

**Minutes – Standing Policy Committee on Finance and Economic Development –
January 12, 2023**

REPORTS

**Item No. 2 North End Sewage Treatment Plant (NEWPCC) Upgrade Projects,
Project ID: 2031001304, 2031001310, 203110013B and 203110028B,
Quarterly Project Status Report No. 30
For the Period Ended October 31, 2022**

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance and Economic Development concurred in the recommendation of the Winnipeg Public Service and received the financial status of the North End Sewage Treatment Plant (NEWPCC) Upgrade Projects, as contained in this report, as information.

**Minutes – Standing Policy Committee on Finance and Economic Development –
January 12, 2023**

DECISION MAKING HISTORY:

Moved by Councillor Rollins,

That the recommendation of the Winnipeg Public Service be concurred in.

Carried

David Grant submitted a communication with respect to the matter.

ADMINISTRATIVE REPORT

**Title: North End Sewage Treatment Plant (NEWPCC) Upgrade Projects,
Project ID: 2031001304, 2031001310, 203110013B and 203110028B,
Quarterly Project Status Report No. 30
For the Period Ended October 31, 2022**

Critical Path: Standing Policy Committee on Finance

AUTHORIZATION

Author	Department Head	CFO	CAO
C. D. Wiebe, P. Eng., CAMP, Manager of Engineering Services	T. W. Shanks, M. Eng., P. Eng. Director, Water and Waste Department	C. Kloepfer	M. Jack

EXECUTIVE SUMMARY

Project On Schedule: Yes No

Project On Adopted Budget: Yes No

Percent of Schedule Complete:

Percent of Adopted Budget Spent:

Headworks Facilities Project

Red River Solutions (RRS) continues to develop and issue design submittal packages at 60%, 90%, and Issued for Construction (IFC) for various portions of work. Site works have progressed. RRS has completed the secant piles used for shoring in the raw sewage pump station and has commenced the excavation of the chamber. The installation of the secant piles was completed and the installation of the caisson piles have started in the interceptor junction chamber (H1). The installation of the interceptor connection chamber (Y5) secant piles has started.

The Grit building base slab was poured, and formwork for the first level walls are being prepared. The three generators were installed on the concrete bases at the Standby Power Generation building, while other preparation work is quickly progressing. Piles were installed in the Fine Screening area, Transformer Yard, and Odour Control area. Additional piling activities will continue until late fall. Contaminated soils on site continue to be hauled and disposed of at licensed facilities approved by the Province. Non-contaminated soils are stockpiled on site for backfilling and grading on site in the future.

The Independent Payment Certifier, Altus Group Limited (Altus), completed fourteen milestone inspections as requested by RRS. Thirteen out of the fourteen milestone certificates have been approved for payment.

The City continues to follow the DBA by issuing payment adjustments for late submittals. RRS has notified the City of two potential financial events including a location deviation and materially

different site conditions. The City and RRS continue to verify and evaluate these notices and their potential to impact cost and schedule.

The City has hired an archeologist to complete a Heritage Resource Impact Assessment (HRIA) in the Headworks site.

Biosolids Facilities Project

On July 21, 2022 City Council directed that the Biosolids Facilities project be delivered using a Design Build procurement model.

A supplemental agreement was awarded to AECOM for owner's advocate services. They have begun preparing Request for Qualifications (RFQ) and Request for Proposals (RFP) documents. Supplemental agreements have also been awarded for external legal and fairness advisor services. Contracts have also been awarded for social procurement bidding requirement design services and environmental monitoring services.

In August, a funding announcement was made confirming tri-level government funding for this project.

This fall the Biosolids Facilities project will be engaging in a market sounding, additional environmental and geotechnical assessments, early contractor work analysis, HRIA, and applications for surface and subsurface crossing agreements with Canadian Pacific Railway.

Distributed Control System (DCS) Migration

The DCS Migration project's detailed design is ongoing. The installation of the DCS fibre optic continues and servers have been procured.

Primary Clarifier Upgrade

The Primary Clarification Project's detailed design is ongoing. Development of tender for the upgrades will be issued this fall.

Power Supply Upgrade

The design build contractor continues to struggle to complete the final documentation for hand over to the City. The City is continuing to enforce liquidated damages as Total Completion dates have been missed.

Provincial Update

The Province has directed the City to provide a multi-year plan, including schedule and funding model, to complete the NEWPCC Upgrades by 2030. The City will undertake a constructability review to investigate options to mitigate site constraints to facilitate the construction of the three major upgrade projects concurrently and establish process sequencing while continuously operating the existing facility. This plan must be submitted by December 2023.

The Advisory Committee has reviewed this report and recommends that the report be sent to the Standing Policy Committee on Finance.

RECOMMENDATIONS

That the financial status of the North End Sewage Treatment Plant (NEWPCC) Upgrade Projects, as contained in this report, be received as information.

REASON FOR THE REPORT

The Asset Management Administrative Standard FM-004 requires all projects with a total estimated cost of \$25 million (2022) or more report quarterly to the Standing Policy Committee on Finance. This threshold is adjusted annually for construction inflation as part of the annual Capital Budget approval. The Standing Policy Committee on Finance may also request reporting on any capital project.

IMPLICATIONS OF THE RECOMMENDATIONS

No implications.

HISTORY/DISCUSSION

See Appendix C – Key Project Events (History)

NEWPCC Upgrade: Power Supply and Headworks Facilities

Power Supply Facility

Design Build Execution

- **RFP 40-2014:** KGS Group's (Owner's Advocate) Phase 2 work, for professional engineering services during construction, continues under a supplemental agreement to RFP 40-2014.
- **RFP 599-2015B:** The design build contract executed on April 16, 2018 with Black & McDonald Ltd is now substantially complete. Submission of project close-out documents are required for total completion to be achieved. Black & MacDonal Ltd continues to submit these documents and liquidated damages are being applied until total completion is achieved.

Headworks Facilities

Design

- **RFP 182-2015 - DCS Migration:** The Distributed Control System (DCS) Migration project will result in three tender packages. AECOM is providing engineering consulting services for plant-wide migration of the existing DCS to a new process control system. AECOM is providing contract administration services over the first tender package for fibre optic installation.

Detailed design is ongoing for the systems integrator process control system (PCS) package and for the PCS panel & installation package.
- **RFP 13-2017:** The DCS Migration project pre-purchased \$97,705 of servers from EPIC Information Solutions using the City's supply and delivery of server hardware and accessories contract (RFP #13-2017).
- **RFP 785-2020:** AECOM is continuing with detailed design for the primary clarification facility upgrades.

Construction

- **Tender No. 92-2022:** Centec Electric & Controls Ltd is continuing construction on the first tender package for fibre optic installation for the DCS Migration project.

Design Build Execution

- **RFP 182-2015 Headworks Phase 2:** AECOM is continuing to provide owner's advocate services during the design build of the NEWPCC Upgrade: Headworks Facilities Project.
- **RFP 659-2018B:** RRS continues to track behind schedule during this period. The issues affecting the schedule mainly are around the installation of the secant piles. The delays are a function of equipment breakdowns and varying ground conditions which have affected the design and drilling depths.

RRS is continuing to submit design submission packages at 60%, 90%, and IFC for various portions of work.

RRS has completed daylighting of the interceptors, monitoring of water levels in the interceptors, and rock grouting at raw sewage pump station area. Permits were issued by the Planning, Property & Development Department for the junction chambers, raw sewage pump station, overflow channel and electrical duct bank.

Installation of secant piles for the raw sewage pump station and H1 are complete. Y5 area secant pile installation is underway. Driven pile installation is 68% complete and will continue until late fall. The Grit Building base slab was poured. Formwork, rebar, and concrete pours for first level walls are underway. The generator bases at the Standby Power Generation Building were poured. All three generators were delivered to site and are installed on the bases. The installation of the new electrical duct bank is complete. Disposal of impacted soil to licensed facilities as approved by the Province continues as required. Reusable soil is being stored on site for future use.

RRS has applied for a total of fourteen milestone inspections to the Independent Certifier. They have been paid for thirteen of the fourteen milestones.

On July 21, 2022 an over expenditure of \$955,287.00 was approved for the first payment of the contaminated soils relief event and the incorporation of the required changes to the design and construction as a result of the updated City standards for automation design.

On August 4, 2022, RRS notified the City that the location of the Northwest Interceptor and the Pump Discharge Line deviates from the location provided in the project background information, which if verified, will be treated as a Change Order per the DBA. The City and RRS continue to verify and evaluate this deviation and its impact on cost and schedule.

On September 13, 2022 an over expenditure of \$1,112,755.00 was approved for the second payment of the contaminated soils relief event. Additional payments for the contaminated soil relief event will be required until the end of the project.

On September 23, 2022, RRS notified the City that they had encountered materially different site conditions than what was available during the pursuit of the project in competent bedrock, which if verified, will be treated as a relief event per the DBA. The City and RRS continue to verify and evaluate this notice and its impact on cost and schedule.

- **RFP 64-2021:** Altus Group Limited (Altus), the Independent Certifier for the Headworks Facilities Design Build Project, completed fourteen milestone inspections for work carried out by RRS. Thirteen out of the fourteen milestone certificates have been approved, the City has made thirteen of the milestone payments.

On September 1, 2022 the City issued a second notice to Altus, as per the DBA, regarding numerous late submittals by RRS. Altus determined that \$22,000.00 of additional payment adjustments are applicable, for a total of \$52,000.00 in payment adjustments due to late submittals

- **RFP 740-2022:** Peguis Consultation & Special Projects Inc. was hired to provide archeological and heritage monitoring services to comply with the province's Heritage Resource Branch's (HRB) requirements for the project to complete an HRIA.

NEWPCC Upgrade: Biosolids Facilities

On July 21, 2022 City Council approved:

1. That the NEWPCC Upgrade: Biosolids Facilities project be delivered using a Design Build procurement model.
2. That the revised cost estimate for the NEWPCC Upgrade: Biosolids Facilities Capital Budget be referred to the 2024-2027 Multi-Year Budget Process.
3. That the \$15,334,000.00 2019 Capital Budget for the NEWPCC Upgrade: Biosolids Facilities, approved on January 30, 2020, as part of the 2020-2023 Water and Sewer Rate Report, be funded from the Environmental Projects Reserve rather than external debt.

On August 16, 2022, a funding announcement was made confirming the inclusion of the Biosolids Facilities Project in ICIP. The City awaits written confirmation of the tri-level government funding for this project based on the current approved budget of \$552 million.

- **RFP 182-2015 – Biosolids Procurement:** On August 4, 2022, a supplemental agreement was awarded to AECOM for \$6,521,026.00 to work on RFQ and RFQ documents and technical requirements for the NEWPCC Upgrade: Biosolids Facilities Project. AECOM has engaged Deloitte to complete a market sounding and be a financial advisor for the project. AECOM is preparing for additional environmental and geotechnical assessments, early contractor work analysis, and HRIA for this fall. AECOM is preparing an application for a surface and subsurface crossing agreements from NEWPCC's Parcel A to Parcel B with Canadian Pacific Railway.
- **RFP 102-2017:** On September 14, 2022 a supplemental agreement was awarded to Blakes Cassels & Graydon LLP (legal advisor) for \$804,373.00 to be involved in reviewing procurement documents and design build agreement for the project.
- **RFP 7-2017:** On October 14, 2022 a supplemental agreement was awarded to P1 Consulting Inc. (fairness advisor) for \$124,505.00 to provided fairness monitoring and advisory services through the RFQ, RFP, and evaluation periods.
- **RFP 790-2022:** On October 11, 2022 Buy Social Canada was awarded a contract for \$12,840.00 to assist the project team with the social procurement bidding requirements approved by City Council on February 24, 2022.
- **SS-1192:** On October 20, 2022 Peguis Consultation & Special Projects Inc. was awarded a contract for \$642 to provide blessing services for the NEWPCC land.
- **RFP 848-2022:** On October 28, 2022 Peguis Consultation & Special Projects Inc. was awarded a contract for \$21,400.00 to provide environmental monitoring services during

drilling activities on the NEWPCC land. This scope of work relates to Peguis' cultural interests in the NEWPCC land and this information will be used in creating the HRIA phase 2 plan.

Notice of Alteration (NOA) for NEWPCC

- The City continues to submit monthly and quarterly progress reports to the Province. The quarterly reports are posted publicly.

Table 1 – Contracts

NEWPCC Upgrade Project: Power Supply & Headworks Facilities							
Contracts Table							
Bid Opportunity #	Company Name	Description	Original Contract Award Value (GST & MRST extra as applicable)	Total Approved Over-Expenditures (Over-Expenditure amount only)	Date of Award	Date of Completion	Estimated % Complete
Power Supply Facility							
40-2014 (Phase 1)	KGS Group Inc	Professional Engineering Consulting Services for the NEWPCC Power Supply Upgrade – Phase 1	\$ 1,180,110	\$ 94,602	7-Nov-2014	29-Jun-2018	100
40-2014 (Phase 2)	KGS Group Inc	Professional Engineering Consulting Services for the NEWPCC Power Supply Upgrade – Phase 2	\$ 1,376,613	\$ -	3-May-2018	-	97
10-2015	Knowles Consultancy Services Inc	Fairness Advisor for the NEWPCC Power Supply Upgrade Project	\$ 37,620	\$ 44,260	8-May-2015	5-Mar-2019	100
599-2015 A ¹	Pre-qualified parties are Black & McDonald Limited Wescan Electrical Mechanical Services	Request for Qualifications for Design Build of the City of Winnipeg's North End Sewage Treatment Plant Power Supply Upgrade Project	N/A	N/A	N/A	-	100
599-2015 B ²	Black & McDonald Limited	Request for Proposal for Design Build of the City of Winnipeg's North End Sewage Treatment Plant Power Supply Upgrade Project	\$ 34,961,209	\$ 996,940	16-Apr-2018	-	95
816-2015	Hanscomb Limited	Cost Consultant for the NEWPCC Power Supply Upgrade Project	\$ 45,040	\$ -	16-Dec-2015	2-Aug-17	100
773-2016	MB Hydro	Professional Consulting Services For Load Interconnection Facilities Study For The North End Sewage Treatment Plant (NEWPCC)	\$ 88,299	\$ -	7-Nov-2016	10-Jan-18	100
136-2017	Blakes Cassels & Graydon LLP	External Legal Counsel - NEWPCC Power Supply Project	\$ 95,575	\$ -	14-Dec-2016	-	100
42-2018	MB Hydro	Manitoba Hydro Works Associated with the North End Sewage Treatment Plant (NEWPCC) Biological Nutrient Removal Upgrade Project	\$ 2,531,527	\$ 249,556	29-Mar-2018	8-Feb-2022	100

¹This is the first stage of two stage process and the contract value will be determined in the second stage

²The Original Contract Award Value includes MRST.

NEWPCC Upgrade Project: Power Supply & Headworks Facilities							
Contracts Table							
Bid Opportunity #	Company Name	Description	Original Contract Award Value (GST & MRST extra as applicable)	Total Approved Over-Expenditures (Over-Expenditure amount only)	Date of Award	Date of Completion	Estimated % Complete
Headworks Facilities							
182-2015	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 1	\$ 16,015,439	\$ 354,746	6-Jan-2016	-	97
182-2015 (Phase 2 Headworks)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 2 (Headworks)	\$ 7,992,827	\$ -	8-Oct-2020	-	17
182-2015 (DCS Migration)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – DCS Migration	\$ 2,698,331	\$ -	8-Oct-2020	-	25
866-2016	Cambi Inc.	Pre-Selection and Design Services for Thermal Hydrolysis Process System for the North End Sewage Treatment Plant	\$ 75,000	\$ -	15-Jun-2017	1-Nov-2018	100
9-2017	P1 Consulting Inc	Request for Proposal for a Fairness Advisor for the North End Sewage Treatment Plant Upgrade Project	\$ 82,880	\$ -	2-May-2017	-	100
102-2017	Blakes Cassels & Graydon LLP	External Legal Counsel - NEWPCC Upgrade Project	\$ 358,800	\$ -	23-Nov-2017	-	99
225-2018	Hanscomb Limited	Professional Cost Consulting Services contract for the NEWPCC Upgrade Project	\$ 98,800	\$ -	27-Apr-2018	20-Jul-2018	100
586-2018	Chabot Enterprises Ltd	NEWPCC - Upgrade Site Preparation Works	\$ 1,249,078	\$ -	15-Aug-2018	13-Nov-2019	100
659-2018 A ¹	Prequalified proponents are Aecon/Oscar JV (Red River Solutions) & Graham/PCL JV	Request for Qualifications for Design Build of NEWPCC Upgrade: Headworks Facilities	N/A	N/A	N/A	-	100
659-2018 B ²	Red River Solutions	Request for Proposals for Design Build of NEWPCC Upgrade: Headworks Facilities	\$ 271,611,000	\$ 2,068,042	11-Jun-2021	-	23
S-1192	AECOM Canada Ltd	Professional Consulting Services for City of Winnipeg Interim Phosphorus Removal Options Evaluation	\$ 30,118	\$ -	17-Dec-2018	18-Jul-2019	100
68-2019	Westower Communications Ltd	Installation of a 120 Meter Guyed Radio Tower & Design & Installation of Associated Site Works	\$ 401,762	\$ 133,715	22-May-2019	20-Dec-2021	100
249-2019	Turner & Townsend	Validation of Cost Estimate Classifications for NEWPCC Upgrade Project	\$ 253,852	\$ -	10-May-2019	31-Oct-2019	100
502-2019	Dillon Consulting Ltd	Professional Consulting Services for Development of the Consultant Portions of a Design Build Template	\$ 72,193	\$ -	13-May-2019	27-Aug-2021	100
200-2020 ³	Harris Holdings Ltd	Award of Contract for Installation of Underground Traffic Signals Services & Associated Works	\$ 34,377	\$ -	1-Jun-2020	22-Nov-2021	100
785-2020	AECOM Canada Ltd	Professional Engineering Consulting Services for Design and Contract Administration of the NEWPCC Primary Clarification Upgrades	\$ 2,166,775		7-Jun-2021	-	27
805-2020	Deloitte LLP	Professional Consulting Services for NEWPCC Funding and Deal Support Structuring Services	\$ 52,250	\$ -	4-Nov-2020	22-Feb-2021	100
64-2021 ⁴	Altus Group Limited	Professional Consulting Services for independent certifier services of the NEWPCC Upgrade: Headworks Facilities project	\$ 274,350	\$ -	21-Jul-2021	-	20
65-2021 ⁴	Colliers Project Leaders Inc	Professional Consulting Services for Referee Services of the NEWPCC Upgrade: Headworks Facilities project	\$ 24,800	\$ -	19-Jul-2021	-	0
92-2022	Centec Electric & Controls Ltd	NEWPCC DCS Migration - Fibre Supply and Installation	\$ 1,333,196	\$ -	16-Jun-2022		6
S-1197	EPIC Information Solutions	Prepurchase of Servers for the DCS Migration Project	\$ 97,705	\$ -			100
740-2022	Peguis Consultation & Special Projects Inc.	Archeology and Heritage Monitoring Services Agreement	\$ 75,000		31-Aug-2022		0
Total			\$ 345,314,526	\$ 3,941,861			

¹This is the first stage of two stage process and the contract value will be determined in the second stage

²The Original Contract Award Value includes MRST.

³The majority of this contract is related to Public Works Department. Only the amount related to Water and Waste Department is indicated.

NEWPCC Upgrade: Biosolids Facilities Project							
Bid Opportunity #	Company Name	Description	Contracts Table		Date of Award	Date of Completion	Estimated % Complete
			Original Contract Award Value (GST & MRST extra as applicable)	Total Approved Over-Expenditures (Over-Expenditure amount only)			
506-2014	Ostara Nutrient Recovery Technologies Inc	Supply and Delivery of a Struvite Recovery System	TBD	\$ -	23-Jul-2015	-	-
S-1192	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade: Biosolids - Climate Lens Assessment	\$ 39,921.00	\$ -	27-Jan-2021	27-May-2021	100
182-2015 (Phase 1 - Biosolids)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 1 (Biosolids)	\$ 1,316,735	\$ -	25-May-2021	11-Mar-2022	100
S-1192 AECOM 01	AECOM Canada Ltd	NEWPCC Biosolids - Pre-design Support	\$ 20,000	\$ -	27-Jan-2021	-	20
S-1192 Deloitte	Deloitte LLP	NEWPCC Upgrade Biosolids - Initial Market Sounding Support Services	\$ 47,680	\$ -	11-Jun-2021	29-Jun-2021	100
386-2021	Deloitte LLP	Professional Consulting Services for NEWPCC Upgrade Project - Detailed P3 (Design Build Finance) Delivery Options Analysis	\$ 311,680	\$ -	10-Jun-2021	14-Apr-2022	100
766-2021	Hanscomb Limited	Professional Cost Consulting Services contract for the NEWPCC Biosolids Facilities Project	\$ 72,700	\$ -	2-Dec-2021	17-Mar-2022	100
182-2015 (Phase 1 - Biosolids - Procurement)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 1 (Biosolids) - Procurement	\$ 6,521,026	\$ -	4-Aug-2022	-	1
102-2017 (Biosolids Procurement)	Blakes Cassels & Graydon LLP	External Legal Counsel - NEWPCC Upgrade Project	\$ 804,373	\$ -	14-Sep-2022	-	3
9-2017	P1 Consulting Inc	Request for Proposal for a Fairness Advisor for the North End Sewage Treatment Plant Upgrade Project	\$ 124,505	\$ -	14-Oct-2022	-	0
790-2022	Buy Social Canada	NEWPCC Biosolids Facilities Social Procurement Bidding Requirement Design	\$ 12,840	\$ -	11-Oct-2022	-	5
S-1192	Peguis Consultation & Special Projects Inc.	Blessing Agreement for the NEWPCC Biosolids Facilities Project	\$ 642	\$ -	20-Oct-2022	-	95
848-2022	Peguis Consultation & Special Projects Inc.	Environmental Monitoring Agreement for the NEWPCC Biosolids Facilities Project	\$ 21,400	\$ -	28-Oct-2022	-	0
Total			\$ 9,293,501	\$ -			

Upcoming Procurements:

Description	Anticipated Award Date

NEWPCC Upgrade Project 3: Nutrient Removal Facilities
Contracts Table - Not applicable at this time

Schedule (Update from last report)

The key schedule milestones for the Biosolids Facilities Project have been included.

Table 2 – Milestones

Milestones					
Deliverable	Original Targeted Completion Date	Revised Targeted Completion Date	Actual Completion Date	Estimated % Complete	
NEWPCC Upgrade Project 1: Power Supply & Headworks Facilities					
Power Supply Facility					
1	Project Definition Report ¹	2015 Q3	2015 Q4	2015 Q4	100
2	Preliminary Design Report	2016 Q1	2016 Q4	2017 Q1	100
3	Cost Report ²	2017 Q1	2017 Q2	2017 Q3	100
4	Design Build RFP	2016 Q2	2017 Q1	2017 Q1	100
5	Design Builder Contract Award	2017 Q2	2018 Q2	2018 Q2	100
6	Design Build Substantial Completion	2020 Q2	2020 Q4	2020 Q4	100
7	Design Build Final Completion	2020 Q4	2021 Q2	-	95
Headworks Facilities					
1	Project Definition Report ¹	2017 Q2	2017 Q2	2017 Q2	100
2	Preliminary Design Report	2018 Q1	2018 Q3	2018 Q3	100
3	Cost Report ²	2018 Q3	2018 Q3	2018 Q3	100
4	Design Build RFP	2020 Q1	2020 Q1	2020 Q1	100
5	Design Builder Contract Award	2020 Q4	2021 Q2	2021 Q2	100
6	Design Build Substantial Completion	2025 Q4	2025 Q2	-	-
7	Design Build Final Completion	2026 Q4	2025 Q3	-	-
8	DCS Migration Substantial Completion	2027 Q4	-	-	-
9	Primary Clarification Substantial Completion	2023 Q4	-	-	-
NEWPCC Upgrade Project 2: Biosolids Facilities Project					
1	Preliminary Design Report	2022 Q1	2022 Q1	2022 Q1	100
2	Cost Report ²	2022 Q1	2022 Q1	2022 Q1	100
3	Design Build RFP	2023 Q4	-	-	5
4	Design Builder Contract Award	2024 Q4	-	-	-
5	Design Build Substantial Completion	2030 Q4	-	-	-
6	Design Build Final Completion	2031 Q2	-	-	-
NEWPCC Upgrade Project 3: Nutrient Removal Facilities Project					
Project not Initiated - Dependent on Funding					

¹ Owner's Advocate Class 5 Estimate

² Cost Consultant Class 3 Estimate

Risk (Update from last report)

NEWPCC Upgrade: Power Supply and Headworks Facilities

N/A

NEWPCC Upgrade: Biosolids Facilities

Though written confirmation of tri-level government funding for the Biosolids Facilities project has been received (see the Subsequent Events section of this report), the following risk remains.

A revised AACE class 3 estimate increased expected project costs by \$360 million from \$552 million to \$912 million. The revised cost estimate includes the requirement for full phosphorus removal to 1 mg/L using chemical means prior to completion of the Nutrient Removal Facilities, along with delay costs due to 2.5 years of increasing construction inflation and unprecedented market conditions. The Public Service is not recommending a budget adjustment at this time as sufficient capital funds exist to advance the biosolids project without delay. Any future budget increases will be referred to the 2024 to 2027 multi-year budget process, and multi-year utility rates process.

Table 3 – Significant Risks and Mitigations Strategies

NEWPCC Upgrade: Power Supply and Headworks Facilities Project	
Significant Risks and Mitigation Strategies	
Power Supply Facility	
Risk Statement and Explanation	Risk Mitigation Management Plan
<u>New</u>	
None	
<u>Ongoing:</u>	
None	
<u>Closed:</u>	
COVID-19 Impacts	This risk is now closed and additional costs associated with the COVID pandemic has been paid
As part of construction activities, the power in an area believed to be de-energized could be energized resulting in a potential shock or arc flash and associated injury and equipment damage.	This risk is now closed as construction is complete.
Manitoba Hydro may not have the required power available within the required timeframe.	This risk is now closed. The plant is running on the distribution from MB Hydro.
The Design Builder is not familiar with the existing equipment labelling, some of which may be confusing due to historical issues and thus there is a possibility of incorrect switching or electrical lock-out resulting in a potential shock or arc flash and associated injury and equipment damage.	The risk is now closed. All electrical switching is complete.
Plant load transfer is required to commission new electrical system. Planned power outages and loss of redundancy periods are required for each plant process area, which increases the risk of process upset.	This risk is closed. New distribution has been commissioned..
Safety issues could occur as a result of increased traffic on the NEWPCC site.	This risk is closed. Construction is complete and the contractor's presence on site is minimal
Old electrical equipment and building parts may contain asbestos.	This risk is closed. Construction that may have disturbed existing asbestos has been completed.
Safety issues could occur as a result of coring through concrete wall / floor / ceiling during equipment installation. Utilities at NEWPCC are not always marked in drawings.	This risk is closed. Construction that necessitated coring through concrete has been completed.
There may be unknown geotechnical conditions that impact the project schedule and cost.	This risk is closed as subsurface works is complete.
The UV facility transformer must be de-energized during the Manitoba Hydro construction period. No power redundancy for the UV facility for a 4 week period.	This risk is closed as Manitoba Hydro construction is complete.

NEWPCC Upgrade: Power Supply and Headworks Facilities Project	
Significant Risks and Mitigation Strategies	
Headworks Facilities	
Risk Statement and Explanation	Risk Mitigation Management Plan
New	
None	
Ongoing:	
Impacted soils were discovered by RRS during soil stripping and early excavating work. More impacted soils may be uncovered during next phases of excavation.	Disposal locations for impacted soils have been identified as GFL or Prairie Green depending on the level of contaminant. Disposal plans have been reviewed and approved by the Province. Transportation of impacted soil to disposal sites is in progress. Site delineation plan and Phase 2 environmental soil sampling testing will be conducted for any future impacted soils discovery. The project team will investigate the lowest cost options for soil disposal
Bid prices for other contracts within the Headworks Facilities budget may be higher due to existing market conditions as result of the pandemic	Scope reduction options will be evaluated and included in the tender documents prior to issuing tender documents to the public
Due to existing COVID pandemic conditions, there is potential for restrictions resulting in reduced access to site or restrictions on short notice	Construction contracts will include appropriate pandemic and City Protocols. Supplier tenders and equipment pre-purchasing will be evaluated.
Due to multiple construction activities occurring at NEWPCC and construction work occurring in a congested site, limited site access and schedule conflicts/delays may occur affecting tie-ins and shutdowns during construction	There is regular communications between project managers and consultants to ensure regular coordination of projects at NEWPCC
NEWPCC is a continuously operating sewage treatment plant, the design builder may cause unintended shut downs or disruptions resulting in failure to meet the Environment Act Licence.	Project requirements include details on how the design builder coordinates with the City prior to tying in to the existing plant. Payment adjustments are included in the contract if it occurs.
Tariffs may be imposed on equipment procured internationally resulting in increased project costs.	Project requirements include tariffs within the definition of change in law which would be treated as a relief event if it occurs.
There could be excess noise, dust and light during construction as a result of the project.	The project requirements include construction requirements related to noise, the design builder is also required to have a community impact mitigation plan to avoid such issues.
Due to construction occurring around existing infrastructure, destabilization or damage to existing structures may occur resulting in increased costs and potential schedule delays	Project requirements include detailed requirements for working around existing infrastructures.
Accidents may occur on an active project construction site resulting in injuries and damaged property causing project delays and reduction in productivity.	Project requirements includes details on safety measures and the design builder is required to be COR certified.
There may be unknown conditions that may be associated with reusing existing facilities.	The DB agreement to include mechanism to deal with unforeseen conditions of existing facilities. Proponents will also be provided access to the site for due diligence and examination.
Unknown existing conditions related to geotechnical, environmental and hazardous material may be encountered during construction causing schedule delays and additional costs.	Geotechnical investigations and environmental impact assessments are being carried out prior to construction to minimize unknowns. It is also anticipated that contracting with a single entity responsible for construction risks would minimize impact.
Mitigated:	
Assumptions made on the grit quantities in the sludge may not be appropriate resulting in damage to grit sensitive equipment and under sizing of sludge facilities.	The grit characterization study of the raw sewage was carried out. This report will be included as a background document in the Design Build agreement for the prequalified proponents.
The existing automation system requires migration to an updated automation system as it is at end of life. Due to the age, there may be unforeseen circumstances resulting in quality issues, schedule delays and operational impacts.	This risk is best handled by the City; as a result, the scope was separated as a stand alone design bid build project. This risk also requires knowledgeable and qualified personnel. As part of Phase 2 of their existing contract, the design consultant will carry out the work due to their qualifications and extensive knowledge and experience on the existing automation system.
Closed:	
The Public Service submitted funding application for NEWPCC Headworks DB project for the Federal and Provincial funding under the Investing in Canada Infrastructure Program based on Council approval. Delay of the funding agreement or an agreement in principle may result in loss of a construction season causing increase in project costs and schedule delays.	This risk is now closed as the ICIP funding was approved and the design build agreement was executed before the proposal validity period.
The Project may be affected due to project costs now estimated to be \$1.8 billion.	A Class 3 cost estimate was carried out after preliminary design to validate the budget. An independent cost consultant was also retained to provide a Class 3 estimate.
No existing legislation on odour release threshold causing potential impact and complaints from neighbors resulting in post - construction renovations or changes in operation at additional cost.	A field study with dispersion modelling has been carried out. Since this risk is mainly applicable to the NEWPCC Upgrade: Nutrient Removal Project it will be identified at the start of that project.

NEWPCC Upgrade: Biosolids Facilities Project*	
Significant Risks and Mitigation Strategies	
Risk Statement and Explanation	Risk Mitigation Management Plan
New:	
The Public Service submitted a funding application for NEWPCC Biosolids Facilities DB project for the Federal and Provincial funding under the Investing in Canada Infrastructure Program based on Council approval. Delay of the funding agreement or an agreement in principle may result in loss of a construction season causing increase in project costs and schedule delays.	The Public Service is working with Provincial Government to obtain a funding agreement in a timely manner.
The Biosolids Facilities Project may be affected due to project costs are now estimated to be \$912 million, while the approved pending project budget is \$552 million	Future budget increases will be referred to the 2024 to 2027 multi-year budget process, and multi-year utility rates process once the design builder's fixed price is determined. Seek additional funding sources that may be available.
Limited competition on the Biosolids Facilities Project due to limited bidders.	Significant market outreach to stimulate healthy competition. Ensuring the procurement model allows for innovation in process, design, and schedule efficiency.
Mitigated:	

* Other risks will be identified after the implementation of this project.

Financial (Update from last report)

For further information, refer to Appendix B – Financial Forecast

Funding (Update from last report)

On August 16, 2022, tri-level government funding based on the current approved budget of \$552 million for the Biosolids Facilities Project was publicly announced. Written confirmation of the tri-level government funding was received subsequent to the report period end date (see below).

Table 4 – Project Funding Forecast

Funding Forecast				
Funding Source	Adopted Budget (in millions)	Amended Budget ¹ (in millions)	Committed (in millions)	Conditional Budget (in millions)
Class of Estimate	Class 5	Class 3	Class 3	Class 3
North End Sewage Treatment Plant (NEWPCC) Biological Nutrient Removal Upgrade Project				
City of Winnipeg Total	795.59			
Retained Earnings	87.64			
External Debt	690.29			
Environmental Projects Reserve	17.66			
NEWPCC Upgrade: Power Supply and Headworks Facilities				
Project 1 Total ¹		473.38	473.38	
Retained Earnings		87.64	87.64	
External Debt ⁵		114.90	114.90	
Environmental Projects Reserve ^{4, 5}		57.97	57.97	
Federal Government ^{4, 6}		116.11	116.11	
Provincial Government ^{4, 6}		96.75	96.75	
NEWPCC Upgrade: Biosolids Facility				
Project 2 Total ²		15.33	15.33	552.71
External Debt ³		15.33	15.33	184.46
Federal Government				200.87
Provincial Government				167.38
Total	795.59	488.71	488.71	552.71

The funding forecast should match The Capital Budget Detail Sheet.

1 On February 28, 2019 Council approved the existing project be amended to consist of three projects. Project one being Power Supply and Headworks Facilities only. With projects two and three pending Council approval.

2 On September 26, 2019 Council approved Project 2 conditional upon Federal/Provincial Funding. Total contains \$15.33 million for engineering.

3 On January 30, 2020 Council approved \$15.33 million budget for Project 2 to proceed with engineering services.

4 In a letter dated April 1, 2021, the Province confirmed that funding for Headworks Project would be reduced to \$96.749 million from \$100.300 million (Province) and to \$116.111 million from \$120.373 million (Federal), resulting in an increase of \$7.813 million to the City's share of costs.

5 On May 27, 2021 Council approved a budget increase of \$65 million funded by \$32.5 million debt and \$32.5 million Environmental Projects Reserve.

6 On July 23, 2021 Federal and Provincial ICIP funding of \$212.86 million was announced for the Headworks Project.

Project 3 - NEWPCC Upgrade: Nutrient Removal Facilities - \$828 million is, pending Council approval.

Property Acquisition (Update from last report)

N/A

Stakeholder Engagements/Communications (Update from last report)

The City is continuing to work with Peguis First Nation regarding their cultural interest in the NEWPCC lands for both the Headworks and Biosolid Facilities projects.

Subsequent Events after Report Period End Date

Written confirmation of the tri-level government funding for the Biosolids Facilities project, based on the current approved budget of \$552 million, has now been received from the Province. This has alleviated potential schedule risks for the Biosolids Facilities project.

NEWPCC Interim Phosphorus Project Update

On July 21, 2022, Council approved the request to increase the budget by an additional \$6,500,000.00 for the Interim Phosphorous Removal Project. On September 22, 2022, Trotter and Morton Industrial Contracting Inc. was awarded a construction contract for this project in the amount of \$16,105,505. The construction will begin this fall, and is estimated to reach substantial performance in Q4 2023 and total performance in Q1 2024.

FINANCIAL IMPACT

Financial Impact StatementDate: [December 12, 2022](#)

Project Name:

**North End Sewage Treatment Plant (NEPWCC) Upgrade Projects,
Project IDs: 2031001304, 2031001310, 203110013B, and 2013110028B
Quarterly Project Status Report No. 30
For the Period Ended October 31, 2022**

COMMENTS:

Financial Forecast for NEWPCC Upgrade Projects can be found in Appendix B.

Lucy Szkwarek, CPA, CA
Lucy Szkwarek, CPA, CA
Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

This report aligns OurWinnipeg 2045, Policy 2.17 Regional Water Resource Management, by addressing long-term capacity of water-related systems including wastewater management.

Objective: Protect and value ecosystems as essential components to quality of life through municipal activities and urban environment.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

NEWPCC Upgrade Project 1: Power Supply and Headworks Facilities

N/A

NEWPCC Upgrade Project 2: Biosolids Facilities

NEWPCC Upgrade: Biosolids Facilities Project aligns with the Strategic Opportunity #6 Waste Reduction and Diversion found on page 51 of the Climate Action Plan approved by Council on September 20, 2018, Key Direction 6.3 and 6.4.

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 bidders 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 Department
Division: Engineering Services Division
Prepared by: Bronwyn Jones, Senior Project Engineer
Lana Obach, Senior Project Engineer
Date: December 15, 2022

Appendices

Appendix A – Key Project Facts
Appendix B – Financial Forecast
Appendix C – Key Project Events (History)
Appendix D - Funding

Appendix A – Key Project Facts

Project Name	NEWPCC Upgrade Project: Power Supply & Headworks Facilities
Business Owner (Department)	Water and Waste Department
Project ID	2031001304, 2031001310 and 203110013B
Project Sponsor	
	Director of Water and Waste
Department Responsible for Project Delivery	Water and Waste Department
Consultant Engineer (Company Name)	KGS Group Consulting Engineers and AECOM Canada Ltd.
Adopted Budget	
	\$795.95 million
Class of Estimate (Adopted)	Class 5
Range of Estimate (Adopted)	-50% to +100% \$397.80 million to \$1,591.18 million.
Amended Budget	
	\$473.38 million
Class of Estimate (Amended)	Class 3
Range of Estimate (Amended)	-20% to +30% \$378.70 million to \$ 615.39 million
<u>Project Scope</u>	
<p>The Power Supply and Headworks Facilities projects will address end-of-life equipment at the front end of the plant and upgrade the power supply to provide adequate power capacity for the NEWPCC Upgrade Projects. The Project design will accommodate expected influent flows and loads to 2037 and take into account future regulatory trends and long-term planning to year 2067.</p>	
Major Capital Projects Advisory Committee Membership:	
<ul style="list-style-type: none"> - Tim Shanks, Director of Water and Waste Department (Chair) - Michael Jack, Chief Administrative Officer - Moira Geer, Deputy Chief Administrative Officer - Catherine Kloepfer, Chief Financial Officer - Geoffrey Patton, Director of Assets and Project Management - Lucy Szkwarek, Manager of Finance and Administration, Water and Waste - Colin Javra, Project Director, Winnipeg Sewage Treatment Program, Water and Waste 	

Project Name	NEWPCC Upgrade: Biosolids Facilities	
Business Owner (Department)	Water and Waste Department	
Project ID	203110028B	
Project Sponsor		
	Director of Water and Waste	
Department Responsible for Project Delivery	Water and Waste Department	
Consultant Engineer (Company Name)	AECOM Canada Ltd.	
Adopted Budget		
Class of Estimate (Adopted)	On September 26, 2019 Council approved a budget of \$552.71 million conditional on government funding. \$15.334 million was approved by Council on January 30, 2020 out of the \$552.71 million to commence engineering services.	
Range of Estimate (Adopted)		
Amended Budget		
Class of Estimate (Amended)		
Range of Estimate (Amended)		
Project Scope		
The Biosolids Facilities project will address end of life equipment and regulatory requirements regarding the recovery of nutrients and maximize biosolids reuse. It will add new facilities to treat the sludge from City of Winnipeg's three sewage treatment plants and replace end-of-life equipment.		
Major Capital Projects Advisory Committee Membership:		
<ul style="list-style-type: none"> - Tim Shanks, Director of Water and Waste Department (Chair) - Michael Jack, Chief Administrative Officer - Moira Geer, Deputy Chief Administrative Officer - Catherine Kloepfer, Chief Financial Officer - Geoffrey Patton, Director of Assets and Project Management - Lucy Szkwarek, Manager of Finance and Administration, Water and Waste - Colin Javra, Project Director, Winnipeg Sewage Treatment Program, Water and Waste 		

Project Name	NEWPCC Upgrade: Nutrient Removal Facilities
Business Owner (Department)	Water and Waste Department
Project ID	TBD
Project Sponsor	
Director of Water and Waste	
Department Responsible for Project Delivery	Water and Waste Department
Consultant Engineer (Company Name)	TBD
Adopted Budget	
Class of Estimate (Adopted)	Funding Dependent
Range of Estimate (Adopted)	
Amended Budget	
Class of Estimate (Amended)	
Range of Estimate (Amended)	
<u>Project Scope</u>	
<p>The Nutrient Removal Facilities project will address end of life equipment and regulatory requirements regarding the new effluent limits for nitrogen and phosphorous. It will add mostly all new facilities including new wet weather treatment capability; and replace end-of-life equipment.</p>	
Major Capital Projects Advisory Committee Membership:	
TBD	

Appendix B – Financial Forecast

Appendix B - North End Sewage Treatment Plant (NEWPCC) Upgrade Projects Financial Forecast
As at October 31, 2022

Project Component Deliverables	Budget (in 000's)			Expenditure Forecast (in 000's)					Total Forecasted Costs	Surplus (Deficit) From Amended Budget	Variance Last Report	Change in Variance
	Adopted Budget	Council Approved Change	Amended Budget ¹	Actual Costs To Oct 31, 2022	Projected Costs							
					2023	2024	2025	2026				
Power Supply & Headworks Facilities Project²												
Engineering, Design and Other	\$ 57,196	\$ (2,959)	\$ 54,237	\$ 32,510	\$ 3,874	\$ 3,929	\$ 3,434	\$ 8,800	\$ 54,237	\$ -	\$ -	\$ -
Construction	\$ 621,011	\$ (263,149)	\$ 357,862	\$ 98,808	\$ 93,841	\$ 69,014	\$ 24,356	\$ 12,485	\$ 360,493	\$ (2,631)	\$ (648)	\$ (1,983)
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ 17,493	\$ 17,493	\$ 3,706	\$ 1,800	\$ 1,900	\$ 1,956	\$ 7,029	\$ 17,493	\$ -	\$ -	\$ -
Contingency	\$ 117,383	\$ (73,595)	\$ 43,788	\$ -	\$ -	\$ -	\$ -	\$ 41,157	\$ 41,157	\$ 2,631	\$ 648	\$ 1,983
Subtotal	\$ 795,590	\$ (322,210)	\$ 473,380	\$ 135,024	\$ 99,515	\$ 74,843	\$ 29,746	\$ 69,471	\$ 473,380	\$ -	\$ -	\$ -
Biosolids Facilities Project - Conditional Budget³												
Engineering, Design and Other	\$ -	\$ 15,334	\$ 30,967	\$ 1,284	\$ 4,244	\$ 2,306	\$ 1,139	\$ 21,091	\$ 30,967	\$ -	\$ -	\$ -
Construction	\$ -	\$ -	\$ 377,967	\$ -	\$ -	\$ -	\$ 75,000	\$ 302,967	\$ 377,967	\$ -	\$ -	\$ -
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ -	\$ 43,161	\$ -	\$ -	\$ -	\$ -	\$ 43,161	\$ 43,161	\$ -	\$ -	\$ -
Contingency	\$ -	\$ -	\$ 100,617	\$ -	\$ -	\$ -	\$ -	\$ 100,617	\$ 100,617	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ 15,334	\$ 552,712	\$ 1,284	\$ 4,244	\$ 2,306	\$ 76,139	\$ 467,836	\$ 552,712	\$ -	\$ -	\$ -
Nutrient Removal Facilities Project - Funding Dependent⁴												
Engineering, Design and Other	\$ -	\$ -	\$ 34,973	\$ -	\$ -	\$ -	\$ -	\$ 34,973	\$ 34,973	\$ -	\$ -	\$ -
Construction	\$ -	\$ -	\$ 536,250	\$ -	\$ -	\$ -	\$ -	\$ 536,250	\$ 536,250	\$ -	\$ -	\$ -
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ -	\$ 143,252	\$ -	\$ -	\$ -	\$ -	\$ 143,252	\$ 143,252	\$ -	\$ -	\$ -
Contingency	\$ -	\$ -	\$ 113,582	\$ -	\$ -	\$ -	\$ -	\$ 113,582	\$ 113,582	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ 828,057	\$ -	\$ -	\$ -	\$ -	\$ 828,057	\$ 828,057	\$ -	\$ -	\$ -
Total Project Budget		\$ (306,876)	\$ 1,854,149	\$ 136,308	\$ 103,759	\$ 77,149	\$ 105,885	\$ 1,365,364	\$ 1,854,149	\$ -	\$ -	\$ -

% of Project Budget Spent ⁵	
Power Supply & Headworks Facilities	29%
Biosolids Facilities	TBD
Nutrient Removal Facilities	TBD

Power Supply & Headworks Facilities Amount in '000's			
Project ID	Project Year	Amended Budget	Costs to Date
2031001304 ⁶	2004	\$214	\$214
2031001310 ⁶	2010	\$305	\$305
203110013B	2012 – 2021	\$472,861	\$134,505
Total Project Budget		\$473,380	\$135,024

¹ Amended budget and actual costs to date have been agreed to the City's general ledger and Monthly Capital Expenditures Report and include closed budget years

² On May 27, 2021, Council Approved a budget increase of \$65M

³ On September 26, 2019 Council approved NEWPCC Upgrade Biosolids Facility \$552.71M conditional on government funding
On January 31, 2020 \$15.334M was approved for Engineering Services

⁴ Budget has not been approved

⁵ Actual costs to date / Amended budget

⁶ Does not appear in the Capital Expenditures Monthly Report as the funds have been expended and it is designated as a closed Project ID.

Appendix C – Key Project Events (History)

THE PROJECT

The goal of this project is to upgrade the North End Sewage Treatment Plant (NEWPCC) to meet new Regulatory Licence requirements regarding the maximization of nutrient removal and biosolids reuse and new effluent limits for nitrogen and phosphorous. The upgrade will also add wet weather treatment capability; add a new facility to treat the sludge from all three plants; and replace end-of-life equipment. The Project design will accommodate expected influent flows and loads to 2037. It will also consider future regulatory trends and long-term planning to the year 2067 to facilitate effective process or facility modifications should they be required.

A new power sub-station is required at the NEWPCC to accommodate the additional power demand of the upgrades at the facility. The power supply upgrade was delivered as a separate project from the main NEWPCC upgrade to allow for early procurement of long-lead items, such as transformers, to ensure that the electrical power upgrade is available for the new processes when needed.

The delivery method for NEWPCC Power Supply and Headworks Facilities Upgrade Projects is largely design build (DB) with a small scope being procured as design bid build (DBB).

The upgraded facility will have an economical whole-life cost and be an efficient and safe workplace for operational personnel. In addition, the plant must operate continuously during the work and continue to meet current effluent limits. The impact of construction and commissioning to the capacity of the treatment facility will be minimized as much as possible.

In 2003 Clean Environment Commission Hearings on the City's wastewater collection and treatment systems, Manitoba Conservation and Water Stewardship (now Manitoba Sustainable Development, the Regulator) notified the City that it intended to issue a licence for the NEWPCC that would require control of nutrients discharged to the Red River.

On May 16, 2007, Council authorized the Chief Administrative Officer to finalize the terms and conditions of a contribution agreement with the Government of Canada and the Province of Manitoba for funding of Wastewater Treatment Plant upgrades under the Canada Strategic Infrastructure Fund (CSIF).

On November 19, 2008, City Council authorized the Winnipeg Public Service to:

- Begin the procurement of a strategic partner that could bring private sector experience to the design, construction, finance, and potentially the operation of the North and South End Sewage Treatment Plants as well as potential operation of the West End Sewage Treatment Plant
- Authorize the Chief Administrative Officer to approve and issue the Request for Expressions of Interest followed by a Request for Qualifications and the Request for Proposals

On May 6, 2009 the Environment Act Licence (EAL) No. 2684 RRR was issued for the NEWPCC.

On May 19, 2010 Council:

- Directed the Chief Administrative Officer to approve and issue a Letter of Notification to Veolia in order to immediately begin design and construction of the South and North End Sewage Treatment Plant upgrades and expansion and biosolids handling facility
- Delegated the authority to the Chief Administrative Officer to “approve contract awards for upcoming South and North End Sewage Treatment Plant capital projects where the value of each contract does not exceed \$30 million and there are sufficient funds in a budget approved by Council

On June 16, 2011, the Save Lake Winnipeg Act amending sections of the Water Protection Act (Act) came into effect. Section 4.2(3) of the amended Act required the City to submit a plan that details how the City will comply with subsections 4.2(1) and (2).

The NEWPCC Upgrading Plan was submitted to the Regulator in compliance with Section 4.2(3) of the amended Water Protection Act on June 15, 2012. The Regulator approved the Upgrading Plan on October 2, 2012. The Department submitted the NEWPCC Master Plan and the revised NEWPCC Master Plan on September 27, 2013 and April 28, 2014 respectively. The Master Plan was approved by the Regulator on May 29, 2014.

In the Regulator’s Licence alteration Letter dated December 30, 2014, the project completion date was specified as December 2019. However, the Regulator was notified on June 23, 2016 that the project schedule was not achievable. Manitoba Sustainable Development acknowledged receipt of this notice on August 16, 2016 and indicated they had “no concerns at this time.” Regular schedule updates and progress reports continue to be submitted to Manitoba Sustainable Development on a quarterly basis.

In the second quarter of 2017, the Department reported that an updated conceptual design project cost estimate was received from the design consultant. This new information indicated costs over a billion dollars, much higher than the currently approved budget of \$795.59 million (Class 5 estimate).

The Adopted Budget, \$795.59 million, was based on a Class 5 cost estimate which has an Association for the Advancement of Cost Engineering (AACE) expected accuracy range of -50% and + 100% or \$397.80 million to \$1,591.18 million.

On February 28, 2019, Council approved the recommendation to split the planned NEWPCC Upgrade Project into three distinct projects and execute them based on process criticality and available funding. The recommendation to Council requested approval to proceed with the project scope for Power Supply and Headworks Facilities. Other levels of Government funding for the remaining projects to complete the plant upgrade are required.

The three capital projects and Class 3 cost estimates (including interest charges) to complete the NEWPCC Upgrade are identified as:

1. NEWPCC Upgrade: Power Supply and Headworks Facilities - \$473 million
2. NEWPCC Upgrade: Biosolids Facilities - \$553 million

3. NEWPCC Upgrade: Nutrient Removal Facilities - \$828 million

The total budget to upgrade NEWPCC is approximately \$1.854 billion; based on a class 3 cost estimate which has an AACE expected accuracy range of -20% and +30% or \$1.48 billion to \$2.41 billion. This amount includes an estimated \$155 million in interest charges to be capitalized during the construction period. The total budget was updated from \$1.789 billion to \$1.854 billion as a result of the budget amendment increase of \$65 million for the NEWPCC Upgrade: Power Supply and Headworks Facilities Capital Budget. The budget increase was approved by Council on May 27, 2021.

On December 5, 2019, a response was received from Manitoba Conservation and Climate, Environmental Approvals Branch with regards to the Notice of Alteration (NOA) for NEWPCC submitted by the City July 30, 2019. The response indicated that the NOA was not approved and that the City will be out of compliance with the Environmental Act Licence 2684 RRR and with the phosphorus compliance plan pursuant to the Water Protection Act in January 1, 2020. In the absence of an approved phosphorus compliance plan, the City was required to participate in two project committees namely; the Project Steering Committee and Project Advisory Committee.

On September 26, 2019, Council approved a 2019 capital project budget of \$552.712 million, for NEWPCC Upgrade: Biosolids Facilities, subject to final written confirmation of federal and provincial funding satisfactory to the Chief Financial Officer.

On January 30, 2020, Council approved \$15.334 million from the Biosolids Facilities Budget to commence engineering services.

On February 19, 2020, Minister Squires sent a letter to the Mayor indicating that additional funding of \$21.8 million is an initial payment to be allocated to the NEWPCC Upgrade Project under any potential ICIP arrangements, along with the previous allocation of \$34.4 million for a total of \$56.2 million.

On September 20, 2020 Council approved that the City agree to transfer \$321.24 million of Federal Government's funding under the ICIP from the Public Transit Infrastructure Stream to the Green Infrastructure Stream to fund the Federal Government's funding portion for the NEWPCC Upgrade: Headworks Facilities Project and the NEWPCC Upgrade: Biosolids Facilities Project as per the Province of Manitoba's requirement, subject to certain conditions.

The design build of the NEWPCC Power Supply Project was substantially completed in Q4 2020.

On March 25, 2021, Council adopted that:

- The Government of Canada and the Province of Manitoba be requested to provide confirmation of approval of ICIP for the NEWPCC Upgrade Projects: Headworks Facility Project and Biosolids Facility Project
- The Province of Manitoba be requested to confirm the City's recommended procurement methodology for the Biosolids Facility Project
- The Public Service be directed not to proceed with detailed engineering design for the Biosolids Facility design-bid-build project, in the amount of \$15.334 million, as approved

by Council on January 30, 2020, until such time as the confirmation requested in recommendations 1 and 2 have been received

In a letter dated April 1, 2021, the Province confirmed that funding for the Headworks Project will be reduced to \$96.749 million from \$100.300 million (Province) and to \$116.111 million from \$120.373 million (Federal). This means that the City's share of costs will increase by \$7.813 million as a result of the owner advocate costs incurred.

On May 18, 2021, the Executive Policy Committee concurred in the recommendation of the Public Service, as amended, that:

- The current Operation and Maintenance of Winnipeg's sewage treatment utility shall remain public and that the Operation and Maintenance not be included as part of the P3 market sounding
- That a single source contract be approved with Deloitte LLP of up to \$400 thousand to conduct a market sounding for a Design, Build and Financing P3 for the Biosolids and Nutrient Removal facilities projects of the NEWPCC upgrades
- That the Public Service report back to Council on the results of the market sounding and analysis

On May 27, 2021, Council approved

- Red River Solutions, an Aecon Oscar Renda Joint Venture, as the Preferred Proponent for the Design Build of the NEWPCC Upgrade: Headworks Facilities Project
- A budget amendment increase of \$65 million for the NEWPCC Upgrade: Power Supply and Headworks Facilities Capital Budget, to be funded 50/50 through utility rates and debt financing
- Review of the AACE Class 3 cost estimates for Biosolids and Nutrient Removal Facilities projects and refer any increases to the 2022 capital budget process; and to update the ten-year water and sewer financial plan and report back to Council in October 2021

On May 31, 2021, the NEWPCC Upgrade: Headworks Facilities was approved for Federal and Provincial funding under the ICIP – Green Infrastructure – Environmental Quality Sub-stream, with Federal contributions up to \$116.111 million and Provincial Contributions up to \$96.750 million. Accordingly, the agreement for the design build of the NEWPCC Upgrade: Headworks Facilities was executed with RRS on June 11, 2021

On July 23, 2021, a formal press release regarding the approval of funding through the ICIP application for the NEWPCC Upgrade: Headworks Facilities was carried out at the NEWPCC. All three levels of government were in attendance.

A joint news release by the Province of Manitoba and the City was issued on November 24, 2021 regarding the advancement of the City's funding application to the Federal Government of Canada for the NEWPCC Upgrade: Biosolids Facilities Project through the ICIP.

On February 24, 2022, Council approved that future tenders for the NEWPCC Upgrade Projects require bidders to include the following as part of their bid submissions:

- Specific information on its intended partnerships or self-directed plans to secure a skilled project labour workforce.

- Estimated numbers of and classifications of skilled tradespersons to be employed.
- 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.

On July 21, 2022 the City Council approved:

1. That the NEWPCC Upgrade: Biosolids Facilities Project be delivered using a Design Build procurement model.
2. That the revised cost estimate for the NEWPCC Upgrade: Biosolids Facilities Capital Budget be referred to the 2024-2027 Multi-Year Budget Process.
3. That the \$15,334,000.00 2019 Capital Budget for the NEWPCC Upgrade: Biosolids Facilities, approved on January 30, 2020, as part of the 2020-2023 Water and Sewer Rate Report, be funded from the Environmental Projects Reserve rather than external debt.

On August 16, 2022, a formal press release regarding the approval of funding through the ICIP application for the NEWPCC Upgrade: Biosolids Facilities was carried out at the NEWPCC. All three levels of government were in attendance.

RISKS AND RISK MITIGATION STRATEGIES

There are risks associated with the cost and schedule for a project that is this large and complex especially at the early stages. In addition, the final bid amounts for projects are unknown until the project agreement is finalized with the Design Builder.

In consultation with our engineering advisors, it was necessary to make estimates about the pace of engineering design and the pace of construction. Any delays typically result in increases in cost.

An ongoing risk management strategy has been implemented for both the NEWPCC Upgrade Power Supply and Headworks Facilities Projects. It includes a proactive process of identifying risks, performing qualitative and quantitative risk analyses, creating response plan strategies, and ongoing monitoring. The risk management process is an active part of the management of the projects. The projects will also incorporate structured Hazard and Operability Analysis and a Construction Hazard Assessment Implication Review. Since detailed design and construction will be carried out through a DB contract, the Winnipeg Sewage Treatment Program (WSTP) will be identifying and transferring as much risk as reasonable to the Design Builder.

The Risk Registers for each of the Projects contain cost and schedule risks associated with design, procurement, construction, operation, and unknown events. The Risk Register is reviewed and updated regularly by the WSTP.

Appendix D - Funding

1) Funding for the NEWPCC is as follows:

NEWPCC Nutrient Removal Facilities (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Provincial Funding								
Power Supply and Headworks Facilities	\$ 473.38			\$ 116.11	\$ 96.75	\$ 116.11	\$ 96.75	\$ 260.52
Funding Dependent								
Biosolids Facilities	552.71			200.87	167.38	200.87	167.38	184.46
Nutrient Removal Facilities	828.06							
Estimated Program Costs	\$ 1,854.15	\$ -	\$ -	\$ 316.98	\$ 264.13	\$ 316.98	\$ 264.13	\$ 444.98

2) Funding for the Winnipeg Sewage Treatment Programs is as follows:

WSTP All Projects (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
WEWPCC Biological Nutrient Removal ¹	\$ 33.23	\$ 5.07	\$ 8.19			\$ 5.07	\$ 8.19	\$ 19.97
NEWPCC Centrate and UV Disinfection ¹	52.08	5.59	14.54			5.59	14.54	31.95
SEWPCC Nutrient Removal/Expansion	375.60	37.04	15.98	5.30	1.10	42.34	17.08	316.18
NEWPCC Power Supply and Headworks ²	473.38			116.11	96.75	116.11	96.75	260.52
NEWPCC Biosolids ³	552.71			200.87	167.38	200.87	167.38	184.46
NEWPCC Nutrient Removal ⁴	828.06					-	-	-
Estimated Program Costs	\$ 2,315.06	\$ 47.70	\$ 38.71	\$ 322.28	\$ 265.23	\$ 369.98	\$ 303.94	\$ 813.08

¹ WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.

² On July 23, 2021 the Federal and Provincial governments announced \$212.86 million in Investment in Canada Infrastructure Program (ICIP) funding for the NEWPCC Upgrade Power Supply and Headworks project. \$116.11 million in Federal and \$96.75 million in Provincial funding.

³ On August 16, 2022 the Federal and Provincial governments announced an additional \$368.25 million in ICIP funding for the NEWPCC Upgrade Biosolids project. \$200.87 million in Federal and \$167.38 million in Provincial funding.

⁴ NEWPCC Upgrade Nutrient Removal project has not been approved.