Minute No. 609
Reports – Standing Policy Committee on Water, Waste and Environment – June 23, 2023

Item No. 8 **Procurement Model Recommendation and Delegation of Authority Request for the North End Sewage Treatment Plant (NEWPCC) Upgrade – Biosolids Facilities Project**

COUNCIL DECISION:

Council concurred in the recommendation of the Standing Policy Committee on Water, Waste and Environment and adopted the following:

1. That the NEWPCC Upgrade: Biosolids Facilities project be delivered using a Progressive Design Build procurement model.

2. That authority be delegated to the Chief Administrative Officer to:

    A. Approve that the City enter into, execute, deliver and perform the Early Works Contract(s), up to a cumulative amount of $50 million, for the NEWPCC Upgrade: Biosolids Facilities project with the design builder, and all such other agreements ancillary to the Early Works Contract(s) as deemed necessary by the Director of Legal Services and City Solicitor (the "Early Works Ancillary Agreements"), provided there are sufficient funds in a budget approved by Council.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

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DECISION MAKING HISTORY:

Moved by Councillor Mayes,

That the recommendation of the Standing Policy Committee on Water, Waste and Environment be adopted by consent.

Carried

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On July 5, 2023, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Water, Waste and Environment and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On June 23, 2023, the Standing Policy Committee on Water, Waste and Environment concurred in the recommendation of the Winnipeg Public Service, with the following amendment:

- Delete Recommendation 2.A. in its entirety and renumber the remaining recommendations accordingly

and submitted the matter to the Executive Policy Committee and Council.

ADMINISTRATIVE REPORT

Title: Procurement Model Recommendation And Delegation Of Authority Request For The North End Sewage Treatment Plant (Newpcc) Upgrade: Biosolids Facilities Project

Critical Path: Standing Policy Committee on Water, Waste and Environment – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
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EXECUTIVE SUMMARY

In April 2023, the Public Service met with potential proponents to discuss proposed details of the NEWPCC Upgrade: Biosolids Facilities design build agreement. Only one proponent has interest in the project as a traditional Design Build (DB) procurement model. The market prefers a different type of model, called a Progressive Design Build (PDB). If the project proceeds as a traditional DB and does not generate competitive interest there is significant risk to schedule and cost. To ensure the successful procurement and delivery of the Biosolids Project, the Public Service recommends using a PDB model.

A PDB is a collaborative procurement model where the design builder is selected primarily on qualifications. The work is awarded in two phases: a Development Phase and an Implementation Phase. During the Development Phase, the City provides input and works collaboratively with the design builder to develop a 60 percent - 90 percent complete design. Cost for this phase can be based on time and materials or fixed price, and is generally expected to be up to 10 percent of the overall project cost. In the Implementation Phase, the design builder independently completes the design and constructs the project. The cost for this phase is a negotiated fixed price based on the work done in the Development Phase. Since the design is almost complete and risk has been reduced, less contingency is needed for the fixed cost of the Implementation Phase.

Following approval of the procurement model change, the Public Service will issue the Request for Proposal (RFP). To help manage any potential schedule impact, the Public Service recommends delegation of authority to the Chief Administrative Officer for Phase 1 to enter into, execute, deliver and perform the Development Phase (up to $75 million), Early Works Contract(s), and associated Ancillary Agreements (up to $50 million). The current approved funds are enough for award of this phase.

The Public Service will return to Council for approval to award Phase 2 (Implementation).

RECOMMENDATIONS

1. That the NEWPCC Upgrade: Biosolids Facilities project be delivered using a Progressive Design Build procurement model.

2. That authority be delegated to the Chief Administrative Officer to:

   A. Approve that the City enter into, execute, deliver, and perform the contract, up to a cumulative amount of $75 million, for the Development Phase of the NEWPCC Upgrade: Biosolids Facilities Project with the preferred proponent, and all such other agreements ancillary to this contract as deemed necessary by the Director of Legal Services and City Solicitor (the “Development Phase Ancillary Agreements”), provided there are sufficient funds in a budget approved by Council.

   B. Approve that the City enter into, execute, deliver and perform the Early Works Contract(s), up to a cumulative amount of $50 million, for the NEWPCC Upgrade: Biosolids Facilities project with the design builder, and all such other agreements ancillary to the Early Works Contract(s) as deemed necessary by the Director of Legal Services and City Solicitor (the “Early Works Ancillary Agreements”), provided there are sufficient funds in a budget approved by Council.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

At the July 21, 2022 meeting, Council approved the NEWPCC Upgrade: Biosolids Facilities Project be delivered using a Design Build procurement model, therefore Council approval is required to change the procurement model.

As the total estimated value of all phases of the contract will exceed $30 million, MRST, GST extra as applicable, Council approval is required for delegation of authority to the Chief Administrative Officer to award the contracts for the Development Phase and Early Works.

IMPLICATIONS OF THE RECOMMENDATIONS

This report recommends amending the procurement and delivery method of the NEWPCC Upgrade: Biosolids Facilities project to a PDB model as it has the greatest likelihood of a successful procurement with the least impact on project schedule. Not proceeding with this change will likely result in procurement failure, which would cause significant schedule delays, and impact the City’s ability to meet licence compliance.

Delegation of authority to the Chief Administrative Officer to enter into, execute, deliver and perform the Development Phase, Early Works Contract(s), and associated Ancillary

Agreements for the NEWPCC Upgrade: Biosolids Facilities project will ensure that the change in procurement model has minimal cost and schedule impact on the project.

HISTORY/DISCUSSION

The NEWPCC treats biosolids for all three sewage treatment plants in the City, receives sludge from the Rural Municipality (RM) of East St. Paul and wastewater from portions of the RMs of West St. Paul, St. Andrews and Rosser.

The November 25, 2022 annual update report to the Standing Policy Committee on Water, Waste and Environment on Biosolids Treatment Capacity highlighted remaining capacity could be consumed within the next five to eight years (an equivalent population of 80,000). This was identified as a limiting factor for growth in both the City and the Winnipeg Metro Region.

In addition to nearing its treatment capacity, the existing facility is out of compliance with its Environmental Act Licence and parts of the facility are also at end of life.

A new biosolids facility will:

- Take a necessary step toward NEWPCC licence compliance
- Provide a higher level of biosolids treatment which will allow the City to maximize the beneficial reuse of biosolids
- Increase digester size to support continued growth and development in the city
- Accommodate interim chemical phosphorous reduction until the NEWPCC Upgrade: Nutrient Removal Facilities Project is complete
- Ensure ongoing, reliable operation of the sewage treatment plant

Procurement Model Market Feedback

In August 2021, a high-level market sounding was conducted for the NEWPCC Upgrade: Biosolids Facilities project to determine potential procurement models. Results confirmed the viability of various forms of Design Build (DB), including design-build-finance and Progressive Design Build (PDB).

On July 21, 2022, Council concurred in the recommendation that the NEWPCC Upgrade: Biosolids Facilities project be delivered using a traditional DB procurement model. A revised Class 3 estimate for the biosolids project was also presented in July 2022 to Council that identified a substantial increase in the overall construction cost as a result of project delay, revised enhanced preliminary design requirements, and current market conditions. To mitigate cost increases, the Public Service would undertake actions to create as much industry interest as possible for this project to receive competitive bids.

In October 2022, a second market sounding was completed to canvass interest, solicit feedback on the project's DB procurement, identify key Design Build Agreement (DBA) terms, and identify concerns that would limit industry participation in this project. At that time, the market indicated that two to three potential proponents were interested in this project as a DB procurement, subject to a more balanced approach in its risk transfer (i.e. escalation clauses, process performance guarantees, limits of liabilities, etc.). The City used feedback from this market sounding to draft proposed terms and conditions to be included in the DBA.

In April 2023, the Public Service met with potential proponents to present draft details of the anticipated project commercial and technical terms. Although the City was complimented on their willingness to adjust the terms for a more balanced risk transfer approach, the market indicated that only one proponent remained interested in pursuing this project under a traditional DB procurement model.

Reasons for lack of interest in pursuing this project as a DB included:

- Highly competitive market with more attractive opportunities, many of which are lower risk propositions for design builders (i.e. PDB or other early contractor involvement models);
- Lack of availability of design resources who are unwilling to commit resources under the current procurement model;
- Risks associated with the project's capital size and construction duration;
- Risks associated with providing a fixed price despite potential price escalation.

Risks with Continuing under a Traditional DB Procurement Model

Based on the results of the April 2023 term sheet review, the Public Service evaluated the risk of continuing the project under the current DB procurement model with potentially only one proponent. As this would provide no competition, the risk of procurement failure was high. Proceeding under these conditions is not recommended for the following reasons:

- Having no proponents would require the procurement process to restart, resulting in a significant loss of time;
- A single proponent may abandon the procurement process, requiring the procurement process to restart resulting in a significant loss of time;
- Significant time lost may put funding at risk, have licence implications (i.e. fines), and/or require the City to limit growth due to biosolids capacity limitations;
- A lack of competition limits the City's ability to mitigate cost risk and has the potential to result in inflated prices (the NEWPCC Upgrade: Headworks Facilities project had limited competition with only two bidders and came in $65 million above the City's affordability limit);
- A lack of proponent competition limits the City's ability to negotiate.

There is significant cost and schedule risk to the project if the procurement method is not changed because of the high probability of procurement failure and the risks of continuing with a DB.

Potential Options

During the market sounding, it was evident in a very competitive climate that proponents were bidding on projects that entailed less proponent risk, with the PDB model preferred. Potential proponents indicated that if a PDB was used, the project would have many interested parties.

To ensure due diligence in selecting the procurement model, the Public Service reviewed many potential procurement models including design-bid-build, construction management, construction management at risk, alliance, and PDB. The Public Service concluded that PDB

was the procurement model with the highest likelihood of success and the least impact on project schedule.

Progressive Design Build

A PDB is a collaborative DB that sees greater integration of the owner with the design builder. This type of model has only recently emerged in the Canadian water industry but has been successfully used in the United States for over 20 years. While both PDB and traditional DB involve a design builder, the process to select the design builder and how the project is awarded and designed differs. On a high level, the steps of a PDB include:

1. *Selection of Design Builder*

   In a PDB procurement model, the design builder is selected mainly on qualifications. In response to an RFP, proponents submit qualifications of the team, including details of prior collaborations, and aspects of their construction costs for evaluation (profit and potentially overhead). The proponent with the most advantageous proposal is selected as the design builder. This process takes three to six months because a design is not required as part of the proposal evaluation.

2. *Project Delivery: Development Phase*

   The first award in a PDB is for the Development Phase. This phase can be awarded either on a time and materials basis or a fixed price basis. In this phase, the design builder works directly with the City through design iterations to forward the design to approximately 60 to 90 percent complete. The level of design completion will vary for different components or processes, and is based on the level of complexity or risk.

   Concurrent with progressing the design, the design builder develops pricing and undertakes commercial negotiations for the DBA in a relatively transparent manner with the City. Due to the full transparency, the City can influence costs in a PDB model by:

   - Participating in design reviews to reduce costs.
   - Reviewing quotes for material and equipment that is procured by the design builder.
   - Negotiating the amount of work that is self-performed by the design builder.
   - Negotiating time and material rates for self-performed work by the design builder.
   - Reviewing costs allocated to risks and considering risk-transfer strategies to reduce overall costs.

   If, at the conclusion of this Phase, commercial negotiations fail or the construction budget cannot be agreed upon, the City has an option to part ways with the design builder but retain the developed design.

   This phase is expected to be approximately 10 percent of the overall project cost. Cost for this phase is most heavily dependent on the level of detail the design is taken to. However, the more detailed the design, the less contingency and risk is needed for the fixed cost of the Implementation Phase. The City will work with the design builder to optimize the level of design detail versus cost certainty and schedule.

3. Project Delivery: Implementation Phase

The second award in a PDB is the Implementation Phase, where the design builder finalizes the design without City involvement and constructs the project using the commercial terms and conditions negotiated during the Development Phase. The contract used for the Implementation Phase is similar to a more traditional DBA.

A high-level comparison of a PDB and DB is provided in Table 1.

Table 1 – Differences between DB and PDB Procurement Models

	Design Build (DB)	Progressive Design Build (PDB)
Selection of Design Builder	• Two-year procurement process • Design builder selected based on combination of technical and financial evaluation	• Three to sixth month procurement process • Design builder selected mainly on qualifications
Design Phasing	• City is not involved in design at any stage. • Shortlisted proponents design to 30 percent complete during competitive RFP process. • Design builder completes design and delivers the project.	• Development Phase – design builder advances design with City involvement to 60 to 90 percent complete (option to change design builder at end of this phase if the City does not wish to continue with the existing design builder). • Implementation Phase – design builder independently completes design and delivers project.
Design complete at Two-year mark	• 30 percent complete	• 60 to 90 percent complete
Project Costs	• Known when design builder is selected.	• Unknown when design builder is selected.
Cost Certainty	• Cost is fixed based on 30 percent complete design. • Unknown amount of added risk built in (premium for uncertainty). • City has no ability to influence.	• Cost is fixed based on 60 to 90 percent complete design. • Based on higher level of design so less unknown risk (reduced uncertainty premiums). • City can influence during the Development Phase.
Cost Transparency	• None	• Fully transparent during Development Phase.

As the design can be progressed much sooner using a PDB, the NEWPCC Upgrade: Biosolids Facilities project can still be constructed to meet provincial requirements and Investing in Canada Infrastructure Program (ICIP) funding timelines.

Proposed Path Forward

The Public Service is recommending the project be procured and delivered using a PDB. The change to a PDB is anticipated to:

- Address concerns identified by the market related to proponent risk and design resource availability.
- Result in multiple proponents with a high likelihood of successful procurement.
- Allow the project to proceed on schedule.
- Allow for project cost transparency and the ability for the City to influence costs.
- Have significantly less cost and schedule risk compared to a DB with one proponent.

Development Phase Delegation of Authority

In order to optimize the project schedule, the Public Service is requesting a delegation of authority to the Chief Administrative Officer to enter into a contract with the design builder for the Development Phase up to a cumulative amount of $75 million.

Delegation of authority will accelerate the project schedule which will help ensure the overall plant licence is brought into compliance as quickly as possible, and help ensure the City is not limiting its future growth due to constraints on its biosolids capacity.

Early Work Contract(s) Delegation of Authority

In order to optimize the construction schedule, the Public Service is also requesting delegated authority to the Chief Administrative Officer (CAO) for the award of Early Works Contract(s) up to a cumulative amount of $50 million.

Early Work Contract(s) are typically awarded prior to the main DBA. Examples of Early Work Contract(s) can include things like mobilization, site preparation, foundation works, etc. Initiating these works prior to the DBA allows them to commence while design of the more complicated processes continues. These contract(s) can help optimize project cost and schedule by allowing the design builder to access an extra construction season.

Implementation Phase

The Implementation Phase is estimated to cost approximately $500 to $700 million. The Public Service is currently reviewing updated construction cost estimates to reflect current market conditions.

The Public Service will return to Council for approval to award the Implementation Phase and enter into the DBA.

Next Steps

Following approval to use a PDB procurement model, the Public Service will finalize the RFP to select the design builder. The target for posting this is Q3 2023 and, subject to delegation of authority to the CAO, with award of the Development Phase in Q1 of 2024.

The City will communicate the change in project delivery method to the Province and update the Biosolids ICIP business case. Since the maximum commitment will not change under the current arrangement, and schedule can be maintained, funding for this project should not be at risk.

FINANCIAL IMPACT

Financial Impact Statement **Date:** May 16, 2023

Project Name:

PROCUREMENT MODEL RECOMMENDATION AND DELEGATION OF AUTHORITY REQUEST FOR THE NORTH END SEWAGE TREATMENT PLANT (NEWPCC) UPGRADE: BIOSOLIDS FACILITIES PROJECT

COMMENTS:

The report recommends that the NEWPCC Upgrade: Biosolids Facilities project be delivered using a Progressive Design Build procurement model within the Council approved budget for this project. Subject to Council approval of the Progressive Design Build, delegation of authority is recommended of up to $125 million to the Chief Administrative Officer for the City to enter into, execute, deliver and perform the Development Phase, Early Works Contract(s), and associated Ancillary Agreement for the NEWPCC Upgrade: Biosolids Facilities project provided there are sufficient funds in a budget approved by Council.

Lucy Szkwarek, CPA, CGA

Lucy Szkwarek, CPA, CGA
Manager of Finance and Administration

CONSULTATION

This Report has been prepared in consultation with:

- Legal Services Department
- Corporate Finance, Materials Management Branch

OURWINNIPEG POLICY ALIGNMENT

This report aligns OurWinnipeg 2045, Goal: Environmental Resilience

Objective: Protect and value ecosystems as essential components to life.

Policy 2.17 Regional Water Resource Management – Engage in comprehensive watershed planning and partnerships that protect Indigenous rights, waterways, biodiversity, water quality, people and property, by addressing the long-term capacity of water-related systems and resources, including: rivers, riverbanks, potable water, flood protection, and storm and wastewater management.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

NEWPCC Upgrade: Biosolids Facilities project aligns with the Strategic Opportunity #6 Waste Reduction and Diversion , Key Direction 6.3 Utilize Biosolids in Agriculture and Landscaping Industries and 6.4. Support Integrated Resource Recovery Opportunities.

The Water Protection Act requires the City to reuse the wastewater biosolids, and to recover the nutrients from the biosolids to the maximum extent possible. The intent is for the facility to produce Class A Biosolids which can be reused resulting in diversion of biosolids from the landfill.

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

On February 24, 2022, Council directed that proponents for the Biosolids Facilities project include the following in their submissions:

- Specific commitments to engage skilled labour including targets for employment of Indigenous peoples and other under-represented groups within the Manitoba market

- Proposed plans and partnerships with organizations to promote employment and training initiatives for Indigenous and other under-represented groups within the Manitoba market

This aligns with Goal 1 - Equity and a Culture of Caring are Demonstrated through Strategy Implementation and Systems Change; Topic- Community Benefits in City Projects; of the Winnipeg Poverty Reduction strategy Implementation Plan.

SUBMITTED BY

Department: Water and Waste
Division: Engineering Services
Prepared by: Lana Obach, P. Eng., MASc, PMP
Date: May 19, 2023
File No.: S-1192