

ONTARIO INFRASTRUCTURE AND
LANDS CORPORATION



Value for Money Assessment

Highway 401 Expansion Project

September 2019



**Infrastructure
Ontario**

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I. EXECUTIVE SUMMARY

This report provides a summary of the procurement process for the Highway 401 Expansion project and demonstrates how value for money was achieved by delivering the project using Infrastructure Ontario's (IO) Public-Private Partnerships approach.

► Infrastructure Ontario

IO is a Crown agency owned by the Province of Ontario that provides a wide range of services to support the Ontario government's initiatives to modernize and maximize the value of public infrastructure and realty. Projects delivered by IO are guided by five key principles: transparency, accountability, value for money, public ownership and control, and public interest are paramount.

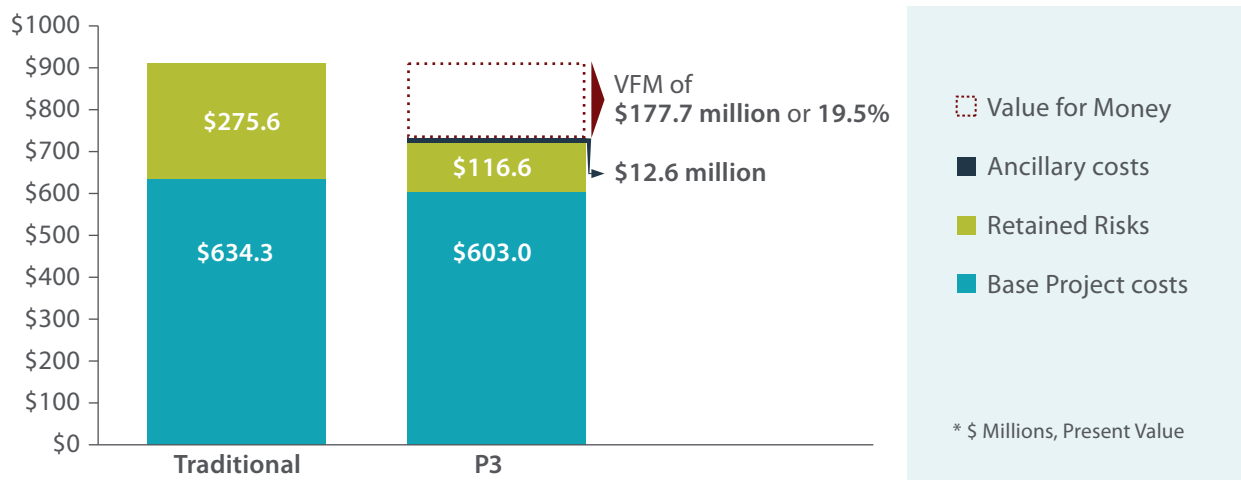
► Public-Private Partnerships in Ontario

IO delivers public infrastructure projects using a project delivery model called Public-Private Partnerships (P3). The P3 model brings together private and public sector expertise in a unique structure that transfers to the private sector partner the risk of project cost increases and scheduling delays typically associated with traditional project delivery. The goal of the P3 approach is to deliver a project on time and on budget and to provide real cost savings for the public sector.

All projects with a cost greater than \$100 million are screened for their suitability in being delivered as a P3 project. The decision to proceed with a P3 delivery model is based on both qualitative considerations (e.g., size and complexity of the project) and a quantitative assessment. The quantitative assessment, called Value for Money (VFM), is used to assess whether the P3 delivery model will achieve greater value to the public compared to a traditional public sector delivery model. VFM compares the estimated total project costs of delivering public infrastructure using P3 relative to the traditional delivery model.

► Achieving Value for Money

The VFM assessment of the Highway 401 Expansion project indicates an estimated cost savings of \$177.7 million or 19.5 percent (in present value terms) by using the P3 approach compared to traditional delivery.





I. EXECUTIVE SUMMARY

► External Review

As part of the procurement process and VFM assessment, two external parties were retained by IO:

- Deloitte was retained to complete the VFM assessment; and,
- HKA Global Consulting acted as the Fairness Monitor for the project.

II. PROJECT HIGHLIGHTS

➤ Highway 401 Expansion project



Purpose	To deliver the Highway 401 Expansion project, the project is approximately 18 kilometres long and is located within the western part of the Greater Toronto Area, from Regional Road 25 in Milton to the Credit River in Mississauga.
Project Owner	Province of Ontario (Ministry of Transportation)
Private Partner	West Corridor Constructors (WCC)
Location	GTA
Project Type	Design-Build-Finance (DBF)
Infrastructure Type	Transportation
Contract Value	\$639.8 million
Construction Period	Spring 2019 - late 2022
Length of Project Agreement	3.5 years
Estimated Value for Money (Present Value)	\$177.7 million or 19.5 percent

➤ Background

The Highway 401 Expansion project is approximately 18 kilometres long and is located within the western part of the Greater Toronto Area, from east of the Credit River in Mississauga to west of Regional Road 25 in Milton.

➤ Objectives

Once completed, the Highway 401 Expansion will reduce traffic congestion, greenhouse gases and fuel consumption and improve quality of life for commuters by reducing daily travel times.

II. PROJECT HIGHLIGHTS

Key objectives of the Highway 401 Expansion project includes:

- ▶ Increase urban transit capacity
- ▶ Manage congestion
- ▶ Seamless customer experience
- ▶ Minimize disruption during construction
- ▶ Design excellence
- ▶ Deliver on time, on budget
- ▶ Public ownership

▶ Project Scope

The scope of work includes:

- ▶ 12 lane core-collector system from the Credit River to Winston Churchill Boulevard;
- ▶ 10 lanes from Winston Churchill Boulevard to Highway 407 ETR/ Highway 401 interchange;
- ▶ 12 lane core-collector system from Highway 407 ETR/ Highway 401 interchange to east of the James Snow Parkway;
- ▶ 10 lanes from the James Snow Parkway to west of Regional Road 25;
- ▶ Median HOV lanes; and
- ▶ Support facilities and features - drainage, lighting, signage, ATMS, carpool lots etc

The project agreement with WCC contains their requirements to:

- ▶ Design and Construct – lead the design and construction of the Highway 401 Expansion project for completion in late 2022;
- ▶ Finance – secure sufficient financing to fund the construction and capital costs over the term of the project;
- ▶ Third-Party Certification – obtain a third-party independent certification that the system is built to the requirements of the Province as outlined in the project agreement.

▶ Economic Benefits & Job Creation

The project is generating economic stimulus by creating and supporting jobs. At the peak of construction, WCC estimates that 200 workers will be on the site daily, with opportunities for subcontractors as the project progresses.

III. ACHIEVING VALUE FOR MONEY

Value for money assessment for the Highway 401 Expansion project demonstrates a project costs savings of:

\$177.7 million or 19.5%

The VFM assessment methodology is outlined in *Assessing Value for Money – An Updated Guide to Infrastructure Ontario’s Methodology*, which can be found at www.infrastructureontario.ca.

► Value for Money Concept

The VFM compares the estimated total risk adjusted project costs, expressed in dollars measured at the same point in time, of delivering the same infrastructure project under two delivery models: the traditional Design, Bid Build (DBB) model and the P3 model.

MODEL # 1:

Traditional DBB Delivery (PSC)

Estimated costs to the public sector of delivering an infrastructure project using a traditional procurement delivery model. Total risk-adjusted costs are known as the Public Sector Comparator or PSC Costs.

MODEL # 2:

P3 Delivery

Estimated costs to the public sector of delivering the same project to the identical specifications using the P3 delivery model. Total risk-adjusted costs are known as P3 Costs.

$$\left\{ \text{Value for Money \$} = \text{PSC Costs} - \text{P3 Costs} \text{ or } \text{Value for Money \%} = \frac{(\text{PSC Costs} - \text{P3 Costs})}{\text{PSC Cost Costs}} \right\}$$

The difference between the total estimated PSC costs and the total estimated P3 costs is referred to as VFM. Positive VFM is demonstrated when the cost of delivery under P3 is less than PSC.

► Calculating Value for Money – Inputs & Assumptions

The VFM is assessed and refined throughout the entire procurement process to reflect updated information and WCC’s actual bid costs. All costs and risks in this report are expressed in present value terms and have been discounted back to present terms.

The VFM assessment relies on a number of inputs and assumptions, including:

- 1. Base Project Costs
 - ▼ 1.1. Adjusted Base Costs (design, construction)
 - ▼ 1.2. Financing Costs
- 2. P3 Ancillary Costs
- 3. Retained Risks

III. ACHIEVING VALUE FOR MONEY

1. Base Project Costs

▼ 1.1. Calculation of Base Costs

Traditional Delivery Model (PSC)		P3 Delivery Model	
Base Costs adjusted for:	(\$)	Base Costs adjusted for:	(\$)
Innovation Factor	N/A	Innovation Factor	↓ to Construction Costs
Adjusted Base Costs	Base Costs (\$) +/- Adjustments	Adjusted Base Costs	Base Costs (\$) +/- Adjustments
Estimated Savings / (Costs) in Base Costs under the P3 Model			PSC – P3

Base costs include design and construction costs. In the estimation of base costs, IO relies on external cost consultants to estimate the costs of the project. This becomes the starting point for both the PSC and P3 models. These costs are then adjusted for:

- ▶ An innovation factor – the VFM methodology includes an innovation factor which recognizes that the base cost of the P3 model will be lower than the PSC model as a result of:
 - ▶ the use of performance based specifications in P3 projects allow contractors to consider innovative and alternative ways to deliver a project, such that project costs are lower as compared to a traditional delivery which uses more prescriptive specifications; and,
 - ▶ increased competitive environment on P3 projects which have resulted in cost reductions.

▼ 1.2. Financing Costs

Traditional Delivery Model (PSC)		P3 Delivery Model	
Financing Costs	Public sector notional financing costs	Financing Costs	Private sector financing costs
Estimated Savings / (Costs) from Financing under the P3 Model			PSC – P3

One of the common elements of the P3 model is the use of private finance for some or all of the project period. Under the traditional delivery model, the public sector makes progress payments throughout construction. Whereas under the P3 model, the government pays a portion of construction costs during construction as milestone payments and/or pays the entire amount at the end of the construction period. Financing costs are reflected as follows:

- ▶ Traditional Delivery Model or PSC - the public sector notionally incurs an “opportunity cost” for having paid earlier as compared to the P3 model. The notional public sector financing cost is calculated at the current Provincial cost of borrowing or weighted average cost of capital. This cost is reflected in the discount rate used to assess and compare the project costs.

III. ACHIEVING VALUE FOR MONEY

- ▶ P3 Delivery Model – the private sector party borrows at private financing rates to pay for the project costs during construction and carries that financing until fully repaid by the public sector. This private sector financing cost is ultimately passed through to the public sector as a cost and reflected in the P3 model.

2. P3 Ancillary Costs

Traditional Delivery Model (PSC)		P3 Delivery Model	
P3 Ancillary Costs	N/A	P3 Ancillary Costs	ⓘ P3 costs
Estimated Savings / (Costs) from Financing under the P3 Model		PSC – P3	

There are significant costs associated with the planning and delivery of a large complex project. The VFM methodology quantifies the incremental ancillary costs arising under the P3 delivery model only. Ancillary costs typically incurred include legal, capital markets, fairness, transaction, and the cost of IO services.

3. Retained Risks

Traditional Delivery Model (PSC)		P3 Delivery Model	
Retained Risks	ⓘ PSC costs	Retained Risks	ⓘ P3 costs
Estimated Savings / (Costs) from Retained Risks under the P3 Model		PSC – P3	

The concepts of risk transfer and mitigation are key to understanding the overall VFM assessment. To estimate and compare the total cost of delivering a project under the traditional delivery model versus the P3 model, the risks borne by the public sector, which are called “retained risks,” are identified and quantified. Details on how retained risks are identified and quantified are in *Assessing Value for Money – An Updated Guide to Infrastructure Ontario’s Methodology*, which can be found at www.infrastructureontario.ca

Project risks are defined as potential adverse events that may have a direct impact on project costs. To the extent that the public sector retains these risks under both delivery models, they are included in the estimated cost under the PSC and P3 model as “retained risks”. Risks retained under the P3 model are lower than risks retained by the public sector under the PSC model. This reflects the transfer of certain project risks from the public sector to the private sector and the appropriate allocation of risk between the public and private sectors based on the party best able to manage, mitigate, and/or eliminate the project risk.

As a result of a comprehensive risk assessment, the following are examples of key project risks that have been transferred or mitigated under the project agreement to WCC:

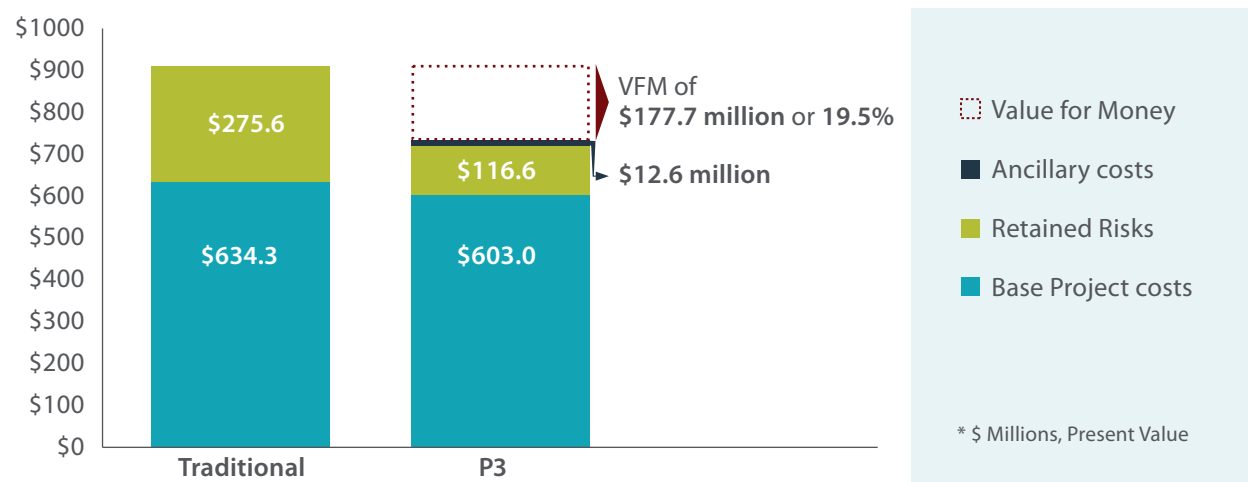
- ▶ Project Schedule – risk of a longer construction period and resulting in a higher total program cost.
- ▶ Scope Changes During Construction (directed by owner) – risk that the scope of work is changed by the owner during the construction.
- ▶ Due Diligence (by the owner in preparation of tender in RFP) – risk that an insufficient level of due diligence is undertaken and communicated to the proponents resulting in reduced tolerance to risk and higher bid price.

III. ACHIEVING VALUE FOR MONEY

► Highway 401 Expansion project Value for Money Results

The VFM assessment of the Highway 401 Expansion project indicates an estimated cost savings of \$177.7 million or 19.5 percent by using the P3 approach compared to traditional delivery.

Traditional Delivery Model (PSC)	\$ Millions, Present Value	P3 Delivery Model	\$ Millions, Present Value
I. Base Project Costs (Adjusted Base Costs + Financing)	\$634.3	I. Base Project Costs (Adjusted Base Costs + Financing)	\$603.0
II. P3 Ancillary Costs	N/A	II. P3 Ancillary Costs	\$12.6
III. Retained Risks	\$275.6	III. Retained Risks	\$116.6
Total	\$909.9	Total	\$732.2
Estimated Value for Money (cost difference)		\$177.7	
Estimated Percentage Savings		19.5%	



► External Review

Deloitte completed the VFM assessment for the project. Their assessment demonstrates projected cost savings of \$177.7 million or 19.5 percent by delivering the project using the P3 model versus what it would have cost to deliver the project using a traditional delivery model (see letter on page 14).

HKA Global (Canada) Inc. acted as the Fairness Monitor for the project. They reviewed and monitored the communications, evaluations and decision-making processes associated with the project, ensuring the fairness, equity, objectivity, transparency and adequate documentation of the process. HKA Global (Canada) Inc. certified that these principles were maintained throughout the procurement process (see letter on page 15).

IV. PROJECT AGREEMENT

► Highlights of the Project Agreement

The Project Agreement signed between IO, MTO and WCC defines the obligations and risks of all parties involved. Key highlights that pertain to the construction terms are below:

- **Contract Price Certainty** – A \$639.8 million fixed-price contract to design, build and finance the Highway 401 Expansion project. Any extra costs incurred as a result of a schedule overrun caused by the contractor will not be paid by the Province.
- **Scheduling, Project Completion and Delays** –WCC has agreed to a substantial completion date of 2022. The schedule can be modified in limited circumstances in accordance with the project agreement. A sizeable payment will be made by the Province at substantial completion, providing further incentive for WCC to complete construction on time.
- **Site conditions and contamination** –WCC is responsible for managing and where required, remediating any contamination at the site. This includes contamination that was disclosed or reasonably anticipated from site condition reports, or that is caused by WCC or any of its parties.
- **Construction Financing** –WCC is required to finance the construction of the project and is responsible for any additional financing costs if there is a delay reaching substantial completion of the project.
- **Commission and Facility Readiness** – WCC must achieve a prescribed level of commissioning at substantial completion within the agreed-to schedule.

V. COMPETITIVE SELECTION PROCESS

The procurement process for the Highway 401 Expansion project, from RFQ to Financial Close, took 25 months to complete.

After concluding a fair and competitive procurement process, MTO and IO entered into a project agreement with WCC to design, build and finance the project.

► Procurement Process

i. Request for Qualifications | March 29, 2017

- MTO and IO issued a request for qualifications (RFQ) to solicit interested parties to design, build and finance the project.
- In June 2017, the RFQ period closed and the Sponsors received statements of qualifications from 3 teams.
- RFQ submissions were evaluated by IO and MTO. High standards were set to ensure the shortlisted consortia exceeded the technical and financial standards required for this complex and large project. The evaluation process resulted in three teams being prequalified.

Blackbird Infrastructure Group

- Dufferin Construction Company
- Ferrovial Agroman Canada Inc.
- Klohn Crippen Berger Ltd.
- TD Securities

LINK401

- Dragados Canada Inc.
- Brennan Infrastructures Inc.
- Bot Infrastructure Ltd.
- WSP Canada Group Limited
- ACS Infrastructure Canada Inc.
- Stonebridge Financial Corporation

West Corridor Constructors

- Aecon Infrastructure Management Inc.
- Amico Design Build Inc.
- Parsons Inc.
- National Bank Financial Inc.

ii. Request for Proposals | February 28, 2018

- A request for proposals (RFP) was issued to the prequalified proponents, setting out the bid process and proposed project agreement for the project.
- The proponents had 8 months to prepare high-quality, competitive submissions.

iii. Proposal Submission | November 6, 2018

- The RFP period closed on November 6, 2018. All proponents submitted bids on time.

V. COMPETITIVE SELECTION PROCESS

- ▶ November 2018 – February 2019: bids were evaluated using criteria as set out in the RFP by an Evaluation Committee comprised of subject matter experts from IO, MTO and technical consultants enlisted by the Sponsors. The extensive evaluation process resulted in WCC receiving the highest score.
- ▶ In February 2019, the ‘first-ranked proponent’ – also referred to as the First Negotiations Proponent – WCC, was then notified of their standing.

iv. Preferred Proponent Notification | March 8, 2019

- ▶ After successful negotiations with the First Negotiations Proponent, WCC was selected as the preferred proponent. WCC best demonstrated the ability to meet the specifications outlined in the RFP, including technical requirements, construction schedule, price and financial backing.

v. Commercial and Financial Close | April 26, 2019

- ▶ Upon conclusion of negotiations and once a financing rate was set, a Project Agreement (contract) was executed between WCC, MTO and IO on April 26, 2019.

West Corridor Constructors

- ▶ Aecon Infrastructure Management Inc.
- ▶ Amico Design Build Inc.
- ▶ Parsons Inc.
- ▶ National Bank Financial Inc.

▶ Design and Construction Phase

vi. Construction Phase | Fall 2019 to end of 2022

- ▶ The design phase began in spring 2019, with construction to commencing in fall 2019 and will be carried out in accordance with the project agreement and the builder’s schedule as approved by the Sponsors.
- ▶ During the construction period, the builder’s construction costs will be funded through their own equity, bond and lending arrangements, which will be paid in monthly installments based on the construction program set out by WCC.
- ▶ Project construction will be overseen by MTO with IO providing contract management oversight.

vii. Payment

- ▶ WCC will receive substantial completion payment expected in 2022.



VI. CONCLUSION

This report provides a project overview and summary of the procurement process for the Highway 401 Expansion project, and demonstrates that a VFM of \$177.7 million or 19.5 percent will be achieved by using the P3 approach compared to traditional delivery.

Going forward, IO, MTO and WCC will continue to work together to ensure the successful delivery of the Highway 401 Expansion project.



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August 28, 2019

Private and confidential

John Traianopoulos
Senior Vice President, Transaction Finance
Infrastructure Ontario
777 Bay Street, 9th Floor
Toronto M5G 2C8
Canada

Dear Mr. Traianopoulos,

Subject: Financial Close Value for Money Analysis – Highway 401 Expansion Project (DBF)

Deloitte LLP (“Deloitte”) has prepared the Financial Close Value for Money Analysis (“VFM”) assessment for the **Highway 401 Expansion Project** (the “Project”), in accordance with Infrastructure Ontario’s (“IO”) value for money assessment methodology (“VFM Methodology”) outlined in *Assessing Value for Money: An Updated Guide to Infrastructure Ontario’s Methodology (April 2017)*. The VFM Methodology appears consistent with approaches used in other jurisdictions.

The VFM assessment is based on a comparison of the present value of estimated total project costs under:

1. The traditional delivery approach, as reflected in the Public Sector Comparator (PSC) model; and
2. The Alternative Finance and Procurement (AFP) approach, as reflected in the Adjusted Shadow Bid.

The VFM assessment was compiled using the following information (collectively the “Information”) within the VFM model:

1. A Base Risk Matrix developed for IO by MMM Group and adapted to reflect the Project specific risks;
2. Cost and other input assumptions developed by IO and its external advisors; and
3. Other VFM model assumptions provided by IO.

While Deloitte did not audit or attempt to independently verify the accuracy or completeness of the Information, Deloitte confirms, based on our familiarity with the application of VFM methodologies, that the Information has been appropriately used in the VFM model. The VFM assessment demonstrates that the AFP approach will provide estimated value savings of 19.5% or \$177.7 million in comparison to the traditional delivery approach.

Sincerely,

Deloitte LLP



February 8, 2019

Mr. Michael Inch
Vice President of Strategic Sourcing
Infrastructure Ontario
777 Bay Street, 9th Floor
Toronto, Ontario M5G 2C8

Dear Mr. Inch:

**Re: Fairness Monitor Attest Statement Letter for the
Request for Proposals to Design, Build and Finance the
Highway 401 West Expansion Credit River to Regional Road 25 Project – RFP NO. 17-178**

HKA was retained in March 2017 to provide Fairness Monitoring Services for the Sponsors (Infrastructure Ontario (IO) and the Ontario Ministry of Transportation (MTO)) two staged (RFQ and RFP) procurement process to identify a partner to Design, Build and Finance the Highway 401 West Expansion Credit River to Regional Road 25 Project.

The RFP was issued on February 27, 2018 and closed on November 6, 2018, and the associated evaluation process took place from November 2018 to January 2019. We have monitored both the RFQ and RFP processes.

This letter details our summary fairness findings for the RFP process, however for greater detail on the RFP process, review our detailed report which has been provided to IO.

Our monitoring in the capacity as Fairness Monitor was strictly limited to strict monitoring of the Sponsors practices to ensure consistency with their documents and processes only. We took the stipulations of the RFP as a standard against which to audit the process.

We:

- Confirmed the adherence to the RFP and Evaluation Framework guideline documents processes.
- Confirmed the adherence to the document amendment process.
- Confirmed the adherence to the Request for Information question and answer process.
- Confirmed the adherence to the RFP Submission and Closing process.
- Confirmed the adherence to the Communication, Confidentiality and Conflict of Interest processes.
- Confirmed the adherence to the Commercially Confidential Meeting process and procedures.
- Confirmed the adherence of the Request for Clarification Process during the evaluation stage.
- Reported to the Senior Procurement Specialist, Senior Project Manager and Evaluation Committee performing the due diligence function for the RFP process.



EVALUATION RESULTS

All Submissions received were timely received through the AWARD web portal and proceeded through to the evaluation process as per the RFP steps indicated therein.

As a result of the cumulative score ranking Evaluation Committee meeting held on January 24, 2019, we can confirm that the all Proposals satisfied all technical submission scoring threshold and mandatory requirements and proceeded to the financial submission and scoring threshold evaluation and ranked accordingly.

In accordance with the RFP, the Sponsors identified the highest ranked Proponent as the First Negotiations Proponent at the end of the evaluation process, which we witnessed. The subsequent negotiations will not be monitored by the Fairness Monitor but will be conducted in accordance with IO's established process as per the RFP.

We confirm that the Proponent **West Corridor Constructors** is the highest scoring Proponent in this evaluation process to meet and satisfy all required technical and financial scoring thresholds and has been named the First Negotiations Proponent as a result of their achievement.

As Fairness Monitors, we can attest that the overall process followed was consistent with the stipulations of the RFP version 4.0 documents and principles of fairness as established at the onset of the process by the Sponsors, Infrastructure Ontario and the Ontario Ministry of Transportation.

Sincerely,



Andrea Robinson, Senior Fairness Monitor
HKA Global (Canada), Inc.

Infrastructure Ontario

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