**

Using QBS provides owners the opportunity to fully define the scope of work of the project during the selection process. This results in a project that is thoroughly thought out and fosters innovative, creative, cost-saving and timesaving approaches to problems. It also fosters better communication and business relationships between owners and proponents as the process makes them partners in the job.

**What's wrong with low price selection?**

Public infrastructure development based on the lowest possible fee has the potential to suffer long-term consequences to both the economy (higher costs to the taxpayer) and public safety. Awarding projects based on lowest fee creates pressure to expend the least amount of resources necessary to meet the bare minimum requirements of the project. The result is the loss of an opportunity to optimize the design, reduce lifecycle costs and enhance safety. It also discourages innovation and effectively penalizes proponents that anticipate potential complexities or who wish to propose value-added solutions all to save tax payers money.

**Who supports QBS?**

1. **Metrolinx**

   The agency has undertaken two QBS pilot projects; first, the multilevel parking structure at the Rutherford GO Transit Stations (November, 2014); second, the electrification of the GO Transit Corridor (December, 2014).

2. **Progressive Canadian Municipalities**

   Some Canadian municipalities, such as Calgary use QBS for selecting engineering firms for public works projects.

3. **The Canadian Standards Association**

   The Canadian Standards Association, under its *Infrastructure Solutions Program*, has developed training tools for the implementation of QBS and will be available for all levels of government shortly.

4. **National Guide to Sustainable Municipal Infrastructure**

   *InfraGuide* is a collaboration of the Federation of Canadian Municipalities; the National Research Council; and Infrastructure Canada.

5. **Standing Committee on Government Operations**

   In 2009, a report of the House of Commons Standing Committee on Government Operations recommended that QBS should be investigated and considered for Federal Government procurement of professional services.

6. **Leading Industry and Professional Associations**

   - Association of Consulting Engineering Companies - Canada
   - Engineers Canada
   - Royal Architectural Institute of Canada
   - International Federation of Consulting Engineers (FIDIC)
   - American Public Works Association

7. **US Federal and State Governments**

   Since 1972, US federal law has required the use of QBS for procurement of professional engineering and architectural services on projects that receive federal funding. Similar laws have since been adopted in 44 US states through their own "mini Brooks Acts".

Note: This document draws information taken from materials available from:

- Association of Consulting Engineering Companies – Canada (ACEC)
- American Council of Engineering Companies (ACEC)
- International Federation of Consulting Engineers (FIDIC)