

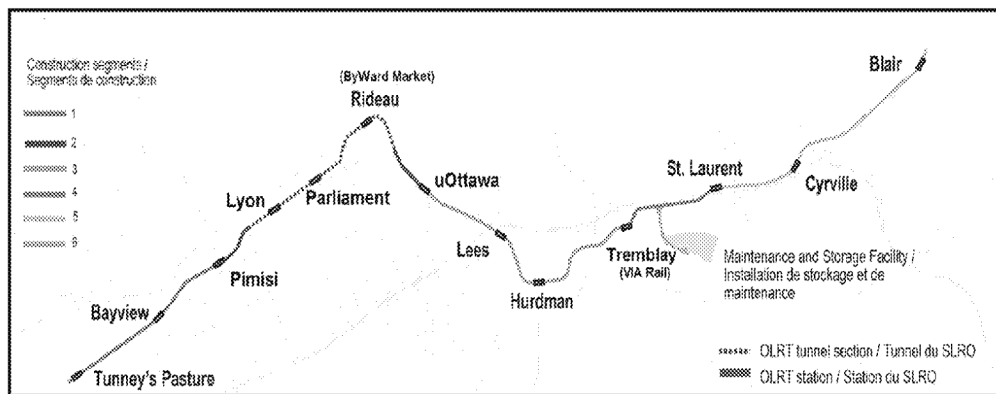


**INDEPENDENT CERTIFIER'S REPORT ON SUBSTANTIAL
COMPLETION #2**
for
THE CONFEDERATION LINE (OTTAWA LIGHT RAIL PROJECT)
Ottawa, Ontario

Prepared for Project Agreement Parties:
CITY OF OTTAWA
and
RIDEAU TRANSIT GROUP (RTG) GENERAL PARTNERSHIP

Prepared by:
Altus Group Limited

Issued:
July 27, 2019



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Altus Project 100224



July 27, 2019

Altus Ref: 100224

City of Ottawa
180 Elgin Street, Suite 601
Ottawa, ON, K2P 2P7

Rideau Transit Group Partnership
Confederation Line
1545 Carling Avenue, Suite 406
Ottawa, ON K1Z 8P9

Attn: Michael Morgan (City Representative)

Attn: Peter Lauch (Project Co Representative)

Dear Sirs,

**Re: The Confederation Line Project (Ottawa Light Rail Transit Project
Independent Certifier's Report on Substantial Completion #2**

Project Co had previously issued a Substantial Completion Notice on April 29, 2019 confirming their position that the requirements for Substantial Completion had been satisfied pursuant to the Project Agreement. The City's Opinion was issued May 6, 2019 stating that the conditions for the issuance of the Substantial Completion Certificate had not been satisfied for a number of reasons, which they detailed in their Opinion letter. Pursuant to Section 24.4 (d) of the Project Agreement, the Independent Certifier had considered the opinions and positions of both Project Co and the City, and had determined that the conditions for the issuance of the Substantial Completion Certificate had not been satisfied at the time of the issuance of the April 29, 2019 Substantial Completion Notice and at the date of the Independent Certifier's Report on Substantial Completion issued May 13, 2019.

Pursuant to Section 26.2 (e) of the PA, Project Co shall, within 5 Business Days after receipt of the Independent Certifier's Report on Substantial Completion on May 13, 2019, provide the Independent Certifier and the City Representative with:

- (i) *a detailed list indicating the rectification actions proposed for all matters raised in such report;*
- (ii) *the schedule for completion of all such rectification actions; and*
- (iii) *any additional Project Co Commissioning that needs to be undertaken as a result of the rectification actions, and Project Co shall perform all such additional rectification actions and Project Co Commissioning in a timely manner. Upon completion thereof, Project Co may give a further Substantial Completion Notice and Sections 26.2 (c) to (e), inclusive, shall be repeated until the Substantial Completion Certificate has been issued.*

Project Co issued a "Response to IC's Decision RE: Substantial Completion" to satisfy the conditions in Section 26.2 (e) above. Project Co has issued a further Substantial Completion Notice on July 22, 2019 confirming that all requirements for Substantial Completion have been satisfied and completion of all outstanding matters pursuant to the City Opinion (May 6, 2019) and the Independent Certifier's Report on Substantial Completion (May 13, 2019), with the exception of deficiencies deemed minor in nature or



deficiencies/incomplete work agreed to be deferred and completed prior to Revenue Service Availability. Project Co issued a Minor Deficiencies List to the City and IC on July 22, 2019 and updated and reissued on July 24, 2019, following further meetings and discussions with the City and IC.

According to Section 26.2 (b) (ii) of the Project Agreement, the Substantial Completion Notice shall be issued upon the satisfaction of all requirements for Substantial Completion and which Notice shall describe, in reasonable detail, the satisfaction of the requirements for Substantial Completion, together with Project Co's opinion as to whether the conditions for issuance of the Substantial Completion Certificate have been satisfied. **Appendix B** of this Report includes Project Co's second Substantial Completion Notice, however, we have not included all the supporting documentation that was provided with the April 29, 2019 and July 22, 2019 Substantial Completion Notice due to the large nature of the enclosures. The supporting documentation provided is available on eBuilder.

Several meetings have been held with the City, Project Co and Independent Certifier since the IC's Report on Substantial Completion was issued on May 13, 2019. A Substantial Completion Tracking List had been developed and maintained by the PA Parties to track all the outstanding Substantial Completion requirements and subsequent closure towards the issuance of the second Substantial Completion Notice. Ongoing weekly meetings have continued to review the Minor Deficiencies List, closing items, identifying new items, and agreeing on the classification of the deficiency (Minor or to be completed Pre-RSA).

The Independent Certifier conducted a site visit, further to the May 1, 2019 site wide visit, to review areas not yet completed with the previous Substantial Completion Notice and to review specific scopes of work relating to items on the Minor Deficiencies List. In addition to performing the IC's Certification Services pursuant to the IC Agreement since Financial Close, the IC has participated in the PA Compliance working group meetings established in June 2018 to review the Substantial Completion requirements and ensure the PA Parties are aligned on the evidence/supporting documentation that would be provided by Project Co with their SC Notice. The IC has conducted monthly site visits, issued monthly reports, witnessed various testing and commissioning activities, attended deficiency walks and has certified all Milestones achieved at this time. Please see **Appendix D** of this Report for the corresponding photo report from our May 1, 2019 Site Visit and the July 10 & 17, 2019 Site Visit.

Pursuant to Section 26.2 (c) of the Project Agreement, on July 26, 2019, the City provided their opinion as to whether the conditions for issuance of the Substantial Completion Certificate have been satisfied and, if applicable, any reasons as to why they consider that the Substantial Completion Certificate should not be issued. The City's Opinion is that the conditions for the issuance of the Substantial Completion Certificate have been satisfied, with minor deficiencies outstanding. The City's Opinion is also based on several Substantial Completion requirements that have been agreed to be deferred or waived and included on the Minor Deficiencies List, pursuant to Section 26.4 (d) of the Project Agreement and detailed in the Substantial Completion Agreement, dated July 26, 2019, enclosed with the City Opinion. These items have been categorized, as "Pre-RSA" deficiencies/incomplete work that must be completed prior to the issuance of the Revenue Service Availability Certificate. Please refer to **Appendix C** for a copy of the City's opinion.

Pursuant to Section 24.4 (d) of the Project Agreement, the Independent Certifier has considered the opinions and positions of both Project Co and the City, and has determined that the conditions for the



issuance of the Substantial Completion Certificate **have been satisfied** at the time of the issuance of this Report, considering the Substantial Completion Agreement executed on July 26, 2019. Please find enclosed the Substantial Completion Certificate included in **Appendix A** of this Report.

Pursuant to Section 26.4, the Independent Certifier, in consultation with Project Co and the City, has prepared a list of all Minor Deficiencies (including any Substantial Completion requirements agreed to be waived by the City, pursuant to Section 26.4 (d) and the Substantial Completion Agreement) identified at this time. The IC confirms that all the deficiencies or incomplete work can be considered minor in nature or considered to be deferred pursuant to the Substantial Completion Agreement included in the City's Opinion and Section 26.4 (d). An estimate of the cost and time for rectifying such Minor Deficiencies will be finalized by the IC and issued within 5 business days from the issuance of this Report, as agreed with the PA Parties.

We trust the above and enclosed documentation is satisfactory. Please contact the undersigned with any clarifications.

Yours truly,
ALTUS GROUP LIMITED

A handwritten signature in cursive script, appearing to read "M. Sechiari".

Per: Monica Sechiari, P. Eng
Associate Director, IC Services

cc. Lorne Gray – City of Ottawa
Paul Hughes – Altus Group Limited



REPORTING QUALIFICATIONS

This report is written for the exclusive use of the City of Ottawa and Rideau Transit Group Partnership. Altus Group does not hold any reporting responsibility to any other party without express written consent provided herein or under separate letter.

The report or parts thereof are not intended for general circulation, publication, or reproduction without express written permission from Altus Group in each specific instance.

Neither Altus Group nor its officers or its employees accepts liability whatsoever for any direct or consequential loss arising from the negligent use of this report.

This report and the findings enclosed are based on the documentation supplied to us by the PA Parties and its representatives. Should any subsequent information arise which materially affects the project, we will report as soon as it becomes available. Furthermore, Altus Group has made reasonable investigation to review the project documentation; however, should any information be withheld from us, we cannot be responsible to ensure that it is included in this report.



1 LIST OF APPENDICES

- Appendix A: Substantial Completion Certificate
- Appendix B: Project Co's Substantial Completion Notice – July 22, 2019
- Appendix C: City Opinion – July 26, 2019
- Appendix D: Photographs – May 1, 2019 Site Visit and July 10 & 17, 2019



APPENDIX A – Substantial Completion Certificate





SUBSTANTIAL COMPLETION CERTIFICATE

*This Certificate is issued in accordance with the terms of Project Agreement dated February 12, 2013:
between:*

The City of Ottawa (“the City”)
and
Rideau Transit Group General Partnership (“Project Co”)

This is to certify that the following:
Ottawa Light Rail Transit Project
(Description of the works)
at:

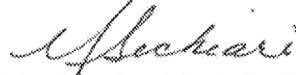
Ottawa, Ontario, Canada
(city, town, province etc.)

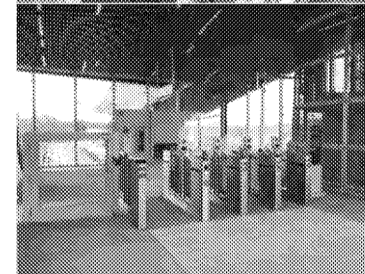
Achieved Substantial Completion on:
July 26, 2019
(Substantial Completion Date)

“Substantial Completion” means the Substantial Completion of the Fixed Component and Substantial Completion of the Vehicle Component

This Certificate should be read in conjunction with the Independent Certifier’s Report on Substantial Completion #2 and the Substantial Completion Agreement executed July 26, 2019 for details on the basis for which this Certificate has been issued.

ON BEHALF OF THE INDEPENDENT CERTIFIER:


Monica Sechiarì, P. Eng.
Team Lead – Independent Certifier





APPENDIX B - Project Co's Substantial Completion Notice – July 22, 2019





22 July 2019

City of Ottawa
 O-Train Construction
 110 Laurier Avenue West,
 Ottawa, ON K1P 1J1
 Mail Code: 23-10

| | |
|------------------------------|-----------------------|
| Our Reference: | RTG-OTT-00-0-LET-0853 |
| OLRT Reference: | OLR-RTG-01-0-LET-1443 |
| Project Agreement Reference: | Section 26 |

Attention: Michael Morgan
 Director, O-Train Construction Office

Subject: Substantial Completion Notice

Dear Mr. Morgan:

Pursuant to Section 26.2 of the Project Agreement, this letter, along with the attached correspondence from Mr. Matthew Slade, OLRT Project Director, serves as written notice to the City of Ottawa that the requirements for Substantial Completion, for the Stage 1 Confederation Line, have been satisfied.

Project Co. confirms the completion of all outstanding matters, as outlined in the Remedial Plan provided on May 21, 2019, with the exception of the Minor Deficiencies List, as previously agreed upon by the City.

The attached, and specifically the Substantial Completion tracker, addresses the items that were deemed to be lacking in our prior submittal and for the sake of expediency, and as agreed with the City and the Independent Certifier, RTG has not "resubmitted" the entire application.

Additionally, please note that the priced Minor Deficiency List was issued to the City and the Independent Certifier on 18 July 2019 at 6:43 PM via email "Updated MDL – July 18, 2019".

We look forward to the issuance of the Substantial Completion Certificate by the Independent Certifier in the coming days, and the commencement of Trial Running shortly thereafter.

Should you have any questions or concerns please do not hesitate to contact us.



Kind regards,

Peter Lauch, P. Eng.

CEO

Rideau Transit Group General Partnership

cc.: Gary Craig, Claudio Colaiacovo, Richard Holder, Lorne Gray – OTC
Monica Sechiari, Kyle Campbell – ALTUS
Matthew Slade, Bill McCormick, William Coleman, Tyler Miehe, Gonzalo Gomeza, Chris
Woodmass – OLRT-C
Maxime Olivier – RTG



OLRT Constructors
 7 Bayview Road
 Ottawa, Ontario

Rideau Transit Group General Partnership
 1545 Carling Avenue, Suite 406
 Ottawa, ON
 K1Z 8P9

July 22, 2019
 Submitted Electronically

| | |
|------------------------|-----------------------|
| Our Ref. : | OLR-RTG-01-0-LET-1443 |
| Your Ref. : | |
| OTC Ref.: | |
| Project Agreement Ref. | Section 26 |

Attention: Peter Lauch, CEO

Subject: Substantial Completion of Stage 1

Dear Mr. Lauch,

This letter serves as notice to the City that the requirements for Substantial Completion, outlined in s. 26 of the Project Agreement, have been satisfied.

OLRT-C has completed all of the necessary steps under the Remedial Plan provided to the Independent Certifier on May 21, 2019, pursuant to section 26.2(e). In particular, OLRT-C has completed all outstanding matters that are not otherwise Minor Deficiencies, as agreed by the City of Ottawa. Please find attached a tracker with the outstanding matters and their closed status (as agreed during meetings with the City).

Please find attached the Form 9 Certificate of Substantial Performance signed by OLRTC, RTG & Mr. Currie of Atkins Acuity, Proof of Publication, along with the Construction Lien Act Article 2(1)(b) Calculation for known defects that demonstrate that current progress has met the required threshold.



We look forward to the issuance of the Substantial Completion Certificate by the Independent Certifier as soon as possible.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Slade".

Matthew Slade
Project Director

cc. G. Gomeza

B. McCormick

C. Woodmass

T. Miede

B. Coleman

Enclosure

Form 9 Certificate of Substantial Performance

Proof of Publication dated

Stage 1 3,2,1 Calculation

FORM 9
CERTIFICATE OF SUBSTANTIAL PERFORMANCE OF THE
CONTRACT UNDER SECTION 32 OF THE ACT

Construction Act

City of Ottawa

(County/District/Regional Municipality/Town/City in which premises are situated)

12.5 km line along the City's Bus Rapid transit corridor from Blair Station in the east to Tunney's Pasture Station in the west.

(street address and city, town, etc., or, if there is no street address, the location of the premises)

This is to certify that the contract for the following improvement:

Ottawa Light Rail Transit (Confederation Line) Design & Construction, including; Guideway, Structures, Tunnel, Systems (Traction Power Supply, Train Control, Communications and Tunnel Systems), MSF Facility and Connector Tunnel, and Stations (Tunney's Pasture, Bayview, Lebreton, Downtown West, Downtown East, Rideau, Campus, Lees, Hurdman, Train, St. Laurent, Cyrville, and Blair).

(short description of the improvement)

to the above premises was substantially performed on April 25, 2019

(date substantially performed)

Date certificate signed:

[Signature]

Crawford Currie

2019-05-10 13:14:59

(payment certifier where there is one)

[Signature]

(owner and contractor, where there is no payment certifier)

Rideau Transit Group
CEO
Peter Lauch

[Signature]

OLRT Constructors
Project Director
Rupert Holloway

Rideau Transit Group General

Name of owner: Partnership

Address for service: 1545 Carling Avenue Suite 406, Ottawa ON, K1Z 8P9

Name of contractor: OLRT Constructors

Address for service: 7 Bayview Road, Ottawa ON, K1Y 2C5

Name of payment certifier (where applicable): WS Atkins International Limited

Address: Woodcote Grove, Ashley Road, Epsom, Surrey KT18 5BW, UK

(Use A or B, whichever is appropriate)

A. Identification of premises for preservation of liens:

(if a lien attaches to the premises, a legal description of the premises, including all property identifier numbers and addresses for the premises)

B. Office to which claim for lien must be given to preserve lien:

1545 Carling Avenue Suite 406, Ottawa ON, K1Z 8P9

(if the lien does not attach to the premises, the name and address of the person or body to whom the claim for lien must be given)



Stage 1 Confederation Line
3, 2, 1 Calculation

Ottawa Light Rail Transit Project

Construction Contract (Confederation Line)

Calculation for Substantial Performance Eligibility based upon Article 2(1)(b).

| | | |
|---|----|---------------|
| Initial Award Value of Contract Works | \$ | 1,814,874,921 |
| less Vehicles | \$ | (322,695,122) |
| less Highway 417 | \$ | (196,715,221) |
| Artwork | \$ | 11,074,748 |
| Approved Variations (adjusted for non-applicable activities) | \$ | 90,331,997 |
| Total Applicable Value of Contract Works | \$ | 1,396,871,323 |
| 2(1)(b)(i) 3% of 1st \$1,000,000 | \$ | 30,000 |
| 2(1)(b)(ii) 2% of next \$1,000,000 | \$ | 20,000 |
| 2(1)(b)(iii) 1% of balance | \$ | 13,948,713 |
| Maximum allowance for "known defects" | \$ | 13,998,713 |
| Total value of "known defects" or deficiencies | \$ | 4,818,782 |
| Threshold calculation for known defects (if positive number, then conditions for 2(1)(b) met.) | \$ | 9,179,931 |

Construction Act

R.S.O. 1990 Chapter C.30

Consolidation Period: From December 6, 2018 to current (April 25, 2019)

Last amendment: 2018, c. 17, Sched. 8, s. 1-20

When contract substantially performed

2 (1) For the purpose of this Act, a contract is substantially performed,

(a) when the improvement to be made under that contract or a substantial part thereof is ready for use or is being used for the purposes intended; and

(b) when the improvement to be made under that contract is capable of completion or, where there is a known defect, correction, at a cost of not more than,

(i) 3 per cent of the first \$1,000,000 of the contract price,

(ii) 2 per cent of the next \$1,000,000 of the contract price, and

(iii) 1 per cent of the balance of the contract price. R.S.O. 1990, c. C.30, s. 2(1); 2017, c. 24, s. 4(1,2).

As of: 7/19/2019

5/15/2019

Certificates and Notices

Daily Commercial News
by ConstructConnect

Certificates and Notices

Publication date 2019-05-15

Location of premises

City of Ottawa

12.5 km line along the City's Bus Rapid transit corridor from Blair Station in the east to Tunney's Pasture Station in the west

Certificate

Ottawa Light Rail Transit (Confederation Line) Design & Construction, including; Guideway, Structures, Tunnel, Systems (Traction Power Supply, Train Control, Communications and Tunnel Systems), MSF Facility and Connector Tunnel, and Stations (Tunney's Pasture, Bayview, Lebreton, Downtown West, Downtown East, Rideau, Campus, Lees, Hurdman, Train, St. Laurent, Cyrville, and Blair)

Date substantially performed: 2019-04-25

Date certificate signed: 2019-05-10

Participants

| | |
|------------------------------|---|
| Name of Owner | Rideau Transit Group General Partnership |
| Address of Owner | 1545 Carling Avenue Suite 406, Ottawa, ON K1Z 8P9 |
| Name of Contractor | OLRT Constructors |
| Address of Contractor | 7 Bayview Road, Ottawa, ON K1Y 2C5 |
| Name of Certifier | WS Atkins International Limited |
| Address of Certifier | Woodcote Grove, Ashley Road, Epsom, Surrey KT18 5BW, UK |

Office to which claim for lien must be given to preserve lien

1545 Carling Avenue Suite 406, Ottawa, ON, K1Z 8P9

Contact us
3760 14th Avenue, 6th Floor
Markham, ON L3R 3T7
tel: 800-465-6475
dncertificates@constructconnect.com

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Substantial Completion Tracker

| Item | Technical Area | Subelement | Description / Open Items | Status | Timing |
|------|----------------|--------------------------|---|---------|---------|
| 1 | Stations | Occupancy Certificates | Final BCS inspection; remove conditions | Open | Pre-RSA |
| 2 | Stations | Escalators | Ready for City's use - need final licenses | Closed | Pre-SC |
| 3 | Stations | Elevators | Ready for City's use - need final licenses | Closed | Pre-SC |
| 4 | Stations | Commissioning Manuals | Manuals are incomplete or include incomplete tests | Closed | Post-SC |
| 5 | Guideway | Noise Levels | Parkdale Avenue: Verification of compliance to noise levels; mitigations | Open | Post-SC |
| 6 | Tunnel | Ongoing Repairs | Damaged sump pumps at 90 George | Closed | Closed |
| 7a | TOCC | Telephones | VOIP integration | Open | Pre-RSA |
| 7 | TOCC | Alarm Management | High number of TVS alarms | Monitor | Pre-SC |
| 8 | TOCC | Alarm Management | High number of GIDS alarms | Closed | Pre-SC |
| 9 | TOCC | Alarm Management | Negative ground trip devices | Closed | Pre-RSA |
| 10 | TOCC | Intrusion Access Control | Completion of installation; stabilize alarm count | Open | Pre-RSA |
| 11 | TOCC | Open Data (ATIS) | Design documentation (XML schema) required | Closed | Pre-SC |
| 12 | TOCC | Passenger Counting | Real-time reporting of passenger counts to TOCC | Closed | Pre-SC |
| 13 | TOCC | CCTV | Completion of 42 cameras (blind spots; focus; etc) | Open | Post-SC |
| 14 | TOCC | CCTV | Resolve systemwide compression & image quality issues | Closed | TBD |
| 15 | CBTC | Zone Controllers | Six (6) complete zone controller failures in April 2019 | Closed | Pre-Sc |
| 16 | CBTC | Switch Performance | Track: Floating switch plates and incomplete maintenance | Open | Pre-RSA |
| 17 | CBTC | Switch Performance | Signals: Resets used to resolve failures; card resets with no fault found | Monitor | Pre-SC |
| 18 | CBTC | Yard Automation | Yard management plan and safe operation of Yard | Monitor | |
| 19 | CBTC | Testing & Commissioning | Multiple failed tests; incomplete testing; and, ongoing technical issues | Open | Pre-RSA |

Substantial Completion Tracker

| Item | Technical Area | Subelement | Description / Open Items | Status | Timing |
|------|--------------------|-------------------------|---|---------|---------|
| 20 | Guideway | Switch Heaters | Functional problems and switch heaters do not meet PA requirements | Closed | Pre-RSA |
| 21 | Tunnel Ventilation | Documentation | Final engineering sign off on SAT, SIT, and Conformance Letters | Closed | Pre-SC |
| 22 | OFS | Fire Telephones | Field verification and acceptance by OFS | Closed | Pre-SC |
| 23 | OFS | Power Supply | OFS needs confirmation of which systems are on UPS by station and field testing of these systems under load for the required duration. UPS for above ground stations and underground stations to be required for life safety. This field verification and a report from contractor is needed prior to SC. | Closed | Pre-SC |
| 24 | OFS | Documentation | All integration reports and conformance reports need to be signed off by a Professional Engineer, e.g. TVS SAT and SIT reports | Closed | Pre-SC |
| 25 | OFS | Documentation | Fire Safety Plans for underground station have stated that impairment procedures are needed to be defined with RTM for essential Fire and Life Safety systems. | Closed | Pre-RSA |
| 26 | OFS | Testing & Commissioning | Demonstration of TVS control from the TOCC using SCADA with Ottawa Fire Services. | Closed | Pre-SC |
| 27 | OFS | Documentation | Compliance report from RTG/OLRTC to approve use of intumescent paint and specific application for fire safety - approval should be independent of Alstom and paint supplier | Closed | Pre-SC |
| 27a | OFS & BCS | FACP & GIDS integration | Integration of GIDS with fire alarm panel | Closed | Pre-SC |
| 28 | OFS | Maintenance Plan | Vehicle inspection and maintenance plan to address integrity of intumescent paint over life of the system. | Monitor | RSA |
| 29 | Vehicles | LRV 1 | Confirm availability & open issues | Info | Pre-SC |
| 30 | Vehicles | LRV 2 | Confirm availability & open issues | Info | Pre-SC |
| 31 | Vehicles | LRV 3 | Confirm availability & open issues | Info | Pre-SC |
| 32 | Vehicles | LRV 4 | Confirm availability & open issues | Info | Pre-SC |
| 33 | Vehicles | LRV 5 | Confirm availability & open issues | Info | Pre-SC |
| 34 | Vehicles | LRV 6 | Confirm availability & open issues | Info | Pre-SC |
| 35 | Vehicles | LRV 7 | Confirm availability & open issues | Info | Pre-SC |
| 36 | Vehicles | LRV 8 | Confirm availability & open issues | Info | Pre-SC |
| 37 | Vehicles | LRV 9 | Confirm availability & open issues | Info | Pre-SC |
| 38 | Vehicles | LRV 10 | Confirm availability & open issues | Info | Pre-SC |
| 39 | Vehicles | LRV 11 | Confirm availability & open issues | Info | Pre-SC |

Substantial Completion Tracker

| Item | Technical Area | Subelement | Description / Open Items | Status | Timing |
|------|----------------|------------|--|---------|---------|
| 40 | Vehicles | LRV 12 | Confirm availability & open issues | Info | Pre-SC |
| 41 | Vehicles | LRV 13 | Confirm availability & open issues | Info | Pre-SC |
| 42 | Vehicles | LRV 14 | Confirm availability & open issues | Info | Pre-SC |
| 43 | Vehicles | LRV 15 | Confirm availability & open issues | Info | Pre-SC |
| 44 | Vehicles | LRV 16 | Confirm availability & open issues | Info | Pre-SC |
| 45 | Vehicles | LRV 17 | Confirm availability & open issues | Info | Pre-SC |
| 46 | Vehicles | LRV 18 | Confirm availability & open issues | Info | Pre-SC |
| 47 | Vehicles | LRV 19 | Confirm availability & open issues | Info | Pre-SC |
| 48 | Vehicles | LRV 20 | Confirm availability & open issues | Info | Pre-SC |
| 49 | Vehicles | LRV 21 | Confirm availability & open issues | Info | Pre-SC |
| 50 | Vehicles | LRV 22 | Confirm availability & open issues | Info | Pre-SC |
| 51 | Vehicles | LRV 23 | Confirm availability & open issues | Info | Pre-SC |
| 52 | Vehicles | LRV 24 | Confirm availability & open issues | Info | Pre-SC |
| 53 | Vehicles | LRV 25 | Confirm availability & open issues | Info | Pre-SC |
| 54 | Vehicles | LRV 26 | Confirm availability & open issues | Info | Pre-SC |
| 55 | Vehicles | LRV 27 | Confirm availability & open issues | Info | Pre-SC |
| 56 | Vehicles | LRV 28 | Confirm availability & open issues | Info | Pre-SC |
| 57 | Vehicles | LRV 29 | Confirm availability & open issues | Info | Pre-SC |
| 58 | Vehicles | LRV 30 | Confirm availability & open issues | Info | Pre-SC |
| 59 | Vehicles | LRV 31 | Confirm availability & open issues | Info | Pre-SC |
| 60 | Vehicles | LRV 32 | Confirm availability & open issues | Info | Pre-SC |
| 61 | Vehicles | LRV 33 | Confirm availability & open issues | Info | Pre-SC |
| 62 | Vehicles | LRV 34 | Confirm availability & open issues | Info | Pre-SC |
| 63 | Vehicles | Systemwide | Brake defects: HPU failures | Closed | Pre-SC |
| 64 | Vehicles | Systemwide | Doors: Repair of sensitive edge & other issues | Closed | Pre-SC |
| 65 | Vehicles | Systemwide | NVR: Validate and confirm correct operation | Closed | Pre-SC |
| 66 | Vehicles | Systemwide | Communications: High number of IOS and communication failures | Monitor | Pre-SC |
| 67 | Vehicles | Systemwide | Line Contactor: Root cause of ongoing issues | Closed | Pre-SC |
| 68 | Vehicles | Systemwide | CBTC-PI integration for automatic route selection | Open | Pre-RSA |
| 69 | Vehicles | Systemwide | CBTC-PI integration for automatic platform edge view in driver's cab | Open | Pre-RSA |
| 70 | Vehicles | Systemwide | Manual Missions: PI integration for automatic route selection | Closed | Pre-SC |
| 71 | Vehicles | Systemwide | Manual Missions: or automatic platform edge view in driver's cab | Closed | Pre-SC |
| 72 | Vehicles | Systemwide | Failure to meet service standards due to reliability of subsystems | Monitor | |

Substantial Completion Tracker

| Item | Technical Area | Subelement | Description / Open Items | Status | Timing |
|------|----------------|-------------------------|--|---------|---------|
| 73 | Vehicles | Systemwide | Failure to meet fleet requirements due to ongoing defects/deficiencies | Monitor | |
| 74 | Vehicles | Systemwide | Snags: 435 open items | Closed | Pre-SC |
| 75 | Vehicles | Systemwide | Coupling: Interface issues with coupling/tracking | Info | |
| 76 | Maintenance | Systemwide | Letter on MOW clearance issue | Closed | Pre-SC |
| 77 | Maintenance | Systemwide | Letter on incremental MOW equipment for snow | Closed | Pre-SC |
| 78 | Vehicles | Systemwide | Alstom Plan: - Reduce number of vehicles for daily use (20 only) | Closed | |
| 79 | Systemwide | Testing & Commissioning | 2-minute headway test to be completed | Open | Pre-RSA |
| 80 | Systemwide | Testing & Commissioning | 23 minute end-to-end testing in ATO | Closed | Pre-SC |
| 81 | Systemwide | Testing & Commissioning | 24 minute end-to-end testing in ATPM | Closed | Pre-SC |
| 82 | Systemwide | Testing & Commissioning | UPS testing | Closed | Pre-SC |
| 83 | Systemwide | Testing & Commissioning | 15-minute headway: disturbed switch | Open | Pre-RSA |
| 84 | Systemwide | Testing & Commissioning | Revised test reports including signoffs and incomplete items | Open | Pre-RSA |
| 85 | Systemwide | Testing & Commissioning | Revised ESAC on May 29th | Open | Pre-RSA |
| 86 | Systemwide | Testing & Commissioning | Review security certificate | Open | Pre-RSA |



APPENDIX C – City Opinion – July 26, 2019



July 26, 2019

Mr. Peter Lauch, CEO
 Rideau Transit Group GP
 1545 Carling Avenue
 Suite 406
 Ottawa, ON K1Z 8P9

Your reference: RTG-OTT-00-0-LET-0853

Our reference: OTT-RTG-RLET-0521

RE: Substantial Completion Notice

Dear Mr. Lauch,

We are writing in response to the Rideau Transit Group's ("RTG") letter referenced above, enclosing the letter from the OLRT Constructor of the same date bearing reference OLR-RTG-01-0-LET-1443, (together the "Letter") issued pursuant to s.26.2 of the Project Agreement (the "PA"), as referenced therein (the "Second Substantial Completion Notice").¹

The City of Ottawa ("City") acknowledges receipt of the Second Substantial Completion Notice, and, having carefully reviewed the status of the completion of the Project and based on the agreement between RTG and the City described below, it is the City's opinion that RTG has now satisfied the conditions for issuance of the Substantial Completion Certificate.

RTG has advised in its Letter that it has now completed all the necessary steps under the Remedial Plan which RTG delivered to the Independent Certifier on May 21, 2019 pursuant to Section 26.2(e) of the Project Agreement. RTG attached a "tracker" to the Letter setting out the outstanding matters and their status which reflects the discussions which have taken place between the City and RTG.

As a result of these discussions, the City has agreed to waive the requirement that certain defects, deficiencies, and items of outstanding work will be addressed prior to Substantial Completion on the express condition that these items will be completed before and as a pre-condition to the achievement of Revenue Service Availability ("RSA"). This agreement is set out in:

¹ Capitalized terms not otherwise defined herein shall have the meaning given to them under the PA.

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
| O-Train Construction | Construction de l'O-Train, |
| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



- * RTG's letter bearing reference RTG-OTT-00-0-LET-0858; and
- * the Substantial Completion Agreement dated July 26, 2019 which is attached hereto as Appendix A. The agreed upon deferred work is described broadly in Schedule A to the Substantial Completion Agreement.

In addition, Appendices B1 to B3 of this letter set out in detail the items which the City requires be completed prior to the achievement of RSA.

Progress has been made by RTG in the 12 weeks since RTG issued its first Substantial Completion Notice, such that the City is prepared to accept that the conditions for issuance of the Substantial Completion Certificate have been satisfied. In relation to the issues referenced in the City's May 6, 2019 letter (OTT-RTG-RLET-0494), the City sets out below the progress and current status of these items such that a positive opinion can be rendered:

1. Safety

In relation to the Engineering Safety Assurance Case, based on the Safety Certificates provided by Thales, Alstom, and SEMP and the comfort letter from RTG bearing reference RTG-OTT-00-0-LET-0857 enclosing a SEMP letter dated July 24, 2019 to OLRTC, RTG can proceed with Trial Running. The Final Engineering Safety Assurance Certificate is to be provided by RSA pursuant to the Substantial Completion Agreement attached at Appendix A. The items listed in Appendix B-3 are also to be completed prior to RSA.

2. Vehicles

RTG has achieved 15 two car consists running on the track.

a. Brakes

After a fleet-wide modification, RTG and its vehicle supplier, Alstom, have demonstrated that this issue has been addressed.

b. Doors

After a fleet-wide modification, the misalignment issue has been corrected and changes have been made to the sensitive edges. There are new issues with the Vehicle cab doors which are to be addressed with a temporary solution prior to RSA and a permanent solution is to be implemented post RSA as set out in RTG letter reference RTG-OTT-58-0-LET-0856 and pursuant to the Substantial Completion Agreement attached at Appendix A.



c. Communications

In relation to communications, the number of IOS messages are now not indicating any systematic defects across the fleet.

d. Line Contactor

In relation to the Line Contactors, the third repair conducted by RTG is working and there is redundancy in the system.

e. Communication-Based Train Control System Integration with Missions and Platform Edge Cameras

The ongoing issues in relation to automatic route selection and the platform edge camera display selections requires either that the issues be fixed or a mitigation plan be implemented. We understand that RTG is rolling out a solution to the entire fleet and if that solution is not working, then a mitigation plan is to be put in place as described in RTG-OTT-00-0-LET-0859 and pursuant to the Substantial Completion Agreement attached at Appendix A.

3. Transit Operation Control Centre/System Control and Data Acquisition

a. Emergency telephones

The Emergency telephones are now working.

b. Fire telephones

The Fire telephones are now working.

c. Guideway Intrusion Detection System

The Guideway Intrusion Detection System is now working.

d. Intrusion Access Control

The access control system is now operational.

e. Passenger Announcement/Passenger Information System

RTG has moved forward in its efforts in relation to the Passenger Announcement and Passenger Information System such that the system is generally working and will be further verified during Trial Running pursuant to the Substantial Completion Agreement attached at Appendix A.

f. Closed Circuit Television (CCTV)

The situation with the CCTV cameras is much improved from the end of April, such that this item is moved to the Minor Deficiency category.



g. Passenger Counting

Data is now available on passenger counting through the data feed and will be further verified during Trial Running.

h. Open Data

RTG has advanced and implemented its design of the Advanced Traveler Information System. Further verification will take place during Trial Running.

i. Alarm Management

There have been improvements in the functioning of the alarm system and the number of alarms has been reduced to a more manageable level and it will continue to be monitored during Trial Running. Some additional technical support may be required to assist in understanding the meaning of the alarms.

4. Communications Based Train Control ("CBTC")

In relation to the CBTC system, since April 29, 2019 when RTG was working on version 5.02 of its software, further iterations of the software have been installed such that on July 8, 2019 version 5.05 was installed, a patch was installed on July 12, 2019, and the final version was installed on July 19, 2019, being version 5.05.02.

The performance of the zone controllers and switches has sufficiently improved as a result of the new software version and increased maintenance.

In relation to the yard control, RTG has implemented a yard control management plan and is taking advantage of the switch control functionality in the Thales system. This is accepted as an interim solution until the final yard control requirements are implemented.

5. Stations

a. Elevators

All Elevators have passed TSSA inspection and are available for operation. The City accepts that TSSA is experiencing delays with issuing the balance of the licenses as advised in RTG letter bearing reference RTG-OTT-00-0-LET-0860 and pursuant to the Substantial Completion Agreement attached at Appendix A.

b. Escalators

All Escalators have passed TSSA inspection and are available for operation. The City accepts that TSSA is experiencing delays with issuing the balance of the licenses as advised in RTG letter bearing reference RTG-OTT-00-0-LET-0860 and pursuant to the Substantial Completion Agreement attached at Appendix A.



c. Fire Safety Plans

Conditional approval of fire safety plans has been received from Ottawa Fire Services (OFS), but the conditions will need to be removed (which will involve providing Construction Compliance Letters for mechanical and electrical which are to be provided before RSA pursuant to the Substantial Completion Agreement attached at Appendix A).

d. Fire Telephones and Emergency Telephones

Fire telephones and emergency telephones are working, as noted above.

6. Winter Performance

The City received a comfort letter dated May 29, 2019 (RTG-OTT-18-0-LET-0835), which described the evaluation RTG conducted of its Winter Operations Plan and the new equipment it had obtained and equipment repairs it had undertaken.

In respect of the additional equipment, we note that the retrofit program on the switch heaters was undertaken and is now complete.

7. Tunnel Ventilation System Issues

System Acceptance Tests and System Integration Tests have been signed by a reviewing professional and signed and sealed by an approving professional engineer and Conformance Letters have been signed and sealed by professional engineer, in accordance with the requirements of the Ottawa Fire Services.

The City reserves all of its rights and remedies under the PA and at law.

Yours Truly,

Michael Morgan
Director, Rail Construction Program

cc.

Gary Craig, Richard Holder, Claudio Colaiacovo, Lorne Gray, OTC
Matthew Slade, OLRT-C
Monica Sechiani, Altus Group



Enc.

Appendix A – Substantial Completion Agreement

Appendix B-1 - Fixed Facilities Pre-RSA items.pdf

Appendix B-2 - Vehicles and Systems Pre-RSA items.pdf

Appendix B-3

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
| O-Train Construction | Construction de l'O-Train, |
| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



Appendix A

Refer to enclosed document reference Substantial Completion Agreement
(Executed).pdf

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
| O-Train Construction | Construction de l'O-Train, |
| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



**Appendix B-1
Fixed Facility Pre-RSA Items**

Refer to enclosed document reference Appendix B-1 Fixed Facilities Pre-RSA items.pdf

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
| O-Train Construction | Construction de l'O-Train, |
| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



**Appendix B-2
Vehicle and Systems Pre-RSA Items**

Refer to enclosed document reference Appendix B-2 Vehicles and Systems Pre-RSA items.pdf

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
| O-Train Construction | Construction de l'O-Train, |
| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



Appendix B-3

Table 1: Documents Pending SONO

| Item | Task Name |
|------|--|
| 1 | Station Safety Case - AUDIT SONO |
| 2 | OSHA AUDIT SONO |
| 3 | Interface Hazard Analysis Report - Safety Audit SONO |
| 4 | System RAM Analysis Report - Safety Audit SONO |
| 5 | Safety Requirements Matrix - System - Safety Audit SONO |
| 6 | Engineering Safety & Assurance Case (ESAC) - Safety Audit SONO |
| 7 | Verification & Validation Report v2 - System - Safety Audit SONO |
| 8 | Project Integrated Hazard Log OLR-05-0-0000-REG-0004 - Safety Audit SONO |
| 9 | HAZOP Analysis and HRP Report - Safety Audit SONO |
| 10 | System Level Safety Case REJ-05-0-0000- REP-0311 - Safety Audit SONO |

Table 2: Reports without Engineer of Record Signature (21)

| Report # | Description | Rev. | Status | EOR Signature |
|---------------------------|---|------|--------|---------------|
| RES-16-0-0000-SIT-0R2033 | PIS / SCADA / CCTV SIT - MSF | 0 | PASS | no |
| RES-16-3-TP08-SIT-4R2105 | SCADA / TPSS, Remote SIT - TPSS 8 | 0 | PASS | no |
| RES-16-0-0000-SIT-30329 | Network Management System (NMS) System Wide SIT | 1 | PASS | no |
| RES-16-4-MEAB-SIT-5R30194 | CTS / System Wide | 0 | PASS | no |
| RES-16-0-0000-SIT-0R2069 | Master Clock / Communications SIT | 0 | PASS | no |
| RES-16-0-0000-SIT-0R2033 | PIS / SCADA / CBTC SIT - MSF | 0 | PASS | no |
| RES-16-3-TP08-SIT-4R2105 | SCADA / TPSS, Remote SIT - TPSS 8 | 0 | PASS | no |
| OLR-16-0-0000-SIT-0R8185 | CBTC Vehicle Spin Slide | 0 | PASS | no |
| OLR-16-0-0000-SIT-0R3215 | Winter Operations and Snow & Water Fording of Vehicle | 0 | PASS | no |
| OLR-16-4-0000-SIT-0R3216 | Demonstrated End to End Travel Time | 1 | PASS | no |
| OLR-16-8-0000-SAT-1R4039 | Vehicle Envelope Clearance Zone 1 | 1 | PASS | no |
| OLR-16-8-0000-SAT-2R4038 | Vehicle Envelope Clearance Zone 2 | 0 | PASS | no |
| OLR-16-8-0000-SIT-5R4167 | Guideway Operational Signage - Zone 5 (MSF) | 0 | PASS | no |
| RES-16-8-0000-SIT-4R4168 | Guideway Operational Signage - Zone 4 | 1 | PASS | no |
| RES-16-8-0000-SIT-3R4169 | Guideway Operational Signage - Zone 3 | 1 | PASS | no |
| RES-16-8-0000-SIT-2R4170 | Guideway Operational Signage - Zone 2 | 1 | PASS | no |
| RES-16-8-0000-SIT-1R4171 | Guideway Operational Signage - Zone 1 | 1 | PASS | no |
| RES-16-5-BLST-SIT-4R3188 | SCADA / HSDR / Vehicle Communications SIT - BLA | 0 | PASS | no |
| RES-16-4-MEAB-SIT-5R3188 | SCADA / HSDR / Vehicle Communications SIT - MSF | 0 | PASS | no |
| RES-16-0-0000-SIT-0R30240 | Advanced Traveler Information System SIT | 0 | PASS | no |
| RES-16-0-0000-SIT-0R30242 | System Operating Procedures Demonstration | 1 | PASS | no |

| | |
|------------------------------------|------------------------------------|
| City of Ottawa | Ville d'Ottawa |
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| Transportation Services Department | Direction générale des transports, |
| 110 Laurier Avenue West | 110, avenue Laurier ouest |
| Ottawa, ON | Ottawa, ON |
| K1P 1J1 | K1P1J1 |



Table 2: Incomplete tests (16) inclusive of HOL Neutral Bond testing to be done during Trial running. Exclusive of TPSS degraded mode and ATS test scheduled for July 24/25.

| Report # | Description |
|---------------------------|---|
| RES-16-4-MEAB-SIT-5P2053 | IAC / SCADA / CCTV SIT - MSF |
| RES-16-4-MEAB-SIT-5P2152 | SCADA / Station & Systems, Local SIT - MSF |
| RES-16-4-MEAB-SIT-5P2038 | SCADA / Station & Systems, Remote SIT - MSF |
| OLR-16-8-0000-SAT-5P4034 | MSF Yard Level Crossing |
| RES-16-0-0000-SIT-0P30235 | Telephony System Wide |
| RES-16-0-0000-SIT-0P7176 | High Rail Vehicle / Train Control System |
| RES-16-0-0000-SIT-0P30329 | Network Management System (NMS) System Wide SIT |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS1 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS2 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS3 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS4 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS5 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS6 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS7 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS8 |
| RES-16-0-0000-SIT-0P1029 | HOL Neutral Bond Testing, TPSS9 |

**Ottawa Light Rail Transit Project
Substantial Completion Agreement**

The City of Ottawa (the "**City**") and Rideau Transit Group Partnership ("**Project Co**" and with the City, collectively the "**Parties**") have entered into this Substantial Completion Agreement (this "**Agreement**") as of July 26, 2019.

The Parties agree that the work described in Schedule A attached hereto was not completed by Substantial Completion and has not been completed as of the date of this Agreement (the "**Deferred Work**").

1. **Completion of Deferred Work:** The Deferred Work shall be completed in accordance with the requirements of the Project Agreement prior to the achievement of Revenue Service Availability and as an express condition of the achievement of Revenue Service Availability. The Parties agree that the Independent Certifier may issue the Substantial Completion Certificate prior to the completion of the Deferred Works.
2. **Substantial Completion:** Upon execution of this Substantial Completion Agreement, the City will render its opinion that Project Co has met the conditions for issuance of the Substantial Completion Certificate with reasons.
3. **Minor Deficiencies:** The rectification of Minor Deficiencies will be subject to Section 26.5 of the Project Agreement. For avoidance of doubt, the Deferred Work does not include and shall not be treated as Minor Deficiencies.
4. **The City Claims:** This Agreement is without prejudice to any claims or Disputes that the City has or may have against Project Co under the Project Agreement, including without limiting the generality of the foregoing, any claims for Liquidated Damages or Mobility Matters Deductions under the Project Agreement.
5. **Project Co Claims:** This Agreement is without prejudice to any claims or Disputes that Project Co has or may have against the City under the Project Agreement, including without limitation the Notices of Dispute previously delivered by Project Co.
6. **Approvals:** Project Co represents and warrants that it has obtained any and all necessary approvals required in connection with this Agreement.
7. **Defined Terms:** Capitalized terms used but not defined herein have the meanings provided in the Project Agreement, dated February 12, 2013 (the "**Project Agreement**") between the City and Project Co.
8. **No Amendment of the Project Agreement:** Except as specifically provided in this

- 2 -


Agreement, none of the provisions contained herein will limit, modify, prejudice, impair or act as a waiver of any right or remedy of the City or Project Co which either may have under the Project Agreement and, in particular, does not act as a waiver of any other requirement relating to Substantial Completion or the achievement thereof.

9. **Severability:** Each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law. If any provision of this Agreement is declared invalid, unenforceable or illegal by the courts of a competent jurisdiction, such provision may be severed and such invalidity, unenforceability or illegality shall not prejudice or affect the validity, enforceability and legality of the remaining provisions of this Agreement. If any such provision of this Agreement is invalid, unenforceable or illegal, the Parties shall, acting in good faith, promptly negotiate new provisions to eliminate such invalidity, unenforceability or illegality and to restore this Agreement as near as possible to its original intent and effect.
10. **Governing Law:** This Agreement shall be governed by and construed in accordance with the laws of Ontario and the laws of Canada applicable therein and shall be treated in all respects as an Ontario contract, without regard to conflict of laws principles.
11. **Further Assurances:** Each Party shall do all things, from time to time, and execute all further documents necessary to give full effect to this Agreement.
12. **Counterparts/Facsimile:** This Agreement may be executed in one or more counterparts. Any single counterpart or a set of counterparts executed, in either case, by all the Parties shall constitute a full, original and binding agreement for all purposes. Counterparts may be executed either in original or faxed form provided that any Party providing its signature in faxed form shall promptly forward to the other Party an original signed copy of this Agreement which was so faxed.

[NO FURTHER TEXT ON THIS PAGE]

IN WITNESS WHEREOF the Parties have duly executed this Agreement.

THE CITY OF OTTAWA

| |
|---|
| Per:  |
| Name: <i>M. Morin</i> |
| Title: <i>Director, Public Construction</i> |
| Per: |
| Name: |
| Title: |

**RIDEAU TRANSIT GROUP GENERAL
PARTNERSHIP, by its partners, ACS RTG
PARTNER INC., SNC RTG PARTNER INC. and
ELLISDON RTG PARTNER INC.**

ACS RTG PARTNER INC.

Per: _____
Name: Nuria Haltiwanger
Title: Director

I have authority to bind the corporation.

SNC RTG PARTNER INC.

Per: Richard Massé
Name: Richard Massé
Title: Senior Vice-President, Asset Management

Per: Riccardo Cosentino
Name: Riccardo Cosentino
Title: Vice President, Projects

I / We have authority to bind the corporation.

ELLISDON RTG PARTNER INC.

Per: _____
Name:
Title:

I have authority to bind the corporation.

RIDEAU TRANSIT GROUP GENERAL PARTNERSHIP, by its partners, ACS RTG PARTNER INC., SNC RTG PARTNER INC. and ELLISDON RTG PARTNER INC.

ACS RTG PARTNER INC.

Per: _____
Name: Nuria Haltiwanger
Title: Director

I have authority to bind the corporation.

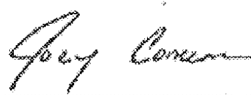
SNC RTG PARTNER INC.

Per: _____
Name:
Title:

Per: _____
Name:
Title:

I / We have authority to bind the corporation.

ELLISDON RTG PARTNER INC.

Per:  _____
Name: Joey Comeau
Title: Executive Vice President & COO

I have authority to bind the corporation.

Schedule A – Deferred Work

| | Item of Deferred Work | Description |
|----|-----------------------|---|
| 1. | Vehicle Cab Doors | <p>RTG will present a temporary prototype solution for the City's review by no later than July 29, 2019. If the prototype is found to be acceptable by the City, in its sole discretion, RTG would commence replacing the first cracked doors by no later than August 14, 2019 utilizing the prototype.</p> <p>In parallel with the development of the temporary prototype solution, RTG will develop a permanent solution that is in accordance with the Project Agreement, and that will ensure that the permanent doors will be ready for installation by early December 2019. For clarity, the Parties agree that the Revenue Service Availability Certificate may be issued by the Independent Certifier prior to the permanent solution being ready for installation.</p> |

| | Item of Deferred Work | Description |
|----|---|--|
| 2. | Vehicle Missions/Platform Edge Cameras | <p>If fully functional vehicle 'mission' software to enable platform edge camera views for the driver are not available, including for clarity a version of software that accommodates all normal operational routes and on all diversion and recovery routes, RTG shall provide an alternate plan for implementation prior to RSA (the "Alternate Plan"). The Alternate Plan shall be provided in writing for review by the City no later than August 3, 2019 and shall meet the following requirements:</p> <ul style="list-style-type: none"> • Approved by Chief Safety Officer in addition to safety approval by RTG; • Be in accordance with acceptable rail industry standards and safety standards; • Any cost associated with the Alternate Plan shall be borne by RTG; <p>The Alternate Plan will only be implemented at the sole discretion of the City after it has been given an adequate opportunity to review and accept the Alternate Plan following its submission on August 3, 2019. The Parties agree that five (5) business days is an adequate opportunity to review and accept the Alternate Plan.</p> |
| 3. | Onboard public address / passenger information systems | Fully functional onboard public address / passenger information systems shall be provided including in relation to both normal operational routes and all diversion and recovery routes by RSA. |
| 4. | Safety and Security Certification | RTG shall provide final safety and security certification including a revised Alstom Safety Certificate for passenger service by RSA. |
| 5. | Final Engineering Safety Assurance Case Certificate for passenger service | RTG shall provide the Final Engineering Safety Assurance Case Certificate for passenger service by RSA. |
| 6. | Vehicle Bill of Sale | RTG shall provide the Vehicle Bill of Sale in a form acceptable to the City by RSA. |

| | Item of Deferred Work | Description |
|----|---------------------------------|---|
| 7. | Occupancy Permits | RTG shall satisfy the public use conditions associated with Occupancy Permits and all outstanding items requested by Ottawa Fire Services by RSA. |
| 8. | Elevator and Escalator Licences | RTG shall provide all outstanding elevator and escalator licences by RSA. |
| 9. | Fire Safety Plans | RTG shall obtain removal of all conditions attached to the conditional acceptance of the Fire Safety Plans by RSA. |



APPENDIX C – Site Visit Photos May 1, 2019 and July 10 & 17, 2019

Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 1

Date:
July 17th, 2019

Tunney's Pasture Station-

Tunney's Pasture station exterior façade.



Photo No. 2

Date:
July 17th, 2019

Pimisi Station-

Exterior and courtyard of Pimisi Station





Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 3

Date:
July 17th, 2019

East Portal-

East Portal reinstatement is essentially complete.



Photo No. 4

Date:
June 4th, 2019


Hurdman Station-

South Elevation of Hurdman station.


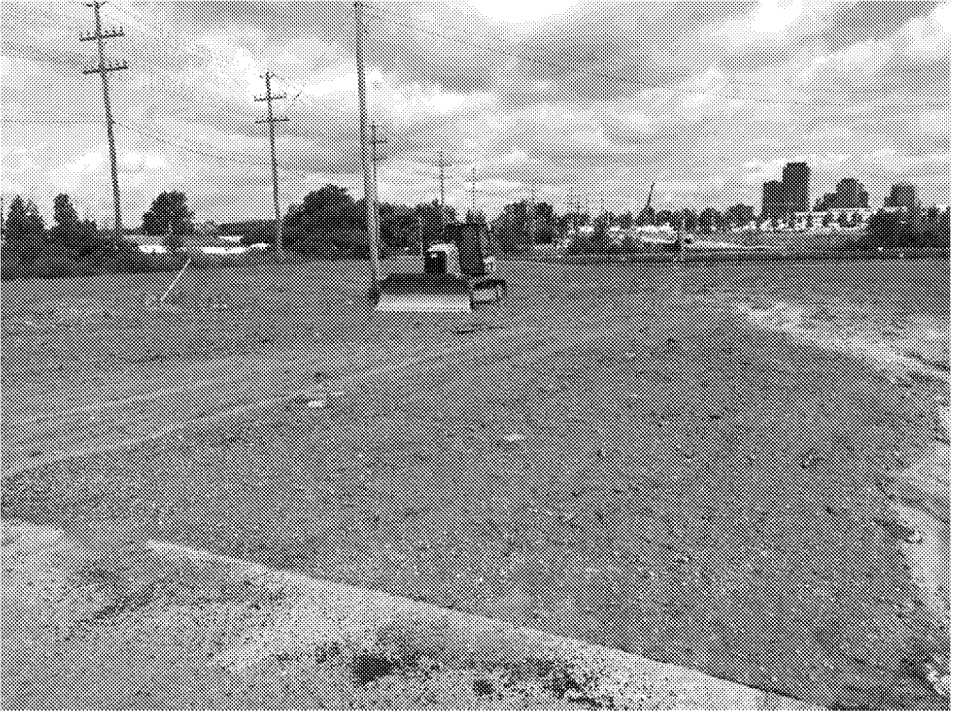


| | | |
|--|---------------------------------|------------------------------|
| Project Name: Ottawa Light Rail System | Site Location: Ottawa | Project No: 100224 |
|--|---------------------------------|------------------------------|



| | |
|---|---|
| Photo No. 5 |  |
| June 4 th , 2019 | |
| Hurdman Station- Hurdman station escalator from concourse to platform level | |

| | |
|------------------------------|--|
| Photo No. 6 |  |
| July 17 th , 2019 | |

| | | |
|--|---------------------------------|------------------------------|
| Project Name: Ottawa Light Rail System | Site Location: Ottawa | Project No: 100224 |
|--|---------------------------------|------------------------------|

| | |
|--|--|
| <p>Photo No. 7</p> |  |
| <p>June 4th, 2019</p> | |
| <p>Rideau Station- Concourse level of Rideau station.</p> | |
| <p>Photo No. 8</p> |  |
| <p>June 4th, 2019</p> | |
| <p>Preston Street Reinstatement- Preston Street reinstatement is ongoing as a part of minor deficiency work.</p> | |

| | | |
|--|---|--------------------------------------|
| <p>Project Name: Ottawa Light Rail System</p> | <p>Site Location: Ottawa</p> | <p>Project No: 100224</p> |
|--|---|--------------------------------------|

| | |
|--|--|
| <p>Photo No. 1</p> |  |
| <p>Date: May 1st, 2019</p> | |
| <p>Blair Station- Overview of Blair Station platform level.</p> | |
| <p>Photo No. 2</p> |  |
| <p>Date: May 1st, 2019</p> | |
| <p>Blair Station- Upper concourse level and fare gates.</p> | |

Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 3

Date:
May 1st, 2019

Cyrville Station-
Concourse level and
fare gates.



Photo No. 4

Date:
May 1st, 2019

Cyrville Station-
Platform level and
waiting area.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 5

Date:
May 1st, 2019

St. Laurent Station-
Platform level



Photo No. 6

Date:
May 1st, 2019

St. Laurent Station-
Overview of platform level from concourse level.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 7

Date:
May 1st, 2019

Tremblay Station-
Overview of platform level from concourse level.



Photo No. 8

Date:
May 1st, 2019

Tremblay Station-
Concourse level.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 9

Date:
May 1st, 2019

Hurdman Station-
Platform level of
Hurdman Station.

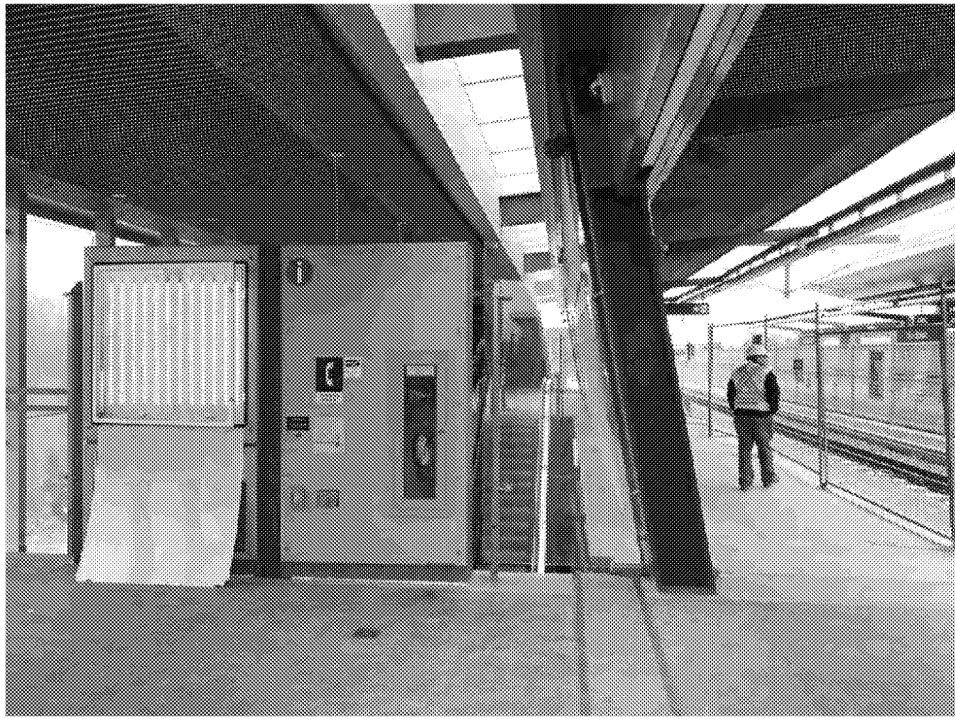


Photo No. 10

Date:
May 1st, 2019

Hurdman Station-
Concourse level of
Hurdman Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 11

Date:
May 1st, 2019

Lees Station-
Concourse level of
Lees Station.



Photo No. 12

Date:
May 1st, 2019

Lees Station-
Overview of Lees
Station platform
level.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 13

Date:
May 1st, 2019

uOttawa Station-
Platform level of
uOttawa Station.



Photo No. 14

Date:
May 1st, 2019

uOttawa Station-
The exterior multi-
use path installed in
the plaza to the
North of uOttawa
Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 15

Date:
May 1st, 2019

Rideau Station-
Overview of the platform level of Rideau Station.

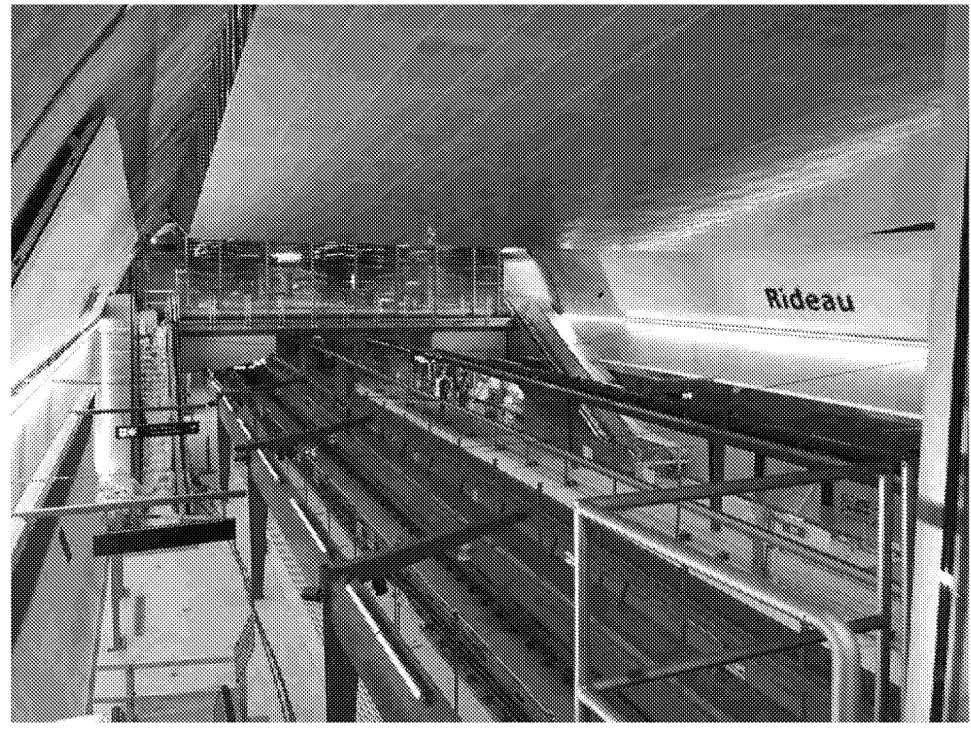


Photo No. 16

Date:
May 1st, 2019

Rideau Station-
Concourse level of Rideau Station



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 17

Date:
May 1st, 2019

Parliament Station-
Platform level of
Parliament Station.



Photo No. 18

Date:
May 1st, 2019

Parliament Station-
Concourse level of
Parliament Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 19

Date:
May 1st, 2019

Lyon Station-
Concourse level of
Lyon Station.



Photo No. 20

Date:
May 1st, 2019

Lyon Station-
Platform level of
Lyon Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 21

Date:
May 1st, 2019

Pimisi Station-
Platform level of
Pimisi Station.



Photo No. 22

Date:
May 1st, 2019

Pimisi Station-
Entryway to
concourse level of
Pimisi Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 23

Date:
May 1st, 2019

Bayview Station-
Platform level of
Bayview Station.



Photo No. 24

Date:
May 1st, 2019

Bayview Station-
Concourse level of
Bayview Station.



Project Name:
Ottawa Light Rail System

Site Location:
Ottawa

Project No:
100224

Photo No. 25

Date:
May 1st, 2019

Tunney's Pasture Station-

Platform level of Tunney's Pasture Station.



Photo No. 26

Date:
May 1st, 2019

Tunney's Pasture Station-

Concourse level of Tunney's Pasture Station.

