From: "Levitt, Karen" <karen.levitt@vancouver.ca>
To: "Direct to Mayor and Council
Date: 9/5/2025 2:17:49 PM
Subject: Council Memo- Country Lane Design and Local Improvement Laneways - RTS 16269
Attachments: ENG- Council Memo- Country Lane Design and Local Improvement Lan eways RTS 16269.pdf

Dear Mayor and Council,

Attached is a memo from Lon LaClaire, GM, Engineering Services, concerning Country Lane Design and Local Improvement Laneways.

- Staff were tasked to explore a cost-effective Country Lane design as an alternative to asphalt paving, building on insights from Vancouver's 2002 pilot of Country Lanes in three locations.
- Country Lanes use permeable materials that allow rainwater infiltration, reduce sewer runoff, capture pollutants, and mitigate urban heat through increased surface reflection and soil moisture. Community involvement takes the form of maintenance of the laneway grass surfaces, encouraging stewardship, physical activity, and neighborhood connections for residents.
- A variety of materials for use in Country Lanes were reviewed, and given Vancouver's context, it was concluded that grass pavers would offer the best long-term performance.
- Construction of a standard 800\u8239 m² laneway is estimated at approximately $437,000, those costs including the preparation, subbase, and installation requirements. More information on costs, constructability and performance will be collected as these grass pavers will be used in upcoming City projects.
- This Country Lane option will be communicated to residents inquiring about laneway upgrades via the Local Improvements Program via the webpage and a Fact Sheet, alongside information on related opportunities residents can support such as "Adopt a Catch Basin and the Green Streets program.

If you have any questions, please feel free to contact Lon LaClaire at 604-873-7336 or lon.laclaire@vancouver.ca.

Thanks,

Karen

Karen Levitt, Deputy City Manager
karen.levitt@vancouver.ca

The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the xʷməθkʷəy̓əm/Musqueam, Sḵwx\u817 _wú7mesh/Squamish and səlilwətaɬ/Tsleil-Waututh nations

CITY OF VANCOUVER

ENGINEERING SERVICES
Lon LaClaire, M.Eng., P.Eng.
City Engineer/General Manager

MEMORANDUM

September 5, 2025

TO: Mayor and Council

CC: Karen Levitt, Acting City Manager
Armin Amrolia, Deputy City Manager
Sandra Singh, Deputy City Manager
Katrina Leckovic, City Clerk
Maria Pontikis, Chief Communications Officer, CEC
Teresa Jong, Administration Services Manager, City Manager's Office
Mellisa Morphy, Director of Policy, Mayor's Office
Trevor Ford, Chief of Staff, Mayor's Office

FROM: Lon LaClaire
General Manager, Engineering Services

SUBJECT: Country Lane Design and Local Improvement Laneways

RTS #: 16269

This Engineering update responds to the Council motion of April 10, 2024 that directed staff to explore and report back with a new, cost effective, Country Lane design. The design builds on insights from the 2002 pilot and will be included as an option for residents pursuing Local Improvement laneway projects in suitable locations.

Vancouver has over 700 km of laneways with each block contributing approximately 1.2 million litres of stormwater runoff and 450 pounds of sediment to the sewer system annually. In April 2024, Council endorsed amendments to the Local Improvement Procedure By-Law No. 3614 ("LIB") to recover 100% of project costs from benefitting property owners for residential laneway paving, and to offset the impacts of any impervious area increases with green rainwater infrastructure ("GRI") as per the Rain City Strategy.

The Country Lane typology is of interest because the design allows for a vehicular travelling surface but uses permeable materials rather than asphalt paving, thus facilitating rainwater infiltration close to where it falls. This decreases flows to the sewer system, captures pollutants and lowers urban heat effect due to a cooler surface from increased albedo (light reflection) and increased soil moisture. Residents have a key role in the maintenance of Country Lanes and are encouraged to mow and water the grass to keep it healthy. This stewardship can promote physical activity and lead to better social connections. Greened laneways can enhance visual aesthetics, create safer, more walkable environments, and provide new spaces for community connections.

Staff researched the use of Country Lane type laneways in cities around North America and found that several large cities are retrofitting laneways at a programmatic scale to include green infrastructure. These are not

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necessarily Country Lanes but do include elements such as permeable pavers, gardens or rain gardens and planters to create localized green zones that can help mitigate flooding and urban heat effects.

Given Vancouver's context and experience with the 2002 Country Lanes pilot, staff reviewed several building materials available for creating greened laneways and determined that grass pavers meeting updated specification requirements would be an appropriate solution to offer citizens who are requesting an LIB project for their laneway and want an alternative to asphalt paving (factsheet in Appendix A). As opposed to those used in 2002, current grass pavers are made from non-biodegradable plastics with an indefinite lifespan and have a Load Bearing Capacity when filled of 300 tons/m^2 (a mid-sized SUV represents a load of approximately 25 tons/m^2). These pavers can be filled with gravel or growing medium and seed, facilitating rainwater infiltration into underlying soil and reducing surface flow and ponding during rain events. Maintenance requires watering and fertilizing the grass as needed and top dressing with soil when required to keep the plastic grid covered. If heave, compaction, or clogging does occur, it is possible to unclip and remove grids for reinstallation.

The estimated cost for constructing and establishing a typical 800 m^2 laneway with grass pavers is $437,000 or $546/$m^2$ in contrast to conventional asphalt laneway with an infiltration trench at $341/$m^2$ (Table 1). This estimate aligns with the findings of the 2002 Country Lanes pilot. Further to recommendations from that pilot, cost savings were realized by using a simplified edge to edge grid paver design, but the subbase requirements for supporting both grass root growth and frequent truck loading (e.g. refuse trucks), is the main cost driver. However, property owners only pay for the actual costs which will vary depending on the location.

Table 1: Laneway Options Cost Comparison for LIB laneway projects

Laneway Option	Surface Material	Estimated Unit Cost for surface and GRI ($/$m^2$)	Estimated Cost for an 800 m^2 Laneway	Estimated Contribution per Local Owner (33' frontage)	Estimated Annual Contribution per Local Owner (amortized over 15 yrs)
Infiltration Trench + Conventional Asphalt	Asphalt	$ 341	$ 272,000	$10,500	$1,000
Country Lane	Grass Paver	$ 546	$ 437,000	$16,800	$1,600

Next Steps

Information regarding the grass paver option will be included on the Local Improvements Program webpage, and a fact sheet (Appendix A) will be attached to the information package provided to residents who wish to pursue a petition on their block. This will include more information on related One Water opportunities that residents can support such as "Adopt a Catch Basin", the Green Streets Program, the Boulevard Gardening Guidelines and "Adopt a Tree". The Green Infrastructure Branch has installed this newer generation of grass pavers in projects in the median at Cambie St & 31st Ave. and the parking shoulder of 1300 E Georgia St., 1800 Stainsbury St., and 3500 Lakewood to gain experience on installation, maintenance and long-term performance.

Please reach out to me directly if you have any further questions or concerns.

Lon LaClaire, M.Eng., P.Eng.
General Manager, Engineering Services
604.873.7336 | lon.laclaire@vancouver.ca

APPENDIX A: Fact Sheet

Laneway Upgrades

Rain City Strategy **Green Infrastructure Implementation**

Laneway Upgrades

Property owners may request improvements in their local area through the Local Improvement Program. There are two laneway road surface options:

1) Conventional Asphalt
2) Country Lane

Below illustrates how green rainwater infrastructure is incorporated into both road surface options.

Conventional Asphalt

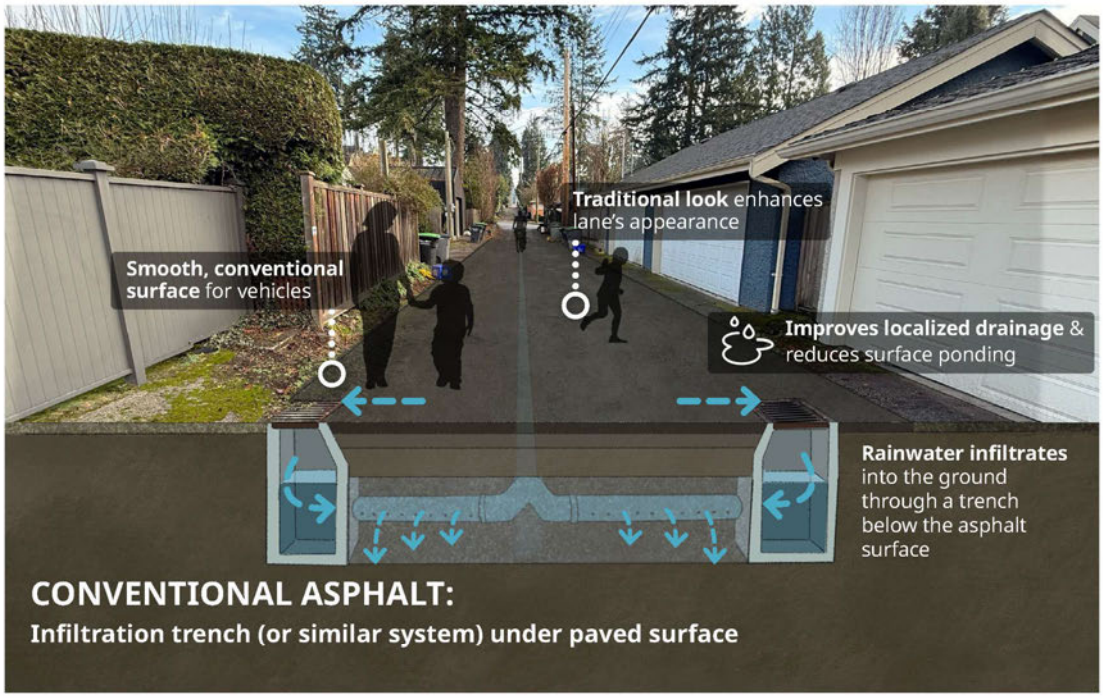
The default laneway improvement option uses conventional asphalt. An infiltration trench will be installed below the asphalt surface where feasible. This option improves localized drainage, water quality and reduces surface ponding.

What is GRI?

Green rainwater infrastructure (GRI) brings nature into the city, to capture and clean our rain water before returning it to our atmosphere and our surrounding oceans and rivers.

It mimics natural water processes, and works with plants, soils, trees, and built structures to capture and clean rainwater before returning it to our waterways and atmosphere.

Scan the QR Code here to learn more about GRI in Vancouver.



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Laneway Upgrades

Rain City Strategy **Green Infrastructure Implementation**

Country Lane Option

A country lane is a durable engineered grid surface suited for both vehicles and pedestrians.

The Country Lane option uses a type of green rainwater infrastructure, specifically a permeable grass grid, to improve rainwater management and create a more sustainable, community-friendly lane. This system allows rainwater to naturally soak into the ground through the surface, reducing run-off and helping prevent ponding during heavy rain.

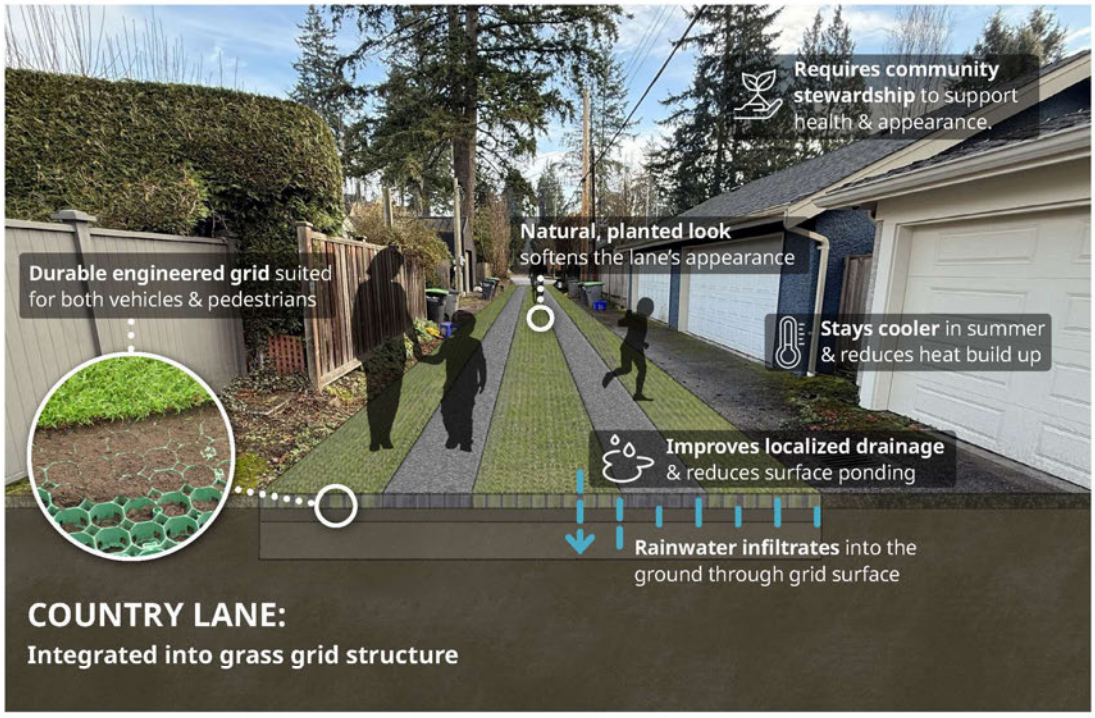
Compared to asphalt, the grass grid absorbs less heat in the summer, helping to cool the area and reduce the urban heat island effect. It also enhances the visual appeal of the lane and provides a stable surface for both vehicles and pedestrians, and costs approximately 60% more than the conventional asphalt and subsurface GI option. To support long-term performance and maintain the lane's everyday visual appeal, residents are encouraged to occasionally refill soil or gravel if the grid settles over time.

Rain City Strategy

The Rain City Strategy is the City of Vancouver's long-term integrated approach to managing rainwater in a way that supports climate resilience, improves water quality, and enhances livability.

Find out More

To find out more about the Local Improvements Program visit: vancouver.ca/local-improvements.



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