METROLINX

Joint Corridor Design Excellence Working Group

Retaining Wall, Noise Barrier, and Landscape Design

Working Group Presentation

JANUARY 24 2022

Ontario Line – GO Transit Joint Corridor

Agenda

- Land acknowledgement
- Design Review – Joint Corridor Design Excellence Working Group
- Presentation
    - Joint Corridor procurement packages
    - Design Excellence at Metrolinx – precedent projects
    - Joint Corridor Design Principles, Process, and Proposals
    - Community survey results
        - Retaining walls, noise barriers, and landscape design proposals
        - Metrolinx Graffiti Management Strategies

Discussion / Next Steps

Land acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

Safety Moment

Follow these tips from Public Safety Canada to stay healthy this winter:

1. Get informed and go outdoors: Before heading out, complete a trip plan and leave it with friends or family.

2. Stay safe indoors: Fire prevention and safety – make sure you have working smoke alarms, don't leave burning candles unattended and if a pot catches fire while cooking, put a lid on it.

3. Check your family emergency kit: You likely have some basic emergency kit items already in your home, such as a flashlight, battery-operated radio, food, water and blankets – make sure they are organized, easy to find and easy to carry.

4. Keep an emergency kit in your vehicle: Prepare an emergency kit and keep it in your vehicle. Refresh the supplies for winter. For example, add an extra blanket or new food items.

5. Check weather reports

Design Review & Design Workshops

Joint Corridor Design Excellence Working Group

PROPOSED JOINT CORRIDOR WORKING GROUP

Membership: community stakeholders, elected officials, City of Toronto and Metrolinx staff

Mandate: The DXWG will be a forum for discussions, workshops, and two-way communication between Metrolinx and key stakeholders related to the Lakeshore East – Ontario Line Joint Corridor project.

Resources: The design consultants with the Ontario Line Technical Advisor Team will be a resource for all participants in the working group process.

Elected Officials

Councillor Fletcher
Staff Contact: Daryl Finlayson
MP Dabrusin
Staff Contact: Greg Barley
MPP Tabuns
Staff Contact: Rob Kaufman

Community Representatives

Lakeshore East Community Advisory Committee
Shelley Kline / Rosemary Waterston /
Paul Backewich
Save Jimmie Simpson!
Eon Song or Maggi Redmonds

Community Representatives (continued)

Riverside BIA
Jennifer Lay, Executive Director
Leslieville BIA
Christiane Tetreault, Chair of the Board
Tiverton Avenue community advocate
Alex Bielecki
First Avenue Townhouse Condos
Tony Whitaker, President of the Condominium Board
EastEnd Transit Alliance
Claire Hastings

PROPOSED JOINT CORRIDOR WORKING GROUP

City of Toronto

Transit Expansion Office (TEO)
Richard Borbridge
Parks, Forestry & Recreation (PFR)
David Burns
City Planning (CP)
Renita D'Souza
Parks Development & Capital Projects (PDCP)
Ann-Marie Nasr
Tina Fernandes
Bridges, Structures & Expressways (BSE)
Josephine Yung

Metrolinx

Ontario Line Sponsor
Malcolm Mackay
Ontario Line Sponsor
Daniel Cicero
Design Division
John Potter
Community Engagement
Mark Clancy
Early Works Project Delivery Team
Andre Marois
Nima Nouri

Ontario Line Technical Advisors (OLTA)

Regional Director/ Transportation Architecture Principle, HDR
Celia Johnstone
Senior Urban Designer, SvN
Klaudia Biala
Landscape Architect, SvN
Luke Kairys
Regional Director/ Transportation Architecture Principle, HDR
Paulo Faria

TERMS OF REFERENCE - DESIGN EXCELLENCE

Leading with Design

- At Metrolinx we understand that the construction of new transit can have both short- and long-term impacts communities.
- We also understand that stitching new transit infrastructure into the existing urban fabric is a complex task **that benefits from insight provided by municipal staff and community groups who have extensive knowledge of the local area.**

Objective

- **Our objective is to apply principles of Design Excellence** in the development of a series of creative solutions to the address challenge presented by the work being undertaken in the Joint Corridor through the Riverside and Leslieville neighbourhoods

Members of the Design Excellence Working Group live, work, and run businesses in this community. Your local knowledge will be a benefit to this project.

TERMS OF REFERENCE - MEETINGS

Design Excellence Working Group Meetings:

- An agenda will be shared in advance of each meeting.
- Each session will last approximately two hours.
- The format will be structured as a workshop to discuss ideas and develop proposals.

Note: each of the three packages for the Joint Corridor have separate deadlines for input into the tender documents.

Concept renderings illustrating how an integrated approach to the design of the retaining wall, noise barrier, landscape, trees, and vegetation.

THE DESIGN EXCELLENCE WORKING GROUP PROCESS

How does the working group process work?

- The working group will be a forum for discussions, design workshops, and two-way communication between Metrolinx and key stakeholders related to the Lakeshore East – Ontario Line Joint Corridor project.
- The images below are from an earlier excellence workshop for the Davenport Diamond Project.

Note: until public health guidelines permit in-person meetings we will aim to recreate this process virtually.

These workshops are an opportunity for an exchange of ideas and constructive feedback.

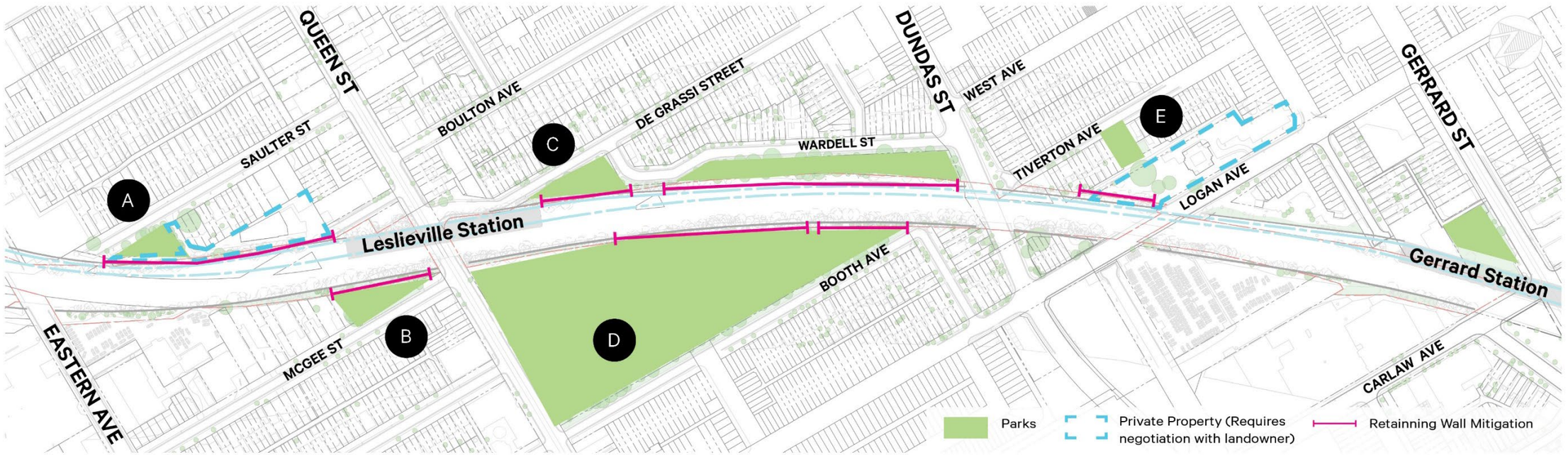
Community members worked directly with the design consultants.

Visits to site by all participants is a critical tool in developing a common understanding of both the issues and opportunities.

INTRODUCTION - JOINT CORRIDOR FOCUS AREAS

Schedule and topics for the Design Excellence Working Group

- The agendas and the schedule for future workshops will be discussed with this Working Group.
- Future sessions can focus on specific areas along the Joint Corridor *(see below),* the Queen Street Underpass, graffiti management, and overall landscape strategies.



A **Saulter Street Brewery - Private property near Saulter Street Parkette**

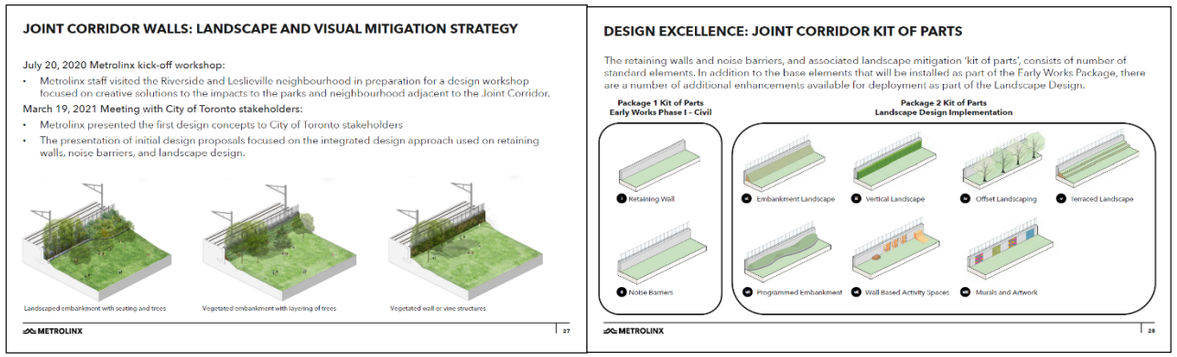
B **McCleary Playground**

C **Bruce Mackey Park**

D **Jimmie Simpson Park**

E **444 Logan Ave - Private property near Tiverton Avenue Parkette**

OVERVIEW OF WHERE WE ARE TODAY



JOINT CORRIDOR WALLS: LANDSCAPE AND VISUAL MITIGATION STRATEGY

July 20, 2020 Metrolinx kick-off workshop:

- Metrolinx staff visited the Riverside and Leslieville neighbourhood in preparation for a design workshop focused on creative solutions to the impacts to the parks and neighbourhood adjacent to the Joint Corridor.

March 19, 2021 Meeting with City of Toronto stakeholders:

- Metrolinx presented the first design concepts to City of Toronto stakeholders
- The presentation of initial design proposals focused on the integrated design approach used on retaining walls, noise barriers, and landscape design.

Landscaped embankment with seating and trees | Vegetated embankment with layering of trees | Vegetated wall or vine structures

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DESIGN EXCELLENCE: JOINT CORRIDOR KIT OF PARTS

The retaining walls and noise barriers, and associated landscape mitigation 'kit of parts', consists of number of standard elements. In addition to the base elements that will be installed as part of the Early Works Package, there are a number of additional enhancements available for deployment as part of the Landscape Design.

Package 1 Kit of Parts
Early Works Phase 1 - Civil

Package 2 Kit of Parts
Landscape Design Implementation

1 Retaining Wall
2 Noise Barriers
A Embankment Landscape
B Vertical Landscape
C Offset Landscaping
D Terraced Landscape
E Programmed Embankment
F Wall Based Activity Spaces
G Murals and Artwork

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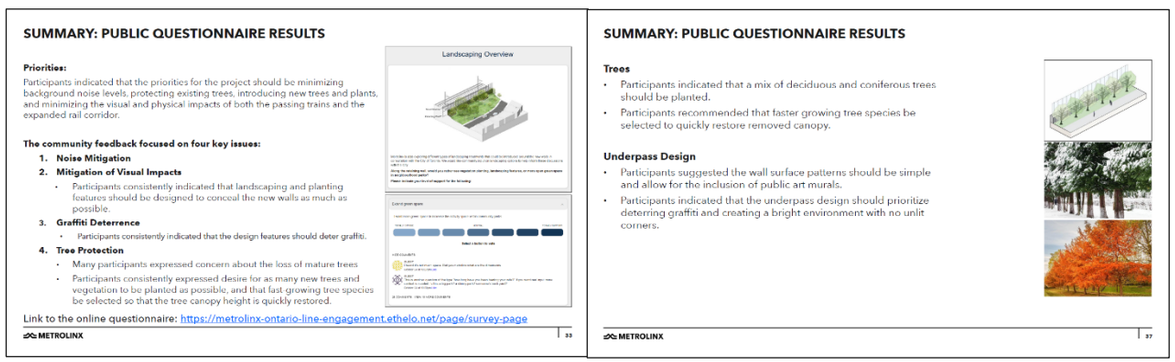
Development of landscape and urban design concepts

Retaining Wall, Noise Barrier, Landscape Design Concepts

- Metrolinx has worked with the City of Toronto to develop a series of design concepts (a kit of parts) for retaining walls, noise barriers, and landscape design for the Joint Corridor.
- The focus of these concepts was to mitigate impacts to the adjacent parks and neighbourhoods.



SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

Priorities:

Participants indicated that the priorities for the project should be minimizing background noise levels, protecting existing trees, introducing new trees and plants, and minimizing the visual and physical impacts of both the passing trains and the expanded rail corridor.

Landscaping Overview

The community feedback focused on four key issues:

1. **Noise Mitigation**
2. **Mitigation of Visual Impacts**
   - Participants consistently indicated that landscaping and planting features should be designed to conceal the new walls as much as possible.
3. **Graffiti Deterrence**
   - Participants consistently indicated that the design features should deter graffiti.
4. **Tree Protection**
   - Many participants expressed concern about the loss of mature trees
   - Participants consistently expressed desire for as many new trees and vegetation to be planted as possible, and that fast growing tree species be selected so that the tree canopy height is quickly restored.

Link to the online questionnaire: https://metrolinx-ontario-line-engagement.ethelo.net/page/survey-page

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SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

Trees

- Participants indicated that a mix of deciduous and coniferous trees should be planted.
- Participants recommended that faster growing tree species be selected to quickly restore removed canopy.

Underpass Design

- Participants suggested the wall surface patterns should be simple and allow for the inclusion of public art murals.
- Participants indicated that the underpass design should prioritize deterring graffiti and creating a bright environment with no unlit corners.

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Online public survey asking the community to provide feedback on the landscape concepts

Online Public Survey (September 23 to October 24, 2022)

- The objective of the survey was to solicit feedback from the Community on concepts for retaining walls, noise barriers, and landscape design proposals.

JOINT CORRIDOR PROCUREMENT PACKAGES

Package 1 – Early Works (Civil)

- Design-Bid-Build (DBB) procurement model
- 100% design package released for tender

Scope

- Scope includes construction of retaining walls, noise barriers, bridges, and trackwork
- The DXWG will review retaining wall and bridge abutment surface finishes, noise barrier specifications, and underpass lighting
- Determine extent of removals (existing retaining walls/infrastructure, etc.) along the existing parks/playgrounds to "build back better"

Schedule

- Detailed design (70%) submission to stakeholders – January 14, 2022
- Deadline for input into the detailed design – February 21, 2022
- RFP In-Market - April 2022 – July 2022
- Construction Start – September 2022

Package 1 - Early Works - Civil

Package 2 - Early Works - Landscape

Package 3 – OL North Contract

JOINT CORRIDOR PROCUREMENT PACKAGES

Package 2 – Landscape Design and Implementation

- Design-Bid-Build (DBB) procurement model
- 100% design package released for tender
- Landscape design scope including vegetated terraces and/or embankments, tree planting, furniture and fixtures

Scope

- The landscape design scope will include park remediation, underpass and streetscape enhancement, tree and vegetation strategies, embankments, terraces, park furniture

Schedule

- Scope finalized and Technical Advisor onboarded – Mid-2022
- Detailed design and construction procurement – 2023
- Construction begins – 2024, completion TBD

Tree Replacement and the Accrual of Benefit Over Time

- The benefits of landscape design, and plantings, accrue over time which is why effort should be made to project mature trees and vegetation whenever feasible.
- Planting early in the project delivery process accelerates the benefits new trees and vegetation bring to the community.

Package 1 - Early Works - Civil

Package 2 - Early Works - Landscape

Package 3 – OL North Contract

JOINT CORRIDOR PROCUREMENT PACKAGES

PACKAGE 3 - ONTARIO LINE (OL) NORTH CONTRACT

- Public Private Partnership (P3) procurement model
- Output Specifications and Reference Concept Designs will be released for tender
- Scope includes the construction of the new stations at Queen Street and Gerrard

Scope

- Scope includes the construction of the new stations at Queen Street and Gerrard

Schedule

- There will be multiple rounds of stakeholder reviews, ongoing coordination meetings and community engagements to be scheduled for 2022
- Request for Proposal (RFP) Release - September 2022
- RFP Issue – January 2023
- RFP Close – February 2024
- Construction Start - April 2024

Package 1 - Early Works - Civil

Package 2 - Early Works Landscape

Package 3 – OL North Contract

METROLINX DESIGN GUIDELINES

DGL-01
DESIGN GUIDELINE
NOISE AND VIBRATION MITIGATION

VERSION 1.1 NOVEMBER 2021

DGL-02
DESIGN GUIDELINE
VEGETATIVE SCREENING FOR NOISE BARRIERS

VERSION 1.1 NOVEMBER 2021

DGL-03
DESIGN GUIDELINE
GRAFFITI MANAGEMENT

VERSION 1.1 NOVEMBER 2021

Category	Noise Barrier Options	Illustrations
1	**Base Noise Barriers** • Base design specification • Meets commitment outcomes from the Environmental Assessment process • Noise barriers must be technically, administratively, operationally and economically feasible	
2	**Aesthetically Enhanced Noise Barriers** • Enhanced features to mitigate negative visual impacts • Extended palette of noise barrier components (enhanced design specifications) to counter significant visual impacts in sensitive locations • Meets all the requirements of the Base Design Specification	
3	**Third Party Scope Requests** • Response to third party scope requests (assessed on a case by case basis) • The objective is to support specific third party requests and/or municipal planning and urban design objectives • Meets all the requirements of the Base Design Specification	
4	**Murals & Public Art Treatments** • Public art or murals applied as a surface treatment to noise walls • Public art or mural projects are typically procured, implemented, and maintained by municipalities or other third parties • Meets all the requirements of the Base Design Specification	

Illustrations: Approaches to Vegetative Screening (adjacent to noise barriers)

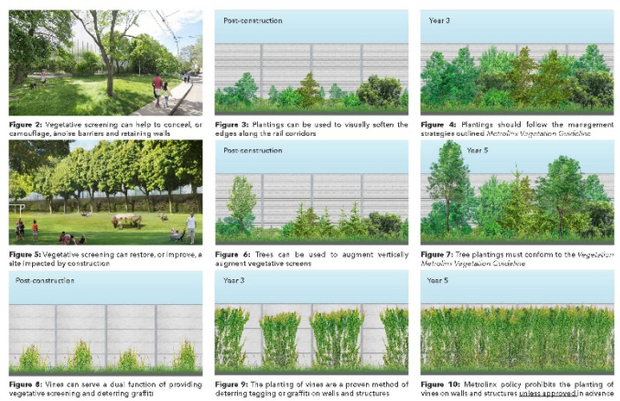

Figure 2: Vegetative screening can help to conceal, or camouflage, anoise barriers and retaining walls

Figure 3: Plantings can be used to visually soften the edges along the rail corridors

Figure 4: Plantings should follow the maregement strategies outlined *Metrolinx Vegetation Guideline*

Figure 5: Vegetative screening can restore, or improve, a site impacted by construction

Figure 6: Trees can be used to augment vertically augment vegetative screens

Figure 7: Tree plantings must conform to the *Vegetation Metrolinx Vegetation Guideline*

Figure 8: Vines can serve a dual function of providing vegetative screening and deterring graffiti

Figure 9: The planting of vines are a proven method of deterring tagging or graffiti on walls and structures

Figure 10: Metrolinx policy prohibits the planting of vines on walls and structures unless approved in advance

Illustrations: Graffiti Deterrence Strategies

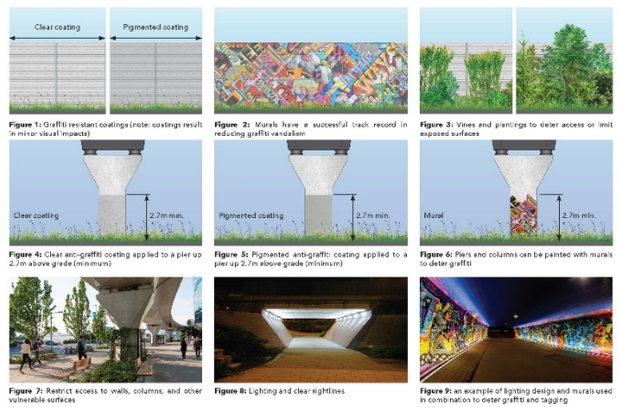

Figure 1: Graffiti resistant coatings (note: coatings result in minor visual impacts)

Figure 2: Murals have a successful track record in reducing graffiti vandalism

Figure 3: Vines and plantings to deter access or limit exposed surfaces

Figure 4: Clear anti-graffiti coating applied to a pier up 2.7m above grade (minimum)

Figure 5: Pigmented anti-graffiti coating applied to a pier up 2.7m above grade (minimum)

Figure 6: Piers and columns can be painted with murals to deter graffiti

Figure 7: Restrict access to walls, columns, and other vulnerable surfaces

Figure 8: Lighting and clear sightlines

Figure 9: an example of lighting design and murals used in combination to deter graffiti and tagging

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DESIGN EXCELLENCE AT METROLINX - PRECEDENT PROJECTS

Davenport Diamond Project

The project includes a new elevated rail guideway and public realm project (called *The Greenway*). The project will include a linear park, multi-use trail, and a pedestrian and cycle crossing over the CP Rail tracks.

- *The Greenway* will transform the space made available by the elevated guideway into an amenity for use by the communities on both sides or the rail corridor.

DAVENPORT DIAMOND PROJECT - CURRENTLY UNDER CONSTRUCTION

Davenport Diamond Project

Metrolinx is currently building the Davenport Diamond elevated guideway, Once the guideway is complete the work on the public realm improvements will commence.

- The guideway is a unique structure incorporating design features that have been developed specifically for this neighbourhood.

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DESIGN EXCELLENCE AT METROLINX - PRECEDENT PROJECTS

Young Street, Aurora Rail Bridge

As part of the GO Expansion program a second bridge is being added over Yonge Street in Aurora to facilitate increased service on the Barrie Line.

Key Benefits:

- The Town of Aurora urban design policy framework identified the railway overpass as the southern gateway to the town.
- The bridge cladding project was initiated to support of a major municipal planning and urban design initiative for downtown Aurora.

The Yonge Street rail bridge is viewed by as a landmark and a threshold signifying the southern entry point into the Town of Aurora.

The bridge cladding and signage concept were designed to support the urban design objectives of both the town and region.

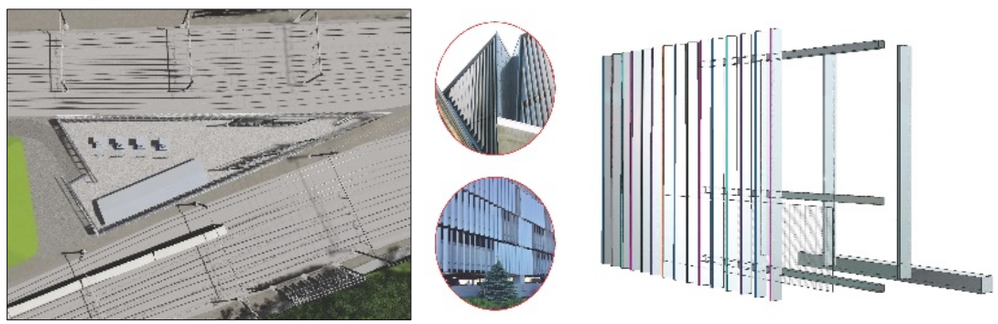
Ordnance Switching Station

This facility will be located at the eastern tip of the Ordnance Triangle visible

Key Benefits:

- The Ordnance facility was designed with input from key external stakeholders to compliment the adjacent Fort York National Historic Site, the new Ordnance Triangle Park, and the Garrison Crossings.
- The design of the enclosure was intended to create a new urban landmark in this part of the City of Toronto.

The Ordnance Switching Station will be a critical piece of infrastructure serving the Union Station Rail Corridor..



Plan view and details of Ordnance Switching Station enclosure

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Joint Corridor Design Principles, Process, and Proposals

PUBLIC REALM DESIGN OBJECTIVES

Design principles provide a set of aspirational goals for a project against which designs can be 'measured' both at the outset and throughout the development process.

Minimize sound impact of passing trains

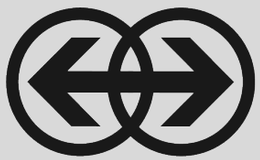
Minimize visual impacts of noise and retaining walls

Protect existing trees

Start planting early to accelerate benefits

Maximize vegetative screening

Focus on low-maintenance, all-season vegetation



Consider connections

Enhance Safety and Security

Enhance existing character of neighbourhood

Establish a visually cohesive identity for the Ontario line

TREE PROTECTION AND THE SELECTION OF RETAINING WALL SYSTEM

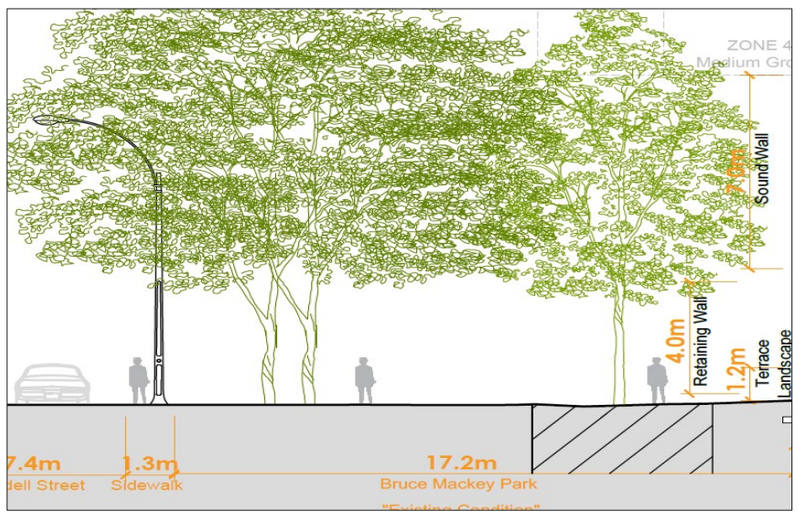
Objective: Protect as many trees as possible

- Metrolinx has been exploring different construction methodologies to determine how to minimize the areas of disturbance arising out of the assembly of the retaining walls on site.
- The impact on adjacent trees was a key criteria in the selection of the optimal retaining wall system.
- Metrolinx will be using T-Walls as it allows for construction of the retaining walls from within guideway (Metrolinx owned lands).
- This will result in reduced impacts to adjacent sites including parks.

T-Wall retaining wall system

- Reduces space and clearances required for construction
- Smaller wall footprint reduces impact to trees adjacent to the rail corridor
- Speedier and simpler construction

T-Wall retaining wall system

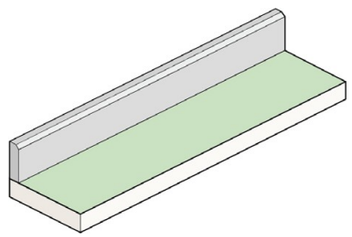


Cross-section the T-wall retaining system at Bruce Mackay Park

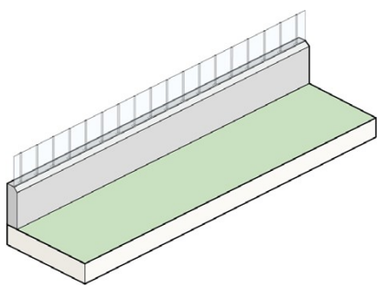
DESIGN EXCELLENCE: JOINT CORRIDOR KIT OF PARTS

The retaining walls and noise barriers, and associated landscape mitigation 'kit of parts', consists of number of standard elements. In addition to the base elements that will be installed as part of the Early Works Package, there are a number of additional enhancements available for deployment as part of the Landscape Design.

Package 1 Kit of Parts
Early Works Phase I – Civil

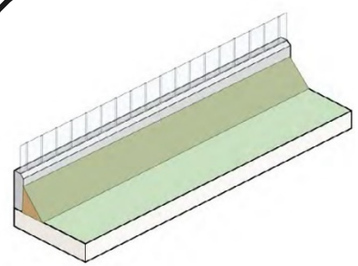


i Retaining Wall

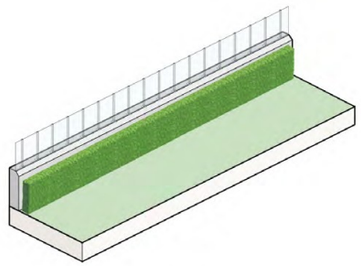


ii Noise Barriers

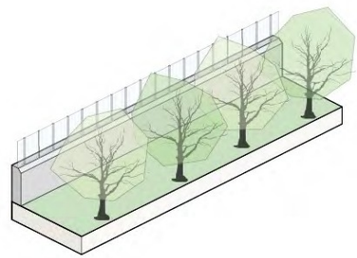
Package 2 Kit of Parts
Landscape Design Implementation



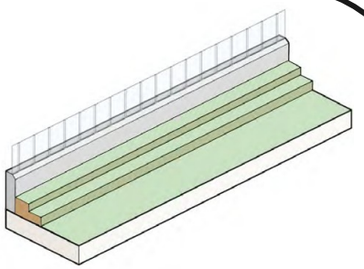
vi Embankment Landscape



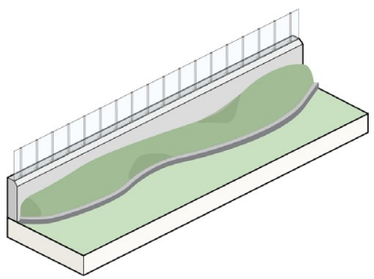
iii Vertical Landscape



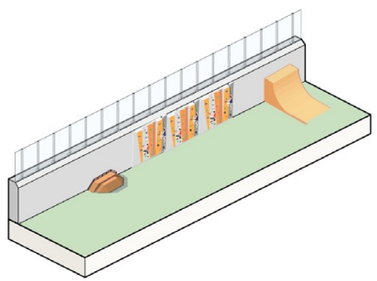
iv Offset Landscaping



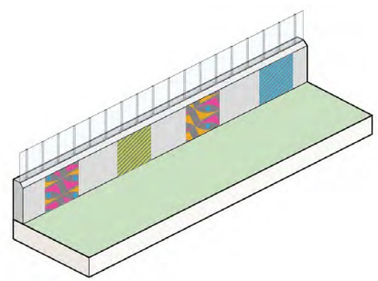
v Terraced Landscape



vii Programmed Embankment



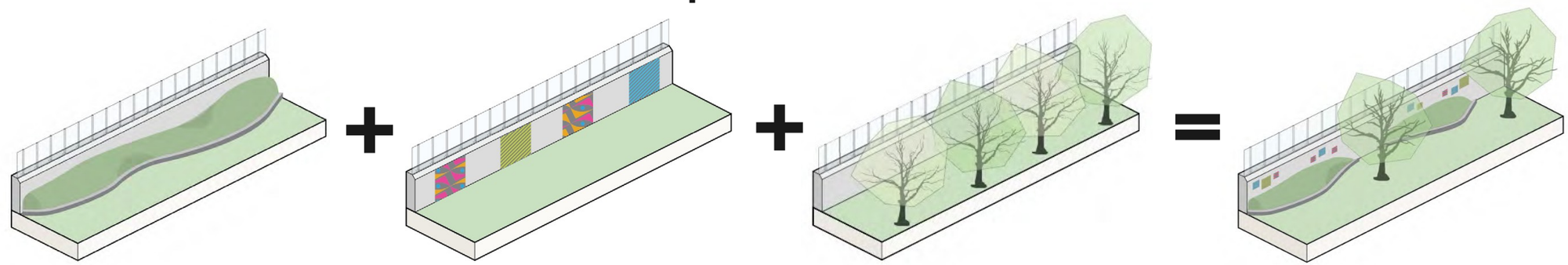
vii Wall Based Activity Spaces



viii Murals and Artwork

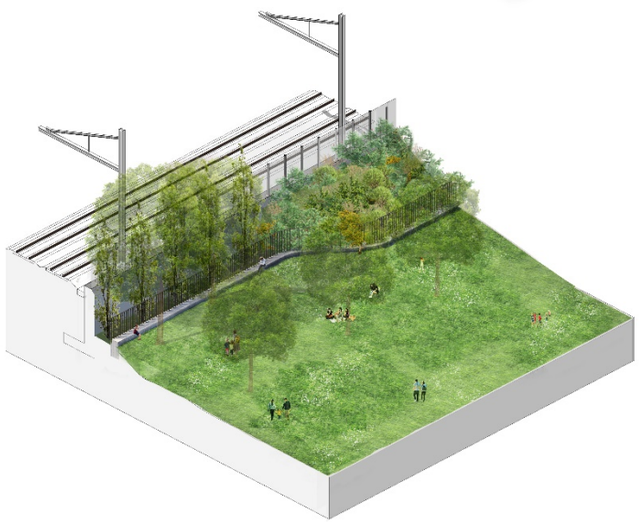
DESIGN EXCELLENCE: JOINT CORRIDOR KIT OF PARTS

The kit of parts can be combined

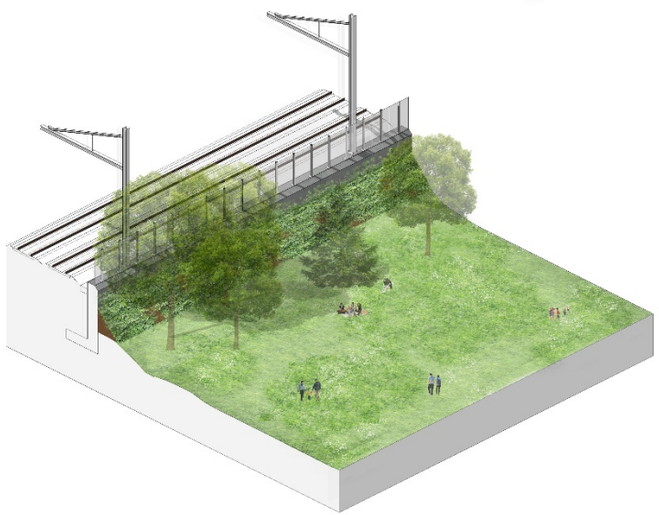


Embankment - Programmed | Murals and Artwork | Offset Landscaping | Composite Strategy

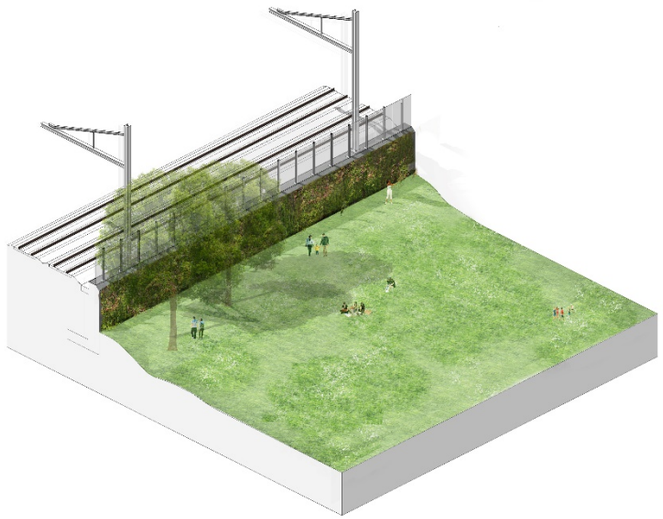
Combining elements can open up a range of design opportunities



Landscaped embankment with seating and trees



Vegetated embankment with layering of trees

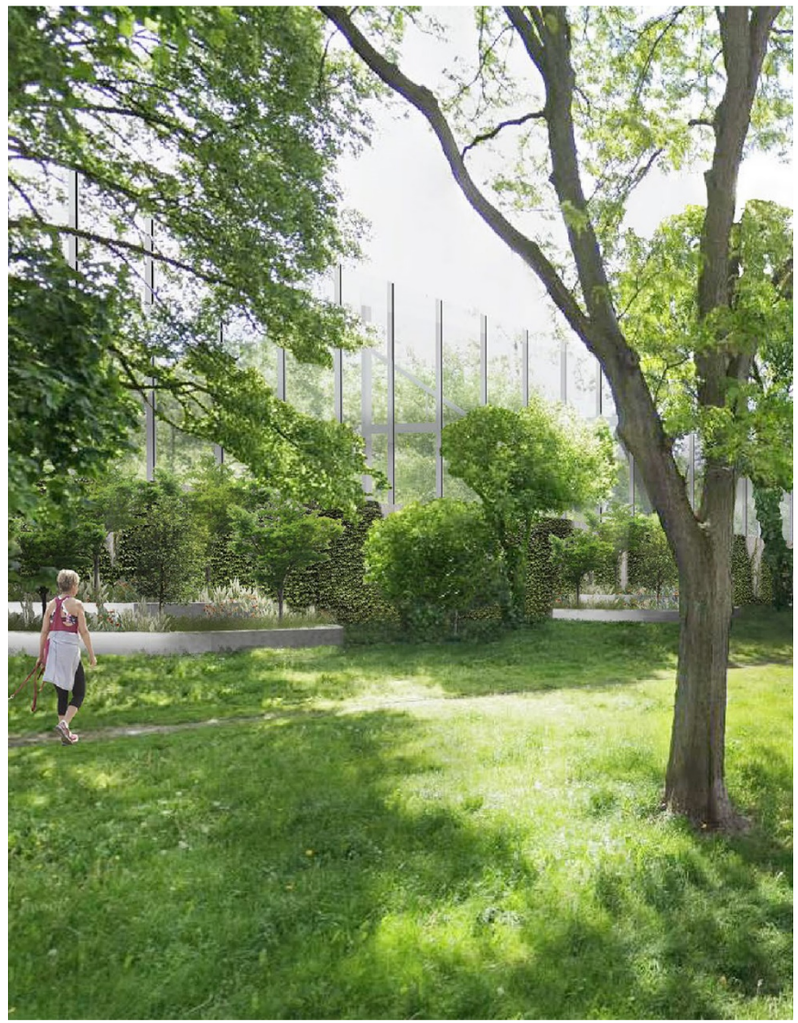


Vegetated wall or vine structures

JOINT CORRIDOR DESIGN EXCELLENCE WORKING GROUP

Principles guiding the landscape design approach:

- Protect mature trees and vegetation where feasible
- Use layering of trees and vegetation to enhance visual screening*
- Plan for year-round changes in colour and employ an all-season planting and vegetation strategy (specify a combination of coniferous and deciduous trees and shrubs)
- Employ low maintenance, self-sustaining landscape and planting strategies
- Where space permits landscaped and terraced embankments can minimize the visual impacts of retaining walls



An rendering of an integrated retaining wall, noise barrier, and landscape design proposal for Bruce Mackay Park.

* Where space permits, layers of plantings can provide an ever-changing visual buffer adjacent to linear infrastructure including rail corridors, retaining walls, and noise barriers.

Community Survey Results

Feedback on retaining walls, noise barriers, and landscape design proposals

RIVERSIDE/LESLIEVILLE COMMUNITY ENGAGEMENT

East Segment Virtual Open Houses

Metrolinx hosted a series of meetings on April 22, June 24, September 23 and October 5, 2021 with more than 800 people from the community in attendance.

LURA Design Survey

Lura Consultants created a survey for Riverside and Leslieville residents to provide input and feedback on the design of the new noise walls, retaining wall options and vegetative landscaping.

LURA Consultants

In September 2021, LURA organized and facilitated independent meetings with LSE CAC, Save Jimmie Simpson, East End Transit Alliance, Riverside BIA and Leslieville BIA to raise awareness and get feedback on the Ontario Line.

SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

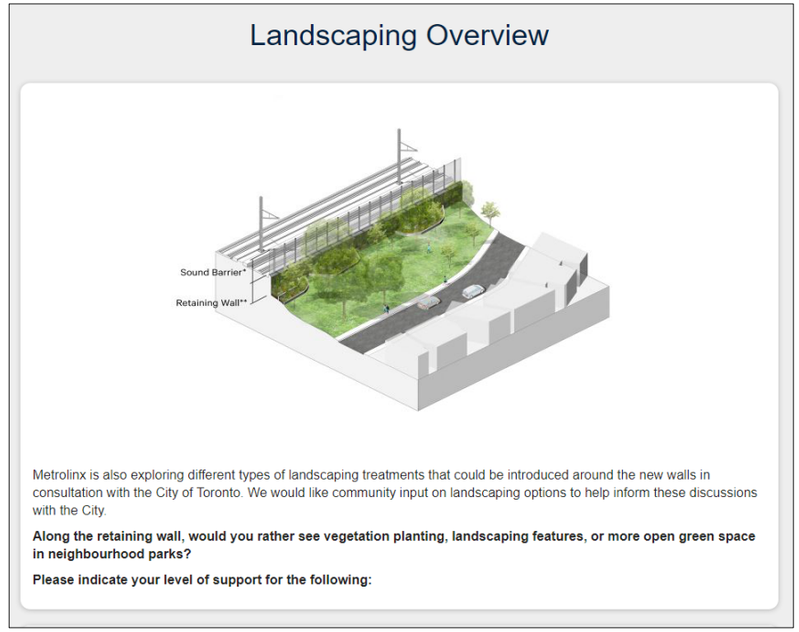
The online questionnaire was open from September 23 to October 24

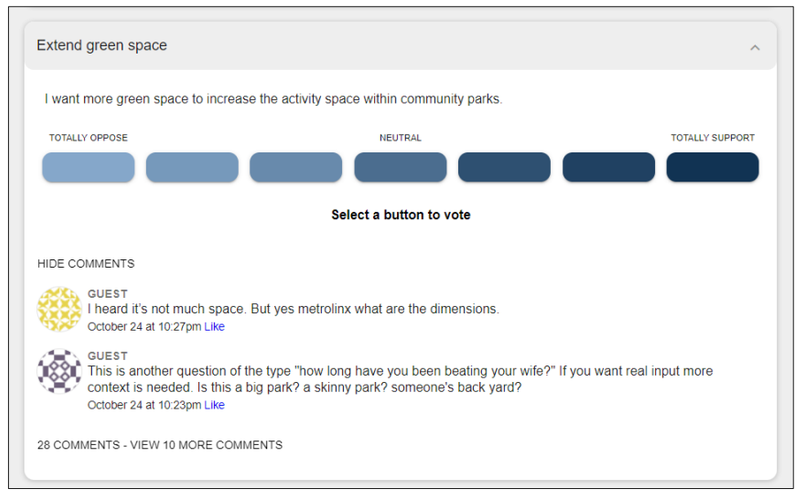
Priorities:

Survey participants indicated that the priorities for the project should be minimizing background noise levels, protecting existing trees, introducing new trees and plants, and minimizing the visual and physical impacts of both the passing trains and the expanded rail corridor.

The community feedback focused on four key issues:

1. **Noise Mitigation**
2. **Mitigation of Visual Impacts**
   - Participants consistently indicated that landscaping and planting features should be designed to conceal the new walls as much as possible.
3. **Graffiti Deterrence**
   - Participants consistently indicated that the design features should deter graffiti.
4. **Tree Protection**
   - Many participants expressed concern about the loss of mature trees
   - Participants consistently expressed desire for as many new trees and vegetation to be planted as possible, and that fast-growing tree species be selected so that the tree canopy height is quickly restored.



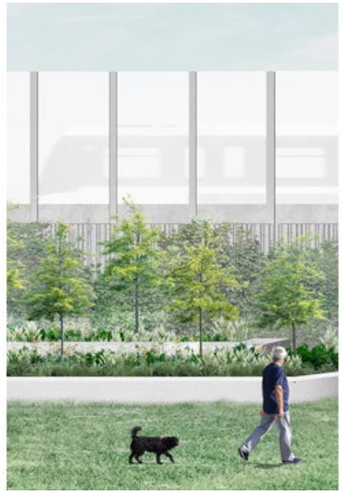


SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

Noise Barriers

- Participants indicated that their preference for noise wall transparency would be based on whichever material is most noise-reducing.
  - Survey participants preferred noise walls with moderate transparency (40% approval) or low transparency (38% approval).
- Participants supported trees and vegetation being planted in front of the noise wall, regardless of transparency level.
- Participants indicated that the level of transparency should vary depending on location, with residential areas having lower to zero transparency, and green space and activity areas having higher transparency.

Noise barrier with transparent panels

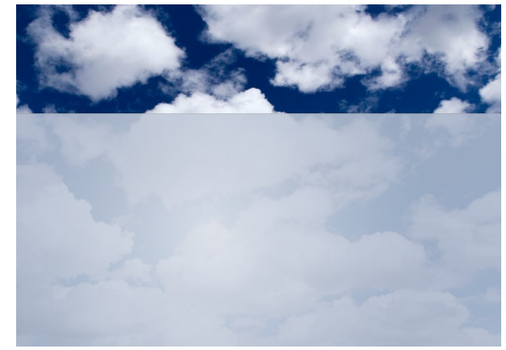


Noise barrier with translucent panels

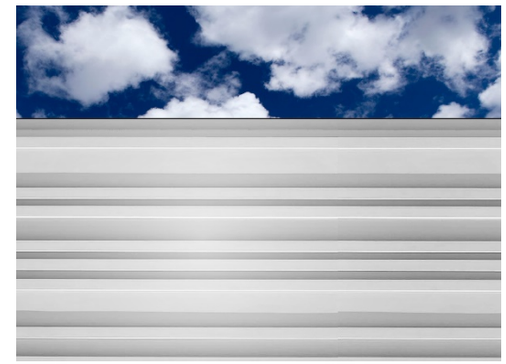
Noise barrier with opaque panels

Noise barrier panel specifications

Transparent panel



Translucent panel



Opaque panel

SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

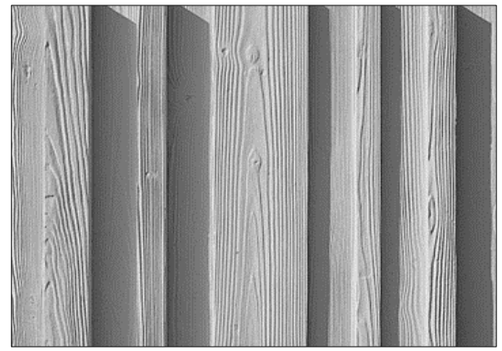
Retaining Walls

- Participants indicated a desire for additional textured concrete pattern options to be considered.
  - Of the patterns presented of textured concrete for the retaining walls, majority of survey participants preferred the high-relief wood-like pattern (58% approval).
- Participants expressed desire for the concrete to be concealed by greenery and artwork.
- Participants discussed that the concrete pattern should be simple, deter graffiti, be easy to maintain, and support vine and vegetation growth.

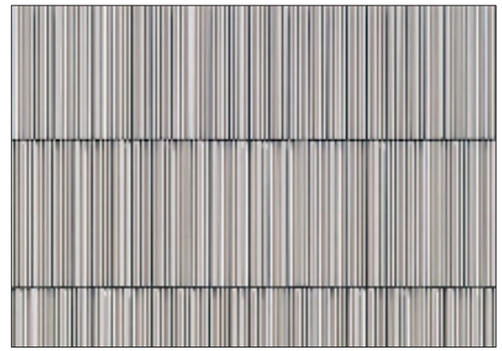
Activity Features for Open Green Space

- Participants emphasized that seating and activity features should be accessible to all users.
- Participants indicated that activity spaces and trails should be designed to deter vandalism and graffiti.
  - Majority of survey participants supported:
    - Extending green space to increase the activity space within community parks (73% approval).
    - Adding new plants and trees to create a visual screen in front of the retaining and noise walls (90% approval).
    - Adding landscaping features to enhance existing community spaces (87% approval).

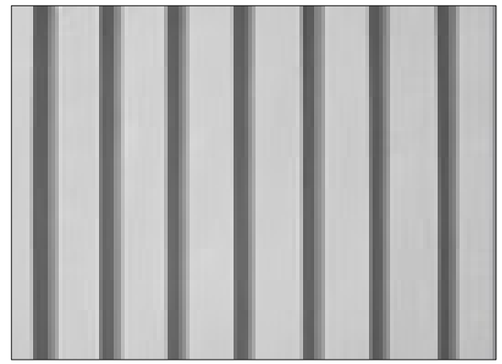
Retaining Wall Surface Patterns



High Relief Wood Pattern



Stacked Vertical Stripe Pattern



Simple Vertical Stripe Pattern

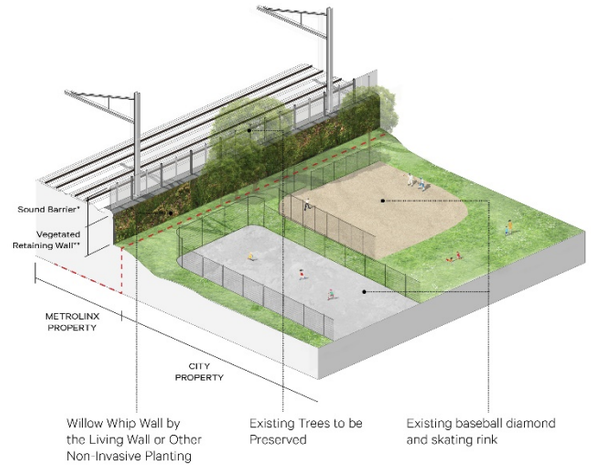
SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

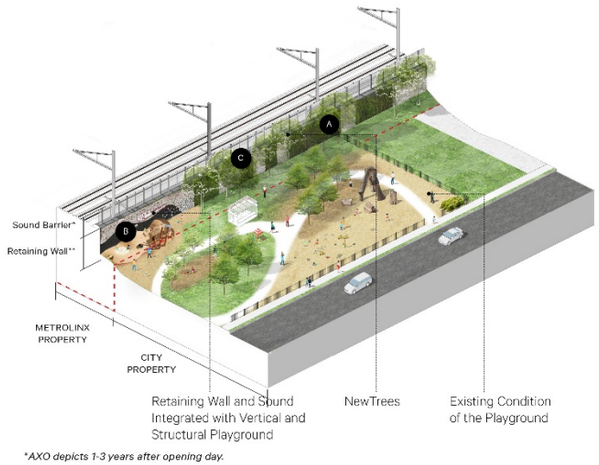
Vegetation Types

- Participants emphasized selecting a mix of plants to provide colour in all seasons.
- Participants indicated a preference for native and pollinator plants.
- Participants suggested using vines, trees, and tall grasses to conceal the retaining wall.

Landscaping and Planting Features

- Participants indicated that a mix of landscaping and planting features be used to tailor to the surrounding neighbourhood's character.
- Participants indicated that landscaping and planting features should be designed to limit maintenance needs, deter graffiti, and conceal the retaining wall.





Examples of how an integrated retaining wall, noise barrier, and landscape design solution can be applied to different conditions along the Joint Corridor.

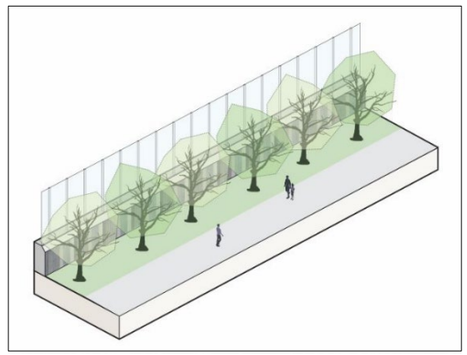
SUMMARY: PUBLIC QUESTIONNAIRE RESULTS

Trees

- Participants indicated that a mix of deciduous and coniferous trees should be planted.
  - Survey participants preferred deciduous row (76% approval) and coniferous screen (72% approval) over columnar tree hedge (54% approval) as options for tree layering.
- Participants recommended that faster growing tree species be selected to quickly restore removed canopy.

Underpass Design

- Participants suggested the wall surface patterns should be simple and allow for the inclusion of public art murals.
- Participants indicated that the underpass design should prioritize deterring graffiti and creating a bright environment with no unlit corners.
  - Majority of survey participants opposed the wall pattern options proposed for the underpass. The highest level of support was for the high-relief wood-like pattern (47% approval).
  - Survey participants supported all three lighting options that were presented. The highest level of support was for lighting integrated into wall (73% approval).



METROLINX GRAFFITI MANAGEMENT STRATEGIES

Timely removal of graffiti

- Timely graffiti removal will help stop the spread and re-occurrence of graffiti.
- Graffiti writers will not waste their time or materials and are unlikely to return to locations that do not offer a good return for their efforts.

Apply graffiti resistant coatings or protectants on vulnerable surfaces

- Pigmented coatings that can be over-painted.
- Clear anti-graffiti coatings with silicone-based "slip additives" (this stops paint from adhering to surfaces).
- This is a standard practice for most municipalities and transit agencies.

Cover of the Metrolinx Graffiti Management Design Guideline

METROLINX GRAFFITI MANAGEMENT STRATEGIES

Restrict access to walls or vulnerable areas

- Graffiti writers will not waste their time or materials and are unlikely to return to locations that are difficult to access.

Murals

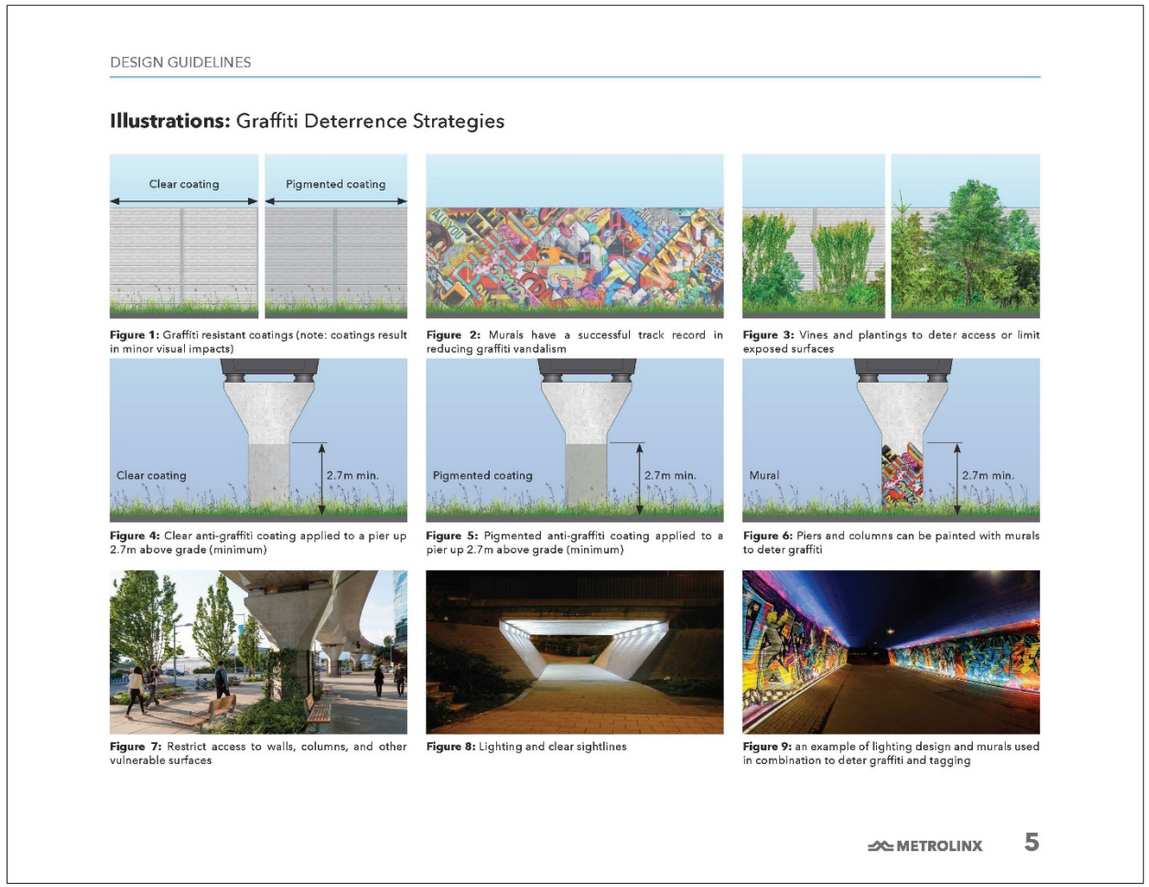
- Murals have a successful track record in reducing graffiti vandalism and replacing it with vibrant, colourful, community-engaged street art.

Landscaping on, or adjacent, to vulnerable surfaces

- Vines, plants, and shrubs (natural and artificial) are a proven graffiti deterrence strategy.

Increase lighting

- Increasing lighting in vulnerable areas to discourage vandals.



DESIGN GUIDELINES

Illustrations: Graffiti Deterrence Strategies

Figure 1: Graffiti resistant coatings (note: coatings result in minor visual impacts)

Figure 2: Murals have a successful track record in reducing graffiti vandalism

Figure 3: Vines and plantings to deter access or limit exposed surfaces

Figure 4: Clear anti-graffiti coating applied to a pier up 2.7m above grade (minimum)

Figure 5: Pigmented anti-graffiti coating applied to a pier up 2.7m above grade (minimum)

Figure 6: Piers and columns can be painted with murals to deter graffiti

Figure 7: Restrict access to walls, columns, and other vulnerable surfaces

Figure 8: Lighting and clear sightlines

Figure 9: an example of lighting design and murals used in combination to deter graffiti and tagging

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Excerpt from the *Graffiti Management Design Guideline*

Next Steps

WORKING GROUP: NEXT STEPS

1. Open Discussion
2. Follow up with notes/decision/action items from today's workshop
3. Terms of Reference
4. Schedule and topics for the Design Excellence Working Group:
   - The agendas and the schedule for future workshops will be discussed with this Working Group
   - Future sessions can focus on specific areas along the Joint Corridor, the Queen Street Underpass, graffiti management, and overall landscape strategies.
5. Next meeting – agenda to be shared in advance


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