SUBJECT: Corporate policy - recreational trails and pathway surfacing

TO: Committee of the Whole

FROM: Capital Works

Report Number: CW-16-17

Wards Affected: All

File Numbers: 930-03

Date to Committee: May 29, 2017

Date to Council: July 10, 2017

Recommendation:

Approve the Corporate Recreational Trails and Pathway Surface Selection Policy (trails surface policy) as Appendix A to capital works department report CW-16-17.

Purpose:

A City that Moves

- Increased Transportation Flows and Connectivity

A Healthy and Greener City

- Healthy Lifestyles

Background and Discussion:

At the June 22, 2015 session of Council, the following staff direction was approved:

Direct the Executive Director of Capital Works to report to the Development & Infrastructure Committee in October of 2015 with a policy regarding the treatment of pathways in parks including costing of options (CW-15-15).

Strategy/process

The selection of a surface material is an important step in renewing or developing a new trail or pathway in our parks and open spaces. The recreational trails surface policy

ensures that the designer considers criteria in the areas of accessibility, urban settings, cost, life cycle considerations, intended use, maintenance requirements, active transportation and environmental considerations.

The recreational trails surface policy provides staff that design and specify surface materials for parks and open spaces projects with a tool to choose the most effective surface that balances the criteria outlined in the policy.

Options considered

Several options for surface materials exist, each with its advantages and disadvantages relating to accessibility, urban settings, cost, intended use, maintenance requirements, active transportation and environmental considerations. Table 1 identifies the most commonly used trail and pathway surfaces, along with advantages and disadvantages to consider when selecting a trail surface type.

Table 1- Recreational Trail and Pathway Surfacing Advantages and Disadvantages

Surface Type	Advantages	Disadvantages
Concrete	• High degree of accessibility • Smooth consistent surface • Easily negotiated by a wide range of trail users • Appropriate for urban settings requiring higher aesthetic finishes • Easy and durable for winter maintenance • Long lasting with typical 40+ year life span	• High installation costs • May require full excavation that could potentially damage tree roots • Skilled trades are required to install • Improper installation can lead to premature cracking • Colour matching through repairs is difficult • Not as adaptable to surrounding grades • Taxing on runners' lower limbs
Asphalt	• High degree of accessibility • Smooth consistent surface • Easily negotiated by a wide range of trail users • Adapts well to surrounding grades • Relatively easy installation by skilled trades • Easy and durable for winter maintenance • Moderate life span of 20-25 years	• Moderately high installation costs • Full base excavation required that could potentially damage tree roots • Improper base preparation can lead to long term maintenance problems • Cracking along edges can lead to grass and weed invasion, speeding deterioration of the surface

Surface Type	Advantages	Disadvantages
Asphalt	• Life span can be extended through shave & pave restoration	
Unit pavers	• High degree of accessibility with certain products • Smooth consistent surface • Easily negotiated by a wide range of trail users • Appropriate for urban settings requiring higher aesthetic finishes • Easy and durable for winter maintenance • Long lasting with typical 40+ year life span • Pavers can be lifted and reset	• Highest installation costs • Requires full excavation that could potentially damage tree roots • Skilled trades are required to install • Improper installation can lead to pre-mature shifting of pavers • Fairly adaptable to surrounding grades • Potential for grass and weeds to grow between pavers • Taxing on runners lower limbs • Shifting of pavers could create tripping hazards
Limestone Screenings	• Relatively inexpensive installation costs • Moderate degree of accessibility • Levels and compacts well • Easily negotiated by a wide range of trail users • Complementary esthetic in natural landscape • Adapts well to surrounding grades • Relatively easy installation by less skilled trades • Easy to re-grade when surface is disturbed • Less taxing on runners' lower limbs	• Requires full excavation that could potentially damage tree roots • Easily damaged by water run off and manipulation by users • Wet conditions can result in unusable trails • Potential risk for erosion on slopes • Potential for grass and weed invasion speeding deterioration of the surface • Not durable for winter maintenance • Requires constant monitoring and routine maintenance to regrade or replenish the surface • Not suitable for small wheel devices e.g. rollerblades, and some strollers
Wood Chips	• Low cost • Requires limited or no base excavation therefore limiting damage to tree roots • Adapts well to surrounding grades • Aesthetically appropriate for woodlot and natural area settings	• Generally does not meet the requirements of the Burlington Accessibility Standards with the exception of a manufactured engineered wood fiber products typically used in playgrounds • Difficult to negotiate surfaces due to uneven chip sizes • Wet Soil conditions can lead to

Surface Type	Advantages	Disadvantages
Wood Chips	• Easy installation by less skilled trades	premature deterioration • Easily damaged by water run off • Potential risk for erosion on slopes • Performs poorly in wet seasons or winter conditions • Requires constant monitoring and potential maintenance to top-up degraded surface • Weed growth especially in open areas • Not suitable for bicycles and small wheel devices e.g. rollerblades
Wood (bridges & boardwalks)	• High degree of accessibility • Solid and level travelled surface • Can provide continual trail access over wet and steep areas • Aesthetically appropriate for woodlot and natural area settings • Can minimize negative impact to environmentally sensitive areas due to construction and/or pedestrian access. • 20-25 year life span if a composite material is used	• High cost for implementation • Accessibility decreases with wider gaps between boards • Permits and approvals required in regulated environmental areas • Ontario Building Code permits required in most cases • Wood gradually decomposes over time, this is accelerated in damp and shady locations • Potentially higher maintenance costs • 15 year life span if wood surface is used

When considering a surface type it is important to note that no single trail or pathway surface is appropriate in all locations. Material selection during the design stage must be considered on a site-specific basis that considers accessibility, intended use, related cost to implement, seasonal accommodation, maintenance requirements and environmental impacts.

Financial Matters:

The typical cost to implement each of the trail surface types is presented in Table 2 – Trail Costs.

Surface Type	Cost per square meter*	Comment
Concrete	$110 - $150	Finishes, colour and quantity influence unit costs
Asphalt	$45 - $80	Quantity and costs of oil effects unit prices
Unit pavers	$165 - $190	Finishes, colour and quantity influence unit costs
Limestone Screenings	$32 - $40	Environmental and access to site influences unit costs
Wood Chips	$25 - $35	Environmental and access to site influences unit costs
Wood (bridges & boardwalks)	$1300-$2500	Support material, span, load requirements influence unit costs

*The costs provided are based on average unit costs compiled from previous tenders requiring similar materials.

Total Financial Impact

N/A

Source of Funding

N/A

Other Resource Impacts

If there is an incremental increase to the operating budgets, it will be disclosed as part of the current budget process. An example of this would include a change to the service standards in winter control where newly paved pathways are to be plowed.

Connections:

In November 2015, Council received the Community Trails Strategy as the framework to guide the planning, design and implementation of the community trails network in the City of Burlington. Appendix C- Trail Design Guidelines of the Community Trails Strategy provides a toolkit for the development and construction of trails and pathways. The trails surface policy is consistent with the Community Trails Strategy. Together these two documents provide a complete reference for decisions in trail development.

Public Engagement Matters:

The recreational trails surface policy was presented at the April 2017 Burlington Accessibility Advisory Committee meeting for comment. Input received has been incorporated in the trails surface policy.

Conclusion:

The recreational trails surface policy provides guidance for the selection of the most appropriate trail and pathway surfaces for parks and open spaces projects.The trails surfaces policy and the Community Trails Strategy provide a complete reference for recreational trail development.

Respectfully submitted,

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Appendices:

A. Recreational Trail and Pathway Surface Selection Policy

Report Approval:

All reports are reviewed and/or approved by Department Director, Director of Finance and Director of Legal. Final approval is by the City Manager.