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Choosing the right project delivery path

Case Study of the Bonnybrook WWTP Plant D Expansion

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When initiating the Bonnybrook WWTP Plant D Expansion the team was faced with the question ‘What project delivery approach is best suited to this project?’ In this article we will provide an overview of the Alternative Project Delivery (APD) Methods Analysis employed on the Bonnybrook WWTP Plant D Expansion project and describe the reasons for considering APD approaches and the process for selecting the preferred delivery method(s) for a project.

Drivers for Alternative Project Delivery

Most major construction projects in the water & wastewater industry have conventionally been delivered through a design-bid-build (DBB) method of delivery. In this “traditional method” of delivery, an owner separately procures an engineer and contractor to complete the design and construction phases of the project in a sequential fashion.

However, APD methods are being considered more frequently in the public sector because they can provide a variety of benefits over traditional delivery methods such as time and/or cost savings. It is important to recognize that these benefits sometimes come

with trade-offs, such as reduced control or change in risk, so the pros and cons of each APD method needs to be weighed for specific projects.

While there are numerous factors, or drivers, that can lead an owner to consider APD methods it is important to take into account whic3.9(re)1.7(o7)-16.1d(8(o)-1 a)-148

- Do we foresee the potential need for any major scope changes as the project progresses?
- Is there a need to design and construct portions of the project sooner or can we wait until the entire design is complete and tender as one or more lump sum packages?
- How can we, as a team maximize the potential direct and indirect economic impacts that can be generated by this project (i.e., benefit to local business)?

Bonnybrook Plant D Expansion Project

The Bonnybrook Plant D Expansion project is a \$600M capital expansion to an operational wastewater treatment plant. The project consists of retrofits to existing infrastructure and the construction of new large-scale infrastructure for both the liquid and solid streams at the plant. The project includes dozens of contracts for major scopes of work, hundreds of tie-ins to the operating facility and required a multitude of permits and approvals.

Due to the size, complexity, and tight implementation timeline of the project, it was highly beneficial – if not necessary – for the City to divide it into several smaller work packages. Reasons for this include optimizing sched