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Street Smart. World Wise.

# INDEPENDENT CERTIFIER'S REPORT ON REVENUE SERVICE AVAILABILITY

for

## THE CONFEDERATION LINE (OTTAWA LIGHT RAIL PROJECT)

**Ottawa, Ontario**

Prepared for Project Agreement Parties:

**CITY OF OTTAWA**

and

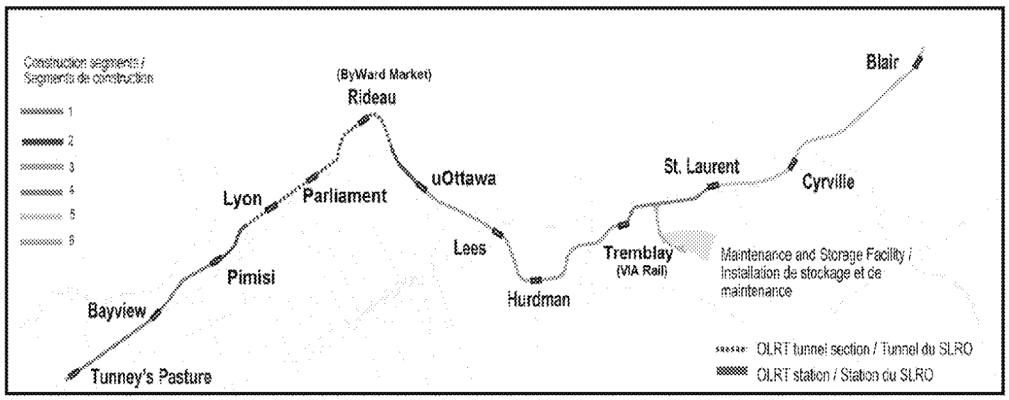
**RIDEAU TRANSIT GROUP (RTG) GENERAL PARTNERSHIP**

Prepared by:

**Altus Group Limited**

Issued:

**August 31, 2019**

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Altus Project 100224

Altus Group

August 31, 2019

Altus Ref: 100224

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

**Attn: Michael Morgan** (City Representative)

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

**Attn: Peter Lauch** (Project Co Representative)

Dear Sirs,

**Re: The Confederation Line Project (Ottawa Light Rail Transit Project**
**Independent Certifier's Report on Revenue Service Availability**

Pursuant to Section 26.2 (b) (iii) of the Project Agreement ("PA"), the Revenue Service Availability Notice was issued by Project Co on August 30, 2019 to the City and the Independent Certifier. According to Section 26.2 (b) (iii) of the Project Agreement, the Revenue Service Availability Notice shall be issued upon the satisfaction of all requirements for Revenue Service Availability ("RSA")and which Notice shall describe, in reasonable detail, the satisfaction of the requirements for RSA, together with Project Co's opinion as to whether the conditions for issuance of the RSA Certificate have been satisfied. **Appendix B** of this Report includes Project Co's RSA Notice. The supporting documentation provided is available on eBuilder.

**Revenue Service Availability** means, pursuant to Schedule 1, Section 1.559 the following conditions in respect of the System are achieved:

(a) *the Substantial Completion in accordance with Schedule 15-2 – Output Specifications– Design and Construction Requirements, and Schedule 15-3 – Output Specifications –Maintenance and Rehabilitation Requirements;*

(b) *the commissioning and preliminary Operation of the System to ensure Integration and ability for the Operation of the System as contemplated in the Output Specifications;*

(c) *compliance with the test and commissioning requirements as provided for in Part 4 of Schedule 15-2 – Output Specifications– Design and Construction Requirements and Schedule 14 – Commissioning.*

(d) *compliance at that time with the Safety Requirements, as approved by the Safety Auditor;*

(e) *the receipt by the City of the Bill of Sale respecting the Vehicles and the Vehicle and Fixed Equipment Warranties referred to in Section 29.5 of the Project Agreement;*

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(f) *staff training of staff provided by the City with respect to the Operation of the System has been completed and the requisite number of staff have been certified as required in accordance with "Training Plan" provided in Article 26 of Part 1 of Schedule 15-2 – Output Specifications– Design and Construction Requirements; and*

(g) *the Substantial Completion of the Civic Works;*

In addition, the IC confirms that several further requirements were agreed between the PA Parties at the time of Substantial Completion as follows:

- All items of defects, deficiencies and items of outstanding work detailed in the Substantial Completion Agreement, executed July 26, 2019, Schedule A "Deferred Works" are to be completed in accordance with the PA prior to RSA;
- All items of defects, deficiencies and items of outstanding work detailed in the City Opinion issued July 26, 2019, Appendix A (Substantial Completion Agreement noted above), Appendix B1, B2 and B3 are to be completed in accordance with the PA prior to RSA ;
- All items of defects, deficiencies and items of outstanding work categorized as Pre-RSA as detailed in the Minor Deficiencies List issued by the Independent Certifier on July 31, 2019 are to be completed in accordance with the PA prior to RSA .

Pursuant to Section 26.2 (c) of the PA, on August 30, 2019, the City provided their opinion as to whether the conditions for issuance of the RSA Certificate have been satisfied and, if applicable, any reasons as to why they consider that the RSA Certificate should not be issued. The City's Opinion is that the conditions for the issuance of the RSA Certificate **have been satisfied**. Please refer to **Appendix C** for a copy of the City's opinion and the Term Sheet regarding Revenue Service Availability executed by the PA Parties on August 30, 2019.

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 RSA Certificate **have been satisfied** at the time of the issuance of this Report. Please find enclosed the RSA Certificate included in **Appendix A** of this Report.

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

Yours truly,
**ALTUS GROUP LIMITED**

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

CC Paul Hughes – Altus Group Limited
Lorne Gray – City of Ottawa

Altus Group

## 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.

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# 1 List of Appendices

Appendix A: Revenue Service Availability Certificate
Appendix B: Project Co's Revenue Service Availability Notice – August 30, 2019
Appendix C: City Opinion – August 30, 2019



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**APPENDIX A – Revenue Service Availability Certificate**

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# REVENUE SERVICE AVAILABILITY 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 Revenue Service Availability on:
**August 30, 2019**
*(Revenue Service Availability Date)*

"**Revenue Service Availability**" *is defined in the Project Agreement, Schedule 1, Section 1.559*

*This Certificate should be read in conjunction with the Independent Certifier's Report on Revenue Service Availability, the City of Ottawa's Opinion at Revenue Service Availability, and the Term Sheet regarding Revenue Service Availability executed August 30, 2019 for details on the basis for which this Certificate has been issued.*

ON BEHALF OF THE INDEPENDENT CERTIFIER

MSechiari

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

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**APPENDIX B - Project Co's Revenue Service Availability Notice – August 30, 2019**



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Altus Project 100224

30 August 2019

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

| | |
|---|---|
| Our Reference: | RTG-OTT-01-0-LET-0877 |
| OLRT Reference: | OLR-RTG-01-0-LET-1486 |
| Project Agreement Reference: | Section 26.2(b)(iii) |

**Attention**: Michael Morgan
Director, O-Train Construction Office

**Subject**: Revenue Service Availability Notice

Dear Mr. Morgan:

Pursuant to Section 26.2(b)(iii) 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 Project Co. is of the opinion that the requirements for Revenue Service Availability, for the Stage 1 Confederation Line, have been satisfied as of 30 August 2019.

More specifically, the following items have been addressed:

1. The Final Engineering Safety Assurance Certificate has been posted to e-Builder.
2. Vehicles:
    a. *Vehicles Cab Doors* – Temporary cab doors are being installed to replace those currently cracked. Any further breakages will be replaced on an as and when basis as agreed with the City.
    b. *Vehicle Passenger Doors* – The door software on the vehicles has been regressed to v1.2 which is SIL certified and meets the requirements for passenger service. Software v1.3 will be released as soon as it is SIL certified, as agreed with the City.
    c. *Vehicle Bill of Sale* – All thirty-four (34) Vehicle Bills of Sale have been posted to e-Builder.



RIDEAU TRANSIT GROUP GENERAL PARTNERSHIP
1545 Carling Avenue, Suite 406 • Ottawa, ON • K1Z 8P9
Tel: (613) 482-8988 • Fax: (613) 482-8989

3. Transit Operation Control Centre/System Control:
    a. The remaining works to the FDAS control panel and telephone are ongoing, these do not impact the operability of the system. Once testing is completed, the Controllers will receive the final element of the training. It was agreed, with the City, that this is not required for RSAD.
4. Stations:
    a. Elevators and Escalators licences have been provided, and RTM has been running and maintaining these assets throughout Trial Running. Bilingual audio announcement of elevators will be in place prior to passenger service.
5. Functionality of the PACIS software:
    a. Plan A: PACIS software, which includes the passenger platform door view in the driver cabs, will be functioning fleet wide and will begin installation in the vehicles week commencing September 2nd. Plan A will be fully operational with the exception of one temporary diversion restriction that the Parties agree will not affect RSA.
    b. Plan B: In the event that Plan A is not fully functional before 14 September (Passenger Service Date), RTG will implement a "Plan B", which has been developed in cooperation with the City, and the testing of which will take place in the presence of the Parties.
    c. Plan C: To ensure double redundancy, a Plan C has been developed and shared with the City.
6. PRE-Revenue Service List:
    a. RTG commits to completion of the agreed pre-Revenue Service items based on the latest list issued 26 August 2019 ("*Confederation Line 20190826 RSA Action Item Tracking OTC.RTG.review*")
7. Alstom Fleet Certificate:
    a. Alstom letter ALS-OLRT-03122 (provided to the City) has been issued to permit use of the trains up to revenue service. The final safety certification will be issued upon the delivery of final subsystem software or the "Plan" implement in Section 5 above.
8. Term Sheet:
    a. The Parties will have executed a "Term Sheet regarding Revenue Service Availability" dated 30 August 2019 ("Term Sheet") to document the agreement between the Rideau Transit Group General Partnership ("RTG") and the City of Ottawa (the "City") with respect to the achievement of Revenue Service Availability



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1545 Carling Avenue, Suite 406 • Ottawa, ON • K1Z 8P9
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in relation to the Project Agreement dated February 12, 2013 between the City and RTG.

We trust that the above satisfies the requirements for Revenue Service Availability and we look forward to the official launch of the Confederation Line on Saturday September 14, 2019.

Should you have any questions or concerns, or require additional information 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



RIDEAU TRANSIT GROUP GENERAL PARTNERSHIP
1545 Carling Avenue, Suite 406 • Ottawa, ON • K1Z 8P9
Tel: (613) 482-8988 • Fax: (613) 482-8989

OLRT Constructors
7 Bayview Road
Ottawa, Ontario

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

August 30, 2019
Submitted Electronically

| | |
|---|---|
| **Our Ref. :** | **OLR-RTG-01-0-LET-1486** |
| **Your Ref. :** | |
| **OTC Ref.:** | |
| **Project Agreement Ref.** | **Article 26.2 (b) (iii) Revenue Service Availability Notice** |

Attention: Peter Lauch, CEO

Subject: Revenue Service Availability

Dear Mr. Lauch,

This letter serves as notice to the Rideau Transit Group General Partnership (RTG) that the OLRT-C is of the opinion that the requirements for Revenue Service Availability (RSA) as identified under Article 26.2 (b) (iii), have been satisfied as of 30th August 2019.

More specifically, the following items are addressed:

1. The Final Engineering Safety Assurance Certificate has been provided.
2. Vehicles:
    a. Vehicles Cab Doors – Temporary cab doors are being installed to replace those currently cracked or inoperable. Any further breakages will be replaced on an as and when basis as agreed with the City.
    b. Vehicle Passenger Doors – The door software on the vehicles has been regressed to v1.2 which is SIL certified and meets the requirements for passenger service. Software v1.3 will be released as soon as it is SIL certified, as agreed with the City.



This document may contain confidential and commercially sensitive information.
1600 Carling Avenue, Suite 450, PO Box 20, Ottawa, ON K1Z 1G3

c. Missions and Platform Edge Cameras – the final solution is being implemented currently, should this not perform as designed or as required then a mitigation plan will be implemented, as agreed with the City.

3. Transit Operation Control Centre/System Control

   a. The remaining works to the FDAS control panel and telephone are ongoing, these do not impact the operability of the system. Once installation is completed, the Controllers will receive the final element of the training. It was agreed, with the City, that this is not required for RSAD.

4. Stations:

   a. Elevators and Escalators licences have been provided and RTM has been running and maintaining these assets throughout Trial Running.

Pursuant to Article 26.2 (b) of the Project Agreement, we request that the RTG notify the Independent Certifier and the City Representative of this notice.

Sincerely,

Matthew Slade
Project Director

cc. G. Gomeza B. McCormick C. Woodmass T. Miehe B. Coleman



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1600 Carling Avenue, Suite 450, PO Box 20, Ottawa, ON K1Z 1G3

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**APPENDIX C – City Opinion – August 30, 2019**



CONFIDENTIAL
Altus Project 100224

August 30, 2019

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

Your reference: RTG-OTT-00-0-LET- 0877
Our reference: OTT-RTG-RLET- 0524

**RE: Revenue Service Availability Notice - City Opinion**

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-1486, (together the "**Letter**") issued pursuant to s.26.2 of the Project Agreement (the "**PA**"), as referenced therein (the "**Revenue Service Availability Notice**").[1]

The City of Ottawa ("**City**") acknowledges receipt of the Revenue Service Availability 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 Revenue Service Availability Certificate.

As a result of discussions between the Parties, the City has agreed to waive the requirement that certain defects, deficiencies, and items of outstanding work will be addressed prior to Revenue Service Availability on the express condition that these items will be completed before and as a pre-condition to Revenue Service commencement scheduled for September 14, 2019. This agreement is set out in:

- RTG's letter bearing reference RTG-OTT-00-0-LET- 0877; and
- the Revenue Service Availability Term Sheet dated Aug 30, 2019 which is attached hereto as Appendix A.

In addition, Appendices B1 to B3 of this letter set out in detail the items which the City requires be completed prior to Revenue Service commencement. The items listed in Appendix B-1 are those carried over from Appendix A to the executed Substantial Completion Agreement dated July 26, 2019.

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

City of Ottawa
O-Train Construction
Transportation Services Department
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Ville d'Ottawa
Construction de l'O-Train,
Direction générale des transports,
110, avenue Laurier ouest
Ottawa, ON
K1P1J1

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 Sechiari, Altus Group

Enc.
Appendix A Revenue Service Availability Term Sheet (executed).pdf
Appendix B-1
Appendix B-2 Fixed Facilities Pre-RS items.pdf
Appendix B-3 Vehicles and Systems Pre-RS items.pdf

City of Ottawa
O-Train Construction
Transportation Services Department
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Ville d'Ottawa
Construction de l'O-Train,
Direction générale des transports,
110, avenue Laurier ouest
Ottawa, ON
K1P1J1

**Appendix A – Refer to enclosed document reference Revenue Service Availability Term Sheet (executed).pdf**

City of Ottawa
O-Train Construction
Transportation Services Department
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Ville d'Ottawa
Construction de l'O-Train,
Direction générale des transports,
110, avenue Laurier ouest
Ottawa, ON
K1P1J1

**Execution Version**

# Term Sheet regarding Revenue Service Availability

## Purpose and Background

The purpose of this term sheet dated as of August 30, 2019 ("**Term Sheet**") is to document the agreement between the Rideau Transit Group General Partnership ("**RTG**") and the City of Ottawa (the "**City**") with respect to the achievement of Revenue Service Availability in relation to the Project Agreement dated February 12, 2013 between the City and RTG as the same may be amended, restated or varied from time to time (the "**Project Agreement**").

In consideration of the mutual promises and agreements in this Term Sheet and other good and valuable consideration, the receipt and adequacy of which are acknowledged by each Party, the Parties agree as follows:

| Heading | Terms |
|---|---|
| **Title** | Term Sheet regarding Revenue Service Availability |
| **Parties** | (1) City of Ottawa<br>(2) Rideau Transit Group General Partnership, by its Partners ACS RTG Partner Inc., SNC RTG Partner Inc. and EllisDon RTG Partner Inc. |
| **Binding Nature of Term Sheet/Duty of Collaboration between the Parties** | The Parties intend to incorporate these terms and principles into a definitive agreement in the form of one or more Variations and/or a Project Agreement Amendment (the "**Amendment**"). This Term Sheet is intended to serve as a binding basis for the Parties to proceed with negotiation of the Amendment, and the Parties covenant to do so with diligence and acting reasonably and in good faith. It is contemplated that the Amendment will contain terms and conditions consistent with those outlined herein as well as other mutually acceptable terms and conditions customarily found in agreements of the kind contemplated by this Term Sheet including representations and warranties, covenants, and other provisions. The Parties acknowledge that this Term Sheet is an enforceable agreement which, until the execution of the Amendment, is binding on the Parties identified herein. |
| **Definitions** | Capitalized terms not defined in this Term Sheet shall have the meaning given to them in the Project Agreement. |

| Heading | Terms |
|---|---|
| **Number of Vehicles** | 1. RTG will be permitted to achieve Revenue Service Availability with thirteen (13) double car trains available for use during morning Peak Period service (not the fifteen (15) double car trains identified in the Project Agreement as constituting Service Level 1). The City shall issue a formal booking notice to this effect and the change will be deemed to be a Minor Service Change. |
| **RSA Achieved** | 2. The conditions of Revenue Service Availability in s. 1.559 of Schedule 1 of the Project Agreement will be modified by clause 1 above. |
| **Completion of Trial Running** | 3. RTG will be permitted to successfully complete Trial Running when it achieves a target availability of 96% on 9 out of 12 days (compared to 98% as set out in RTG's Test Procedure, dated May 25, 2017) as agreed upon in RFI-266 dated May 11, 2017. |
| **Proposed Date** | 4. The date by which RTG shall provide a Proposed Date pursuant to s. 26.7 of the Project Agreement shall be modified such that if RTG does not achieve RSA by September 15, 2019, it must provide a new Proposed Date by October 7, 2019. |
| **Vehicle Technicians** | 5. RTG shall provide vehicle technicians onboard the trains in the TOCC, YCC and terminal stations according to the attached Schedule "A", starting no later than September 7, 2019 and ending no earlier than a minimum of thirty (30) days after the public passenger launch date. |
| **Door Technicians** | 6. RTG shall, at its sole cost and expense, provide a door technician onboard each train during all service hours from the public passenger launch date and ending upon the date on which the Fleet Safety Certificate (incorporating the new SIL2 certified door software) is installed on the fleet. |
| **Vehicle Subcontract** | 7. RTG's Construction Contractor, Ottawa Light Rail Transit Constructors ("OLRT-C"), shall pursue all remedies available to OLRT-C from their Vehicle subcontract attributed to deficiencies with the vehicle door software regression and reinstallation. OLRT-C will ensure that this deficiency is addressed promptly and use commercially reasonable efforts to recover the damages incurred by the City for that deficiency ("City Damages") from the Vehicle subcontractor and will pass on any amounts it recovers from any source for the City Damages to the City. |

| Heading | Terms |
|---|---|
| **Increase in Vehicles** | 8. RTG shall provide:<br>a. a timeline as to when the morning Peak Period is anticipated to increase from thirteen (13) double car trains available for use service to fifteen (15) double car trains available for use;<br>b. a reliability growth plan to achieve a MDBF of 50,000km; and<br>c. A reliability demonstration test, in accordance with the Trial Running Test Procedure, to demonstrate that the increase in service to the planned morning Peak Period level of fifteen (15) double car trains can be undertaken without impacting service level.<br>The provision of these items is not a condition for Revenue Service Availability. |
| **Weekend Service** | 9. RTG shall implement double car trains for weekend service based on the current service headways defined in the Project Agreement until the earlier of (i) December 31, 2019 and (ii) the date when the fifteenth double car train is being used for Peak Period service. This change will be deemed to be a Minor Service Change. |
| **MSF Maintenance Equipment** | 10. RTG shall provide to the City by no later than September 9, 2019 an updated execution plan for the maintenance of the MSF equipment (wheel lathe; car wash; and, other plant equipment).<br>The provision of this item is not a condition for Revenue Service Availability. |
| **Safety and Regulatory Inspection** | 11. RTG shall provide to the City by no later than September 9, 2019 an updated execution plan to demonstrate compliance with all safety and regulatory inspections including correct reporting for all System Infrastructure: signal systems, track and special trackwork, overhead catenary systems, traction power substations, tunnel ventilation systems, fire alarm, and other safety systems.<br>The provision of this item is not a condition for Revenue Service Availability. |

| Heading | Terms |
|---|---|
| **Stage 2 Vehicles** | 12. RTG shall implement the required System changes to accommodate all Stage 2 vehicles on Stage 1 System Infrastructure no later than December 31, 2019. RTG will accelerate the completion of Stage 2 vehicles to enable a minimum of four (4) additional Vehicles on Stage 1 System Infrastructure no later than December 31, 2019. The implementation of the System changes and delivery of the Stage 2 vehicles are not conditions for Revenue Service Availability. This commitment shall form part of RTG's obligations under Schedule 44 (Stage 2 Additional Vehicles) of the Project Agreement and shall be subject to the terms of Schedule 44, including without limitation Section 2.8 therein. |
| **Increased Monitoring** | 13. RTG shall pay the reasonable costs of increased monitoring to the City in accordance with section 21.2(a) of the Project Agreement. For further clarity, the costs that RTG has agreed to pay are those billed and to be billed by STV and STV subcontractors in relation to ongoing vehicle/maintenance monitoring and Deloitte in relation to IMIRS monitoring, both prior to and following the achievement of Revenue Service Availability. RTG shall be provided with the invoices received by the City from STV and Deloitte, for review. The amount of reasonable costs of the City's monitoring inspection team funded by RTG shall not exceed $2,000,000. City reserves all of its rights and remedies in respect of future additional monitoring costs that may arise pursuant to section 21.2(a) in respect of any increased monitoring that is unrelated to the achievement of Revenue Service Availability or the subject matter of this Term Sheet. |
| **Monthly Service Payments** | 14. The Monthly Service Payment and Deduction Factors for Vehicle availability kilometre ratio will be measured against the originally scheduled kilometres for a service that uses fifteen (15) double car trains in the morning Peak Period.<br><br>There shall be an exception to this measurement methodology in that System Event Deductions and corresponding Failure Points for the morning Peak Period and the daily AVKR will be measured against the currently scheduled kilometres for a service that uses thirteen (13) double cars trains in the morning Peak Period. This will be adjusted as the fourteenth and fifteenth double car trains are entered into service. |

| Heading | Terms |
|---|---|
| **Set-Off - Vehicles** | 15. The City shall set off $16,000,000.00 from the Revenue Service Availability Payment for the fourteenth and fifteenth double car trains that will not be delivered at Revenue Service Availability. The City will release the set off as follows:<br>a. 50% ($8,000,000) shall be released after the fourteenth double car train is available for use in Peak Period service; and<br>b. 50% ($8,000,000) shall be released after the fifteenth double car train is available for use in Peak Period service. |
| **Set Off – Vehicle Doors** | 16. The City shall set off $2,000,000.00 from the Revenue Service Availability Payment until such time that the final Vehicle Door operating software (Rev X) is SIL2 Safety Certified and the Fleet Safety Certificate issued, and the software is installed on the fleet, upon which the set off shall be released. The City shall provide RTG with reasonable access to the vehicles to enable RTG to install the software, which access shall be granted by the City no later than two weeks after RTG has confirmed the availability of the software to the City. |
| **Set Off – PACIS Software** | 17. The City shall set off $2,000,000.00 from the Revenue Service Availability Payment until such time that the PACIS software, which for certainty includes the passenger platform door view in the driver cabs, is functioning fleet wide in accordance with its design and intended use to the City's satisfaction, upon which the set off shall be released. RTG shall, at its sole cost and expense, fund any alternate operational support plans, if required by the City, to mitigate any issues with the functionality of the PACIS software. |

| Heading | Terms |
|---|---|
| **Reservation of Rights** | 18. For certainty, RTG reserves all of its rights and remedies under the Project Agreement and at law, except as addressed herein, including without limitation its right to contest any such set offs from the Revenue Service Availability Payment and seek any appropriate remedy under Schedule 27 of the PA, except in relation to the set offs described in paragraphs 15, 16 and 17 above.<br><br>The City also reserves all of its rights and remedies under the Project Agreement and at law, except as addressed herein, including, but not limited to, set offs for Mobility Matters, land costs and Liquidated Damages. Set offs in relation to increased monitoring costs under section 21.2(a) of the Project Agreement in respect of the achievement of Revenue Service Availability and the subject matter of this Term Sheet shall be dealt with in accordance with paragraph 13 above. |
| **Disputes** | 19. This agreement is without prejudice to any claims or Disputes that the City or Project Co has or may have against the other party under the Project Agreement or the Substantial Completion Agreement, including, without limitation, the Notices of Dispute previously delivered by Project Co and any claims related to Liquidated Damages or Mobility Matters Deductions under the Project Agreement. |

**IN WITNESS WHEREOF** the Parties have executed this Term Sheet as of the date first above written.

**CITY OF OTTAWA**

Per: _____

For. Name: MICHAEL MORGAN
Title: DIRECTOR, R.L.P.

**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:
Title:
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:
Title:
I have authority to bind the corporation.

**IN WITNESS WHEREOF** the Parties have executed this Term Sheet as of the date first above written.

**CITY OF OTTAWA**

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: Ramon Villaamil
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:
Title:
I have authority to bind the corporation.

**IN WITNESS WHEREOF** the Parties have executed this Term Sheet as of the date first above written.

**CITY OF OTTAWA**

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: Ramon Villaamil
Title: Director
I have authority to bind the corporation.

**SNC RTG PARTNER INC.**

Per: _____
Name: Riccardo Casentini
Title: Vice President
Per: _____
Name: Mathieu Labelle
Title: Vice President

I/We have authority to bind the corporation.

**ELLISDON RTG PARTNER INC.**

Per: _____
Name:
Title:
I have authority to bind the corporation.

**IN WITNESS WHEREOF** the Parties have executed this Term Sheet as of the date first above written.

**CITY OF OTTAWA**

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: Ramon Villaamil
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: Jim King
Title: Senior VP, Finance & Secretary
I have authority to bind the corporation.

Number of MVTs

| Time | Monday | | | | | Tuesday | | | | | Wednesday | | | | | Thursday | | | | | Friday | | | | | Saturday | | | | | Sunday | | | | |
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| | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC | TP | Blair | Rover | TOCC | MSF/YCC |
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| 5:00 AM | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | | | | 1 | | | | | 1 |
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| 7:00 AM | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | | | | 1 | | | | | 1 |
| 8:00 AM | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
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| 11:00 AM | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
| 12:00 PM | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
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| 7:00 PM | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
| 8:00 PM | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
| 9:00 PM | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | 1 | T | 1 | 1 | 1 | | | | 1 | 1 | | | | 1 |
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| 3:00 AM | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 |

**Appendix B-1 – Items carried over from Appendix A to the Substantial Completion Agreement dated July 26, 2019**

| | Issue | Current Status |
|---|---|---|
| 1. | Vehicle Cab Doors | Following the City's acceptance of the prototype, RTG has commenced the temporary replacement of the cracked doors. This work is to be complete by September 14, 2019 (pre-RS)<br><br>RTG will develop a permanent solution acceptable to the City, in its sole discretion, that will ensure that the permanent doors will be ready for installation by early December 2019. |
| 2. | Vehicle Missions/Platform Edge Cameras | Refer to item # 17 in the Revenue Service Availability Term Sheet attached |
| 3. | Onboard public address / passenger information systems | Refer to item # 17 in the Revenue Service Availability Term Sheet attached.<br><br>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 September 14, 2019 (pre-RS). |
| 4. | Safety and Security Certification | RTG shall provide final safety and security certification including a revised Alstom Safety Certificate for passenger service by September 14, 2019 (pre-RS) |
| 5. | All Fixed Facility items listed in Appendix B-2 | To be completed by September 14, 2019 (pre-RS) |
| 6. | All Vehicle and Systems items listed in Appendix B-3 | To be completed by September 14, 2019 (pre-RS) |

**Appendix B-2 - Refer to enclosed document reference Appendix B-2 Fixed Facilities Pre-RS items.pdf**

City of Ottawa
O-Train Construction
Transportation Services Department
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Ville d'Ottawa
Construction de l'O-Train,
Direction générale des transports,
110, avenue Laurier ouest
Ottawa, ON
K1P1J1

| **Appendix B-1: Fixed Facilities Pre-RS Items** | | | | | | |
|---|---|---|---|---|---|---|
| Source | Location / Area | source id | Title | Description | Criticality City | Closure City |
| City PL (FF) | Tunney | Tu2 | Roadway: Scott Street Frontage | Roadway: Scott Street Frontage - Final Design to be submitted PRE-RSA Construction to be implemented after RSA | Pre-RS | Open |
| City PL (FF) | Tunney | Tu12 | Station: Landscaping | Landscaping - Plaza Lighting, E-Phone, Etc. | Pre-RS | Open |
| City PL (FF) | Tunney | Tu13 | Building: BOB | BOB Completion:<br>1) Exterior Cladding<br>2) Interior Finishes<br>3) Roof leaking at SW corner of room (ceiling panel and paint on window damaged)<br>4) Comms work (CCTV, Access Control, etc.) | Pre-RS | Open |
| City PL (FF) | Tunney | Tu14 | Building: Station Supervisor Building | Supervisor Building Completion:<br>1) Interior finishes<br>2) Comms work (CCTV, Access Control, etc.) | Pre-RS | Open |
| City PL (FF) | Tunney | Tu15 | Building: Maintenance Building | Maintenance Building Completion:<br>1) Comms work (CCTV, Access Control, etc.)<br>2) Exterior Cladding<br>3) Interior Finishes | Pre-RS | Open |
| City PL (FF) | Tunney | Tu39 | Station: Glazing | Frit Pattern Missing on Glass Screens (such as at Fare line, Stair Railings)<br><br>No color contrast on glazed panels at fare gate - very difficult for persons with low vision. (Station Wide) - Scott St. and Yarrow exits/entrances. Required by COADS | Pre-RS | Open |
| City PL (FF) | Tunney | Tu87 | Bus Operator Building | BOB - Occupancy permit outstanding | Pre-RS | Open |
| City PL (FF) | Tunney | Tu111 | Station: Washrooms (Public) | Public washrooms W/M - No power door actuator on public washrooms. | Pre-RS | Open |
| City PL (FF) | Tunney | Tu139 | Station: Lighting | Lighting (LUX) report deficiencies | Pre-RS | Open |
| City PL (FF) | Tunney | Tu153 | Bus Loop - General | General cleanup of platform required | Pre-RS | Open |
| City PL (FF) | Tunney | Tu166 | Bus Loop - South Platform | Landscaping behind platform is not per IFC and creates numerous concerns from a customer service perspective. Review is required. | Pre-RS | Open |
| City PL (FF) | Tunney's Pasture | Tu191 | Post SC | Broken glass panel on Type C roof (north platform, west side). Must be replaced Pre-RS | Pre-RS | Open |
| City PL (FF) | Bayview | Ba3 | Water infiltration | East Bound Platform - Column (east end) leaking Close to Designated Waiting Area | Pre-RS | Open |
| City PL (FF) | Bayview | Ba83 | Stairs and Railings | Exterior stair at upper Scott St. entrance - nosing strips do not meet City Accessibility Design Standards - inconsistent with other locations. | Pre-RS | Open |
| City PL (FF) | Bayview | Ba111 | Station elements miscellaneous | Unfinished cladding on various cabinets and pillars + Missing ceiling CMP panel by WB DWA (adjacent to skylight) | Pre-RS | Open |

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| City PL (FF) | Bayview | Ba134 | Trillium Platform | Relocation of existing shelter + installation of 3 sets of benches | Pre-RS | Open |
| City PL (FF) | Bayview | Ba137 | Station elements miscellaneous | Lighting report OLR-45-1-BAST-SVR-0001 - areas in the fare vending machines, east plaza handicap ramp, and edge of platform do not meet the minimum LUX levels | Pre-RS | Open |
| City PL (FF) | Bayview | Ba146 | Post SC | Repair of damaged snowmelt cable from the relocation of the Trillium shelter | Pre-RS | Open |
| City PL (FF) | Bayview | Ba147 | Post SC | Public washroom contains extra toilet paper rolls, hand sanitizer and redundant white sign (public mischief hazard) | Pre-RS | Open |
| City PL (FF) | Blair | SW169 | "O" Pylon at Blair Plaza (A1-EXT-001-FY) missing bus symbol | "O" Pylon at Blair Plaza (A1-EXT-001-FY) missing bus symbol. Only has train and ISA symbol, bus symbol must be added.<br>Installation is as per the drawings, however, appears that the drawings also had an error and missed the bus symbol | Pre-RS | open |
| City PL (FF) | Blair | SW174 | Post SC | R5, C2 and R9 signs currently installed on south face of lantern. Must be relocated to glass pane to the south of the entrance, next to the roll down grille (R10 Regulations sign location is fine) | Pre-RS | Open |
| City PL (FF) | Blair | SW188 | Post SC | Glass on the east end of the upper councourse close to Fare gates is shattered. Need replacement | Pre-RS | Open |
| City PL (FF) | Pimisi | Pi108 | Station elements miscellaneous | Commissioning Manuals, subject to Schedule 10 review process, shall be submitted to confirm all building systems have been tested and are fully operational. | Pre-RS | Open |
| City PL (FF) | Pimisi | Pi109 | Station elements miscellaneous | Lighting report OLR-45-1-LBST-SVR-0001 - areas in the lower concourse fare vending machines, maintenance stairs, and edge of platform do not meet the minimum LUX levels | Pre-RS | Open |
| City PL (FF) | Lyon | LY-133 | Commissioning manuals | Commissioning Manuals, subject to Schedule 10 review process, shall be submitted to confirm all building systems have been tested and are fully operational. | Pre-RS | Open |
| City PL (FF) | Lyon | LY-134 | Ligting Level | LUX lighting levels need to be corrected as per Ebuilder submissions 5131 | Pre-RS | Open |
| City PL (FF) | Lyon | LY-137 | Concourse Level<br>Post SC | Drainage pipe leaking at concourse level onto N/E stairs below | Pre-RS | Open |
| City PL (FF) | Lyon | LY-138 | | Platform end gate not locked. | Pre-RS | Open |
| City PL (FF) | Parliament | PAR-107 | Station Elements Miscellaneous | WB Platform level --> East end emergency exit stairs required 2 panic bars | Pre-RS | Open |
| City PL (FF) | Parliament | PAR-120 | Station Elements Miscellaneous | EB DWA - Ceiling leak. Walls corroded and paint washed away. Water accumulation on back wall of DWA (on floor). Black waterproofing injections splattered throughout DWA on cabinet, between wall panels. | Pre-RS | Open |
| City PL (FF) | Parliament | PAR-148 | Commissioning manuals | Commissioning Manuals, subject to Schedule 10 review process, shall be submitted to confirm all building systems have been tested and are fully operational. | Pre-RS | Open |
| City PL (FF) | Parliament | PAR-149 | Lighting Levels | Confirm minumum LUX levels at night. | Pre-RS | Open |
| City PL (FF) | Parliament | PAR-154 | Post SC | Platform end gate not locked. | Pre-RS | Open |
| City PL (FF) | Rideau | RID-084 | Lighting | Confirm platform lights meet LUX levels | Pre-RS | Open |

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| City PL (FF) | Rideau | RID-193 | Commissioning manuals | Commissioning Manuals, subject to Schedule 10 review process, shall be submitted to confirm all building systems have been tested and are fully operational. | Pre-RS | Open |
| City PL (FF) | Rideau | RID-213 | Top of escalators at open area at east and west concourse levels | Exposed BX cable for temporary lighting is draped over / along stainless steel cladding. BX should be removed and lighting should be made permanent if additional lighting is required to meet required LUX levels | Pre-RS | Open |
| City PL (FF) | Rideau | RID-230 | All locations at Rideau Station (Post-SC) | Replace damaged antislip nose edge material | Pre-RS | Open |
| City PL (FF) | Rideau | RID-219 | East Entrance (Post-SC) | Remove cladding at fire department connection as requested by fire reparment (fire department can't get a wrench on the hose connetion ) | Pre-RS | Open |
| City PL (FF) | Rideau | RID-231 | East entrance (Post-SC) | Elevator #5 stainless steel panel at control pannel- N/W corner is loose | Pre-RS | Open |
| City PL (FF) | Rideau | RID-232 | (Post-SC) | Water meter installed not as per City standard. | Pre-RS | Open |
| City PL (FF) | Rideau | RID-233 | (Post-SC) | Platform end gate not locked. | Pre-RS | Open |
| City PL (FF) | uOttawa | uO142 | Lighting | Confirm minumum LUX levels at night. | Pre-RS | Open |
| City PL (FF) | uOttawa | uO197 | Transsecure (Post SC) | Frit Type 1 (O strip) height. EB platform Transsecure, One side is lower than minimum 1350mm | Pre-RS | Open |
| City PL (FF) | Lees | Lees017 | Fritt pattern | 1) Glass panes missing frit pattern - Multiple areas. Type 1 and other type.<br>2) Misaligned - different paterns in WB stairs frit (left side going down) | Pre-RS | Open |
| City PL (FF) | Lees | Lees028 | General Cleanup | Cleanup of all finishes (panels, glazing, elevator and windscreen glass..) + rust stains on upper concourse floors + dust accumulation on light fixtures | Pre-RS | Open |
| City PL (FF) | Lees | Lees129 | Lighting | Confirm minumum LUX levels at night + Lighting under bridge towards Hurdman - confirm LUX requirements met. | Pre-RS | Open |
| City PL (FF) | Lees | Lees 158 | Glass Post SC | Two (now Three) broken glass panes at WB platform. One (now two) on roof type C (canopy) and one at windscreen along MUP between staitrs and Transsecure. | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu88 | Accessibility | This is a Specific item included in Hu22: Frit pattern Type 1, Type 2, Type 3 and Type 6 not completed as per ype IFC REA-40-HUST-DRD-3100 to 3103 and other IFCs | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu140 | Station elements miscellaneous | Station elements --> ICE FALL DANGER --> at the west end of the lower level of the station near the westbound platform stairs there was significant icicles from the ceiling (area also cordoned off for safety) | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu146 | Station elements miscellaneous | Station elements --> Apparent danger of falling ice from the roof at the far west end of the westbound platform | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu156 | Washroom (Public) | Universal public W/C 01-128 - Sink mounted too high 860mm to top from floor. (Needs to be max 840mm) | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu194 | Lighting | Platform Lighting needs to be added in both East and West bounds between gridlines 0.2 and 1 (DRD-1401). | Pre-RS | Open |
| City PL (FF) | Hurdman | Hu258 | Washroom (public) - Universal west (Post SC)end | Washroom door is locked and does not open when pressing handicapped post | Pre-RS | Open |

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| City PL (FF) | Hurdman | Hu262 | Retail Space - ATM Conduits Post SC | Need to install protection over ATM conduits in retail space as per VE-401 | Pre-RS | Open |
| City PL (FF) | Tremblay | TR01 | Paid Zone [02-100] | Roof leak at edge of skylight (south of grids 4-D) | Pre-RS | Open |
| City PL (FF) | Tremblay | TR10 | Platform [01-101] | Leaning rail not installed per IFC drawings and missing backer board supports | Pre-RS | Open |
| City PL (FF) | Tremblay | TR69 | Lighting | Confirm nightime LUX levels meet minimums | Pre-RS | Open |
| City PL (FF) | St_Laurent | SL69 | Lighting | Confirm minumum LUX levels at night. | Pre-RS | Open |
| City PL (FF) | St_Laurent | SL76 | Station Elements Miscellaneous | Unfinished surfaces, damaged paint on concourse - at West platform main door (by security guard) exposed rebars , Overhead beam at BRT stairs landing on concourse level needs paint job.<br>Stair B top landing - Roof has holes for conduits - need to be finished | Pre-RS | Open |
| City PL (FF) | St_Laurent | SL90 | Station Elements Miscellaneous | Station elements --> appearance of rust on the metal cross bar of the elevator shaft | Pre-RS | Open |
| City PL (FF) | St_Laurent | SL114 | Station Elements Miscellaneous | Exposed ceiling on EB and WB platform toward elevators. | Pre-RS | Open |
| City PL (FF) | St Laurent | SW169 | Post SC | Peeling A9 Symbol at Southern End of Mezzanine level (near Elevator / stairs to south / EB platform). This must be removed as there is no TIP at this location | Pre-RS | open |
| City PL (FF) | St Laurent | SW184 | Post SC | St-Laurent elevator directory – missing “s” in “elevators | Pre-RS | Open |
| City PL (FF) | Blair | BL41 | Landscaping | chain link fencing to close off and finish east end BRT platform | Pre-RS | Open |
| City PL (FF) | Blair | BL51 | BRT south platform | removed BRT shelter (S-05) Light fixture to be reinstated | Pre-RS | Open |
| City PL (FF) | Blair | BL142 | Lighting | Has LUX level testing been conducted at night? Need to confirm functioning at minimum LUX standards as indicated in PA | Pre-RS | Open |
| City PL (FF) | Blair | BL200 | Bus Loop Island | West end of Bus Loop Island require modifications. Design issue. Buses are hitting the curb. | Pre-RS | Open |
| City PL (FF) | Blair | BL209 | Bus Loop | Curb depression for west layup washroom maintenance access<br>damaged (Island at West layup | Pre-RS | Open |
| City PL (FF) | Blair | BL210 | Bus Loop | Stop I- Bench at Stop I needs to be replaced. | Pre-RS | Open |
| City PL (FF) | Blair | BL211 | Bus Loop | The east-west crosswalk at the west end of the bus loop at the<br>entrance from the Gloucester Centre roadway should be cleaned<br>up.<br>The asphalt ramps at this location require repair.<br>The pavement markings for this pedestrian crosswalk should be<br>refreshed. | Pre-RS | Open |

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| City PL (FF) | Blair | BL212 | East End layup area - Bus Loop | East End layup area - Pavement Markings for east-west crosswalk at entrance from Mall<br>Roadway are faded and should be refreshed. | Pre-RS | Open |
| City PL (FF) | Blair | BL214 | East End layup area - Bus Loop | TWSI missing from the east-west crosswalk at the south-east<br>corner of the east layup area near the Blair overpass.<br>Pavement markings should also be refreshed. | Pre-RS | Open |
| City PL (FF) | Blair | BL215 | East End layup area - Bus Loop | Broken concrete and trip hazard on the pedestrian path to the<br>north-east of the east layup area. | Pre-RS | Open |
| City PL (FF) | Blair | BL216 | East End layup area - Bus Loop | Trip hazard from shifting concrete in platform 2B. | Pre-RS | Open |
| City PL (FF) | Blair | BL217 | East End layup area - Bus Loop | There is a trip hazard at the existing asphalt ramp at the corner<br>adjacent to the BOB.<br>Further, this TWSI appears to be in the wrong location, as there is<br>only an East-West crosswalk and no north-south pedestrian<br>crossing in the final condition. | Pre-RS | Open |
| City PL (FF) | Blair | BL219 | East End layup area - Bus Loop | At the corner near the BOB there are a number of poles and<br>obstructions. During the final reconstruction this area should be<br>reviewed to ensure that platform maintenance equipment can<br>navigate through the area safely. | Pre-RS | Open |
| City PL (FF) | Guideway | AS0035 | Guiedway Fence Repair | Section between uOttawa and East Portal on the Nicolas side - A gap remains that is yet to be fenced | Pre-RS | Open |
| City PL (FF) | Guideway | AS0059 | Noise and Vibration Testing - Sensitive Receiver | Final noise & vibration monitoring testing report for NAC | Pre-RS | Open |
| City PL (FF) | Guideway | AS0060 | Noise and Vibration Testing - Sensitive Receiver | Final noise & vibration monitoring testing report for CBC | Pre-RS | Open |
| City PL (FF) | Guideway | AS0061 | Noise and Vibration Testing - Sensitive Receiver | Final noise & vibration monitoring testing report for GCC | Pre-RS | Open |
| City PL (FF) | Civil | DS0036 | West Portal Tie Backs | Tie Backs at the west portal can interfere with CSST boring machine | Pre-RS | Open |
| City PL (FF) | General | SW003 | TIPs and A9 Information Symbols | 1) Information "I" symbol incorrectly located. Should be above TIP at left side. Refer to 'A9 Placement options' diagram for preferred solution (provided to OLRTC via email on April 8, 2019)<br><br>2) TIP Content has not yet been installed | Pre-RS | Open |
| City PL (FF) | General | SW012 | Transecure | [69] No tactile 'directional / navigational' wall sign at Transecure areas.<br><br>Note that unique wording is required at Blair and Tunneys as end of line stations. This has been discussed via email with OLRTC (see also SW038 and SW133 that have been closed). | Pre-RS | Open |
| City PL (FF) | General | Sw022 | Track fence ID A10.1, A10.2, R8 | [164] Across track Station ID and directional signs not installed at all locations. | Pre-RS | Open |

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| City PL (FF) | Cyrville | SW042 | Push bar door | [81] No sign on push bar door to restricted access at west end of platform west of fare gates. Door is on north side of exit area facing south. | Pre-RS | Open |
| City PL (FF) | Pimisi | sw087 | Trailblazer T2-EXT-002-FN | [note] Sign not installed at inspection | Pre-RS | Open |
| City PL (FF) | Pimisi | SW088 | Trailblazer T2-EXT-004-FN | [note] Sign not installed at inspection | Pre-RS | Open |
| City PL (FF) | Pimisi | SW089 | Trailblazer T2-EXT-005-FN | [note] Sign not installed at inspection | Pre-RS | Open |
| City PL (FF) | St_Laurent | SW117 | C3 & C4 | [152] The elevator directories for the refurbished elevators state level 3,2. The elevator directories should indicate level 3,2,1. The same problem is repeated at level 3 directories. They too need changing from levels 3,2 to 3,2,1. [153] The refurbished elevators (both sides) at platform level have no sifgnage at all. These also require directories and including level 3,2,1 | Pre-RS | Open |
| City PL (FF) | St_Laurent | SW121 | Door sign | [156] Door signs not installed at time of inspection | Pre-RS | Open |
| City PL (FF) | uOttawa | SW135 | C1 Point of Interest map | [12] Map needs to be updated to synchronize with revised university directory. Artwork is available. Replace at the same time as when G11 is addressed. | Pre-RS | Open |
| City PL (FF) | General | SW137 | Evacuation Notice - all UGS (Including St. Laurent) | NOTE: These non-compliances occured after the last OC inspection [172] RTG sign not approved by OC. Incorrect format. Incorrect translation. Artwork subsequently created by OC for RTG implementation [173] Locations not approved by OC. Signs cover artwork etc. RTG to relocate to more appropriate locations. | Pre-RS | Open |
| City PL (FF) | General | SW144 | Staff and Public Washroom Signage | 20190812: Scope updated to include Tu6, Hu193 and Hu234. Item updated to general.<br><br>Bayview Staff Washrooms: Signage Missing<br><br>Public and Staff Washrooms: 'Push to Lock' and 'Press for Emergency Assistance' button signs in English only Applicable at: Tunney's Staff Washrooms, Bayview Public and Staff Washrooms, Hurdman Staff Washrooms<br><br>Hurdman Public Washrooms: "Occupied when lit" signs outside are not bilingual | Pre-RS | Open |
| City PL (FF) | Bayview | SW148 | North Facing Inter track WF sign | Spell error "ers" should be "vers" | Pre-RS | Open |
| City PL (FF) | Lees | SW152 | MUP Trailblazer Signage | T1-EXT-002-FN: Trailblazer at bottom of stairs (at MUP) not installed | Pre-RS | Open |
| City PL (FF) | Pimisi | SW154 | C1 POI map | The C1 map has a random blue square on it. This was not on the artwork files we provided. (this applies to the C1 at the lower level) | Pre-RS | Open |
| City PL (FF) | Rideau | SW157 | Rideau / Sussex entrance | No lantern in place. Confirm status | Pre-RS | Open |
| City PL (FF) | Tunney's Pasture | SW168 | Scott Street - C2 and R5 Signs Post SC | C2 and R5 signs are hidden behind the station lantern (and locations differ from the drawings). City to send PFD mark-up identifying new corrected location. | Pre-RS | Open |

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| City PL (FF) | Parliament | SW172 | Post SC | Platform Elevator Directories (C4): Elevator directories at platform level are missing the arrow indicator indicating which level a customer is on | Pre-RS | Open |
| City PL (FF) | Tunney's Pasture | SW173 | Post SC | H2.1 Flag-mounted washroom signs: Signs currently have men's and women's symbols. There should only be the men's washroom symbol on the west sign and only the women's washroom symbol on the east sign (this would make the signage consistent with Blair). | Pre-RS | Open |
| City PL (FF) | Hurdman | SW175 | Post SC | Hurdman Transecure signage on the south / EB platform is in the wrong location. | Pre-RS | Open |
| City PL (FF) | Pimisi | SW176 | Post SC | As identified at FLS walkthrough with OLRTC on August 19th, the C3 and C4 directories are not consistent at Pimisi. Directory locations must be corrected | Pre-RS | Open |
| City PL (FF) | Tunney's Pasture | SW177 | Post SC | After-hour signage at Tunney's Pasture (to bus loop entrance) not installed. This must be installed for opening day (signs can be installed and covered pre-opening if required) | Pre-RS | Open |
| City PL (FF) | Hurdman | SW178 | Post SC | After-hour signage at Hurdman (to bus loop entrance) not installed. This must be installed for opening day (signs can be installed and covered pre-opening if required) | Pre-RS | Open |
| City PL (FF) | System-Wide | SW179 | Post SC | All Stations: Any temporary signage related to construction (ex. the taped up "STOP and call if you need access behind this door" sign at Tunney's Pasture) needs to be removed<br><br>All stations (including Hurdman): Saw some orange "restricted access" stickers, including at Hurdman. These must be removed | Pre-RS | Open |
| City PL (FF) | Parliament | SW182 | Post SC | Sign at mid-level missing comma between "O'Connor Street" and 'Queen Street". City to provide photo | Pre-RS | Open |
| City PL (FF) | Rideau | SW183 | Post SC | Rideau – sign at common landing missing the dot on the "i" of "exit" | Pre-RS | Open |
| City PL (FF) | uOttawa | SW185 | Post SC | Sign mounted to exterior of tunnel (on Colonel By side) has been removed and must be reinstalled | Pre-RS | Open |
| City PL (FF) | uOttawa | SW186 | Post SC | Sign suspended inside the tunnel, just beyond entrance at Colonel By Drive: The sign has been dented (side facing Colonel By) and must be repaired | Pre-RS | Open |
| City PL (FF) | uOttawa | SW187 | Post SC | Sign suspended inside the tunnel, just beyond entrance at Colonel By Drive: The running green man sign on the sign has falled in (side facing the station) and must be fixed | Pre-RS | Open |

**Appendix B-3 - Refer to enclosed document reference Appendix B-3 Vehicle and Systems Pre-RS items.pdf**

City of Ottawa
O-Train Construction
Transportation Services Department
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Ville d'Ottawa
Construction de l'O-Train,
Direction générale des transports,
110, avenue Laurier ouest
Ottawa, ON
K1P1J1

**Appendix B-3 Vehicles and Systems pre-RS items**

| Item | Source ID | Title | Description | City | Closure City |
|---|---|---|---|---|---|
| | City Sys PL 361 | Conduits & Wires | EB - Fare gates - Cable hanging by people door. | Pre-RS | Open |
| | City Sys PL 85 | HOL Neutral- Ground bonding test | HOL Neutral-Ground bonding test for all TPSSs with trial running test are outstanding | Pre-RS | Open |
| | City Sys PL 156 | EOMA-HOL Agreement Amendment | Agreement not signed. | Pre-RS | Open |
| | City Sys PL 82 | TPSS Failure Mode Test | EOR validation required | Pre-RS | Open |
| | City Sys PL-411 | St. Laurent Station - MUP Access Doors | MUP access doors at the East end of the WB platform do not latch | Pre-RS | Open |
| | City Sys PL-412 | Blair Station - West entrance door | West most entrance door to East lower concourse does not latch | Pre-RS | Open |
| | City Sys PL-416 | Tunney's - MPU Access Door | MUP Access door on west end of South platform does not latch | Pre-RS | Open |
| | City Sys PL-417 | Tunney's - South Platform Door | Door "C" at the middle of the South platform does not latch | Pre-RS | Open |
| | City Sys PL-419 | Hurdman - Egress Door near East Entrance | Egress door near east entrance is open, no need for card access to be used. Card reader has green light on. | Pre-RS | Open |
| | City Sys PL-420 | St. Laurent - Emergency Doors | Westbound platform at eastern most point -Emergency doors are unlocked and station is not secure | Pre-RS | Open |
| | City Sys PL-421 | All Stations Elevators | "Help on the Way" light does not flash. | Pre-RS | Open |
| | City Sys PL-422 | All Stations Elevators | There are no verbal announcements for location at each floor as required by COADS. | Pre-RS | Open |
| | City Sys PL-423 | Some Stations Elevators | Not all elevator chimes indicate direction. | Pre-RS | Open |
| | City Sys PL-424 | Some Stations Elevators | Not all elevators have functioning directional arrows | Pre-RS | Open |
| | City Sys PL-425 | The Guideway Intrusion Detectors are | GIDS sensors being tripped erratically when vehicle skipping stations, driving slowly, etc. | Pre-RS | Open |
| | City Sys PL 323 | CCL-Segment 2- Bonding & Grounding & Tunnel Embedded Requirements | Validation still to occur. | Pre-RS | Open |
| | City Sys PL 324 | CCL confirmation letter of OCS System (REJ-CCL-0131_0} | Validation still to occur. | Pre-RSA | Open |
| | City Sys PL 325 | Construction Conformance Letter - | Validation still to occur. | Pre-RS | Open |
| | City Sys PL 326 | DCL design confirmation letter of OCS | Validation still to occur. | Pre-RS | Open |
| | City Sys PL 327 | DCL design confirmation letter of TPSSs`s | Validation still to occur. | Pre-RS | Open |
| | City Sys PL 328 | DCL design & CCL & ICL confirmation letter | Validation still to occur. | Pre-RS | Open |
| | City Sys PL329 | ICL letters for EMC/EMI | Validation still to occur. | Pre-RS | Open |
| | City Sys PL330 | ICL letters for Corrosion | Validation still to occur. | Pre-RS | Open |
| | City Sys PL 331 | 14 CCL letters for Communications & | Validation still to occur. | Pre-RS | Open |
| | City Sys PL322 | ICL Revisions | ICL need to be resigned upon review of most up to date SIT reports | Pre-RS | Open |
| | City Sys PL388 | Commissioning | Commissioning manuals , subject to Schedule 10 review process shall be submitted and accepted by the City prior to Revenue Service. | Pre-RS | Open |
| | LRV-2 | LRV Minor Deficiency | NVR redundancy for end camera and operational stability. | Pre-RS | Open |
| | LRV-9 | LRV Minor Deficiency | Fire Resistance Intumescent Paint & Fire Brick over bogie area | Pre-RS | Open |
| | LRV-10 | LRV Minor Deficiency | Door operator sensitive edge alignment | Pre-RS | Open |
| | LRV-11 | Punch List | Cab side window glass cracked | Pre-RS | Open |
| | LRV-14 | LRV Minor Deficiency & Punch List | By pass switches, install cover & tamper proof seals | Pre-RS | Open |
| | | | | Pre-RS | Open |
| | LRV-15 | LRV Minor Deficiency | Door panel push button (software) cycling error. | Pre-RS | Open |
| | LRV-26 | LRV MinorDeficiency | Cab interior light to be able to turn off | Pre-RS | Open |
| | LRV-37 | Type Test | Wheel lubrication demonstration / DDU display | Pre-RS | Open |
| | LRV-41 | LRV Minor Deficiency | NVR tamper proof seals | Pre-RS | Open |
| | LRV-53 | Punch List | EDR clear covers do not always fit well or were missing | Pre-RS | Open |
| | LRV-64 | LRV Minor Deficiency | Cab door handle pinch point (minor deficiency list item) | Pre-RS | Open |
| | LRV-66 | LRV MinorDeficiency | Cab door lock (no commercial type). | Pre-RS | Open |
| | LRV-80 | Punch List | Decal film is pealing in multiple locations - entire fleet, see punch lists for specific locations | Pre-RS | Open |
| | LRV-101 | Punch List | No safety cover on ATS switch in control panel | Pre-RS | Open |
| | LRV-160 | Punch List | Sidewall covers, (pillars) seem to be improperly installed and foam sticks out, entire train to be checked | Pre-RS | Open |
| | LRV-213 | Punch List | Decals of LCC on RH side are not installed properly, the arch of the decal is incorrect. LRV07. | Pre-RS | Open |
| | LRV-221 | Punch List | Grey decals are scratched on skirt panel to the left of door 1 | Pre-RS | Open |
| | LRV-223 | Punch List | DDU screen has protective film damaged | Pre-RS | Open |
| | LRV-226 | Punch List | Exterior decal bubbles on bogie skirts LMC1, LHS | Pre-RS | Open |
| | LRV-229 | Punch List | Protective film pealing on decal beside LMC1 and LMC1 cab | Pre-RS | Open |
| | LRV-230 | Punch List | Protective film pealing to the right of door 7, just before IMC-LCC articulation | Pre-RS | Open |
| | LRV-233 | Punch List | Bubble in the decal in LMC2 near door #18 | Pre-RS | Open |
| | LRV-241 | Punch List | Bubbles in white decal LMC2 cab LHS | Pre-RS | Open |
| | LRV-247 | Punch List | LMC1 air bubble in Maple Leaf Decal LHS | Pre-RS | Open |
| | LRV-251 | Punch List | Bubbles in decal beside door 18 | Pre-RS | Open |
| | LRV-264 | Punch List | Labels for LMC2 end box are hand written | Pre-RS | Open |
| | | System Security | RTG is to maintain security arrangements for the entire LRT system until Revenue Service. | Pre-RS | Open |