



AGENDA

SPC ON TRANSPORTATION AND TRANSIT

**June 24, 2020, 9:30 AM
IN THE COUNCIL CHAMBER**

Members

**Councillor J. Davison, Chair
Councillor S. Chu, Vice-Chair
Councillor G. Chahal
Councillor J. Farkas
Councillor J. Gondek
Councillor S. Keating
Councillor J. Magliocca
Mayor N. Nenshi, Ex-Officio**

SPECIAL NOTES: Public are encouraged to follow Council and Committee meetings using the live stream
<http://video.isilive.ca/calgary/live.html>
Members may be participating remotely.

1. CALL TO ORDER
2. OPENING REMARKS
3. CONFIRMATION OF AGENDA
4. CONFIRMATION OF MINUTES
 - 4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Transportation and Transit, 2020 February 26
5. CONSENT AGENDA
 - 5.1 DEFERRALS AND PROCEDURAL REQUESTS
None

5.2 BRIEFINGS

5.2.1 Calgary Transit Service Update, TT2020-0612

6. POSTPONED REPORTS

(including related/supplemental reports)

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 Airport Transit Line Study, TT2020-0565

7.2 Calgary Transit Bylaw 4M81 Amendments-Administrative Penalty Notice and Early Payment Option, TT2020-0611

7.3 On Demand Transit Update, TT2020-0701

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

None

10.2 URGENT BUSINESS

11. ADJOURNMENT



MINUTES

SPC ON TRANSPORTATION AND TRANSIT

**February 26, 2020, 9:30 AM
IN THE COUNCIL CHAMBER**

PRESENT: Councillor J. Davison, Chair
Councillor S. Chu, Vice-Chair
Councillor J. Farkas
Councillor J. Gondek
Councillor S. Keating (Remote Participation)
Councillor J. Magliocca

ABSENT Councillor G. Chahal

ALSO PRESENT: A/General Manager D. Morgan
Legislative Advisor D. Williams
Legislative Advisor A. de Grood

1. CALL TO ORDER

Councillor Davison called the Meeting to order at 9:30 a.m.

2. OPENING REMARKS

Councillor Gondek provided opening remarks and acknowledged International to Pink Shirt Day.

3. CONFIRMATION OF AGENDA

Moved by Councillor Gondek

That the Agenda for the 2020 February 26 Regular Meeting of the Standing Policy Committee on Transportation and Transit be confirmed.

MOTION CARRIED

4. CONFIRMATION OF MINUTES

4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Transportation and Transit, 2020 January 29

Moved by Councillor Chu

That the Minutes of the 2020 January 29 Regular Meeting of the Standing Policy Committee of the Transportation and Transit be confirmed.

MOTION CARRIED

5. CONSENT AGENDA

5.1 DEFERRALS AND PROCEDURAL REQUESTS

None

5.2 BRIEFINGS

None

6. POSTPONED REPORTS

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 Bylaw Amendment for Carshare Parking Policy, TT2020-0212

Moved by Councillor Chu

That with respect to Report TT2020-0212, the following be approved:

That the Standing Policy Committee on Transportation and Transit recommend that Council give three readings to the proposed bylaw to amend the Traffic Bylaw 26M96.

MOTION CARRIED

7.2 Truck Route Bylaw Amendment – Rail Crossing Closure, TT2020-0165

Moved by Councillor Magliocca

That with respect to Report TT2020-0165, the following be approved:

That the Standing Policy Committee on Transportation and Transit recommend that Council give three readings to the Proposed Bylaw (Attachment 1) to amend the Bylaw of The City of Calgary Respecting Truck Routes 60M90.

MOTION CARRIED

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

None

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

None

10.2 URGENT BUSINESS

None

11. ADJOURNMENT

Moved by Councillor Farkas

That this meeting adjourn at 9:35 a.m.

MOTION CARRIED

THE FOLLOWING ITEMS HAVE BEEN FORWARDED TO THE 2020 MARCH 16
COMBINED MEETING OF COUNCIL:

ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

Bylaw Amendment for Carshare Parking Policy, TT2020-0212

Truck Route Bylaw Amendment – Rail Crossing Closure, TT2020-0165

That the next Regular Meeting of the Standing Policy Committee on Transportation and
Transit is scheduled to be held on 2020 March 18 at 9:30 a.m.

CONFIRMED BY COMMITTEE ON

CHAIR

ACTING CITY CLERK

BRIEFING

Page 1 of 3

Item # 5.2.1

Transportation Briefing to

SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0612

Calgary Transit Service Update

PURPOSE OF BRIEFING

To provide Council an update on Calgary Transit's service impact of the COVID-19 pandemic and the proposed next steps.

SUPPORTING INFORMATION

The COVID-19 pandemic has had significant impacts on the way Calgary Transit operates and delivers transit service to Calgarians. We have been working with other City business units and Canadian transit agencies, through the Canadian Urban Transit Association (CUTA), to share information and learn best practices (Attachment 1). Through these collaborations and dialogue, the following measures were implemented:

Caring for our employees:

Limiting interactions between employees and customers through:

- Rear-door boarding on large buses.
- Not collecting cash fares on buses and asking customers to purchase pre-paid tickets.
- Installing physical distancing signage on buses, trains and stations.
- A two-passenger-per-vehicle limit for Calgary Transit Access service.
- Distributing three-reusable cloth masks to all Calgary Transit employees and individual cleaning kits with sanitizer to all operators.
- Installing driver barriers on all community shuttles and in process of installing on larger buses.

Caring for our customers:

Providing a clean and safe transit service for customers by:

- Thoroughly disinfecting our vehicles and stations with focus on high-touch surfaces such as railings, stanchions and handles.
- Introducing on-the-go cleaning of trains (and soon buses) while in service, with a focus on disinfecting high-touch surfaces, specifically the ticket vending machines and door handles and buttons.
- Extending the Low Income Transit Pass (LITP) and Senior yearly pass validity until the end of May to prevent line-ups at our customer service centres
- Closing some CTrain station buildings to help reduce social disorder and large gatherings of non-paying customers. The closures decreased pressure on Peace Officers, enabling them to focus on the rest of the system. Platforms were still open and fully-accessible for transit service.
- With indoor public areas being closed, Calgary's displaced population was greatly impacted. To assist, Calgary Transit's Community Outreach Team (COT) have been actively connecting them with housing and social agencies.

BRIEFING

Page 2 of 3

Item # 5.2.1

- Calgary Transit allowed customers to pause their parking reservation payment without losing their spot

Further measures are outlined in Attachment 2.

Taking care of our business

The COVID-19 pandemic has had a significant impact on ridership and revenue, with a 90 per cent decrease in ridership and financial losses of over \$13 million per month. This forced the difficult decision to reduce transit service levels by 30 per cent. This reduction was done carefully, attempting to minimize customer impact as much as possible. Service reductions were made by cutting school service, adjusting LRT service, temporarily canceling under-performing routes and shifting resources. Unfortunately, this has resulted in the lay-off of over 450 employees.

Physical distancing requirements have created a unique challenge as we have had to limit the number of customers onboard a bus or CTrain. This has resulted in vehicles appearing to be running half-full but may be nearing capacity.

Moving Ahead

Operational Changes

We are closely monitoring ridership levels in real-time to address overcrowding issues and increased demand as restrictions relax. In partnership with Edmonton Transit Service, we have asked the Government of Alberta to relax physical distancing requirements for transit customers. This will allow us to meet an increase in the demand for service without increasing the number of vehicles on the road.

To help increase revenue, we will begin front-door boarding on July 1. The installation of driver shields will allow us to protect employees and customers while ensuring stricter fare collection. This will also coincide with the launch of My Fare, a contactless payment system which will enable customers to purchase their fare via smartphone.

In cooperation with the government of Alberta, we will also be launching a pro-active, intensive, and long-term promotional campaign to encourage customers to wear masks on transit. This campaign includes employees handing out 200,000 non-medical masks at CTrain platforms, bus stations, and on-board vehicles.

As we see an increase in ridership, we plan on re-opening the station buildings that were closed. The re-opening of the stations will be closely monitored with high-visibility patrols and through our CCTV system.

Customer Confidence

Another key element of our re-launch plan is to build confidence with customers that transit is a safe option. Measuring customer confidence with transit is being tracked through weekly online surveys to gather feedback on how we are meeting customer's needs, quality of our service and our responsiveness to their concerns. These weekly surveys complement our regular engagement tools like our Call Centre and Twitter account. In addition, feedback will be gathered through monthly surveys, which will provide insight into customers returning to using transit, service cleanliness and other customer preferences.

We will be engaging with Calgary's business community to help build confidence and respond to concerns. Learnings from these meetings will help the continued development of our re-launch strategy.

BRIEFING

Page 3 of 3

Item # 5.2.1

Successful Practices

While we have had over five-million weekday boardings during the first three-months of the pandemic, we have only had one employee tested as COVID-19 positive. Increased sanitization of fleet and employees' prudence in practicing safe and healthy habits during the pandemic can largely be contributed to this success.

Next Steps

Calgary Transit will be providing a ridership report to the Standing Policy Committee of Transportation and Transit on 2020 July 22. This will provide a detailed analysis of our ridership history and future projections. There is also a planned service adjustment for September, which will be based on ridership and revenues in the coming months.

ATTACHMENT(S)

1. Attachment 1 – Best Practices and Peer Review
2. Attachment 2 – Calgary Transit COVID-19 Response Summary

Best Practices and Peer Review – Canada

Calgary Transit regularly collaborates with other Canadian transit agencies and municipalities through the Canadian Urban Transit Association (CUTA) and the Federation of Canadian Municipalities (FCM). Below is a summary of best practices and current COVID operating practices of five Canadian urban transit authorities.

System	Service Level Change	Capacity	Fares	Boarding	Masks	Driver Shields	Cleaning
Calgary Transit	Reduced service by 30% on May 25. Monitoring ridership and have capacity to adjust as ridership returns.	-Currently allowed to run 50% capacity. -With Edmonton Transit, lobbying province for exception to capacity limits.	Using honour-system for cash, ticket and transfers until July 1.	Front-door boarding resuming July 1.	-Distributed three non-medical masks to all transit employees. Encouraged but not mandatory. -Calgary Transit Access Operators provided masks and shields for assisting customers. -Distributing 200,000 non-medical masks to customers.	-Installed on community shuttles. -Temporary shields for large buses until permanent fix.	-Fleet cleaned and disinfected daily when taken out of service. -“On-the-go” cleaning for stations, trains and buses with focus on high-touch areas (handles, TVM’s, stanchions).
Edmonton Transit Service	-Saturday schedules. -Special late-night supplemental service for essential healthcare workers. -Replaced 30’ buses with 40’ buses on community routes for physical distancing.	-Currently allowed to run 50% capacity. -With Calgary, lobbying province for exception to capacity limits.	Resumed fare collection as of June 15.	Front-door boarding resumed June 15.	-Operators required to wear mask when leaving shielded area of bus or LRT.	Yes	-Fleet cleaned and disinfected daily when taken out of service. -Using an electrostatic sprayer with a disinfecting agent. -Attention to high-touch locations.

System	Service Level Change	Capacity	Fares	Boarding	Masks	Driver Shields	Cleaning
TTC Toronto Transit Commission	Late March cut 15%, temporary cutting of routes. Monitoring crowding and likely to maintain this reduced level through summer.	Expect to increase max capacity from 50% to 75% by Sept.	Using honour-system for cash, token, ticket and transfers.	Resume front-door boarding in early July.	-Masks issued to Operators and mandatory. -Para-Transit Operators have full PPE available for transport to and from hospitals or testing centres. -Masks are mandatory, but not enforced for customers. -For customers, focus on education not enforcement. Exceptions for children, people with disabilities and medical conditions.	Looking to extend existing barriers to full-coverage from two-thirds coverage.	AM/PM cleaning and at terminals with aim to clean/disinfect each vehicle twice per service day.
TransLink Greater Vancouver Area	In process of restoring pre-COVID service to add capacity for physical-distancing.	Currently allowing 67% capacity.	Resumed fare collection June 1.	Front-door boarding resumed June 1.	-Encouraging with “Wearing is Caring” campaign launched on June 15. More than 15,000 masks being handed out.	Yes	-“Pit crews” to disinfect SkyTrain at high traffic stations -Fogging buses and trains, and cleaning high-touch surfaces with wipes. -Bus and SeaBus disinfecting sprays two-times-per-week in addition to regular daily cleaning.
OCTranspo Ottawa	At 60% regular levels until June 27.	Bus able to accommodate 40% usual capacity and trains 20%.	Touch-free payments only. No cash.		-Non-medical masks mandatory as of June 15 for customers and front-line and public facing transit employees. -For customers, focus on education not enforcement. - Exceptions for children, people with disabilities and medical conditions.	Temporary shields.	-Enhanced daily cleaning of fleet with focus on high-touch surfaces. -Stations cleaned every eight-hours.



**Caring for our employees,
our customers
and our business**

COVID - 19

Caring for our employees

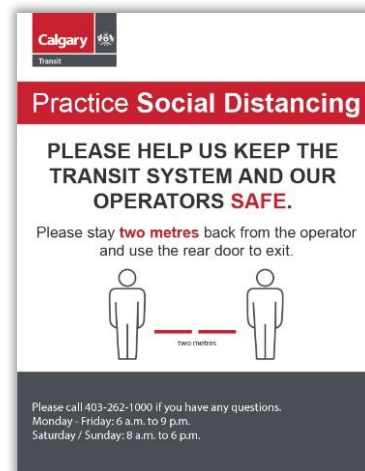
Calgary Transit has over 1,900 operators who provide safe, courteous and reliable transit service that Calgarians depend on. To keep our employees safe and healthy during this pandemic, here are the actions we've taken:

Promoting social distancing

We placed signs on stanchions by the operator's driver seat on all buses to encourage physical distancing between customers and operators. Additionally, we removed garbage bins and no longer require operators to handle/validate fares and transfers, further reducing their exposure risk.



Installed 300 signs on shuttle buses



Installed 900 signs on 40' and 60' buses with rear door exiting message

We encouraged all employees to practice social distancing at the office, garages and operator lounges, and provided them with the communication channels to ensure they were receiving the correct and updated information.



While we did unfortunately have a confirmed COVID-19 case in our Training area, we were able to act quickly. We sent the majority of our employees home to work remotely and thoroughly cleaned the impacted work areas. We have been in regular contact with the impacted employees to check on their wellbeing and ensure they have the support they need from us.

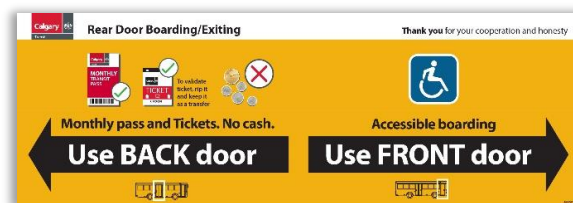
Rear door boarding

We asked all our customers to board our big buses using the rear doors, to help keep our operators safe. Customers who require accessible access can still board at the front of the bus.

Through this difficult time, we asked Calgarians to be honest and pay their fares. This honour-system approach reduces the amount of contact with operators and asks customers to come together as a community, to keep our city safe.



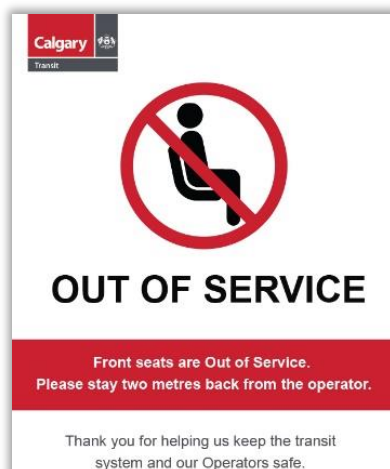
Installed 1,050 signs by the back doors



Installed 1,050 signs by the front doors

Front seat closures

We closed front seating on shuttle buses and Nova buses to improve physical distancing between customers and operators.



Installed 300 on shuttle buses
and 200 on Nova buses



Installed 300 on shuttle buses

Tools for our operators

We partnered with ATU 583 to provide all operators with sanitary products. Operators were given individual cleaning kits with personal bottles of sanitizer, disposable towels and an instruction sheet. We have refill stations at all Dispatch locations. This helps to keep the operation compartments and running boards consistently sanitized.



Calgary Transit Access (CTA) operators have close interactions with high risk individuals every day. Part of CTA service is to provide physical assistance from door to vehicle which means operators are in close contact with customers. We have provided gloves, plastic sleeves and face masks to help keep them and our customers safe.



CTA Operator with plastic sleeves and gloves



face cover, face shield, gloves, hand sanitizer, cleaning spray, and plastic sleeves

Calgary Transit Access booking questionnaire

On March 13, our booking agents began asking all customers questions from a standardized, short questionnaire before booking their trip. Going through the questionnaire helps us to identify anyone who may have flu-like symptoms and determine the best way to proceed with their trip request.

Enhanced physical distancing signs for operators

To further protect our operators, new signs and a chain were installed with enhanced visibility and messaging to ensure customers are respecting physical distancing measures on buses.



Large 20" stanchion pole signs placed behind the operator



Installed 900 signs on the stanchion adjacent to the operator on 40' and 60' buses

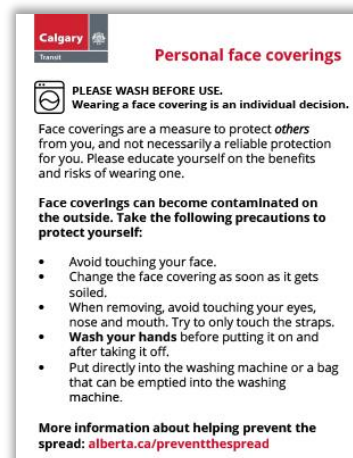


Face Coverings

We provided up to two face coverings to employees as an added measure to protect others around them. We have handed out over 3,500 so far to operators and infrastructure employees.



Face coverings provided by CEMA



Information outlining precautions

Shields on shuttle buses

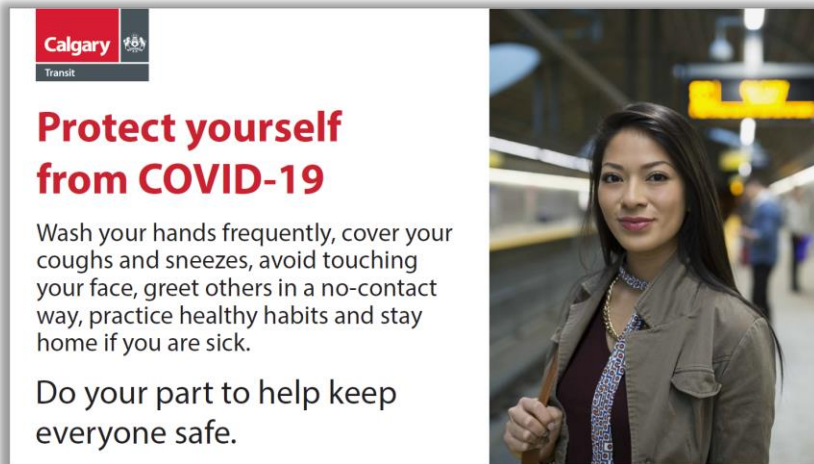
To help protect our operators, we are installing the shield as they arrive. Before settling on a final design, we let operators test it out and we received a lot of positive feedback. Work on prototyping a shield for our big buses is currently underway.



Caring for our customers

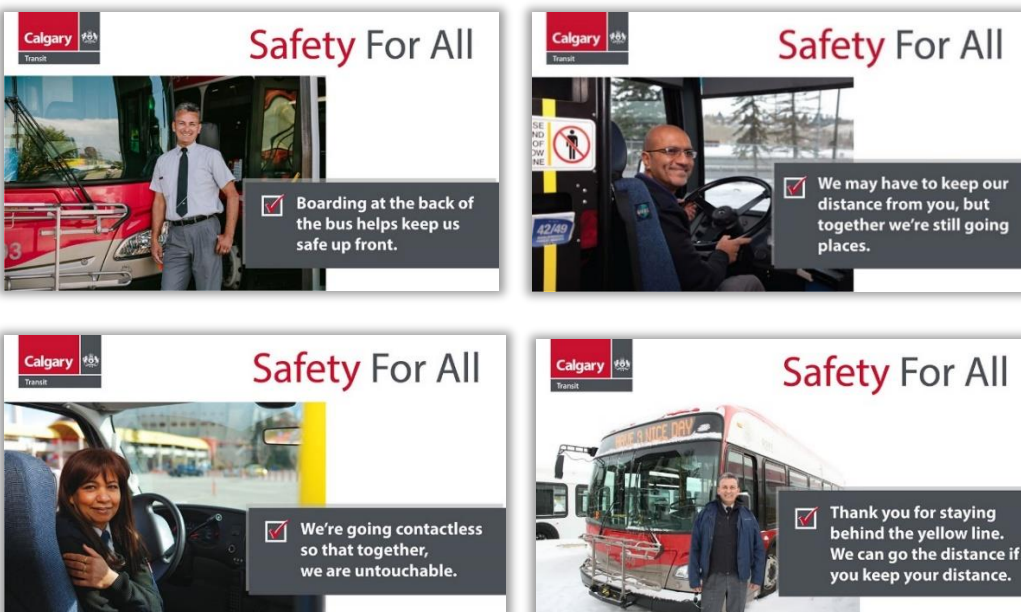
Customer self-care

From the beginning of the outbreak, we created digital displays encouraging proper hand washing, covering coughs and sneezes and other healthy habits. We developed a webpage to make sure they could stay up-to-date with all of our COVID-19 related information: calgarytransit.com/safety



Physical distancing campaign

We developed a campaign to remind customers about our rear-boarding procedure and physical distancing. Our social media content expressed our ongoing appreciation for our operators and their continued service.



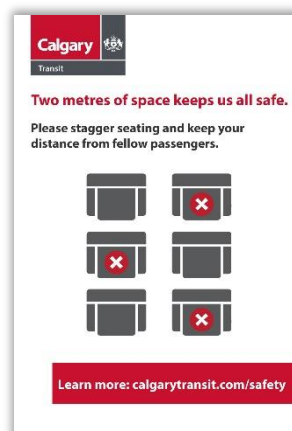
Slides used for social media and digital displays on CTrain platforms and MAX stations

Limiting seating

We limited our seating to help keep customers safe. We installed signage to block off approximately half our bus seats, with additional signage encouraging staggered seating and physical distancing between customers. We asked CTrain riders to follow the same etiquette and keep two-metres from their fellow passengers.



Signage onboard buses



Digital displays on CTrain platforms
and MAX station screens

Two customer limit for Calgary Transit Access

On March 19, all CTA vehicles, including those of our partners in service providing (Checker, Southland, CareCalgary), implemented a two-passenger limit to help with physical distancing, as an added measure of protection for the safety of our customers and our operators.

Reserved parking change

We are allowing customers to pause their parking reservation and payment during the month of April, without losing their spot on the list. Customers who continue to use their reserved parking stall are still required to pay.

Low Income Transit Pass extension

We are extending the March Low Income Transit Pass validity until the end of May. This will help reduce long line ups at our customer service centres and helps with physical distancing.

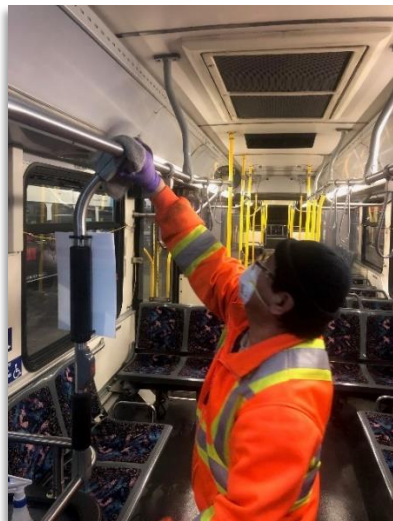
Senior yearly pass

To reduce risk for this vulnerable population, we are extending senior yearly passes that expire in March or April to be valid until the end of May.

Enhanced cleaning on all vehicles

Buses

We're disinfecting all grab rails, stanchions, steering wheels, and spraying a bleach and water mixture to disinfect high-touch surfaces of the vehicles.



Disinfecting passenger area



Disinfecting operator area

Some service lane staff start early and use backpack sprayers with an approved disinfecting solution (EP50, Germguard, PCS7000) to spray all touch points in the buses prior to regular cleaning and servicing of buses.

CTA Buses

For Calgary Transit Access, we are cleaning the buses at the Spring Gardens Transit Garage.



Disinfecting grab rails



Disinfecting passenger area

On-the-go train cleaning

Crews are boarding CTrain cars at stations along our Red and Blue lines throughout the day to disinfect high-touch surfaces. Between trains, the crews are disinfecting high-touch surfaces at CTrain stations, such as ticket machines and grab rails.



Disinfecting exterior high touch areas



Disinfecting passenger area

On-the-go bus cleaning

On June 15, our cleaning crew board buses at major loops and terminals to disinfect high touchpoint surfaces, including the operator area. During down time, they attend to benches, ticket vending machines and any other high touch points within the loop/terminal.



Disinfecting high touch areas



Digital display information for customers

Safety and Security

CTrain Station hours – Phase 1

To ensure we're providing customer safety and practicing proper physical distancing at CTrain stations, reduced nightly access and closed the station buildings between 6 p.m. to 6 a.m. at: Anderson, Southland, Heritage, Elrton, and Stampede stations. Customers were still able to access the CTrain by using the at-grade crossings.



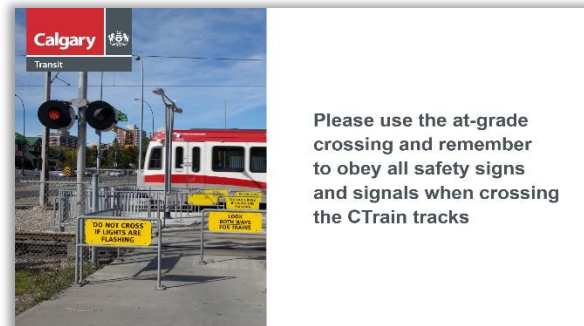
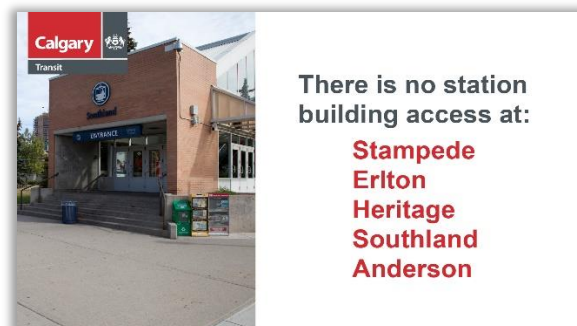
Building hours placed on doors at affected stations



Way finding to help with way finding

CTrain Station hours – Phase 2

With the success of the station closure from phase 1, phase 2 was introduced to close SAIT, Anderson, Southland, Heritage, Erlton, and Stampede stations all hours of the day. Southland and Chinook bus loop shelters were added to close between 6 p.m. to 6 a.m.



Digital display slides to inform customers

Calgary Transit Peace Officers

With the increase in public disorder on the system due to COVID-19 and low ridership, Peace Officers are changing the way they are patrolling the system. Ununiformed Officers are strategically placed along the

system. When encountering passengers who are unable to produce valid fares, Peace Officers are asking individuals to leave the train, purchase a fare and catch the next train.



Peace Officer patrolling CTrain stations along 7 avenue



Peace Officer checking on the well-being of people

With the changes to the station hour access and adjustments made to how Peace Officers are patrolling the system, the PS100 Security Call Centre is seeing a significant decrease in call volumes from customers calling with safety and security concerns.

Caring for our business

Service changes 1

In early March, we began to see a significant decline in ridership on the entire transit system. To adjust to this reduced demand, it was necessary for us to move to a reduced level of service.

- March 23: reductions in bus service (fewer trips per day)
- March 30: reductions in CTrain frequency



TRANSIT SERVICE CHANGES

In response to recent changes in demand, we're making some adjustments to our schedules.

If you use any of the following routes:

-  Route 201 - Redline
-  Route 202 - Blueline

Please check calgarytransit.com/service-updates to learn how your route will be affected.

Service changes 2

To provide more predictability for our customers and operators, we made changes to service for the entire system. All routes saw some reduction in service, which will be in place until further notice.

- April 6: service changes for most routes throughout the city.



TRANSIT SERVICE CHANGES BEGIN APRIL 6, 2020

Learn how your route will be affected:

- check calgarytransit.com/Service-Updates
- download the [Calgary Transit App](#) and subscribe to your route(s)
- follow us at twitter.com/CalgaryTransit

For information about what we're doing to respond to the COVID-19 pandemic, visit:

- calgarytransit.com/Safety



Service changes 3

To adjust to the financial impacts of COVID-19, we introduced additional service reductions on May 25. The reductions included the temporary deletion of 24 routes, reduced frequency on 30 routes during the weekday and 19 routes on the weekend and temporarily closing the bus portion of Anderson Garage.

To ensure we're providing the right service to our customers, we're monitoring overloads through operator reports and APC (automatic passenger count) data. Where we see consistent overloads, we may add extra trips if resources are available. In mid-July, after we've had a few weeks to monitor the effects that the Stage 2 reopening has on ridership, we'll be making some updates to our schedule through a service evolution. These updates should be in place until at least September.

Relaunch strategy

With the province implementing stages 1 and 2 of the economic relaunch plan, we have been preparing our business for:

- Welcoming back customers
- Building customer confidence and trust when using transit
- Monitoring ridership and evaluating service levels for September
- Building ridership and revenue

Transportation
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

EXECUTIVE SUMMARY

The Airport Transit Line is part of the City's Primary Transit Network. The link builds on the existing Route 300 BRT that serves the Airport and City Centre and provides an east-west connection between the Green Line and Blue Line and Calgary International Airport (YYC).

This report recommends the alignment and station locations for the Airport Transit Line that will connect the future phases of the Green Line LRT and Blue Line LRT, including a connection to the Calgary International Airport (YYC) while serving development in the local area. See Figure 1-9 in Attachment 1.

The study scope included a review of:

- Route alignment and stations between the future 96 Avenue N.E. Green Line Station and Barlow Trail N.E.;
- Location for a maintenance and storage facility;
- Land requirements;
- Transit technology; and
- A preliminary staging plan and cost estimates.

Based on ridership analyses completed for the Airport Transit Line Study, the current bus service to the Calgary International Airport will meet the ridership demands in the short term (based on 2028 estimated ridership) with a rail connection being required in the medium to long term (based on 2048 estimated ridership). See Figure 1-3 in Attachment 1.

The recommended route alignment, station locations and maintenance and storage facility location can be found in Figure 1-9 in Attachment 1. Stations are proposed at: 96 Ave NE/Greenline, Harvest Hills/Aurora, Regional/High Speed Rail (Future), Aero Drive NE, Airport Terminal (2 stations), 36 St. NE (Future), and at 88 Ave NE/Blue line. The Maintenance and Storage facility is planned for the northwest corner of Metis Tr./Airport Tr. NE.

An Automated People Mover (APM) was identified as the preferred technology. Key benefits of this technology include a lower operating cost, flexibility of service and reduced round trip travel times. Due to the medium to long term construction timelines of this project and the continuously evolving transit technology industry, the recommended technology will need to be re-evaluated when the project is funded for detailed design and construction.

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

ADMINISTRATION RECOMMENDATION:

That Standing Policy Committee on Transportation and Transit recommends that Council:

1. Approve the recommended alignment and station locations between the future Green Line/96 Avenue N.E. station and Barlow Trail N.E.
2. Approve the location for a maintenance and storage facility.
3. Protect for the land needed for the Airport Transit Line alignment right of way.
4. Direct Administration to include the recommended alignment and station locations in future updates to the Aurora Business Park Area Structure Plan.

PREVIOUS COUNCIL DIRECTION / POLICY

The alignment and station locations from the transfer station adjacent to Blue Line's 88 Avenue N.E. station to Green Line have been approved by Council through the previous functional planning studies listed below:

- Airport Trail Functional Planning Study, TT2012-0658;
- Review and Update of the 2012 Airport Trail Functional Planning Study Update, TT2017-0168;
- Northeast LRT Functional Plan – Saddletowne to Stoney Trail, TT2012-0657; and
- Green Line LRT Alignment and Stations: 160 Avenue N to Seton, TT2017-0534.

BACKGROUND

The Calgary Transportation Plan identifies an airport transit connection as part of the Primary Transit Network. This connection is also shown in RouteAhead – the 30-year strategic plan for public transit in Calgary.

The Calgary Airport Authority Master Plan discusses longer term possibilities for connections between YYC and The City of Calgary's Light Rail Transit (LRT). The Update of the 2012 Airport Trail Functional Planning Study (2017) report features the interchanges at 19 Street N.E. and Barlow Trail N.E. and protects a corridor for a rail connection and station at a central point between the domestic and international terminals.

The Green Line project's functional planning study has selected a station location at the intersection of Harvest Hills Boulevard and 96 Avenue N.E. that the Airport Transit Line will connect to.

As part of the recently completed preliminary design for the Blue Line Extension to 128 Avenue N.E. station, the Airport Transit Line's transfer station at 88 Avenue N.E. has been integrated with its surrounding proposed infrastructure including the Blue Line LRT station at 88 Avenue N.E., bus loop and a combined mixed use development and Park and Ride.

This study was conducted to ensure the Airport Transit Line is:

- Coordinated with the Preliminary Engineering design for the Blue Line extension;
- Aligned with the updated Functional Plan for Green Line;
- Accommodated in the Aurora Business Park Outline Plan update;
- Coordinated with Airport Trail Interchange Projects at 19 Street and Barlow Trail; and
- Considered in the Calgary Airport Authority Master Plan update.

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

INVESTIGATION: ALTERNATIVES AND ANALYSIS

A Multiple Accounts Evaluation (MAE) process was used to develop a preferred route alignment and station location for the Airport Transit Line. Engagement with key project stakeholders including Calgarians, adjacent land-owners, Calgary Transit, Alberta Transportation and Calgary Airport Authority occurred throughout the options development and evaluation process. This ensured that feedback from stakeholders was considered when evaluating options.

Four feasible route options running along, north and south of 96 Avenue N.E. were prepared through the study area. Options that were considered as part of the MAE are shown in Figures 1-4 to Figure 1-7 of Attachment 1. Based on the results of the MAE, Option 3 is the recommended alignment as it provides the preferred location for the Aurora Business Park Station, is adjacent to 96 Avenue N.E., has improved travel time, minimizes land requirements, and supports transit oriented development at the Aero Drive Station.

After approval of this report, next steps will include:

1. Prioritization of the Airport Transit Line as part of the Route Ahead update.
2. Updating the Aurora Business Park Area Structure Plan to reflect the approved Airport Transit Line alignment.
3. Determining the best approach to building the project including the re-evaluation of recommended technology when funding becomes available.

Stakeholder Engagement, Research and Communication

The engagement approach followed the guidelines from The City's Transportation Corridor Policy and included a two-phase approach. Stakeholders and the public provided feedback on the study recommendations through four public open houses, two online surveys and a workshop for the landowners adjacent to the Airport Trail alignment.

The project team used the feedback to finalize the study recommendations and documented them in a What We Heard and a What We Did Report.

Alberta Transportation and the Calgary Airport Authority were key stakeholders in the study, and were involved throughout the process. Letters of support received from Alberta Transportation and the Calgary Airport Authority are included in Attachment 2.

Strategic Alignment

This project aligns with A City that Moves, the associated One Calgary Service Lines for Public Transit and the Calgary Transportation Plan.

The Airport Transit Line is identified as part of the City's RouteAhead 30-year Strategic Plan for Transit in Calgary. The RouteAhead plan is aligned with the policy direction and strategic goals of the Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP), the 2020 Sustainability Direction and Council's Action Plan priorities.

Social, Environmental, Economic (External)

The Airport Transit Line will contribute directly to The City's social, environmental and economic goals.

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

Social

The Airport Transit Line's alignment and station locations were selected with the intent of providing TOD sites that are mixed used, mixed income and provide for all generations, thereby attracting and maintaining a diverse community that ensures economic development and vitality.

Environmental

Investment in higher quality transit service and complete communities attracts higher levels of ridership, decreasing the environmental impacts associated with urban travel, and also supports compact growth, which in turn provides health benefits.

Economic

Leveraging the transit investment maximizes the economic return through land use with the intent of providing development opportunities along the corridor. Higher population and activity generates sustained ridership and economic growth thereby creating a multiplier effect of the infrastructure investment. An efficient transit connection to the airport supports economic development in the region.

Financial Capacity

Current and Future Operating Budget:

This report does not impact the current operating budget.

The future Operating and Maintenance Costs were developed based on fleet and system operations. The annual costs to operate and maintain the system were developed for the east and west legs of the Airport Transit Line as noted below.

East Leg – Blue Line to Calgary International Airport	West Leg – Calgary International Airport to Green Line
Estimated Annual Operating Cost: \$14.5M	Estimated Annual Operating Cost: \$20.5M

Current and Future Capital Budget:

This report does not impact the current capital budget.

The estimated cost to build the east and west legs of the Airport Transit Line are outlined below. These estimates are Class 4.

East Leg – Blue Line to Calgary International Airport	West Leg – Calgary International Airport to Green Line
Estimated Capital Cost: \$400M - \$800M	Estimated Capital Cost: \$500M - \$1B

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

Risk Assessment

A risk register has been developed to identify design and construction-related risks. The primary risks identified to date include: permit approvals, impact to airport operations during construction, and design integration with the terminal for the airport station. A comprehensive risk register will be developed at the time of design and construction.

REASON(S) FOR RECOMMENDATION(S):

The study recommends that the Airport Transit Line align with future developments along this corridor including Calgary Airport Authority Master Plan, Alberta Transportation's future plan for the Deerfoot Trail interchange, the development of the Aurora Business Park, and the Blue Line and the Green Line LRT extensions.

ATTACHMENT(S)

1. Attachment 1 – Executive Summary from the Airport Transit Line
2. Attachment 2 – Letters of Support from Calgary Airport Authority and Alberta Transportation
3. Attachment 3 – Airport Transit Line – Plans and Profiles

AIRPORT TRANSIT LINE

ROUTE SELECTION & TECHNOLOGY STUDY

THE CITY OF CALGARY

PROJECT NO.: 171-00509-04
CLIENT REF: P832-464874
DATE: MAY 2020

WSP
237 4TH AVENUE SW, SUITE 3300
CALGARY, ALBERTA CANADA T2P 4K3

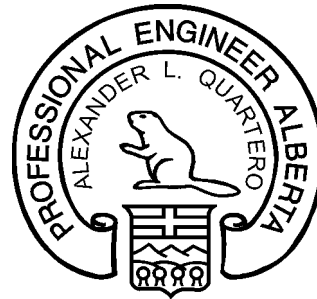
T: +1 403-243-8380
F: +1 403-243-0823
WSP.COM

SIGNATURES

Prepared by



Sander Quartero, PMP., P.Eng
Sr Project Manager
Planning & Advisory | Transportation



May 8, 2020

Approved¹ by



Mariya Otten-Andrew, P.Eng. PTOE
Manager, Transportation Planning - Alberta
Planning & Advisory | Transportation

<p>PERMIT TO PRACTICE WSP CANADA INC.</p> <p>Signature _____</p> <p>Date _____</p> <p>PERMIT NUMBER: P07641</p> <p>The Association of Professional Engineers and Geoscientists of Alberta</p>
--

May 8, 2020

WSP prepared this report solely for the use of the intended recipient, The City of Calgary, in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report.

The original of this digital file will be conserved by WSP for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP, its integrity cannot be assured. As such, WSP does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.

¹ Approval of this document is an administrative function indicating readiness for release and does not impart legal liability on to the Approver for any technical content contained herein. Technical accuracy and fit-for-purpose of this content is obtained through the review process. The Approver shall ensure the applicable review process has occurred prior to signing the document.

CONTRIBUTORS

Client

Project Manager	Alex Saba
Project Director	Anne Cataford
Project Stakeholder	Gord Falk (Calgary International Airport)
Project Stakeholder	Greg Yates (Calgary International Airport)
Project Stakeholder	Jerry Lau (Alberta Transportation)
Project Stakeholder	Nancy Scott (Calgary Transit)
Project Stakeholder	Donna Eng (Calgary Transit)
Project Stakeholder	Adam Duhatschek (Calgary Transit)
Project Stakeholder	Karen Alm (Calgary Transit)
Project Stakeholder	Dave Hayman (Calgary Parks)
Project Stakeholder	Garett Wohlberg (Real Estate & Development Services)

WSP

Project Manager	Sander Quartero
Project Engineer	Shane Arnold
Project Engineer	Moeed Ahmed
Rail Designer	Aaron Laidlaw
Senior Project Engineer	Kevin Rodger
Project Engineer	Diana Soroaga
Senior Engineer	Michael Hatch

Subconsultants

APM Technology & Operations Specialist	Iris Yuan (L+E)
Transit Technology Specialist	Steve Perliss (L+E)
Project Architect	Gary Mundy (GEC Architecture)
Transportation Planner	Glen Holland (AECOM)
Public Engagement Lead	Jana Sinclair (RPR)

1 EXECUTIVE SUMMARY

1.1 BACKGROUND

The City of Calgary (the City) undertook the Future Airport Transit Route Selection and Technology Study (“the Airport Transit Study”) to develop plans for a future transit connection that will connect the Blue Line LRT, Green Line LRT and the Calgary International Airport (YYC) while serving development in the local area. This “Airport Transit Line” is identified in Calgary’s *Route Ahead Transit Plan* and the *Calgary Transportation Plan*.

The current study area is illustrated in **Figure 1-1** below.

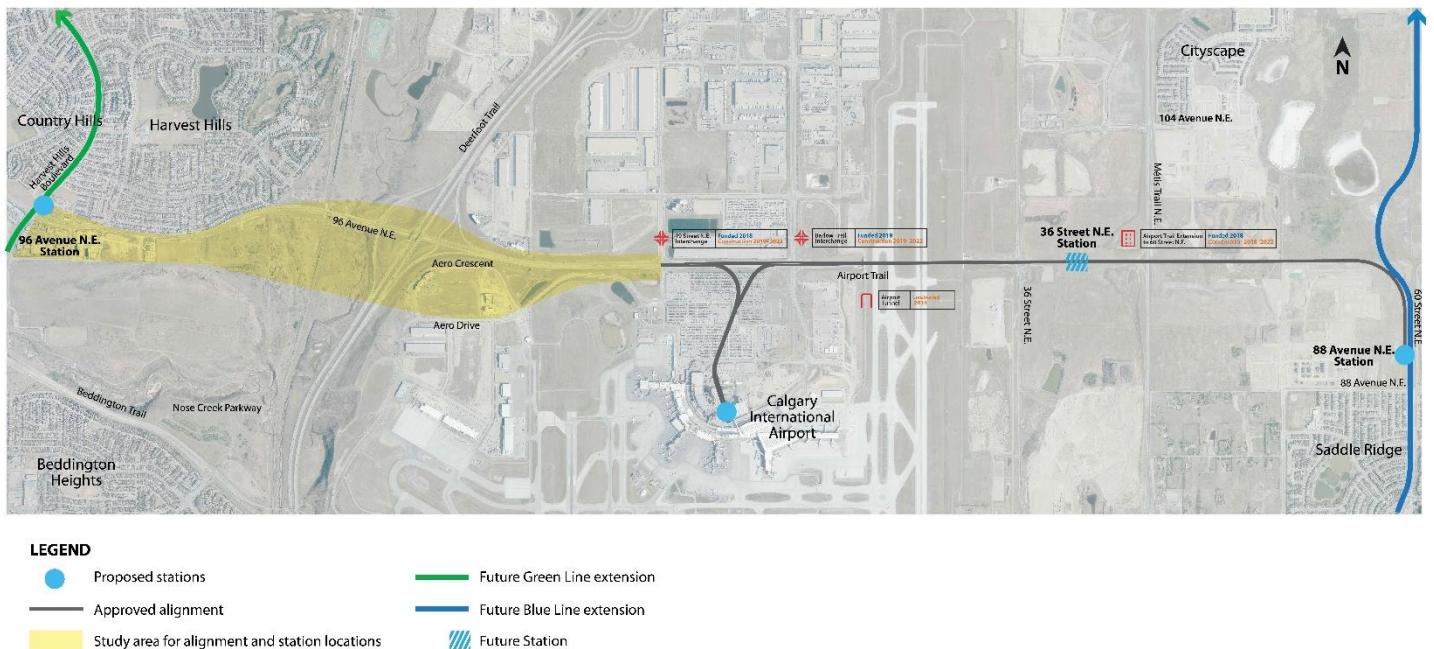


Figure 1-1: Study Area

There are three prior Council-approved functional plans that determined the approved alignment and the station locations for the Airport Transit Line indicated in the image above, for the section from approximately 19 Street N.E. to the eastern boundary of the study area:

- 96 Avenue N.E. (Airport Trail) Functional Planning Study (2012);
- 96 Avenue N.E. (Airport Trail) Functional Planning Study Update (2017); and
- Northeast LRT Functional Plan – Saddletowne Circle to Stoney Trail (2012).

This study developed the scope and vision for the Airport Transit Line in greater detail and provides recommendations for:

- Route alignment and stations between the future 96 Avenue N.E. Green Line Station and 19 Street N.E.;
- Location for a maintenance and storage facility;
- Land requirements;
- Transit technology; and
- A preliminary staging plan and cost estimates.

This study was conducted to ensure the future Airport Transit Line is:

- Coordinated with the Preliminary Engineering design for the Blue Line extension;
- Aligned with the updated Functional Plan for Green Line;
- Accommodated in the Aurora Business Park Outline Plan update;
- Coordinated with Airport Trail Interchange Projects @ 19th Street and Barlow; and
- Considered in the Airport Authority Master Plan update.

1.2 PROJECT PROCESS

The technical work for the Airport Transit Study began in 2017, and included:

- Working with the Calgary International Airport to understand their future plans;
- Conducting research to understand ridership projections and investigate airports across North America with rail connections;
- Consulting with industry experts in airport transit;
- Conducting technical analysis to understand constraints unique to the airport; and
- Screening potential technology options.

Key external stakeholder agencies were contacted by the project team to arrange for their direct participation in the study, including Calgary Airport Authority (YYC), Alberta Transportation (AT), and Canadian Pacific Rail (CP).

A series of workshops were arranged by the project team to collaborate with key stakeholders to review and establish consensus on the following for technology and alignment scopes:

- The range of options to be reviewed;
- Selecting appropriate options for next stage (“short-listing”); and
- Establishing the selection criteria for detailed evaluation of the carried forward options.

The public and stakeholder engagement approach, described more fully in Section 1.6 of this executive summary, was based on the guidelines for a Transportation Corridor Study Policy. The engagement approach was iterative and allowed stakeholders to see how their input was incorporated at each stage.

1.3 RIDERSHIP

A ridership forecast was developed to aid high level project planning and inform the technology that was needed to adequately support future demand for the Airport Transit Line. The forecasts are based on outputs from The City’s Regional Transportation Model (RTM) with adjustments made to enhance the modelling in the airport area. The forecasted airport travel demand was adjusted using research into mode share data from comparable North American cities and qualitative analysis of the anticipated airport transit markets in Calgary. **Figure 1-2** shows a comparison of the current daily ridership for airport transit routes and annual volume of airport passengers in Calgary, Toronto and Vancouver.

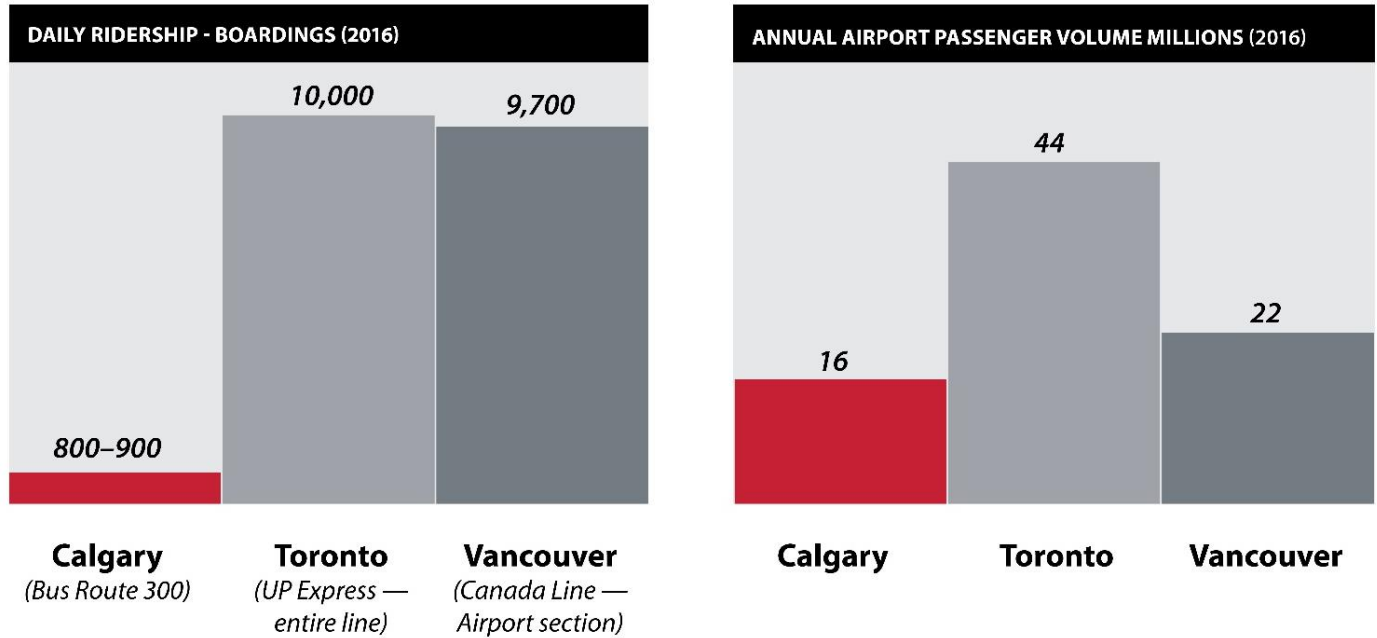


Figure 1-2: Comparison of Daily Ridership and Airport Passenger Volume

Ridership estimates were developed based on characterisation of both airport employee, passenger travel to and from the airport, and north cross-town riders. Passenger travel was further disaggregated into the business and leisure travel markets for both residents and visitors to the Calgary area. Airport employee travel was characterised based on three categories including terminal based employees, off-terminal employees, and surrounding area employees.

Estimated 2048 ridership with a staged implementation is summarized in **Table 1-1**.

Table 1-1: Estimated 2048 Ridership for Staged Construction

	Daily Riders (passengers per day)	AM Peak (passengers per hour per direction)	PM Peak (passengers per hour per direction)
East Segment Only (Stage 1)	8,500 – 17,500	650 – 1,450	650 – 1,400
Fully Constructed (Stage 1 + Stage 2)	16,500- 28,500	1,050 – 1,750	1,000 – 1,650

**Ridership rounded to nearest 500 passengers (for daily numbers) and nearest 50 passengers (for hourly)*

High = 22% Employee Mode Share, 15% Passenger Mode Share, 5% Misc.;

Low = 9% Employee Mode Share, 8% Passenger Mode Share, 2% Misc.

Daily ridership estimates in 2028 and 2048 are summarized in **Table 1-2**.

Table 1-2: Daily Ridership Estimates by Segment

ALL DAY	2028		2048	
	East	West	East	West
Share of Ridership	65%	35%	61%	39%
Eastern Segment Ridership	3,849-8,145		6,636-14,042	
Western Segment Ridership	2,089-4,422		4,308-9,116	
Through Ridership (Network Baseline)	1,600		5,500	

Figure 1-3 illustrates the expected transit ridership today and in the short-, medium-, and long-term. The figure demonstrates the likely transition of transit mode from priority bus service to staged implementation of a rail based rapid transit service, along with approximate ridership thresholds anticipated at each mode progression.

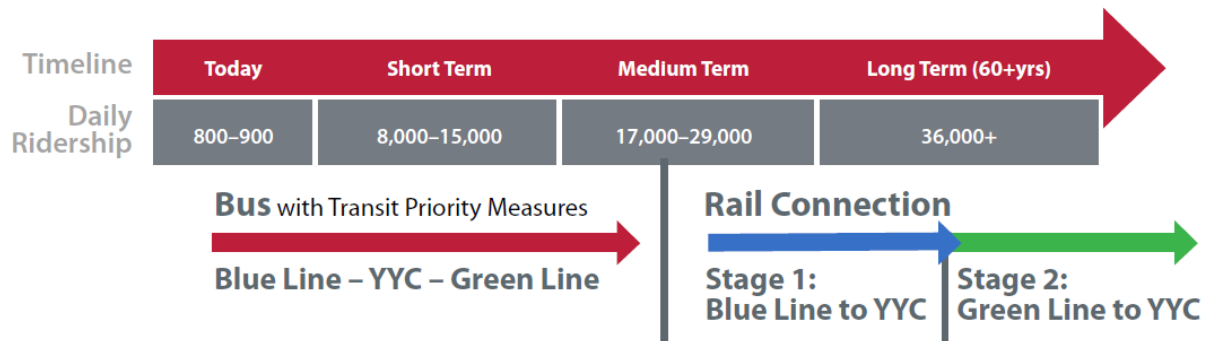


Figure 1-3: Transit Ridership Timeline

1.4 TECHNOLOGY STUDY

A list of 10 potential transit technologies was developed by the project team to meet the connectivity goals of the route. The preferred transit technology for the Airport Transit Line was identified through progressive refinement of a list of options through application of screening and evaluation criteria. The resulting short list was evaluated in detail by using a Multiple Accounts Evaluation (MAE).

The potential technologies included high-floor and low-floor LRT, Bus Rapid Transit (BRT), Personal Rapid Transit (PRT), Group Rapid Transit (GRT), Monorail, Aerial Tramway, and Automated People Mover (APM), among others. Eight screening criteria were applied to narrow down the list of potential transit technologies, including:

- Regulatory: Meets all applicable codes and regulations
- Healthy and Green City: Environmentally-friendly and -sustainable technology
- City of Inspiring Neighbourhoods: Flexibility to expand service to existing and future land use
- Financial and Economic Case: Potential for financial feasibility
- A City that Moves: Ability to attract riders and reasonably handle ridership growth

- Customer Experience: Provides a convenient, safe, accessible, and reliable system that is attractive to all riders
- System Delivery: Ability to leverage or integrate into planned facilities and infrastructure
- Proven Technology: Supplier has successfully implemented the same or similar technology option in similar weather conditions

























Based on the screening criteria, the following short list of transit technologies was identified:

- High/Low Floor LRT – vehicles that match those operating on the existing Blue/Red Lines, or on the future Green Line;
- Automated People Mover (APM) – an automated vehicle operating either on rubber or steel wheels similar to Canada Line in Vancouver; and
- Bus Rapid Transit with Transit Priority Measures.

As a result of the public feedback and through review of the detailed MAE, summarized in **Table 1-3**, APM was identified as the preferred technology in the medium to long term. Key benefits of this technology include:

- Reduction in capital cost associated with smaller stations and maintenance facility as compared to LRT and BRT due to the higher frequency of service and thus reduction in fleet size requirement
- Automation allows for flexibility of service, permitting the service to match or exceed demand without major impacts to operating costs.
- A faster turn-around time at the airport station allows for more frequent service and savings of 25% in travel and wait times as drivers are not required to change ends of the lead vehicle at the station.
- Reduced round-trip travel times will provide a better quality of service for Transit customers.
- APM provides better customer experience with wider doors and accommodation of luggage.
- APM would guarantee no local emissions and reduce environmental impact from roadway maintenance.
- APM creates less noise than bus transit
- APM is anticipated to have significant operating cost benefit compared to LRT and BRT for similar passenger capacities.

Table 1-3: Transit Technology MAE Results

Account	LRT	APM	BRT
 Sustainable Environment			
 Urban and Neighbourhood Development			
 Financial Capacity			
 Transportation			
 Community Well-being			
 Feasibility and Deliverability			
Recommended			

1.5 ROUTE SELECTION AND STATION LOCATIONS

Development of the preferred route alignment and station locations for the Airport Transit Line followed a similar process to that of the technology study; progressing from a list of potential options, to a short list, and ultimately a MAE to develop a recommendation. Engagement with key project stakeholders including Calgarians, adjacent land-owners, Calgary Transit, AT, and YYC occurred throughout the options development and evaluation process. This ensured that feedback from stakeholders was considered when evaluating options.

The project area was separated into segments with similar project context where discrete alternatives could be assessed. The segments were:

- 1 Transfer station at Green Line (future 96 Avenue N.E. Green Line station) to Deerfoot Trail
- 2 Deerfoot Trail to 19 Street N.E.
- 3 19 Street N.E./Barlow Trail N.E. to Calgary International Airport Terminal Approach
- 4 Barlow Trail to Blue Line transfer station (future 88 Avenue N.E. Blue Line station) – Route determined via *Airport Trail Functional Planning Study* (2012) and *Blue Line LRT Functional Planning Study* (2011)

While the complete route from the transfer station at Blue Line to the transfer station at Green Line is included in the recommended plan, the route selection study was limited to discussion and assessment of options in segments one through three. The study area is illustrated above in **Figure 1-1**. Alignments for segment four of the route have already been determined through previous studies, with minor geometric design adjustments to suit the preferred rail technology, maintenance facility site selection, and coordination with Airport Trail interchange configurations.

Through successive workshops to identify, develop, evaluate and refine alignment and station location options in each segment of the study area, four feasible routes were prepared connecting all segments of the study area. Options that were considered as part of the MAE are provided below in **Figure 1-4** to **Figure 1-7**. The Option 3 characteristics associated with the alignment and station location listed in **Table 1-4** best meet the MAE criteria out of all considered options.

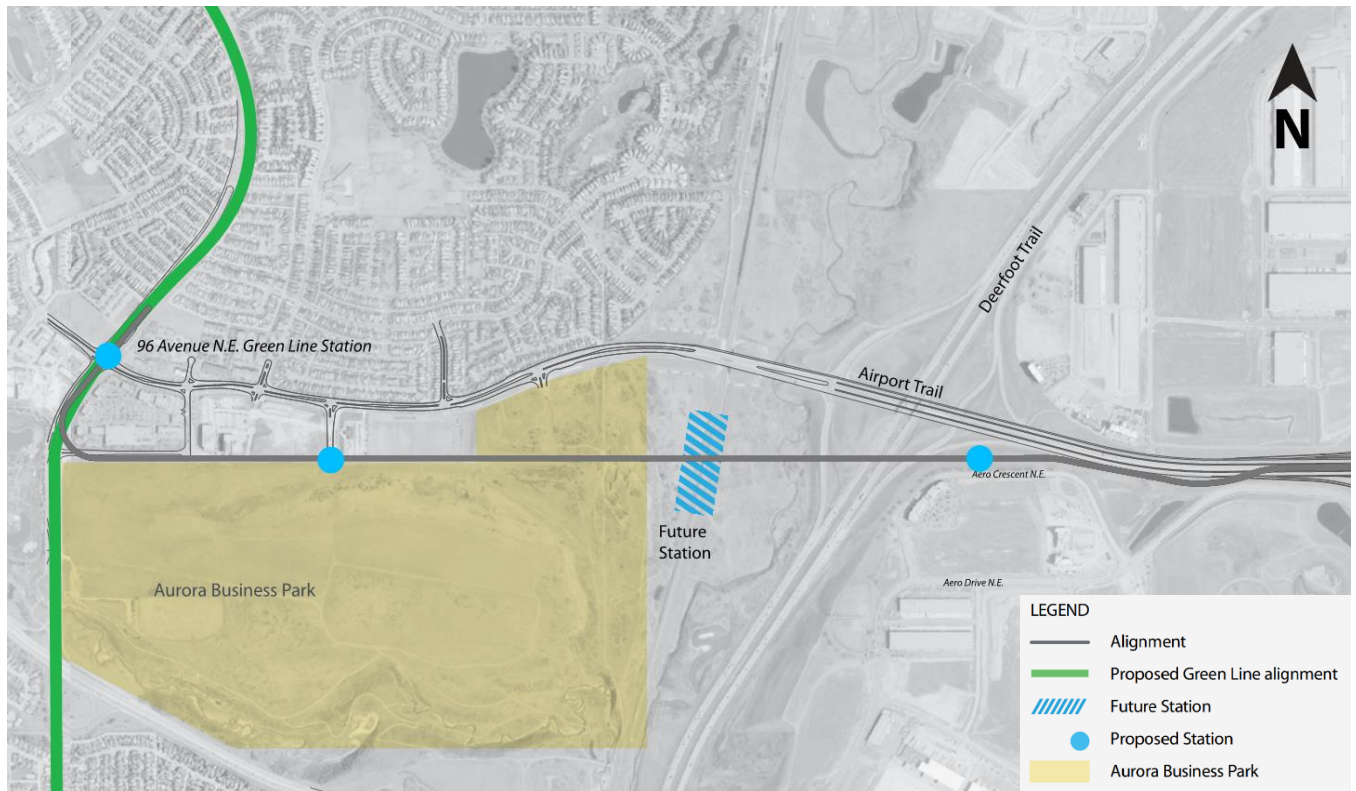


Figure 1-4: Airport Transit Line Route and Station Option 1

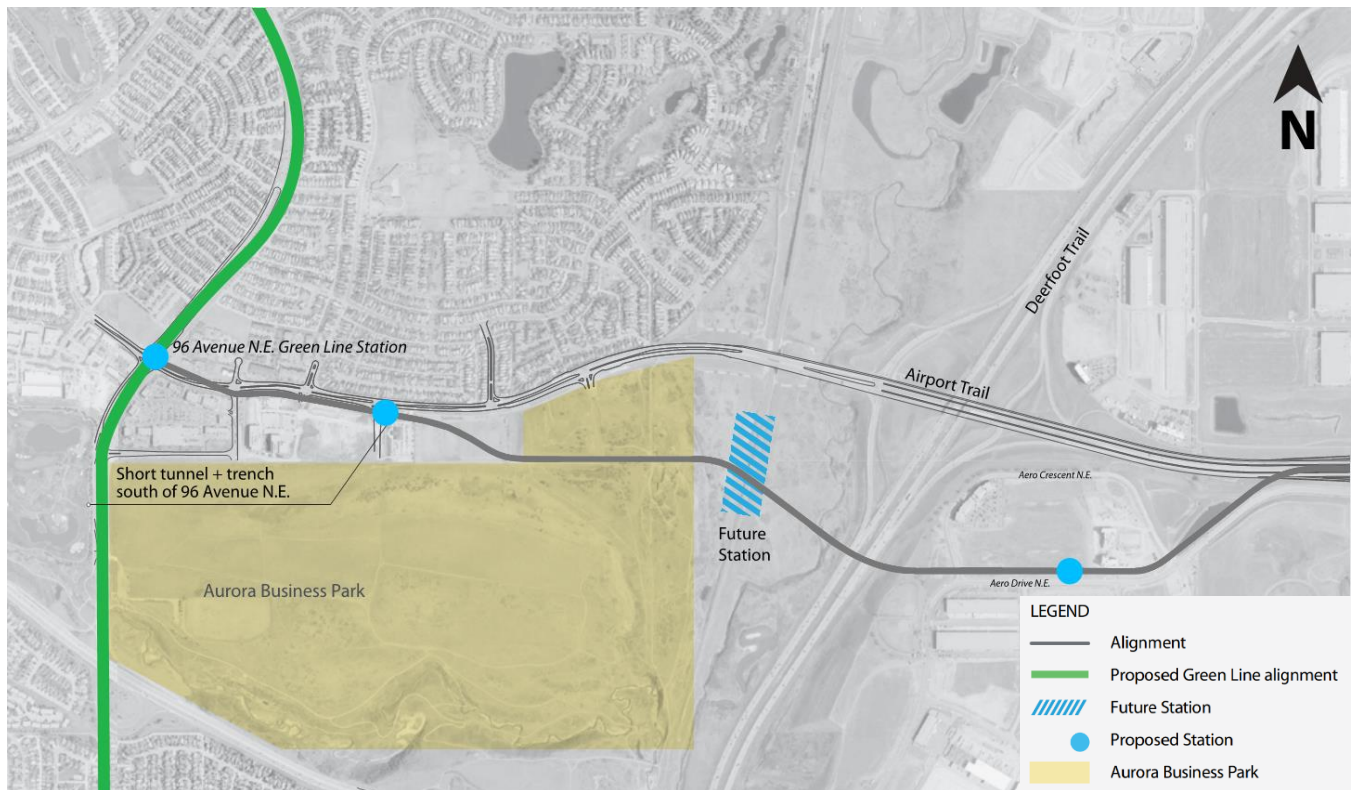


Figure 1-5: Airport Transit Line Route and Station Option 2

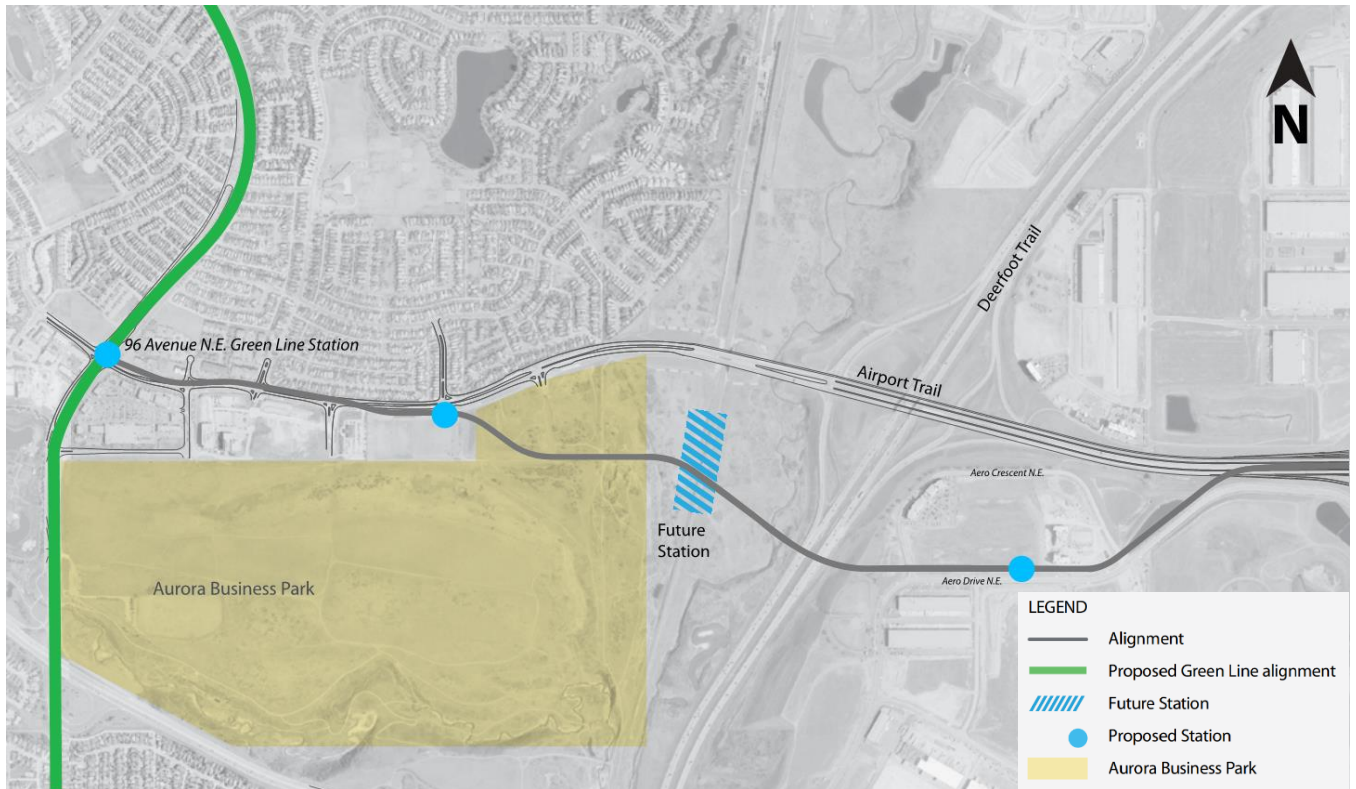


Figure 1-6: Airport Transit Line Route and Station Option 3 (Recommended)

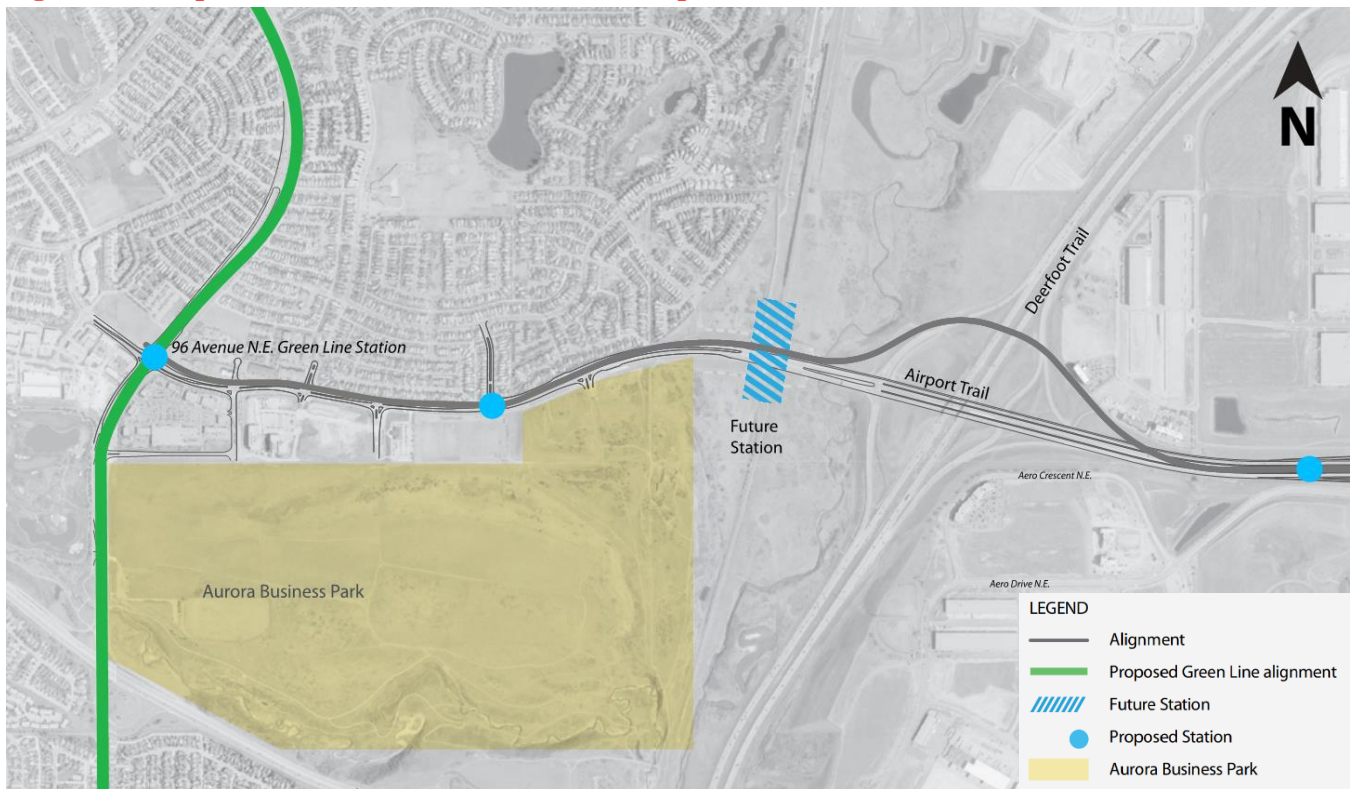
































Figure 1-7: Airport Transit Line Route and Station Option 4

Based on the results of the MAE, summarized in **Table 1-**, Option 3 is the recommended alignment and provides the preferred location for the Aurora Station, adjacent to 96 Avenue N.E. with balanced service to both businesses and residents. The alignment also provides development opportunity around the Aero Drive Station.

Table 1-4: Option 3 Alignment and Station Location Details

Key Benefits	Alignment: From the future 96 Avenue N.E. station, travels east along 96 Avenue N.E. to Aurora Business Park, near Harvest Hills Link N.E.
Alignment	<ul style="list-style-type: none"> – Permits a shallower tunnel to connect with the future 96 Avenue N.E. station / Green Line – More cost-effective station configuration as compared to Option 1 due to shallower excavation and reduced overall alignment length.
Station Location	<ul style="list-style-type: none"> – 96 Av N Station to connect with Green Line and bus terminal. – 96 Av at Harvest Hills Li NE central between Aurora Business Park and the community of Harvest Hills
Key Benefits - Operations	<ul style="list-style-type: none"> – Higher ridership potential due to optimal distance between stations and potential development along recommended alignment. – Improved travel time over Option 1 – The best balance of connectivity to other transit modes and the adjacent residential community. – A direct route from east to west would reduce travel time and increase average travel speed. – The station locations were selected as they provide an excellent connection to the Aurora Business Park, the best access for buses as well as pick-up/drop-off locations and serve more riders than other options.
Development	<ul style="list-style-type: none"> – The Aero Drive is central to Deerfoot North Global Logistics Park and would encourage transit-oriented development. – Aero Drive Station location is most supportive of Transit Oriented Development opportunities. – Provides excellent connection to developments near and to Aurora Business Park.

Table 1-5: Alignment and Station Location MAE Results

Account	Option 1	Option 2	Option 3	Option 4
 Community Well-being				
 Feasibility and Deliverability				
 Financial Capacity				
 Sustainable Environment				
 Transportation				
 Urban and Neighbourhood Development				
Recommended				

1.6 ENGAGEMENT

The engagement approach was based on the guidelines from the Transportation Corridor Study Policy. It included an iterative approach where stakeholders saw how their input from prior engagement was incorporated at each stage.

There were three phases to the engagement process, as shown in **Figure 1-8**.

**Figure 1-8: Public Engagement Process**

1.6.1 PHASE 1 ENGAGEMENT

In **Phase 1**, The City sought input from the public and stakeholders on what criteria should be considered when making decisions about technology, alignment and station locations, and solicited general concerns and ideas. This phase involved conducting a meeting with the Calgary Transit Advisory Group (CTCAG), two public open houses, a landowner workshop, and an online survey.

What We Heard

Integration with existing transit systems emerged as the highest-rated evaluation criterion when participants were asked to rank important considerations when evaluating technology options and indicated it would be important in

making the final decision. Speed was the second-highest criterion followed by cost effectiveness and accessibility at third and fourth, respectively.

Integration with existing LRT systems and station locations emerged as the highest-rated evaluation criterion when participants were asked to rank important considerations when evaluating alignment and station location options. Ride time was the second-highest rated criterion and cost was ranked third.

What We Did

Feedback from all in-person and online engagement activities were transcribed and themed according to the topics of technology, and alignment and station locations. This information provided the project team with an understanding of citizen priorities for the evaluation of options and in decision-making. The themes were then incorporated into the MAE criteria and used to evaluate each option.

1.6.2 PHASE 2 ENGAGEMENT

In **Phase 2**, The City presented the technology, alignment and station location options that were considered and demonstrated how each of the options addressed the important criteria as identified by stakeholders and the public in Phase 1 as well as how well each option met The City's technical criteria. Stakeholders and the public were then asked for feedback on the study recommendations through two public open houses, a CTCAG meeting, and an online survey.

What We Heard

Participants were asked what they liked and didn't like about the recommended plan, and how the plan could be improved. The following responses summarize the most frequent themes captured within each category during this phase of engagement.

The elements of the plan that participants liked included the planning of public transit link to the airport as it is necessary/overdue, the choice of technology (APM), the east-west connection the Airport Transit Line creates between Blue/Green Line, and the benefits provided to the surrounding areas.

The elements of the plan that participants thought could be improved upon included connecting the Blue and/or Green Line to the airport directly (no transfer), expediting and securing funding for the project, providing considerations for luggage and future expansion of service, and minimizing travel times and stops.

The elements of the plan that participants did not like included the lack of a direct link to downtown (i.e. transfer required from Blue Line or Green Line), and the project is not enough of a priority and is progressing slowly. There were also many participants that offered general support and did not have anything they didn't like about the proposed plan.

What We Did

The project team used the feedback to finalize the study recommendations. The What We Did Report describes how the recommended plan does or does not address participants' feedback. This report is available for public review at www.calgary.ca/airporttransitstudy.

1.7 RECOMMENDED PLAN & PROJECT DELIVERY

The Recommended Plan was developed to consolidate a preferred alignment and station locations, the preferred transit technology, and adjustments to previously approved segments of the route. The Recommended Plan is shown in **Figure 1-9**.

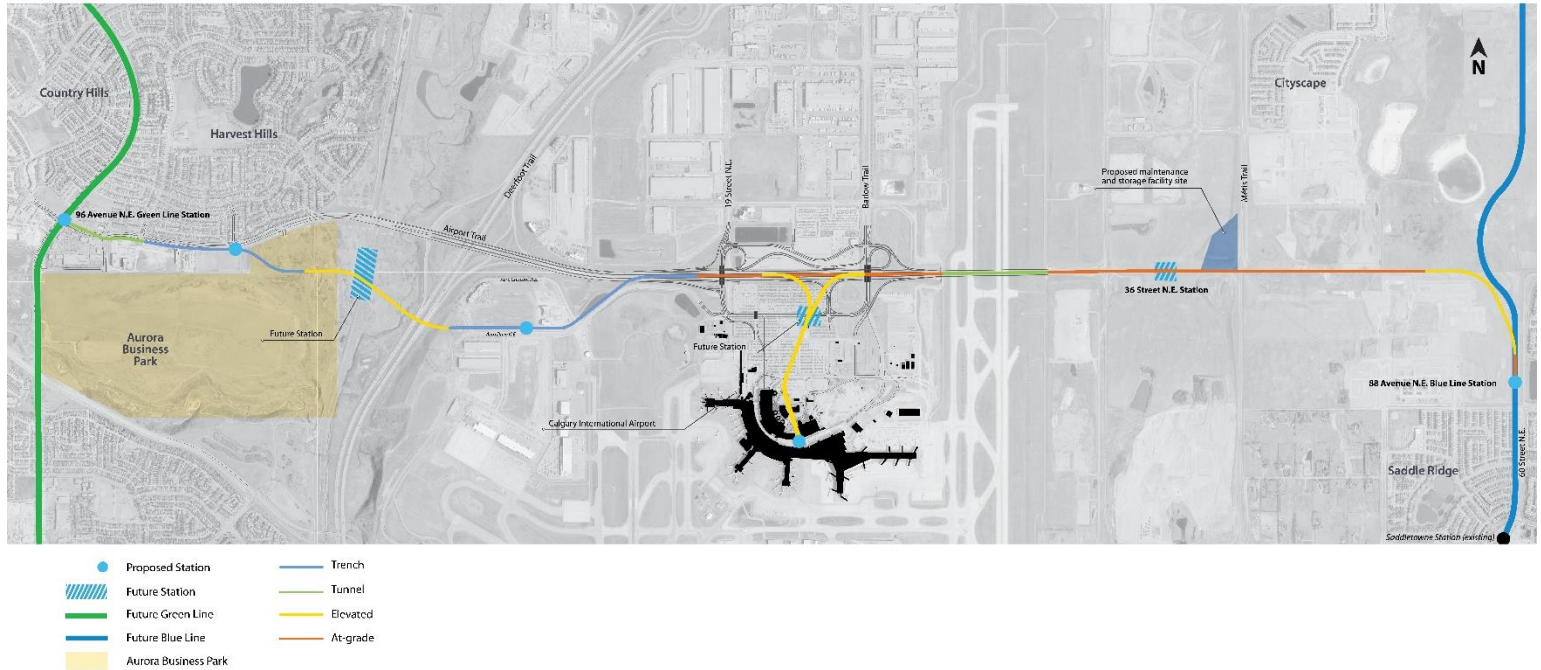


Figure 1-9: Recommended Alignment and Station Locations

The Recommended Plan shows Option 3 from the alignment and station location study in combination with an optimised alignment for the segment between 19 Street N.E. and the eastern Terminus at Blue Line (future 88 Avenue N.E. Blue Line station). Alignment of the Airport Transit Line has been adjusted relative to previously approved plans between 19 Street and Barlow Trail N.E. to improve operating speeds and reduce structure costs, and at 36 Street N.E. to provide an access route to the preferred maintenance facility site.

1.7.1 MAINTENANCE FACILITY

Selection of a site for a maintenance and storage facility for vehicles required to deliver this service was based on availability of land in the corridor and probable phasing of construction. Following the downgrading of Métis Trail from an expressway to an arterial street, it was determined that the future interchange loop on the northwest corner of this interchange is no longer required. As such, this piece of City owned land was selected as the preferred location for an MSF. A schematic site plan of an APM maintenance facility was developed as a proof of concept and is included as **Figure 1-10** although additional design effort is required to confirm access, functionality and boundary conditions following confirmation of the design.

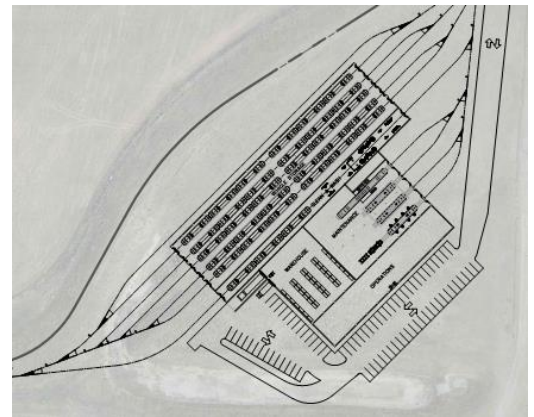


Figure 1-10: Schematic MSF Site Plan

1.7.2 CONSTRUCTION STAGING

Staging delivery of the Airport Transit Line is based primarily on the incremental capital cost to provide rapid transit access to the airport terminal. The preliminary staging plan reflects building Blue Line connection prior to Green Line connection for the following reasons:

1. Ease of design and construction due to its mainly at-grade alignment and therefore more cost effective;
2. Recommended location for a maintenance and storage facility (MSF) on City owned land;
3. Proximity of the current Blue Line NE terminus, Saddletowne station, to the Airport Transit Line's transfer station at 88 Avenue station (850m);
4. The ridership estimates indicate that approximately 39% of ridership is utilizing the west segment and 61% the east segment; and
5. Ridership analysis suggests that most employment trips to the terminal will come from northeast Calgary.

Reconsideration of the preferred phasing plan may be warranted in the event that Green Line is funded and constructed to 96 Avenue N.E. prior to commitment of funding to the Airport Transit Line. The Airport Transit Line staging will be further evaluated and confirmed through the RouteAhead capital project prioritization

1.7.3 CONSTRUCTION & OPERATING COSTS

An estimate of construction costs has been developed for the project based on the information developed as part of the study, and the experience of the project team on similar scopes of work. The estimate is presented to a Class 4 level of certainty, with expected variance from -30% to +50%. A risk-based review of project costs as well as a constructability review are recommended as next steps for the project's anticipated functional planning study scope. A summary of the staged capital and annual operating costs for the project is presented in **Table 1-**

Table 1-6: Summary of Project Costs

East Leg– Blue Line to Calgary International Airport	West Leg – Calgary International Airport to Green Line
Estimated Capital Cost: \$400M - \$800M	Estimated Capital Cost: \$500M - \$1B
Estimated Annual Operating Cost: \$14.5M	Estimated Annual Operating Cost: \$20.5M

1.7.4 LAND REQUIREMENTS

The majority of the Airport Transit Line is proposed to exist on lands owned by The City, or on lands owned / administered by other public entities including AT (Deerfoot Trail right-of-way) and YYC. Private property impacts are anticipated at the west end of the route adjacent to 96 Avenue N.E. Parcels on the south side of the street may be impacted to permit transition of the route from - a tunnel within the existing 96 Avenue N.E. right-of-way - to a trench cross-section south of 96 Avenue N.E.

While currently no land is required to construct the future station at 36 Street N.E., further consideration of land and access is required to ensure adjacent development is coordinated with the potential station site.

Refinement of the property requirements is recommended through a comprehensive land study and informed by a constructability review.

1.8 CONCLUSIONS & NEXT STEPS

The following next steps have been identified to further advance the detail in the Airport Transit Line design development:

- Revisit and refine the technology recommendation based on technological advancement and current market offerings and use result to re-verify alignment geometry and MSF layout;
- Develop detailed project design criteria for infrastructure and operation of the service including geometric design guidelines, operational performance criteria, architectural design criteria, etc.;
- Complete a comprehensive engineering data collection and analysis program to develop understanding of geotechnical, environmental, biophysical, historical, utilities, stormwater and drainage, TOD planning, and acoustical risks to the project;
- Complete a constructability review; and
- Develop a construction preliminary staging plan to minimize impacts on adjacent businesses and residents.

ATTACHMENT 2

AIRPORT TRANSIT LINE LETTERS OF SUPPORT

December 10, 2019

Mr. Alex Saba
Sr. Transportation Engineer, Major Transit Projects Division
The City of Calgary – Transportation Infrastructure
3rd Floor – Rocky Mountain Plaza – 615 Macleod Trail SE
P.O. Box 2100, Station M
Calgary, Alberta
T2P 2M5

Mail Code: 8481

Dear Mr. Saba:

Subject: City of Calgary's Airport Transit Study (ATS)

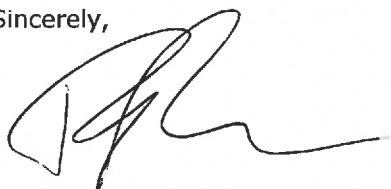
The Calgary Airport Authority would like to thank you for the opportunity to be an active participant, as a key stakeholder, in the Airport Transit Study (ATS). As such, we support the recommendations contained within the Study regarding alignment, station locations and accept the proposed technology as information at this time.

We will endeavor to incorporate the findings of the ATS into our planning framework; including our upcoming Airport Master Plan update and land development review processes. We look forward to continuing to promote and improve transportation services to the airport.

Due to the timing, and thus preliminary nature of the report, YYC makes no formal commitment in terms of financials or specifications and reserves the right to adjust its opinion. Our involvement and acknowledgement of the ATS does not constitute an agreement to fund or contribute to the progression of this initiative at this time.

We thank you again for involving The Calgary Airport Authority in this process and look forward to further collaboration with The City of Calgary on this initiative and many others.

Sincerely,



Rob Palmer,
Vice President, Strategy and
Chief Financial Officer

October 29, 2019

Mr. Alex Saba, P. Eng
Senior Transportation Engineer, Major Transit Projects Division
City of Calgary
3rd Floor – Rocky Mountain Plaza
615 Macleod Trail SE
PO Box 2100 Station M
Calgary, AB T2P 2M5
Mail Code: 8481

Dear Mr. Saba:

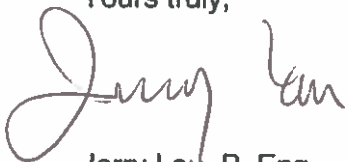
Subject: Airport Trail Transit Study – Alignment Over Deerfoot Trail

Thank you for involving Alberta Transportation on the alignment of the future transit connection over Deerfoot Trail to the Calgary International Airport (YYC).

We concur with the recommended alignment as attached, showing the future connection crossing Deerfoot Trail south of the Airport Trail interchange at the existing on/off ramp connections to Deerfoot Trail. This is compatible with the ultimate interchange concept with a westbound to southbound directional ramp at the Airport Trail interchange. Further details would have to be developed, such as vertical clearances and abutment locations to ensure no conflict with future Deerfoot Trail plans.

If you have any further questions, please contact me at 403-297-8633 or at jerry.lau@gov.ab.ca.

Yours truly,



Jerry Lau, P. Eng.
Infrastructure Manager
Southern Region



Serving a world in motion
navcanada.ca

May 15, 2018

Your file
CIP 2018051
Our file
18-0794

Mr. Stefan Kutac
Calgary Airport Authority
2000 Airport Road NE
Calgary, AB
T2E 6W5

RE: Airport Project: Air Rail Link - Calgary, AB

Mr. Kutac,

NAV CANADA has evaluated the captioned proposal and has no objection to the project as submitted finding no significant impacts at this time. As the plan is more defined and timelines developed please re-submit the project for re-assessment.

For planning purposes, we suggest adherence be given to TP1247, (Land Use in the Vicinity of Aerodromes) which outlines the specific protection requirements.

Should you decide not to proceed with this project, please advise us accordingly so that we may formally close the file. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

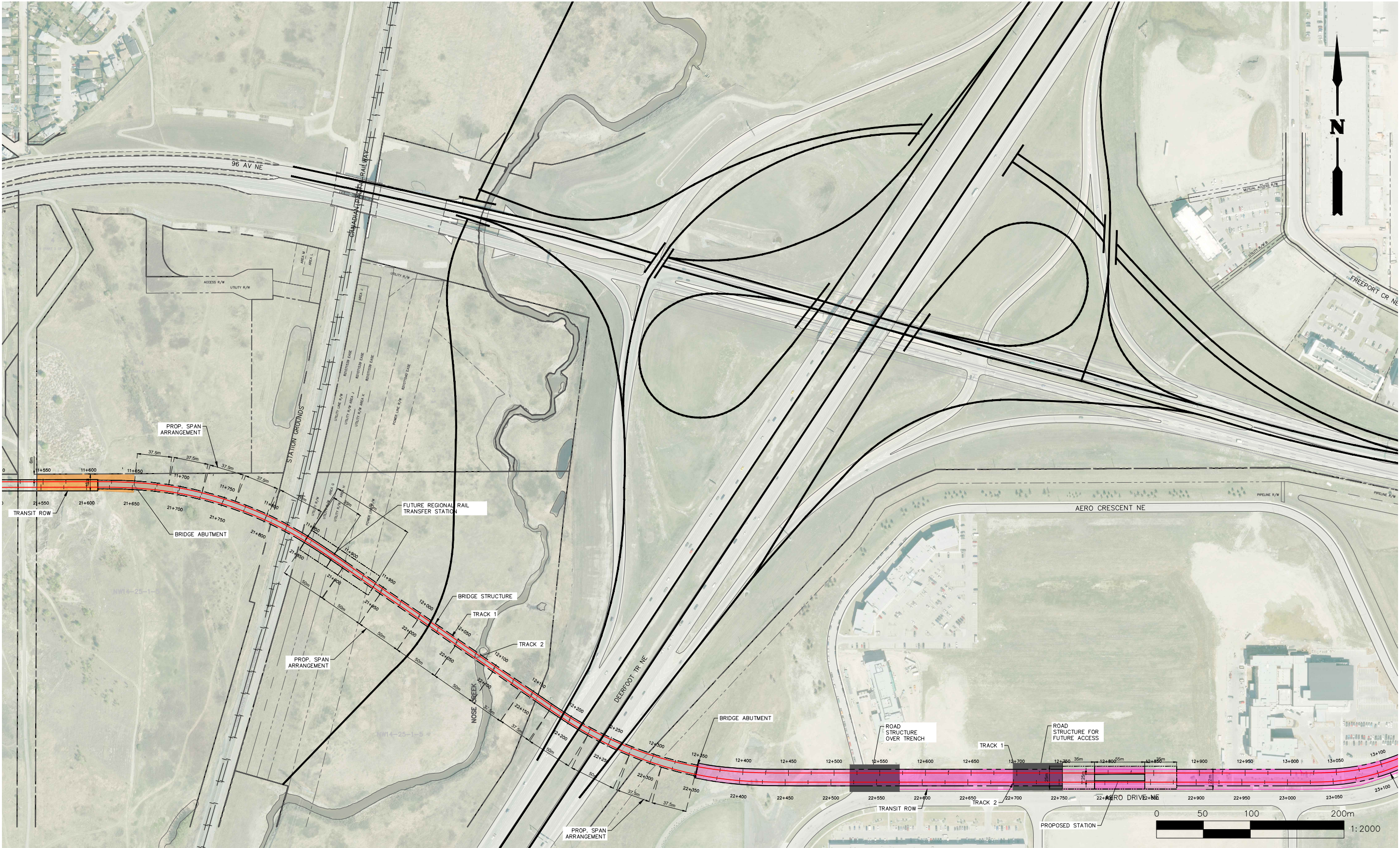
NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Innovation, Science and Economic Development Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA Engineering as deemed necessary.

Yours truly,

A handwritten signature in blue ink, appearing to read "G. Adamache".

Gheorghe Adamache | NAV CANADA
Manager - AIM IFP Service Delivery

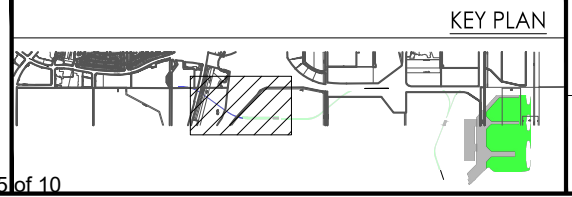
cc NOPR - Northern and Prairie Region, Transport Canada
CYYC - CALGARY INTL
CLC3 - CALGARY (PETER LOUGHEED CENTRE) (HELI)



DATE: 2019-10-28 - 3:56pm (CAQ072010)
PATH: \\mm\common\m\Transit\Projects\171-00509-04 - Calgary BlueLine_Airport LRT\2.0 Drawings (CADD)\1.0 Civil\2.0 Sheets\GL-BL Connector - 2019-10-07.dwg
LAYOUT: R-102-1

DESIGNED	SA	YYYY-MM-DD	YYYY-MM-DD	REVISIONS	
DRAWN	SA	YYYY-MM-DD	YYYY-MM-DD	DATE	BY
CHECKED	SQ	YYYY-MM-DD	YYYY-MM-DD	DESCRIPTION	REV
APPROVAL		YYYY-MM-DD	YYYY-MM-DD		
ISC: UNRESTRICTED					

LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 1&2 ALIGNMENT WITH INTERCHANGE			
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT PROJECT NO.	
DATE: 2019-09-03			
FIGURE NO.	R-102-1		

Quarero, Sander

From: Saba, Alex <Alex.Saba@calgary.ca>
Sent: May-28-19 12:47 PM
To: Quarero, Sander
Subject: FW: LRT - Airport Transit Study - CPR review
Attachments: STDCLR-001.pdf

Hi Sander,

I received the email below and attachment for comments from CPR. Please log those comments in the final report to be addressed as part of future design stages upon funding availability.

Thanks

Regards,

Alex Saba, P.Eng., P.E. PMP

Sr. Transportation Engineer, Major Transit Projects Division
The City of Calgary - Transportation Infrastructure

3rd Floor - Rocky Mountain Plaza - 615 Macleod Trail SE
PO Box 2100, Station M, Calgary, AB T2P 2M5 | Mail Code: 8481
T 403.268.5723 | **C** 403.880.1701 | **F** 403.268.4799

calgary.ca



ISC: Protected

From: Frank Gulas [mailto:Frank_Gulas@cpr.ca]
Sent: Wednesday, May 8, 2019 9:06 AM
To: Saba, Alex <Alex.Saba@calgary.ca>
Cc: Frank Gulas <Frank_Gulas@cpr.ca>
Subject: [EXT] FW: LRT - Airport Transit Study - CPR review

Good Morning Alex,

This email is to confirm that Canadian Pacific Railway Company ("CP") confirms acknowledgement of the proposed Airport Trail LRT expansion.

Any inclusion of CP lands in the conceptual design for the Airport Trail LRT expansion will need to be closely reviewed by CP stakeholders for approvals.

This acknowledgement is given without prejudice to CP's discretion to negotiate, approve and complete any and all proposed transaction involving the subject lands.

Furthermore, the City should incorporate clearance parameters on the attached PDF (Proposed Overhead Structure Clearances for New Construction) for the proposed above grade separation conceptual design.

Note that for new construction, CP requests that City provide the horizontal clearance to the face of an abutment/pier/wall on the other side of the track from the maintenance/access road of 7.622 m = 25'-0".

Regards,



Frank Gulas
Specialist Real Estate - Alberta
O 403-319-3436
F 403-319-3727
7550 Ogden Dale Road SE
Calgary AB T2C 4X9

From: Saba, Alex <Alex.Saba@calgary.ca>
Sent: Friday, May 03, 2019 10:32 AM
To: Frank Gulas <Frank_Gulas@cpr.ca>
Subject: FW: Airport Transit Study - CPR review

This email did not originate from Canadian Pacific. Please exercise caution with any links or attachments.

Hi Frank,
Below is what I had sent for CPR's review and comment.

Please feel free to call me if you would like to discuss.

Thanks

Regards,

Alex Saba, P.Eng., P.E. PMP
Sr. Transportation Engineer, Major Transit Projects Division
The City of Calgary - Transportation Infrastructure

3rd Floor - Rocky Mountain Plaza - 615 Macleod Trail SE
PO Box 2100, Station M, Calgary, AB T2P 2M5 | Mail Code: 8481
T 403.268.5723 | C 403.880.1701 | F 403.268.4799
calgary.ca



ISC: Protected

From: Saba, Alex [<mailto:Alex.Saba@calgary.ca>]
Sent: Wednesday, June 20, 2018 11:17 AM
To: Pete_Bayerle@cpr.ca; paul_whalen@cpr.ca
Cc: Quartero, Sander <Sander.Quartero@wsp.com>
Subject: Airport Transit Study - CPR review

Hello Pete and Paul,

The City of Calgary is undertaking a study of a transit connection from the future Green Line LRT to the future Blue Line LRT along Airport Trail, with a connection to the airport. You are receiving this letter because you have been identified as a stakeholder in the project. The Airport Transit Study is currently in Phase 1, and the project team would like to meet with you to:

- share an overview of the project as well as related studies and policies
- discuss opportunities for engagement throughout the project
- learn about any concerns and ideas you may have
- seek input to develop design criteria, terms, and conditions of a future crossing agreement

We are interested in meeting with Canadian Pacific Railway regarding the above at your earliest convenience.

What is the Airport Transit Study?

A future transit connection will provide improved transit access to the Calgary International Airport by connecting the future Green Line LRT with the future Blue Line LRT. The Airport Transit Study will review technical requirements, and provide preliminary estimates of capital and operating costs, land requirements, infrastructure requirements and community impacts.

The study will include recommendations for:

- A transit technology
- The alignment, as well as number and location of potential stations, between the future 96 Avenue N.E. Green Line station and 19 Street N.E.
- Location for a storage and maintenance facility
- Land requirements
- A staging plan and cost estimates

There is currently no funding for the detailed design or construction of this connection.



What the Project Means to CP Rail

- In order to create a transit connection from the approved alignment of the future Green Line LRT to the future Blue Line LRT, the alignment of the future transit right-of-way must cross CP Rail's Red Deer Subdivision near mile 8.2. The precise location and means of crossing have yet to be fully evaluated.
- It is very likely that the crossing will take the form of an overpass, spanning the Nose Creek Valley in which CP Rail, Deerfoot Trail and Nose Creek run. Based on preliminary reviews, clearances in excess of 12m are viewed to be achievable over the current CP Top of Rail.
- Our current estimates do not indicate a demand for this service in the short- or medium-term; this study is viewed to be preliminary and supportive of long-range infrastructure plans.
- Plans may include considerations for a station near or adjacent to the CP Rail right-of-way to facilitate a potential return of passenger service to the Red Deer Subdivision.

Please contact me if you need any further information and to arrange a meeting at your earliest convenience.

Sincerely,

Regards,

Alex Saba, P.Eng., P.E., PMP

Sr. Transportation Engineer, Major Transit Projects Division
The City of Calgary - Transportation Infrastructure

3rd Floor - Rocky Mountain Plaza - 615 Macleod Trail SE
PO Box 2100, Station M, Calgary, AB T2P 2M5 | Mail Code: 8481
T 403.268.5723 | C 403.880.1701 | F 403.268.4799

calgary.ca

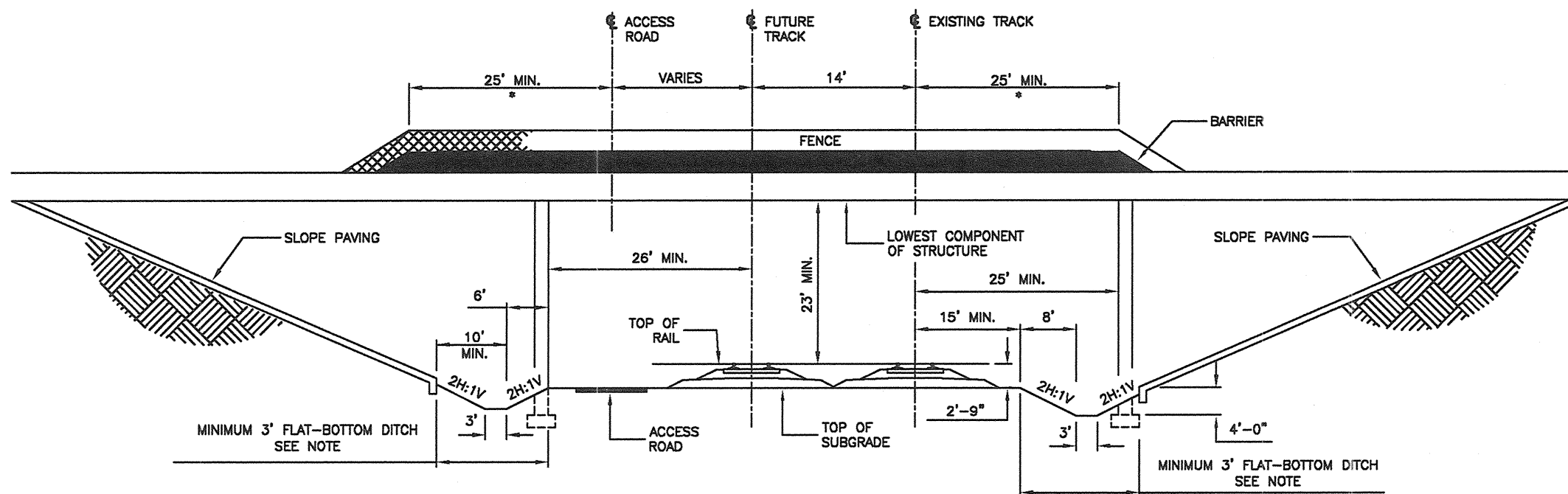


ISC: Protected - 44ngs/pbkI

NOTICE -

This communication is intended ONLY for the use of the person or entity named above and may contain information that is confidential or legally privileged. If you are not the intended recipient named above or a person responsible for delivering messages or communications to the intended recipient, YOU ARE HEREBY NOTIFIED that any use, distribution, or copying of this communication or any of the information contained in it is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and then destroy or delete this communication, or return it to us by mail if requested by us. The City of Calgary thanks you for your attention and co-operation.

----- IMPORTANT NOTICE - AVIS IMPORTANT ----- Computer viruses can be transmitted via email. Recipient should check this email and any attachments for the presence of viruses. Sender and sender company accept no liability for any damage caused by any virus transmitted by this email. This email transmission and any accompanying attachments contain confidential information intended only for the use of the individual or entity named above. Any dissemination, distribution, copying or action taken in reliance on the contents of this email by anyone other than the intended recipient is strictly prohibited. If you have received this email in error please immediately delete it and notify sender at the above email address. Le courrier électronique peut être porteur de virus informatiques. Le destinataire doit donc passer le présent courriel et les pièces qui y sont jointes au détecteur de virus. L'expéditeur et son employeur déclinent toute responsabilité pour les dommages causés par un virus contenu dans le courriel. Le présent message et les pièces qui y sont jointes contiennent des renseignements confidentiels destinés uniquement à la personne ou à l'organisme nommé ci-dessus. Toute diffusion, distribution, reproduction ou utilisation comme référence du contenu du message par une autre personne que le destinataire est formellement interdite. Si vous avez reçu ce

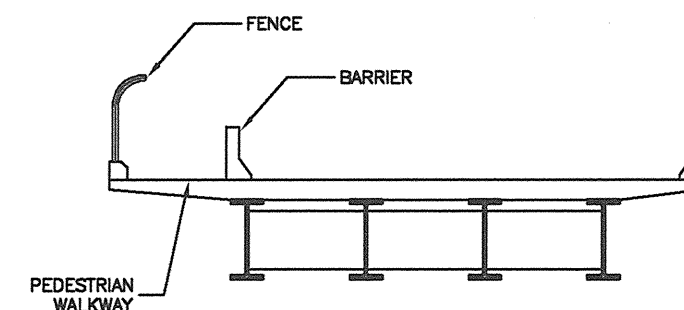


ELEVATION

PERPENDICULAR TO TRACKS

NOTE:

WIDTH AND HEIGHT SUBJECT TO HYDRAULIC REQUIREMENTS.



OVERHEAD STRUCTURE CROSS
SECTION WITH FENCE

GENERAL

FENCE SHALL BE PROVIDED AS INDICATED ON THE CROSS SECTIONS AND ELEVATION VIEW ON BOTH SIDES OF THE OVERHEAD STRUCTURE IN ALL NEW OR MODIFIED STRUCTURES.

BARRIER RAIL FOR OVERHEAD STRUCTURES, WITHOUT WALWAYS, THAT MAY BE SUBJECT TO SNOW REMOVAL SHALL BE A MINIMUM OF 42 INCHES IN HEIGHT WITH A 4 FOOT WIDE SHOULDER OR 30 INCHES IN HEIGHT WITH A 6 FOOT WIDE SHOULDER.

LIGHTS ARE TO BE INSTALLED ON THE UNDERSIDE OF THE OVERHEAD STRUCTURE WHERE SHADOWS CAST BY THE STRUCTURE WOULD INTERFERE WITH RAILROAD OPERATIONS.

SLOPE PAVING SHALL BE PROVIDED WHERE END SLOPES EXCEED 2 HORIZONTAL TO 1 VERTICAL.

FALSEWORK FOR CONSTRUCTION OF OVERHEAD STRUCTURES SHALL COMPLY WITH RAILROAD REQUIREMENTS.

TEMPORARY SHORING SHALL BE DESIGNED IN ACCORDANCE WITH RAILROAD GUIDELINES FOR TEMPORARY SHORING.

APPLICANT SHALL BE RESPONSIBLE FOR IDENTIFICATION, LOCATION AND PROTECTION OF EXISTING UTILITIES.

CALL THE FOLLOWING NUMBERS AT LEAST 48 HOURS PRIOR TO COMMENCING WORK TO DETERMINE LOCATION OF FIBER OPTICS: CP "CALL BEFORE YOU DIG". 1-866-291-0741

CLEARANCES

MINIMUM VERTICAL CLEARANCE SHALL BE 23'-0" ABOVE THE TOP OF HIGH RAIL WITHIN 25' OF CENTERLINE OF TRACK. ADDITIONAL CLEARANCE MAY BE REQUIRED FOR CONSTRUCTION PURPOSES OR IF SAG OF VERTICAL CURVE MUST BE ADJUSTED OR IF FUTURE TRACK RAISE FOR FLOOD CONSIDERATIONS OR MAINTENANCE IS PROBABLE.

MINIMUM HORIZONTAL CLEARANCES, MEASURED AT RIGHT ANGLE FROM CENTERLINE OF TRACK, SHALL BE AS SHOWN IN ELEVATION VIEW.

PIERS

PIERS SHALL BE LOCATED OUTSIDE RAILROAD RIGHT-OF-WAY.

PIER PROTECTION WALLS SHALL BE PROVIDED IN ACCORDANCE WITH THE CP "REQUIREMENTS FOR THE DESIGN OF STEEL AND CONCRETE STRUCTURES CARRYING RAILWAY TRAFFIC".

TOP OF FOOTINGS LOCATED WITHIN 25 FEET FROM CENTERLINE OF TRACK SHALL BE A MINIMUM OF 6 FEET BELOW BASE OF RAIL AND A MINIMUM OF 1 FOOT BELOW FLOWLINE OF DITCH.

DRAINAGE

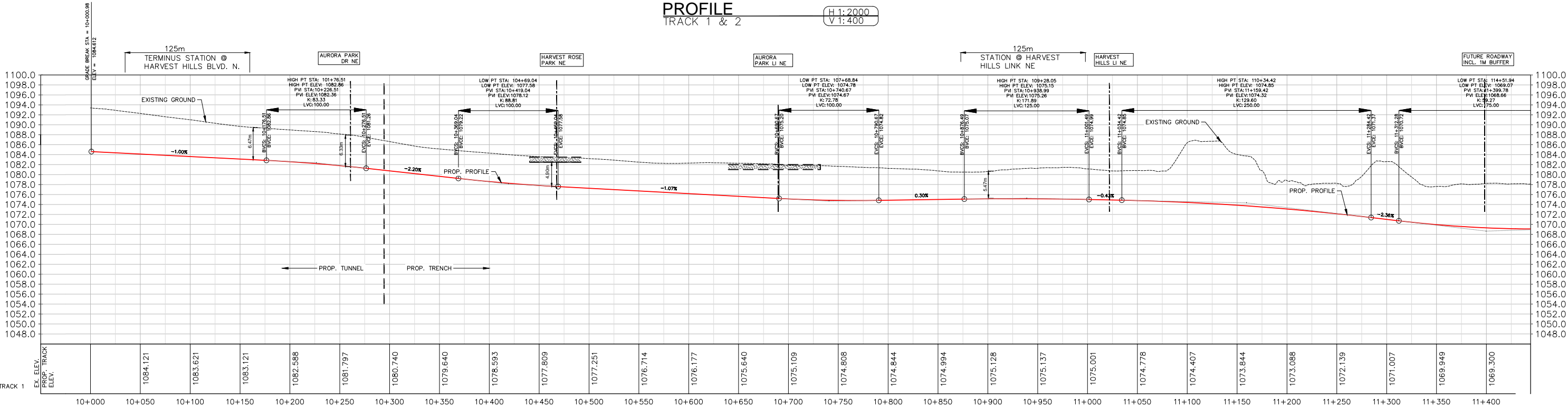
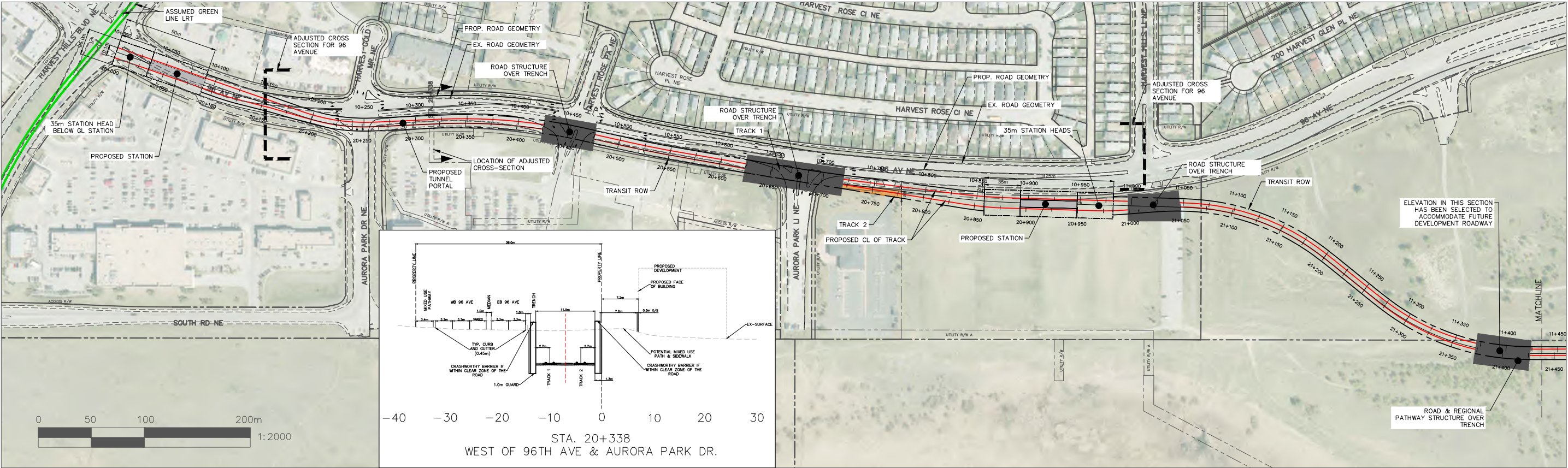
DRAINAGE FROM THE OVERHEAD STRUCTURE SHALL BE DIVERTED AWAY FROM AND NOT DISCHARGED ONTO THE TRACKS, ROADBED AND RAILROAD RIGHT-OF-WAY.

AT MINIMUM, A 3' FLAT-BOTTOM DITCH SHALL BE PROVIDED ON EACH SIDE OF THE TRACKS AS NECESSARY.

CULVERTS MAY BE INSTALLED IN LIEU OF STANDARD RAILROAD DITCHES WHEN APPROVED BY THE CHIEF ENGINEER BRIDGE. MAINTENANCE OF CULVERTS WILL BE AT APPLICANT'S EXPENSE.

FUTURE TRACKS AND ACCESS ROAD

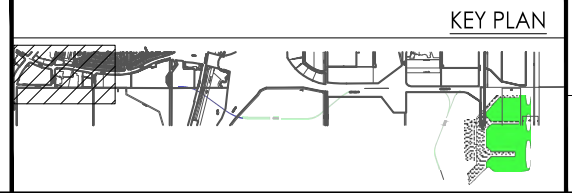
SPACE IS TO BE PROVIDED FOR ONE OR MORE FUTURE TRACKS AS REQUIRED FOR LONG RANGE PLANNING OR OTHER OPERATING REQUIREMENTS. WHERE PROVISION IS MADE FOR MORE THAN TWO TRACKS, SPACE IS TO BE PROVIDED FOR AN ACCESS ROAD ON BOTH SIDES OF TRACKS.



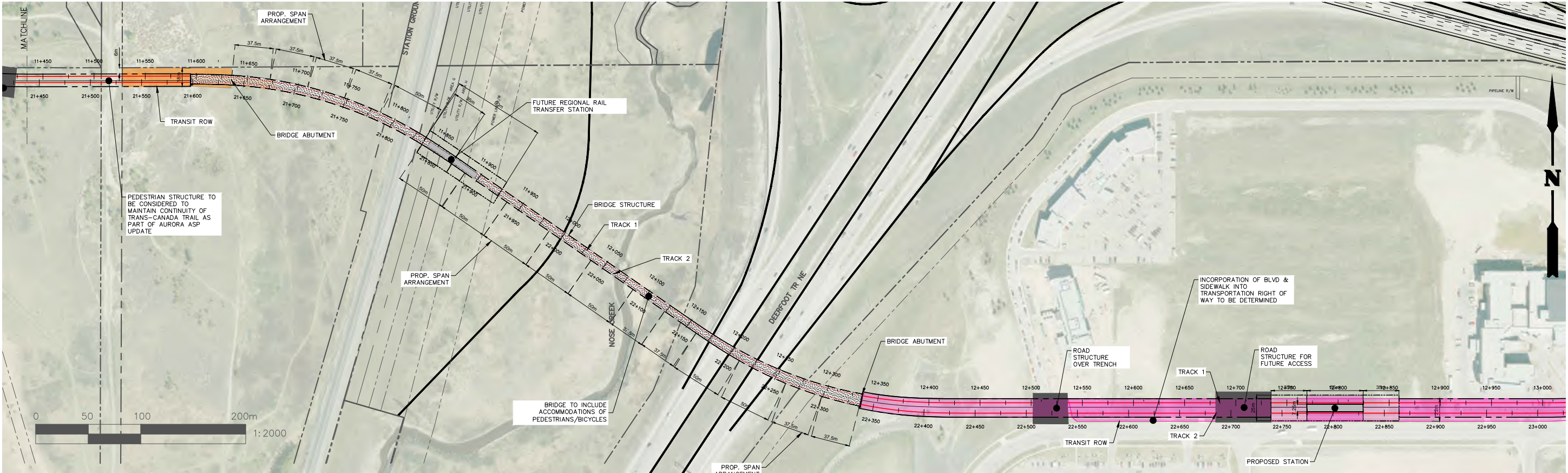
NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

DESIGNED	SA	YYYY-MM-DD	REVISIONS			
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED	SQ	YYYY-MM-DD				
APPROVAL		YYYY-MM-DD				

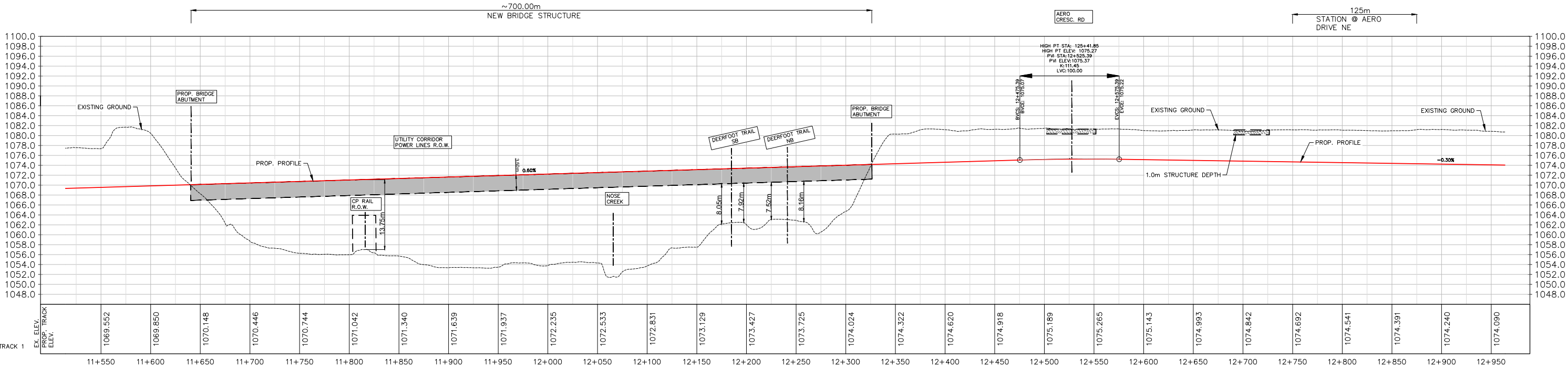
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 1&2 ALIGNMENT		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT PROJECT NO.
DATE: 2020-01-10		
FIGURE NO.	R-101	



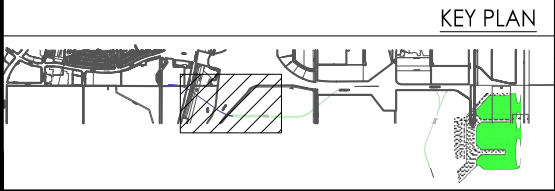
PROFILE
TRACK 1 & 2
H 1:2000
V 1:400



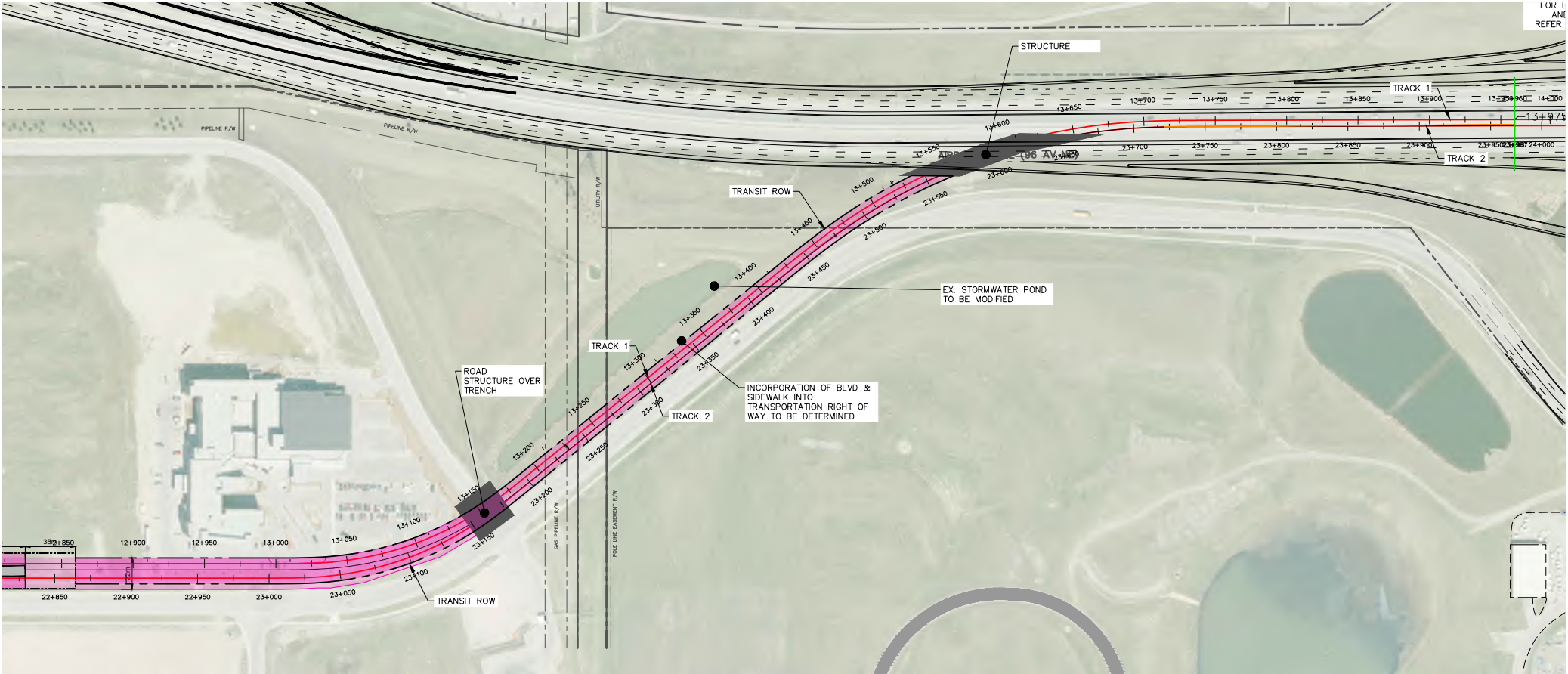
NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE

DESIGNED	SA	YYYY-MM-DD	REVISIONS		
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION
CHECKED	SQ	YYYY-MM-DD			
APPROVAL		YYYY-MM-DD			

LEGEND			
	AIRPORT CONNECTOR ALIGNMENT		PROP. STATION HEAD
	IMPACTED LANDS		PROP. PLATFORM
	YYC LANDS		

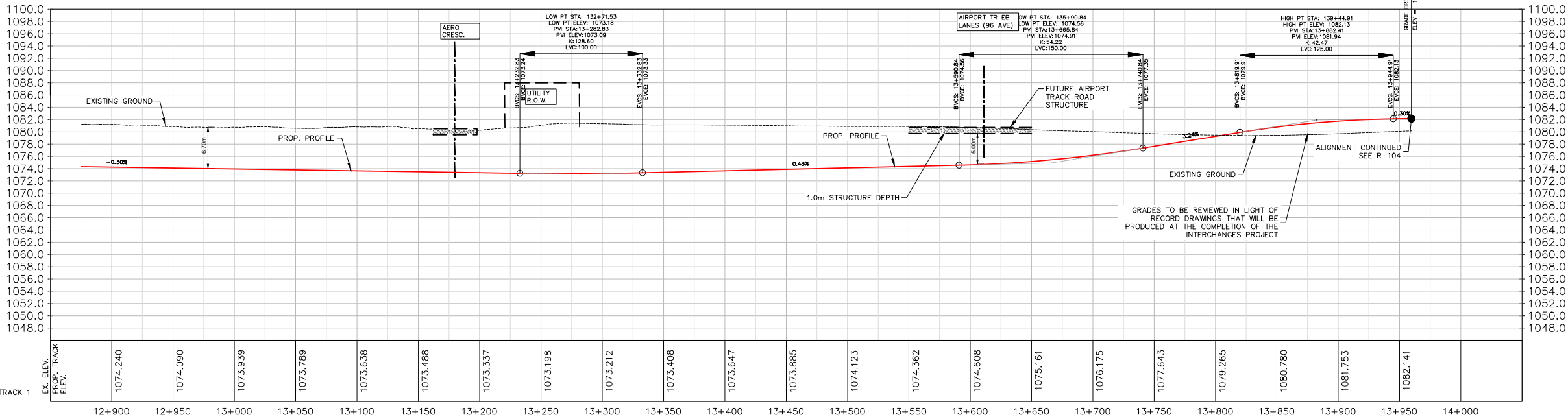


AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 1&2 ALIGNMENT		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT
DATE: 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-102	-



PROFILE
TRACK 1 & 2

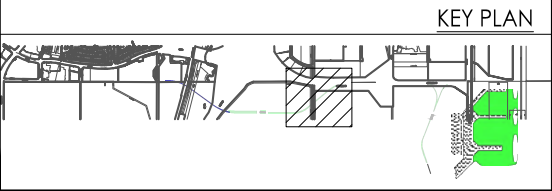
H 1:2000
V 1:400



NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

DESIGNED	SA	YYYY-MM-DD	REVISIONS	
DRAWN	SA	YYYY-MM-DD	DATE	BY
CHECKED	SQ	YYYY-MM-DD	DESCRIPTION	REV
APPROVAL		YYYY-MM-DD		
ISC. UNRESTRICTED				

LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 1&2 ALIGNMENT		
SCALE AS SHOWN	CONTRACT NO.	CONSULTANT PROJECT NO.
DATE 2020-01-10	-	-
FIGURE NO.	R-103	-



Profile view of the proposed profile and existing ground for the EB Airport Trail. The graph shows elevation (1172.0 to 1114.0) versus stationing (13+900 to 15+650). Key features include a 19 ST NE OVERPASS, a RAMP STRUCTURE, and a 5.50% grade. The proposed profile is shown in red, and the existing ground is shown in black. The graph also includes a table of elevations and stationing.

STATION	EXIST. ELEV.	PROP. TRACK ELEV.
13+900		
13+950		
14+000	1080.36	1082.244
14+050	1080.74	1082.394
14+100	1081.19	1082.544
14+150	1081.45	1082.694
14+200	1081.97	1082.856
14+250	1082.43	1083.042
14+300	1082.85	1083.319
14+350	1083.32	1083.844
14+400	1083.78	1085.539
14+450	1084.22	1090.264
14+500	1084.63	1092.469
14+550	1084.94	1093.975
14+600	1085.14	1094.780
14+650	1085.18	1094.885
14+700	1085.19	1094.371
15+650		

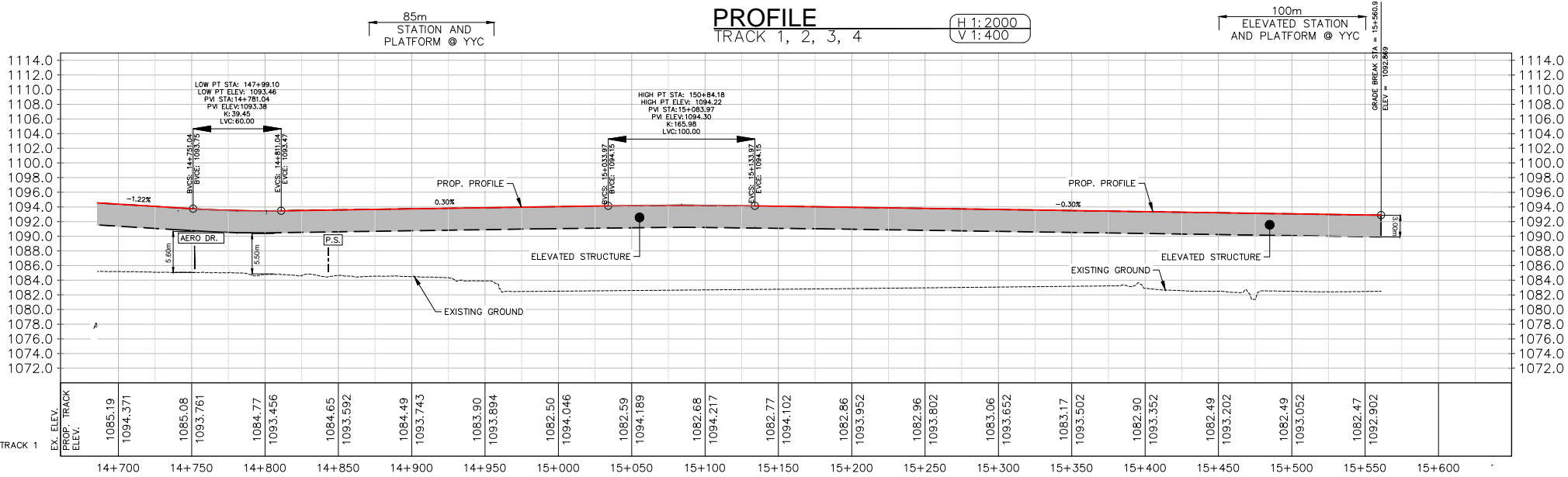
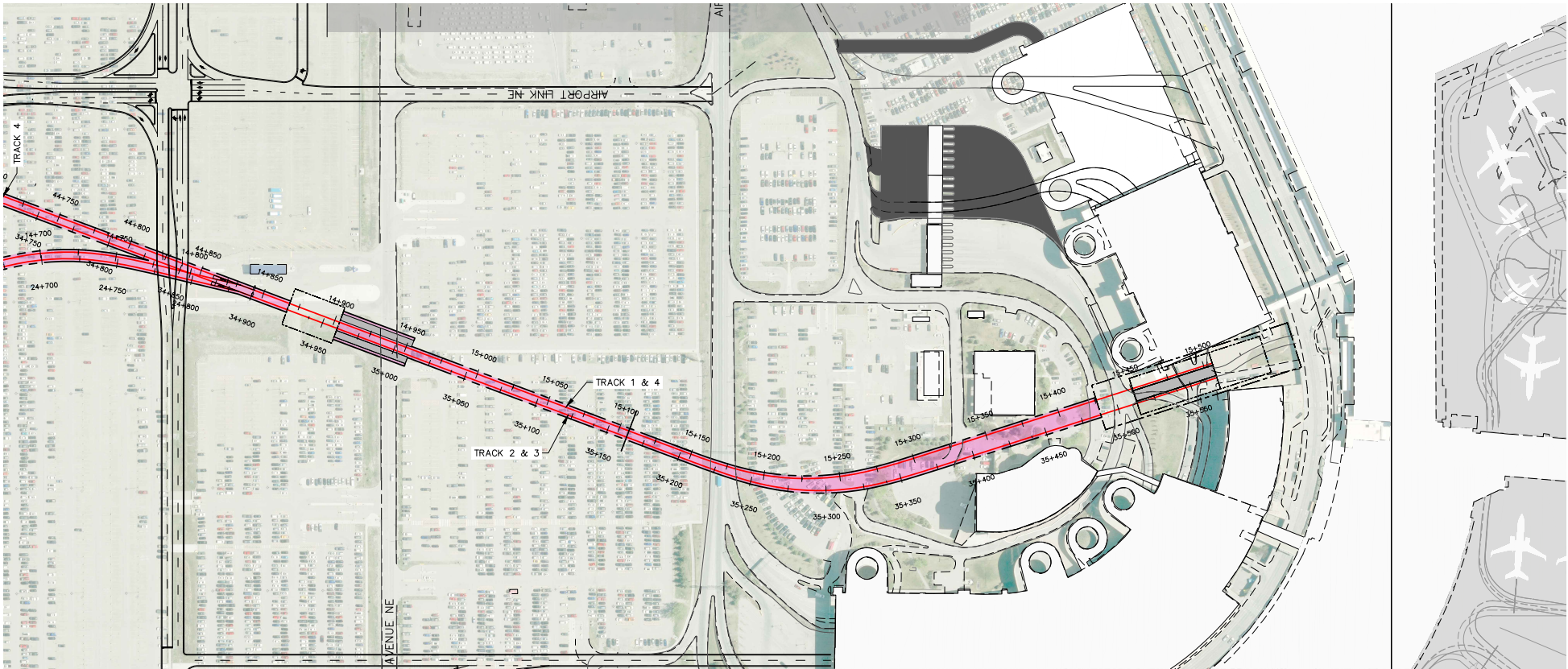
DESIGNED SA _____ YYYY-MM-DD	REVISIONS			
DRAWN SA _____ YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED SQ _____ YYYY-MM-DD				
APPROVAL - _____ YYYY-MM-DD				
ISC. UNRESTRICTED				

KEY PLAN



wsp

SCALE AS SHOWN	CONTRACT No.	CONSULTANT
DATE 2020-01-10	-	PROJECT NO. -
FIGURE No.		-
R-104		

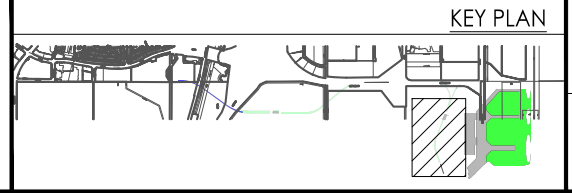


NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

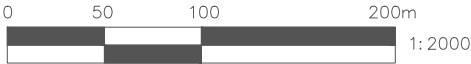
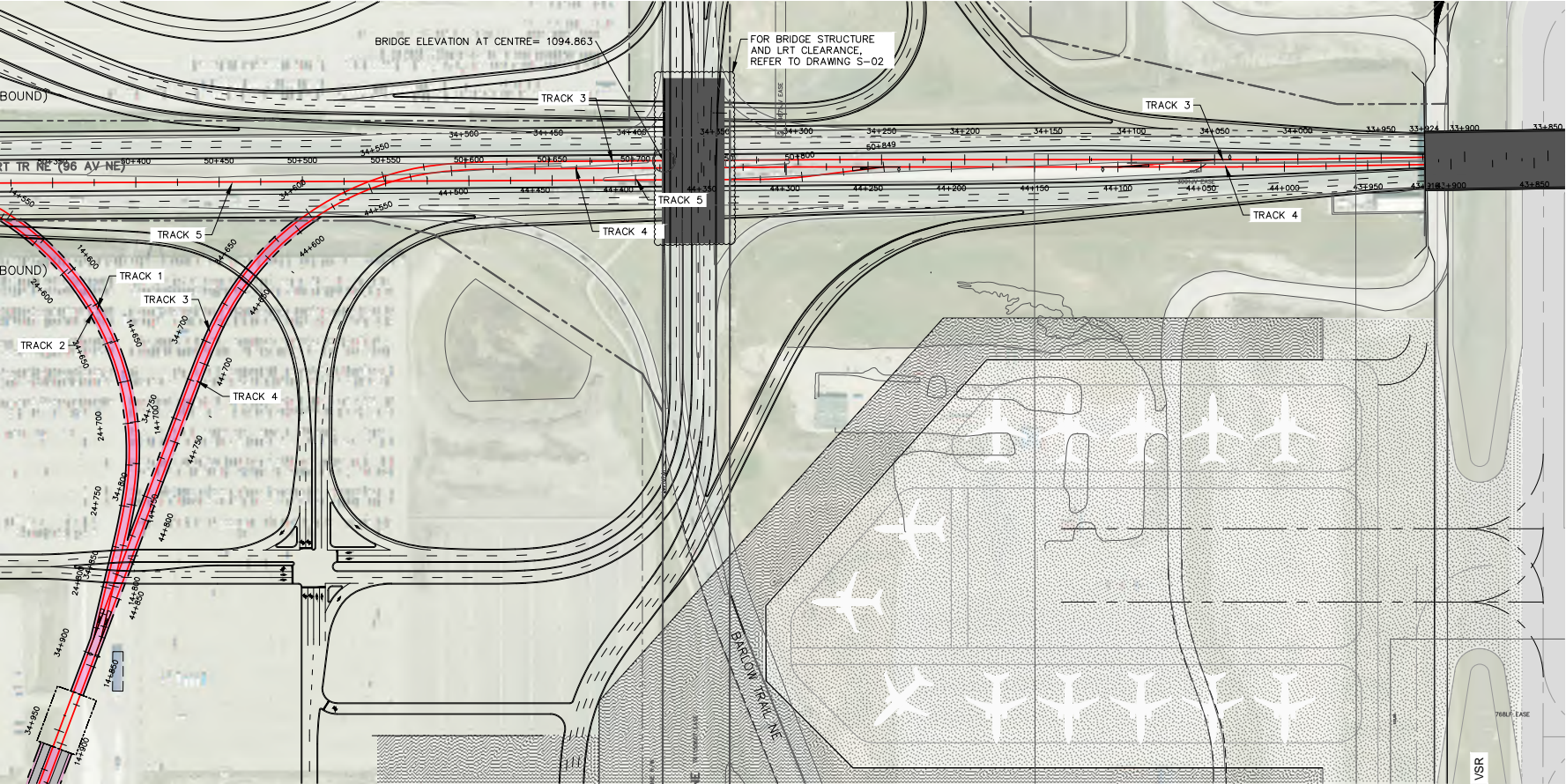
DATE: 2020-01-09 - 11:40am
PATH: C:\Users\CAQ072010\AppData\Local\Temp\AcPublish_15160\GL-BL_Connector - 2019-12-13.dwg
LAYOUT: R-105

DESIGNED	SA	YYYY-MM-DD	REVISIONS			
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED	SQ	YYYY-MM-DD				
APPROVAL		YYYY-MM-DD				
ISC. UNRESTRICTED						

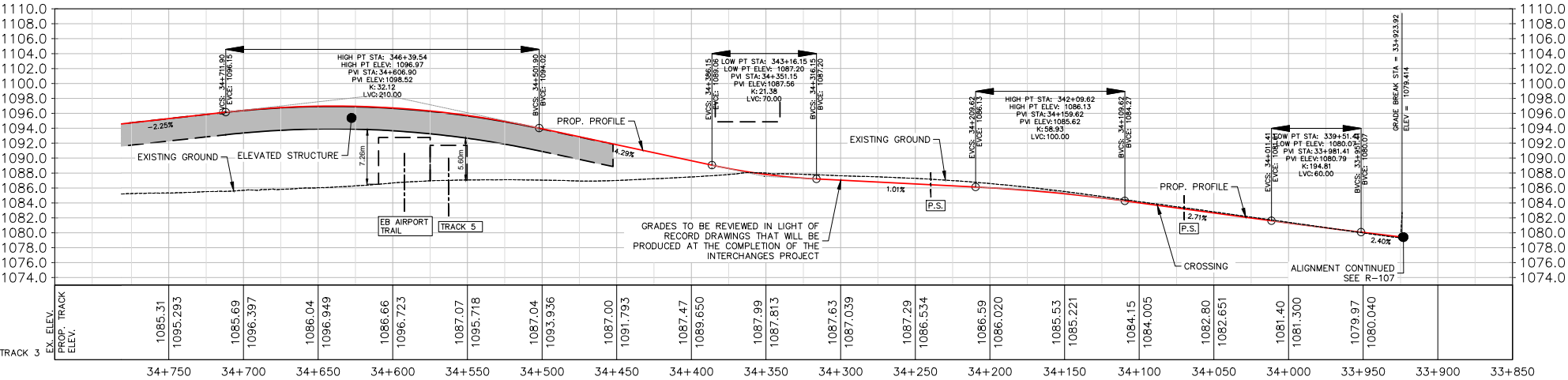
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 1&2 ALIGNMENT		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT
DATE: 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-105	-



PROFILE
TRACK 3 & 4
H 1:2000
V 1:400

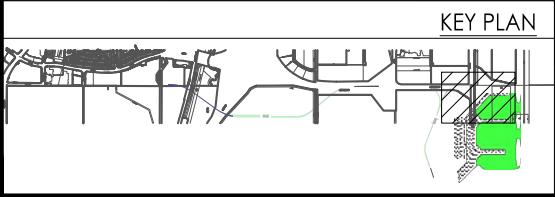


NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

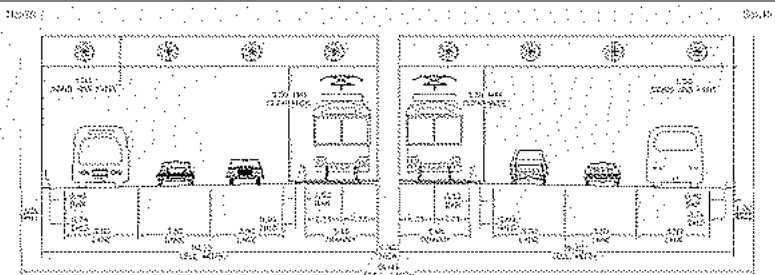
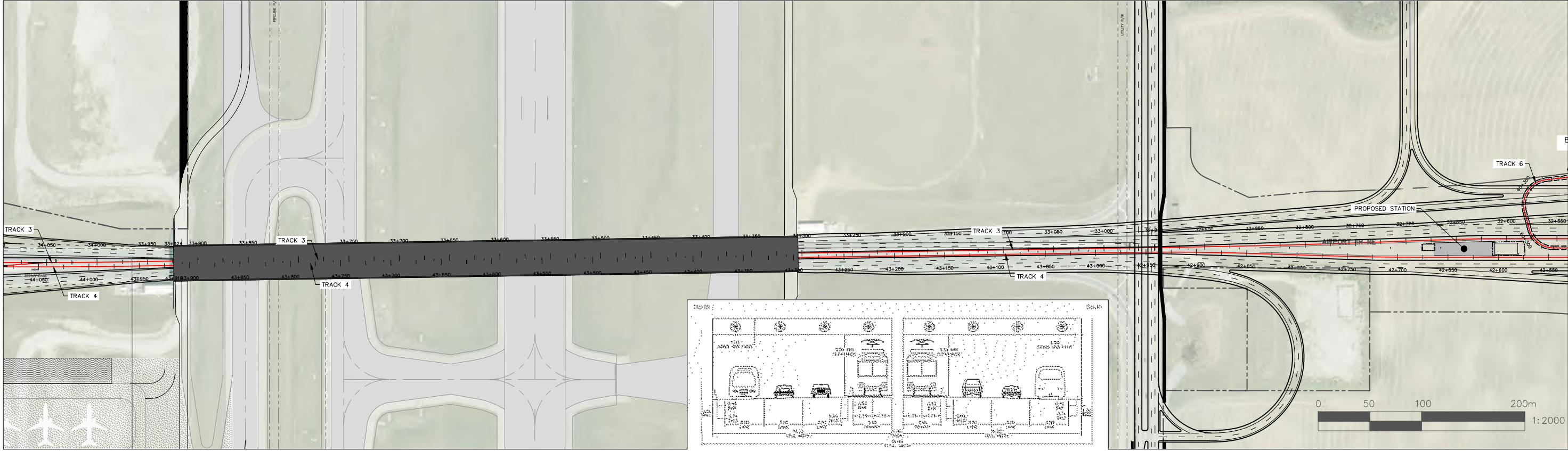
DATE: 2020-01-09 - 11:41am (CAQ072010)
PATH: C:\Users\CAQ072010\AppData\Local\Temp\AcPublish_15160\GL-BL_Connector - 2019-12-13.dwg
LAYOUT: R-106

DESIGNED	SA	YYYY-MM-DD	YYYY-MM-DD	REVISIONS	
DRAWN	SA	YYYY-MM-DD	YYYY-MM-DD	DATE	BY
CHECKED	SQ	YYYY-MM-DD	YYYY-MM-DD	DESCRIPTION	REV
APPROVAL		YYYY-MM-DD	YYYY-MM-DD		
ISC: UNRESTRICTED					

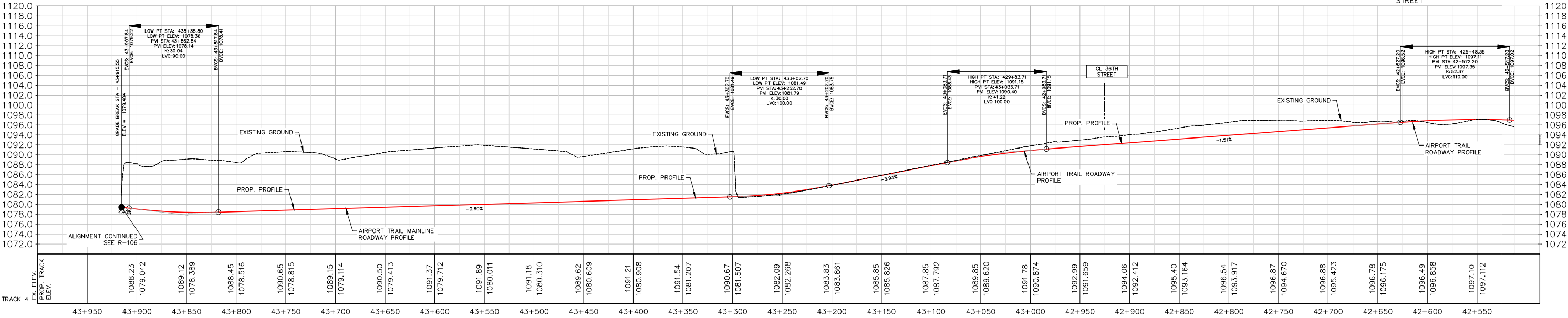
LEGEND			
	AIRPORT CONNECTOR ALIGNMENT		PROP. STATION HEAD
	IMPACTED LANDS		PROP. PLATFORM
	YYC LANDS		



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 3&4 ALIGNMENT			
SCALE AS SHOWN	CONTRACT NO.	CONSULTANT	
DATE 2020-01-10	-	PROJECT NO.	-
FIGURE NO.	R-106		



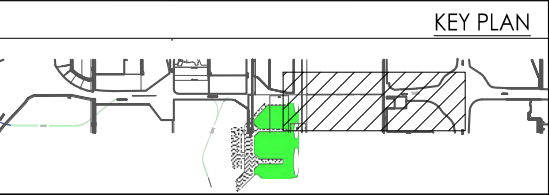
PROFILE
TRACK 3 & 4



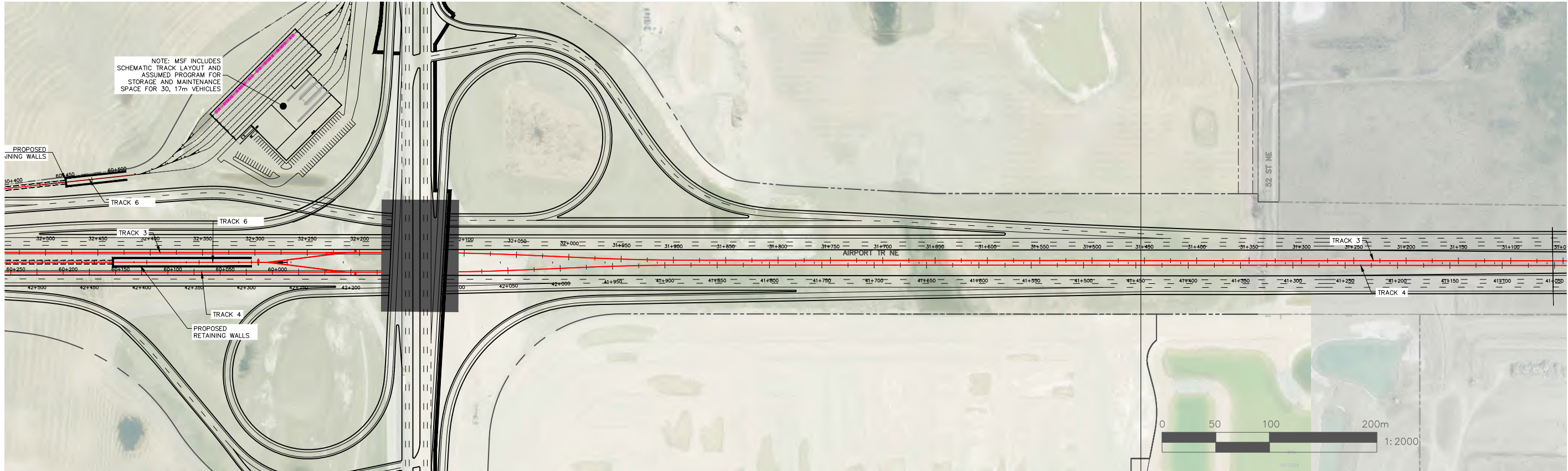
NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE

DESIGNED	SA	YYYY-MM-DD	REVISIONS			
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED	SQ	YYYY-MM-DD				
APPROVAL		YYYY-MM-DD				
ISC: UNRESTRICTED						

LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS

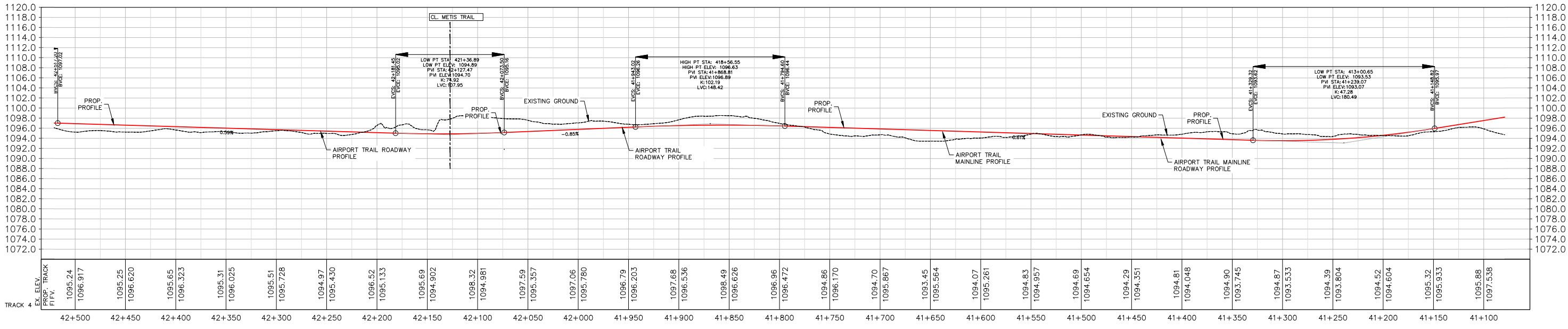


AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 3&4 ALIGNMENT		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT PROJECT NO.
DATE: 2020-01-10		
FIGURE NO.	R-107	



PROFILE
TRACK 3 & 4

H 1:2000
V 1:400

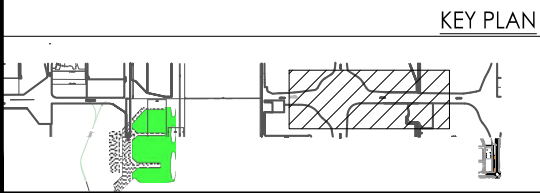


NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE

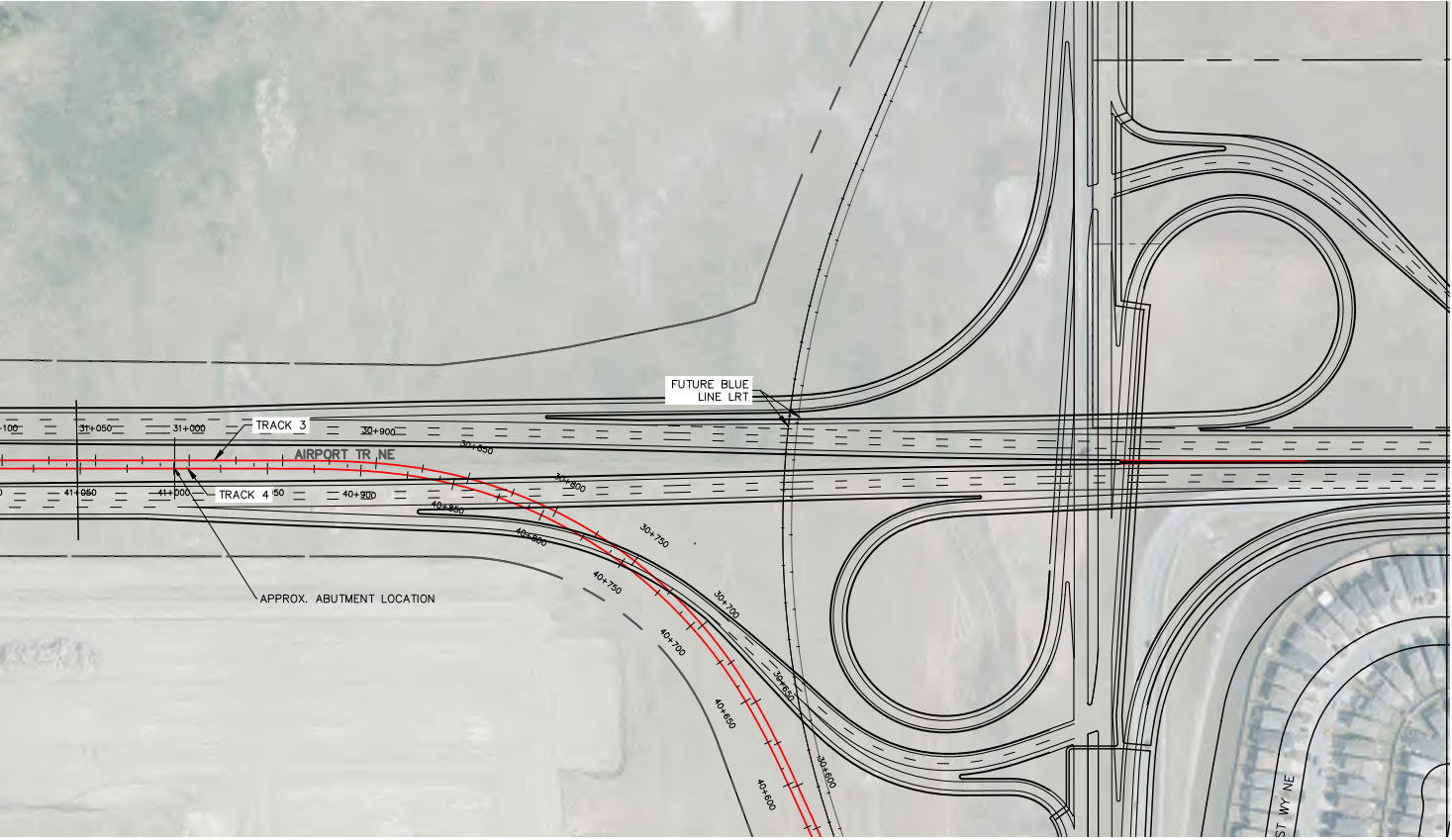
DESIGNED	SA	YYYY-MM-DD	REVISIONS	
DRAWN	SA	YYYY-MM-DD	DATE	BY
CHECKED	SQ	YYYY-MM-DD	DESCRIPTION	REV
APPROVAL		YYYY-MM-DD		

ISC: UNRESTRICTED

LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS

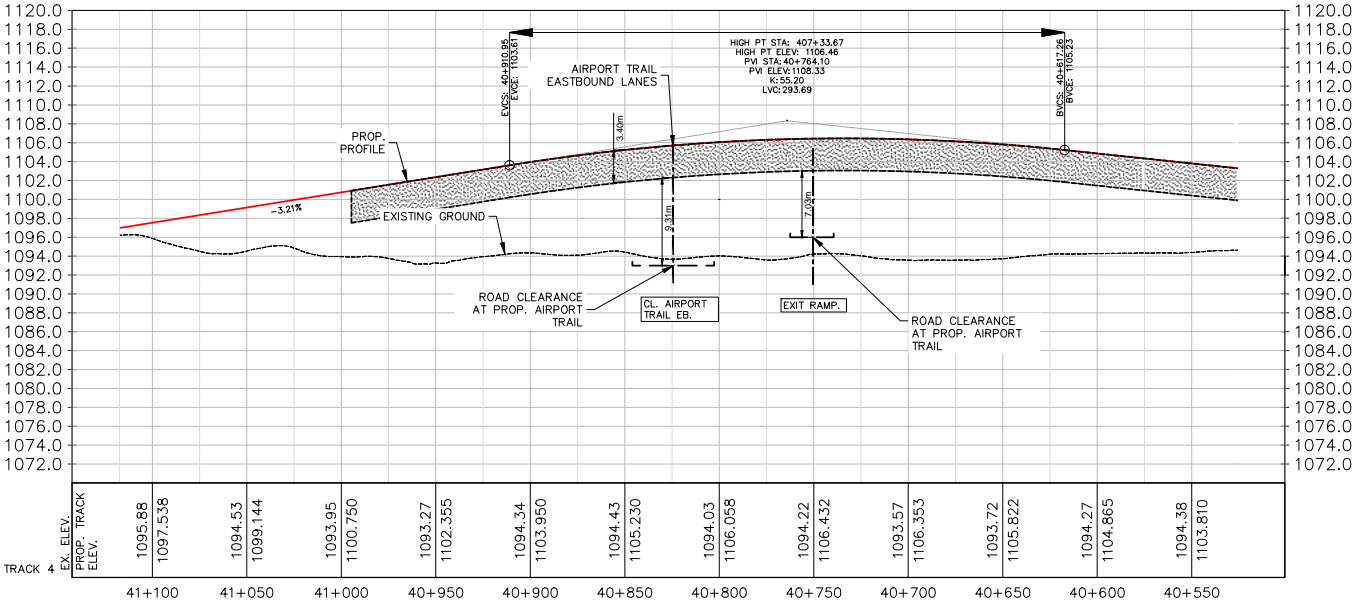


AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 3&4 ALIGNMENT		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT
DATE: 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-108	-



PROFILE
TRACK 3 & 4

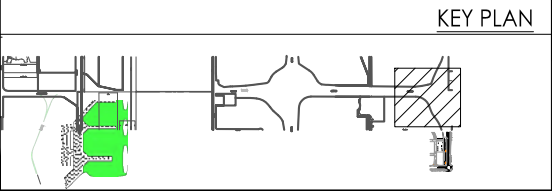
H 1:2000
V 1:400



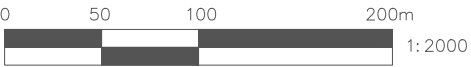
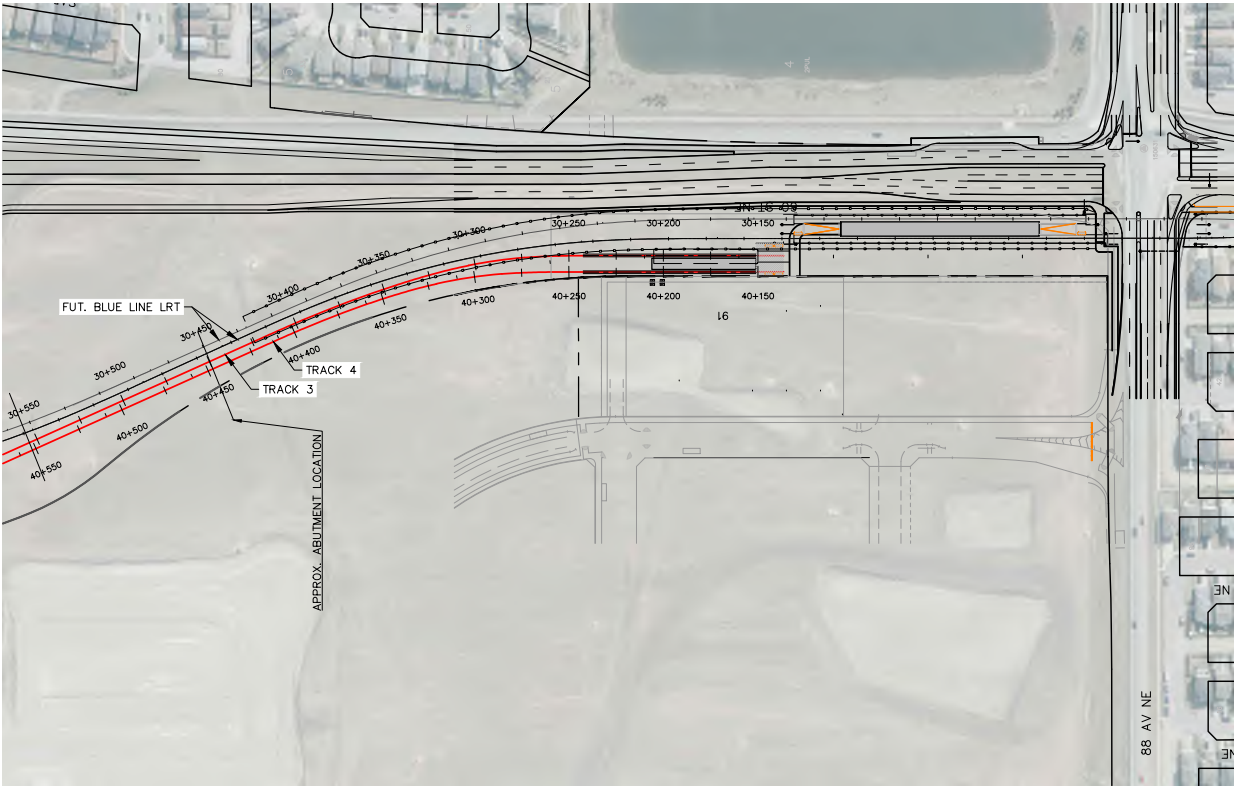
NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE

DESIGNED SA	YYYY-MM-DD	REVISIONS			
DRAWN SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED SQ	YYYY-MM-DD				
APPROVAL	YYYY-MM-DD				
ISC. UNRESTRICTED					

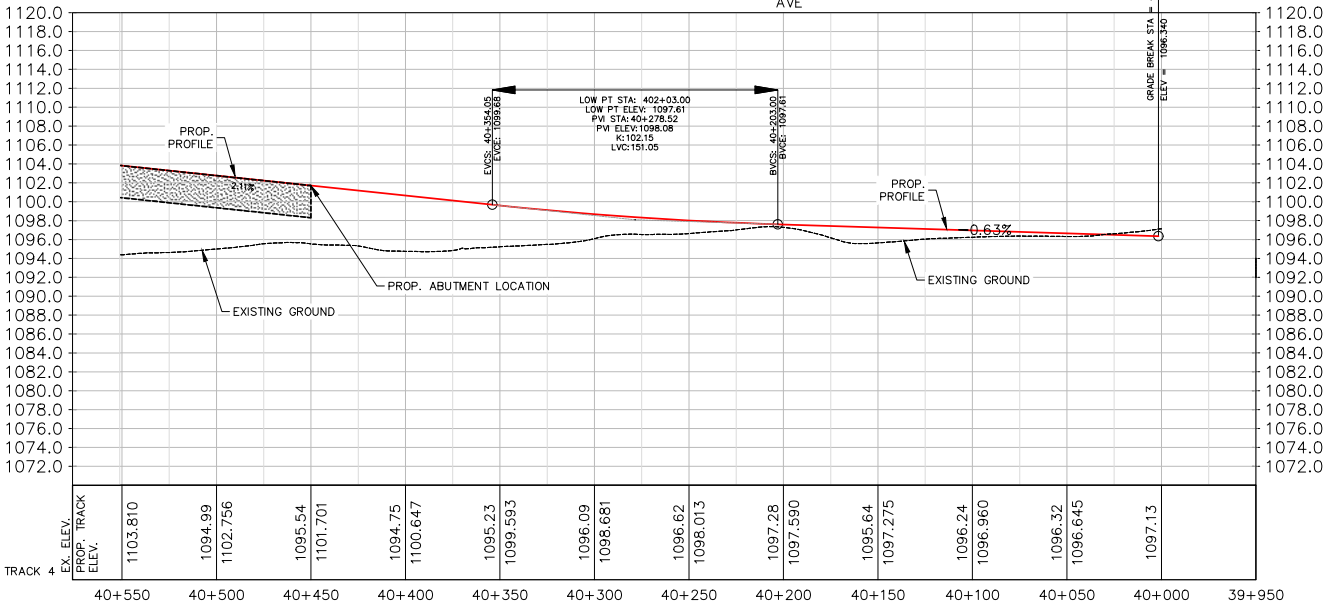
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 3&4 ALIGNMENT		
SCALE AS SHOWN	CONTRACT NO.	CONSULTANT
DATE 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-109	-



PROFILE
TRACK 3 & 4
H 1:2000
V 1:400
100m
STATION AND PLATFORM @ 88TH AVE

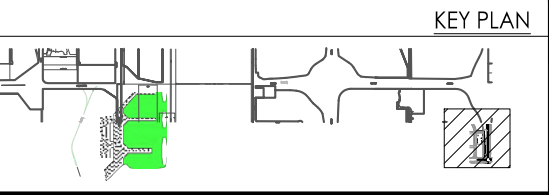


NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

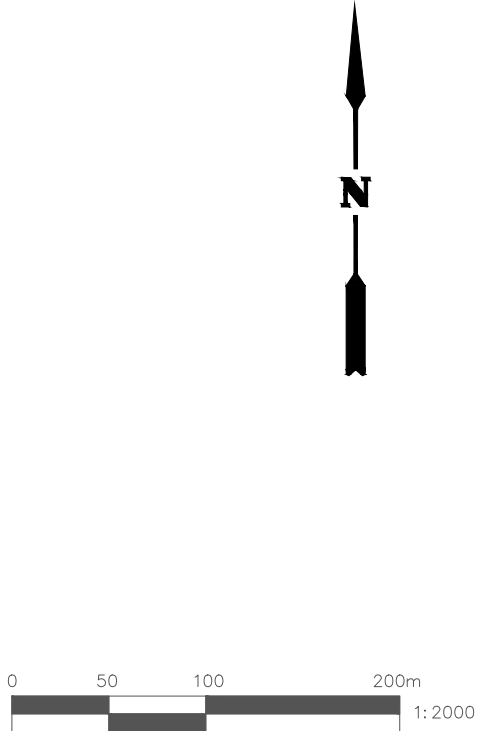
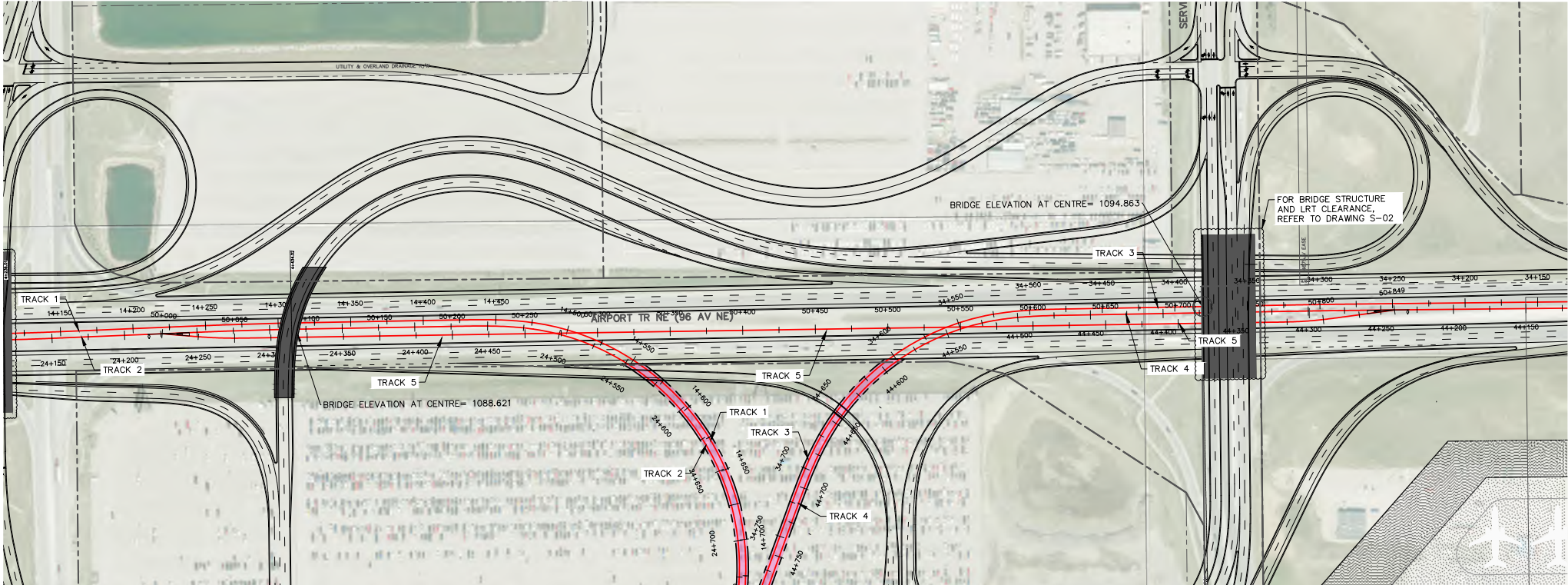
DATE: 2020-01-09 - 11:42am
PATH: C:\Users\CAQV072010\AppData\Local\Temp\AcPublish_15160\GL-BL_Connector - 2019-12-13.dwg
LAYOUT: R-110

DESIGNED SA	YYYY-MM-DD	REVISIONS			
DRAWN SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED SQ	YYYY-MM-DD				
APPROVAL	YYYY-MM-DD				
ISC. UNRESTRICTED					

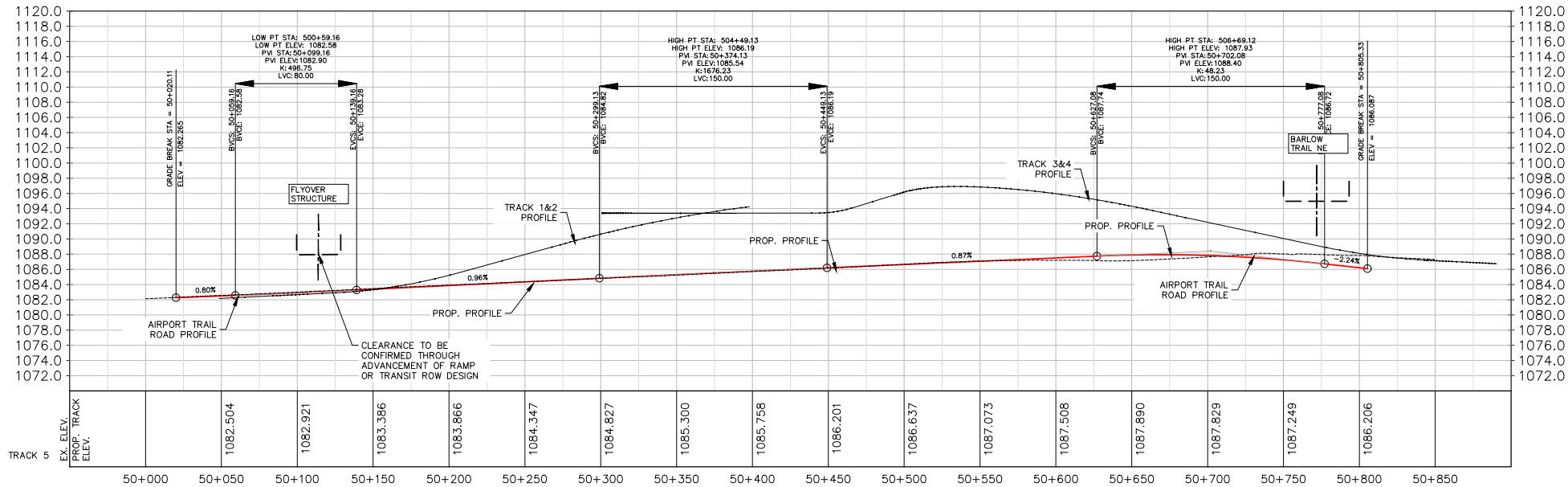
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 3&4 ALIGNMENT		
SCALE AS SHOWN	CONTRACT NO.	CONSULTANT
DATE 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-110	-



PROFILE
TRACK 5
H 1:2000
V 1:400

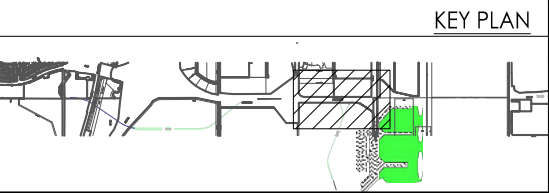


NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE

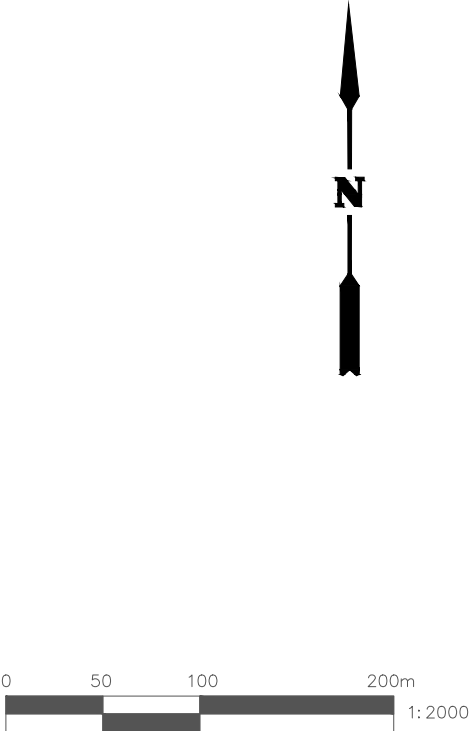
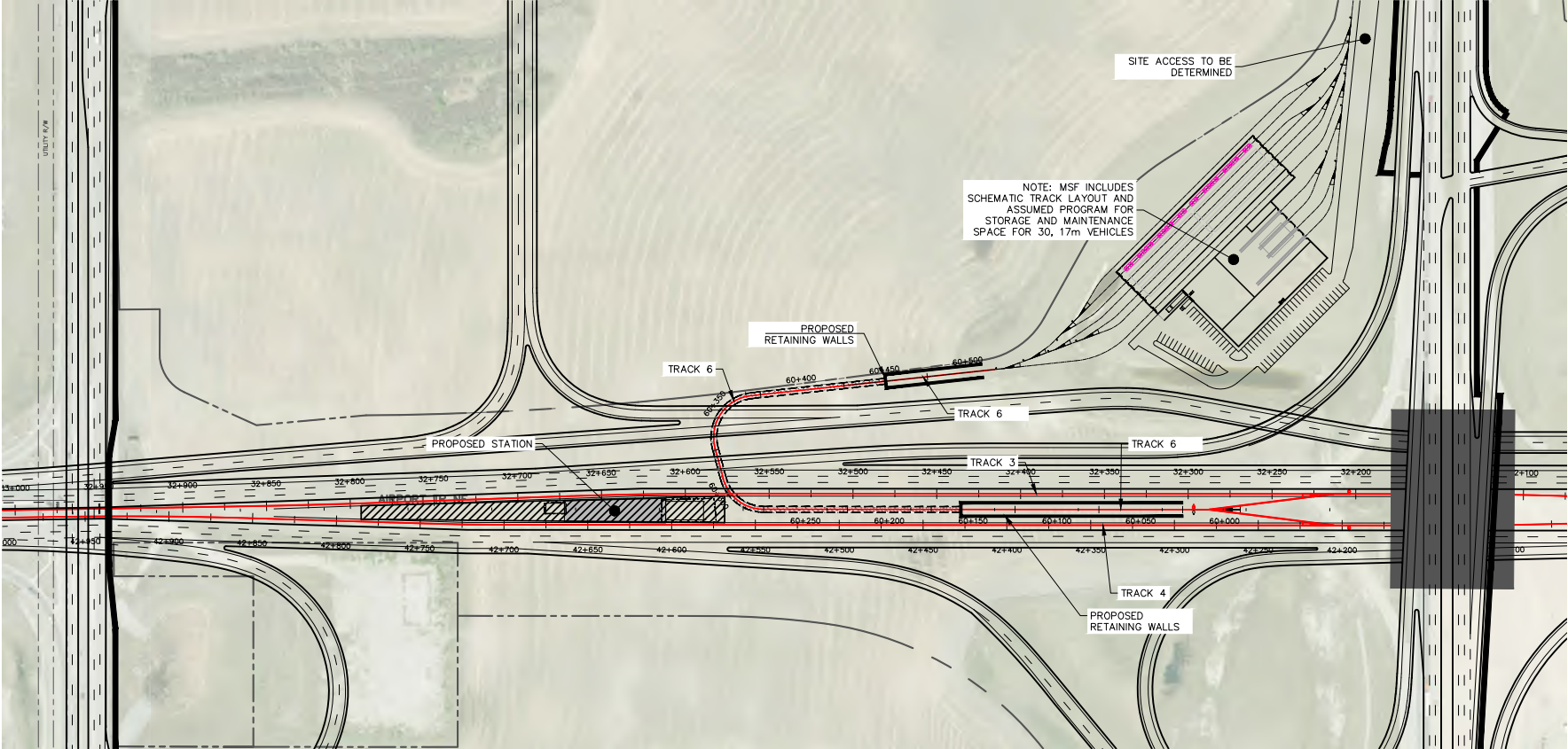
DATE: 2020-01-09 - 11:43am
PATH: C:\Users\CAQ072010\AppData\Local\Temp\AcPublish_15160\GL-BL_Connector - 2019-12-13.dwg
LAYOUT: R-201

DESIGNED	SA	YYYY-MM-DD	REVISIONS			
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED	SQ	YYYY-MM-DD				
APPROVAL		YYYY-MM-DD				
ISC. UNRESTRICTED						

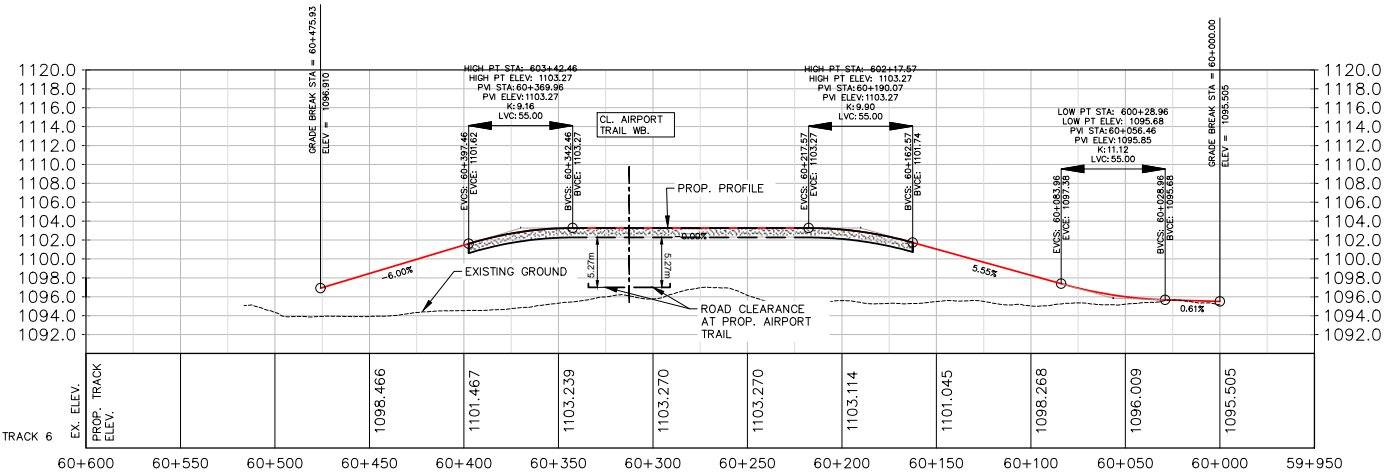
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 5		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT
DATE: 2020-01-10	-	PROJECT NO.
FIGURE NO.	R-201	-



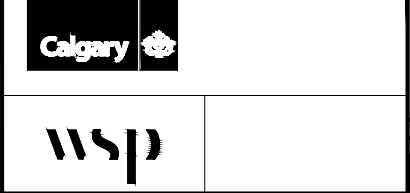
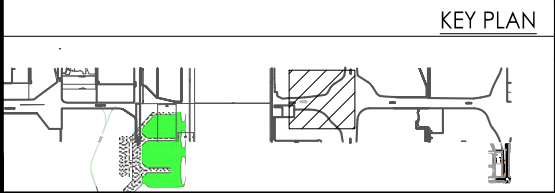
PROFILE
TRACK 6
H 1:2000
V 1:400



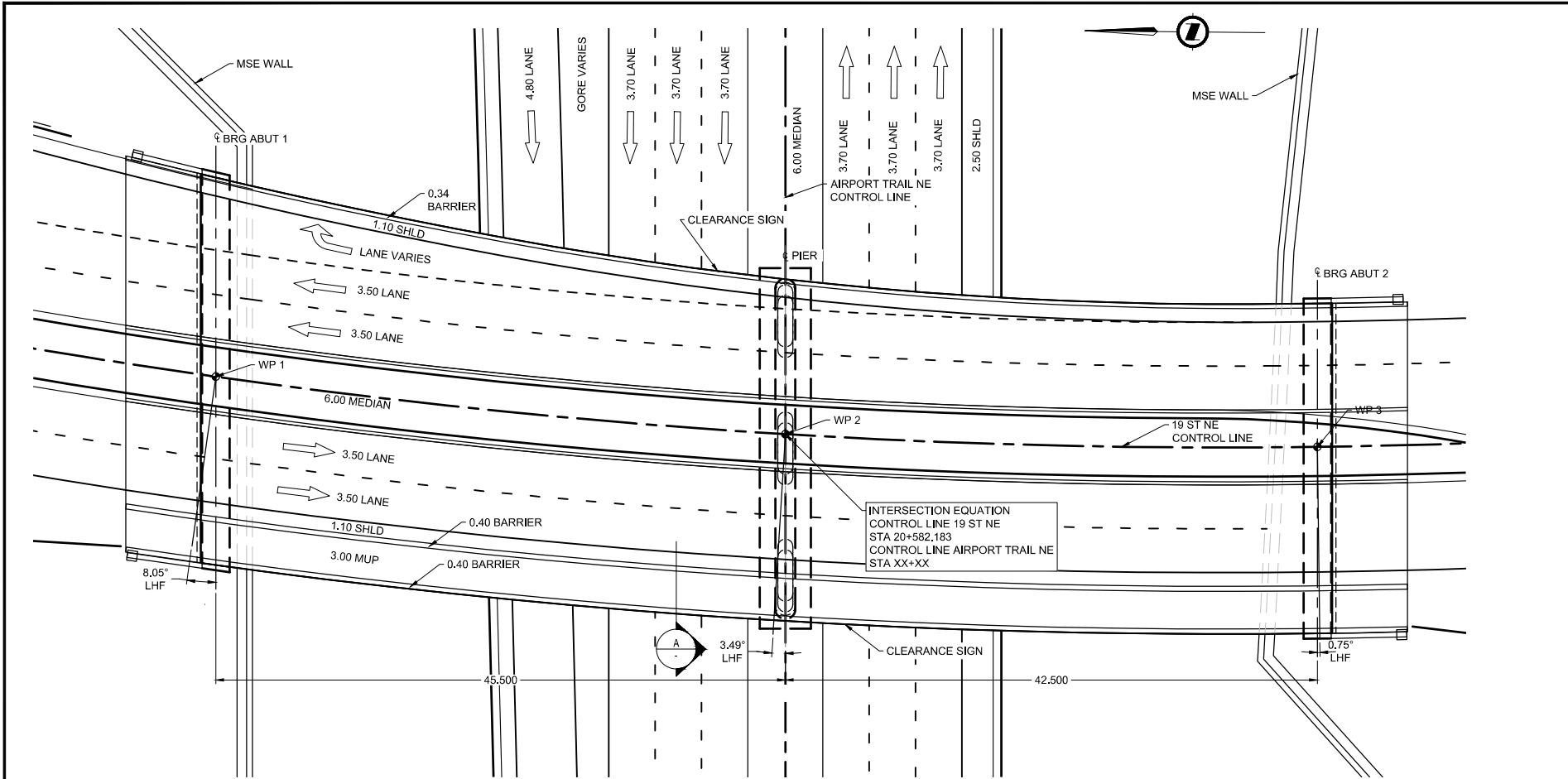
NOTE:
PRELIMINARY PLAN AND PROFILE FOR AIRPORT TRANSIT LINE HAS BEEN DEVELOPED BASED ON ASSUMED DESIGN CRITERIA, AND APPLIES CONSERVATIVE CRITERIA FROM MULTIPLE GUIDELINE DOCUMENTS. REFINEMENT OF PLAN AND PROFILE DETAILS WILL BE REQUIRED UPON SELECTION OF A SPECIFIC DESIGN VEHICLE.

DESIGNED	SA	YYYY-MM-DD	REVISIONS			
DRAWN	SA	YYYY-MM-DD	DATE	BY	DESCRIPTION	REV
CHECKED	SQ	YYYY-MM-DD				
APPROVAL		YYYY-MM-DD				
ISC. UNRESTRICTED						

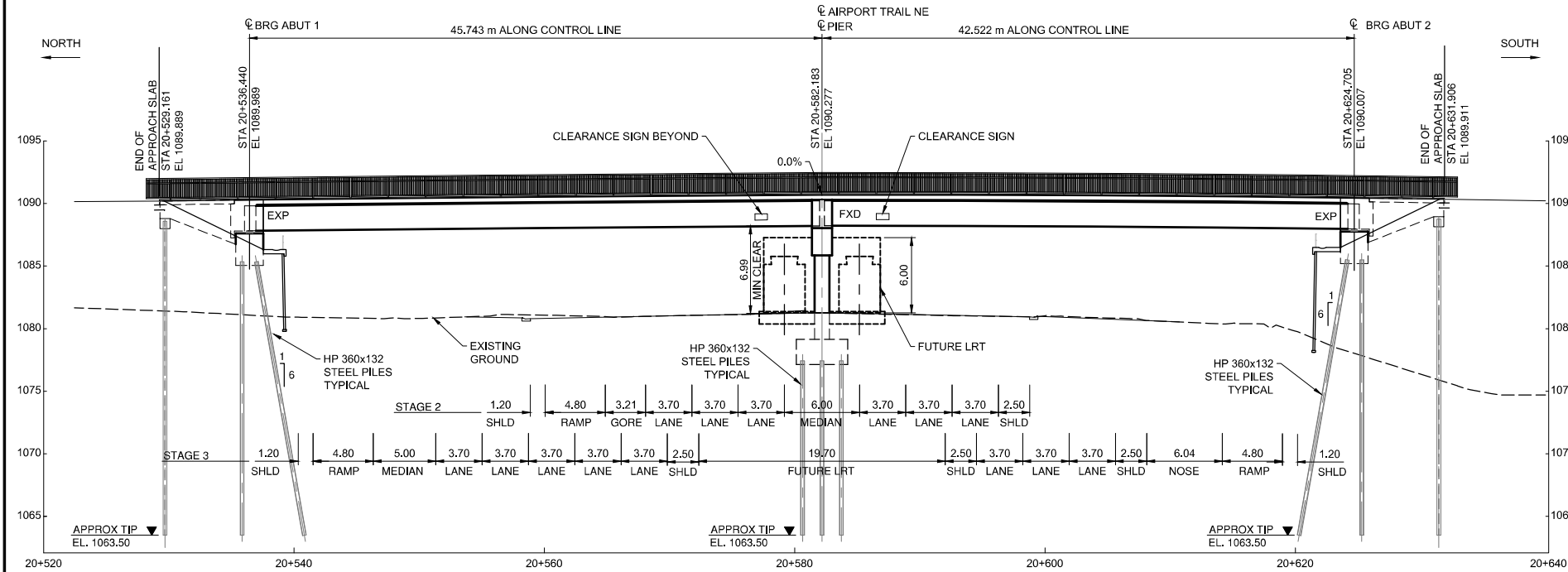
LEGEND	
	AIRPORT CONNECTOR ALIGNMENT
	PROP. STATION HEAD
	IMPACTED LANDS
	PROP. PLATFORM
	YYC LANDS



AIRPORT TRANSIT LINE ROUTE SELECTION STUDY - PREFERRED OPTION TRACK 6		
SCALE: AS SHOWN	CONTRACT NO.	CONSULTANT
DATE: 2020-01-10	-	-
FIGURE NO.	R-301	-



PLAN
SCALE 1:250



ELEVATION
SCALE 1:250
WEST SIDE
LOOKING EAST

NOTES

- SPAN LENGTHS ARE SHOWN ARE ALONG THE 19 STREET NE CONTROL LINE AND ARE GRID VALUES. THE COMBINED SCALE FACTOR (CSF) = XXXXXX
GROUND VALUE = $\frac{\text{GRID VALUE}}{\text{CSF}}$
- ELEVATIONS ARE GIVEN TO TOP OF THE FINISHED ROADWAY ALONG THE 19 STREET NE CONTROL LINE.
- SECTIONS FOR INFO ONLY.
- CLEARANCE TO BE CONFIRMED THROUGH ADVANCEMENT OF STRUCTURE OR TRANSIT RIGHT-OF-WAY DESIGN



NO.	DESCRIPTION	DATE (YYYY-MM-DD)	BY	APPD
-----	-------------	----------------------	----	------

PERMIT

DESIGN	BY	DATE (YYYY-MM-DD)
DRAWN		
CHECKED		

SCALE	AS SHOWN
-------	----------

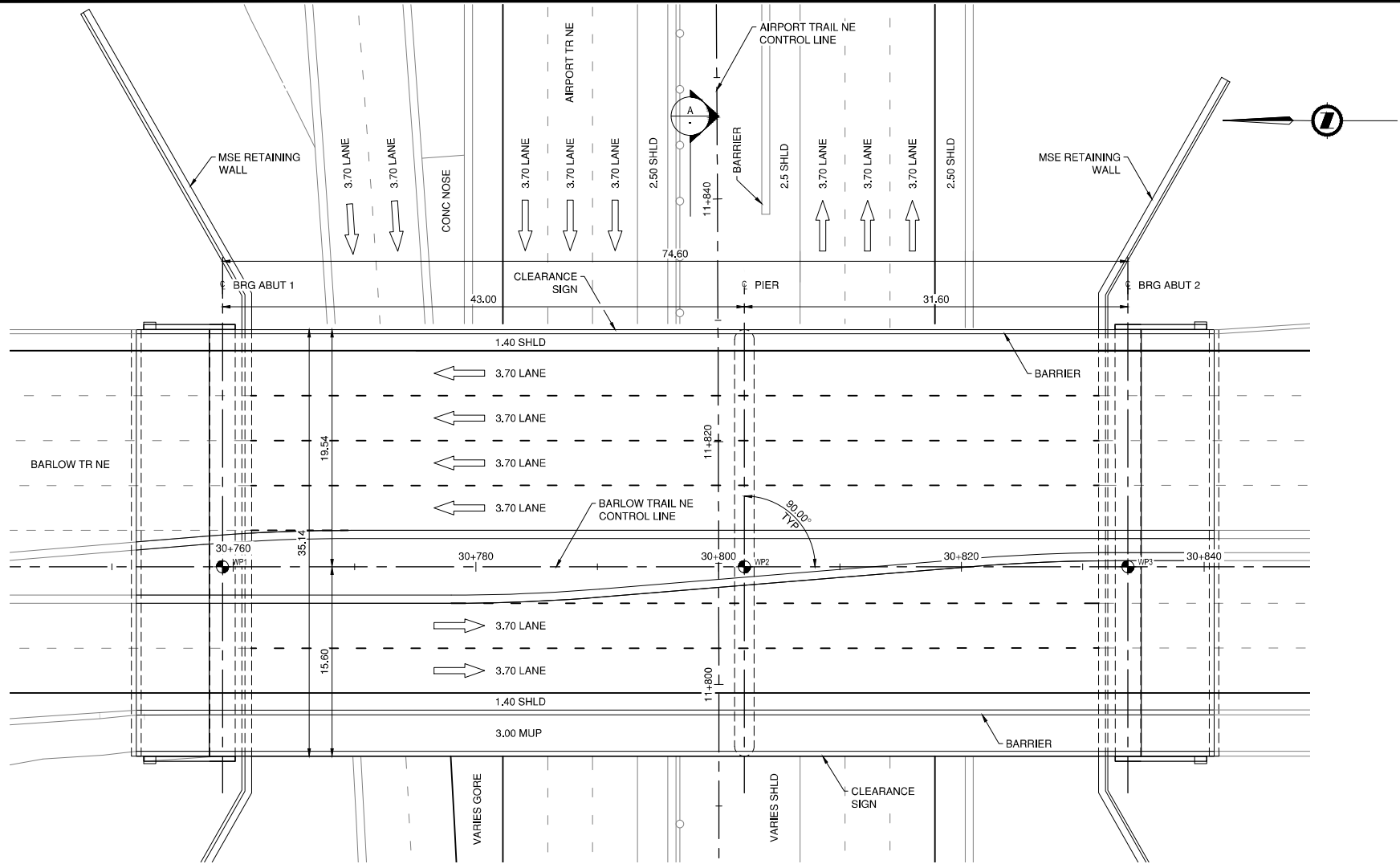


PROJECT
**AIRPORT TRAIL INTERCHANGES
19 STREET NE / BARLOW TRAIL NE**

SHEET TITLE
**19 STREET NE STRUCTURE
GENERAL ARRANGEMENT**

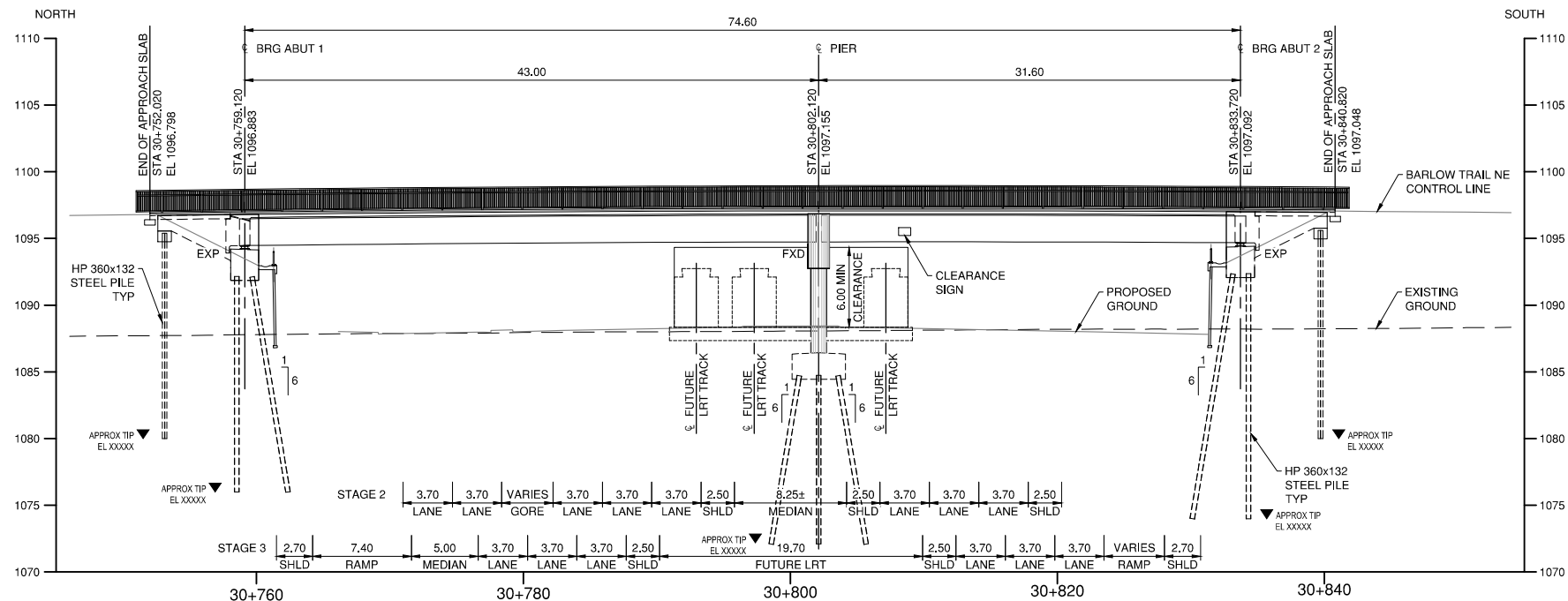
FILE NO.	ENG DWG NO.
----------	-------------

SHEET ID. S-01	SHEET COUNT
--------------------------	-------------



PLAN

SCALE 1:250



ELEVATION

SCALE 1:250 LOOKING EAST

NOTES

1. SPAN LENGTHS SHOWN ARE ALONG BARLOW TRAIL NE CONTROL LINE AND ARE GRID VALUES. THE COMBINED SCALE FACTOR (CSF) = XXXXXX
GROUND VALUE = $\frac{\text{GRID VALUE}}{\text{CSF}}$
2. DIMENSIONS ON THIS DRAWING ARE IN METRES.
3. ELEVATIONS ARE GIVEN TO TOP OF THE FINISHED ROADWAY ALONG THE BARLOW TRAIL NE CONTROL LINE.
4. SECTIONS FOR INFO ONLY.
5. CLEARANCE TO BE CONFIRMED THROUGH ADVANCEMENT OF STRUCTURE OR TRANSIT RIGHT-OF-WAY DESIGN



ISSUED FOR REVIEW

NO.	DESCRIPTION	DATE (YYYY-MM-DD)	BY	APPD
-----	-------------	----------------------	----	------

PERMIT

SEAL	SEAL
DESIGN	REVIEW

DESIGNED	BY	DATE (YYYY-MM-DD)
DRAWN		
CHECKED		

SCALE AS SHOWN



PROJECT
**AIRPORT TRAIL INTERCHANGES
19 STREET NE / BARLOW TRAIL NE**

SHEET TITLE
**BARLOW TRAIL NE STRUCTURE
GENERAL ARRANGEMENT**

FILE NO. ENG DWG NO.

SHEET ID. SHEET COUNT

S-02

SHEET SIZE ANSI D 25 mm 0

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0611

Calgary Transit Bylaw 4M81 Amendments—Administrative Penalty Notice and Early Payment Option

EXECUTIVE SUMMARY

Calgary Transit is proposing amendments to the Calgary Transit Bylaw 4M81 in order to offer customers early-payment options for fare-evasion violations.

The amendments would enable the municipality to offer an early-payment option for violators through the issuance of a fare evasion tag (technically called an Administrative Penalty Notice). Currently, fare evasion violations are tickets which automatically require a provincial court appearance to dispute the circumstances of the offence or to plead guilty to reduce the fine amount. Enabling Calgary Transit Peace Officers to issue fare evasion tags will result in saving customers' time and City resources, easing the burden on the provincial court for being the only avenue for a fine reduction.

The Bylaw change aligns with the introduction of the My Fare mobile ticketing system that Calgary Transit will be introducing in summer of 2020. It also allows future alignment with the Administrative Penalties System (APS) business recommendation which features a municipal tribunal to resolve parking and transit fare evasion appeals; however, the two are not inter-dependent.

Customer disputes will be reviewed by Calgary Transit's internal administrative review process which takes into consideration compassionate reasons, financial hardship, or to request an extension to pay the penalty for extenuating circumstances. The review process provides a mechanism to easily and efficiently find possible resolution prior to proceeding through the judicial system. Learnings from Calgary Transit's issuance of fare-evasion tags and subsequent internal administrative review process will provide best practices and learnings to the future creation of the municipal tribunal.

Calgary Transit engaged with several transit agencies and municipalities to learn best practices for early-payment options for tags and found that the public is more likely to pay the fine if they are offered an immediate reduction for paying sooner through a convenient method. Calgary Transit has closely aligned its model to Calgary Parking Authority's successful model.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Transportation & Transit recommend that Council give three readings to the proposed bylaw to amend the Calgary Transit Bylaw 4M81 (Attachment 1).

PREVIOUS COUNCIL DIRECTION / POLICY

The Calgary Transit Bylaw 4M81 was last amended on 2020 February 24 to include wording to reflect new technology and terminology for the introduction of Calgary Transit's My Fare mobile ticketing. Unanimous support was given by Council, "That in respect to Report TT2020-0099, the following be approved: That Council give three readings to Proposed Bylaw 5M2020 to amend the Calgary Transit Bylaw 4M81."

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0611

Calgary Transit Bylaw 4M81 Amendments—Administrative Penalty Notice and Early Payment Option

BACKGROUND

Calgary Transit Peace Officers issue approximately 15,000 fare related summons-per-year, with a specified penalty of \$250.00. Prosecutorial discretion, in tandem with a minimum penalty amount of \$150.00 under the Transit Bylaw, allows for the reduction of the fine amount to \$150.00, resulting in many citizens choosing to plead their case for a violation fine reduction. However, to do so they must personally attend at Provincial Court. In cases where an individual is not deemed eligible for a reduction and/or they wish to proceed to trial, Calgary Transit Peace Officers are required to attend, resulting in increased costs for overtime. This also detracts from the core service Peace Officers offer, which is to serve customers on the transit system itself.

The Municipal Government Act and the Provincial Offences Procedure Act both provide the ability for Municipalities to accept voluntary payments to resolve bylaw offences. This enables Calgary Transit to make amendments to Calgary Transit Bylaw 4M81 to allow Peace Officers to issue tags and thus offer an early-payment option.

The amendments proposed in this report are in addition to the approved Transit Bylaw 4M81 amendments passed by Council on 2020 February 24 to amend the wording in the bylaw to incorporate the introduction of Calgary Transit's Mobile Ticketing System and the My Fare App.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Under the current Calgary Transit Bylaw 4M81, there is no early payment option for customers who have received a transit fare evasion ticket. Customers frequently dispute violations, resulting in court appearances, requiring City resources such as prosecutors and peace officers to attend court. This also ties up court resources at a time when demands on the judicial system are high. The rationale for issuing early-payment options include:

1. Save customers time: early payment options will provide convenience to customers to opt to pay a lower fine, rather than spend time going to Provincial court to request a reduced fine amount; and
2. Save City resources: early-payment options and the internal review process should capture most transit fare-evasion tags, prior to their transition to a violation ticket for non-compliance. This significantly decreases the requirement for Calgary Transit Peace Officers to appear as court witnesses, thereby resulting in a greater street-level presence.

To facilitate the issuance of a fare evasion tag and the early-payment options, several bylaw amendments are required. Examples include:

1. Where an officer believes that a person has contravened Section 9 of this Bylaw, the officer may commence proceedings against the person by issuing a Fare Evasion Tag to the person.
2. The specified penalties and early payment amount(s) for a contravention of Section 9 of this bylaw, are set out in Schedule B, which shall form part of this Bylaw.

Further definitions are outlined in the Bylaw Amendments in Attachment 1 and examples of the fare evasion tag and early-payment options are outlined in Attachment 2.

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0611

Calgary Transit Bylaw 4M81 Amendments—Administrative Penalty Notice and Early Payment Option

If a customer wishes to dispute the issuance of a fare-evasion tag, Calgary Transit has an internal administrative review process for compassionate reasons, financial hardship, or to request a time extension to pay the penalty for extenuating circumstances. Calgary Transit personnel will have the discretion to consider each request for review and determine the appropriate resolution. The issuance of a fare-evasion tag does not eliminate a customers' right to a trial, but rather it provides a mechanism to easily and efficiently access potential resolution prior to proceeding through the judicial system.

The issuance of fare-evasion tags supports the introduction of the Administrative Penalties System (APS) and the future municipal tribunal to resolve parking and transit fare evasion appeals; however, it is not reliant on the tribunal to issue fare-evasion tags. The introduction of the fare-evasion tags will provide lessons learned that can be applied to the Municipal Tribunal system's design, implementation of penalty notices, and adjudication.

In addition, the proposed amendments are aligned with previous amendments to the Calgary Transit Bylaw 4M81 that were last made in February of 2020 to support the future launch of Calgary Transit's My Fare mobile ticketing system. Both amendments provide for the modernization of customer options for fare purchases and violation payments.

Administration evaluated the approaches of several other agencies before developing these recommendations. No alternatives to these recommendations have been found that address The City's current resourcing constraints while still mitigating fare evasion.

Stakeholder Engagement, Research and Communication

To learn best practices for creating and implementing an early-payment options for tags, Calgary Transit engaged with other municipalities and transit agencies in Ontario (ON) and British Columbia (BC). The transit agencies included TransLink (BC) and Metrolinx (ON), and cities who issue similar tags for bylaw infractions (Vaughan, Brampton and Markham).

The early-payment options along with an internal administrative review process have been successful for these jurisdictions. They found that the public is more likely to pay the fine if they are offered an immediate reduction, can pay sooner, and through a more convenient method.

Calgary Parking Authority (CPA) has also seen success with this model. Calgary Transit has closely aligned the base model with that of CPA and worked closely with the Law Department in developing policy for the Administrative Review Processes and early-payment options.

Strategic Alignment

The introduction of fare-evasion tags and early payment options supports the long-term goals of the Municipal Development Plan, along with Council Priorities for a well-run city, being as efficient and as effective as possible, reducing costs and focusing on value for money, and continuing to transform the organization to be more citizen-focused in its approach to delivery of service.

Social, Environmental, Economic (External)

The option for Calgary Transit customers to immediately access and make payment of a reduced-fine-amount will benefit customers, and the revenue from fines issued will be paid

Transportation Report to
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0611

Calgary Transit Bylaw 4M81 Amendments—Administrative Penalty Notice and Early Payment Option

directly to The City. Calgary Transit's has an informal forum for customers to explain their individual circumstances and access an early resolution for their fine. This will have a positive impact on Calgary Transit customers, specifically with respect to applying a least harm approach for low income, vulnerable and marginalized populations.

Financial Capacity

Current and Future Operating Budget:

The budget for an IT solution was co-funded by the Corporate Technology Committee and Calgary Transit, with operating costs in the form of workload re-assignment achieved through existing salaries.

Current and Future Capital Budget:

There are no capital budget implications associated with the recommendations in this report.

Risk Assessment

There is potential for limited citizen buy-in for the first 12-months, due to the shift from violation tickets to tags. This may result in more tags than anticipated becoming violation tickets upon expiry, potentially delaying immediate fine collection for that adjustment period to Calgary Transit.

REASON(S) FOR RECOMMENDATION(S):

Bylaw amendments are required as part of the introduction of early payment options and the administrative review process.

ATTACHMENT(S)

- Attachment 1 – Transit Bylaw 4M81 Amendments
- Attachment 2 – Draft of Calgary Transit Fare Evasion Tag

Proposed Wording for a Bylaw to Amend Calgary Transit Bylaw 4M81

1. After section 16.2 the following is added as sections 16.3 and 16.4:

“Early Payment Option

- 16.3 (1) Where an *Officer* believes that a person has contravened Section 9(1) of this Bylaw, the Officer may commence proceedings against the person by issuing a transit tag to the person.
- (2) A tag must set out a specified penalty for the contravention, and may provide for early payment amounts.
- (3) If a person who contravened Section 9(1) of this Bylaw pays the early payment amount or the specified penalty amount, within the times and in the manner set out on the transit tag, that payment will be accepted in place of prosecution under the Provincial Offences Procedures Act R.S.A c. p- 34.
- (4) If payments referred to in subsection (3) are not made within the times and in the manner set out on the transit tag, a Violation Ticket may be issued to the person who was issued the transit tag in accordance with the Provincial Offences Procedures Act R.S.A c. p- 34.
- (5) Nothing in this section shall:
- (a) prevent any person from exercising their right to defend any charge of committing a breach of Section 9(1) of this Bylaw; or
- (b) prevent an Officer, in lieu of serving a transit tag, from issuing a Violation Ticket to a person pursuant to the Provincial Offences Procedures Act R.S.A c. p-34.
- (6) The specified penalties and early payment amounts for a contravention of Section 9(1) of this Bylaw, are as set out in Schedule “B”, which shall form part of this Bylaw.

Administrative Review

- 16.4 (1) The *Director, Calgary Transit* is authorized to conduct an administrative review of transit tags that have been issued pursuant to this Bylaw and this review includes the power to cancel these transit tags.
- (2) An administrative review may include reviewing the circumstances of the person who was issued a transit tag, including that person’s ability to pay

the penalty, and the interests of the administration of justice in proceeding with the tag.

- (3) The *Director, Calgary Transit* may delegate the power to conduct an administrative review pursuant to this section.”

2. In Schedule “A”, under the headings indicated, the following is deleted:

OFFENCE		MINIMUM PENALTY	SPECIFIED PENALTY
Section	Description		
“9(1)	Fare Evasion	\$150.00	\$250.00”

3. The following table is added after Schedule “A”:

“SCHEDULE “B””

Section	Offence	Early Payment Amount 1 (if paid within 15 days after the date of the offence)	Early Payment Amount 2 (if paid 16 to 45 days after the date of the offence)	SPECIFIED PENALTY
9(1)	Fare Evasion	\$150.00	\$200.00	\$250.00”

4. This Bylaw comes into force on the day it is passed.

CalgaryFare Evasion Tag
Tag No.

Transit

This tag is issued for a contravention of Section 9 (1) of the City of Calgary Transit Bylaw 4M81

Issuing officer and badge no.: _____
print name *badge no.*

Signature _____

MONETARY PENALTY

Early payment amount 1

\$150if paid within 15 days of
issue date

Early payment amount 2

\$200if paid between 15 and
45 after issue date

Specified penalty

\$250due after 45 days of issue
date_____, 20____
date

Name

*last**first**middle*

Address

*street**city, town, village**province**postal code*Adult ☐ Youth ☐

Location / direction of travel

Time from: _____ a.m. / p.m. to: _____ a.m. / p.m.

Driver's license? Yes ☐ No ☐Identification number _____
id type / number *province of issue*Sex M ☐ F ☐ Other ☐Date of birth

YYYY				MM		DD	

See reverse for your options for responding to this Fare Evasion Tag.

Payment and Inquiries

To pay the fine or get additional information please visit:
www.calgarytransit.com/fare-evasion

OR

Call 403-262-1000 during business hours (Monday - Friday
6 a.m. - 9 p.m., Saturdays and Sundays (8 a.m. - 6 p.m. -
excluding holidays).

OR

Visit one of our Customer Service Centre locations
(Monday - Friday between 10 a.m.- 5 p.m., excluding
holidays).

Centre Street Platform
125- 7 Avenue S.E.

Bow Parkade
234- 7 Avenue S.W.

Appeals / Administrative Reviews

Appeals (Administrative Reviews) are accepted on an
unpaid fare evasion tag where there is proof that it was
issued in error and the recipient is clearly not guilty of the
contravention.

Appeal Forms:

Online www.calgarytransit.com/fare-evasion
Fill in the form and submit it electronically.

In person At one of our Customer Service Centres
between 10 a.m. and 5:30 p.m. Monday
to Friday (excluding holidays).

Please note:

Calgary Transit fines may be subject to additional fees.
These surcharges are not under the control of and do not
accrue to the benefit of The City of Calgary.

Height	Weight	Eye colour	Hair colour
160	70	Brown	Black
180	90	Blue	Blond
170	80	Green	Brunette
150	60	Pink	Red

Peculiarities

Email address

Home phone	Cell phone
------------	------------

Visually inspected ☐ Barcode scanned ☐ Paper fare ☐

if Youth

Name(s) of Parent / Guardian / Adult Relative	Contacted: Y / N
---	------------------

Phone number

Exhibits:

--

Other notes / applicable details:

**Transportation Report to
SPC on Transportation and Transit
2020 June 24**

**ISC: UNRESTRICTED
TT2020-0701**

On Demand Transit Update

EXECUTIVE SUMMARY

In August of 2019, Calgary Transit launched a one-year pilot of an On Demand Service to provide service to areas of the city that did not already have fixed-route transit. The pilot was funded through the Council Innovation Fund and provided transit service to the communities of Carrington and Livingston.

In the first seven months, the On Demand pilot surpassed its four project charter goals for ridership, customer satisfaction, app downloads and cost-per-ride. Metrics for the first-seven months were used to due to COVID-19's substantial reduction of ridership numbers.

The pilot was able to demonstrate that the On Demand technology can effectively provide a valuable customer experience with shared rides from individual requests, covering a wider geographic area than fixed-route service. The pilot provided evidence that in areas with lower ridership, the On Demand model can provide an average trip length that is only a few minutes longer than if the customer had driven themselves; with an on-time performance of more than 98 per cent.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Transportation and Transit recommends that Council accept this report and discussion for the Corporate Record.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2020 June 09, Priorities and Finance Committee approved the On Demand Pilot Service Update Briefing.

On 2018 November 19 Council approved, "1. That the Priorities and Finance Committee recommend Council approve this application for the CIF for the On-Demand Transit Service pilot project in the amount of \$338,000; and 2. That the Priorities and Finance Committee Direct Administration to report back to PFC indicating how the money was spent and outcomes of the project no later than Q2 2020.

BACKGROUND

Faced with demand for transit service in new communities at a time of economic uncertainty, Calgary Transit has been looking for innovative ways to deliver service. On Demand transit – that is, transit vehicles that are routed dynamically based on user demand – is one option that has shown potential. Like previous generations of Dial-A-Bus, On Demand transit matches individual user requests to create an efficient route.

On 2018 November 19, Council approved \$338,000 from the Council Innovative Fund to support the creation of an On Demand Transit Service pilot for one-year in the communities of Carrington and Livingston. As developing communities, these areas did not yet have the population to support traditional fixed-route transit services. The pilot demonstrated the ability of the new technology to accept bookings in real time or in advance, and to schedule cost-effective shared rides. It also confirmed a high level of customer satisfaction with the service.

**Transportation Report to
SPC on Transportation and Transit
2020 June 24**

**ISC: UNRESTRICTED
TT2020-0701**

On Demand Transit Update

Due to COVID-19 and the unprecedented reduction of ridership, the findings of the report are based on the first-seven months of the pilot. An update was provided at the 2020 June 09 Priorities and Finance Committee with a briefing to share findings from the pilot (Attachment 1).

INVESTIGATION: ALTERNATIVES AND ANALYSIS

In 2018, a peer review of other transit agencies was undertaken to determine if and how they were responding to the issue of connecting suburban customers in low density communities with the transit network. Concurrently, a market survey of new and developing dispatching technologies was undertaken.

An RFP was released to market in November 2018. The RFP deliverables were written broadly to encourage as many alternative proposals as possible. Proposals were received from Taxi companies, Transportation Network Companies (TNCs), and bus lines, using various combinations of old and leading-edge technology.

Findings

By the end of February of 2020, On Demand had surpassed its four project charter goals of ridership-per-week, customer rating, app downloads, and weekday cost per ride (Attachment 2).

The pilot achieved a maximum utilization of 22 passengers per revenue operating hour (PROH) using two 12-passenger vehicles at peak-periods, demonstrating that the technology effectively creates shared rides from individual trip requests, while still providing a valuable customer experience. The pilot also showed that the On Demand model can cover a wider geographic area than a fixed-route service while providing a comparable level of service; the average trip was only four-minutes longer than if the customer had driven and customers were picked up within the promised four-minute window more than 98 per cent of the time. It is likely that low-demand areas and times of day would see similar results (Attachment 2).

When it comes to moving a high volume of passengers over longer distances, fixed routes and fixed schedule that group riders by time and location together are likely more efficient. This threshold will be different for each application, but it is likely around the 20 PROH mark, where larger fixed route vehicles become more cost-efficient.

Much of the direct savings in this pilot resulted from the use of an external (lower cost) service provider; however, cost savings were also achieved because there were no dispatching costs with On Demand; and infrastructure costs to maintain bus stops is reduced. The need for route planning, maps and schedules is also minimized.

Customer Experience

On Demand provides a predictable and personalized experience for customers who can pre-book their rides 24 to 48 hours in advance, enabling exact pick-up times. Last minute bookings are subject to longer delays as seats are often full. Calgary Transit developed policies to reduce wait times to less than 15-minutes for last minute bookings.

Fifteen per cent of On Demand customers had not previously used Calgary Transit, which demonstrates the ability of On Demand service to grow ridership.

The On Demand app was downloaded by 1676 customers (project goal was 200) and after each trip, the customer was given the ability to rate the trip from one to five. To date, the average rating is 4.92/5.00 with 97.2 per cent of customers giving a rating of four or five (project

**Transportation Report to
SPC on Transportation and Transit
2020 June 24**

**ISC: UNRESTRICTED
TT2020-0701**

On Demand Transit Update

goal was to achieve 85 per cent customer rating). From survey and feedback, customers expressed what they liked:

- Ease of Use (app, payment, policy, and stop locations);
- Total time in Vehicle; and
- Feeling of a more personalized service.

In addition, the survey provided Calgary Transit feedback on what improvements the On Demand Transit service could make: reduce ride-delays during peak hours and increase service hours. In response to the expressed concerns, the project added an hour of service to the end of the day and developed and communicated a no-show policy to reduce unused seats and delays.

Stakeholder Engagement, Research and Communication

Calgary Transit staff attended open houses at local community centres and met with community developers and community associations both before and during the procurement process. As there was no transit available at the time, stakeholders were anxious for any type of transit service. But the community expressed an openness and interest in a technology driven solution.

Marketing and communication included door-to-door mail drops to more than 1,200 homes, info sessions, and social media. A second marketing campaign was run five months in to the service to collect feedback and respond to new concerns.

Fifteen per cent of On Demand customers had not previously used Calgary Transit, which demonstrates the ability of On Demand service to grow ridership.

Strategic Alignment

This report is aligned with the Calgary Transportation Plan, Municipal Development Plan and RouteAhead by providing cost effective transportation options, increasing mobility choice and incorporating new transit technologies and innovations.

Additionally, this report is aligned with Council priorities of A Prosperous City and A Well-Run City by providing transit to low density communities and embracing new ideas and methods for delivery of public services.

Social, Environmental, Economic (External)

The pilot has improved access to transit services for citizens in new and developing communities, reducing reliance on automobiles and increasing access to employment and other services.

The On Demand model has also demonstrated the potential to reduce vehicle mileage, and the resulting emissions. While a fixed route service in Carrington/Livingston would travel 484 km in a weekday, On Demand averaged 390 km. This is a 20 per cent reduction in pollution, fuel costs, and capital depreciation. During COVID, On Demand vehicles have averaged only 80 km per day.

Since On Demand trips are pre-booked and confirmed, On Demand service does not experience overloads.

On Demand Transit Update

Financial Capacity

Current and Future Operating Budget:

Funds for the one-year pilot were provided, in part, by a grant from the Council Innovation Fund.

Future funding will be allocated from Calgary Transit's 2020 and 2021 operating budget using funding identified for service in this area.

Cost per-trip in the new community was lower than anticipated and was in-line with the lower end of existing route performance. As ridership develops, cost per ride will continue to drop.

Findings from the pilot suggest that the flexibility of the On Demand model may allow it to out-perform fixed route cost in certain existing service areas.

Current and Future Capital Budget:

As this service is wholly provided by a third party, there is no impact on capital budgets. However, upon completion of the pilot and in response to growing travel demand, there will be an expectation that transit service be implemented in the area. Commensurate fleet and infrastructure costs will be reflected in future capital budgets

Risk Assessment

This service is currently being provided by a third-party. Transit unions will expect their members to be involved if the service continues or expands over the longer term.

It is also recognised that the pilot introduced a new transit service where none existed previously. Customers of existing fixed-route service may not be as accepting of a change to an On Demand transit model.

The potential cost savings in a larger implementation have not yet been confirmed and will depend on a number of variables specific to each area.

REASON(S) FOR RECOMMENDATION(S):

The On Demand transit model has demonstrated that it can be cost effective in low ridership neighbourhoods by servicing a large geographic area, thus increasing the pool of potential riders. The On Demand nature allows this model to service a large area while providing a reasonable level of service. Wait times and trip length are reasonable, and customer feedback has been positive with a high level of satisfaction reported.

ATTACHMENT(S)

1. Attachment 1 – PFC Briefing- On Demand Transit Pilot Service Update
2. Attachment 2 – On Demand Additional Metrics

BRIEFING

Page 1 of 2

Item # 5.2.3

Transportation Briefing to

Priorities and Finance Committee
2020 June 09

ISC: UNRESTRICTED
PFC2020-0549

On Demand Transit Pilot Service Update

PURPOSE OF BRIEFING

Faced with demand for transit service in new communities at a time of economic uncertainty, Calgary Transit has been looking for innovative ways to deliver service. On November 19, 2018, the Priorities and Finance Committee approved a grant from the Council Innovation Fund of \$338,000 to fund a one-year On Demand Transit pilot in the new communities of Carrington and Livingston and report back in Q2 2020. As developing communities, these areas did not yet have the population to support traditional transit services. This pilot was meant to enhance Calgary Transit's service delivery, by exploring innovations in transit service delivery.

The pilot was launched in August of 2019 with vendor RideCo; however, due to the unprecedented changes in ridership because of COVID-19, findings for this briefing are based on the first seven-months of the pilot. In order to gather more data, Calgary Transit will be building on the initial successes of the pilot to test the model's scalability in areas with pre-existing fixed route transit.

SUPPORTING INFORMATION

How it works

Using the free "Calgary Transit on Demand" app, customers can request transit service between Carrington, Livingston and North Pointe. Customers select the date and time they wish to take the trip and payments can be made via pass, ticket, transfer, or pay in the app with credit card. Trips to and from North Pointe provides a connection to Calgary Transit's fixed route system for trips beyond the pilot area.

Findings

By the end of February of 2020, On Demand surpassed its four project charter goals of ridership-per-week, customer rating, app downloads, and weekday cost per ride (Attachment 1).

The pilot achieved a maximum utilization of 22-passengers-per-revenue-operating-hour (PROH) using two-12-passenger vehicles at peak-periods, demonstrating that the technology effectively creates shared rides from individual trip requests, while still providing a valuable customer experience. The pilot also showed that the On Demand model can cover a wider geographic area than a fixed-route service while providing a comparable level of service; the average trip was only four-minutes longer than if the customer had driven. It is likely that low-demand areas and times of day would see similar results (Attachment 1).

When it comes to moving a high volume of passengers over longer distances, fixed routes and fixed schedule that group riders by time and location together are likely more efficient. This threshold will be different for each application, but it is likely around the 20 PROH mark, where larger fixed route vehicles become more cost-efficient.

Much of the direct savings in this pilot resulted in the use of an external (lower cost) service provider; however, cost savings are also achieved as there are no dispatching costs with On

BRIEFING

Page 2 of 2

Item # 5.2.3

Demand, and infrastructure costs to maintain bus stops can also be reduced. The need for route planning, maps and schedules is also minimized.

Customer Experience

On Demand provides a predictable and personalized experience for customers who can pre-book their rides 24 to 48 hours in advance, enabling exact pick-up times. Last minute bookings are subject to longer delays as seats are already full. To bypass this, some customers were pre-booking two or more rides within minutes of each other, causing seats to go unused and increasing delays for other customers. Calgary Transit now has policies in place to deter this practice which saw a reduction in last minute cancellations, reducing wait times to less than 15-minutes for last minute bookings.

Fifteen per cent of On Demand customers had not previously used Calgary Transit, which demonstrates the ability of On Demand service to grow ridership.

The On Demand app was downloaded by 1676 customers (project goal was 200) and after each trip, the customer is given the ability to rate the trip from one to five. To date, the average rating is 4.92/5.00 with 97.2 per cent of customers giving a rating of four or five (project goal was to achieve 85 per cent customer rating). From survey and feedback, customers expressed what they liked:

- Ease of Use (app, payment, policy, and stop locations);
- Total time in Vehicle; and
- Feeling of a more personalized service

In addition, the survey provided Calgary Transit feedback on what improvements the On Demand Transit service could make: reduce ride-delays during peak hours and provide increased service hours. In response to the expressed concerns, the project added an hour of service to the end of the day and developed and communicated a no-show policy to reduce unused seats and reduce delays.

Environmental Impacts

Another identified advantage of the On Demand model is the reduction in distance travelled, and the resulting reduction in emissions. While a fixed route service in Carrington/Livingston would travel 484 km in a weekday, On Demand averaged 390 km. This is a 20 per cent reduction in pollution, fuel costs, and capital depreciation. During COVID, On Demand vehicles have averaged only 80 km per day.

Next Steps

The pilot established a proof-of-concept that this type of technology can work in Calgary, demonstrating that dynamic, demand-driven transit can provide first/last-mile service to low-density communities, and that it is well received by our customers. The next step is to test for viability and scalability to determine whether these efficiencies can be achieved with low-performing existing routes and reduce transit costs during off-peak hours and weekends.

Calgary Transit will be building on the successes of the pilot to test the model's scalability in other areas, with funding coming from Calgary Transit's existing budget.

ATTACHMENT(S)

1. Attachment 1 – On Demand Additional Metrics

On Demand Additional Metrics and Findings

Council Innovation Fund Application:

The application identified four metrics for project success. Below are the outcomes, based on pre-COVID ridership:

Measure	Target	Outcome
Ridership	620 trips per week	>900 trips per week
Customer satisfaction	85%	97.2%
Apps downloaded	200	1676
Cost per Ride	<i>confidential</i>	<i>Achieved project targets</i>

Other Metrics:

The project identified several other metrics to compare On Demand model to fixed route:

Metric	Project Target	Pilot Outcome (Feb 2020)	Fixed Route comparison
Average ride delay (Peak hours)	N/A	20 min ¹	10 min
Average ride delay (Off peak)	N/A	5 min	20 min
Average PROH	N/A	8	15 ²
Max PROH	N/A	22	30 ²

¹ Customers who pre-booked saw almost no delay

² Average of all Community Shuttle routes. May not be a valid comparison to a new community

Other Findings:

1. The level of service provided, as measured by wait time for the bus and total time in vehicle was, on average, better than a comparable fixed route.
2. At the pre-COVID ridership level, the pilot service used approximately 20 per cent less-trip miles than a comparable fixed route.
3. The concept of dynamic, On Demand transit was acceptable to our customer base.
4. The technology was easy-to-use and provided shared riders between multiple points.
5. The technology was able to quickly make changes to the level over service provided, allowing the provider to refine the balance between cost-efficiency and customer experience.
6. No call centre support was required.
7. No bus stop infrastructure was required, providing the opportunity to reduce capital and operating costs.
8. Customers did not raise concerns about the necessity for a smart phone.

9. The service could react to detours and accidents in real time.
10. On Demand has no overcrowding.
11. The service can limit vehicle capacity if required.
12. Managing customer usage requires a clear policy on no-shows and late cancellations.
13. The technology can provide detail ridership data in real time.
14. Unlike fixed route, On Demand offers almost no wait to customers who book in advance.
However, customers who book last minute during peak hours will see a longer delay.